



United States
Department of
Agriculture



Forest Service
Flathead
National Forest

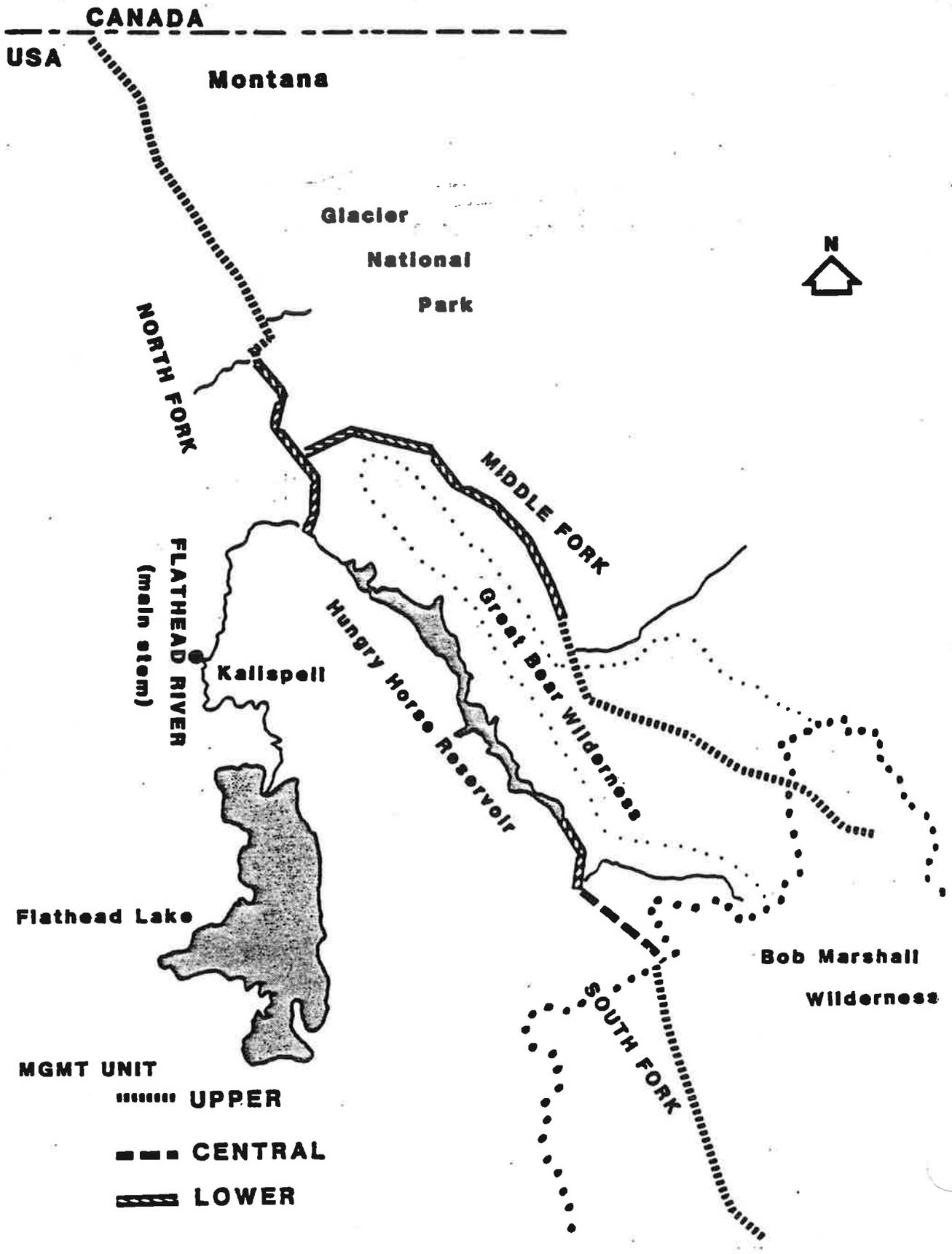
Flathead

wild and scenic
river



recreation management direction

RIVER MANAGEMENT UNITS



**FLATHEAD WILD AND SCENIC RIVER
RECREATION MANAGEMENT DIRECTION**

CONTAINS:

1. Amendment to Forest Plan Management Area 18 Direction (Colored Pages)
2. Background Material for Management Units (White Pages)

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CHAPTER I

INTRODUCTION

BACKGROUND

The Flathead Wild and Scenic River Management Plan, which was approved in August 1980, was incorporated into the Flathead Forest Plan as management direction for Management Area 18 (MA 18). This document, an ammendment to MA 18 provides direction for managing recreation use on the Flathead Wild and Scenic River System. The original intent of this ammendment was to resolve the allocation and rationing issue using new information based in a large part on the results of a 2-year (1980-81) study of river floaters by the University of Idaho. This intent has been modified to incorporate the latest concepts in wildland recreation management planning and now includes the following goals:

- (1) To provide a spectrum of recreation opportunities on the three forks of the Flathead Wild and Scenic River System;
- (2) To provide specific recreation opportunities on individual river management units;
- (3) To provide a management program based on the results of the river study for the Flathead Wild and Scenic River System;
- (4) To monitor conditions to ensure that the desired recreation opportunities are maintained through time;
- (5) To establish management direction using the Limits of Acceptable Change recreation management system which will address floater use levels, and if necessary, the need to limit use; and
- (6) To adopt a system that will allocate recreation opportunities among user groups.

Information on the establishment of and previous planning for the Flathead Wild and Scenic River System can be found in the Flathead National Forest Planning Records. The various physical and biological resources within the river corridor and how they will be managed are also described in the Flathead Forest Plan (MA 18 and Unbound Appendix BB) and in the Planning Records. Copies of that plan are available at offices of the Flathead National Forest in Kalispell, Columbia Falls, Hungry Horse, and Spotted Bear, Montana. This ammendment supercedes General River Use Direction, found in Unbound Appendix BB to the Flathead Forest Plan.

The primary emphasis of this ammendment is on managing floaters on the Flathead River System. However, there are also management implications for non-floaters contained in this document. For the portions of the Middle Fork and South Fork that lie within the Bob Marshall/Scapegoat/Great Bear Wilderness Complex, management direction related to land-based users will be provided by the Limits of Acceptable Change Planning Process which is currently in progress for the Wilderness

complex. Information on this process can be obtained at offices of the Flathead, Lewis and Clark, Lolo, or Helena National Forests.

As provided for in the 1980 Plan, base line data for this amendment was obtained from a 2-year study of river users by the Department of Wildland Recreation Management at the University of Idaho. More than 5,000 river recreationists were contacted during the 2-year project, and most campsites along the 219 miles of designated river were identified and inventoried for impacts. Detailed descriptions of study methodology and results can be found in four University of Idaho publications (1, 2, 3, 4). Frequent reference to the first publication listed above, which combines the data from the 2 years of the study, will be made throughout this document. Information from this study provides river managers with detailed knowledge of Flathead river floaters. The study focused on these users because of the increasing popularity of this activity and the increasing potential for problems and conflicts.

Research information on land-based users in the Bob Marshall and Great Bear Wildernesses is available from a study in 1982 (5). Unfortunately, information on land-based users in other parts of the Flathead River System is not as detailed. If problems develop with these users in the future, it may be necessary to study them in more depth.

The interpretations of research for management purposes can be a difficult task. Research seldom produces results that are subject to only one set of conclusions. Nonetheless, the research findings of the Flathead River Study provide a significant source of information from which managers can draw when making decisions. The availability of detailed data on river users, their characteristics, and their opinions has been rare in most recreation planning.

Other factors besides research results must enter into resource management decisions. Existing laws and regulations, public comments, and the river managers' knowledge of the area must also be considered in the decisionmaking process. Research results alone do not take the place of the manager's responsibility to deal directly with the resource and the people.

During May and June of 1982, a planning process was developed to incorporate all of this information into the Flathead Wild and Scenic River Management Plan. As mentioned above the Wild and Scenic River Plan has since been incorporated into the Flathead Forest Plan.

The Flathead River System is not faced with a crisis management situation in terms of numbers of river recreationists or, with some exceptions, resource problems. River use is increasing but is not presently critical. For this reason, Flathead River managers are in a unique position to plan and develop procedures to effectively manage the river corridor before crisis situations arise.

Flathead managers examined other river management plans produced by a variety of agencies to find out how use, allocation, and rationing issues were resolved. The purpose of the review was to develop a logical process which would result in sound and fair management direction where decisions could be tracked through from beginning to end.

Two fairly new but well accepted concepts of wildland recreation management were incorporated into the planning process. The Recreation Opportunity Spectrum (ROS) provided a framework for inventorying and planning for the diverse river system. The Limits of Acceptable Change (LAC) concept was used to develop strategies for managing visitor use. These two concepts were found to best meet the goals listed at the beginning of this chapter. A clear comprehension of the planning process is essential to understand development of this amendment. The process is described in detail in Appendix A.

The method used to measure the quality of the users recreation experience is described in Appendix B. The system used to measure campsite impact is described in Appendix C.

DELINEATION OF RIVER MANAGEMENT UNITS

Research results, river use patterns, resource considerations, various land use designations, and management concerns and constraints all suggested that the three forks of the Flathead River be divided into seven units (See map inside cover). The final management units did not always follow the legally designated boundaries between Wild, Scenic, and Recreational River segments. The following paragraphs explain the rationale for delineating river management units.

North Fork

The North Fork was divided into two management units. The Upper North Fork Management Unit extends from the Canadian border to Big Creek. Although the boundary between the Scenic and Recreational River designations is between Camas Creek and Camas Bridge, Big Creek was selected as the boundary between the two management units because it is a major access point for river floaters. The river study showed that a large percentage of floaters on the upper North Fork used Big Creek as a take-out point, while fewer used Camas Bridge. In addition, 55 percent of users on the lower North Fork used Big Creek as a put-in point. Camas Bridge is not a convenient or safe river access. Using Big Creek as the boundary rather than the legally designated Scenic/Recreational boundary at Camas Bridge allows managers to maintain the integrity of the floater's Scenic River recreation experience. It adds an additional 1.25 miles of river to the Upper North Fork management unit. The Lower North Fork then extends from Big Creek to the confluence with the Middle Fork at Blankenship Bridge.

Middle Fork

The Middle Fork was divided into two management units. The Upper Middle Fork Management Unit starts at the headwaters of the river, at the junction of Strawberry and Bowl Creeks, and extends to Essex. Although Bear Creek is the boundary between the Wild and Recreational River designations, Essex was chosen as the boundary between the two management units to recognize existing use patterns and to protect the ecological values of the Walton Mineral Licks. The main lick is located within Glacier National Park and is heavily used by mountain goats. Using Essex as the boundary rather than Bear Creek provides additional protection for 4.6 miles of river. The Lower Middle Fork extends from Essex to the confluence with the South Fork just west of Hungry Horse.

South Fork

The South Fork was divided into three management units. The Upper South Fork Management Unit starts at the confluence of Youngs and Danaher Creeks and continues to the Bob Marshall Wilderness boundary at Meadow Creek Gorge. The Central South Fork Management Unit extends from the Wilderness boundary to Spotted Bear. The Lower South Fork Management Unit includes the river segment from Spotted Bear to Hungry Horse Reservoir.

These management unit boundaries coincide with the legally designated boundaries between the Wild and Recreational River segments and with the legal Wilderness boundary. Meadow Creek Gorge forms a barrier which prevents most users of the upper management unit from continuing on the central management unit. The management unit boundary at Spotted Bear is a logical one in that it separates two distinct river segments with unique physical resources and use patterns.

CHAPTER II

UPPER NORTH FORK MANAGEMENT UNIT

UNIT DESCRIPTION

The Upper North Fork Management Unit extends from the Canadian border to the Big Creek recreation site. The unit is 40.9 miles long and includes a corridor that is about one-quarter mile wide on each side of the river.

This management unit includes all of the designated Scenic river and the upper 4 miles of the designated Recreational river. Camas Bridge is the boundary between the two legally designated segments, but managers have chosen Big Creek as the management unit boundary for a number of reasons. First, Big Creek is a major developed access site and is used by many North Fork floaters as either a put-in or take-out point. Second, there is no developed launch site at Camas Bridge. Third, two management objectives for this river management unit are to provide launch sites at half-day float intervals and to minimize the number of developed areas in order to reduce disturbance to the grizzly bear. Having launch sites at both Camas Bridge and Big Creek is inconsistent with these objectives. Since there is already a launch site at Big Creek and users will be continuing their float to that site, it is more appropriate to designate Big Creek as the management unit boundary rather than Camas Bridge.

The middle of the North Fork River channel is the boundary between Glacier National Park and the Flathead National Forest. The east side of the river corridor lies entirely within Glacier National Park. The west side of the river is predominantly private land interspersed with parcels of National Forest and State of Montana land. The Glacier View Ranger District of the Flathead National Forest has primary administrative responsibility for this management unit. Glacier National Park and the State of Montana retain management responsibility for lands under their administration.

USER DESCRIPTION

Almost two-thirds of the floaters on this management unit were from the State of Montana, with three-fourths of these coming from the Flathead Valley. A fairly large number of users came from the West North Central states (North Dakota and Minnesota to Kansas and Missouri). Almost half of the users floated in groups of friends, with another 30 percent floating with family and friends. The median party size for this management unit was 4.3.

This management unit had the highest percentage of use by canoes (40 percent) of any portion of the Flathead River. Another 50 percent of the users floated in rafts, and others used kayaks, rowboats or other watercraft. More than half of the users floated in their own watercraft. Virtually all of the floaters in this management unit were non-outfitted. About 25 percent of the floaters had had previous experience on this management unit (1).

With the exception of summer residences there is very little land-based recreational use of this management unit because of the large amounts of private land and limited access to parcels of public land.

EXISTING RECREATION OPPORTUNITIES

Recreation Activity Opportunities

Table 1 shows the primary and secondary recreation activities for river floaters and land-based recreationists. The information is based on the river survey data and managers' experience.

Recreation Setting Opportunities

Physical Setting

Natural - The river winds through a broad forested valley in most of this management unit. Periodic views of the Livingston Range in Glacier National Park are spectacular. The scenic river corridor and the area within the Park is managed as a Class I Airshed to preserve, protect, and enhance air quality.

The river corridor on the Park side is generally pristine except for a Ranger Station complex at Polebridge and a developed campground and two structures owned by private inholders north of Polebridge. Three areas within the Park, adjacent to the North Fork, have been recommended for Wilderness designation. These are the areas from the Canadian border to just above the road to Kintla Lake, from Logging Creek to just above the Camas Bridge and from just below the Camas Bridge to the private lands north of the Middle Fork Confluence.

Private land within this management unit varies from pristine to highly developed. Cabins (many of which are used seasonally) are evident on many private parcels, especially north of the community of Polebridge. Although scenic easements are being sought on private land with development potential, only five easements, covering 313 acres, have been acquired to date. The Wild and Scenic River land acquisition program has purchased about 1907 acres (21 parcels) to date.

National Forest land within the corridor is managed to maintain a natural-appearing environment. Management activities such as timber harvest are permitted within the corridor where they can be accomplished without substantial adverse impact to the natural appearance of the corridor. Management activities outside the corridor are visible from the river and vary in intensity of impact to the visual resource.

Both sides of the river corridor have been identified by the Montana Department of Fish, Wildlife and Parks as important wildlife habitat and winter range. Three species classified as threatened or endangered under the Endangered Species Act, the grizzly bear, gray wolf, and bald eagle, are known to use the corridor. This management unit also contains critical winter range for whitetail deer, elk, and moose.

Table 1 - Existing recreation activity opportunities on the Upper NorthFork Management Unit.

Recreation Activity	River Floaters		Land-Based Recreationists	
	Primary Activity	Secondary Activity	Primary Activity	Secondary Activity
Viewing scenery and wildlife	X		X	
Enjoying unique or unusual environments		X		X
Non-motorized watercraft use (river floating)	X			
Motorized watercraft use (less than 10 HP)	N/A		N/A	
Hiking, walking	N/A		N/A	
Horseback riding and packing	N/A		N/A	
Auto touring	N/A		N/A	
Recreational aviation	N/A		N/A	
Developed camping		X	X	
Primitive camping	X			X
Picnicking	N/A		N/A	
Swimming, waterplay	N/A		N/A	
Cross-country skiing	N/A		N/A	
Other winter sports	N/A		N/A	
Fishing	X		X	
Hunting		X		X
Nature study		X		X
Photography	X		X	
Viewing interpretive signs	N/A		N/A	
Gathering forest products (firewood, berries, mushrooms)	N/A		N/A	

The river in this management unit is free flowing, and water quality is excellent. The North Fork supports an important bull trout fishery and is responsible for half of the spawning that occurs in the Flathead Basin (6).

The Upper North Fork Management Unit contains a minimal amount of technical whitewater. Rapids do not exceed Class II on the International Whitewater Scale. The river gradient is steeper north of Polebridge and more meandering south of Polebridge with an average drop of 15 feet/mile. The challenge presented in floating this management unit comes in the form of sharp turns, narrow channels, log jams, and brushy riverbanks.

Man-Made Recreational - A paved/gravel road parallels the west side of the river corridor in this management unit. A gravel/dirt road is located on the east side of the river in Glacier National Park. These roads enter the designated river corridor in some places and provide recreational and other access to the corridor.

Public river access sites have been developed at the Canadian border, Ford, and Big Creek. Facilities at these accesses include a launch site, parking area, sealed vault toilet, and bulletin board. An informal put-in/take-out site is located on private land on the west shore near Polebridge.

Public campgrounds along the river include River Camp (4 miles north of Polebridge) in Glacier National Park and Big Creek Campground on the Flathead National Forest.

Floaters preferred that launch sites and road-accessible campsites be developed with toilet facilities and garbage containers. Floaters preferred not to see any facilities at campsites not accessible by road or at popular stops along the river (1).

Man-Made Non-Recreational - Two roads (described previously) parallel the river on either side for most of the length of this management unit. In most places the roads are screened from the river, but road traffic is visible on the Park side north of Polebridge. Bridges cross the river at Polebridge and just below Camas Creek.

Administrative sites are maintained by Glacier National Park at Polebridge and by the Flathead National Forest at Ford. Ford is eligible for designation as a National Historic Site. Private cabins and other developments are visible on the west bank of the river and two inholder cabins can be seen on the Park side north of Polebridge.

Social Setting

User Encounters - The general density of recreational use of the river corridor is low, with concentrations of recreationists at developed sites. Managers estimate that encounters among float parties and between float and shore parties are low (2 to 4 per day). Encounters among shore parties are usually low, but can be moderate (5 to 10 per day) to high (more than 10 per day) at developed sites during peak use periods (e.g., weekends).

Floaters' tolerance for seeing people along the river was generally low. Most users were only willing to see up to 5 people at put-in and take-out points, on the river and on shore. Most preferred to see no one near their campsite.

A few floaters identified potential conflicts on this management unit between floaters and private landowners and between floaters and wildlife (3).

Evidence of Man - The river study identified 21 undesigned campsites within this management unit. Six of the sites are on Park land, 8 are on National Forest land, 1 is on State land, and 6 are on private land. This represents about 7 percent of all the sites identified on the Flathead River System. Figure 1 shows the degree of impact at these campsites. Vegetation loss and development are the major problems associated with campsites in this management unit (1, 3). Some of the campsites are below the high water mark on the river and are subject to annual scouring and cleaning.

Managerial Setting

Current Management Practices - Both the National Park Service and the Forest Service have regulations and policies governing use of the North Fork River corridor in this management unit. Glacier National Park requires that overnight users obtain a backcountry permit if they plan to camp on Park land. In addition, open fires are prohibited in the Park. Some Park areas may be closed at times due to bear activity. In contrast, the Flathead National Forest does not require any of the above except in time of critical fire danger.

All dispersed use areas within the corridor are managed with a "pack-it-in, pack-it-out" policy for garbage. Use of motorized rivercraft on the designated Scenic segment is prohibited. Glacier View Ranger District (USFS) and Glacier National Park conduct both separate and cooperative river patrol floats. Regulations are enforced by the appropriate agency.

National Park Service personnel are present all year at Polebridge. Personal contacts with river users are made on the river and at administrative sites in Columbia Falls (USFS) and at Apgar (NPS). Visitor information is provided on bulletin boards at developed recreation sites, over the telephone and in response to written requests. A float map is available to river users.

Recreationists are advised to obtain permission from landowners before using private land. The Forest Service has instituted a signing program to inform users when they are entering and leaving National Forest land. Signs also identify all major side drainages. The location of private land is shown on the map described above.

All outfitters who wish to conduct trips on the North Fork must obtain a permit from the Forest Service. The 1980 Flathead Wild and Scenic River Management Plan has provided interim guidelines for outfitter permits and service levels pending completion of this amendment.

CAMPSITES BY IMPACT CLASS

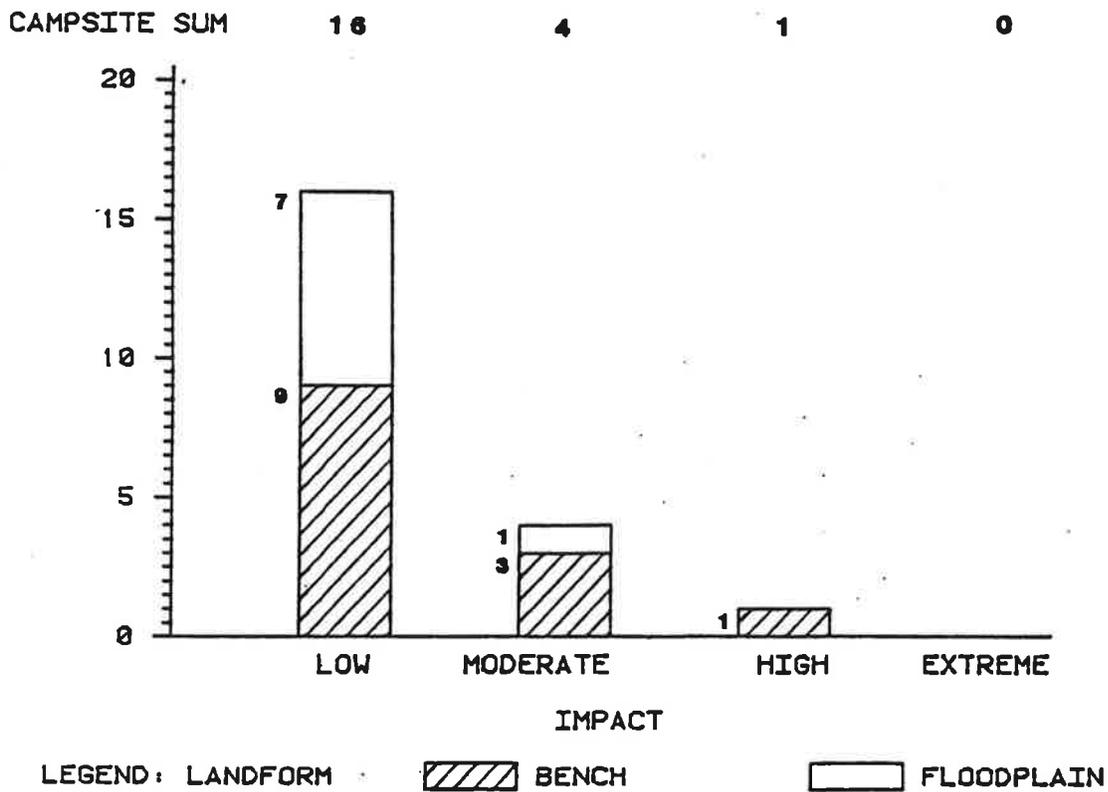


Figure 1 - Number of inventoried campsites in each impact class for the Upper North Fork Management Unit.

There are currently three outfitters that are permitted to run river trips within this management unit.

Preferences for Distributing Use - The following list shows which guidelines for distributing use floaters would approve or disapprove of if increased use becomes a problem. Guidelines are listed in descending order of approval; those listed first were approved by the largest percentages of floaters (1).

<u>Approval</u>	<u>Guideline</u>
Approved	Treat all users equally Consider impacts to the environment Avoid promotion of river by agency Provide for trips on first come, first served basis Provide for trips by advanced reservation Let everyone go who wants to go
Disapproved	Give priority to those who value trip most Give priority to local users Give priority to adjacent landowners Give priority to skilled river runners Give priority to those who never floated before Provide business stability for outfitters

It appears from the study results that users want everyone to be treated equally and that they want impacts to the environment to be considered above all else. A first come, first served rationing system would be favored over an advanced registration system.

Recreation Experience Opportunities

Trip Patterns

Duration - The average float trip length within this management unit is 1.1 days. About 20 percent of the floaters stayed overnight. There were some floaters who continued past Big Creek into the Lower North Fork Management Unit. The average float trip length for these users was 1.8 days. About 35 percent of these floaters stayed overnight (1).

Time of Week - There is a strong preference for Sunday floats on this management unit. Friday and Saturday are also popular for floating; Thursday is the least frequently used day (1).

Season - The water levels are suitable for floating from Memorial Day through Labor Day, with the peak float season coming between July 1 and August 15.

Experiences Desired by Floaters

The following list shows how important various recreation experience components were to users of this management unit (1). Experience components were measured using the Recreation Experience Preference Scales (7). Components listed first were most important, and those listed last were least important.

<u>Importance</u>	<u>Experience Component</u>
Moderately Important	Relationships with Nature General Learning
Somewhat Important	Achievement Exercise/Physical Fitness Escape Personal/Social Pressure Being with People Escape Physical Pressure Nostalgia Risk-taking Meeting and Observing People Family Togetherness

Recreation User Experience Quality Index

The median quality index for this river segment was 2.20 on a scale of 1 to 4, with 4 being high. Figure 2 shows the number of floaters who rated their trip at each of the four quality levels (1).

MANAGEMENT CONCERNS AND CONSTRAINTS

Resources

The major resource consideration within this management unit is the designation of the grizzly bear and the gray wolf as, respectively, threatened and endangered species.

Three areas in Glacier National Park adjacent to the North Fork have been proposed for wilderness designation and are being managed as wilderness.

A possible threat to water quality in the North Fork is a proposed coal field development in the Cabin Creek area of British Columbia, Canada. Cabin Creek flows into a major tributary of the North Fork. An open pit coal mine may degrade water quality in the river.

The diurnal wind patterns of the North Fork basin move from south to north during the summer and reverse during winter. Continued population growth in the Flathead Valley will probably result in an increase in small particulates being dispersed up the North Fork during the summer months. Major energy developments north of the border are likely to increase these particulates along the North Fork in winter.

PERCEIVED QUALITY

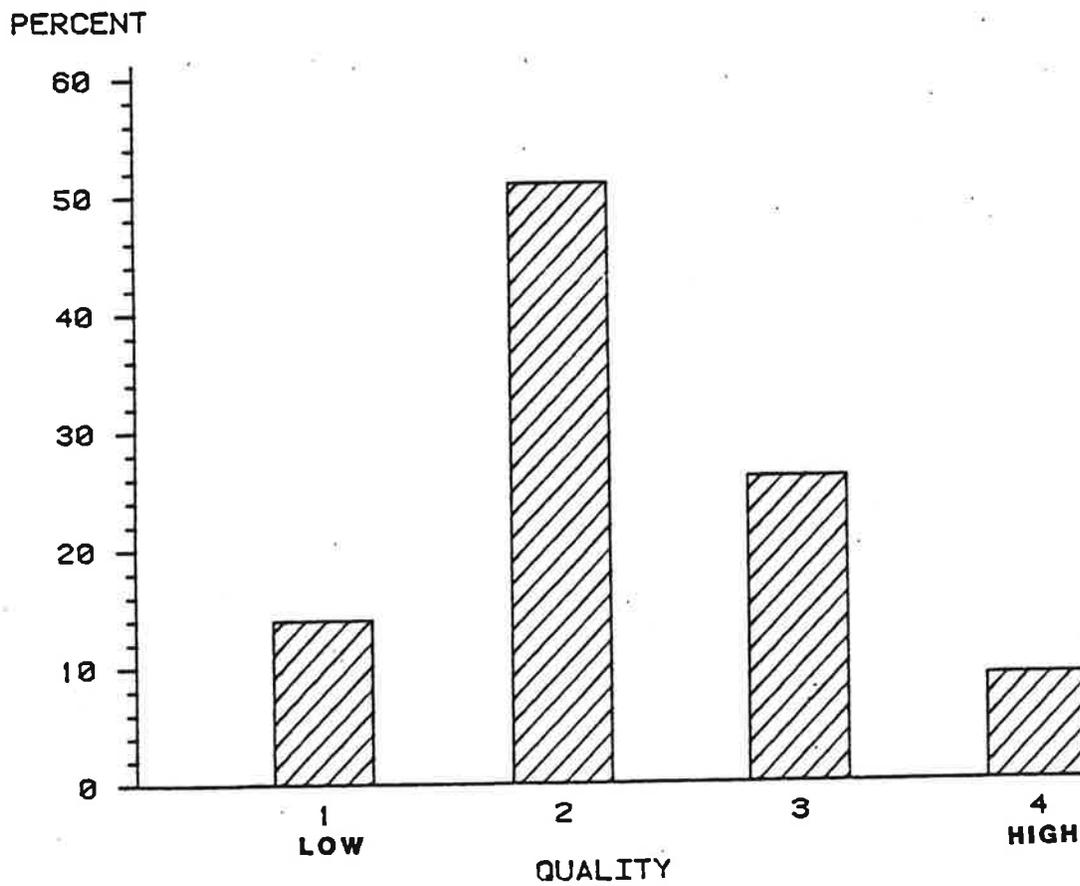


Figure 2 - Percent of users on the Upper North Fork Management Unit rating their trip at each quality level according to the Recreation User Quality Index.

Developments

River launch sites along the North Fork were developed at approximately one-half day float intervals. Polebridge is the only area where this spacing objective has not been accomplished. An informal river access site located on private land in the Polebridge vicinity is currently being used by the public. A formal, developed site in the Polebridge area is needed to avoid public use of private land and to complete the objective of providing access sites at one-half day float intervals. The major alternatives for developing an access site near Polebridge are to purchase land on the west shore of the North Fork or to develop an access point on the Park side of the river.

Scenic values along the North Fork are being lost due to development of private land. Additional scenic easements and fee title acquisitions are being negotiated as funds become available.

There are 20 private inholdings totaling 270 acres in Glacier National Park along the North Fork. The park is currently writing a land protection plan that identifies inholding issues and strategies in the park.

Use

There are currently some reported conflicts between corridor landowners and recreational users within the management unit.

There are differences in management policies and regulations between National Park Service and Forest Service lands.

Outfitters have expressed continued dissatisfaction over allocation decisions made in the 1980 River Management Plan and over the inequities in regulations on outfitted and non-outfitted parties. Presently outfitters operate under a highly structured permit while other parties are affected by few regulations and restrictions.

RECREATION OPPORTUNITIES TO BE PROVIDED

The Upper North Fork Management Unit will be managed to provide half-day and longer float opportunities with outstanding views of natural and natural-appearing scenery and minimal conflicts with landowners and other users. Personal trip planning and use of personal river running skills will be encouraged.

The following objectives describe in more detail the specific recreation opportunities for which this management unit will be managed.

Recreation Activity Opportunities

1. Maintain a diversity of river and land-based recreation activity opportunities. This objective reflects the suitability of current use patterns and is intended to reduce any conflicts with other activities in the future.
2. Allow only those recreational activities that are shown to have minimal impact on the environment. This objective coincides with users' desires to experience the natural environment and their strong approval of management actions aimed at protecting the environment.

Recreation Setting Opportunities

Physical Setting

3. Minimize permanent human influences in the corridor outside of developed recreation sites and administrative sites. This objective coincides with current management direction, users' desires to experience the natural environment, and the intent of the Wild and Scenic River Act.
4. Maintain and enhance for viewing the existing characteristic natural landscape within the designated corridor. This objective coincides with users' desires to experience the natural environment.
5. Allow further improvements of recreation sites only for the protection of natural resources. This objective continues current management policy and coincides with users' preferences for minimal development and protection of the environment.
6. Maintain a system of developed river launch sites spaced with 4-6 hour float times. This objective reflects current management practices and the fact that the majority of floating is done on a day-use basis.
7. Require any human modification of the corridor to harmonize with the natural landscape. This objective reflects users' desires to experience the natural environment and current management direction. It also reflects the management concern about development on private land and the intent of the Wild and Scenic River Act.

8. Manage historic and archeologic sites to enhance the user's understanding of the past use(s) of the area. This objective continues current management policy and reflects the importance users placed on the experience component "general learning:"

9. Maintain air quality to Class I standards to enhance the viewing of spectacular scenery within Glacier National Park. This objective reflects the importance of the visual resource and coincides with users' desires to experience and protect the natural environment.

Social Setting

10. Minimize conflicts within the corridor between private landowners and recreational parties. This objective reflects a concern of managers and landowners.

11. Maintain a high degree of isolation from the sights and sounds of man outside of developed recreation sites and private lands. This objective reflects users' desires to experience the natural environment and their aversion to encountering people.

12. Maintain the users' solitude from other recreation parties outside of developed recreation sites and developed community areas. This objective reflects the same conditions mentioned above for Objective No. 10.

Managerial Setting

13. Treat all users equally whether it be in terms of implementing new management practices, following regulations and procedures, having a chance to float the river or having a chance to use the public land in the corridor for other recreational purposes. This objective was derived from research information pertaining to preferences of floaters for guidelines for distributing use. The guideline "should be the same for all users" was overwhelmingly approved by floaters on this management unit.

14. Minimize differences where possible in National Park Service and Forest Service regulations for the river corridor and publicize differences that remain. This objective reflects a concern that the two agencies that manage this unit each enforce a different set of regulations pertaining to recreational use of the river corridor.

15. Provide users access to management personnel by maintaining a periodic presence in the corridor and on the river. This objective continues current management practices and is essential to meet the requirements of this plan. It reflects the need to provide safety and low impact use information to floaters to enhance their trip and reduce impacts to the environment.

Recreation Experience Opportunities

16. Maintain the user's high probability to interact with a predominantly natural-appearing environment. This objective reflects users' desires to experience the natural environment on this management unit. It also reflects floaters' overwhelming approval of the guideline for distributing use "impacts to vegetation, wildlife and other resources and should be considered above all else." In addition, many floaters expressed a preference for no facilities at various locations along the river, thus maintaining the natural-appearance of the corridor.

17. Encourage floaters to learn about the river and be self-reliant through the application of personal trip planning and river running skills. This objective reflects the suitability of current use patterns and the importance floaters placed on the experience components "general learning" and "achievement."

18. Maintain the potential for users to encounter challenge and risk on the river and land within the corridor. This objective reflects the existing river situation within this management unit. Sharp turns, log jams, small rapids, extremely cold water, and the isolation of the area add to the risk-taking nature of the experience.

The preceding recreation opportunity package is what managers will maintain on the Upper North Fork Management Unit and what floaters and other recreationists can expect to encounter.

INDICATORS, STANDARDS AND MONITORING PROCEDURES

Seven indicators were selected to reflect the recreation opportunities described in the preceding section. These indicators will be monitored over time according to the procedures outlined in Table 2. The objective that each of the indicators refers to are listed in the second column of the table.

COMPARISON OF CONDITIONS TO STANDARDS

All indicators listed in Table 2, except the Recreation User Experience Quality Index (#4), were monitored during the 1983 float season. All were well within the standards listed in Table 2. The status of indicator 4 conditions will be determined after the first season of monitoring under this plan. All of the indicators monitored were well within standards. There is a strong potential that the standard for mechanical sounds could be breached by intensive seismic exploration for gas and oil resources. This standard will be closely monitored by managers.

Table 2. - Indicators, standards and monitoring procedures for the Upper North Fork Management Unit.

Indicator	Objective Number	Standard	Inventory Method	Monitoring Procedure	Frequency
1. Encounters per day with other float parties. 1/	10,11,15	Probability of encountering no more than 3 other float parties or individual boats on the river per day. 2/	Visual count	Activate cameras at Polebridge & Big Creek during float season (5/25-9/7).	Polebridge, Big Creek - 90% of the days Ford - 50% of the days.
2. Encounters per day with shore parties.	9,10,11	Probability of encountering no more than 7 shore parties per day. 2/	Visual Count	Census of all sightings during patrol floats on randomly selected days during peak float season (7/1-8/15).	Minimum 4 per season.
3. Campsite condition. 2/	3,4,15	No campsites with an Impact Index between 50-60; no more than 3 campsites with an Impact Index between 40-49.	Campsite impact evaluation using campsite impact rating form.	Census all sites toward end of peak float season.	Annually
4. Experience quality index.		No more than 20% of surveyed users at lowest quality level; no less than 20% at highest quality level. 3/	Short verbal survey of visitors (floaters and non-floaters) with questions about quality of recreation experience.	Administer survey at Big Creek Access Site and at random shore locations on randomly selected half days during peak float season (7/1-8/15).	4 samples of each group/year (2 weekdays) (2 weekends).

Table 2 (cont.) - Indicators, standards and monitoring procedures for the Upper North Fork Management Unit.

Indicator	Objective : Number	Standard	Monitoring Procedure		
			Inventory : Method	Sampling : Procedure	Frequency
5. Occurrences of litter.4/	3,4,15	No more than one occurrence of litter visible from watercraft per two miles of river.	Visual count of litter occurrences.	Record occurrences observed on patrol floats during float season.	50% of all patrol floats
6. Kilometers of shoreline with permanent human-made modifications in foreground.	3,4,5,7,15	No more than 5% decrease from 1982 in number of natural-appearing kilometers.	Visual count	Map all modifications on both shores during each float season.	Annually
7. Mechanical sounds heard from watercraft.	3,10,15	Probability of hearing no more than 12 mechanical sound occurrences while floating per day.5/	Auditory count	Map all mechanical sound occurrences during patrol floats in the peak float season.	50% of all patrol floats

1/ A party is defined as all individuals who are or appear to be traveling or floating together, regardless of the number of people or boats.

2/ Campsite Impact Classes are explained in Appendix C.

3/ Averaged over a two year period.

4/ Litter is defined as any refuse outside a non-designated campsite. Campsite litter is covered in Indicator 3.

5/ Standard will be considered to be met at the 80% probability level.

SELECTION AND IMPLEMENTATION OF MANAGEMENT TECHNIQUES

To date, standards for this management unit have not been breached. Therefore, new management techniques will not be initiated at this time. Current management techniques will continue. These include education on and off the river using newspaper articles, river ethics books and contacts at launch points; contacts with outfitters; posting of indicators and standards at launch sites; and routine river patrols by the Forest Service and Park Service.

Float use will be allowed to increase until such time that conditions approach standards. At that time non-regulatory measures may be implemented to maintain conditions within standards.

If these non-regulatory actions fail to achieve the desired results, a mandatory but unlimited permit will be required for all floaters. The permit will be used to insure agency contact with the user for the purposes of education and reducing visitor impacts.

Should this unlimited permit fail to achieve the desired results, management techniques such as scheduling launch times, specifying launch sites, limiting launches per day, limiting use to specified days, or specifying trip length may be implemented.

If conditions continue to deteriorate, a limited permit system which will ration total use, will go into effect. All users will compete equally for the limited number of permits. Individuals chosen for a permit will decide whether to contact an outfitter or to float as a nonoutfitted user. Should this action become necessary, outfitters will be allowed to phase into the system over a 3-year period.

Should conditions again return to an acceptable standard, these restrictions may be relaxed.

The regulatory actions described above will be imposed on floaters only if standards are breached due to floater use. If standards are breached due to other causes, appropriate management action will be taken to correct the problem.

These actions reflect users' willingness to accept regulations aimed at protecting the natural environment, and their preference to treat all users equally in terms of imposing restrictions.

MANAGEMENT PROGRAMS

The following is a list of management actions which will be implemented on this management unit. They flow from recreation management objectives and management concerns and constraints.

1. The present interim river use guideline for outfitters (developed in the 1980 Flathead Wild and Scenic River Management Plan) will be terminated. These guidelines regulate number of launches per week, size of party, and number of outfitters permitted on the river. Based on the information in this plan, some of them are no longer valid. Others result in unequal restriction of outfitters and non-outfitted uses. This is of concern to outfitters, the agency, and the majority of users who preferred to treat all users equally, in terms of imposing regulations. Based on a review of current river conditions, there is no reason to limit the number of outfitter launches per week at this time. Concerns about outfitter numbers and service levels will be addressed below.
2. River outfitters currently permitted to operate on this management unit will be permitted to conduct outfitted float trips within the limits authorized in the Forest Service Outfitter Policy (FSM 2721.53). The level of outfitter use will not be limited at this time. This action reflects the suitability of current outfitter use and the fact that river conditions are within the standards specified in this plan.
3. No additional river outfitter permits will be issued on this management unit. This action reflects the fact that historically outfitter actual use has not approached permitted use levels. Since use levels of established outfitters will not be limited at this time, it is reasonable to expect that these outfitters can meet the public demand for outfitter services on this management unit. This restriction may be reconsidered when existing outfitters can no longer meet public demands.
4. Permits for institutional and semi-public outfitting (as described in FSM 2721.53) will be considered on this management unit on an opportunity basis. Applications will be reviewed using the Flathead Forest Outfitter-Guide Application Evaluation Procedure. Opportunities for such activities will be made equally available to all interested parties. This action reflects the interest in providing this type of service, and its potential for promoting education in sound river use ethics. It also adds to the diversity of recreation opportunities available on the Flathead River system.
5. An annual report will be developed to show the status of each indicator. The report will be prepared at the end of the float season and will include a statement of current conditions relative to the standard for each indicator. It will also explain the consequences of conditions violating standards. The information will be posted at each launch site and will be available to individuals upon request. This action is intended to encourage users to regulate themselves so that managers will not have to implement regulatory actions.

6. Managers will make all parties aware of their potential impact (e.g., physical presence, traces, etc.) on other parties. This action reflects floaters' minimal tolerance for seeing people at places on or along the river and floaters' desires to experience the natural environment. It also reflects agency desires that floaters police themselves avoiding the need for more stringent regulations.
7. River managers will work to find a suitable access site at Polebridge and will develop appropriate facilities. This action responds to a management concern.
8. Lands within Glacier Park which have been proposed for wilderness designation will be managed to preserve wilderness values. This action reflects current management policies in Glacier Park.
9. Lands within Glacier Park will be managed in accordance with the Glacier National Park Fire Management Plan. This action reflects current management policies in the Park.
10. A Flathead River Ethics Guidebook will be developed and made available to all users. This action reflects managers desires to lower impacts through education.
11. Evaluate all new activities to determine if they adversely affect protection of threatened or endangered species. Proposed activities with the potential to effect grizzly bears will be evaluated under the "Guidelines for Management Involving Grizzly Bears in the Greater Yellowstone Area" (1979) as amended to cover the situation in the Flathead National Forest. This management unit will be considered "Management Situation 1" as defined in the guidelines. Proposed activities that may effect the bald eagle or gray wolf will be reviewed by the Zone Wildlife Biologist. He will make recommendations with regard to the proposal and its potential effects and will propose alternatives or mitigation measures to insure species or habitat protection.

CHAPTER III

LOWER NORTH FORK MANAGEMENT UNIT

UNIT DESCRIPTION

The Lower North Fork Management Unit lies between the Big Creek recreation site and the confluence of the North and Middle Forks at Blankenship Bridge. The management unit is 17.4 miles long and includes a corridor that generally encompasses the land area visible from the river.

All of the management unit is designated a Recreational River. The reason for making Big Creek the upper boundary for this management unit was explained in Chapter II.

The center of the river channel is the boundary between Glacier National Park to the east and the Flathead National Forest to the west. The east shore of the river corridor lies entirely within Glacier National Park. There are several private inholdings north of the confluence with the Middle Fork. On the west shore, the northern two-thirds of the management unit is National Forest land, and the southern third is predominately private land. Some State land is interspersed along the western shore. The Glacier View Ranger District of the Flathead National Forest has primary administrative responsibility for this management unit. Glacier National Park and the State of Montana retain management responsibility for lands under their administration.

USER DESCRIPTION

The majority of the floaters on this management unit (87 percent) were from the western United States. In fact, 60 percent of all floaters were from the Flathead Valley, and 16 percent were from other parts of Montana. About 6 percent of the users were from outside the United States; many of these were from Canada. Use was about equally split between groups of friends and groups of family and friends. The median group size was 4.7.

Rafts were used by 92 percent of the floaters, while 5 percent used canoes. Kayaks, inner tubes, and other watercraft were also used. Most of the rivercraft (80 percent) were personally owned or owned by another party member. Only 10 percent were owned by an outfitter and some were borrowed or rented. Only about 6 percent of the users floated with an outfitter. Almost half (48 percent) of the users had had previous experience floating this part of the Flathead.

This management unit had the highest percentage of spontaneous use of any of the Flathead River System. One-third of the floaters decided to float this river segment less than 24 hours before their actual trip. Twenty-seven percent of the floaters made their decision between 24 and 48 hours before the trip. Thirty-three percent made their decision more than one week in advance (1).

Most land-based use is confined to the developed recreation sites at Big Creek, Great Northern Flats, and Glacier Rim. The river study did not include land-based users.

EXISTING RECREATION OPPORTUNITIES

Recreation Activity Opportunities

Table 3 shows the primary and secondary recreation activities for river floaters and land-based recreationists. The information is based on the river survey data and managers' experience.

Recreation Setting Opportunities

Physical Setting

Natural - The river flows through three different topographical features in this management unit. From Big Creek to Great Northern Flats, the dominant feature is a wide forested canyon. Below Great Northern Flats, the river enters a narrow, steep-walled canyon that continues until Canyon Creek, where the canyon opens to a wide floodplain. Air quality in the area is excellent and is protected by a Class I Airshed status of Glacier National Park.

The Park side of the river corridor is managed to emphasize natural processes and is in a pristine condition. The Apgar Range, from Camas Bridge to private lands just north of the confluence of the Middle Fork, has been recommended for Wilderness designation.

The private land within the river corridor varies from natural-appearing to developed. Developments include cabins and year-round residences. Scenic easements are being sought on land with development potential. To date, none have been acquired.

National Forest land within the corridor is managed to maintain a natural-appearing environment. Management activities within the corridor are allowed so long as they do not detract from the visual and recreational resource. Management activities outside the corridor (primarily timber cutting) are visible from the river and vary in intensity of impact to the visual resource.

Many species of wildlife inhabit the corridor, and most of the corridor has been identified by the Forest Service as critical grizzly bear and/or gray wolf habitat. A grizzly bear travel corridor is thought to exist in the Great Northern Flats vicinity (8).

The river in this management unit is free flowing and has high water quality. It supports an important bull trout fishery.

The river gradient varies from gentle and meandering to steep. It has an average drop of 15 feet per mile. The canyon portion of this river segment has three rapids rated Class IV on the International Whitewater Scale.

Table 3. - Existing recreation activity opportunities on the Lower North Fork Management Unit

Recreation Activity	River Floaters		Land-Based Recreationists	
	Primary Activity	Secondary Activity	Primary Activity	Secondary Activity
Viewing scenery and wildlife	X		X	
Enjoying unique or unusual environments		X	X	
Non-motorized watercraft use (river floating)	X			
Motorized watercraft use (less than 10 HP)		X		
Hiking, walking	N/A		N/A	
Horseback riding and packing	N/A		N/A	
Auto touring		X	X	
Recreational aviation	N/A		N/A	
Developed camping		X	X	
Primitive camping	X			X
Picnicking	X		X	
Swimming, waterplay	N/A		N/A	
Cross-country skiing	N/A		N/A	
Other winter sports	N/A		N/A	
Fishing	X		X	
Hunting		X		X
Nature study		X		X
Photography	X		X	
Viewing interpretive signs		X		X
Gathering forest products (firewood, berries, mushrooms)		X	X	

Man-Made Recreational - A paved/gravel road follows the west shore of this management unit and in some places enters the river corridor. This provides relatively easy access to the river corridor for recreationists and others.

Recreational developments in this management unit include Big Creek recreation site, Glacier Rim river launch site, and a day use site at Great Northern Flats. Facilities at Big Creek include a campground, picnic area, and river launch site. Glacier Rim has a launch site, parking area, toilet, and bulletin board. Overnight use occurs though it is not encouraged. The Great Northern Flats site is a popular dispersed site for fishermen and picnickers. It was used as a launch site prior to the development of facilities at Big Creek and Glacier Rim. The area is now managed as a day-use site. The site has a toilet.

Most floaters using this management unit preferred to have appropriate toilet facilities and garbage containers at campgrounds accessible by road. At put-in points, they preferred to have toilets, garbage containers, and launching facilities. Some users, however, preferred that no facilities be placed at these sites.

At campsites inaccessible by roads and at popular river stops, most floaters preferred that no facilities be provided. Some individuals, however, wanted toilet facilities and permanent fire rings at these campsites (1).

Man-Made Non-Recreational - A county road (described previously) parallels the river on the west side. In some places it is visible from the river. There is a cable crossing and river gauge at Glacier Rim and a Forest Service administrative site at Big Creek. The west shore has private development below Glacier Rim.

Social Setting

User Encounters - Recreational use on this management unit is about 3 to 4 times that found on the Upper North Fork Management Unit. Managers estimate the level of encounters among float parties to be low (1 to 3 per day), and possibly higher on weekends in July and August. Encounters among shore parties can vary from moderate throughout most of the corridor to high (more than 10) at popular sites. Encounters between float parties and shore parties are also estimated to be high.

Floaters' tolerance for seeing others at places along the river was quite low. The majority of floaters wanted to see less than 5 other people at the put-in and take-out and on the river. Floaters were slightly more tolerant of seeing others on the shore but most did not want to see anyone near their campsite (1).

A few floaters felt that there might be a conflict between floaters and people fishing from shore (3).

Evidence of Man - In addition to developments described previously, the river study identified seven undesignated campsites within this management unit. Five of the sites are on National Forest land and two are in Glacier National Park. All of the campsites are in Impact Class 1, the lowest level of impact, as shown in Figure 3. Development and cleanliness are the major impact problems. More than half of the sites were located on the floodplain (1, 3).

Managerial Setting

Current Management Practices - The same management practices apply to this management unit as to the Upper North Fork Management Unit and will not be repeated here. The one exception is that motorized rivercraft (with motors not to exceed 10 horsepower) are allowed from Big Creek to the confluence with the Middle Fork.

Preferences for Distributing Use - The following list shows which guidelines for distributing use floaters would approve or disapprove of if increased use becomes a problem in the future. Guidelines are listed in descending order of approval; those listed first were approved by the largest percentages of floaters (1).

Approval

Guideline

Approved

Avoid promotion of river by agency
Treat all users equally
Consider impacts to the environment
Provide for trips on first come, first served basis
Let everyone go who wants to go
Give priority to local users

Disapproved

Provide for trips by advanced registration
Give priority to those who value trip most
Give priority to adjacent landowners
Give priority to skilled river runners
Give priority to those who never floated before
Provide business stability for outfitters

This list is very similar to the one generated by Upper North Fork users except that "avoiding promotion" and "giving priority to locals" are more favored and implementing an advanced reservation system is less favored. This probably reflects the high percentage of floaters who are from the Kalispell area and whose trips are spontaneous rather than preplanned.

CAMPSITES BY IMPACT CLASS

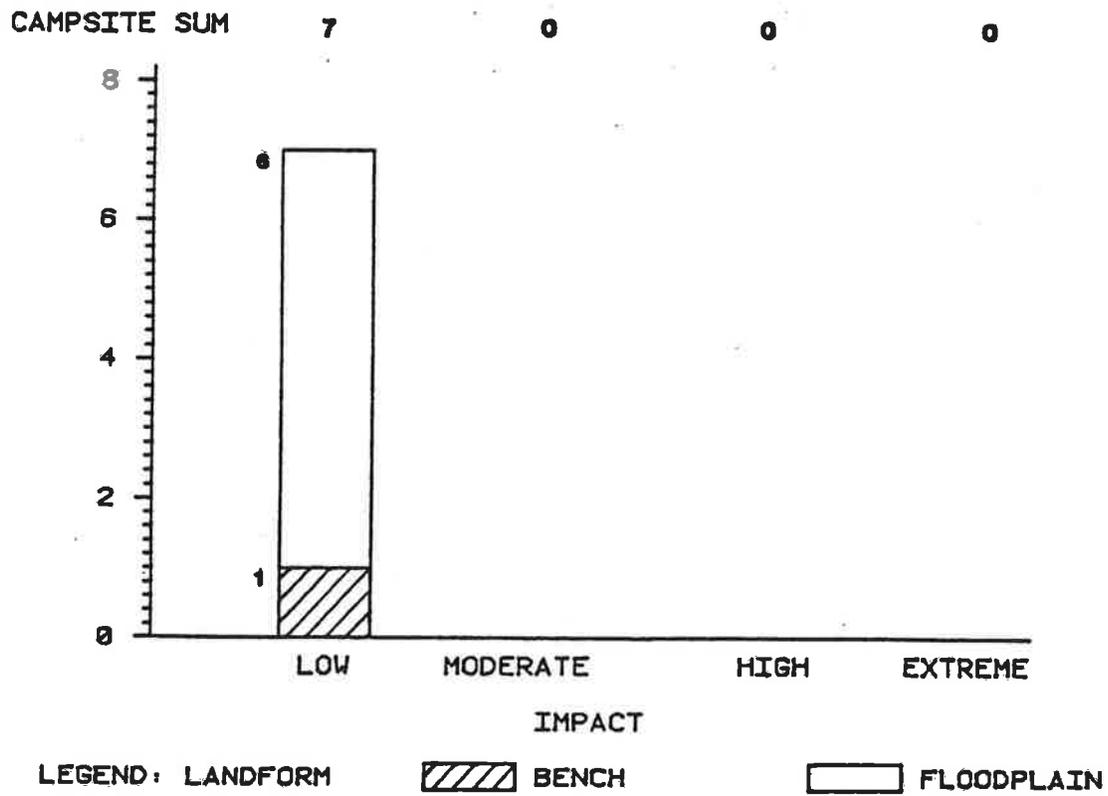


Figure 3 - Number of campsites in each Impact Class for the Lower North Fork Management Unit.

Recreation Experience Opportunities

Trip Patterns

Duration - The average float trip length within this management unit is 1.0 days. Only 5 percent of the floaters stayed overnight on the river. In addition, there were some floaters who started above Big Creek in the Upper North Fork Management Unit who continued into the Lower North Fork management unit. The average float trip length for these users was 1.8 days. About 35 percent of these floaters stayed overnight (1).

Time of Week - Sunday was the most popular day for floating this management unit, and Saturday and Monday were the next most popular. There were fewer users on Tuesday and Wednesday, but Thursday and Friday were fairly popular (1).

Season - Water levels are suitable for floating from Memorial Day weekend to Labor Day weekend. The peak season runs from July 1 to August 15.

Experiences Desired by Floaters

The following list shows how important various recreation experience components were to users on this management unit (1). Experience components were measured by using the Recreation Experience Preference Scales (7). Components listed first were most important, and those listed last were least important.

<u>Importance</u>	<u>Experience Component</u>
Moderately Important	Relationships with Nature Being with People General Learning Achievement Exercise/Physical Fitness
Somewhat Important	Risk-taking Escape Physical Pressure Family Togetherness Escape Personal/Social Pressure Nostalgia Meeting and Observing People

Recreation User Experience Quality Index

The median quality index for this river segment was lower than for all other river segments (2.12 on a scale of 1 to 4, with 4 being high). Figure 4 shows the number of floaters who rated their trip at each of the four quality levels (1).

PERCEIVED QUALITY

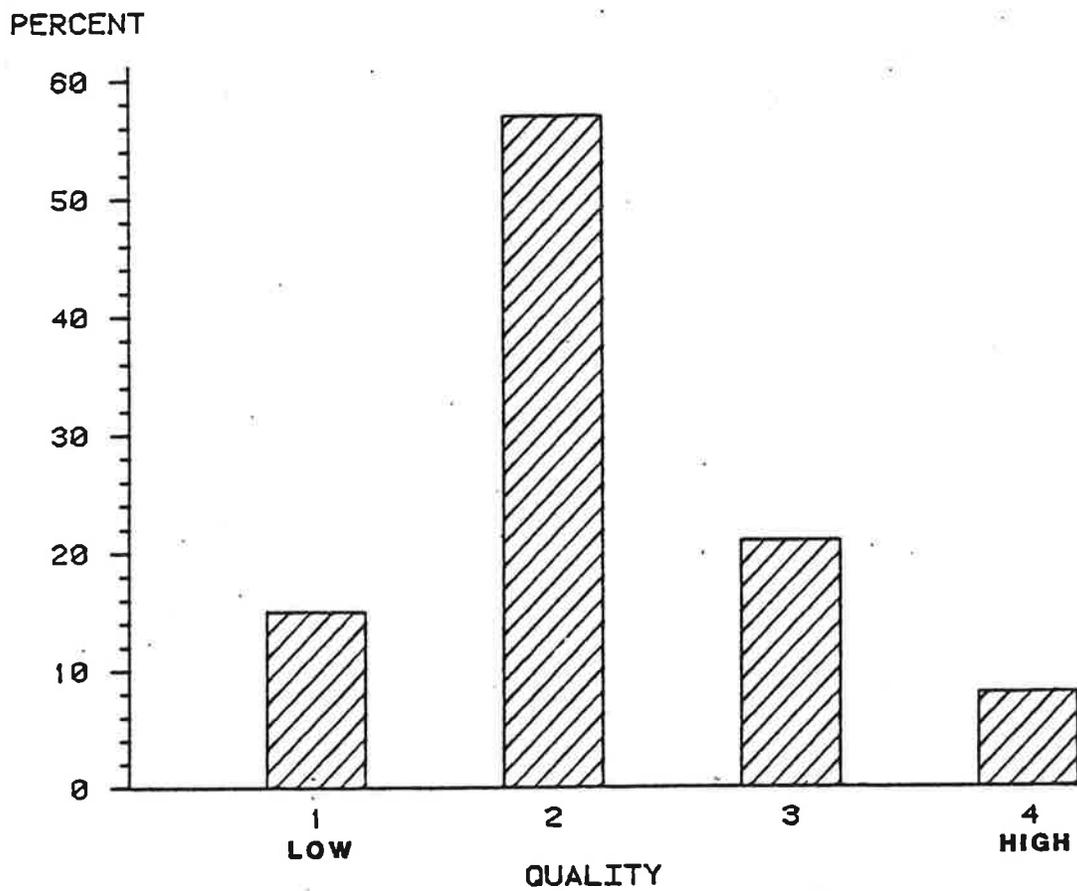


Figure 4 - Percent of users on the Lower North Fork Management Unit rating their trip at each quality level according to the Recreation User Experience Quality Index.

MANAGEMENT CONCERNS AND CONSTRAINTS

Resources

Protecting habitat for the threatened grizzly bear and endangered gray wolf is a major resource consideration. Conflicts may occur between recreational use and preserving the habitat for these species.

A substantial portion of the land within this management unit in Glacier Park has been proposed for wilderness designation. Protecting the wilderness value of these lands is of concern to managers.

Possible coal development north of the Canadian border poses a threat to water quality and fisheries and to air quality in the winter. Continued population growth in the Flathead Valley threatens air quality in the river corridor in the summer as prevailing winds carry particulates up the North Fork.

Developments

All river launch sites along this management unit have been identified and developed. Acquiring scenic easements and fee title purchases of land subject to development has been a low priority in recent years and has received inadequate funding. Glacier National Park has recently written and authorized a land protection plan that identifies issues and strategies related to private inholdings within the Park.

Use

There is a potential for conflicts between recreationists and private landowners within the management unit.

There are differences in management policies and regulations between National Park Service and Forest Service administered lands.

Outfitters have expressed continued dissatisfaction over allocation decisions made in the 1980 River Management Plan and over the inequities in regulations on outfitted and non-outfitted groups. Presently outfitters operate under a highly structured permit while other users are effected by few regulations and restrictions.



RECREATION OPPORTUNITIES TO BE PROVIDED

The Lower North Fork Management Unit will be managed to provide challenging, primarily day use, whitewater float opportunities in non-motorized and motorized (10 horsepower or less) watercraft. Emphasis will be on maintaining the natural scenery outside of existing developed recreation and administrative sites and reducing conflicts between floaters, landowners, and other users.

The following objectives describe in more detail the specific recreation opportunities for which this unit will be managed.

Recreation Activity Opportunities

1. Maintain a diversity of river and land-based recreation activity opportunities. This objective reflects the suitability of current use patterns and is intended to reduce any conflicts with other activities in the future.
2. Allow only those recreational activities that are shown to have minimal impact on the environment. This objective coincides with users' desires to experience the natural environment.
3. Emphasize non-motorized rivercraft use, but not the exclusion of small (up to 10 horsepower) motorized craft. This objective reflects the suitability of the river in this unit, current management direction, and actual as well as historical use.

Recreation Setting Opportunities

Physical Setting

4. Prevent any substantial increase in the amount of permanent human influence in the corridor outside of developed recreation sites and administrative sites. This objective continues current management direction and coincides with users' desires to experience the natural environment.
5. Maintain and enhance for viewing the existing characteristic natural landscape within the designated corridor. This objective coincides with users' desires to experience the natural environment.
6. Allow further improvement of recreation sites only for the protection of natural resources. This objective continues current management practices and coincides with users' desires to interact with the natural environment.
7. Maintain a system of developed river launch sites spaced with 4-6 hour float times. This objective reflects the fact that the majority of floating is done on a day-use basis.

8. Require any human modification of the corridor to harmonize with the natural landscape. This objective reflects users' desires to experience the natural environment and current management direction. It also reflects the management concern about development on private land.

9. Manage historic and archeologic sites to enhance the user's understanding of the past use of the area. This objective reflects current management direction.

Social Setting

10. Minimize conflicts within the corridor between private landowners and recreational parties. This objective reflects a management concern.

Managerial Setting

11. Treat all users equally whether it be in terms of implementing new management practices, following regulations and procedures, having a chance to float the river or having a chance to use the public land in the corridor for other recreational purposes. This objective was derived from research information pertaining to preferences of floaters for guidelines to distribute use. The guideline "should be the same for all users" was overwhelmingly approved by floaters on this management unit.

12. Minimize differences, where possible, in National Park Service and Forest Service regulations for the river corridor, and publicize differences that remain. This objective reflects a management concern that the two agencies responsible for this management unit each enforce a different set of regulations pertaining to recreational use of the river corridor.

13. Provide users access to management personnel by maintaining a periodic presence in the corridor and on the river. This objective continues current management practices.

Recreation Experience Opportunities

14. Maintain the user's high probability to interact with a predominantly natural-appearing environment. This objective reflects users' desires to experience the natural environment on this management unit. It also reflects floaters' strong approval of the guidelines for distributing use "impacts to vegetation, wildlife and other resources and should be considered above all else." In addition, many floaters expressed a preference for no facilities at various locations along the river, presumably to preserve the natural character of the corridor.

15. Encourage floaters to learn about the river and be self-reliant through the application of personal trip planning and river running skills. This objective reflects the importance floaters placed on the experience components "general learning" and "achievement."

16. Maintain the potential for users to encounter challenge and risk on the river and land within the corridor. This objective reflects the existing river situation within this management unit. Rapids, waves, cold water, and during high water, log jams and boulders add to the risk-taking nature of the experience. "Risk-taking" was listed as the sixth most important experience component on this river segment.

17. Emphasize spontaneous day-use float trips and shore activities with family and friends. The objective reflects the fact that the Lower North Fork Management Unit is floated primarily by local users on a day-use basis with a spontaneous trip planning time frame.

The preceding recreation opportunity package is what managers will maintain on the Lower North Fork Management Unit and what floaters and other recreationists can expect to encounter.

INDICATORS, STANDARDS AND MONITORING PROCEDURES

Four indicators were selected to reflect the recreation opportunities described in the preceding section. These indicators will be monitored over time according to the procedures outlined in Table 4. The objectives that each indicator refers to are listed in the second column of the table.

Managers will also record river use.

COMPARISON OF CONDITIONS TO STANDARDS

The first three indicators were monitored by managers during the 1983 float season. All were within the standards listed in Table 4. The status of indicator 4, the Recreation User Experience Quality Index, will be determined after the first season of monitoring under this plan. Monitoring in subsequent years will also allow managers to determine trends in conditions.

Table 4. - Indicators, standards and monitoring procedures for the Lower North Fork Management Unit.

Indicator	Objective	Number	Standard	Monitoring Procedure		
				Inventory Method	Sampling Procedure	Frequency
1. Occurrences of litter.1/	5, 14	No more than one occurrence of litter visible from watercraft per 3 miles of river.	Visual count	Record litter occurrences on 50% of the patrol floats on randomly selected days during float season (5/25-9/15).	Minimum 2/season	
2. Campsite and day-use site condition.	2,5,8,14	No sites with an Impact Index between 50-60; no more than 3 sites with an Impact Index between 40-49.	Campsite impact evaluation using campsite impact rating form.	Census all sites toward end of peak float season (7/15-8/15).	Annually	
3. Defacement of natural features.2/	2,4,5,14	No more than one new occurrence of defacement per season.	Visual count	Census and map all occurrences of defacement toward end of peak float season.	Annually	
4. Experience quality index	14	No more than 25% of surveyed users at lowest quality level. 3/	Survey of visitors (floaters and non-floaters) with questions about quality of recreation experience.	Administer survey at launch sites and randomly selected shore locations at launch sites on randomly selected days during peak float season.	Survey to reach approx. 75 float and 75 shore users per year.	

Table 4. (cont.) - Indicators, standards and monitoring procedures for the Lower North Fork Management Unit.

Indicator	Objective	Standard	Monitoring Procedure
	Number		Inventory
			Method
			Sampling
			Procedure
			Frequency

1/ Litter is defined as any refuse outside a non-designated campsite. Campsite litter is covered in Indicator 2.

2/ Defacement is defined as marring natural features with graffiti, unnatural color or paint.

3/ Averaged over a two year period.

SELECTION AND IMPLEMENTATION OF MANAGEMENT TECHNIQUES

To date, standards for this management unit have not been breached. Therefore, new management techniques will not be initiated at this time. Current management techniques will continue. These include education on and off the river using newspaper articles, river ethics guide books, and contact at launch points; contacts with the outfitters; posting of indicators and standards at launch sites; and routine river patrols by the Forest Service and Park Service.

Float use will be allowed to increase until such time that conditions approach standards. At that time non-regulatory measures may be implemented to maintain conditions within standards.

If these non-regulatory actions fail to achieve the desired results, a mandatory but unlimited permit will be required for all floaters. The permit will be used to insure agency contact with the user for the purposes of education and reducing visitor impacts.

Should this unlimited permit fail to achieve the desired results, management techniques such as scheduling launch times, specifying launch sites, limiting launches per day, limiting use to specified days or specifying trip length may be implemented.

If conditions continue to deteriorate, a limited permit system which will ration total use, will go into effect. All users will compete equally for the limited number of permits. Individuals chosen for a permit will decide whether to contact an outfitter or to float as a nonoutfitted user. Should this action become necessary, outfitters will be allowed to phase into the system over a 3-year period.

Should conditions again return to an acceptable standard, these restrictions may be relaxed.

The regulatory actions described above will be imposed on floaters only if standards are breached due to floater use. If standards are breached due to other causes, appropriate management action will be taken to correct the problem.

These actions reflect users' willingness to accept regulations aimed at protecting the natural environment, and their preference to treat all users equally in terms of imposing restrictions.

MANAGEMENT PROGRAMS

The following is a list of management actions which will be implemented on this management unit. These actions are not specifically related to the indicators listed in Table 4, but flow from recreation management objectives and management concerns and constraints.

1. The present interim river use guideline for outfitters (developed in the 1980 Flathead Wild and Scenic River Management Plan) will be terminated. These guidelines regulate number of launches per week, size of party, and number of outfitters permitted on the river. Based on the information in this plan, some of them are no longer valid. Others result in unequal restriction of outfitters and non-outfitted users. This is of concern to outfitters, the agency, and the majority of users who preferred to treat all users equally, in terms of imposing regulations. Based on a review of current river conditions, there is no reason to limit the number of outfitter launches per week at this time. Concerns about outfitter numbers and service levels will be addressed below.

2. River outfitters currently permitted to operate on this management unit will be permitted to conduct outfitted float trips within the limits authorized in the Forest Service Outfitter Policy (FSM 2721.53). The level of outfitter use will not be limited at this time. This action reflects the suitability of current outfitter use and the fact that river conditions are within the standards specified in this plan.

3. No additional river outfitter permits will be issued on this management unit. This action reflects the fact that historically outfitter actual use has not approached permitted use levels. Since use levels of established outfitters will not be limited at this time, it is reasonable to expect that these outfitters can meet the public demand for outfitter services on this management unit. This restriction may be reconsidered when existing outfitters can no longer meet public demands.

4. Permits to institutional and semi-public outfitting (as described in FSM 2721.53) will be considered on this management unit on an opportunity basis. Applications will be reviewed using the Flathead Forest Outfitter-Guide Application Evaluation Procedure. Opportunities for such activities will be made equally available to all interested parties. This action reflects the interest in providing this type of service, and its potential for promoting education in sound river use ethics. It also adds to the diversity of recreation opportunities available on the Flathead River system.

5. An annual report will be developed to show the status of each indicator. The report will be prepared at the end of the float season and will include a statement of current conditions relative to the standard for each indicator. It will also explain the consequences if conditions violate standards. This information will be posted at each launch site and will be available to individuals upon request. This action is intended to encourage users to regulate themselves so that managers will not have to implement regulatory actions.

6. Managers will make all parties aware of their potential impact (e.g., physical presence, traces, etc.) on other parties. This action reflects users' minimal tolerance for seeing people at places on or along the river, and users' desires to experience the natural environment.
7. Lands within Glacier Park that have been proposed for wilderness designation will be managed to preserve wilderness values. This action reflects current management policies in Glacier Park.
8. Lands within Glacier Park will be managed in accordance with the Glacier National Park Fire Management Plan. This action reflects current management policies in the Park.
9. A Flathead River Ethics Guidebook will be developed and made available to all users. This action reflects managers desires to lower impacts through education.
10. Evaluate all new activities to determine if they adversely affect protection of threatened or endangered species. Proposed activities with the potential to effect grizzly bears will be evaluated under the "Guidelines for Management Involving Grizzly Bears in the Greater Yellowstone Area" (1979) as amended to cover the situation in the Flathead National Forest. This management unit will be considered "Management Situation I" above Canyon Creek, and "Management Situation II" below Canyon Creek as defined in the guidelines. Proposed activities that may effect the bald eagle or gray wolf will be reviewed by the Zone Wildlife Biologist. He will make recommendations with regard to the proposal and its potential effects, and will propose alternatives or mitigation effects to insure species or habitat protection.
11. Prohibit motorized craft over 10 horsepower on this management unit except for essential search and rescue operations. This action continues present management policy. It recognizes the suitability of small (10 horsepower or less) craft on this unit and provides diversity of recreation opportunities on the Flathead River system.

CHAPTER IV

UPPER MIDDLE FORK MANAGEMENT UNIT

UNIT DESCRIPTION

The Upper Middle Fork Management Unit extends from the headwaters of the Middle Fork, at the junction of Strawberry and Bowl Creeks, to Essex. The unit is 51.2 miles in length and includes a corridor that is about one-quarter mile wide on each side of the river.

All of this management unit except the last 5.6 miles is within the Bob Marshall and Great Bear Wildernesses. Most of it is designated as a Wild River. The last 4.6 miles is designated as a Recreational River. It is included in this management unit because of the need to minimize disturbance to mountain goats using the Walton Mineral Lick. This boundary also reflects existing use patterns in that most floaters entering the river at or above Bear Creek take out at Essex.

All lands within the unit are public lands managed by the Forest Service or the National Park Service. Hungry Horse and Spotted Bear Ranger Districts of the Flathead National Forest are responsible for administration of the unit. Glacier National Park retains management responsibility for Park land, which borders the last 4.2 miles of the unit to the east.

USER DESCRIPTION

More than 85 percent of the floaters on this management unit were from the western United States, with almost one-quarter from the Flathead Valley and one-half from other parts of Montana. Floater use was primarily by groups of friends or family and friends with a median party size of 5.6. Almost 90 percent of the floaters used rafts and 7 percent used kayaks. The majority of users floated in craft that they or another member of their party owned. Most others used craft that was owned by an outfitter or that was borrowed. About 30 percent floated with an outfitter, while about 10 percent had an outfitter pack their gear in or out. Forty-one percent had previous experience floating this management unit of the river.

The advanced planning time frame for trips on this management unit is nearly as long as any other portion of the Flathead River System. Twenty-six percent decided to take the trip more than 6 months in advance. Another 17 percent made the decision between 1 and 6 months before the trip (1).

This management unit of the river corridor has moderate use by land-based recreationists who travel on foot or on horseback. These users were not included in the river study.

EXISTING RECREATION OPPORTUNITIES

Recreation Activity Opportunities

The checkmarks in Table 5 show the primary and secondary recreation activities for river floaters and land-based recreationists in the Upper Middle Fork Management Unit. The information is based on the river use study and managers' experience.

Recreation Setting Opportunities

Physical Setting

Natural - The corridor is characterized by views of forests, river canyon, and mountainous terrain. The river is free-flowing and has exceptional water quality. Most of the corridor is primitive or natural, except for the Schafer area and the portion of the corridor from Bear Creek to Essex. These areas are predominantly natural-appearing. Air quality is protected by the Class I Airshed status of the Bob Marshall/Scapegoat/Great Bear Wilderness and of Glacier National Park.

The river contains three species of game fish (bull trout, westslope cutthroat, mountain whitefish). Diverse wildlife species and habitat are also present. Grizzly bears make frequent use of the corridor. There are a series of mineral licks between Java and the Walton Ranger Station. Of particular importance is the main lick which is heavily used by mountain goats.

The river above Three Forks is generally gentle and meandering with no major rapids. Primary hazards include log jams which may obstruct the entire channel and limited maneuvering room. The river above Schafer Meadows is small and is rarely floated.

Below the Three Forks area the river is in a confined canyon. The river gradient averages 35 feet of drop per mile with numerous major rapids, rated up to Class V on the International Whitewater Scale. The river level is generally suitable for floating between May 25 and July 15. There are numerous naturally occurring log jams on the river, especially above Three Forks.

Man-Made Recreational - The Middle Fork corridor is a major travel route into the Great Bear Wilderness and receives moderate use from hikers and horse users. A trail parallels the river and there are several intersecting side trails, some of which cross the river. Trail signs are located in the corridor but are not visible from the river. A single outfitter base camp is located near the river, but is not visible from rivercraft.

Table 5. - Existing recreation activity opportunities on the Upper Middle Fork Management Unit.

Recreation Activity	River Floaters		Land-Based Recreationists	
	Primary Activity	Secondary Activity	Primary Activity	Secondary Activity
Viewing scenery and wildlife	X		X	
Enjoying unique or unusual environments	X		X	
Non-motorized watercraft use (river floating)	X			
Motorized watercraft use (less than 10 HP)	N/A		N/A	
Hiking, walking		X	X	
Horseback riding and packing		X	X	
Auto touring			X	1/
Recreational aviation	X		X	
Developed camping	N/A		N/A	
Primitive camping	X		X	
Picnicking		X		X
Swimming, waterplay		X		X
Cross-country skiing				X
Other winter sports				X
Fishing	X		X	
Hunting			X	
Nature study		X		X
Photography		X	X	
Viewing interpretive signs	N/A		N/A	
Gathering forest products (firewood, berries, mushrooms)	N/A		N/A	

1/ Lower 5 miles of management unit only.

There is an airstrip and two developed campgrounds at Schafer Meadows just outside the river corridor. The airstrip is used extensively by river floaters. There is a bulletin board and toilet near the river. There are river access sites at Bear Creek and at Essex. The Bear Creek site has been recently developed. The Essex site is undeveloped. Bear Creek also serves as a major trailhead for the Great Bear Wilderness. There is an observation point, with parking lot and toilet, about 500 feet from the Walton Mineral Lick off of U.S. Highway 2 in Glacier National Park. The observation point is high above the river and is not readily seen by floaters.

Floaters indicated that providing no facilities was of high importance to them, especially at campsites inaccessible by road, and at popular stops along the river. Garbage containers and toilets were considered fairly important at put-in/take-out points and at campsites near a roaded river access.

Man-Made Non-Recreational - The Schafer Work Center is just outside the river corridor and consists of seven buildings and a corral.

There are three administrative cabins located in the river corridor. They are at Spruce Park, Granite, and Gooseberry Park. Each cabin has a corral, barn, and outhouse associated with it. Spruce Park is not visible from the river.

There are two railroad bridges visible from the river in the portion of the management unit between Bear Creek and Essex, one of which crosses the river. U.S. Highway 2 and the Burlington Northern Railroad track parallel the Middle Fork from Bear Creek to Essex. The Walton Ranger Station and picnic area is also within the river corridor. Other than the bridges, these facilities are not generally visible from the river.

Social Setting

User Encounters - The general density of all corridor use is low to moderate, except at the overlook at the main mineral lick along U.S. Highway 2 where use is heavy. Concentrations of users also occur at other popular areas throughout the unit. Schafer is often congested, especially on weekends. During the relatively short float season, daily encounters are estimated to be low (2 to 4) among float parties, low to moderate (2 to 10) among land-based parties, and low between float and shore parties.

The floaters' tolerance for seeing people at places along the river was quite low. The majority of floaters wanted to see less than 5 people at put-ins and take-outs on the river and on shore. They preferred to see no one near their campsite.

Evidence of Man - In addition to the physical developments mentioned above, there are 41 inventoried campsites along the river in this management unit. This represents about 15 percent of all the sites identified on the Flathead River System. Figure 5 shows the degree of impact at these campsites. This is the second most impacted management

CAMPSITES BY IMPACT CLASS

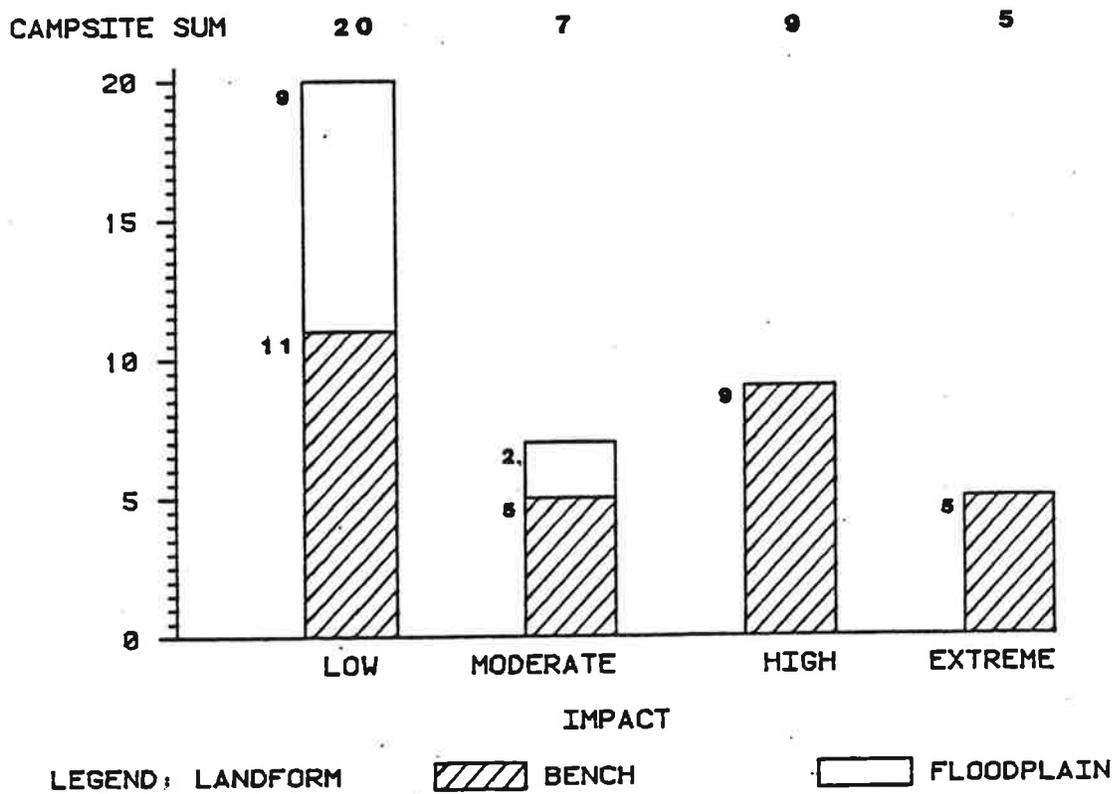


Figure 5 - Number of campsites in each impact class for the Upper Middle Fork Management Unit.

unit on the Flathead River System, and one of only two units that have campsites in the extreme impact class. Vegetation loss and tree damage are the most severe impacts at these campsites. Bare soil increase, root exposure, and development are also fairly extreme (1 to 3). Much of the impact within the wilderness is caused by land-based parties rather than floaters. These users and their associated impacts will be addressed in the Wilderness Management Plan which is currently being developed.

Managerial Setting

Current Management Practices - Management personnel are present at the Schafer Work Center throughout the float season and provide a contact point for virtually all floaters using the wilderness portion of this management unit. A float map is available to river users. Floater contact by the Forest Service has been moderate in the past, with most contact occurring at put-in points or at popular campsites along the river. Patrol floats on the upper portion of the Middle Fork have been conducted on an infrequent basis.

Motorized and mechanical equipment are prohibited by law in the Wild River Corridor and within the Bob Marshall and Great Bear Wildernesses. Public use of the Schafer Airstrip was authorized, however, under the terms of the Wilderness Act of 1964, which allows prior existing aircraft use to continue. The intent of Congress on this matter was documented in House Report No. 95-1616 which preceded approval of Public Law No. 95-546 (An Act to Designate the Great Bear Wilderness). The report stated, "In general the committee directs that the existing level of aviation use by the public (including commercial outfitters) be allowed to continue, but that greatly expanded use may be reasonably regulated by the Forest Service to protect wilderness values."

All outfitters must have a permit from the Forest Service to conduct trips on National Forest land. The 1980 Flathead Wild and Scenic River Management Plan (p. 123-126) has provided interim guidelines for river outfitters pending completion of this document. The guidelines specify such things as the number of launches per week and the party size. Non-outfitted parties must conform to wilderness regulations, including a limit on party size.

Glacier National Park requires that overnight users obtain a backcountry permit if they plan to camp on Park land. In addition, open fires are prohibited in the Park, except in designated sites. Some Park areas may be closed at times, due to bear activity.

Preferences for Distributing Use - The following list shows which guidelines for distributing use floaters would approve or disapprove of if increased use becomes a problem in the future. Guidelines are listed in descending order of approval; those listed first were approved by the largest percentages of floaters (1).

Approval

Approved
by floaters

Disapproved
by floaters

Guideline

Avoid promotion of river by agency
Consider impacts to the environment
Treat all users equally
Provide for trips on first come, first served basis
Provide for trips by advance registration

Give priority to those who value trip most
Let everyone go who wants to go
Give priority to local users
Give priority to skilled river runners
Provide business stability for outfitters
Give priority to those who never floated before

It appears that users do not want agencies to promote use of the river. However, they do seem to be willing to accept regulations, if they are aimed at reducing impacts to vegetation, wildlife, and other resources. Eighty percent of floaters approved of regulations that treated all floaters equally. Smaller margins of floaters approved of providing trips on a first come, first served basis or by advanced registration.

Recreation Experience Opportunities

Trip Patterns

Duration - The length of float trip within this management unit varied depending on the users starting point. Those who floated the Wild segment of the management unit, starting at Schafer, had an average trip length of 1.4 days. Over 40 percent of floaters had overnight use. A trip on this portion of the river requires considerable trip planning, although logistics are simplified by use of the Schafer airstrip. Floaters starting at Bear Creek had an average trip length of 1.5 days (many of these floaters traveled on to the Lower Middle Fork Management Unit) (1). Users on this lower section sometimes run the Bear Creek to Essex segment several times in one day.

Time of Week - There appears to be a preference for Tuesday through Saturday floats on the Wild segment of the river and for weekend floats on the Bear Creek to Essex segment (1).

Season - River levels are generally suitable for floating from May 25 through July 15. The water level drops in mid-summer making the river difficult to navigate due to rocks.

Experiences Desired by Floaters

The following list shows how important various recreation experience components were to users of this management unit (1). Experience components were measured using the Recreation Experience Preference Scales (7). Components listed first were most important, and those listed last were least important.

<u>Importance</u>	<u>Experience Component</u>
Moderately Important	Relationships with Nature Being with People Exercise/Physical Fitness General Learning Risk-Taking
Somewhat Important	Family Togetherness Escape Physical Pressure Achievement Nostalgia Escape Personal/Social Pressure Meeting and Observing People

Recreation User Experience Quality Index

The median quality index for this river segment was 2.61 on a scale of 1 to 4, with 4 being high. Figure 6 shows the number of floaters who rated their trip at each of the four quality levels (1).

MANAGEMENT CONCERNS AND CONSTRAINTS

Resources

Most of this management unit lies within the Bob Marshall and Great Bear Wildernesses and is a main travel route where visitor use and impact are concentrated. Protection of the wilderness resource, including solitude, natural environments, and opportunities for primitive, unconfined and challenging activities, receives first priority in managing this portion of the Wild River corridor. Plans for managing the river resource and corridor must mesh with plans currently being developed for managing the Bob Marshall/ Scapegoat/Great Bear Wilderness complex.

PERCEIVED QUALITY

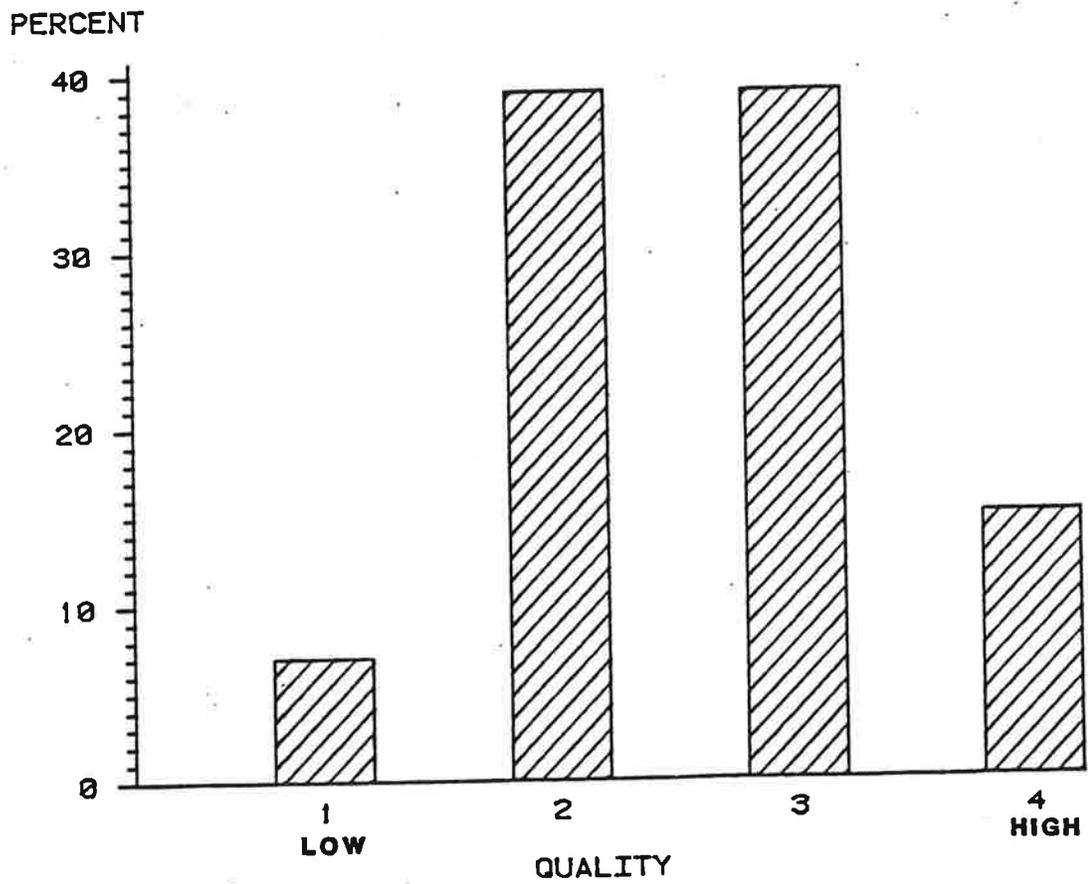


Figure 6 - Percent of users on the Management Unit rating their trip at each quality level according to the Recreation User Experience Quality Index.

Land-based activities of river floaters are impacting wilderness attributes in several areas both within and outside the river corridor. Schafer Meadows is the main area of impact, but Scott, Flotilla, and Castle Lakes, and camp spots associated with them, are also affected.

The conservation of endangered (gray wolf and bald eagle) and threatened (grizzly bear) species is of critical concern to managers since there is a potential conflict with recreational use.

The Walton Mineral Lick and the associated use by mountain goats is another important resource on this management unit. The impact of recreationists on the mountain goats must be minimized. Current management direction is to discourage river floaters from stopping or beaching rivercraft within one-quarter mile of the main lick on the Glacier Park side of the river.

Developments

Facilities have recently been built at Bear Creek to accommodate floaters and wilderness users. They include a toilet, a bulletin board and two areas containing hitch rails and feed bunks for handling stock. Facilities are needed at Essex to accommodate floaters. Both Bear Creek and Essex are located along an important highway travel corridor. Impacts caused by highway travelers (e.g. crowding, conflicts, litter, vandalism, monopolizing the sites for overnight camping, etc.) at the river access sites are also a concern of managers.

Use

Aircraft use at the Schafer airstrip has increased an average of 25 percent since the designation of the Great Bear Wilderness in 1978. A portion of the increase is due to expansion of river use. Use of the airstrip is expected to continue to increase, and this increased use may be in conflict with the legislative intent to protect wilderness values as indicated in House Report No. 95-1616 (9/22/78).

River outfitters on this management unit have requested an expansion of their service. Some Middle Fork horse outfitters and other river outfitters have requested permits to conduct river trips. Some outfitters have expressed a concern that outfitted parties are limited in the number of launches allowed and by other terms of their outfitter/guide permit, while non-outfitted users do not have similar constraints.

RECREATION OPPORTUNITIES TO BE PROVIDED

The Upper Middle Fork Management Unit will be managed to provide challenging whitewater float opportunities in an essentially unmodified wilderness environment where encounters with and evidence of other users is low. Primary access for floaters will be by airplane or pack stock in the Great Bear Wilderness and by auto along U.S. Highway 2. Recreational use of the section of the river between Bear Creek and Essex will be managed for day use so as to protect mountain goats and minimize encounters with grizzly bears.

The following objectives describe in more detail the specific recreation opportunities for which this management unit will be managed.

Recreation Activity Opportunities

1. Maintain a diversity of river and land-based recreation activity opportunities. This objective reflects the suitability of current use patterns and is intended to reduce any conflicts with other activities in the future.
2. Maintain the opportunity to view wildlife throughout the management unit and Rocky Mountain goats specifically in the area of the Walton Mineral Lick. This objective reflects the fact that many species of wildlife occur within the management unit and the Walton mineral deposit attracts goats to a portion of the river corridor. Viewing wildlife is one of the primary activities of both floaters and land-based recreationists.

Recreation Setting Opportunities

Physical Setting

3. Prevent any increase in the amount of permanent human influence in the corridor except at non-wilderness river access sites. This objective continues current management practices and reflects policy set by the Wilderness Act, where appropriate. It also coincides with users' desires to experience and protect the natural environment.
4. Maintain the existing high water quality for fisheries, esthetics, and other ecological considerations. This objective reflects current management direction provided by the Wilderness Act, where appropriate, and users' desires to experience the natural environment.
5. Maintain existing trails and trail facilities within the river corridor. This objective recognizes that the river corridor is a main travel route through the Great Bear and Bob Marshall Wildernesses, and insures that a diversity of recreation activities is offered to corridor users.

6. Manage sites at Bear Creek for wilderness and river access and at Essex for river access. This objective reflects a management concern that the sites not be used for rest stops and camping by highway travelers. It is intended to reduce crowding at river access sites.

Social Setting

7. Provide maximum isolation from the sights and sounds of other user groups except at Schafer Meadows and between Bear Creek and Essex. This objective reflects management direction for the Wilderness segment of the unit. It also reflects users' minimal tolerance for seeing people at places along the river and the low importance users placed on meeting and observing other people.

8. Minimize congestion at Schafer Meadows. This objective reflects current management direction for designated wilderness and Congressional intent to protect wilderness values. It also considers floaters' minimal tolerance for seeing people at put-in points.

Managerial Setting

9. Treat all users equally whether it be in terms of implementing new management practices, following regulations and procedures, having a chance to float the river or having a chance to use the public land in the corridor for other recreation purposes. This objective reflects a management concern and coincides with floaters' overwhelming approval that guidelines to distribute use should be the same for all users.

10. Provide information, education, and access to management personnel at Schafer Meadows. This objective continues the practice of stationing a wilderness ranger at Schafer on a seasonal basis and recognizes the need to improve visitor contact on the river. It also reflects the need to provide safety and low impact use information to floaters to enhance their trip and reduce impacts to the environment.

11. Initiate regulations necessary to protect the natural resources and recreation opportunity mandated by wilderness legislation. This objective coincides with wilderness legislation and reflects floaters' strong preference to consider impacts to vegetation, wildlife, and other resources above all else.

Recreation Experience Opportunities

12. Provide floaters the opportunity to take a wilderness/wild river trip utilizing the Schafer Meadows airstrip as a means of access. The objective reflects the primary method of accessing the Wild Middle Fork for floating and promotes activity diversity throughout the river system.

13. Provide opportunities for floaters to develop river running skills and wilderness/wild river ethics. This objective reflects the importance floaters place on the experience component "general learning."

14. Provide freedom of choice for floaters in selecting their own level of involvement in trip planning and execution. This objective reflects the diversity of opportunities available to floaters in terms of accessing the launch site (airplane, hiking, packstock) and in floating the river (on their own, full-service outfitter trip, outfitter-supported trip).

15. Provide for an extremely challenging whitewater float associated with the risk of the unexpected in an isolated environment. This objective reflects the existing whitewater situation and the importance floaters place on risk-taking.

16. Provide users the opportunity to interact with and learn about the unique natural features of the area. This objective reflects the importance users place on relationships with nature and general learning.

INDICATORS, STANDARDS AND MONITORING PROCEDURES

Eight indicators were selected to reflect the recreation opportunities described in the preceding section. These indicators will be monitored over time according to the procedures outlined in Table 6. The objective(s) that each of the indicators refers to is listed in the second column of the table.

COMPARISON OF CONDITIONS TO STANDARDS

River managers know that campsite conditions currently breach the standard described in the preceding section. Current conditions for other standards will be determined after 1 year of monitoring.

SELECTION AND IMPLEMENTATION OF MANAGEMENT TECHNIQUES

The following management techniques have been chosen to help bring campsite conditions to an acceptable level.

1. The Forest Service will make an initial cleanup and rehabilitation of deteriorated campsites.
2. At campsites where impacts currently exceed standards these impacts will be reduced by posting "Wilderness Restoration Site" signs and encouraging voluntary dispersion and use of other sites.
3. Visitor education in the river corridor will be conducted through signing and visitor contact.

Table 6 - Indicators, Standards, and Monitoring Procedures for the Upper Middle Fork Management Unit.

Indicator	Objective Number	Standard	Monitoring Procedure Inventory Method	Sampling Procedure	Frequency
1. Encounters per day with other float parties on the river. 1/	7	Probability of sighting no more than 2 other float parties or individual boats on the river per day. 4/	a) Visual count	a) Census of all party sightings during patrol floats on randomly selected days during the float season (5/25-7/15).	a) Minimum annually
2. Encounters per day with shore parties.	7	Probability of sighting no more than 4 shore parties or camps per day. 4/	b) Short survey of visitors with questions about number of other float parties sighted.	b) Administer survey on randomly selected days at Bear Creek or Essex.	b) Minimum 2/year
3. Encounters per day with other float parties at Schafer Meadows access site.	7	Probability of sighting no other float parties at Schafer. 4/	Same as (1) above	Same as (1) above	Same as (1) above

Table 6 (cont.) - Indicators, standards and monitoring procedures for the Upper Middle Fork Management Unit.

Indicator	Monitoring Procedure			
	Objective : Number :	Standard :	Inventory : Method :	Sampling : Procedure : Frequency :
4. Campsite condition.2/ (Headwaters to Bear Creek).	3,11	Campsite standards will be set in the BM-GB-S Wilderness Plan currently being developed.	Campsite impact evaluation using campsite rating form.	Evaluate a statistical sample of campsites toward end of float season. Annually
5. Campsite Occurrence (Bear Creek to Essex.		No evidence of campsites in this segment.	Visit all potential campsites.	Map and record evidence of any campsite. Annually
6. Occurrences of litter. 3/	3,4,10,17	No more than an average of one occurrence of litter visible from water craft per five miles of river.	a) Visual count of litter occurrences. b) Short survey of visitors with questions about number of occurrences of litter.	a) Same as 1,2, and 3 above. b) Same as 1,2, and 3 above.

Table 6 - Indicators, Standards, and Monitoring Procedures for the Upper Middle Fork Management Unit.

Indicator	Objective : Number	Standard	Inventory : Method	Monitoring Procedure : Sampling : Procedure	Frequency
7. Experience quality index.	3,9,12,13,15	No more than 20% of surveyed users at lowest quality level; no less than 20% at highest quality level. 5/	Short verbal survey of visitors (floaters and non-floaters) with questions about quality of recreation experience.	Administer survey at take-out points and at selected shore locations on selected half days during the peak float season 5/31-7/15.	4 samples of each group/year. 2 weekdays 2 weekends.
8. Changes in use pattern or population of goats in area of Walton mineral lick.	2	No significant changes in use patterns, current behavior or population numbers attributable to disturbance by floaters.	a) Glacier National Park wildlife biologists will develop monitoring scheme to determine effect of floaters on goats and their use of mineral lick. b) FS observe and record goat behavior and use patterns.	b) Observe goats on patrol floats on a randomly selected day during the float season.	Minimum Annually

1/ A party is defined as all individuals who are or appear to be travelling or floating together, regardless of the number of people or boats.

2/ Campsite Impact Classes are explained in Appendix C.

3/ Litter is defined as any refuse outside of a non-designated campsite area. Campsite litter is covered in Indicator 4.

4/ Standard will be considered to be met at the 80 percent probability level.

5/ Averaged over a two year period.

4. Floaters on this unit will be encouraged to contact Forest Service personnel at Schafer Meadows or Hungry Horse Ranger District for no-trace camping and safety information prior to entering the river corridor.

5. A Flathead River Ethics Guidebook will be developed and made available to all users.

6. Off-season and off-site education efforts will be conducted through the use of group contacts and news releases for the media.

7. Low impact use information will be made available to outfitters for distribution to their clients.

If these non-regulatory actions fail to achieve the desired results, a mandatory but unlimited permit will be required for all floaters. The permit will be used to insure agency contact with the user for the purposes of education and reducing visitor impacts.

Should this unlimited permit fail to achieve the desired results, management techniques such as scheduling launch times, specifying launch sites, limiting launches per day, limiting use to specified days or specifying trip length may be implemented.

If conditions continue to deteriorate, a limited permit system, which will ration total use, will go into effect. All users will compete equally for the limited number of permits. Individuals chosen for a permit will decide whether to contact an outfitter or to float as a nonoutfitted user. Should this action become necessary, outfitters will be allowed to phase into the system over a 3-year period.

Should conditions again return to an acceptable standard these restrictions may be relaxed.

The regulatory actions described above will be imposed on floaters only if standards are breached due to floater use. If standards are breached due to other causes, appropriate management action will be taken to correct the problem.

These actions reflect users' willingness to accept regulations aimed at protecting the natural environment, and their preference to treat all users equally in terms of imposing restrictions.

MANAGEMENT PROGRAMS

The following is a list of other management actions which will be implemented on this management unit. These actions are not specifically related to the indicators listed in Table 6. They flow from the recreation opportunities to be provided and from management concerns and constraints.

1. The present interim river use guideline for outfitters (developed in the 1980 Flathead Wild and Scenic River Management Plan) will be terminated. These guidelines regulate number of launches per week, size of party, and number of outfitters permitted on the river. Based on the information in this plan, some of them are no longer valid. Others result in unequal restriction of outfitters and non-outfitted uses. This is of concern to outfitters, the agency, and the majority of users who preferred to treat all users equally in terms of imposing regulations. Based on a review of current river conditions, there is no reason to limit the number of outfitter launches per week at this time. Concerns about outfitter numbers and service levels will be addressed below.

2. River outfitters currently permitted to operate on this management unit will be permitted to conduct outfitted float trips on river segments where they presently operate, within the service day limits in their current operations plan or up to the maximum level authorized in the Forest Service Outfitter Policy (FSM 2721.53). This action recognizes the potential impacts of increased levels of outfitter use on the wilderness resource inside and outside the river corridor. Impacts may possibly include additional aircraft flights into Schafer Meadows and campsite use outside the corridor. They will be addressed in the new Management Plan for the Bob Marshall-Great Bear-Scapegoat Wilderness complex which is currently being developed. Depending on the outcome of the wilderness plan, the restriction above may be reconsidered. This action is consistent with management direction agreed to among all Forests involved in administration of the wilderness complex, and is spelled out in the Draft Forest Plans for the Flathead, Lewis & Clark, Lolo, and Helena Forests.

3. No additional river outfitter permits of any type will be issued on this management unit. This action recognizes the potential impacts of additional outfitter permits on the wilderness resource both inside and outside the corridor. Impacts may possibly include additional aircraft flights into Schafer Meadows, campsite use outside the corridor, and additional livestock use inside and outside the corridor. These potential impacts will be addressed in the new Management Plan for the Bob Marshall-Great Bear-Scapegoat complex which is currently being developed. Depending on the outcome of the wilderness plan, the restriction above may be reconsidered. This action is consistent with management direction agreed to among all Forests involved in administration of the wilderness complex and is spelled out in the Draft Forest Plans for the Flathead, Lewis & Clark, Lolo, and Helena National Forests. It states that no new outfitter permits will be issued in the wilderness until the Limits of Acceptable Change Planning Process is completed.

4. Evaluate new recreation activities in the corridor to determine if they conflict in space and/or time with currently existing activities. This action reflects the desire by river managers to prevent future activity conflicts.

5. Develop river access and trailhead facilities at Bear Creek and river access facilities at Essex. This action reflects a management concern to resolve potential human waste, improper use, and crowding problems at these sites.
6. Prohibit outfitter base camps being set up in the river corridor during the float season. This action reflects users' minimal tolerance for seeing people along the river and users' desires to experience the natural environment.
7. Maintain current administrative sites within the river corridor, but minimize additional development at these sites. This action continues current management practices.
8. Make all parties aware of their potential impact (e.g., physical presence, traces, etc.) on other parties. This action reflects users' minimal tolerance for seeing people at places on or along the river and users' desires to experience and protect the natural environment. It also reflects agency desires that users police themselves, avoiding the need for more stringent regulations.
9. Make users aware of times (season, day of week) that they will be less likely to encounter other parties. This action recognizes users' minimal tolerance for seeing people on the river. It also reflects the fact that present use varies widely by season and time of week.
10. Prohibit camping between Bear Creek and Essex. This action reflects the present day use that is predominant on this portion of the Upper Middle Fork Management Unit, and minimizes potential impacts to mountain goats in the area of the Walton Mineral Lick. It also continues current management policy on lands within Glacier National Park.
11. Prohibit floaters from stopping within one-quarter mile on either side of the Walton Mineral Lick. This action recognizes potential impacts to mountain goats caused by recreationists and current management direction.
12. Continue to encourage opportunities for developing advanced whitewater skills and wilderness/wild river ethics. This action reflects the importance floaters place on the experience component "general learning." It also recognizes that outfitters can perform an educational function in teaching wilderness/wild river ethics and skills.
13. Evaluate all new activities to determine if they adversely affect protection of threatened or endangered species. Proposed activities with the potential to effect grizzly bears will be evaluated under the "Guidelines for Management Involving Grizzly Bears in the Greater Yellowstone Area" (1979) as amended to cover the situation in the Flathead National Forest. This management unit will be considered "Management Situation 1" as defined in the guidelines.

Proposed activities that may effect the bald eagle or gray wolf will be reviewed by the Zone Wildlife Biologist. He will make recommendations with regard to the proposal and its potential effects and will propose alternatives or mitigation measures to insure species or habitat protection.

14. The maximum party size on this management unit is 15 individuals. This includes all individuals involved in the float trip (i.e., land-based support, outfitter-hired help, etc.). This action reflects user desires to encounter relatively small groups. Although users preferred party sizes of 8-10, managers felt the need to have a common party size for all wilderness users. Since current wilderness regulations specify a party size of 15 and since this number is reasonably close to that preferred by floaters, it was adopted for use on the river.

CHAPTER V

LOWER MIDDLE FORK MANAGEMENT UNIT

UNIT DESCRIPTION

The Lower Middle Fork Management Unit lies between Essex and the confluence of the Middle and South Forks of the Flathead River. The unit is 49.4 miles long and includes a corridor that is approximately one-quarter mile wide on each side of the river.

All of this management unit has been designated a Recreational River under the Wild and Scenic Rivers Act. The reason for making Essex the upper boundary for this management unit was explained in Chapter I. Although there are some differences between users above and below Blankenship Bridge, the entire lower part of the river is used very little and is included in the management unit to increase management efficiency. River managers do not feel that differences in use patterns are extreme enough to justify managing this section of river as two management units. The major differences in users and use patterns will be pointed out in the inventory section of this chapter.

The water's edge on the north shore of the Middle Fork is the boundary between Glacier National Park to the north and the Flathead National Forest to the south. Between Essex and the confluence of the Middle and North Forks at Blankenship Bridge, the northeast shore of the river corridor lies entirely within Glacier National Park. Land ownership on the southwest shore is dominated by National Forest land with private land and some State of Montana land interspersed. Below Blankenship Bridge most of the river corridor is in private ownership. There are scattered parcels of National Forest land on this stretch of the river. The Hungry Horse Ranger District of the Flathead National Forest has primary administrative responsibility for this management unit. Glacier National Park and the State of Montana retain management responsibility for lands under their administration.

USER DESCRIPTION

This management unit had the most cosmopolitan group of users of any part of the Flathead River System. About half (45 percent) were from the western United States. Almost one-fourth were from the State of Montana, with 14 percent of the total being from the Flathead Valley. This is the lowest proportion of local (Flathead Valley) users of any management unit except the Upper South Fork. Fifteen percent of all floaters were from the East North Central States (Wisconsin, Michigan, Illinois, Indiana and Ohio). Almost 13 percent were from the West North Central States (North Dakota and Minnesota to Kansas and Missouri). Another 13 percent of the users were foreign, with most of these being from Canada. The users of the part of the river below Blankenship had a different pattern of residence. All of these users were from the western United States, with 65 percent being from the Flathead Valley and 24 percent being from other parts of Montana. The heavy use by local floaters reflects use by Lower North Fork floaters who continue their trip on to this management unit.

Forty percent of the floaters on this management unit were in groups composed of immediate family members. Almost 30 percent were in groups of friends and 21 percent were in groups of family and friends. Some floated with organized groups, and some floated as individuals. The median party size for this management unit was 10, which was the largest party size of any segment of the Flathead River System.

Almost all of the users (97 percent) floated in rafts. Most others used canoes, but there were some dories, kayaks, rowboats and inner tubes. Slightly more than 80 percent of the floaters used craft owned by outfitters. Most of the others used personally owned or rented watercraft. Eighty percent of the floaters used the services of an outfitter. Most of these floated with an outfitter, but some rented gear from an outfitter (9 percent). None of the floaters surveyed below Blankenship Bridge used the services of an outfitter. Only 11 percent had previous experience floating this unit of the Flathead (1).

Half of the floaters on this management unit decided to float the river within 48 hours of their trip. Another 14 percent decided within 1 week of their trip (1). This indicates that float trips on this segment are relatively spontaneous. Extensive trip planning is not required due to the ease of access and the availability of outfitter services.

There is a considerable amount of land-based recreation within this management unit. Most of this consists of auto touring on U.S. Highway 2, which parallels this part of the Middle Fork. The river study did not include these users.

EXISTING RECREATION OPPORTUNITIES

Recreation Activity Opportunities

Table 7 shows the primary and secondary recreation activities for river floaters and land-based recreationists. The information is based on the river survey data and managers' experience.

Recreation Setting Opportunities

Physical Setting

Natural - The river flows through a forested valley with periodic views of adjacent mountains. Between Nyack Flats and West Glacier, the valley narrows to a relatively steep canyon with frequent rock outcrops. Between West Glacier and Blankenship Bridge, there are numerous rock outcrops and cliffs that add variety to the scenery. Below Blankenship, the river flows between steep erodible banks of glacial till. The corridor within Glacier National Park is managed as a Class I Airshed to protect the scenic views into Glacier National Park. The Great Bear Wilderness, visible to the west, is also managed as a Class I Airshed.

Table 7 - Existing recreation activity opportunities on the Lower Middle Fork Management Unit.

Recreation Activity	River Floaters		Land-Based Recreationists	
	Primary Activity	Secondary Activity	Primary Activity	Secondary Activity
Viewing scenery and wildlife	X		X	
Enjoying unique or unusual environments	X		X	
Non-motorized watercraft use (river floating)	X			X
Motorized watercraft use (less than 10 HP)		X		X
Hiking, walking		X		X
Horseback riding and packing	N/A		N/A	
Auto touring		X	X	
Recreational aviation				X
Developed camping	N/A		N/A	
Primitive camping		X		X
Picnicking		X	X	
Swimming, waterplay		X		X
Cross-country skiing				X
Other winter sports				X
Fishing		X	X	
Hunting				X
Nature study		X		X
Photography	X		X	
Viewing interpretive signs	N/A		N/A	
Gathering forest products (firewood berries, mushrooms)	N/A		N/A	

The corridor has a generally natural appearance although there are segments which range from pristine to rural. The Park side of the river corridor from the Walton Ranger Station at Essex to West Glacier (33 river miles), and along the Apgar Range in the vicinity of Blankenship Bridge has been recommended for wilderness designation and is managed to emphasize natural processes.

Most of the private land within the river corridor is concentrated near Essex, Pinnacle and Nyack, and between West Glacier and Hungry Horse. Cabins and homes (many of which are used seasonally) are evident on many private parcels. Domestic livestock grazing occurs around Nyack Flats and West Glacier. Some past timber harvesting and clearing is evident but not obtrusive. Two inholdings in Glacier National Park have been clearcut; one is visible from the river. Scenic easement and fee title purchase negotiations with private landowners are continuing according to priorities set in the Flathead Wild and Scenic River Acquisition Plan. To date, scenic easements have been acquired on 1,306 acres, and an additional 2,072 acres have been purchased or donated.

National Forest land within the corridor is managed to provide a natural or near-natural setting. Management activities, including timber harvest, are allowed within the corridor as long as scenic and recreational values are protected. Management activities outside the corridor are visible from the river and vary in intensity of impact to the visual resource.

Water quality in the river is high. The river supports a significant fishery and is popular with anglers. It is responsible for slightly less than half of the fish recruitment into the Flathead Lake fishery.

A variety of wildlife species inhabit or frequent the river corridor. The area has good browse for deer and elk, especially on the Park side. The corridor is critical to elk in the winter and spring for feeding and calving. The grizzly bear, bald eagle and occasionally the gray wolf, which are classified as either threatened or endangered species, are found in the corridor. The Nyack Flats area is critically important to grizzly and black bear in the spring. In the fall, large numbers of bald eagles concentrate near West Glacier and along the lower Middle Fork to feed on spawning Kokanee salmon.

The river gradient on this unit is generally moderate, averaging 17 feet of drop per mile, except for the stretch from Moccasin Creek to West Glacier, which is steeper. The rapids in this stretch are rated up to Class IV on the International Whitewater Scale during high water. Other areas of difficult rapids, hydraulics and log jams are scattered throughout the management unit.

Man-Made Recreational - A major highway (U.S. Highway 2) parallels the river corridor throughout this management unit and provides access for recreationists and others. A trail follows the north side of the river in Glacier National Park from Walton to the Park Creek Trail and from the Coal Creek Trail to West Glacier. Several other Park trails intersect the river trail.

River launch sites have been developed at Paola Creek, Cascadilla Creek, Moccasin Creek, and Blankenship Bridge. The Montana State Department of Fish, Wildlife and Parks manages the Kuhns Fishing Access Site, which is located between Dickey Creek and Paola. The bridge at West Glacier is used as an access site, but no launch area or other facilities have been developed there. Launching and take-out also occurs in the vicinity of the West Glacier Golf Course. All other sites have access to the water's edge and a parking area. The approach onto U.S. Highway 2 at the Essex site poses a potential safety hazard to users. Moccasin Creek also has a toilet and a safety fence along the railroad tracks. The Cascadilla access site road was partially washed out by high water during 1982, and totally washed away in 1985. The 80-acre Kuhns Site is undeveloped except for a road into the area and signs. It is not feasible to launch or retrieve boats at this site.

Glacier National Park maintains a picnic area at the Walton Ranger Station. Visitor information is available at the Ranger Station. There are several private campgrounds and motels along Highway 2 near the corridor. West Glacier is a full-service resort complex and attracts large numbers of tourists during the summer.

Floaters on this management unit preferred having appropriate toilet facilities at put-in/take-out points and at campsites (both accessible and inaccessible by road). They preferred having no facilities at popular stops along the river. Garbage containers were ranked as the next most desired facility after toilets. Providing no facilities was ranked second priority for put-in/take-out points and campsites inaccessible by road, and fourth priority at campsites accessible by road. Water faucets, launch sites, campsites not visible from the river, permanent fire rings, parking lots and nature trails were other facilities desired by significant numbers of floaters (1).

Man-Made Non-Recreational - U.S. Highway 2 and the Burlington Northern Railroad both parallel the Middle Fork for 42 miles, from Bear Creek to the confluence with the South Fork. From West Glacier to Martin City, the highway is a considerable distance from the river. Highway 2 is the major east-west route across northern Montana and has been designated a Scenic Highway by the State of Montana. The railroad is also a major east-west route and has Amtrack passenger service as well as heavy freight traffic. The highway and railroad combined account for at least 1-1/2 miles of major channel change along the river and 5 miles of riprapping at 27 locations. One railroad bridge and four road bridges span the river within this management unit. There is also a water measurement station and a river gauge.

There are several unobtrusive administrative structures maintained by the National Park Service. Those within the river corridor include Walton and Flathead Ranger Station, Nyack Barn and Lincoln Creek Patrol Cabins and Park Headquarters at West Glacier. Structures on private land within the corridor include private homes, commercial businesses, and agricultural developments. Many of these are harmonious with Recreational River values.

Social Setting

User Encounters - The Lower Middle Fork Management Unit is the most easily visited and most heavily used portion of the entire classified Flathead River System. About 72 percent of all floating use on the Flathead River System occurs on the Lower Middle Fork (1). The general density of all corridor users is relatively high on the Moccasin Creek to West Glacier segment and moderate elsewhere. Managers estimate that encounters among float parties, among shore parties, and between float and shore parties are high (more than 10 per day) on this river management unit.

Floaters had a slightly higher tolerance for seeing other people at the take-out point than at the put-in, on the river or on shore. More than half of the users were willing to see 6 or more people at the take-out. More floaters preferred to see only one to 5 people at the other locations mentioned above. The few floaters who camped had low tolerance for seeing people near their campsite (1).

A few floaters (less than 2 percent) felt that raft fishing and shore fishing were conflicting recreational activities on this management unit. Other floaters felt that crowding was a potential conflict on this management unit (3).

Evidence of Man - In addition to the physical developments mentioned above, there are 18 inventoried campsites along the river in this management unit. This represents about 6 percent of all the sites identified on the Flathead River System. Four of the sites are on Park land, 7 are on National Forest land, and 7 are on private land. Figure 7 shows the degree of impact at these campsites. The major impact problems at these campsites are vegetation loss, bare soil increase, development, cleanliness, and barren core camp area. Some of these are difficult impacts to improve, but as Figure 7 shows, the overall impact at these campsites is not a severe problem. Almost 75 percent of the sites are on the flood-plain where they are subject to annual flooding and scouring (1, 3).

Managerial Setting

Current Management Practices - Forest and Park Service personnel are present at Walton Ranger Station and Apgar Visitor Center (NPS) and at Hungry Horse Ranger Station (USFS). Personal contacts are also made on river patrol floats, which are conducted periodically by Hungry Horse Ranger District (USFS) and Glacier National Park, both separately and together. Some patrol activities can be conducted from shore. Private land boundaries have been signed in several locations. A float map is available to users. Visitor information is also provided at launch site bulletin boards.

Rivercraft with motors up to 10 horsepower are allowed on this river management unit. However, because of the river characteristics, motorized use is generally limited to the area below West Glacier.

CAMPSITES BY IMPACT CLASS

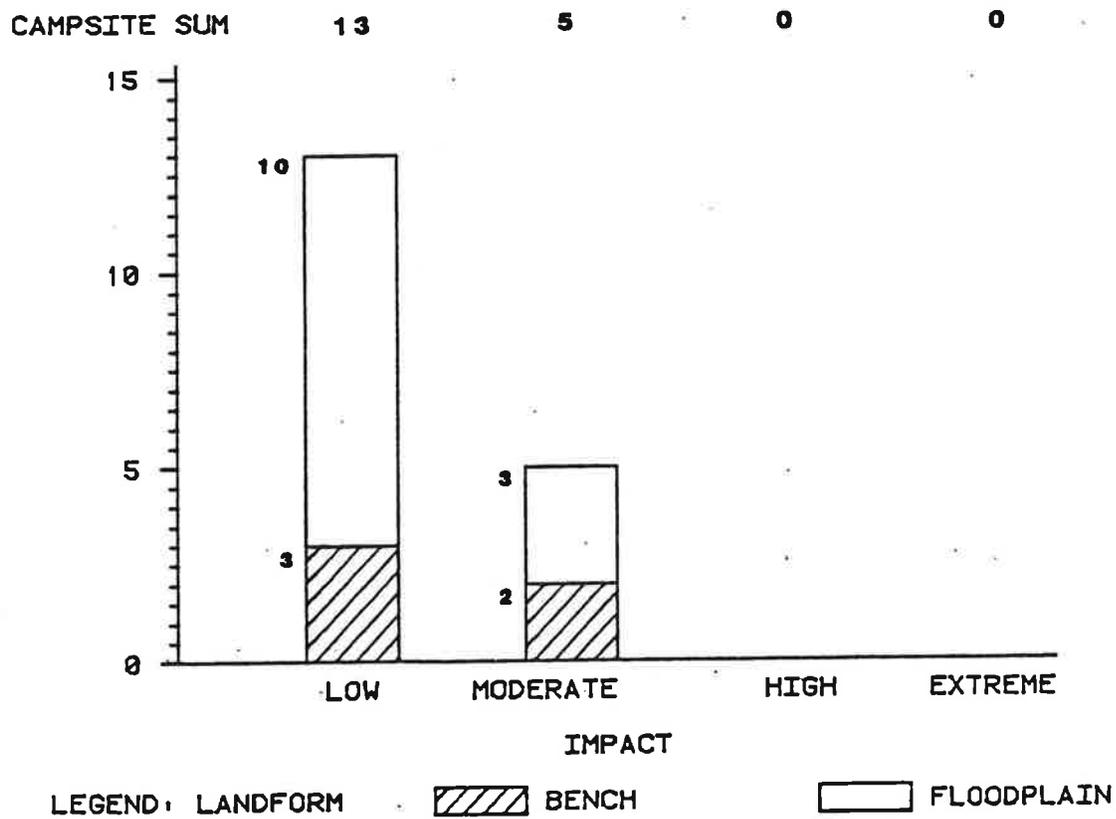


Figure 7 - Number of inventoried campsites in each impact class for the Lower Middle Fork Management Unit.

Glacier National Park requires that overnight users obtain a backcountry permit if they plan to camp on Park land. In addition, open fires are prohibited in the Park within the river corridor. Some Park areas may be closed at times due to bear activity.

Outfitted float trips are prohibited during the period 9/20 - 10/31 from West Glacier to Blankenship Bridge to reduce disturbance of bald eagles.

Persons wishing to outfit on the Middle Fork must have a permit from the Forest Service. Outfitter permits and service levels are currently controlled by the 1980 Flathead Wild and Scenic River Management Plan. There are currently four outfitters permitted to operate on this management unit.

Preferences for Distributing Use - The following list shows which guidelines for distributing use floaters would approve or disapprove of if increased use becomes a problem. Guidelines are listed in descending order of approval; those listed first were approved by the largest percentages of floaters (1).

<u>Approval</u>	<u>Guideline</u>
Approved	Consider impacts to the environment Treat all users equally Provide for trips on first come, first served basis Provide for trips by advanced registration Avoid promotion of river by agency Give priority to those who value trip most Provide business stability for outfitters
Disapproved	Let everyone go who wants to go Give priority to those who have never floated before Give priority to local users Give priority to skilled river runners Give priority to adjacent landowners

It appears that floaters would be willing to accept regulations on use if they are aimed at reducing impact to vegetation, wildlife, and other resources, and if they treat everyone equally. A first come, first served system was favored slightly over an advanced registration system.

Recreation Experience Opportunities

Trip Patterns

Duration - The average float trip length on this management unit was 1.0 days. One percent of the users stayed overnight (1).

Time of Week - Use is fairly evenly distributed among the seven days of the week with Sunday being the least popular (1).

Season - Water levels are suitable for floating from mid-May to Labor Day. The peak float period is during the month of July.

Concentration of Use - Moccasin Creek was used as a put-in point by 85 percent of the floaters on this management unit. The bridges at West Glacier and the Golf Course were used as take-out points by 90 percent of the floaters (1). This reflects the large number of people who float on the half-day outfitted trips on this segment of the river. The segment from Blankenship Bridge to the confluence with the South Fork is the least used portion of the Flathead River system.

Experiences Desired by Floaters

The following list shows how important various recreation experience components were to users on this management unit (1). Experience components were measured using the Recreation Experience Preference Scales (7). Components listed first were most important, and those listed last were least important.

<u>Importance</u>	<u>Experience Component</u>
Moderately Important	Relationships with Nature Being with People General Learning Escape Physical Pressure
Somewhat Important	Achievement Escape Personal/Social Pressure Family Togetherness Risk-taking Meeting and Observing People Exercise/Physical Fitness Nostalgia

Recreation User Experience Quality Index

The median quality index for this river segment was 2.33 on a scale of 1 to 4, with 4 being high. Figure 8 shows the number of floaters who rated their trip at each of the four quality levels (1).

MANAGEMENT CONCERNS AND CONSTRAINTS

Resources

The bald eagle and gray wolf have been classified as endangered species and the grizzly bear as a threatened species. All three may use the river corridor during critical periods of their life-cycles. Recreational use may conflict with the grizzly bear and gray wolf in the spring/summer season and with the bald eagle in the fall.

PERCEIVED QUALITY

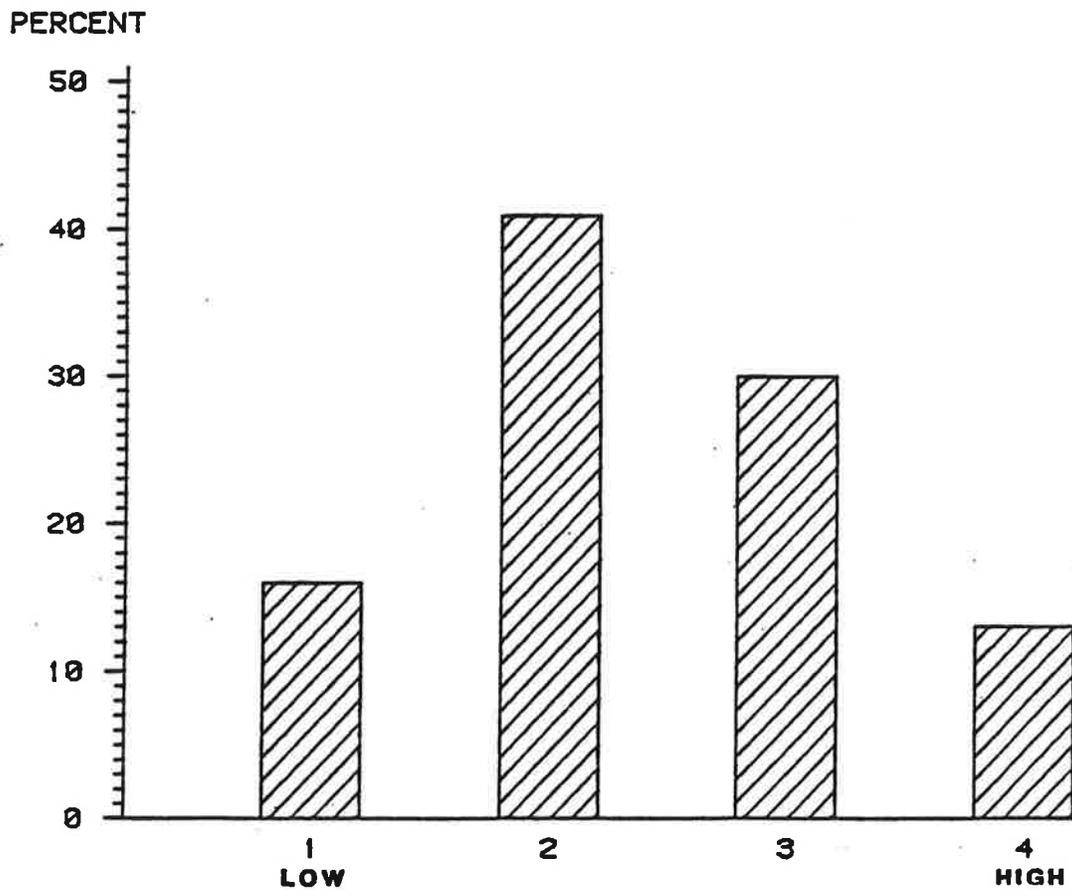


Figure 8 - Percent of users on the Lower Middle Fork Management Unit rating their trip at each quality level according to the Recreation User Experience Quality Index.

All of the Glacier National Park lands within this management unit, except the administrative area at West Glacier, have been recommended for wilderness designation and are managed as wilderness.

Developments

There are some congestion and safety problems at launch sites. Access onto U.S. Highway 2 at the Essex site is of particular concern. Managers are concerned about potential crowding between river and land based recreationists at river access sites, as well as on the river itself.

The access sites within this management unit are located along an important highway travel corridor. Impacts caused by highway travelers (e.g., crowding, conflicts, litter, vandalism, monopolizing the sites for overnight camping, etc.) at the river access sites are also a concern to managers.

Outfitters requested that an access site be developed on Park land near the town of West Glacier. Managers identified several possible sites on Park land, Forest land, and private land. Problems at some of the potential access sites included the possibility of future flooding, traffic congestion and safety, disturbance of wildlife habitat, acquisition of private land, cost of site development, distance from the town of West Glacier, and congestion and impacts on the visual resource at the entrance to Glacier National Park. A site on private land, recently purchased by the Forest Service was eventually selected. The site, located near the West Glacier Golf Course had been used in the past only by the outfitters. As the public gradually becomes aware of this site, problems with crowding and conflicts may occur.

Use

Managers have received requests for additional outfitter permits on this management unit. There is no apparent public demand for additional outfitters. Some present outfitters are dissatisfied with allocation decisions made in the 1980 River Management Plan and with regulations limiting party size and the number of rafts per party. Nonoutfitted floaters are not subject to these restrictions.

Management presence on the river and along the corridor has been less than optimal, making it difficult to contact floaters and other river corridor users.

Periodically, there are reported conflicts between corridor landowners and recreational users.

RECREATION OPPORTUNITIES TO BE PROVIDED

The Lower Middle Fork Management Unit will be managed to provide challenging whitewater float opportunities in non-motorized and motorized (10 horsepower or less) watercraft for large numbers of predominately day-users. Opportunities will be maintained to float the river with users having the choice of their level of involvement in trip planning and execution to allow for trips within a spontaneous planning timeframe. Natural-appearing scenery will be maintained, except for existing developments. Conflicts with private landowners and crowding at river access sites will be minimized.

The following objectives describe in more detail the specific recreation opportunities for which this unit will be managed.

Recreation Activity Opportunities

1. Maintain a diversity of river and land-based recreation activity opportunities. This objective reflects the suitability of current use patterns and the management concern pertaining to congestion at river launch sites and crowding on the river.
2. Allow only those recreational activities that are known to have minimal impact on the environment (i.e., wildlife lands, etc.). This objective coincides with users' desires to experience the natural environmental and floaters' overwhelming preference for the guideline "consider impacts to vegetation, wildlife, and other resources above all else."
3. Emphasize non-motorized river craft use, but not to the exclusion of small (10 horsepower or less) motorized craft. This objective reflects the suitability of segments of this management unit for such use, current management direction, and actual as well as historic use.

Recreation Setting Opportunities

Physical Setting

4. Minimize permanent human influences on public land except at developed recreation sites, administrative sites, and sites identified in the river launch site environmental assessment. This objective reflects current management direction and coincides with users' desires to experience the natural environment and floaters' preference that few facilities be built at locations along the river. It also reflects the intent of the Wild & Scenic River Act.

5. Maintain air quality to Class I standards to enhance the viewing of spectacular scenery within Glacier National Park and the Great Bear Wilderness. This objective reflects the importance of the visual resource in Glacier National Park and the Great Bear Wilderness and coincides with floaters' desires to experience and protect the natural environment.

6. Manage access sites for floater use. This objective reflects managers' desires to prevent crowding of river and land-based recreationists and floaters' low tolerance for seeing people at places along the river.

Social Setting

7. Prevent congestion at river access sites. This objective reflects a management concern and floaters' minimal tolerance for seeing people at put-in points and low tolerance at take-out points.

8. Minimize conflicts between recreationists and private landowners within the corridor. This objective reflects a concern of managers and landowners.

Managerial Setting

9. Treat all users equally whether it be in terms of implementing new management practices, following regulations and procedures, having a chance to float the river, or having a chance to use the public land in the corridor for other recreational purposes. This objective was derived from research information pertaining to preferences of floaters for guidelines to distribute use. The guideline "should be the same for all users" was overwhelmingly approved by Lower Middle Fork floaters.

10. Provide users access to management personnel by maintaining a high level of presence in the corridor and on the river. This objective reflects both a current management practice and a management concern.

11. Promulgate regulations necessary to protect natural resources and planned recreation opportunities. This objective reflects floaters' tolerance for guidelines (regulations) to distribute use if they are based on reducing impacts to natural resources.

Recreation Experience Opportunities

12. Maintain opportunities for recreationists to interact with the natural environment. This objective reflects the experience component most desired by Lower Middle Fork floaters' "relationships with nature."

13. Maintain the potential for risk, skill development, and personal achievement. This objective reflects floaters' desires to experience "general learning," "achievement," and "risk-taking."

14. Emphasize day use opportunities. This objective reflects the current pattern of recreation use and a management concern related to overnight use of the access sites by highway travelers.

The preceding recreation opportunity package is what managers will maintain on the Lower Middle Fork Management Unit and what floaters and other recreationists can expect to encounter.

INDICATORS, STANDARDS AND MONITORING PROCEDURES

Five indicators were selected to reflect the recreation opportunities described in the preceding section. These indicators will be monitored over time according to the procedures outlined in Table 8. The objectives to which each of the indicators refers to are listed in the second column of the table.

COMPARISON OF CONDITIONS TO STANDARDS

Middle Fork managers suspect that litter occurrences currently violate the standard described in the preceding section. While litter resulting from recreation activities is of concern, the greatest impact is from refuse associated with the railroad, much of which resulted from the 1964 flood. Current conditions for other indicators will be determined after one year of monitoring.

SELECTION AND IMPLEMENTATION OF MANAGEMENT TECHNIQUES

The following management techniques have been chosen to help bring litter occurrences to an acceptable level.

1. Managing agencies, in cooperation with float outfitters, will clean up and rehabilitate the river and adjacent ground.
2. Managers will work with the railroad to obtain cleanup of litter and debris associated with its operations.
3. Managing agencies will post indicators and standards at river access points.
4. Visitor education in the river corridor will be conducted through signing, visitor contact, and cooperation with outfitters.

Table 8. - Indicators, standards and monitoring procedures for the Lower Middle Fork Management Unit.

Indicator	Objective Number	Standard	Monitoring Procedure		
			Inventory Method	Sampling Procedure	Frequency
1. Encounters per day with other float parties on the river.1/	8,9,12,13	Probability of sighting no more than 10 other float parties or individual boats on the river per day.3/	Visual count	Record all sightings during patrol floats on randomly selected days during the float season (5/15 - 9/5).	Minimum 3/year
2. Congestion and crowding at launch sites.	5,6,12,15	Probability of having to wait no more than 30 minutes to launch or retrieve a craft.3/	Visual observation	Record the length of delay in launching and retrieving river craft at each access site on randomly selected days during the float season.	2 Per Year
3. Campsite numbers.	2,3,12,13	No more than 18 identifiable campsites in this management unit.	Visual count	Map and record all campsite locations toward end of float season.	Annually

Table 8 (cont.) - Indicators, standards and monitoring procedures for the Lower Middle Fork Management Unit.

Indicator	Monitoring Procedure			
	Objective	Inventory	Sampling	Frequency
	Number	Method	Procedure	
4. Occurrences of litter on riverbank. 2/	<p><i>Why not just "occurrences of litter" like all the others?</i></p> <p><i>more than one occurrence of visible litter craft e miles</i></p>	Visual count	Count and map occurrences on routine patrol floats.	Minimum 3 Per Year
5. Experience quality index.	<p><i>more than 25% of users at lowest quality level. 4/</i></p> <p><i>Why not just "riverbank", why not lowest quality level. 4/</i></p>	Short verbal survey of visitors (floaters and non floaters) with questions about quality of recreation experience.	Administer survey at selected take out points and shore locations on selected days.	4 samples of each group/year. 2 weekdays 2 weekends.

- 1/ A party is defined as all individuals who are or appear to be traveling or floating together, regardless of the number of people or boats.
- 2/ Litter is defined as any refuse outside of a non-designated campsite area. Campsite litter is covered in Indicator 3.
- 3/ This standard will be considered to be met at the 80% probability level.
- 4/ Averaged over a two year period.

River managers feel that there is a fairly high potential for conditions to exceed the standards governing the level of encounters on the river and at launch sites. Therefore, managers will take the following actions to try to keep the number of encounters within the standard.

1. Post routine launch times of float outfitters at all access sites.
2. Make users aware of current river conditions.

If these non-regulatory actions fail to achieve the desired results, or if other standards are breached and non-regulatory actions cannot resolve the problem, a mandatory but unlimited permit will be required for all floaters. The permit will be used to insure agency contact with the user for the purposes of education and reducing visitor impacts.

Should this unlimited permit fail to achieve the desired results, management techniques such as scheduling launch times, specifying launch sites, limiting launches per day, limiting use to specified days or specifying trip length may be implemented.

If conditions continue to deteriorate, a limited permit system which will ration total use, will go into effect. All users will compete equally for the limited number of permits. Individuals chosen for a permit will decide whether to contact an outfitter or to float as a nonoutfitted user. Should this action become necessary, outfitters will be allowed to phase into the system over a 3-year period.

Should conditions again return to an acceptable standard, these restrictions may be relaxed.

The regulatory actions described above will be imposed on floaters only if standards are breached due to floater use. If standards are breached due to other causes, appropriate management action will be taken to correct the problem.

These actions reflect users willingness to accept regulations aimed at protecting the natural environment, and their preference to treat all users equally in terms of imposing restrictions.

MANAGEMENT PROGRAMS

The following is a list of other management actions which will be implemented on this management unit. These actions are not related to indicators and standards, but flow from recreation management opportunities and management concerns and constraints.

1. The present interim river use guidelines for outfitters (developed in the 1980 Flathead Wild and Scenic River Management Plan) will be terminated. These guidelines regulate number of launches per week, size of party, and number of outfitters permitted on the river. Based on the information in this plan, some of them are no longer valid. Others result in unequal restriction of outfitters and non-outfitted uses. This is of concern to outfitters, the agency, and the majority of users who preferred to treat all users equally, in terms of imposing regulations. Based on a review of current river conditions, there is no reason to limit the number of outfitter launches per week at this time. Concerns about outfitter numbers and service levels will be addressed below.
2. River outfitters currently permitted to operate on this management unit will be permitted to conduct outfitted float trips within the limits authorized in the Forest Service Outfitter Policy (FSM 2721.53). The level of outfitter use will not be limited at this time. This action reflects the suitability of current outfitter use and the fact that river conditions are generally well within the standards specified in this plan.
3. No additional river outfitter permits will be issued on this management unit. This action reflects the fact that, historically, outfitter actual use has not approached permitted use levels. Since use levels of established outfitters will not be limited at this time, it is reasonable to expect that these outfitters can meet the public demand for outfitter services on this management unit. This restriction may be reconsidered when existing outfitters can no longer meet public demands.
4. Permits for institutional and semi-public outfitting (as described in FSM 2721.53) will be considered on this management unit on an opportunity basis. Applications will be reviewed using the Flathead Forest Outfitter-Guide Application Evaluation Procedure. Opportunities for such activities will be made equally available to all interested parties. This action reflects the interest in providing this type of service, and its potential for promoting education in sound river use ethics. It also adds to the diversity of recreation opportunities available on the Flathead River system.
5. Allow new recreational activities within this management unit only if they do not conflict in space and/or time with existing recreational activities. This action was derived from management concerns pertaining to congestion at river launch sites and crowding on the river.
6. Develop public recreation sites to the extent that they serve the river floater, rather than others traveling through the area. This action reflects a management concern regarding use of access sites by highway travelers. It coincides with current management policies that encourage the private sector to provide developed recreation sites where suitable private land is available. It also coincides with preferences of floaters for minimal facilities at launch sites.

7. Work to develop appropriate access site facilities at West Glacier. This action responds to a request from outfitters and reflects a management concern.
8. Maintain or improve the existing condition of undesignated campsites within the river corridor. This action recognizes that all undesignated campsites are at a moderate impact level or less. It reflects users' desires to protect and preserve the natural environment.
9. Retain all designated trails within the river corridor. This action insures that a diversity of recreation activity opportunities are offered to corridor users.
10. Create an awareness among users of how they may impact the river and other parties on the river. This action reflects users' minimal tolerance for seeing people at places on or along the river and their desires to experience the natural environment. It also reflects agency desires that users police themselves, avoiding the need for more stringent regulations.
11. Provide interpretive training for outfitters and boatmen. This action reflects the importance users place on the experience component "general learning."
12. Prohibit outfitted float trips between West Glacier and Blankenship Bridge from 9/20 - 10/31. This action reflects current management practices and agency desires to reduce disturbance of bald eagles during this time.
13. Lands within Glacier National Park which have been proposed for wilderness designation will be managed to preserve wilderness values. This action reflects current management policies in Glacier Park.
14. Lands within Glacier Park will be managed in accordance with the Glacier National Park Fire Management Plan. This action reflects current management policies in the Park.
15. A Flathead River Ethics Guidebook will be developed and made available to all users. This action reflects managers' desires to lower impacts through education.
16. Evaluate all new activities to determine if they adversely affect protection of threatened or endangered species. Proposed activities with the potential to effect grizzly bears will be evaluated under the "Guidelines for Management Involving Grizzly Bears in the Greater Yellowstone Area" (1979), as amended to cover the situation in the Flathead National Forest. This management unit will be considered "Management Situation 1" above West Glacier and Situation 2 and 3 below West Glacier as defined in the guidelines. Proposed activities that may effect the bald eagle or gray wolf will be reviewed by the Zone Wildlife Biologist. He will make

recommendations with regard to the proposal and its potential effects and will propose alternatives or mitigation measures to insure species and/or habitat protection.

17. Favor day use as opposed to overnight use when high water flows make it practical to use this management unit on a day-use basis. This action reflects the suitability of the management unit for day use during high flows and reflects a management concern to reduce impacts associated with overnight use. It coincides with users' desires to protect the natural environment.

18. Prohibit motorized craft over 10 horsepower on this management unit except for essential search and rescue operations. This action continues present management policy. It recognizes the suitability of small (10 horsepower or less) craft on portions of this unit and provides diversity of recreation opportunities on the Flathead River system.

19. The maximum party size on this management unit is 50 individuals. Larger float parties which have to be split up in order to maintain the maximum party size must launch at least 30 minutes apart. This action reflects floaters' slightly higher tolerance for seeing other people on the river in this management unit and help maintain isolation between large float parties on all portions of this management unit. It also reflects the management concern pertaining to congestion at river launch sites, crowding on the river, and impacts on shore parties.

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CHAPTER VI

UPPER SOUTH FORK MANAGEMENT UNIT

UNIT DESCRIPTION

The Upper South Fork Management Unit extends from the headwaters of the South Fork at the confluence of Youngs and Danaher Creeks to the Bob Marshall Wilderness boundary in Meadow Creek Gorge. It is 40.6 miles long and includes a corridor that is about one-quarter mile wide on each side of the river.

All of this management unit is designated a Wild River and lies within the Bob Marshall Wilderness. It was delineated as a separate management unit because management policies and programs for this part of the river must mesh with policies and programs for managing the Bob Marshall Wilderness. The section of Wild River below Meadow Creek Gorge does not have this management constraint and thus was delineated as a separate management unit.

All lands within this management unit are public lands managed by the Spotted Bear Ranger District of the Flathead National Forest.

USER DESCRIPTION

Nearly 90 percent of the river users on this management unit were from the western United States. Only 5 percent were from the Flathead Valley, but 47 percent were from other parts of Montana. Almost 70 percent floated in groups of friends, with a median party size of 8. Most floaters used rafts, but a few were in kayaks. About 40 percent of the users floated in craft owned by outfitters, while 30 percent were in personally owned craft. Others were in craft owned by another party member, borrowed or rented. Almost 40 percent of the users floated with an outfitter, but because of the difficult access almost all users used some outfitter services (e.g., packing in or out, renting gear). About 22 percent of the floaters had had previous experience on this management unit. The median length of trip was 5.9 days. Ninety-nine percent of the users camped overnight.

The planning time frame for trips on this management unit is longer than any other management unit. Forty-one percent decided to take the trip more than six months in advance. Another 57 percent made the decision between one and six months before the trip (1).

This management unit has a large amount of land-based recreational use. The South Fork is the major travel route and destination area for Bob Marshall Wilderness visitors. Portions of the corridor receive heavy use during the fall hunting season. Impacts caused by these land-based users, traveling on foot and horseback, make up a considerable proportion of the total impact within the river corridor.

EXISTING RECREATION OPPORTUNITIES

Recreation Activity Opportunities

Table 9 shows the primary and secondary recreation activities for river floaters and land-based recreationists. The information is based on the river study data and managers' experience.

Recreation Setting Opportunities

Physical Setting

Natural - The river corridor is generally forested with occasional openings affording scenic views. Most of the corridor is primitive with the exception of three administrative sites (only one of which is visible from the river), some heavily used campsites, grazing areas, and pack and foot trails. These areas are predominantly natural-appearing. Air quality is protected by the Class I airshed status of the Bob Marshall Wilderness.

The river has exceptional water quality and supports a high quality fishery. Many species of wildlife inhabit or frequent the corridor. Threatened or endangered species - the grizzly bear, gray wolf and bald eagle - are known to occur in the area.

The river has a moderate gradient averaging approximately 19 feet of drop per mile. There are a few spot occurrences of whitewater within this management unit. Meadow Creek Gorge, at the lower end of this unit, has an International Whitewater Rating of VI and is not recommended for floating.

Man-Made Recreational - Trails parallel each side of the South Fork above the Meadow Creek trailhead. Both trails frequently enter the designated river corridor, and there are many intersecting side trails. There is a public pit toilet at Little Salmon Park, and two toilets and two corrals available for public use in the vicinity of Black Bear. Two trail bridges span the river - one at Big Prairie and one at Black Bear. There are trail signs and other trail bridges within the river corridor, but they generally are not visible from the river. Seven outfitter base camps are located within the river corridor; five of these can be seen from the river, but only three are set up during the float season. Two river hazard warning signs are visible from the river - one just above Meadow Creek Gorge and one on the bridge at Black Bear.

Floaters indicated a very strong preference that no facilities be built at any locations along the river (1).

Man-Made Non-Recreational - Big Prairie Work Center and two administrative cabins are located in the Wild River corridor. Big Prairie was formerly a ranger station and includes an office, bunkhouse, two dwellings, barn, corrals, and fenced pasture and several storage buildings. The cabins at Black Bear and Salmon Forks include barns, corrals, and fenced pastures.

Table 9 - Existing recreation activity opportunities on the Upper South Fork Management Unit.

Recreation Activity	River Floaters		Land-Based Recreationists	
	Primary Activity	Secondary Activity	Primary Activity	Secondary Activity
Viewing scenery and wildlife		X		X
Enjoying unique or unusual environments	X		X	
Non-motorized watercraft use (river floating)	X			
Motorized watercraft use (less than 10 HP)	N/A		N/A	
Hiking, walking			X	X
Horseback riding and packing			X	X
Auto touring	N/A		N/A	
Recreational aviation	N/A		N/A	
Developed camping	N/A		N/A	
Primitive camping	X		X	
Picnicking		X		X
Swimming, waterplay			X	X
Cross-country skiing				X
Other winter sports	N/A		N/A	
Fishing	X		X	
Hunting			X	
Nature study	N/A		N/A	
Photography	X		X	
Viewing interpretive signs	N/A		N/A	
Gathering forest products (firewood, berries, mushrooms)				X

Social Setting

User Encounters - The general density of all corridor land and water based use is heavy relative to other portions of the Flathead classified as Wild River. Managers estimate that encounters are low (2 to 4 per day) among float parties and between float and shore parties and moderate (5 to 10 per day) to high (more than 10 per day) among land-based parties. Some congestion occurs in the corridor from the wilderness boundary to Black Bear at the lower end of this management unit.

Floaters' tolerance for seeing others along the river was quite low. Most users (75 percent) preferred to see no one else at put-in points or near their campsites. About 50 percent of the users preferred to see no one else on the river, on shore or at the take-out point.

Evidence of Man - The river study identified 187 campsites along this river management unit. This is the largest number of sites of any Flathead River management unit and also represents the highest density of sites. In fact, two-thirds of all the inventoried campsites on the entire Flathead River System are on this management unit.

Although many of these sites are in good condition (class 1 and 2), there are a large number of heavily impacted sites (class 3 and 4). Figure 9 shows the degree of impact at these sites.

The most severe impacts are development, cleanliness, and camp area. The first two of these are temporary and can be improved by dismantling facilities and cleaning up litter and manure. Camp area is harder to improve, as are tree damage and root exposure, which are also severe at some sites (1). Most of the impact at many of these sites is caused by land-based recreationists rather than floaters. These users and associated impacts will be addressed in the Wilderness Management Plan which is currently being developed.

Managerial Setting

Management Practices - Forest Service personnel are present throughout the float season at Big Prairie Work Center and at Spotted Bear Ranger Station, downstream from this management unit. Black Bear and Salmon Forks cabins are staffed intermittently during the summer. In the past, agency contact with floaters has been limited. A float map is available to users.

All users of this river management unit are subject to regulations governing the use of Wilderness areas. Motorized equipment is prohibited and the party size for all wilderness groups is limited to 15 people.

Persons wishing to outfit on the South Fork must have a permit from the Forest Service. River outfitter permits and service levels are currently controlled by the 1980 Flathead Wild and Scenic River Management Plan. There are currently 33 pack outfitters permitted to operate in the drainage; 19 of these operate in the corridor on a regular basis. Five outfitters have permits to conduct float trips.

CAMPSITES BY IMPACT CLASS

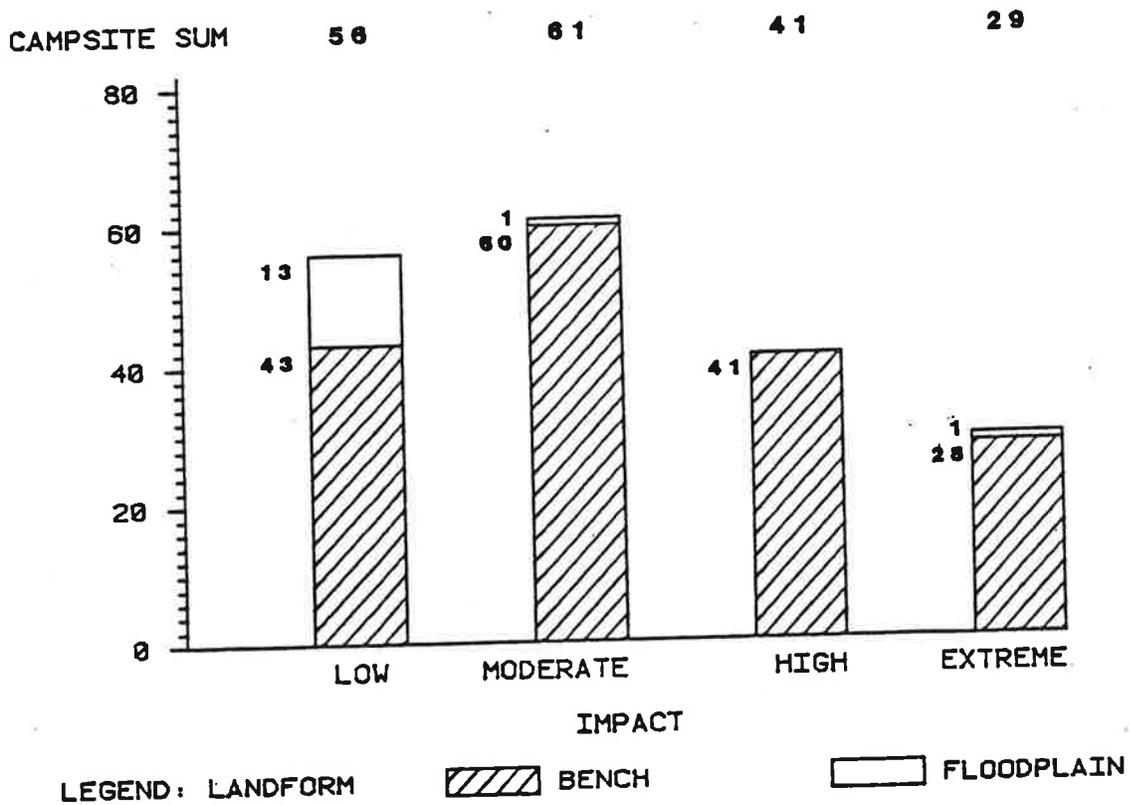


Figure 9 - Number of campsites in each impact class for the Upper South Fork Management Unit.

Preferences for Distributing Use - The following list shows which guidelines for distributing use floaters would approve or disapprove if increased use becomes a problem in the future. Guidelines are listed in descending order of approval; those listed first were approved by the largest percentages of floaters (1).

Approval

Guideline

Approved

Provide for trips by advanced registration
Consider impacts to the environment
Treat all users equally
Avoid promotion of river by agency
Provide for trips on first come,
first served basis
Provide business stability for outfitters
Give priority to those who value trip most

Disapproved

Give priority to local users
Give priority to skilled river runners
Let everyone go who wants to go
Give priority to those who never floated before

The first two guidelines in this list were approved by almost 90 percent of the floaters. This indicates that if and when additional regulatory practices become necessary, there is a very strong preference for an advanced registration system, and for guidelines aimed at protecting the natural environment. However, users also wanted everyone to be treated equally.

RECREATION EXPERIENCE OPPORTUNITIES

Trip Patterns

Duration - This management unit had the longest average length of stay (6 days) of any on the Flathead River. Almost 99 percent of the users stayed overnight (1).

Time of Week - There was a fairly even distribution of use among the seven days of the week. Saturday and Sunday had slightly more use, and Wednesday and Thursday had slightly less use (1).

Season - River levels are suitable for floating from June 1 to August 30. July had the heaviest use (1).

Experiences Desired by Floaters

The following list shows how important various recreation experience components were to users of this management unit (1). Experience components were measured using the Recreation Experience Preference Scales (7). Components listed first were most important, and those listed last were least important.

Importance

Experience Component

Moderately
Important

Being with People
Relationships with Nature
Exercise/Physical Fitness
Achievement
General Learning

Somewhat
Important

Escape Physical Pressure
Family Togetherness
Risk-taking
Escape Personal/Social Pressure
Nostalgia
Meeting and Observing People

In addition to these experience components, fishing was very important to floaters on this management unit. The vast majority (86 percent) of the floaters reported that they fished during their trip. The mean time spent fishing was 18.4 hours. Furthermore, 63 percent of those who fished reported that fishing was "very" or "extremely" important relative to all other activities they participated in on their trip. More people fished on this river management unit than on any other unit, and those who fished here rated it more important than users on any other part of the Flathead River System (1).

Recreation User Experience Quality Index

The median quality index for this management unit was 2.65 on a scale of 1 to 4, with 4 being high. Figure 10 shows the percent of floaters who rated their trip at each of the four quality levels (1).

MANAGEMENT CONCERNS AND CONSTRAINTS

Resources

This entire management unit lies within designated Wilderness, as well as being designated a Wild River. Protection of the wilderness resource must receive first priority in managing the river corridor by maintaining the natural environment and providing opportunities for primitive and unconfined recreation activities. Plans for managing the river resource and corridor must mesh with plans currently being developed for managing the Bob Marshall Wilderness.

Horse parties in the Bob Marshall Wilderness account for approximately 40 percent of the estimated total of 142,000 recreation visitor days annually (5,9). Many of these visitors travel through and use the Wild River corridor. This heavy use is causing severe detrimental impacts at some campsites (3, 10).

PERCEIVED QUALITY

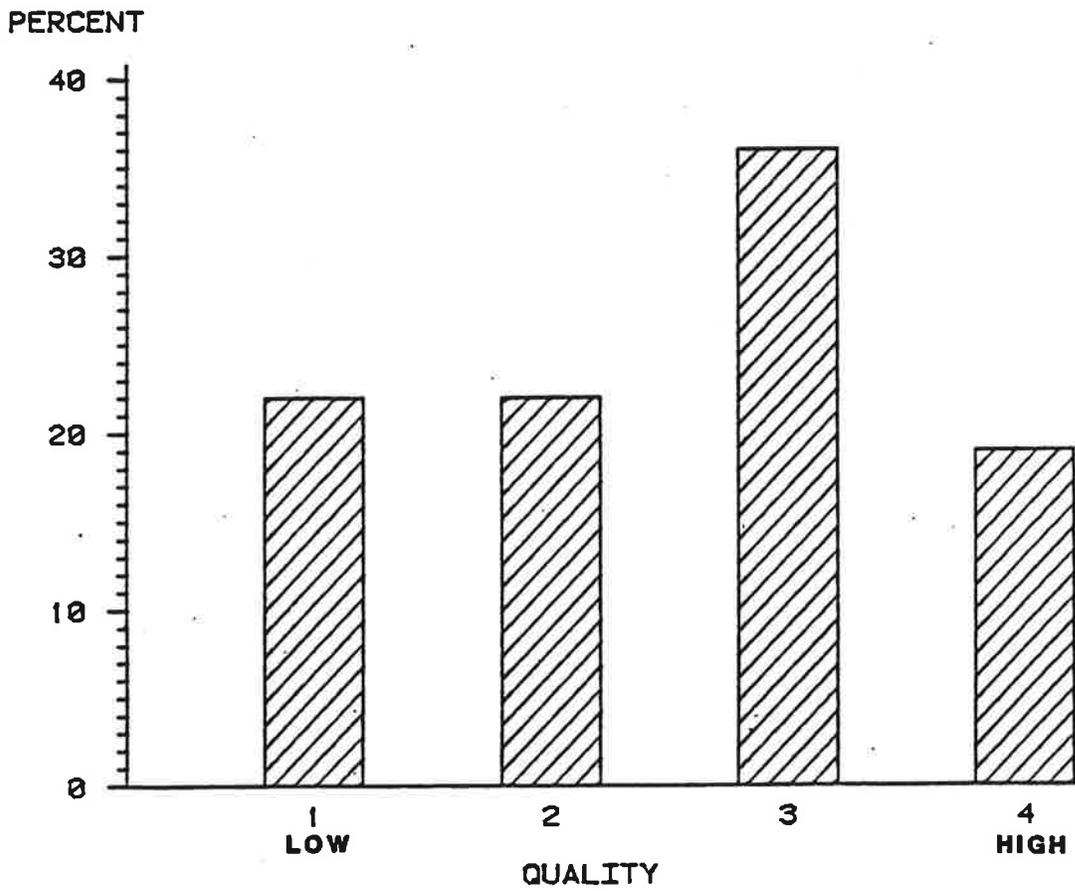


Figure 10 - Percent of users on the Upper South Fork Management Unit rating their trip at each quality level according to the Recreation User Experience Quality Index.

Pack and saddle stock grazing in the river corridor is also a concern to South Fork managers. In some places it is highly concentrated and is causing resource degradation.

Protecting habitat for the grizzly bear, gray wolf, and bald eagle, classified as threatened or endangered species, is a major management constraint. The Forest Service has identified the river corridor between the headwaters and Black Bear as critical spring range for the grizzly bear. There is potential for conflict between early river corridor users and the grizzly bear. Both the gray wolf and bald eagle have been reported to use the area. The river corridor has been identified as critical occupied habitat for the gray wolf.

Developments

In many places in the South Fork Wild River corridor, trail conditions are deteriorating due to the heavy volume of use.

Use

Managers have received continual requests for new river outfitter permits and expansion of service levels from existing permittees. Rogue outfitting (operating without a permit) is reported to be increasing. Current river outfitters do not always make full use of their trip allocations, causing these trip opportunities to be lost, even though other outfitters desire to increase their services. There has also been some dissatisfaction among outfitters with the original outfitter selection. Outfitted parties are currently restricted in the number of launches allowed and by other terms of the outfitter/guide permit, while non-outfitted parties have fewer restrictions.

Management presence on the river and along the corridor has been limited, making it difficult to contact floaters and other river corridor users to promote wilderness/wild river ethics. Efforts to contact users are complicated by the fact that there are many access routes to the river corridor and many possible launch sites where a trip might start. Virtually all floaters use the same take-out point above Meadow Creek Gorge.

Another concern is that many wilderness users appear to have little awareness of wilderness ethics and no-trace camping techniques.

RECREATION OPPORTUNITIES TO BE PROVIDED

The Upper South Fork Management Unit will be managed to provide opportunities for extended combination pack and river float experiences in an essentially unmodified natural environment. Emphasis will be on providing freedom of choice for floaters to select their own level of involvement in the advanced trip planning and the complex trip execution that is required for trips in this remote area.

The following objectives describe in more detail the specific recreation opportunities for which this unit will be managed.

Recreation Activity Opportunities

1. Maintain a diversity of river and land-based recreation activity opportunities. This objective reflects the suitability of current use patterns and is intended to reduce any conflicts with other activities in the future.

Recreation Setting Opportunities

Physical Setting

2. Preserve the Wilderness/Wild River environment by maintaining the natural resource condition in the South Fork corridor required by the Wilderness Act. This objective recognizes the deteriorated resource conditions in the Upper South Fork Management Unit in some areas. It reflects management concerns related to the South Fork corridor being a main attraction and access route, the general lack of wilderness ethics on the part of many users, and pack and saddle stock handling and grazing in the corridor. It also reflects users' desires to experience the natural environment.

3. Maintain the existing high water quality for fisheries, esthetics, and other ecological considerations. This objective reflects the existing situation and coincides with users' desires to experience the natural environment and the importance users placed on fishing.

4. Maintain existing trails and trail facilities within the river corridor. This objective recognizes that the trail system is crucial as a transportation system for Wilderness and river users and reflects the need for improved trail maintenance.

Social Setting

5. Provide for maximum isolation between float parties on the river and at least a moderate level of isolation between float parties and shore parties. This objective reflects current management direction for the Wilderness and users' minimal tolerance for seeing people on

the river and on shore. In addition, one of the experience components least desired by floaters of this river segment was "meeting and observing people."

Managerial Setting

6. Treat all users equally whether it be in terms of implementing new management practices, following regulations and procedures, having a chance to float the river or having a chance to use the public land in the corridor for other recreation purposes. This objective was derived from research information pertaining to preferences of floaters for guidelines distributing use. The guideline "should be the same for all users" was overwhelmingly approved by floaters within this segment.

7. Provide users increased access to management personnel by maintaining a periodic presence in the corridor and on the river. This objective reflects a management concern that there is currently limited contact between users and Forest Service personnel in the river corridor. In light of current resource impacts, the increased level of contact is necessary to provide low impact use information to users.

8. Promulgate regulations that protect the natural resources and recreation opportunity mandated by wilderness legislation. This objective coincides with wilderness legislation and reflects floaters' preferences to consider impacts to vegetation, wildlife, and other resources above all else.

Recreation Experience Opportunities

9. Provide the opportunity for combination pack/float experiences as a means to develop river running skills and Wilderness/Wild River ethics. This objective reflects the suitability of this management unit for these activities (horseback packing and floating). It also emphasizes the need for developing a wilderness ethic among users.

10. Provide freedom of choice for floaters in selecting their own level of involvement in trip planning and execution. This objective reflects the diversity of opportunities available to use the river (outfitted trip, outfitter supported trip, or non-outfitted trip).

11. Provide the opportunity for users to interact with and learn about the natural environment. This objective reflects the importance floaters placed on the experience components "relationships with nature" and "general learning."

The preceding recreation opportunity package is what managers will maintain on the Upper South Fork Management Unit and what floaters and other recreationists can expect to encounter.

INDICATORS, STANDARDS AND MONITORING PROCEDURES

Five indicators were selected to reflect the recreation opportunities described in the preceding section. These indicators will be monitored over time according to the procedures outlined in Table 10. The objectives associated with each indicator are also listed in Table 10.

COMPARISON OF CONDITIONS TO STANDARDS

South Fork river managers know as a result of the campsite impact inventory that campsite conditions currently breach the standard described in Table 10. All other indicators were monitored once during the 1983 float season. Litter occurrences were well within the standard shown in Table 10. However, the level of encounters, both with other float parties and with shore parties, violated standards slightly. There was only a 75 percent probability that encounters would not exceed 2 float parties and 4 shore parties per day respectively. Because only 4 days were sampled, it is impossible to determine if this is a significant breach of the standard. As monitoring continues, managers will be able to more accurately determine trends in conditions.

SELECTION AND IMPLEMENTATION OF MANAGEMENT TECHNIQUES

The following management techniques have been chosen to help bring campsite conditions and litter occurrences to an acceptable level.

1. The Forest Service will make an initial cleanup and rehabilitation of deteriorated campsites.
2. Work with outfitters to phase out the setting up of base camps in the river corridor during the float season. If agreement with the current permittee cannot be reached within 2 years, the camp plan will be revised to insure that all facilities are screened from view of the river. When the outfitter sells his business the new permittee will not be allowed to set up the base camp during the float season.
3. At campsites where impacts currently exceed standards, these impacts will be reduced by posting "Wilderness Restoration Site" signs and encouraging voluntary dispersion and use of other sites.
4. Identify groups of users in need of wilderness/wild river ethics education and target off-season, off-site education efforts toward these groups.
5. Provide use impact information to outfitters for distribution to their clients.
6. Include a wilderness/wild river ethics message in all correspondence with potential wild river users. Provide training and have receptionists include a personal wilderness/wild river ethics message in all contacts with potential wild river users.

Table 10 - Indicators, standards and monitoring procedures for the Upper South Fork Management Unit.

Indicator	Objective : Number	Standard	Inventory : Method	Monitoring Procedure : Sampling : Procedure	Frequency
1. Encounters per day with other float parties.1/	5,10	Probability of sighting no more than 2 other float parties per day.	a) Visual count	a) Count and map all sightings during patrol floats on randomly selected days during the float season (6/15-8/30).	a) Minimum Annually
2. Encounters per day with shore parties or camps.	5,10	Probability of sighting no more than 4 shore parties or camps per day.4/	b) Short verbal survey of visitors with questions about number of other float parties sighted.	b) Administer survey to parties encountered on routine patrol floats and at floater campsites	b) Minimum 5 surveys/year.
3. Campsite condition.2/	2,10	Campsite standards will be set in the BM-GB-S Wilderness Plan currently being developed.	Campsite standards will be set in the evaluation using BM-GB-S Wilderness campsite impact rating form.	Evaluate a statistical sample of identified campsites toward end of float season.	Annually

Table 10 (cont.) - Indicators, standards and monitoring procedures for the Upper South Fork Management Unit.

Indicator	Objective Number	Standard	Monitoring Procedure		
			Inventory Method	Sampling Procedure	Frequency
4. Occurrences of litter. ^{3/}	2, 10	No more than one occurrence of litter visible from water craft per 5 miles of river.	a) Visual count	a) Same as 1 and 2 above.	a) Minimum Annually
			b) Short verbal survey of visitors with questions about number of occurrences of litter.	b) Same as 1 and 2 above.	b) Minimum 2/year
5. Experience quality index.	2,3,4,6	No more than 20% of surveyed visitor at lowest quality level; no less than 20% at highest quality level. ^{5/}	Short verbal survey of visitor (floaters and non-floaters) with questions about quality of recreation experience.	Same as 1.b) above	Minimum of 5 surveys/ year

1/ A party is defined as all individuals who are or appear to be traveling or floating together, regardless of the number of people or boats.

2/ See Appendix C for a discussion of the campsite impact rating system.

3/ Litter is defined as any improperly disposed-of refuse outside of a non-designated campsite area. Campsite litter is covered in Indicator 3.

4/ Standard will be considered to be met at the 80% probability level.

5/ Averaged over a two year period.

message in all contacts with potential wild river users.

7. Contact users entering the river corridor. Deliver a personal wilderness/wild river ethics message if possible. Provide signing at portals to deliver the ethics message when personal contact is not possible.

8. An annual report will be developed to show the status of each indicator. The report will be prepared at the end of each float season and will include a statement of current conditions relative to the standard for each indicator. It will also explain the consequences of conditions violating standards.

9. A Flathead River Ethics Guidebook will be developed and made available to all users.

These management techniques will be continued until such time as campsite conditions are brought back within standards. At that time some of the management techniques may be modified or discontinued.

If these non-regulatory actions fail to achieve the desired results, mandatory but unlimited permit will be required for all floaters. The permit will be used to insure agency contact with the user for the purposes of education and reducing visitor impacts.

Should this unlimited permit fail to achieve the desired results, management techniques such as scheduling launch times, specifying launch sites, limiting launches per day, limiting use to specified days or specifying trip length may be instituted.

If conditions continue to deteriorate, a limited permit system which will ration total use, will go into effect. All users will compete equally for the limited number of permits. Individuals chosen for a permit will decide whether to contact an outfitter or to float as a nonoutfitted user. Should this action become necessary, outfitters will be allowed to phase into the system over a 3-year period.

Should conditions again return to an acceptable standard, these restrictions may be relaxed.

The regulatory actions described above will be imposed on floaters only if standards are breached due to floater use. If standards are breached due to other causes, appropriate management action will be taken to correct the problem.

These actions reflect users willingness to accept regulations aimed at protecting the natural environment, and their preference to treat all users equally in terms of imposing restrictions.

MANAGEMENT PROGRAMS

The following is a list of other management actions which will be implemented on this management unit. These actions are not related to the standards in Table 10 but flow from recreation management objectives and management concerns and constraints.

1. The present interim river use guideline for outfitters (developed in the 1980 Flathead Wild and Scenic River Management Plan) will be terminated. These guidelines regulate number of launches per week, size of party, and number of outfitters permitted on the river. Based on the information in this plan, some of them are no longer valid. Others result in unequal restriction of outfitters and non-outfitted uses. This is of concern to outfitters, the agency, and the majority of users who preferred to treat all users equally, in terms of imposing regulations. Based on a review of current river conditions, there is no reason to limit the number of outfitter launches per week at this time. Concerns about outfitter numbers and service levels will be addressed below.

2. No additional permits will be issued for drop float outfitters on this management unit. Those outfitters who have provided this type of service in the recent past (1980-85) may continue to do so. They may expand their level of use up to the limits specified in their Operations Management Plan for summer operations in the South Fork. The drop float trip represents one aspect of the recreation spectrum that the Forest Service wishes to preserve on the Flathead System. Virtually all non outfitted float trips on the Upper South Fork require pack stock support to reach the river. The drop float outfitters provide this service. Their elimination would almost wipe out the nonoutfitted floater since few of them have adequate numbers of stock to do their own packing. In most cases the drop float system reduces impacts since the outfitter is required to take stock out of the corridor and the wilderness immediately after leaving the party at the river. On drop float trips stock is not permitted to follow the party down the river as is often the case with private stock.

Since outfitters providing drop floats still have the opportunity to expand the scope of their services and since demand for drop trips does not exceed the supply, there is no need to expand the number of drop float outfitters at this time.

3. No additional river outfitter permits of any type will be issued in this management unit. The existing five float outfitters will be allowed to expand floating use up to the limits specified in their Operations Management Plan for summer operations in the South Fork. This action recognizes the potential impacts of additional outfitter permits on the wilderness resource both inside and outside the corridor. Impacts may possibly include campsite use and additional

livestock use both inside and outside the corridor. These potential impacts will be addressed in the new Management Plan for the Bob Marshall-Great Bear-Scapegoat Wilderness Complex which is currently being developed. Depending on the outcome of this wilderness plan, the restriction above may be reconsidered. This action is consistent with management direction agreed to among all Forests involved in administration of the wilderness complex and is spelled out in the Draft Forest Plans for the Flathead, Lewis and Clark, Lolo, and Helena National Forests. The plans state that no new outfitter permits will be issued in the wilderness until the Limits of Acceptable Change planning process is completed. The action is also consistent with the strong public response opposing the increase in outfitter numbers on this management unit.

4. Evaluate new recreation activities in the corridor to determine if they conflict in space and/or time with currently existing activities. This action is intended to minimize conflicts between different activities in the future.

5. Make all parties aware of their potential impact (e.g., physical presence, traces, etc.) on other parties. This action reflects users' minimal tolerance for seeing people at places on or along the river and their desires to experience the natural environment. It also reflects agency desires that users police themselves avoiding the need for more stringent regulations.

6. Maintain existing National Forest administrative sites within the corridor. This action reflects the existing situation and current management direction in the draft Forest Plan. It also reflects the management objective to maintain a periodic management presence in the corridor on the river.

7. The maximum party size on this management unit is 15 individuals. This number includes all individuals involved in the float trip (i.e., land-based support, outfitter hired help, etc.). This action generally reflects users' desires to encounter relatively small groups. Although research data shows that users preferred maximum party sizes of 6 - 9, the party size limit of 15 was chosen to coincide with the current wilderness party size limit.

8. Evaluate all new activities to determine if they adversely affect protection of threatened or endangered species. Proposed activities with the potential to effect grizzly bears will be evaluated under the "Guidelines for Management Involving Grizzly Bears in the Greater Yellowstone Area" (1979) as amended to cover the situation in the Flathead National Forest. This management unit will be considered "Management Situation 1" as defined in the guidelines. Proposed activities that may effect the bald eagle or gray wolf will be reviewed by the Zone Wildlife Biologist. He will make recommendations with regard to the proposal and its potential effects and will propose alternatives or mitigation measures to insure species or habitat protection.

CHAPTER VII

CENTRAL SOUTH FORK MANAGEMENT UNIT

UNIT DESCRIPTION

The Central South Fork Management Unit lies between the Bob Marshall Wilderness boundary in the area of Meadow Creek Gorge and the Spotted Bear Ranger Station. The management unit is 10.7 miles long and includes a corridor that is approximately one-quarter mile wide on each side of the river.

All of this management unit is designated a Wild River. It is the only Wild River segment in the Flathead System that is located outside of designated Wilderness. This portion of the Wild River was delineated as a separate management unit because management policies and programs for the Wilderness are not applicable here. The lower boundary of this unit corresponds with the legal boundary between the Wild and Recreational rivers. The upper boundary follows the Wilderness boundary.

All lands within the unit are public lands managed by the Spotted Bear Ranger District of the Flathead National Forest.

USER DESCRIPTION

Almost 75 percent of the users on this management unit were from the western United States. About one-fourth of all users were from the Flathead Valley, and 13 percent were from other parts of Montana. Floaters from the Mid-Atlantic states (Pennsylvania to New York) represented 10 percent of the use. Most users floated in groups of friends or immediate family with a median party size of 4.2. All floaters surveyed used rafts, 64 percent of which were owned by outfitters. Other types of watercraft are sometimes used. About 70 percent of the floaters used the services of an outfitter. About half floated with an outfitter and others used services of an outfitter (equipment rental, transportation). Almost 45 percent of the floaters had previous experience on this management unit. Fishing is an important component of the recreation experience on this unit (1).

Most of this segment has limited access to the river. However, considerable numbers of land-based anglers do use the river corridor.

EXISTING RECREATION OPPORTUNITIES

Recreation Activity Opportunities

Table 11 shows the primary and secondary recreation activities for river floaters and land-based recreationists. The information is based on the study data and managers' experience.

Table 11 - Existing recreation activity opportunities on the Central South Fork Management Unit.

Recreation Activity	River Floaters		Land-Based Recreationists	
	Primary Activity	Secondary Activity	Primary Activity	Secondary Activity
Viewing scenery and wildlife	X			X
Enjoying unique or unusual environments	X			
Non-motorized watercraft use (river floating)	X			
Motorized watercraft use (less than 10 HP)	N/A		N/A	
Hiking, walking		X		X
Horseback riding and packing				X
Auto touring	N/A		N/A	
Recreational aviation	N/A		N/A	
Developed camping	N/A		N/A	
Primitive camping		X		
Picnicking		X		X
Swimming, waterplay		X		X
Cross-country skiing	N/A		N/A	
Other winter sports	N/A		N/A	
Fishing	X		X	
Hunting			X	
Nature study		X		
Photography		X		X
Viewing interpretive signs	N/A		N/A	
Gathering forest products (firewood, berries, mushrooms)	N/A		N/A	

Recreation Setting Opportunities

Physical Setting

Natural - The river corridor is characterized by generally forested scenery interspersed with views of high vertical banks and rocky canyon cliffs. There are occasional views of mountainous terrain in the background. The corridor is in near pristine condition.

The river in this management unit is considered a high quality fishery and is very popular with anglers. A wide variety of wildlife species inhabit or frequent the river corridor.

The river gradient is moderate averaging 19 feet of drop per mile with the exception of the Meadow Creek Gorge where the gradient is extreme. The gorge has an International Whitewater rating of VI in some places and is not recommended for floating. There are other spot occurrences of mild whitewater on the portion of the river between Harrison Creek and Spotted Bear.

The management unit is in a Class II Airshed.

Man-Made Recreational - A pack/foot trail parallels the river on the east side with two other side trails intersecting the river trail in the Meadow Creek vicinity. A trail bridge spans the river at the Meadow Creek Gorge.

The Meadow Creek Road parallels the river corridor on the west side, but does not enter the corridor and is not visible from the river. This is the only Wild River management unit which can be reached by road. A short segment of trail provides foot access to the river at Cedar Flats just below Meadow Creek Gorge. There is no other formal development at this access point. The trail is not signed and is somewhat difficult to find when driving along the road. Users are either forced to park along the Meadow Creek road which carries heavy logging and recreational traffic or they must drive off the road to park. Parking and/or turning around on the road creates a significant safety hazard. There are already noticeable resource impacts caused by vehicles pulling off the road to park. An informal road has penetrated approximately 300 feet into the river corridor, an area closed to motorized use. Impacts continued to increase until a barrier was installed in 1984. The barrier has caused visitors to turn around in and park along the road, creating a hazardous situation. Conditions and impacts in this area have been described in detail in the Cedar Flats Environmental Assessment.

The Meadow Creek airstrip and campground is located inside the river corridor at the upper end of this management unit. The Flathead Wild and Scenic River Study recommended that the airstrip remain open for public use, but that it not be expanded or maintained by motorized equipment. A trail leads from the airstrip to the river.

Floaters on this river segment indicated a very strong preference that no facilities be built at put-in/take-out points, campsites, or popular stops along the river (1).

Man-Made Non-Recreational - The Meadow Creek Road is just outside the river corridor. It is used for administrative purposes as well as recreation. This road is not visible from the river.

Social Setting

User Encounters - Historical use of this management unit has been on a day-use basis. The general density of all corridor use is low compared to other Wild River units of the Flathead. Managers estimate that encounters among float parties are low (2 to 4 per day) to moderate (5 to 10), encounters between floaters and shore parties are low, and encounters among land-based parties are low. The Meadow Creek Gorge area is an exception to this - encounters between anglers and other shore parties are high (more than 10) there, since it is a major access to the Bob Marshall Wilderness.

Floaters' tolerance for seeing others along the river was very low. Most users wanted to see less than 5 people at the take-out point and no one else at the put-in point, on the river, on shore or near their campsite. The median party size that floaters preferred to see was eight for non outfitted groups and seven for outfitted groups.

Evidence of Man - The river study identified three floater campsites within this management unit. All are in the low impact class as shown in Figure 11 (1, 3).

Managerial Setting

Management Practices - Management personnel are present throughout the float season at the Spotted Bear Ranger Station just downstream from this management unit. Forest Service activities within the unit have been minimal. A float map is available to river users. The corridor is managed with a "pack-it-in, pack-it-out" policy for litter control. There is one stationary camera that counts floaters on this river management unit.

Motorized rivercraft are prohibited on this river segment. The Montana Department of Fish, Wildlife and Parks has classified this management unit as a catch and release fishery.

Persons wishing to outfit on the Central South Fork must have a permit from the Forest Service. Outfitter permits and service levels are currently controlled by the 1980 Flathead Wild and Scenic River Management Plan. There is currently one outfitter permitted to operate on this management unit.

Preferences for Distributing Use - The following list shows which guidelines for distributing use floaters would approve and disapprove if increased use becomes a problem in the future. Guidelines are listed in descending order of approval; those listed first were approved by the largest percentages of floaters (1).

CAMPSITES BY IMPACT CLASS

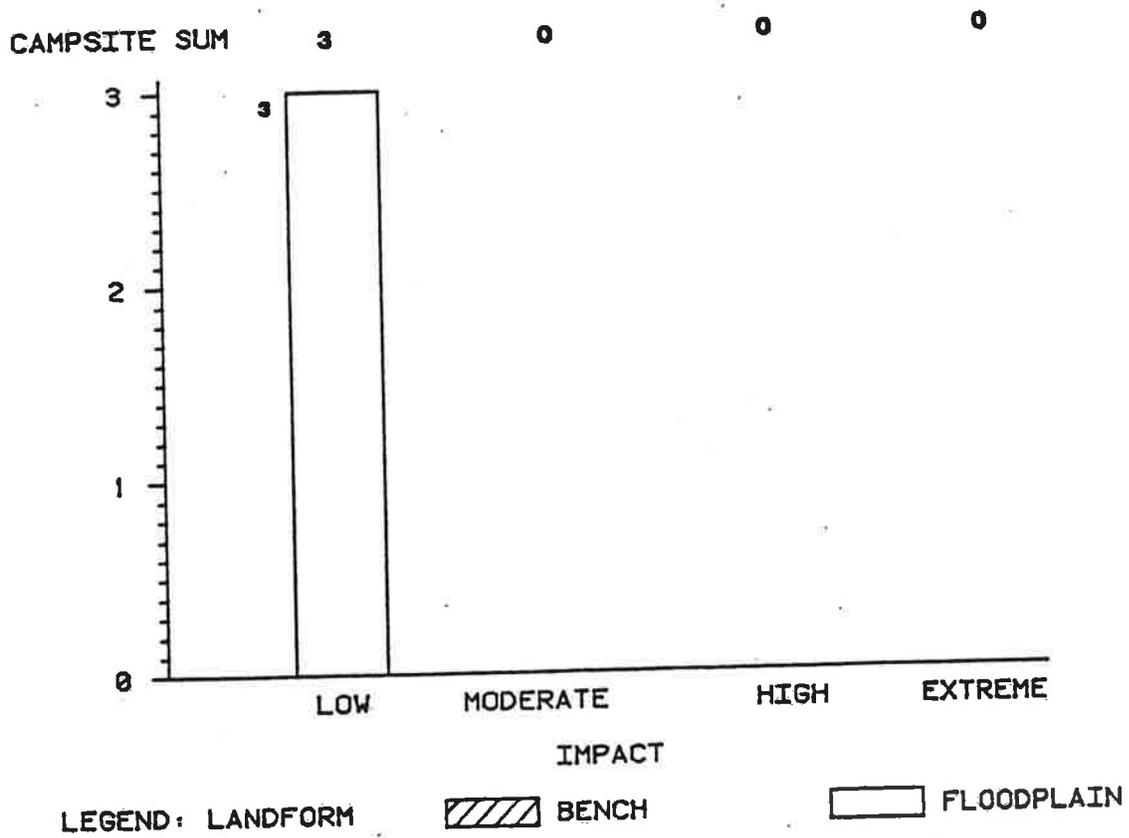


Figure 11 - Number of campsites in each impact class for the Central South Fork Management Unit.

Approval

Guideline

Approved

Avoid promotion of river by agency
Provide for trips by advanced registration
Consider impacts to the environment
Treat all users equally
Provide business stability for outfitters

Disapproved

Let everyone go who wants to go
Provide for trips on first come, first served basis
Give priority to users who value trip most
Give priority to skilled river runners
Give priority to those who never floated before
Give priority to local users

It appears that users do not want agencies to promote use of the river, but they would be willing to accept regulations, if aimed at reducing impacts to vegetation, wildlife and other resources. Almost 70 percent of floaters approved of requiring advanced registration and more than 60 percent approved of treating all users equally.

Recreation Experience Opportunities

Trip Patterns

Duration - The average float trip on this segment of the South Fork lasted 1.1 days. Only 15 percent of the floaters stayed overnight (1).

Time of Week - Wednesday and Saturday were the least popular days for floating. Sunday and Monday were the most common (1).

Season - The water levels are suitable for floating from June 1 to September 15. The peak use season is from July 1 to September 1 which coincides with good summer weather and good fishing opportunities.

Experiences Desired by Floaters

The following list shows how important various recreation experience components were to users on this management unit (1). Experience components were measured using the Recreation Experience Preference Scales (7). Components listed first were most important and those listed last were least important.

Importance

Experience Component

Moderately
Important

Relationships with Nature
Escape Personal/Social Pressure

Somewhat
Important

Achievement
Nostalgia
Exercise/Physical Fitness
Family Togetherness
Escape Physical Pressure
General Learning
Being with People
Meeting and Observing People

Of Little
Importance

Risk-taking

In addition to these experience components, fishing was fairly important to floaters on the management unit. About 98 percent of the floaters reported that they fished during their trip. The mean time spent fishing was 3.3 hours. Of those who fished, 55 percent reported that fishing was "very" or "extremely" important relative to all other activities they participated in on their trip (1).

Recreation User Experience Quality Index

The median quality index for this management unit was 2.46 on a scale of 1 to 4, with 4 being high. Figure 12 shows the percent of floaters who rated their trip at each of the four quality levels (1).

MANAGEMENT CONCERNS AND CONSTRAINTS

Resources

Parts of the river corridor within this management unit have been identified by the Forest Service as critical spring range for the grizzly bear. Sightings of the gray wolf, bald eagle, and peregrine falcon have been reported from this area also. Because these species are listed as threatened (grizzly) and endangered (wolf, bald eagle, peregrine falcon), their habitat needs must receive first priority in management.

Current management direction excludes timber cutting within the corridor in order to preserve the visual resource and primitive recreation opportunity associated with a Wild river. Exceptions to this exclusion include timber cutting for trail maintenance, fire suppression or administrative purposes.

PERCEIVED QUALITY

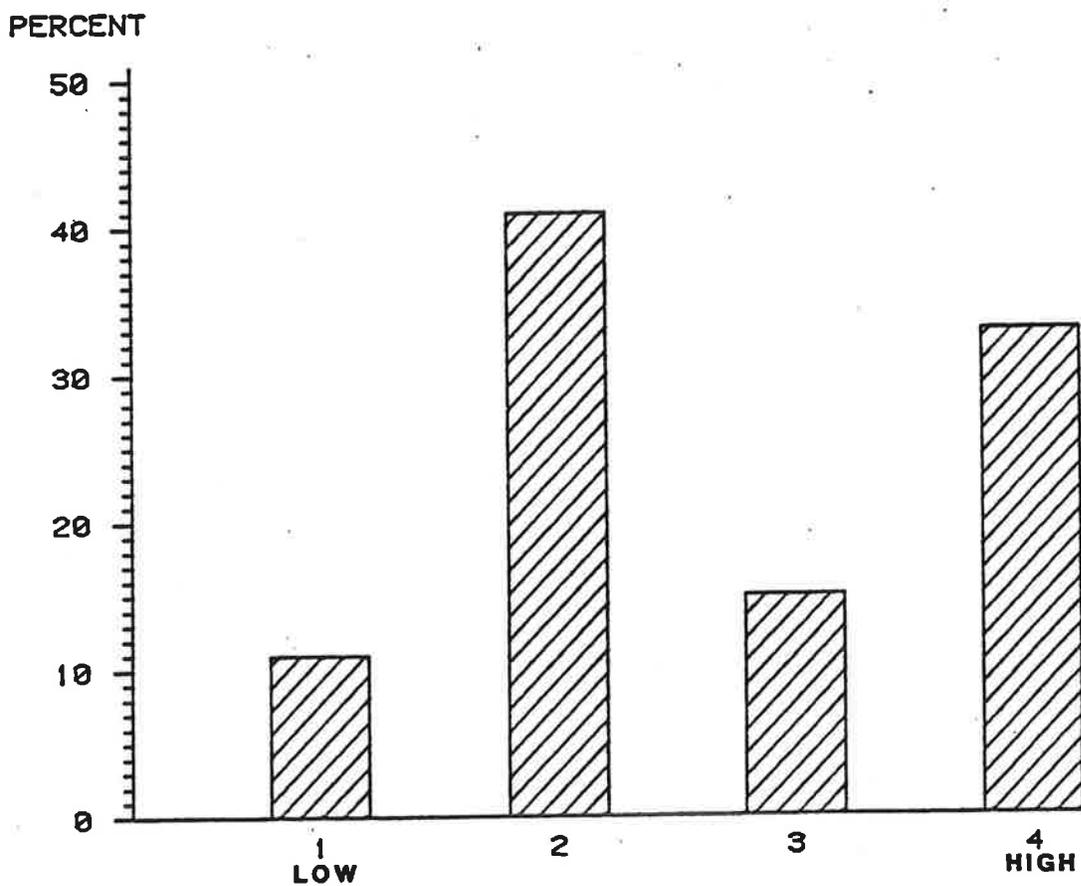


Figure 12 - Percent of users on the Central South Fork Management Unit rating their trip at each quality level according to the Recreation User Experience Quality Index.

Developments

The natural features of the terrain constrain access to the river within this management unit. The only feasible access site is located at Cedar Flats. Existing conditions at the site are described in the Cedar Flats Environmental Assessment and in the Recreation Setting Opportunities earlier in this chapter. Managers are concerned with use at this site for the following reasons:

1. There is a significant public safety hazard in parking and/or turning around on the Meadow Creek road.
2. Present parking and driving off the road is causing unacceptable resource impacts outside and inside the wild river corridor.
3. The unsigned access trail is difficult for many users to find.
4. Forest policy direction for trailheads (FSM 2353.1, R-1 Supp. 80, 1/84) places high priority on safe off-road parking and basic signing for visitor information.

Managers are aware of the public sentiment against agency promotion of river use as detailed in the river user study. There has been an appeal filed concerning proposed development of the Cedar Flats site. Managers also feel a need to make recreation opportunities reasonably available to the public under the direction in the Forest Service Good Neighbor and Good Host Programs. There is a concern to balance management responsibility for public safety, resource protection, and legitimate public information needs with users' desires not to promote use of the river and to protect the natural environment.

Use

Only one of the three resorts in the vicinity of Spotted Bear Ranger Station currently has a permit to operate float trips on this management unit. The other resorts have requested permits, and the existing permittee has requested to expand current service levels. Outfitters permitted to operate on other portions of the South Fork assist clients in floating this management unit by providing information and occasionally renting equipment.

RECREATION OPPORTUNITIES TO BE PROVIDED

The Central South Fork Management Unit will be managed to provide primarily day-use float opportunities in a pristine and scenic setting with few encounters with other users and little evidence of man. Emphasis will be on providing freedom of choice for floaters to select their own level of involvement in trip planning and execution.

The following objectives describe in more detail the specific recreation opportunities for this management unit.

Recreation Activity Opportunities

1. Maintain a diversity of river and land-based recreation activity opportunities. This objective reflects the current use pattern and is intended to reduce any conflicts with other activities in the future.

Recreation Setting Opportunities

Physical Setting

2. Maintain and enhance for viewing an essentially pristine and scenic setting. This objective reflects the existing situation and coincides with users' desires to experience the natural environment.
3. Maintain the existing high water quality for fisheries, esthetics and other ecological considerations. This objective reflects the existing situation. It also coincides with users' desires to experience the natural environment and the importance of fishing to users on this management unit.
4. Prohibit new man-made developments and intrusions within the river corridor. This objective reflects current management direction and preferences of floaters to provide no facilities in the river corridor. It also coincides with users' desires to experience and protect the natural environment.
5. Provide for a safe river access with facilities outside the corridor and minimize resource degradation within the corridor at the access site. This objective reflects a management concern about safe access and with managers and users' concern to protect the natural environment.

Social Setting

6. Provide maximum isolation between float parties and a high degree of isolation between float parties and shore parties. This objective reflects the low tolerance which floaters have for seeing people on and along the river and the low importance floaters placed on the experience component "meeting and observing people".

7. Maintain the users' isolation from the sights and sounds of man that occur outside the river corridor. This objective reflects users' desire to experience the natural environment, and the low importance floaters place on the experience component "meeting and observing people." It also reflects current management direction and a management concern.

8. Maintain the existing small party size (up to 10 people) for floater groups. This objective reflects floaters' preference for small outfitted and non-outfitted group sizes.

Managerial Setting

9. Treat all users equally whether it be in terms of implementing new management practices, following regulations and procedures, having a chance to float the river or having a chance to use the public land in the corridor for other recreational purposes. This objective was derived from research information pertaining to preferences of floaters for guidelines distributing use. The guideline "should be the same for all users" was approved by 63 percent of the floaters on this river segment.

10. Maintain a periodic management presence in the corridor and on the river. This objective reflects current management practices and managers' need to monitor river conditions, protect the natural environment, and provide visitor education.

Recreation Experience Opportunities

11. Provide a Wild River float experience not requiring extensive trip preparation or logistics planning or a high degree of technical whitewater skills. This objective reflects the fact that this is the only Wild River corridor in the Flathead system which is located outside of designated Wilderness and is accessible by road. This objective also reflects the whitewater characteristics of the unit, the spontaneous nature of use by floaters, and the relatively small amount of trip planning required.

12. Provide freedom of choice for floaters in selecting their own level of involvement in trip planning and execution. This objective reflects the diversity of opportunities available to use the river (fully outfitted trip, outfitter-supported trip, non-outfitted trip).

13. Emphasize Wild River float opportunities on a day-use basis. This objective reflects how the segment is actually used, its suitability for day use due to its length, and the desires of users and managers to preserve a near pristine environment.

INDICATORS, STANDARDS AND MONITORING PROCEDURES

Five indicators were selected to reflect the recreation opportunities described in the preceding section. These indicators will be monitored over time according to the procedures outlined in Table 12. The objectives that each of the indicators refers to are listed in the second column of the table.

COMPARISON OF CONDITIONS TO STANDARDS

South Fork managers suspect that litter occurrences currently violate the standard described in the preceding section. Current conditions for other indicators will be determined after one year of monitoring.

SELECTION AND IMPLEMENTATION OF MANAGEMENT TECHNIQUES

The following management techniques have been chosen to help bring litter occurrences to an acceptable level.

1. The Forest Service will clean up existing litter and rehabilitate impacted campsites.
2. A Flathead River Ethics Guidebook will be developed and made available to all users.
3. Visitor education will be conducted through personal contact, portal signing, responses to written requests for information, and through off-site efforts at campgrounds and resorts.
4. Low impact use information will be made available to outfitters for distribution to their clients.

If these non-regulatory actions fail to achieve the desired results or if other standards are breached and the problem cannot be corrected by non-regulatory means, a mandatory but unlimited permit will be required for all floaters. The permit will be used to insure agency contact with the user for the purposes of education and reducing visitor impacts.

Should this unlimited permit fail to achieve the desired results, management techniques such as scheduling launch times, specifying launch sites, limiting launches per day, limiting use to specified days or specifying trip length may be implemented.

If conditions continue to deteriorate, a limited permit system which will ration total use, will go into effect. All users will compete equally for the limited number of permits. Individuals chosen for a permit will decide whether to contact an outfitter or to float as a nonoutfitted user. Should this action become necessary, outfitters will be allowed to phase into the system over a 3-year period.

Should conditions again return to an acceptable standard, these restrictions may be relaxed.

Table 12 - Indicators, standards and monitoring procedures for the Central South Fork Management Unit.

Indicator	Objective Number	Standard	Monitoring Procedure		
			Inventry Method	Sampling Procedure	Frequency
1. Encounters per day with other float parties on the river.1/	6	Probability of sighting no more than 2 other float parties or individual boats on the river per day.3/	a) Visual count	a) Count and record all sightings during patrol floats on randomly selected days during the float season (6/1-9/15).	a) Minimum 2/year
2. Encounters per day with shore parties or camps.	6	Probability of sighting no more than 2 shore parties or camps per day on the immediate river bank.3/	b) Short verbal survey of visitors with question about number of other float parties observed.	b) Administer survey to parties encountered on the last 1/4 of patrol floats and at take out points.	b) Minimum 5 surveys/year
3. Campsite occurrence.	2,4	Probability of finding evidence of no more than 2 campsites in this unit on a given day.3/	Same as above	Same as above	Same as above
			Visit all potential floater camp-sites.	Map and record evidence of any camp.	Annually

Table 12. - Indicators, standards and monitoring procedures for the Central South Fork Management Unit.

Indicator	Objective Number	Standard	Inventory Method	Monitoring Procedure	Sampling Procedure	Frequency
4. Occurrences of litter ^{3/}	2	No more than one occurrence of litter visible from water craft per 5 miles of river	a) Visual count	a) Same as 1 and 2 above.	a) Same as 1 and 2 above.	a) Minimum 2/year
			b) Short verbal survey of visitors with questions about number of occurrences of litter.	b) Same as 1 and 2 above.	b) Same as 1 and 2 above.	b) Minimum 2/year
5. Experience quality index	2,4,6,8	No more than 20% of the surveyed users at lowest quality level; no less than 20% at highest quality level.	Short verbal survey of visitors (floaters and non floaters) with questions about quality of recreation experience.	Same as 1.b) above.	Same as 1.b) above.	Minimum of 5 surveys/year

4/

- 1/ A party is defined as all individuals who are or appear to be traveling or floating together, regardless of the number of people or boats.
- 2/ Litter is defined as any refuse outside of a non-designated campsite area. Campsite litter is covered in Indicator 3.
- 3/ This standard will be considered to be met at the 80% probability level.
- 4/ Averaged over a two year period.

The regulatory actions described above will be imposed on floaters only if standards are breached due to floater use. If standards are breached due to other causes, appropriate management action will be taken to correct the problem.

These actions reflect users' willingness to accept regulations aimed at protecting the natural environment, and their preference to treat all users equally in terms of imposing restrictions.

MANAGEMENT PROGRAMS

The following is a list of other management actions which will be implemented on this management unit. These actions are not related to the indicators in Table 12 but flow from recreation management objectives and management concerns and constraints.

1. The present interim river use guidelines for outfitters (developed in the 1980 Flathead Wild and Scenic River Management Plan) will be terminated. These guidelines regulate number of launches per week, size of party, and number of outfitters permitted on the river. Based on the information in this plan, some of them are no longer valid. Others result in unequal restriction of outfitters and non-outfitted uses. This is of concern to outfitters, the agency, and the majority of users who preferred to treat all users equally in terms of imposing regulations. Based on a review of current river conditions, there is no reason to limit the number of outfitter launches per week at this time. Concerns about outfitter numbers and service levels will be addressed below.
2. Allow all South Fork resort operators to offer outfitted float trips, upon successful application for river outfitter permits. The number of trips will not be limited at this time. This action reflects the fact that floating is a marketable activity among South Fork resorts and that this portion of the South Fork is well suited to resort-outfitted river floaters. Also, it resolves the current inequity in allocation of river outfitter opportunities among the three existing South Fork resorts.
3. No additional river outfitter permits of any type will be issued on this management unit. Since the total number of outfitters available to meet public needs has been expanded in this plan and since no limits will be placed on outfitter service levels at this time, it is reasonable to expect that the three resorts will be able to meet public need for outfitter services in the foreseeable future. If, in the future, they cannot meet public needs, this restriction may be reconsidered.
4. Allow only those recreation activities that are known to have minimal impact on the environment (i.e., wildlife, lands, etc). This objective coincides with users' desires to experience and protect the natural environment.

5. Make all parties aware of their potential impact (e.g., physical presence, traces, etc.) on other parties. This objective reflects users' minimal tolerance for seeing people at places on or along the river and their desire to experience the natural environment.

It also reflects agency desires that users police themselves avoiding the need for more stringent regulations.

6. The need for the Cedar Flats Access Site will be addressed in a separate environmental document.

7. Evaluate all new activities to determine if they adversely affect protection of threatened or endangered species. Proposed activities with the potential to effect grizzly bears will be evaluated under the "Guidelines for Management Involving Grizzly Bears in the Greater Yellowstone Area" (1979) as amended to cover the situation in the Flathead National Forest. This management unit will be considered "Management Situation 1" as defined in the guidelines. Proposed activities that may effect the bald eagle, peregrine falcon, or gray wolf will be reviewed by the Zone Wildlife Biologist. He will make recommendations with regard to the proposal and its potential effects and will propose alternatives or mitigation measures to insure species or habitat protection.

8. Limit party size on this management unit to a total of 10 individuals except for trips originating on the Upper South Fork. These trips will be limited to a total of 15 individuals. This reflects floaters' desires to encounter small parties and their strong preference to preserve the natural environment.

CHAPTER VIII

LOWER SOUTH FORK MANAGEMENT UNIT

UNIT DESCRIPTION

The Lower South Fork Management Unit extends from the Spotted Bear Ranger Station to the start of the Hungry Horse Reservoir, a distance of 8.8 river miles. The river corridor is of variable width and generally includes the land between Forest Roads 895 (on the west) and 38 (on the east).

All of the management unit is designated a Recreational River. The boundary reflects floater use patterns because many floaters enter or leave the river at Spotted Bear even though there is not a developed access site near the Ranger Station.

All lands within this management unit are public lands managed by the Spotted Bear Ranger District of the Flathead National Forest.

USER DESCRIPTION

Nearly half (45 percent) of the floaters on this river segment were from the Flathead Valley. Another 12 percent were from other parts of Montana. A total of 73 percent were from the western United States, and others were from throughout the eastern states. Most floaters were in groups that included immediate family members, but 26 percent were in groups of friends. The median group size was 4.5.

More than 90 percent of the floaters used rafts, but inner tubes, kayaks and canoes were also used. The majority of craft were either personally owned (44 percent) or owned by an outfitter (36 percent). Others were borrowed, rented or owned by another party member. Almost two-thirds of the users floated with an outfitter. About 46 percent had had previous experience floating this management unit (1).

Twenty-five percent of the floaters on this management unit decided to float the river less than 24 hours before their trip. The majority of the floaters decided to visit the general area several months in advance.

This management unit has a considerable amount of use by land-based recreationists. The corridor is readily accessible by motor vehicle, although it is a 55-mile drive over rough roads (1 1/2 to 2 hours driving time) from the nearest highway. The river study did not include these land-based users.

EXISTING RECREATION OPPORTUNITIES

Recreation Activity Opportunities

Table 13 shows the primary and secondary recreation activities for river floaters and land-based recreationists. The information is based on the river survey data and managers' experience.

Recreation Setting Opportunities

Physical Setting

Natural - The river corridor is generally forested with intermittent views of the surrounding mountainous terrain. Most of the corridor is natural-appearing, but some human influences are observable both within the corridor and on adjacent land. Management activities are allowed in the corridor so long as they do not detract from the visual and recreational resources.

The water quality is very high and supports a high quality fishery. A variety of wildlife species inhabit or frequent the river corridor, including the threatened grizzly bear. The endangered bald eagle makes occasional use of the area. The gray wolf and peregrine falcon, both endangered species, may also use the corridor.

The river gradient on this management unit is fairly gentle, averaging 19 foot of drop per mile. There are few occurrences of whitewater. During peak flows, however, high cold water and debris may pose hazards to floaters.

The management unit is in a Class II Airshed.

Man-Made Recreational - Semi-improved gravel roads parallel both sides of the river corridor. Unimproved dirt roads penetrate the corridor almost to the riverbank in several locations. These provide river access for recreationists and others.

The Spotted Bear Campground lies near the southern end of this management unit. It has 13 units and facilities typical of a Forest Service developed campground. The campground is screened from the river, but there is a fenced viewpoint overlooking the river. The fence and people using the overlook are visible from the river.

There are also several undeveloped sites along the river that are used for camping.

There are three resorts in the vicinity of this management unit that are operated under Forest Service Special Use Permits. One resort is located within the river corridor, but is generally well-screened from the river and is unobtrusive. It has a lodge, several cabins, corrals, a barn and other service buildings. Power is supplied by a gasoline generator.

Table 13 - Existing recreation activity opportunities on the Lower South Fork Management Unit.

Recreation Activity	River Floaters		Land-Based Recreationists	
	Primary Activity	Secondary Activity	Primary Activity	Secondary Activity
Viewing scenery and wildlife	X		X	
Enjoying unique or unusual environments	X			X

Non-motorized watercraft use (river floating)	X			
Motorized watercraft use (less than 10 HP)		X		

Hiking, walking	N/A		N/A	
Horseback riding and packing	N/A		N/A	
Auto touring			X	

Recreational aviation				X
Developed camping		X	X	
Primitive camping		X		X
Picnicking		X	X	
Swimming, waterplay		X		X

Cross-country skiing	N/A		N/A	
Other winter sports	N/A		N/A	
Fishing	X		X	
Hunting		X		X
Nature study		X		X

Photography		X		X
Viewing interpretive signs	N/A		X	X
Gathering forest products (firewood, berries, mushrooms)				

Floaters in this management unit expressed an overwhelming preference that no facilities be provided at any recreation use site along the river. There was a small amount of support for garbage containers at put-in/take-out points and for toilets at campsites inaccessible by road.

Man-Made Non-Recreational - There are two stream gauge stations and one major road bridge within the river corridor. The Spotted Bear Ranger Station lies within the river corridor, at the south end of the management unit, but is not generally visible from the river. A suspension foot bridge crosses the river at the ranger station. The Spotted Bear airstrip is located within the river corridor, on the west side of the river.

Social Setting

User Encounters - The general density of recreation use within the corridor is moderate, except around specific sites and attractions where land-based users may congregate. Managers estimate that there are 2 to 6 encounters per day among float parties, 4 to 6 encounters per day among shore parties, and 4 to 8 or more encounters per day between float and shore parties.

Floaters' tolerance for seeing others was low. The majority of floaters wanted to see less than five other people at put-ins and take-outs, on the river and on shore. The majority preferred to see no one else near their campsite (1).

Evidence of Man - The river study inventoried five dispersed campsites along this management unit. Three of these campsites were in Impact Class 3, on a scale of 1 to 4, with 4 being extreme.

This river management unit has the greatest percentage of highly impacted campsites on the Flathead River System. However, considering that only five sites were identified, the impact is not as significant as on other management units. Camp area, bare soil increase, development, and cleanliness were the most severe kinds of impact (1, 3). The latter two impacts are fairly easy to correct, but bare soil increase is one of the more long-lasting types of impact.

Managerial Setting

Current Management Practices - Management personnel are present throughout the float season at Spotted Bear Ranger Station. Agency contact with floaters on the river has been limited. A float map is available for river users.

Rivercraft with motors up to 10 horsepower are allowed on this river management unit.

CAMPSITES BY IMPACT CLASS

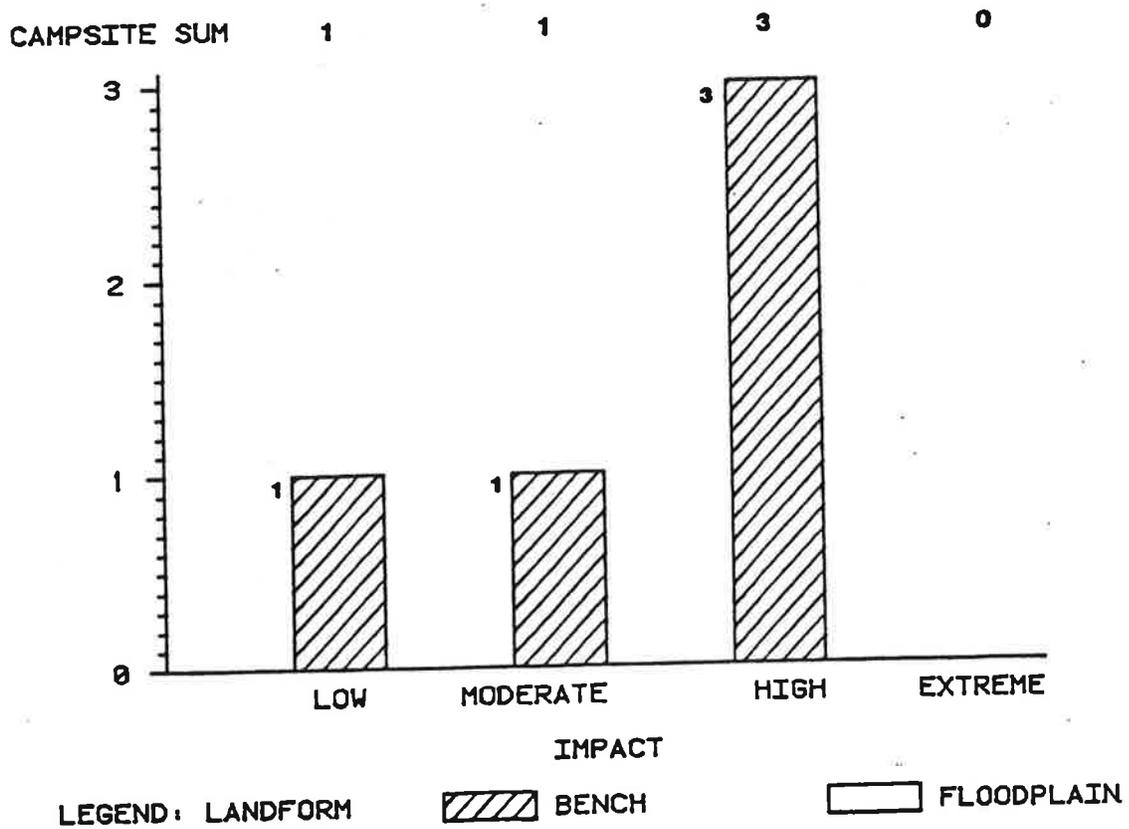


Figure 13 - Number of campsites in each impact class for the Lower South Fork Management Unit.

Persons wishing to outfit on the South Fork must have a permit from the Forest Service. Outfitter permits and service levels are currently regulated by the 1980 Flathead Wild and Scenic River Management Plan. There is only one outfitter permitted to operate on this management unit.

Preferences for Distributing Use - The following list shows which guidelines for distributing use floaters would approve or disapprove if increased use becomes a problem. Guidelines listed first were approved by the largest percentages of floaters (1).

Approval

Guideline

Approved by
current floaters

Consider impacts to the environment
Avoid promotion of river by agency
Give local users better opporutnities
to participate
Treat all users equally
Provide for trips on first come,
first served basis
Give priority to skilled river runners
Give priority to those who value trip

Disapproved by
current floaters

Provide for trips by advanced
registration
Provide business stability for
outfitters
Let everyone go who wants to go
Give priority to adjacent landowners
Give priority to those who have
never floated before

The first three guidelines were approved by wide margins. The list indicates that floaters do not want agencies to try to attract other users. However, they appear to be willing to accept regulations that treat everyone equally and are aimed at protecting the environment. This was the only management unit with a large percentage of outfitted floaters that disapproved the guideline "provide business stability for outfitters."

Recreation Experience Opportunities

Trip Patterns

Duration - The average float trip length on this management unit was 1.2 days. About one-fourth of the floaters stayed overnight on the river (1). There is a considerable amount of overnight use by land-based recreationists.

Time of Week - Saturday was the most popular day of the week for floating this management unit, with almost one-fourth of all use occurring on this day. Friday, Sunday and Monday also had considerable amounts of float use, but use on Tuesday through Thursday was lighter (1).

Season - Water levels are suitable for floating from May 15 to October 30. The peak season is during July and August.

Experiences Desired by Floaters

The following list shows how important various recreation experience components were to users on this management unit (1). Experience components were measured using the Recreation Experience Preference Scales (7). Components listed first were most important, and those listed last were least important.

<u>Importance</u>	<u>Experience Component</u>
Very Important	Relationship with nature
Moderately Important	Being with People General Learning Achievement Exercise/Physical Fitness Nostalgia
Somewhat Important	Family Togetherness General Learning Meeting and Observing People Escape Physical Pressure Risk-taking Escape Personal/Social Pressure

Recreation User Experience Quality Index

Due to the small sample size on this management unit, statistically reliable information on median user experience quality index is not available. Figure 14 shows the percent of floaters who rated their trip at each of the four quality levels (1).

MANAGEMENT CONCERNS AND CONSTRAINTS

Resources

Protecting habitat for the threatened and endangered species is a major resource constraint in this management unit. The Forest Service has identified most of the river corridor within this unit as critical spring range for the grizzly and as suitable essential occupied habitat for the gray wolf and peregrine falcon. Bald eagles make occasional use of the area. Recreational use may conflict with protection of these species during some times of the year.

PERCEIVED QUALITY

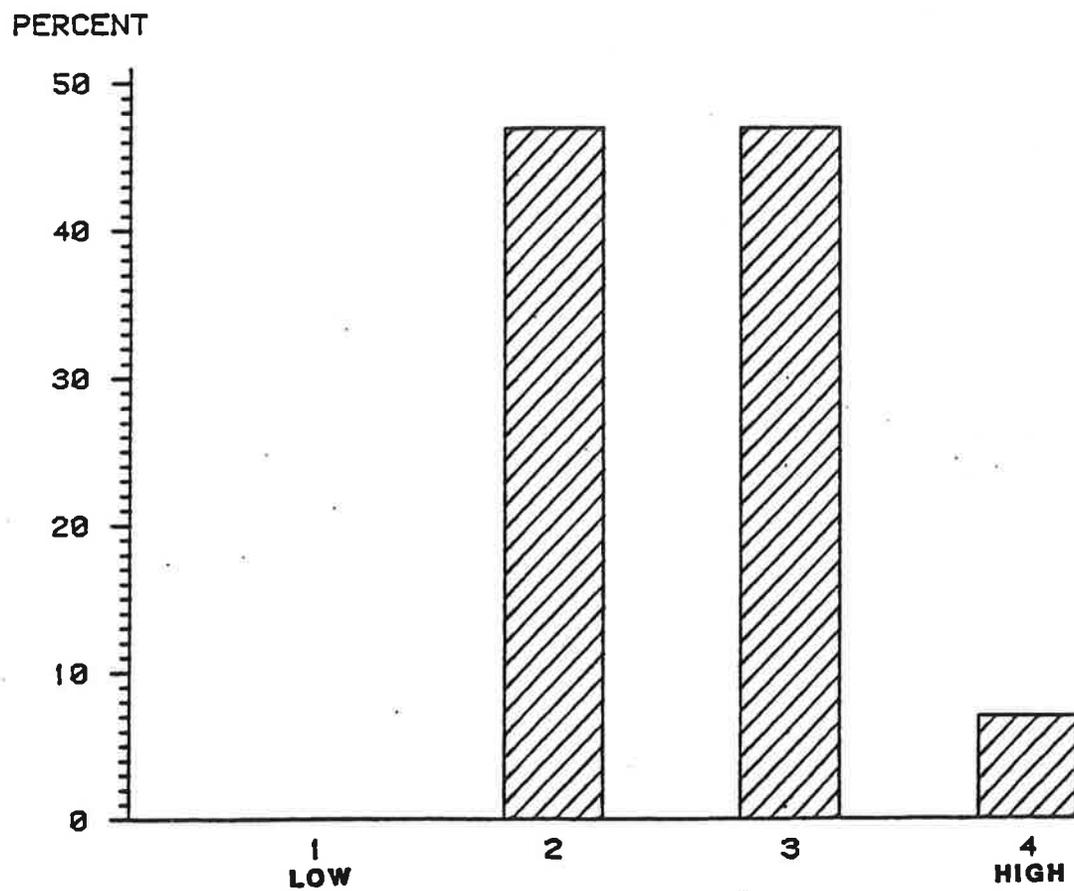


Figure 14 - Percent of users on the Lower South Fork Management Unit rating their trip at each quality level according to the Recreation User Experience Quality Index.

Most of the use of the river corridor is by land-based recreationists, and these users cause most of the impacts associated with recreational use. These impacts are concentrated at specific sites that receive heavy use. Managing these impacts as well as those made by floaters is a major management concern.

Developments

The lack of a developed access site in the Spotted Bear vicinity is of concern to managers. It compounds traffic and parking problems at the Ranger Station where many users presently launch and take-out. Current plans for the administrative site will eliminate some of the roads coming closest to the river. This will make access more difficult. Some of the trails being taken to the river are excessively steep. They are unsafe for carrying heavy or awkward loads.

Managers are also concerned that future developments at the Ranger Station, campground, and the resort are screened from users on the river.

Uses

Only one of the three resorts in the vicinity of Spotted Bear Ranger Station currently has a permit to operate float trips on this management unit. The other resorts have expressed a desire to conduct float trips as part of their resort activity package. Outfitted parties are currently restricted in the number of launches allowed and by other terms of the Outfitter/Guide Permit, while non-outfitted parties have fewer restrictions.

RECREATION OPPORTUNITIES TO BE PROVIDED

The Lower South Fork Management Unit will be managed to provide opportunities for a float or motorized (10 horsepower or less) river experience in a natural-appearing environment. Emphasis will be on allowing maximum use while preventing crowding or resource damage and on providing freedom of choice for floaters to select their own level of involvement in trip planning and execution.

The following objectives describe in more detail the specific recreation opportunities for which this management unit will be managed.

Recreation Activity Opportunities

1. Maintain a diversity of river and land-based recreation activity opportunities and emphasize the combined activities of camping, fishing, and floating. This objective reflects the suitability of current use patterns within this management unit and is intended to reduce conflicts with other activities in the future.
2. Emphasize float use of this unit but not to the exclusion of small (10 horsepower or less) motorized craft. This objective recognizes the suitability of small motorized craft on this unit as well as their historic presence. It adds to the diversity of opportunities available on the Flathead system.

Recreation Setting Opportunities

Physical Setting

3. Maintain and enhance for viewing the natural-appearing setting of the river corridor, but allow some permanent human influences which are compatible with river values. This objective continues current management practices and coincides with users' desires to experience the natural environment.

Social Setting

4. Allow for maximum corridor recreation use without crowding. Although floaters on this management unit preferred to see few people on and along the river, there is a need to provide a spectrum of recreation opportunities on the Flathead River system. This management unit is best suited to accommodating use at the higher end of the use spectrum.

Managerial Setting

5. Treat all users equally in terms of implementing new management practices, following regulations and procedures, having a chance to float the river or having a chance to use the public land in the corridor for other recreational purposes. This objective was derived

from research information pertaining to preferences of floaters for guidelines distributing use. The guideline "should be the same for all users" was approved by floaters on this management unit.

6. Maintain a periodic management presence in the corridor and on the river. This objective reflects managers' need to monitor conditions on this management unit and interact with river floaters.

Recreation Experience Opportunities

7. Maintain the user's opportunity to experience the natural environment. This objective reflects the users' desires to experience the natural environment. It also reflects the fact that floaters strongly approved the use distribution guideline "impacts to vegetation, wildlife and other resources should be considered above all else."

8. Provide freedom of choice for floaters in selecting their own level of involvement in trip planning and execution. This objective reflects the diversity of opportunities available to use the river (fully outfitted trip, outfitter supported trip, non-outfitted trip).

The preceding recreation opportunity package is what managers will maintain on the Lower South Fork Management Unit and what floaters and other recreationists can expect to encounter.

INDICATORS, STANDARDS AND MONITORING PROCEDURES

Five indicators were selected to reflect the recreation opportunities described in the preceding section. These indicators will be monitored over time according to the procedures outlined in Table 14. The objectives that each of the indicators refers to are listed in the second column of the table.

COMPARISON OF CONDITIONS TO STANDARDS

South Fork river managers know that campsite conditions and litter occurrences currently violate the standards described in this management unit. The exact status of the encounter indicators will be known after the first season of monitoring under this plan. As monitoring continues, managers will be able to determine trends in conditions and will know when conditions are deteriorating and nearing the limit of acceptable change.

Table 14. - Indicators, standards and monitoring procedures for the Lower South Fork Management Unit.

Indicator	Objective		Standard	Inventory Method	Monitoring Procedure		Frequency
	Number	:			Sampling Procedure	:	
1. Encounters per day with other float parties on the river.1/	3	:	Probability of sighting no more than 10 other float parties on the river per day.3/	Visual count	:	Count and map sightings during patrol floats on randomly selected days during the float season. (6/1-9/15).	4/year
2. Encounters per day between float and shore parties.	3	:	Probability of sighting no more than 15 shore parties per day.3/	Visual count	:	Count and map sightings during patrol floats on randomly selected days during the float season (6/1-9/15).	4/year
3. Campsite condition.	2, 6	:	No campsites with an Impact Index between 50-60; no more than 2 campsites with an Impact Index between 40-49.	Campsite impact evaluation using campsite impact rating form.	:	Census all campsites toward end of float season.	Annually

Table 14. - Indicators, standards and monitoring procedures for the Lower South Fork Management Unit.

Indicator	Monitoring Procedure			
	Objective : Number :	Standard :	Inventory : Method :	Sampling : Procedure : Frequency :
4. Occurrences of litter. ^{2/}	2, 6	No more than one occurrence of litter visible from watercraft per 3 miles of river.	Visual count	Count and map all sightings during patrol on randomly selected days during the float season (6/1-9/5). 4/year
5. Experience quality index.	1, 4	No more than 25% of the surveyd visitors at the lowest quality level. ^{4/}	Short verbal survey of visitors (floaters and non floaters) with questions about the quality of recreation experience.	Administer the survey to parties encountered on the last 1/4 of patrol floats and at take out points. Minimum of 5 surveys/ year.

- 1/ A party is defined as all individuals who are or appear to be traveling or floating together, regardless of the number of people or boats.
- 2/ Litter is defined as any refuse occurring outside of campsites. Campsite litter is covered in Indicator 3.
- 3/ Standard will be considered to be met at the 80 percent probability level.
- 4/ Averaged over a two year period.

SELECTION AND IMPLEMENTATION OF MANAGEMENT TECHNIQUES

The following management techniques have been chosen to help bring campsite conditions and litter occurrences to an acceptable level.

1. The Forest Service will make an initial rehabilitation of deteriorated campsites and will cleanup litter.
2. A Flathead River Ethics Guidebook will be developed and made available to all users.
3. Visitor education efforts will be emphasized in the corridor through portal signing, personal contacts, responses to written requests, and through off-site efforts at campgrounds and resorts.
4. Provide low impact use information to outfitters for distribution to their clients.
5. An annual report will be developed to inform outfitters, river floaters and other interested persons of the status of each indicator. The report will be prepared at the end of each summer use season and will include a statement of current conditions relative to the standard for each indicator. It will also explain the consequences of conditions violating standards. The report will be available upon request.

These management techniques will be continued until such time as campsite conditions and occurrences of litter are brought back within standards. At that time some of the management practices may be modified.

If these non-regulatory actions fail to achieve the desired results, a mandatory but unlimited permit will be required for all floaters. The permit will be used to insure agency contact with the user for the purposes of education and reducing visitor impacts.

Should this unlimited permit fail to achieve the desired results, management techniques such as scheduling launch times, specifying launch sites, limiting launches per day, limiting use to specified days or specifying trip length may be implemented.

If conditions continue to deteriorate, a limited permit system which will ration total use will go into effect. All users will compete equally for the limited number of permits. Individuals chosen for a permit will decide whether to contact an outfitter or to float as a nonoutfitted user. Should this action become necessary, outfitters will be allowed to phase into the system over a 3-year period.

Should conditions again return to an acceptable standard, these restrictions may be relaxed.

The regulatory actions described above will be imposed on floaters only if standards are breached due to floater use. If standards are breached due to other causes, appropriate management action will be taken to correct the problem.

These actions reflect users' willingness to accept regulations aimed at protecting the natural environment, and their preference to treat all users equally in terms of imposing restrictions.

MANAGEMENT PROGRAMS

The following is a list of other management actions which will be implemented on this management unit. These actions are not related to the standards in Table 14, but flow from recreation management objectives and management concerns and constraints.

1. The present interim river use guideline for outfitters (developed in the 1980 Flathead Wild and Scenic River Management Plan) will be terminated. These guidelines regulate number of launches per week, size of party, and number of outfitters permitted on the river. Based on the information in this plan, some of them are no longer valid. Others result in unequal restriction of outfitters and non-outfitted uses. This is of concern to outfitters, the agency, and the majority of users who preferred to treat all users equally, in terms of imposing regulations. Based on a review of current river conditions, there is no reason to limit the number of outfitter launches per week at this time. Concerns about outfitter numbers and service levels will be addressed below.
2. Allow all South Fork resort operators to offer outfitted float trips, upon successful application for river outfitter permits. The number of trips will not be limited at this time. This action reflects the fact that floating is a marketable activity among South Fork resorts and that this portion of the South Fork is well suited to resort-outfitted river floaters. Also, it resolves the current inequity in allocation of river outfitter opportunities among the three existing South Fork resorts.
3. No additional river outfitter permits will be issued on this management unit. Since the total number of outfitters available to meet public needs has been expanded in this plan and since no limits will be placed on outfitter service levels at this time, it is reasonable to expect that the three resorts will be able to meet public need in the foreseeable future. If, in the future, they cannot meet public needs, this restriction may be reconsidered.
4. Permits for institutional and semi public outfitting (as described in FSM 2721.53:) will be considered on this management unit on an opportunity basis. Applications will be reviewed using the Flathead Forest Outfitter-Guide Application Evaluation Procedure. Opportunities for such activities will be made equally available to all interested parties. This action reflects the interest in

providing this type of service, and its potential for promoting education in sound river use ethics. It also adds to the diversity of recreation opportunities available on the Flathead River system.

5. Evaluate new recreation activities in the corridor to determine if they conflict in space and/or time with currently existing activities. This action is intended to minimize activity conflicts in the future.

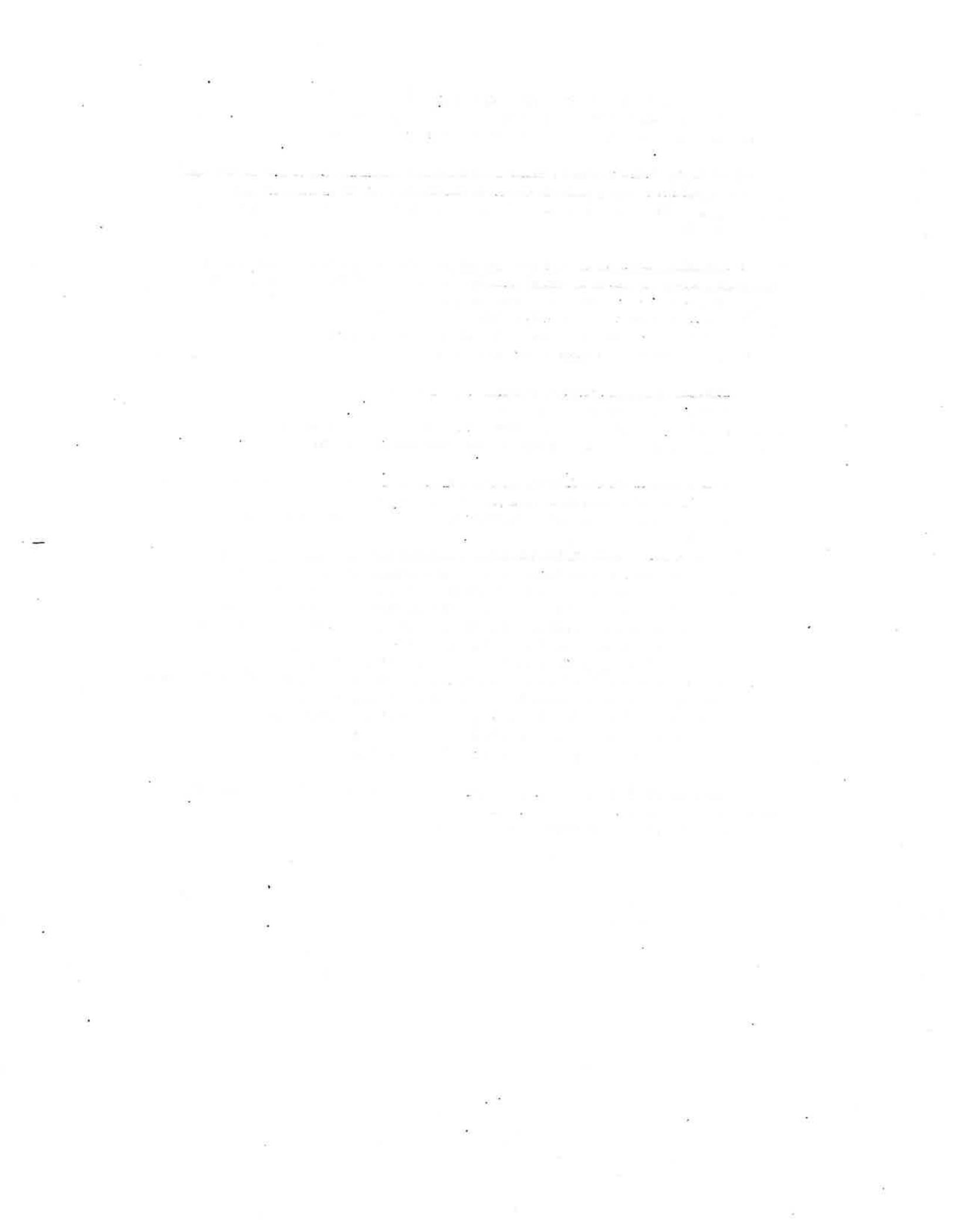
6. Make all parties aware of their potential impact (e.g., physical presence, traces, etc.) on other parties. This objective reflects users' minimal tolerance for seeing people at places on or along the river and their desire to experience the natural environment. It also reflects agency desires that users police themselves avoiding the need for more stringent regulations.

7. Develop a river access site in the Spotted Bear vicinity. This action reflects a management concern to resolve congestion and parking problems as well as potential safety problems at the undeveloped site at the Spotted Bear Ranger Station.

8. Prohibit new developments at the Ranger Station, campground, and resort unless they are screened from the river. This reflects users' concern to preserve and experience the natural environment.

9. Evaluate all new activities to determine if they adversely affect protection of threatened or endangered species. Proposed activities with the potential to effect grizzly bears will be evaluated under the "Guidelines for Management Involving Grizzly Bears in the Greater Yellowstone Area" (1979) as amended to cover the situation in the Flathead National Forest. This management unit will be considered "Management Situation 1" as defined in the guidelines. Proposed activities that may effect the bald eagle, peregrine falcon, or grey wolf will be reviewed by the Zone Wildlife Biologist. He will make recommendations with regard to the proposal and its potential effects and will propose alternatives or mitigation measures to insure species or habitat protection.

10. Prohibit motorized craft over 10 horsepower on this management unit except for essential search and rescue operations. This action continues current management practices.



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APPENDIX A

Planning Process

Two fairly new but well accepted concepts of wildland recreation management were incorporated into the planning process. The Recreation Opportunity Spectrum (ROS) provided a framework for inventorying and planning for the diverse river system. The Limits of Acceptable Change (LAC) concept was used to develop strategies for managing visitor use. The following is a brief description of these concepts.

Recreation Opportunity Spectrum

The Recreation Opportunity Spectrum (ROS) approach to recreation planning is based on a behavioral definition of recreation (11). The ROS concept emphasizes that quality in outdoor recreation can best be achieved by providing a diversity of recreation opportunities to satisfy people's varying tastes and preferences (12, 13, 14, 15). Recreation researchers have defined this diversity of opportunities along a spectrum ranging from primitive to urban (13, 14, 16).

In related work, Driver and Brown (13) have identified a four-level hierarchy of demand for recreation opportunities. They characterize users as demanding opportunities to participate in preferred recreation activities (level 1) with preferred environmental settings (level 2) in order to attain satisfying experiences (level 3) which lead to lasting benefits to the individual and society (level 4). They suggest that managers should emphasize levels 1 through 3 in providing recreation opportunities that meet the demands of society. Brown, Driver and McConnell (17) provide a method for incorporating the ROS concept into an inventory and planning system by combining mixes of activities, settings, and experiences into classes along the ROS spectrum. Others have elaborated on this planning framework (14, 18, 15, 19), and it is now being used by both the USDA Forest Service (20) and the USDI Bureau of Land Management (21).

The ROS concept was used in the Flathead River planning effort in a somewhat non-traditional manner. The six ROS classes (primitive, semi-primitive, etc.) were found to be difficult to apply to rivers and were replaced with more detailed verbal descriptions of recreation opportunities. However, the emphasis was still on providing a spectrum of opportunities on the complex and diverse Flathead River System. The ROS concept, that recreation opportunities consist of activity, setting, and experience opportunities, was used to inventory existing conditions as well as to define the recreation opportunities to be provided and managed for over time. The descriptions of settings were divided into three categories, physical, social, and managerial, as suggested by Brown, Driver, and McConnell (17) and Clark and Stankey (14).

Limits of Acceptable Change

The Limits of Acceptable Change concept has been developed during the last decade or so as a supplement to carrying capacity determinations (22). It is based on the premise that recreational use of an area can diminish the quality of both the natural environment and the recreation experience. Concern about overuse causing negative impacts on the ecological and social environments of an area has led managers to try to establish carrying capacities. This approach has focused attention on the amount of use and the search for a specific number of people that can be allowed to use an area without causing unacceptable changes to the natural environment or the recreation experience.

This approach has several problems. First of all, the carrying capacity of an area can vary depending on the objectives for which an area is managed (22). An acre of city park can accommodate more people than an acre of wilderness. Secondly, much of the adverse impact of recreational use is not the result of too much use, but rather the kind of use, the behavior of visitors, and the timing and distribution of use (23). The amount of impact caused by a specific number of users can be affected by the activities of the user, the user's level of skill, the pattern of use and other factors. Furthermore, the amount of use is not always directly related to the amount of impact. A little use in a new area may cause a lot of impact, while a lot more use may cause only a little more impact (24). Because of these problems, it can be very difficult to come up with a specific number that is a river's "carrying capacity." Stankey et al. (19) contains a more detailed discussion of some of the problems associated with using carrying capacity as a planning framework.

The traditional carrying capacity approach to managing rivers often leads managers to institute a system of use rationing, which is a fairly heavy-handed management tool. The search for a single carrying capacity number also misdirects the managers' attention to numbers instead of trying to correct specific problems (23).

The Limits of Acceptable Change (LAC) concept can be used as an alternative to establishing carrying capacities for a river (23). In applying the LAC concept, managers assume that change to the ecological and social conditions of the area they are managing is going to occur, due to both natural and human factors. The goal of management then is to keep the character and rate of change due to human factors within acceptable levels (22).

Stankey et al. (19) has outlined a procedure for implementing the LAC concept. According to their scheme managers first develop management objectives for the area they are managing and describe the recreation opportunities that will be provided. They then identify the ecological and social factors that are likely to change and select indicators which can be easily observed and used as a gauge to determine the amount of change that is occurring. For each indicator, managers then set a standard, which is a threshold value which defines the amount of change that is acceptable and unacceptable. The purpose of selecting indicators

and standards is to provide managers with reference points so that they can judge whether the recreation opportunity they are trying to manage for is actually being provided over time. The standards serve as trigger devices rather than as management policy. If conditions deteriorate and a standard is approached, mitigating action can be taken to avoid unacceptable change. Managers retain the flexibility to implement any of a wide variety of mitigating actions. In the past, limits on the amount of use were frequently instituted when adverse impacts occurred, but the LAC concept allows the flexibility to implement many other kinds of management actions to control specific problems.

It is important to remember that an LAC standard is a maximum permissible level of impact or a critical threshold limit. It is not an objective that one is attempting to achieve. Managers should try to provide the best conditions possible rather than allowing conditions to deteriorate until the standard is reached. On the other hand, managers should not focus solely on the selected indicators, but should consider the whole river management situation. As management experience is gained and other issues develop in the future, there may be a need to select additional indicators or delete some indicators.

Planning Methodology

The planning process used to make the decisions included in this document is illustrated in the flow chart in Figure A-1. The process has 12 steps, which are shown down the middle of the flow chart. Other inputs are shown to the left and right of the center column. This part of this chapter will describe how the planning process works.

The Flathead Wild and Scenic River Management Plan, which was approved in August 1980, forms the basis for this supplemental planning effort, and is thus the beginning box in the upper left corner of the flow chart. Goals for this ammendment were developed from the 1980 plan and form the next box on the flow chart. These goals are stated at the beginning of this chapter. One of the goals is to determine the spectrum of recreation opportunities to be provided on the Flathead River System. This goal interacts with Step 3 of the planning process, which will be described later.

The boxes to the right of the center column in the flow chart represent types of input to the planning process. The first box refers to the sources of information that were used to compile an inventory of the existing recreation situation. The sources include: (1) University of Idaho survey results, which provide information on use patterns and user perceptions and preferences, (2) the campsite impact inventory, which provides information on the most significant type of human impact on the natural setting of the river corridor (impact at undesiganted campsites), (3) camera counts and other data, referring to all types of information about the river recreation resource obtained by agency personnel, and (4) public input, including unsolicited correspondence and public participation in the University of Idaho research steering committee. The information from these sources influences the planning process both at the inventory and monitoring steps of the process.

**FIGURE A-1
FLATHEAD WILD & SCENIC RIVER
PLANNING PROCESS**

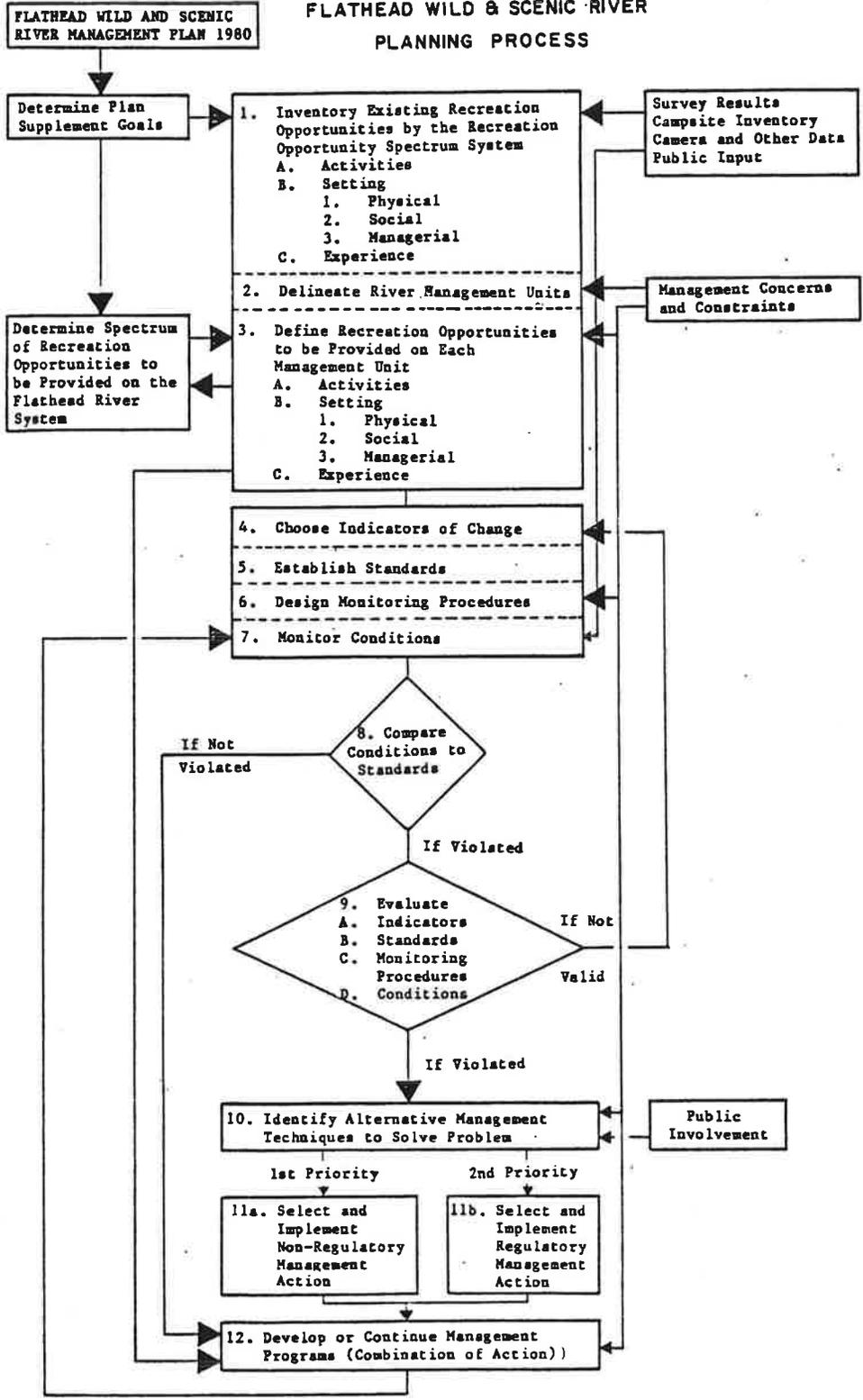


Figure A-1 - Flow chart showing the planning process used to develop the amendment to Management Area 18 - Flathead Forest Plan.

The second box on the right side of the flow chart refers to concerns that managers have and constraints that limit manager's actions. These concerns and constraints affect several steps of the planning process, as shown by the arrows in the flow chart.

The third box, public involvement, represents the major steps in the process where public comments are sought and incorporated into the plan. However, the managing agencies welcome public comment on any part of the process.

Each of the 12 steps of the planning process is described briefly below.

Step 1 - Inventory Existing Recreation Opportunities by the Recreation Opportunity Spectrum (ROS) System

An inventory of the existing situation was compiled in terms of the recreation activity, setting (physical, social, managerial), and experience opportunities (trip patterns, experiences desires by floaters) as explained in the previous discussion of the Recreation Opportunity Spectrum. The data collected for the inventory step is displayed in subsequent chapters for each river management unit.

Step 2 - Delineate River Management Units

This step involved dividing the three forks of the Flathead River into homogeneous units for management purposes. The final units did not necessarily follow officially designated boundaries between Wild, Scenic, and Recreational River segments.

Steps 1 and 2 were done simultaneously because they are interrelated. Management concerns and constraints as well as the inventory were considered in delineating management units.

Step 3 - Define Recreation Opportunities to be Provided on Each Management Unit

This step involved defining very specific recreation opportunity objectives for which a particular management unit would be managed over time. The objectives were based on the inventory of recreation opportunities as well as on management concerns and constraints.

Step 4 - Choose Indicators of Change

For each river management unit, managers selected several indicators which would be monitored over time to provide feedback on whether the desired recreation opportunities were being provided. Not all objectives written under Step 3 have indicators, but indicators of both social and physical conditions were selected for each river management unit. If there is a need for more indicators in the future, additional ones can be selected. Of course, if some are found to be unnecessary, they may be deleted.

Step 5 - Establish Standards

A standard was established for each indicator to describe the amount of change that would be acceptable. This process may be better understood by comparing it to establishing standards for auto emissions. An indicator for auto pollution might be the amount of particulate matter released. A standard for that indicator would be the specific number of parts per million that would be allowed. Similarly, an indicator for a river management unit might be the number of other parties one would expect to encounter while floating. A standard for that indicator might be the probability of seeing no more than 2 other parties on the river.

The standard is the upper limit of each indicator rather than a desired goal. Management actions should attempt to keep the indicator well below the standard if possible. In selecting indicators and establishing standards, river managers must consider available information, the objectives for that management unit, and their own professional judgment. There are no simple "cookbook" approaches for accomplishing these two steps in the process.

Step 6 - Design Monitoring Procedures

Procedures for monitoring the indicators selected above were designed with management limitations, such as budget, work force, scheduling, and distance, in mind. The monitoring system is meant to inform managers and users of river conditions and to indicate whether or not the objectives for which an area is being managed are being achieved. The monitoring procedures can be re-evaluated and intensified if it is deemed necessary.

Step 7 - Monitor Conditions

This step involves actually monitoring the conditions in the field by collecting information on all indicators for each management unit according to the monitoring procedures designed as part of Step 7.

Step 8 - Compare Conditions

In this step existing conditions are compared to the standards following each float season. Three general situations may exist. Existing conditions in the area may be substantially better than allowed for in the standards. Conditions may be substantially worse than standards. Or, conditions may be close to standards. If this latter alternative is the case, it will be necessary to look at trends in condition. If conditions are close to standards and are stable or improving, the situation can be treated as if conditions were better than standards, although careful monitoring will be necessary. If conditions are close to standards and are deteriorating, then the situation should be treated as if conditions were worse than standards.

If standards are not violated, river managers will continue with the current management program (i.e., go to Step 12 on the flow chart). If standards are violated or are close to being violated and the trend shows that conditions are deteriorating, river managers proceed to Step 9.

Step 9 - Evaluate Indicators, Standards, Monitoring Procedures, and Conditions

In this step indicators, standards, monitoring procedures, and conditions are evaluated against the recreation opportunity that is being managed for. This evaluation is an important feedback mechanism to allow future flexibility in the process as managers gain experience and acquire better information, as new issues or concerns arise, or as new tools and technologies become available. As these changes occur, indicators can be added or deleted, standards can be changed, and monitoring procedures can be modified to assure the desired quality of the Wild and Scenic River resource and its uses are maintained.

If indicators, standards or monitoring procedures are found to be invalid, river managers return to Step 4 of the planning process and make the necessary revisions. If all indicators, standards, and monitoring procedures are judged to be valid, managers proceed to Step 10.

Step 10 - Identify Alternative Management Techniques to Solve Problem

All management techniques which will solve the problem will be identified so that one or a combination of several can be selected.

Step 11 - Select and Implement Non-Regulatory or Regulatory Management Action

The first priority for selection and implementation of a management technique will be a non-regulatory action. Non-regulatory or indirect techniques modify or influence users' behavior, but still allow the user to retain freedom of choice. Examples include providing information to visitors and modifying access.

Selection and implementation of regulatory management technique is the second priority. Regulatory or direct management emphasizes regulation of behavior and thus restricts the user's freedom of choice. Examples include rationing of use, prohibiting camping or fires in particular areas, requiring permits for floating, and limiting party size.

Step 12 - Develop Management Program (Combination of Management Actions)

Individual actions taken to manage the river system combine to form a comprehensive river management program. Management actions can come from various sources. If standards are violated, actions come directly from Step 11. If no standards are violated, the management program consists of those on-going actions already in effect. Other actions can be derived from Management Concerns and Constraints or from the Recreation Opportunity Objectives developed in Step 3, as shown by the arrows on the flow chart in Figure A-1.

Summary

This planning process was designed to be flexible enough to respond to internal changes in Wild and Scenic River conditions without the need for significant revisions. The process emphasizes explicit statements of objectives and establishes a monitoring program to ensure that the objectives are achieved. Although it does not focus attention on limiting use to an estimated "carrying capacity," it can, where necessary, provide an estimate of the maximum level of use.

An underlying premise of the LAC Process is that by adjusting habits, greater numbers of recreationists can be accommodated with less impact on each other and on the resource. Managers are left with several possible responses to overuse problems, rather than resorting to restricting numbers of users. They can encourage users to alter their behavior (e.g., by using no-trace camping techniques or self-regulating launch times) or they can modify the type of recreation opportunity they are providing to counter overuse problems.

The planning process is a systematic procedure in which assumptions and decisions are explicit and documented. The managers' judgements are visible and trackable for public review. If disagreements arise over an action proposed or taken, it should be possible to identify specific steps in the process where differences over assumptions, definitions, and so forth, occurred. This is particularly important where turnover in personnel leads to confusion about what has been done before and why it was done. Working through this process should substantially improve river management on the Flathead River System and protect unique qualities of specific management units.

APPENDIX B

RECREATION USER EXPERIENCE QUALITY INDEX

A primary goal of managers is to provide high quality recreation experiences. To determine if this goal is being reached, managers need a method for measuring the quality of a recreation experience. Managers and researchers have developed a scale for the Flathead River system. This scale provides a meaningful measure of the quality level floaters and non-floaters associate with their recreational experiences.

How experiences will be measured:

(1) Floaters would be approached at take out points, shore users in camp or along the shoreline. Individuals would be presented with three statements (below). Users would then be asked to rate their agreement with each of these statements on a 7 point scale.

My experience was so good I would like to do it again.

My experience was better than any other I remember.

My experience was better than any other outdoor recreational experience I remember.

Very
Strongly
Disagree

Strongly
Disagree

Disagree

Neither
Agree Nor
Disagree

Agree

Strongly
Agree

Very
Strongly
Agree

XXX

XXX

XXX

(2) By using a statistical technique known as Guttman Scaling Analysis, each user would then be assigned to a "quality level" based on how they responded to each statement. The four quality levels are shown below.

- (1) Would not take trip again
- (2) Would take trip again
- (3) Would take trip again
Better than any other river trip
- (4) Would take trip again
Better than any other river trip
Better than any other outdoor recreation experience

An example of a users response is given above. Such a response would categorize this user under quality level 2, "would take trip again." If they disagreed with all three statements, they would naturally be categorized under quality level 1. If they agreed with all three statements they would be categorized under quality level 4. The number of floaters rating their trip in each of these four quality levels is shown in the inventory of the existing situation for each of the seven management units of the Flathead River System. The Experience Quality Index is also used as an indicator on all of the seven management units.

APPENDIX C

CAMPSITE IMPACT RATING

All campsites along the three forks of the Flathead River were inventoried using the Impact Rating Form shown in Figure C-1. To obtain a measure of the amount of impact at each campsite, visual observations of nine types of impact were made and recorded on the back side of the form. Use of the form is explained by McLaughlin (3) and Cole (26). Ratings for each of the nine impact parameters ranged from 1 (low impact) to 3 (high impact).

An impact index was calculated by multiplying the rating on each parameter by a weighting factor. The weighting system used was the one suggested by Cole (26). Weights were as follows:

<u>Parameter</u>	<u>Weight</u>
Vegetation Loss	2
Bare Soil Increase	3
Tree Damage	2
Root Exposure	3
Development	1
Cleanliness	1
Camp Area	4
Barren Core Camp Area	2
Social Trails	2

The justification for this weighting is:

"(1) Development and cleanliness are least important because they are superficial changes that can easily be remedied;

"(2) Camp area is most important because it provides a measure of how large an area has been impacted;

"(3) Bare soil increase and root exposure are particularly important indicators of intensity of impact because they become pronounced only on the most heavily used and highly altered campsites" (Cole 1984).

The resulting impact index could range from 20 (for the least impact) to 60 (for the most impact). This range was divided into four Impact Classes. Sites with an index between 20 and 29 were in Impact Class 1, indicating low impact. Sites with an index between 30 and 39 were in Impact Class 2, moderate. Sites between 40 and 49 were in Impact Class 3, high. And sites between 50 and 60 were in Impact Class 4, extreme.

The number of sites in each of the Impact Classes is shown in the inventory of the existing situation for each of the seven management units of the Flathead River System. The numerical ratings also are used to express acceptable standards for campsite conditions on five of the seven management units.

APPENDIX D

POTENTIAL RATIONING TECHNIQUES

This ammendment states that if resource and use conditions on a management unit of the Flathead River deteriorate to a point where a limited permit system is necessary to ration use, a freedom of choice allocation system will be implemented. Under this system all users would be treated the same and would have to compete equally for the limited number of floating permits. Those individuals receiving permits would then have to decide whether to use the services of an outfitter or to float the river on their own as a nonoutfitted user.

The freedom of choice allocation system deals only with allocating use between outfitted and nonoutfitted user groups. A concern has been raised among all users about the type of rationing techniques that may be implemented with this type of allocation system. In other words, users want to know what type of technique they will have to use to obtain one of the limited number of floating permits.

Managers have decided to adopt the freedom of choice allocation system at this time so that all users will be fully aware of the type of allocation system that will be used when it becomes necessary to limit use. They feel, however, that no pressing issues would be resolved by selecting rationing techniques at this time. Deferring that decision until use is actually limited will allow maximum flexibility to design rationing techniques that fit the existing conditions.

Rationing techniques must be adjusted to the needs of all river users if a limited permit system and freedom of choice allocation is ever needed. The rationing techniques must take into consideration planning time frames, type of use, visitor residence and many other factors. It is evident from the variation available on the Flathead River System that rationing techniques would have to be tailored for each river management unit.

In order to demonstrate some possible techniques of rationing use on the Flathead River System, one possible combination is shown below. It DOES NOT represent a preferred method of rationing. It is provided only to give users an idea of how rationing COULD be implemented if it is required in the future.

North Fork (Both Management Units)

- Permits issued by party (1/party)
- Permits on a first come/first served basis
- 20% of permits available 7 days in advance of the float at Glacier View Ranger Station
- 80% of permits available on the day of the float at Glacier View Ranger Station (60%), and Polebridge (20%)

Lower Middle Fork

- Permits issued to the individual
- Permits on a first come/first served basis
- 20% of permits available 7 days in advance of float at Hungry Horse Ranger Station
- 80% of permits available on the day of the float at Hungry Horse Ranger Station, West Glacier and Essex.

Upper Middle Fork

- Permits issued by party (1/party)
- Permits on a lottery basis
- 50% of permits issued between 1/1 -2/15
- 50% of permits issued no later than 5/1

Upper South Fork

- Permits issued by party (1/party)
- Permits on a lottery basis
- 75% of permits issued between 1/1-2/15
- 25% of permits issued before 5/1

Central & Lower South Fork

- Permits issued by the party (1/party)
- Permits on a first come/first served basis
- 20% of permits issued at Spotted Bear Ranger Station 7 days in advance of float.
- 80% of permits issued at Spotted Bear Ranger Station on the day of the float.
- Permits may be issued by phone or in person

General

Outfitters who book a client with a party permit may fill out the trip up to the maximum party size allowed in the River Management Plan.