



River Access Study

Final Report



Evaluation Framework

Problem Identification

Buffalo National River River Access Study

Final Report

Final Recommendations

Newsletters

October 2002

TECHNICAL INFORMATION CENTER
DENVER SERVICE CENTER
NATIONAL PARK SERVICE

Evaluation Framework

Technical Memorandum

Buffalo National River

River Access Study

August 2002

Evaluation Framework Technical Memorandum
Buffalo National River
River Access Study

Prepared For:

National Park Service
U.S. Department of the Interior

Buffalo National River
402 N. Walnut, Suite 136
Harrison, Arkansas 72601

Prepared By:

Nathan R. Conable
Proud Partner Transportation Scholar

August 2000



TABLE OF CONTENTS

1.0 INTRODUCTION	1-1
2.0 RIVER USE MANAGEMENT POLICY.....	2-1
2.1 EXISTING PLANS	2-1
2.11 <i>Master Plan, Buffalo National River (1977)</i>	2-1
2.12 <i>Buffalo National River, River Use Management Plan (1983)</i>	2-1
2.13 <i>Buffalo National River, Wilderness and Backcountry Plan (1994)</i>	2-2
2.2 PROUD PARTNER TRANSPORTATION SCHOLAR PROGRAM	2-2
2.3 POLICY ANALYSIS.....	2-3
3.0 STUDY GOALS AND OBJECTIVES	3-1
3.1 OBJECTIVES	3-1
4.0 NEXT STEPS.....	4-1

TABLE OF FIGURES

FIGURE 1-1. STUDY AREA.....	1-2
FIGURE 3-1. GOALS AND OBJECTIVES.....	3-2



1.0 Introduction

The purpose of the Buffalo National River *River Access Study* is to recommend a program to improve the operations of boat accesses throughout the park and minimize the impact on park resources from these activities. The study area includes all developed access points within the Park used by boat concessioners and private canoeists for float trips excluding those in the Lower Buffalo Wilderness Area and Boxley Bridge near the Upper Buffalo Wilderness Area. Figure 1 on the next page shows the study area.

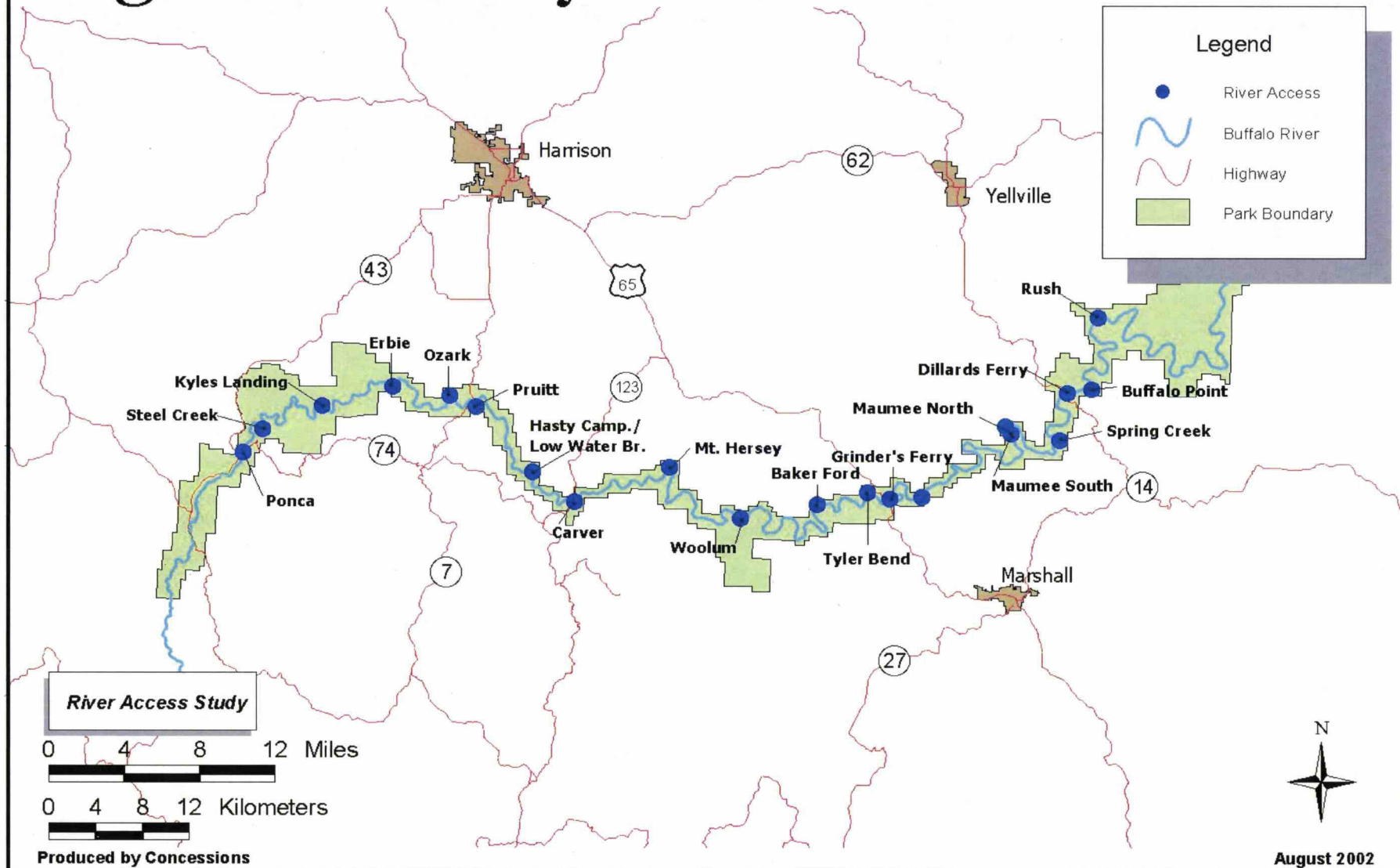
This document establishes the framework (including goals, objectives and criteria) that will be used to evaluate alternative improvement programs. In doing so it builds upon existing river use management policies and the park mission as expressed in previous planning documents and legislation.

This document, along with the *Problem Identification Technical Memorandum* of August 2002 which identifies the existing operational issues at the accesses based on input from park staff, boat concession owners and field observations, will serve as a starting point for evaluations. Several alternative programs to improve operations will be developed and evaluated to determine potential benefits and impacts. Finally, an implementation plan and final recommendation will be presented.

The study is funded by the National Park Foundation through the Proud Partner Transportation Scholar program sponsored by the Ford Motor Company.



Figure 1-1. Study Area





2.0 River Use Management Policy

The study goals and objectives build upon the river use management policies established by park management through previous plans, the overall intent for the river, and the objective of the Proud Partner Transportation Scholar Program. The information presented in this section initiates the selection of goals and objectives that will be finalized in Section 3 of this document.

2.1 Existing Plans

Three plans document the primary river use management policies relevant to establishing goals and objectives for this effort. The Master Plan describes an overall vision for establishing the park including development and management of access points. More detailed guidance on management of the boating activities is presented in the River Use Management Plan. Finally, the Wilderness and Backcountry Plan establishes a vision for maintaining the undeveloped areas of the park in a natural state.

2.11 Master Plan, Buffalo National River (1977)

The plan established a vision for the park including a land classification system, circulation patterns, visitor use, and a general development concept. It also established a series of river use management goals or policies that are important to consider in the development of goals and objectives for this study. The most relevant policies are shown below:

- Buffalo National River is categorized as a National Park Service "recreation area."
- Within the river region, support and encouragement will be given to private businesses serving visitor needs. Private development outside the national river will be given priority over establishment of concessioner operations within the boundaries.
- The river will be managed to preserve the natural river scene and maintain a free-flowing, non-polluted river, while providing significant recreational opportunities.
- The area will be managed for perpetuation of the resources, while providing recreation for visitors in such a manner that the impact on the environment will be minimized.

2.12 Buffalo National River, River Use Management Plan (1983)

By 1983, the level of visitor activity on the river had risen to the point that, as the plan pointed out: "Congestion at some river access points and campgrounds has created conflicts between river users, lessened the quality of the experience for some, and at times damaged the resource." The focus of the plan was on managing boating activity on the river, particularly canoeing, to maintain a quality recreational experience and minimize environmental impacts in line with the following management goals:

- Manage the river to maintain a free-flowing, non-polluted stream, to preserve the natural and pastoral river scene, and to minimize environmental impacts caused by development and visitor use.
- Make available a range of high quality recreation experiences compatible with river resources.



To implement this concept the plan established daily limits on the number of canoeists on each segment of the river to provide a variety of floating experiences ranging from "near wilderness" to a "park setting with developed facilities." To maintain these limits the plan mandated that boating would be managed through five tools:

1. Information for the public
2. Development of launch areas in accordance with management goals
3. Enforcement of regulations
4. Monitoring of environmental impacts and visitor experiences
5. Allocation of a limited number of concession boating permits by district.

In addition specific strategies for limiting boating use, if "it is determined that current use of a river section is adversely affecting the environment or the quality of the recreational experience..." were also established. The strategies are:

1. Require concessioners to distribute their put-ins to more than one location.
2. Require concessioners to stagger put-in times at certain locations.
3. Require a permit system for private floaters.

The plan also established the policy that roads going to a river access would not be paved so as to maintain the rural character of the river.

2.13 Buffalo National River, Wilderness and Backcountry Plan (1994)

The plan established the goals and objectives for managing the designated wilderness areas and backcountry lands within the park. It noted that negative impacts on visitor experience occurred due to congestion at access points and crowding on the river, however, it did not provide new or additional solutions or policy guidance on these issues.

2.2 Proud Partner Transportation Scholar Program

Goals and objectives developed for the study must also conform to the goal of the Proud Partner Transportation Scholar Program, the funding source for the initiative. The goal of the program is to support and promote sustainable transportation solutions that help preserve park resources and enhance visitors' experience. To achieve these goals the program places transportation planners in parks for a limited time period. The planner works with local staff to address transportation issues that are negatively impacting the park and/or visitors.

The program came to being out of the realization that in some instances traditional methods of providing access to park resources and facilities were damaging the resources and negatively impacting the visitor experience. A classic example of this is Yosemite National Park, where the majority of visitors have traditionally accessed the park via personal automobile. During peak times, visitors were spending hours in traffic congestion while trying to tour the valley floor and overflow parking activity was damaging fragile meadow ecosystems. In response to this a new transportation system is being implemented that includes bus shuttle from satellite parking area and limits on the numbers of vehicles entering the valley during peak use periods.



2.3 Policy Analysis

The policy affirmed that it is the intent of park management to both protect and enhance the quality of the recreational experience while minimizing impacts to the natural river setting and that the objective of the Transportation Scholar is consistent with this policy direction. In practice, this means that alternatives that improve the visitor experience at the river accesses without significantly impacting the quality of the natural river setting will be given priority over alternatives that damage the resource. However, it is important to note that some impacts may be deemed acceptable if they are necessary to improve the recreational experience.



3.0 Study Goals and Objectives

The following goals and objectives will guide the study based on interpretation of management policies:

Goal 1: Enhance and protect quality of visitor experience at river accesses

Goal 2: Minimize impacts on park resources from river access development and use

Goal 3: Maintain and improve safety at river accesses

Goal 1 establishes the importance of improving the visitor experience within the evaluation framework. It is important to note that enhancement of the visitor experience must be considered from a broad perspective taking into account potential consequences of improvements at the access on other aspects of the river experience. For example, while a capacity increase at the access point may improve the loading and launching portion of a float trip it may also increase the number of canoeists using the river segment, potentially degrading the experience for those who enjoy solitude on the river.

Goal 2 relates to the need to preserve the river in its natural and wild state. Most visitors enjoy the park because of its spectacular beauty and unspoiled nature. If improvements aimed at enhancing the visitor experience might simultaneously impact natural resources, careful consideration must be given to whether the improvement is worthwhile. Additionally, the park operates with limited funding to maintain facilities, so the costs of maintenance arising from improvements must also be minimized.

Goal 3 establishes the importance of providing a safe experience for visitors while using the accesses. This is particularly important on the roadways connecting to the access points, where in some instances, the combination of wet surface condition, extreme grades and sharp curves is a safety concern.

3.1 Objectives

Objectives are presented in this section to shape the evaluation of alternatives. Figure 3-1 on the next page shows the objectives developed to for each goal.



Figure 3-1. Goals and Objectives

Goal	Objectives
1. Enhance and protect quality of visitor experience at river accesses	• Increase efficiency of boat concessions operations • Reduce congestion in loading and launching areas • Balance parking supply and demand
2. Minimize impacts on park resources from river access development and use	• Minimize development of natural resources to provide access • Maintain or reduce maintenance costs for facilities
3. Maintain and improve safety at river accesses	• Reduce potential conflicts between vehicles and pedestrians • Reduce the exposure of visitors to roads with safety concerns



4.0 Next Steps

This document and its companion document, *Problem Identification Technical Memorandum* dated September 2002, complete the initial efforts of the study, setting the stage for the development and evaluation of alternatives. Stakeholder input will be a key element in generating a universe of alternatives unbounded by constraints as a starting point. Then, a qualitative analysis will be applied to remove alternatives with a fatal flaw and narrow the set of alternatives to no more than three for more detailed analysis. Finally, performance measures will be used to compare the benefits and impacts of alternatives resulting in a final recommendation.

Problem Identification

Technical Memorandum

Buffalo National River

River Access Study

September 2002

Problem Definition Technical Memorandum
Buffalo National River
River Access Study

Prepared For:

National Park Service
U.S. Department of the Interior

Buffalo National River
402 N. Walnut, Suite 136
Harrison, Arkansas 72601

Prepared By:

Nathan R. Conable
Proud Partner Transportation Scholar

September 2002



TABLE OF CONTENTS

1.0	INTRODUCTION.....	1-1
2.0	METHODOLOGY	2-1
3.0	SUMMARY OF INPUT FROM STAKEHOLDERS	3-1
3.1	UPPER DISTRICT.....	3-1
3.2	MIDDLE DISTRICT	3-2
3.3	LOWER DISTRICT	3-3
4.0	OBSERVATIONS FROM INDEPENDENT SITE VISITS.....	4-1
5.0	SUMMARY OF CONCESSION RECEIPT ANALYSIS.....	5-1
5.1	UPPER DISTRICT.....	5-1
5.2	MIDDLE DISTRICT	5-3
5.3	LOWER DISTRICT	5-4
6.0	FINDINGS.....	6-1
6.1	OPERATIONAL AND SAFETY ISSUES.....	6-1
6.2	VISITOR IMPACTS.....	6-1
6.3	MOST CRITICAL ACCESS POINTS.....	6-2
7.0	NEXT STEPS	7-1

TABLE OF FIGURES

FIGURE 1-1. STUDY AREA.....	1-2
FIGURE 4-1. DAILY PEAKING PATTERNS.....	4-1
FIGURE 4-2. PARKING COUNTS.....	4-1
FIGURE 6-1. MOST CRITICAL ACCESS POINTS	6-3
FIGURE 6-2. MOST CRITICAL ACCESS LOCATION	6-4



1.0 Introduction

The purpose of the Buffalo National River *River Access Study* is to recommend a program to improve the operations of boat accesses throughout the park and minimize the impact on park resources from these activities. The study area includes all developed access points within the Park used by boat concessioners and private canoeists for float trips excluding those in the Lower Buffalo Wilderness Area and Boxley Bridge near the Upper Buffalo Wilderness Area.

Figure 1-1 on the next page shows the study area.

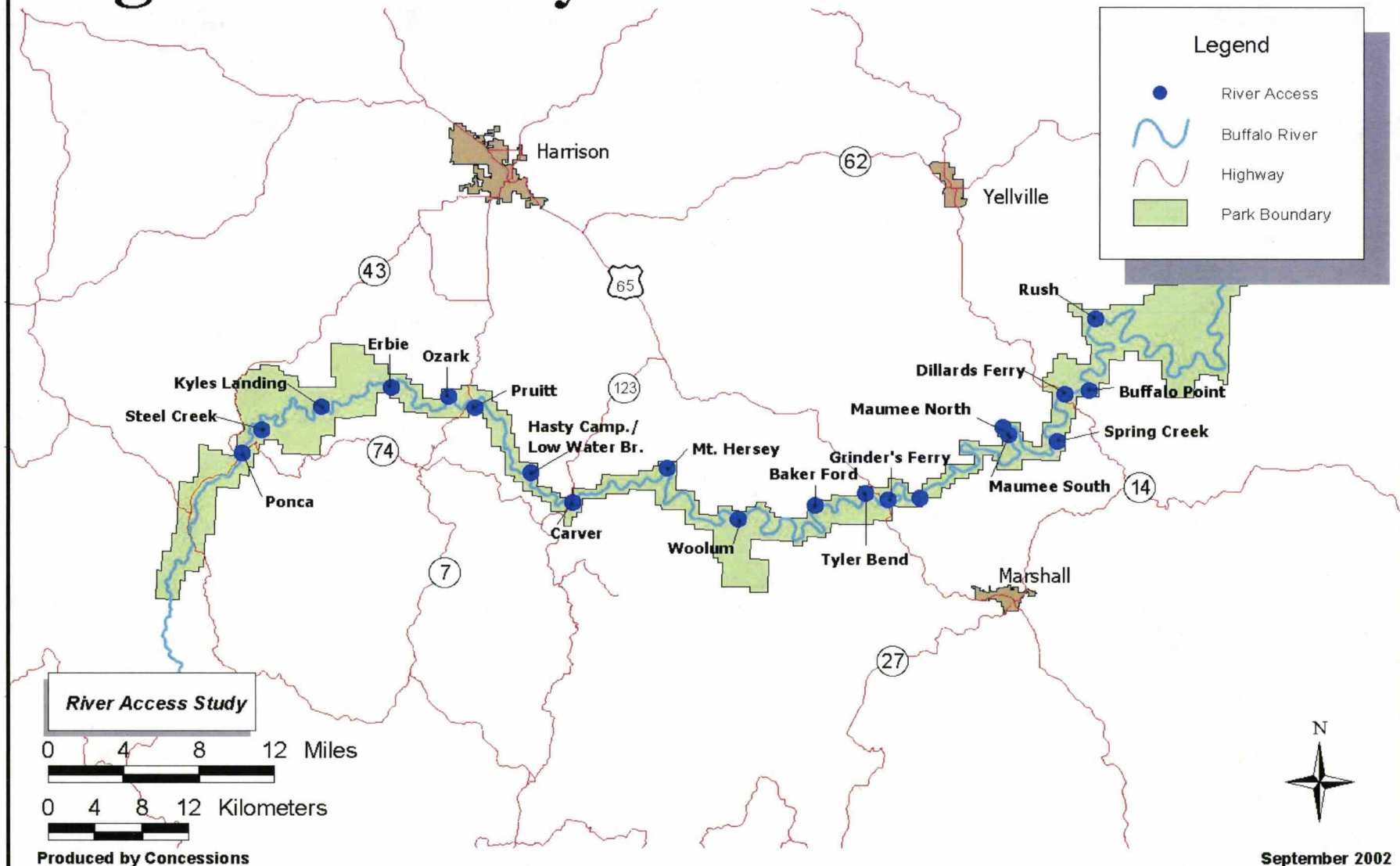
This document satisfies the initial study effort identifying the most critical access points based on operational / safety concerns and visitor use patterns identified through input from Park staff and boat concession operators, site visits during periods of peak use and analysis of canoe concession receipts.

Along with the *Evaluation Framework Technical Memorandum* of August 2002, which establishes the study goals based on existing river use management policies, these findings will serve as a starting point for development and evaluations of several alternative programs to improve operations. Finally, an implementation plan and final recommendation will be presented.

The study is funded by the National Park Foundation through the Proud Partner Transportation Scholar program sponsored by the Ford Motor Company.



Figure 1-1. Study Area



September 2002



2.0 Methodology

Operational and safety concerns to be addressed at each access were identified by conducting a series of interviews and site visits with park staff and boat concession owners operating along the river. Independent site visits were also conducted at the accesses identified through the interviews as concerns and a sample of boat concession receipts was analyzed.

Interviews and field visits were conducted with maintenance, interpretation and law enforcement park personnel in each of the three park districts between June 12 and June 27, 2002. These interviews were informal and focused on gathering input concerning general operational and maintenance issues within the districts, as well as access-specific problems. Interviews with the boat concession owners were conducted between July 8 and July 24, 2002. All owners operating within the study area were interviewed, excluding johnboat concessioners on the White River. Interviews took place at the concession business, lasted approximately one hour and included discussion of the study process featuring the opportunities for stakeholder involvement.

Site visits were conducted at river accesses identified by Park personnel and boat concession owners as having critical operational issues during periods of peak use. Most of the visits were conducted on Saturdays. At areas that serve mainly as put-in points for boat trips the visits occurred between 9:00 and 11:30 a.m. At areas that serve mainly as takeout points for boat trips, the visits occurred between 2:00 and 5:00 p.m. During the site visits operations during peak use periods were observed to corroborate input from Park staff and boat concessions owners relating to the nature and extent of problems. Observation included parking facilities, launch areas and loading zones, as well as roadways leading into the access points. Peak parking counts were also conducted at the accesses where parking overflowed existing facilities.

A sample of boat concession receipts was also analyzed. In the Lower and Middle districts a single weekend period consisting of the days Friday-Sunday was analyzed, while in the Upper District two weekend periods were analyzed to account for the significant shift in visitor use activity during the boating season. The dates chosen for the Lower District were June 21-23, 2002. For the Middle District the dates chosen were June 28-30, 2002. For the Upper District the dates of May 3-5 and June 21-23, 2002 were chosen.



3.0 Summary of Input from Stakeholders

The input received during the interview process covered a broad range of topics and access points including maintenance, safety and operational concerns, as well as history concerning the development of park facilities and trends in visitor use patterns. This information is summarized in this section focusing on the operational and safety issues that are the main thrust of this study. The summary is broken down by park district and access rather than by specific source so that the reader will be able to see common perceptions related to specific access points.

3.1 Upper District

Stakeholders were primarily concerned with issues at Ponca; Steel Creek; Kyles Landing; Erbie; Hasty Campground and Hasty Low Water Bridge.

3.1.1 Ponca

- The one-lane bridge and small size of the boat launch/loading area make operations in the area difficult.
- The entire access area is prone to flooding.
- There is a safety concern due to pedestrians and vehicles sharing the bridge.
- The bridge is a safety concern for boaters and swimmers, because of the low clearance under the structure.

3.1.2 Steel Creek

- The launch area is congested on the weekends by boat concession operations.

3.1.3 Kyles Landing

- There is significant congestion in the loading area.
- Parking overflows the designated facilities into every available open area.
- The road into the access is very difficult to drive, especially when the surface is wet, which is frequently the case during the peak visitor use season.

3.1.4 Erbie

- The road into the access is very tough on vehicles and trailers.
- The 7-mile distance that a visitor or concessioner must travel from the state highway to reach this point is a major barrier to significant use of the area.
- The launch is steep and slippery when wet.

3.1.5 Hasty Campground

- There is congestion in the loading area.
- Parking overflows out of the designated areas into the loading area.
- The camping activity overflows into the access facilities.
- The footpath between the loading area and the gravel bar is difficult to use.



3.16 Hasty Low Water Bridge

- The culverts in the bridge are a safety concern for boaters and swimmers, because it is possible to be sucked through the culverts.

3.16 General Concerns

- Blockage of access facilities by private vehicles and equipment that are either left parked or unattended for long periods of time in inappropriate places
- Private boaters are intimidated or confused by congestion and/or concession operations at the accesses.

3.2 Middle District

Stakeholders were primarily concerned with issues at Baker Ford, Tyler Bend and Gilbert.

3.2.1 Baker Ford

- The road in is potentially dangerous due to the steep grade and narrow width.
- The launch area is congested during peak periods.
- The loading area is congested during peak periods.
- The turn radius on the exit from the loading area is too small for large vehicles.

3.2.2 Tyler Bend

- The historic upper launch area has become unusable, because the gravel bar has eroded away.
- The loop road on the gravel bar at the lower launch is not functional as a high-capacity loading and unloading area due to lack of canoe storage and inability to park vehicles there.
- There is no good access for vehicles onto the gravel bar at the lower access because vehicles cannot easily cross the concrete curb on the loop road or the patch of imbedded large rocks near the trashcans.

3.2.3 Gilbert

- River rises often flood vehicles parked on the gravel bar.
- During high water it is difficult to operate in the area because all of the access facilities are submerged.
- There is a potential for accidents between vehicles and pedestrians on the circulation road.

3.2.4 General Concerns

- Blockage of access facilities by private vehicles and equipment that are either left parked or unattended for long periods of time in inappropriate places
- Private boaters are intimidated or confused by congestion and/or concession operations at the accesses.



3.3 Lower District

Stakeholders were primarily concerned with issues at Maumee North; Dillard's Ferry; Buffalo Point and Rush.

3.3.1 Maumee North

- Congestion in the launch area during peak periods of use.

3.3.2 Dillard's Ferry

- It is difficult to access the river's edge, because the gravel bar is not passable without 4-wheel drive.
- Parking is unorganized and overflows into undesignated facilities.
- There is a potential for accidents between vehicles and pedestrians on the circulation road.

3.3.3 Buffalo Point

- It is difficult to access the river's edge, because the gravel bar is not passable without 4-wheel drive.
- There isn't enough parking to satisfy the peak demand given current visitor use patterns.

3.3.4 Rush

- Congestion in the parking lot and overflow parking into undesignated areas.
- Launch gets congested during periods of peak use.
- The segment of the road in between the end of the pavement and Rush Village is a safety and operational concern due to the sharp curve and steep grade.
- The loading and launch areas become very slick after a flood, because the river deposits a lot of silt in this area.

3.3.5 General Concerns

- Blockage of access facilities by private vehicles and equipment that are either left parked or unattended for long periods of time in inappropriate places.
- Private boaters are intimidated or confused by congestion and/or concession operations at the accesses.
- None of the accesses provide handicap access.



4.0 Observations from Independent Site Visits

Generally, the observations from the site visits corroborate the input received from stakeholders as to the extent and nature of the access operational and safety issues and visitor use patterns. The following daily peaking patterns of boating visitor activity were observed at the accesses:

Figure 4-1. Daily Peaking Patterns		
Primary Visitor Use	Parking Peak	Loading/Launching Peak
Boating Put-in	11:00 - 1:00 p.m.	9:00 a.m. – 12:00 p.m.
Boating Takeout	1:00 - 3:00 p.m.	3:00 p.m. – 6:00 p.m.

In addition peak parking counts were taken at several of the sites visited where parking capacity was identified by stakeholders as an issue. The counts are shown below.

Figure 4-2. Parking Counts		
Access	Number of Vehicles Parked	Date and Time
Rush	16	07/05/02 – 4:00 p.m.
Buffalo Point	81	07/05/02 – 2:00 p.m.
Dillard's Ferry	244	06/22/02 – 1:00 p.m.
Spring Creek	27	07/05/02 – 12:00 p.m.
Gilbert	83*	07/06/02 – 3:00 p.m.
Hasty Campground	49	06/29/02 – 3:00 p.m.
Kyles Landing	140**	05/04/02 – 2:00 p.m.

* This includes vehicles parked on the gravel bar and in the Buffalo Camping and Canoeing private lots located adjacent to the access.

**Estimated based on pictures taken by Ranger Bob Howard

At Dillard's Ferry, Spring Creek, Hasty Campground and Kyles Landing the parking counts include campers' vehicles, because the campground and river access share the same parking area.



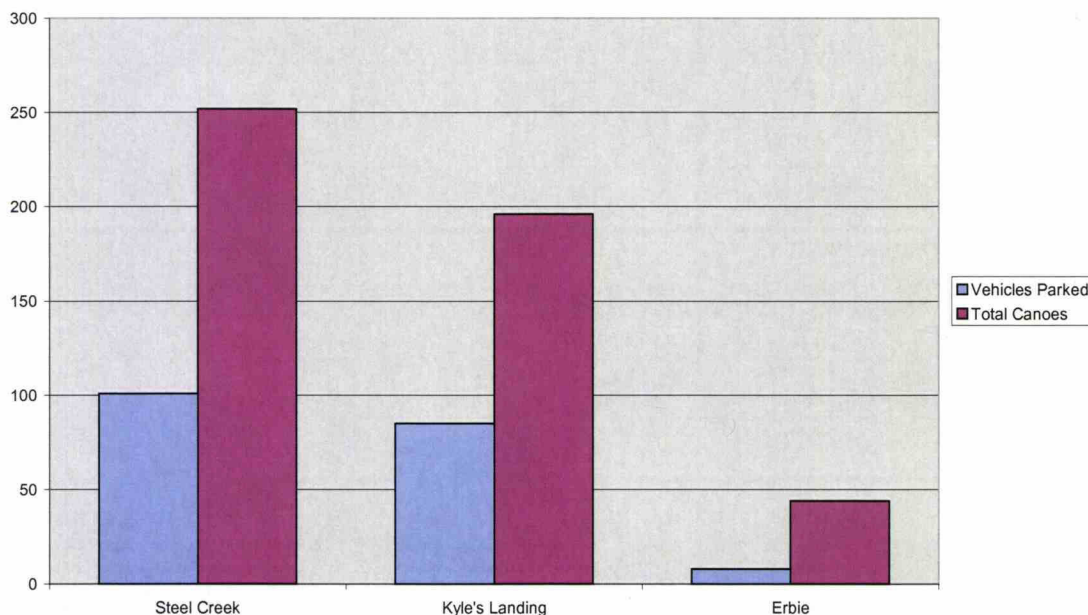
5.0 Summary of Concession Receipt Analysis

Analysis of boat concession receipts shows that customers use a limited number of access points to the river and that the heaviest use occurs at access points that are used for both launching/landing of boats and vehicle parking while on float trips. A series of charts has been developed to illustrate the level of concession activity at the most heavily used access points in each district.

5.1 Upper District

Two weekends worth of activity were analyzed for this district, because there is a distinct shift down river of visitor activity as water levels drop in the late spring of a typical year. Figure 5-1 shows the activity on a Saturday when water levels are high.

Figure 5-1
Most Heavily Used Accesses
Upper District - May 4, 2002

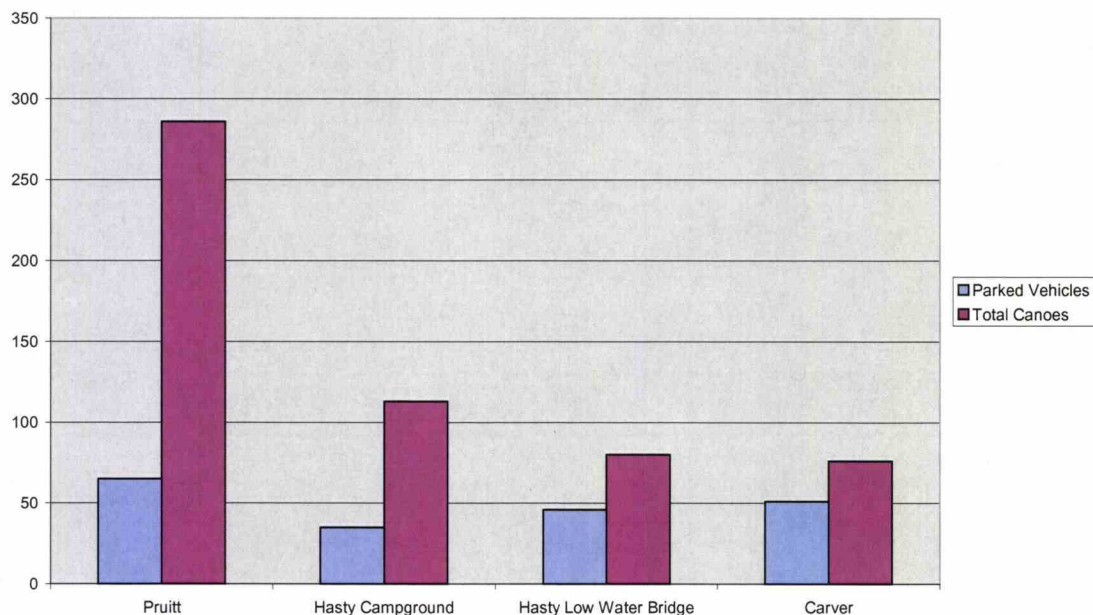


As the chart shows concession customer use is focused on three access points in the very upper portion of the district. It should be noted that no activity is shown at the Ponca Access, because concessioners are not allowed to operate there on Saturdays. However, on Fridays and Sundays concession customers heavily use this access.

Figure 5-2 shows the use in the district in the early summer when water levels have dropped below floatable levels in the upper area.



Figure 5-2
Most Heavily Used Accesses
Upper District - June 22, 2002



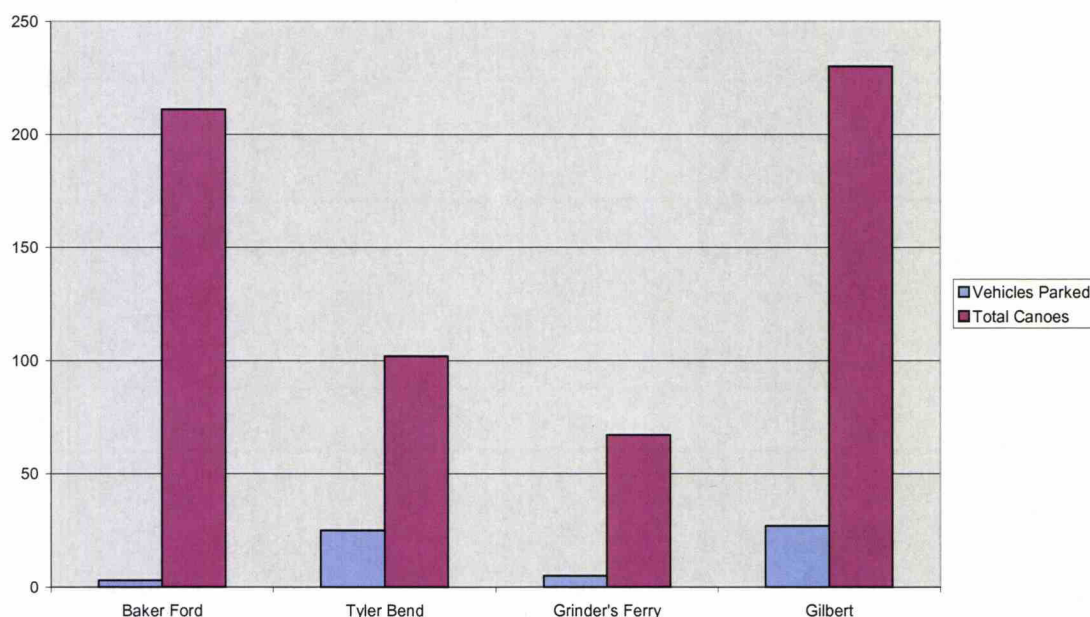
As the figure shows the heaviest use occurs at Pruitt, which functions as the primary put-in for float trips during this time of the year, while other accesses are generally used as takeouts points. It should also be noted that the Hasty Campground and Low Water Bridge access points are located within a $\frac{1}{4}$ mile of each other and could legitimately be considered as single access point within the context of this study.



5.2 Middle District

A single weekend of concession activity in late June was analyzed for this district to highlight the customer use patterns once the river has dried up below Woolum and concession put-in activity is focused on Baker Ford. Figure 5-3 shows the activity on a typical Saturday.

Figure 5-3
Most Heavily Used Accesses
Middle District - June 29, 2002



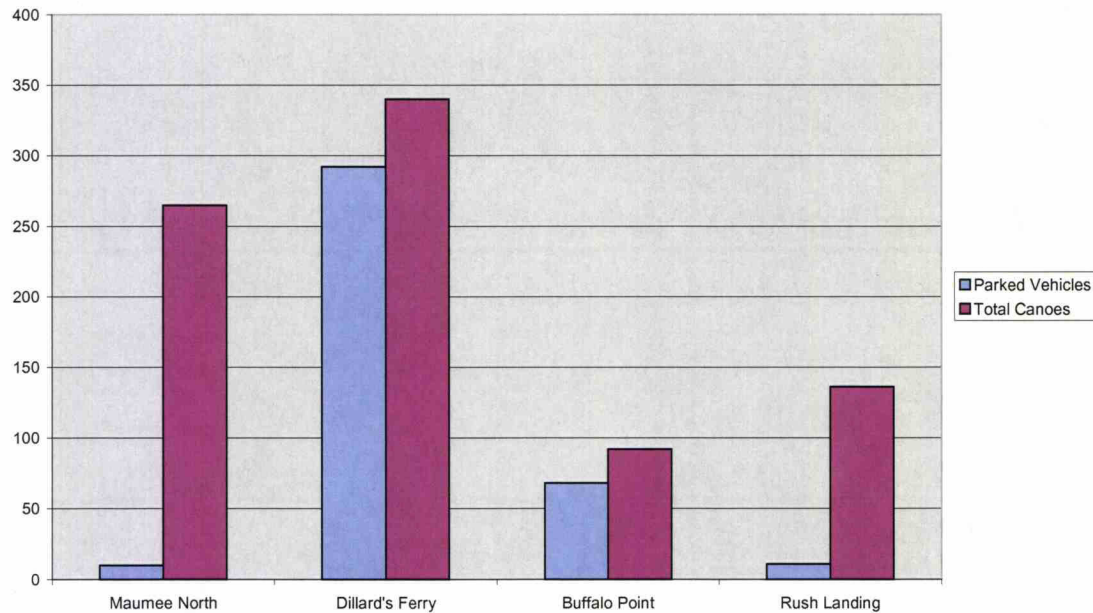
On this figure it is interesting to note that there are few vehicles parked relative to the level of canoe activity at the access points. This is due primarily to the fact that concessioners in this district park customer vehicles at their place of business on Saturdays during the peak season to avoid creating overflow parking issues at the accesses.



5.3 Lower District

A single weekend in mid June was counted in this district, because this is typically a peak time for floating activity. Figure 5.4 shows the results of the analysis.

Figure 5.4
Most Heavily Used Accesses
Lower District - June 22, 2002



The high number of vehicles parked at Dillard's Ferry is the most noteworthy aspect of this figure. This use pattern is due to the fact that concessioners in this district park the majority of their customer's vehicles at this access point on Saturdays.



6.0 Findings

Based on the information presented in the previous sections a set of *most critical* access points has been identified where operational and safety concerns significantly impact the quality of the visitor experience within the park. At these points during the peak boating season a high number of visitors are exposed to severe operational and/or potential safety issues including congestion, overflow parking into undesignated areas and improper use of access facilities. In addition to increasing delays for boaters attempting to access the river, these operational concerns also impact day users and campers, who are inconvenienced when congestion at the access facilities spillovers into adjacent camping and day use facilities.

6.1 Operational and Safety Issues

Operational and safety issues identified at the *most critical* river accesses ranged from severe congestion in loading areas to difficult driving conditions on roadways. These issues are briefly described below. At least one of these issues was found at each of the access points, although some of the accesses also had unique site specific issues.

6.1.1 Overflow Parking

This means that the designated parking area at the access is full and additional parked vehicles have overflowed into undesignated areas such as the roadway shoulder and loading zones.

6.1.2 Congestion in Loading and Launch Areas

When the normal activities at the access are being delayed because vehicles and/or pedestrians cannot move efficiently.

6.1.3 Difficult Driving Conditions

This refers to facilities where it is difficult for vehicles, especially heavier vehicles, to operate due to the roadway design and/or surface conditions. Difficulty in operating can include struggling to maintain traction on roadway segments with steep grades and passing on narrow roadway segments.

6.1.4 Mixing of Vehicle and Pedestrian Traffic

This means that pedestrians and vehicles are using the same parts of an access facility. This often occurs on the roadways connecting loading areas on the riverbank to gravel bar launch areas, because there are no footpaths for pedestrians.

6.1.5 Temporary Blocking of Loading Areas and Circulation Lanes

Improper use of access facilities is a common contributing factor to congestion and other operational difficulties. The most common type of improper use is exceeding the time limits for the loading zones including leaving vehicles and equipment unattended.

6.2 Visitor Impacts

The operational and safety concerns described above impact visitors negatively subjecting them to delay in accessing the river, as well as other inconveniences. It is important to note that the



impacts are not limited to boaters, but also affect other visitors including day users and campers who also use the access facilities. The major impacts identified include:

- Increases in loading and unloading times for boaters;
- Increases in launching times for boaters;
- Trapping of parked vehicles by other parked vehicles;
- Inability to find a parking space at the access;
- Time lost dealing with vehicles stuck in muddy areas or that have run off the road;
- Potential single vehicle accidents;
- Potential pedestrian – vehicle accidents; and
- Parked vehicles encroaching on campsites.

6.3 Most Critical Access Points

A set of 10 access points has been identified as of critical importance to the visitor experience based on the level of visitor use and severity of operational problems and/or safety concerns. Access points that had both a high-level of visitor use and relatively severe operational concerns were determined to be the *most critical* to the overall quality of the visitor experience in the park. Figure 6-1 on the next page lists these access points including the major operational and safety concerns, as well as visitor use patterns. Figure 6-2 on page 6-4 shows the location of the most critical access points.



Figure 6-1. Most Critical Access Points

Access	Peak Use Period	Canoe Activity (Put-ins+Takeouts)	Parked Vehicles	Operational and Safety Concerns					
				Congestion in Loading Area	Congestion in Launch Area	Overflow Parking	Blockage of Circulation Aisles/Roads	Difficult Driving Conditions	Mixing of Vehicle and Pedestrian Traffic
Buffalo Point	Midday	92	68*			X	X		
Dillard's Ferry	Midday	340	292	X	X	X	X		X
Spring Creek	Midday	37	1	X	X	X		X	
Maumee North	Morning	265	10	X					X
Baker Ford	Morning	211	3	X	X				
Hasty Low Water Bridge	Afternoon	80	46				X		X
Hasty Campground	Afternoon	113	35	X		X	X		
Kyle's Landing	Afternoon	196	85	X		X	X	X	
Steel Creek	Morning	252	101		X				
Ponca	Morning	58	34	X	X	X	X		X

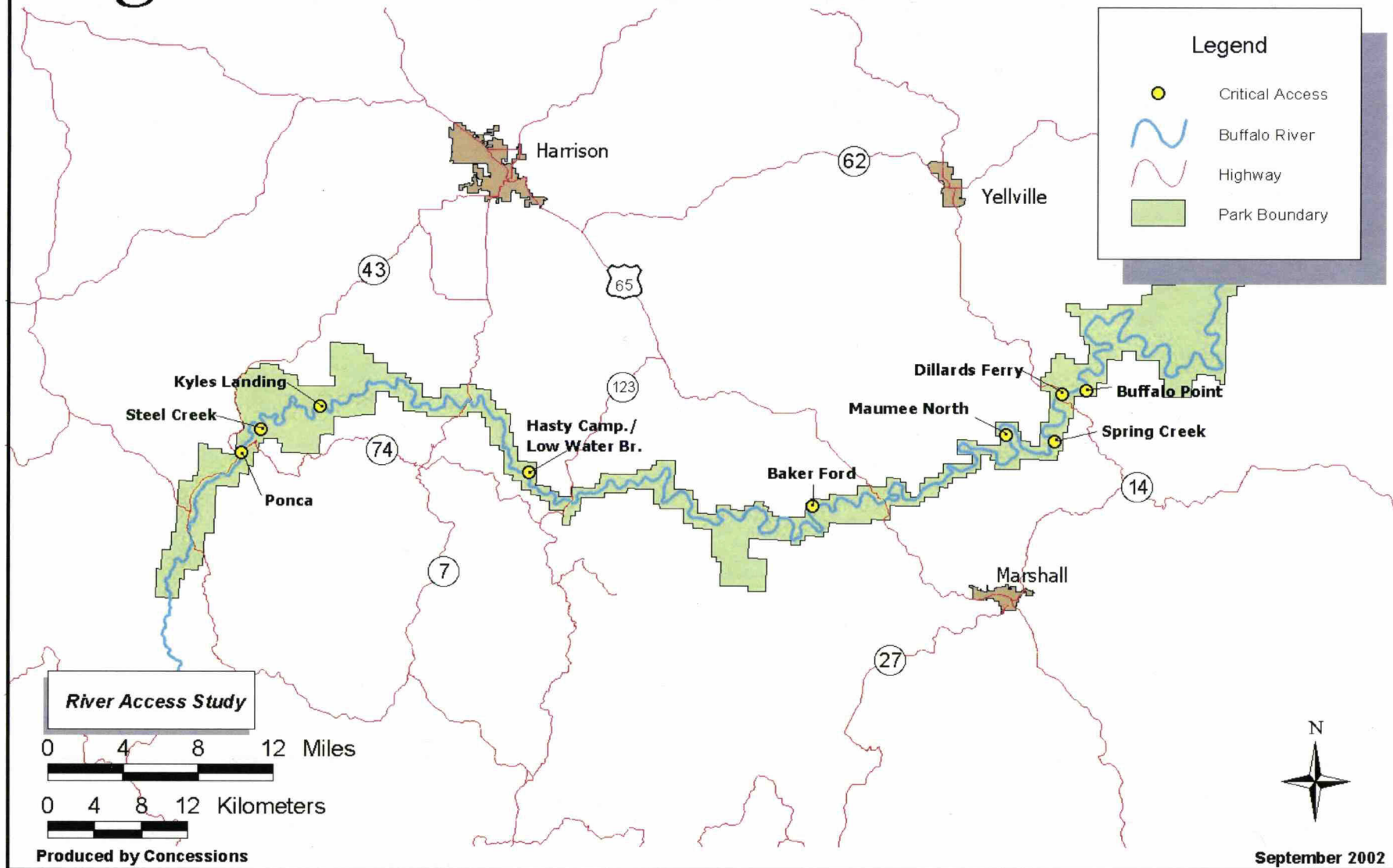
* A large number of these vehicles are parked at campsites rather than the access parking area, because many of those customers using this access are also camped at the adjacent camping facilities.

Spring Creek Access was included in the list even though it does not currently have high levels of visitor use, because it is probable that visitor use will increase next year when the Dillards Ferry overflow camping facility is permanently closed. Additionally, it should be noted that the use levels shown at Ponca are artificially low, because they are based on Friday concession receipts rather than Saturday, typically the highest use day. The reason for using the data from Friday is that currently concessioners are prohibited from using the access on Saturday morning.

The remaining access points in the study area were not found to have a combination of visitor use and operational concerns warranting further consideration at this time, except where proposed improvements at the *most critical* access points may result in significant changes in visitor use at these non-critical access areas.



Figure 6-2. Critical Accesses





7.0 Next Steps

This document and its companion document, *Evaluation Framework Technical Memorandum*, dated August 2002, complete the initial efforts of the study, setting the stage for the development and evaluation of alternatives. Stakeholder input will be a key element in generating a universe of alternatives unbounded by constraints as a starting point. Then, a qualitative analysis will be applied to remove alternatives with a fatal flaw and narrow the set of alternatives to no more than three for more detailed analysis. Finally, performance measures will be used to compare the benefits and impacts of alternatives resulting in a final recommendation.

Final Recommendations

Report

Buffalo National River

River Access Study

September 2002

Final Recommendations Report
Buffalo National River
River Access Study

Prepared For:

National Park Service
U.S. Department of the Interior

Buffalo National River
402 N. Walnut, Suite 136
Harrison, Arkansas 72601

Prepared By:

Nathan R. Conable
Proud Partner Transportation Scholar

September 2002



TABLE OF CONTENTS

1.0	INTRODUCTION.....	1-1
2.0	DEVELOPMENT OF RECOMMENDATIONS	2-1
3.0	RECOMMENDATIONS.....	3-1
3.1	UPPER DISTRICT.....	3-2
3.2	MIDDLE DISTRICT	3-17
3.3	LOWER DISTRICT	3-21
3.4	REFINEMENT OF RECOMMENDATIONS.....	3-29
3.5	IMPROVE VISITOR USE STATISTICS	3-30
3.6	VISITOR EDUCATION	3-31
4.0	IMPLEMENTATION PLAN.....	4-1
4.1	COSTS OF IMPROVEMENTS	4-1
4.2	PRIORITIES	4-2

APPENDIX A

TABLE OF FIGURES

FIGURE 1-1. STUDY AREA	1-2
FIGURE 3-1. BREAKDOWN OF VEHICLES PARKED AT KYLES LANDING, MAY 4TH 2002	3-3
FIGURE 3-2. PONCA RECOMMENDATION.....	3-4
FIGURE 3-3. PARKING IMPACTS TO PRIVATE CANOEISTS - PONCA.....	3-5
FIGURE 3-4. COMPARISON OF PUT-IN DISTRIBUTION	3-6
FIGURE 3-5. STEEL CREEK IMPROVEMENT ELEMENTS FOR BACKUP RECOMMENDATION.....	3-8
FIGURE 3-6. KYLES LANDING IMPROVEMENT ELEMENTS.....	3-9
FIGURE 3-7. PARKING IMPACTS TO PRIVATE CANOEISTS – KYLES LANDING.....	3-9
FIGURE 3-8. REDUCTION IN VEHICLE SHUTTLES – KYLES LANDING.....	3-10
FIGURE 3-9. ACTIVITY ASSOCIATED WITH CONCESSION TAKEOUTS AT HASTY LWB	3-12
FIGURE 3-10. HASTY CAMPGROUND IMPROVEMENT ELEMENTS.....	3-14
FIGURE 3-11. PARKING IMPACTS TO PRIVATE CANOEISTS - HASTY CAMPGROUND	3-15
FIGURE 3-12. REDUCTION IN VEHICLE SHUTTLES - HASTY CAMPGROUND.....	3-15
FIGURE 3-13. BAKER FORD IMPROVEMENT ELEMENTS	3-18
FIGURE 3-14. PROPOSED STAGGERED PUT-IN SCHEDULE - BAKER FORD	3-19
FIGURE 3-15. MORNING HOURLY PUT-INS, NORTH MAUMEE	3-21
FIGURE 3-16. CONCESSION CUSTOMER ACTIVITY AT DILLARDS FERRY.....	3-22
FIGURE 3-17. PROPOSED STAGGERED PUT-IN SCHEDULE - MAUMEE NORTH	3-23
FIGURE 3-18. FUTURE PEAK CAMPING ACTIVITY AT SPRING CREEK	3-24
FIGURE 3-19. FUTURE PARKING AND BOATING ACTIVITY AT SPRING CREEK.....	3-24
FIGURE 3-20. DILLARDS FERRY IMPROVEMENT ELEMENTS	3-25
FIGURE 3-21. PARKING IMPACTS TO CONCESSION CUSTOMERS - DILLARDS FERRY	3-26
FIGURE 3-22. PARKING IMPACTS TO CONCESSION BUSINESSES- DILLARDS FERRY	3-26
FIGURE 4-1. CAPITAL COST ESTIMATES	4-1
FIGURE 4-1. ANNUAL LABOR COST ESTIMATES	4-1
FIGURE 4-3. IMPLEMENTATION PRIORITY	4-2



1.0 Introduction

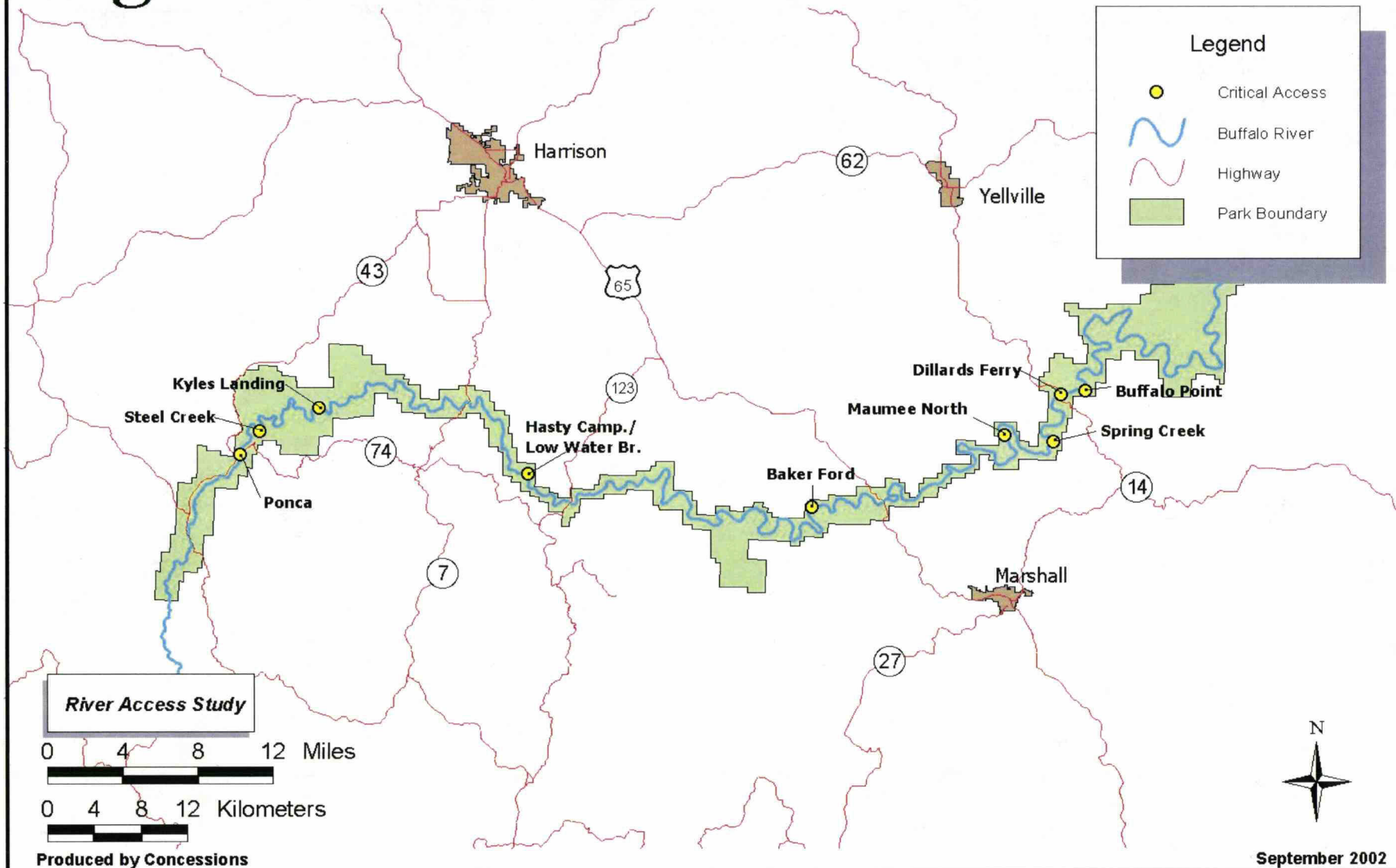
The purposes of the Buffalo National River *River Access Study* are to recommend a program to improve the operations of boat accesses throughout the park and minimize the impact on park resources from these activities. The original study area included all developed access points within the Park used by boat concessioners and private canoeists for float trips (excluding those in the Lower Buffalo Wilderness Area and Boxley Bridge near the Upper Buffalo Wilderness Area). During the course of the study, a set of 10 *most critical* access points was identified for more detailed analysis based on their level of visitor use, the severity of existing operational problems, and safety concerns. Figure 1-1 on the next page highlights the *most critical* access point locations.

This document presents the final recommendations for each of the *most critical* access points, includes an implementation plan, and summarizes the process used to generate potential improvements for consideration in the study. The recommendations are developed to a level of specificity appropriate to initiate funding requests and begin concept plans. However, additional refinement of the recommendations may also be pursued in the future based on further study and new findings concerning visitor use patterns and operations. Also, any implementation actions must comply with National Park Service regulations and policies covering the planning and execution of improvements including environmental clearances and financial feasibility analysis.

The study is funded by the National Park Foundation through the Proud Partner Transportation Scholar program sponsored by the Ford Motor Company.



Figure 1-1. Critical Accesses





2.0 Development of Recommendations

In reaching a set of final recommendations, several improvement strategies addressing the issues identified at each access were developed based on input received from stakeholders and park personnel. The first improvement ideas were generated by the participants of the Stakeholder Workshop held on August 22, 2002. Fifteen participants including representatives of boat concession owners, congressional staff and the Arkansas Highway and Transportation Department, attended the workshop. During the course of the workshop the participants brainstormed improvement alternatives for each of the most critical access points identified in the study.

Another brainstorming session was conducted with park personnel representing Resources Management; Law Enforcement; Maintenance and the Superintendent to develop additional alternatives that had not been discovered at the Stakeholder Workshop. As a starting point for discussion the alternatives developed at the Stakeholder Workshop were presented to the meeting participants.



3.0 Recommendations

In the final recommendation phase of the study, two or three strategies addressing existing operational and safety concerns were evaluated at each of the critical accesses to determine potential impacts to visitors, concession businesses and park resources. These strategies were designed to address the three study goals outlined below:

- Goal 1: Enhance and protect quality of visitor experience at river accesses.
- Goal 2: Minimize impacts on park resources from river access development and use.
- Goal 3: Maintain and improve safety at river accesses.

More information on these goals and background on relevant river use management policy documents may be found in *Evaluation Framework Technical Memorandum* dated August 2002.

The analysis of the final recommendations relied on boat concession operational and customer use data developed from a sample of approximately 900 receipts for services rendered, as well as information gathered at site visits. These data and the existing conditions at each of the access points are described in detail in *Problem Identification Technical Memo* dated September 2002. Where appropriate, a geographic information system (GIS) was also used to facilitate the analysis. In some instances, due to the lack of current statistical data on private visitor use patterns, the analysis also relied on anecdotal evidence to evaluate the recommendations.



3.1 Upper District

The recommendations in the Upper District focus on stricter management of the activity at the accesses on Saturdays during the peak-use season. In the western half of the district (Ponca – Erbie) the peak season is typically the months of April and May, while in the eastern half of the district (Erbie-Carver) the peak season is usually the month of June.

To enhance and protect the quality of visitor experience at river accesses, it is recommended that a parking management strategy combining physical upgrades to the facility, such as erecting additional barriers to define parking areas, and new deployment of staff be implemented. The idea behind this strategy is that limiting and managing parking supply at the accesses with operational issues would encourage visitors to use the facilities more efficiently and/or distribute their activities to other access points. The access facilities would be used more efficiently because, as parking reaches capacity, some visitors would respond by increasing the number of persons per vehicle in order to avoid bringing so many cars into the access. Other visitors would respond by parking outside of the park, probably at a concessioner's business, and using concession shuttle services to access the river. Finally, some visitors would shift operations to access points with fewer operational issues to avoid the costs or time requirements associated with using the crowded accesses.

This recommendation was chosen for the following reasons:

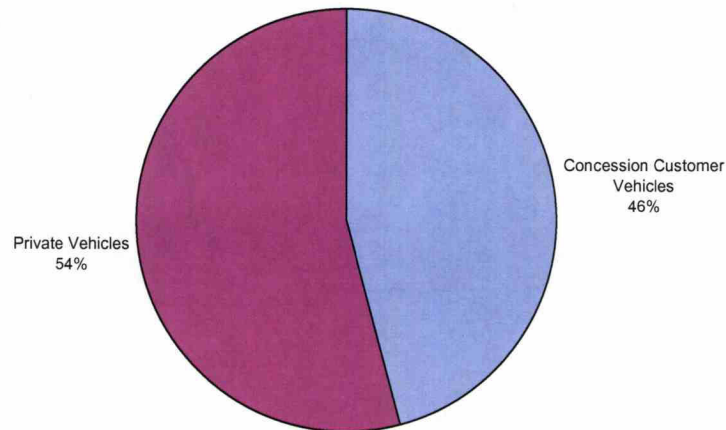
- It distributes burdens for improvements equitably among the user groups in this district of the river;
- It allows equal access to each user group rather than favoring one at the expense of another; and
- It provides a financial incentive to boat concessioners to encourage their support of implementation.

The data analyzed in this district show that the boating visitors using the accesses during peak periods are roughly half concession customers and half private canoeists. Figure 3-1 on the next page shows the number of parked vehicles associated with each visitor type on a peak Saturday.



Figure 3-1

Breakdown of Vehicles Parked at Kyles Landing May 4, 2002



Given that this is the best estimate available of the visitor mix, the recommendations attempt to target these groups equally in addressing problems. An analysis of the existing situation in the district also shows that concession customers have less access to the river on peak days than do private visitors, because of the prohibition of concession operations at Ponca, an area that historically has been the most popular put-in point for float trips. This prohibition has been effective and needed, because of the limited capacity at Ponca, however, it appears to have targeted the concession customer user group unfairly. These recommendations attempt to address this issue reasonably by lifting the prohibition on concession operations at Ponca, while simultaneously making capacity, design and staffing improvements to address the increased demands that would result. Finally, these recommendations are designed to provide an incentive to concessioners to help the park implement improvements. By restricting the amount of parking at the accesses, some private users would choose to work with concessioners to arrange transportation and parking when the access parking becomes full. This would provide increased income for concessioners and encourage them to provide parking outside the park.

Other recommendations considered in this district included developing a system of overflow parking lots connected to access points by van shuttles. Although this idea holds significant promise in the long term, implementation at this time is not recommended, because there is significant uncertainty about the financial feasibility of such a system and its potential impacts on concession and private operations due to the lack of detailed data on visitor use patterns for the river.



3.1.1 Ponca

It is recommended that the strategy outlined in the Figure 3-2 below be implemented at this access.

Figure 3-2. Ponca Recommendation	
Operations	New Development
<i>Concession</i> • Lift existing restriction on Saturday morning use pending removal of the bridge and movement of the launch area. • Limit of 2 trailers per concessioner in the access at one time Saturday from 9:00 a.m.- 12:00 p.m. during April and May. • Once parking areas have filled concessioner must park customer vehicles at place of business. <i>Private</i> • Once parking areas have filled privates must use another access or arrange parking and transportation services with a concessioner.	• Remove the historic bridge structure. • Relocate the loading and launch area upstream of the existing parking area.
Design Enhancements	New Staff
• Place permanent barriers along the roadway shoulder and around the tree island in the middle of the parking area to prevent parking out-of-bounds. • Divide parking area into concession customer and private user parking areas on Saturdays in April and May.	• Access is managed by an attendant employed by the Park Service from 8:00 a.m. – 1:00 p.m. on Saturdays in April and May.

It should be noted that the bridge removal and other improvements to the design of the access would be implemented prior to the lifting of restrictions on concession use and deployment of a parking attendant.

Impacts to private canoeists

Currently, private canoeists have exclusive use of this access on Saturday mornings. With this recommendation the number of parking spaces available to the private canoeist would be reduced from the current level, because canoe concession customers would be entitled to use half of the available parking capacity. Figure 3-3 on the next page shows the impacts on parking for private canoeists.

**Figure 3-3. Parking Impacts to Private Canoeists - Ponca**

Peak Parking Demand	Parking Available to Private Individuals with Recommendation	Vehicles Displaced
85 spaces*	35 spaces	50

*Includes use of undesignated parking areas including roadway shoulder.

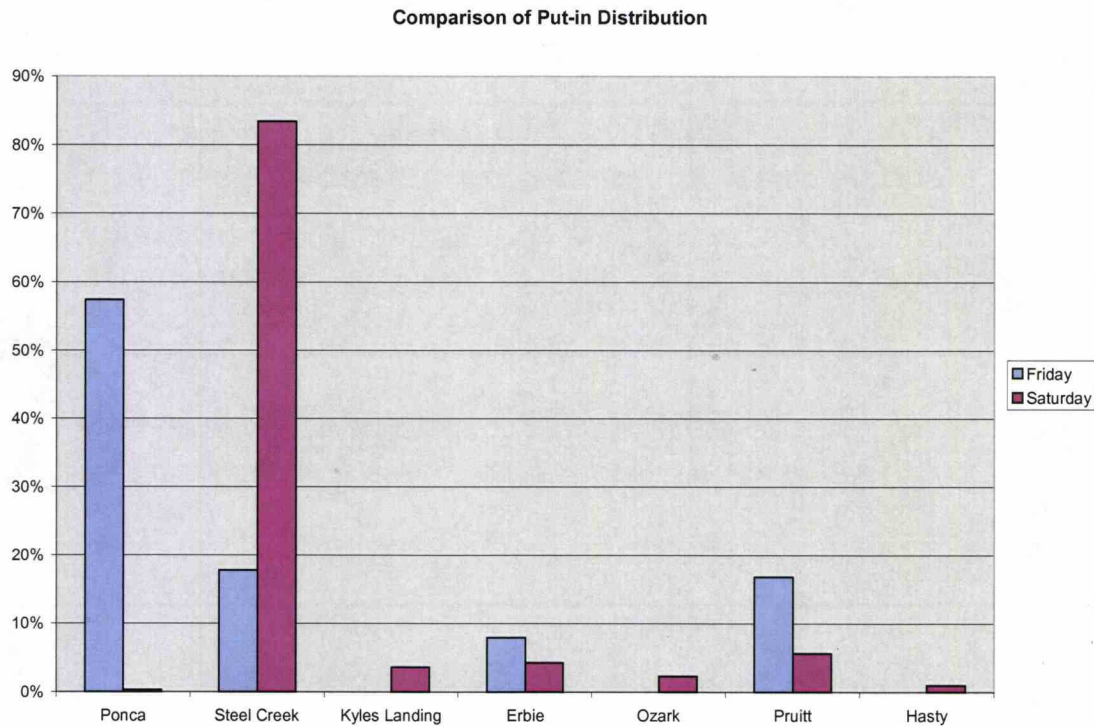
Private canoeists unable to secure a parking space at the access during the peak period would have the option of changing their put-in location or arranging transportation services and parking with a concessioner in the district. Steel Creek is located approximately 15 minutes driving time from Ponca; Boxley Bridge is located approximately 20 minutes driving time. There are two concessioners located within a 3-minute drive of the access and a third concessioner is located 20 minutes away near Kyles Landing, the most popular takeout for trips begun at Ponca.

Impacts to canoe concession customers

For concession customers the impact of this alternative would be positive, because it would allow access to a section of the river on Saturday mornings that currently is effectively closed to concession use. Based on analysis of existing concession customer use patterns, it is estimated that approximately 150-250 concession customers would likely use this access on a Saturday morning during the peak season. Figure 3-4 on the next page compares the existing concession customer put-in activities on Friday, when concessioners may operate at Ponca, to a Saturday, when they are prohibited from using the access between 9:00 a.m. and 12:00 p.m.



Figure 3-4



Impacts to concession operations

Based on this recommendation, concessioners would shift a great deal of their put-in activity from Steel Creek Access to Ponca. It is estimated that under the existing regulations 83% of all concessioner put-ins on Saturday take place at Steel Creek while 1-2% of put-ins are at Ponca. With the new regulation it is estimated that the percentage of all concessioner canoes put-in at Steel Creek would range from 35-45%, while Ponca would be used for 30-40% of put-ins. This increase in concession use at Ponca would be partially offset by reductions in private canoeists as described in *Impacts to Private Canoeists* on the previous page.

Limiting the number of canoe trailers allowed within the access at one time would have a minor impact on the cost of operations for some concessioners, since additional personnel may be required to shuttle canoe trailers to and from the access point as they are unloaded.

Impacts to natural resources

The overall impact of this recommendation on the natural resources in the park would be positive, because removal of the historic bridge structure would allow the river to return to its natural channel in this area, reduce flooding of access facilities and remove a man-made structure from the visual landscape. Anecdotal evidence suggests that the frequency of flooding in the parking and loading areas may be reduced because water would no longer be held back by the bridge structure. This would significantly reduce the amount of sediment being swept from this access into the river.



Impacts to park resources

In order to staff the access during peak periods the park would be required to hire a seasonal employee at a GS 5 or 6 grade level. This employee would work approximately 8 Saturdays, or 64 hours at this location.

Maintenance costs for materials would be reduced with this alternative, because of the anticipated reduction in flooding at the access.

Other alternatives

Other alternatives considered at this access included:

1. Maintaining the existing prohibition on concession operations, while leaving the historic bridge in place; and
2. Limiting parking as described in the recommendation, but also developing an overflow parking lot outside of the access and shuttle services to provide transportation.

Alternative 1 was rejected because it does not address existing operational problems or provide equity in access to the river for concession customers. Alternative 2 was rejected because of concerns about the viability of a shuttle system given the expected level of use of the overflow parking area.



3.1.2 Steel Creek

The recommendation at this access depends upon what improvements are actually implemented at the Ponca Access. At Steel Creek it appears that existing operational issues are driven by the high level of concession customer use that occurs due to the prohibition against use of Ponca on Saturday mornings (see Figure 3-4 on page 3-6). If the prohibition is lifted, the level of use at Steel Creek should drop sharply as a result of concessioners shifting customers to Ponca and no further action would be required. However, if Ponca is not made available to concession use, the problems at Steel Creek would be addressed by designating a portion of the launch area to private users only. The elements needed to implement this idea are shown in Figure 3-5 below.

Figure 3-5. Steel Creek Improvement Elements for Backup Recommendation	
Operations	New Development
<i>Concession</i> • Limit loading and launching to area designated as concession only. <i>Private</i> • Limit loading and launching to area designated as private only.	
Design Enhancements	New Staff
• Temporary signs and barriers (i.e. plastic sawhorses) indicating private and concession loading and launch area borders.	

To define the designated loading and launch areas, temporary barriers and signs would be placed at the access during peak periods of use. The portion of the existing launch/loading area located above the upstream rock vein would be designated for private use only. The remaining area would be designated for concessioners.



3.1.3 Kyles Landing

The strategy outlined in Figure 3-6 below is recommended to address the existing operational and safety concerns at this access.

Figure 3-6. Kyles Landing Improvement Elements	
Operations	New Development
<i>Concession</i> • Limit of 2 trailers per concessioner in the access at one time Saturdays from 2:00 p.m.- 6:00 p.m. during April and May. • Once parking areas have filled concessioner must park customer vehicles at place of business. <i>Private</i> • Once parking areas have filled privates must use another access or arrange parking and transportation services with a concessioner.	• Convert portion of existing meadow located west of the bathroom to daily temporary concession canoe trailer storage.
Design Enhancements	Other
• Place permanent barriers along the roadway shoulder and around the grassy meadow in the middle of the parking area to prevent parking out of bounds. • Divide parking area into concession customer and private user parking areas on Saturdays in April and May.	• Access is managed by an attendant employed by the Park Service from 10:00 a.m. – 2:00 p.m. on Saturdays in April and May. • “Parking lot full” warning sign is placed at intersection of Kyles Landing Road and Arkansas Highway 74.

Impacts to Private Individuals

With this recommendation, the number of parking spaces available to the private canoeist would be reduced from the current level because canoe concession customers would be entitled to use half of the available parking capacity. Figure 3-7 shows the impacts on parking for private canoeists.

Figure 3-7. Parking Impacts to Private Canoeists – Kyles Landing		
Peak Parking Demand	Parking Available to Private Individuals with Recommendation	Vehicles Displaced
47 spaces*	27 spaces	20

*Includes use of undesignated parking areas including roadway shoulders.



Private canoeists unable to secure a parking space at the access during the peak period would have the option of changing their takeout location or arranging transportation services and parking with a concessioner in the district. There is one concessioner located a 2-minute drive from the location of the “parking lot full” warning sign, and several concessioners are located within a 20 minute drive.

Impacts to Concession Customers

The primary impact to concession customers would be a reduction in the number of parking spaces available for shuttled vehicles at the access point. Currently, concessioners shuttle an average of 38 vehicles to this access for their customers on a peak season Saturday. Figure 3-8 shows an estimate of the number of shuttled vehicles that would not be accommodated under the recommended strategy.

Figure 3-8. Reduction in Vehicle Shuttles – Kyles Landing		
Existing Vehicle Shuttles	Parking Available for Concession Customers	Reduction in Shuttles
38 vehicles	27 spaces	11

Customers unable to arrange a vehicle shuttle would have to make other transportation arrangements with the concessioner, mostly likely by leaving the vehicle at the concessioner’s place of business. This would increase the time it takes the concession customer to access their vehicle once at the end of their float trip by 15-40 minutes (depending upon the concession location).

Impacts to Concession Operations

The level of impact to concession operations would vary depending on the current method of operating. Two concession businesses do not currently provide vehicle shuttles, so there would be little impact to their operations from this recommendation. The remaining 5 concessioners provide vehicle shuttles as a regular service to their customers, so the loss of parking at the access would require them to transport more customers in concession vehicles and park more vehicles at their places of business. This may require the acquisition of additional vehicles and land for parking.

Impacts to the natural resources

This recommendation would have no significant impact on natural resources.

Impacts to Park Resources:

In order to staff the access during peak periods the park would be required to hire a seasonal employee at a GS 5 or 6 grade level. This employee would work approximately 8 Saturdays, or 64 hours at this location.



Other alternatives

Other alternatives considered at this access included:

- Limiting parking as described in the recommendation, but also developing an overflow parking lot outside of the access and shuttle services to provide transportation.

This alternative was rejected because concerns with the viability of a shuttle system given the expected level of use of the overflow parking area.



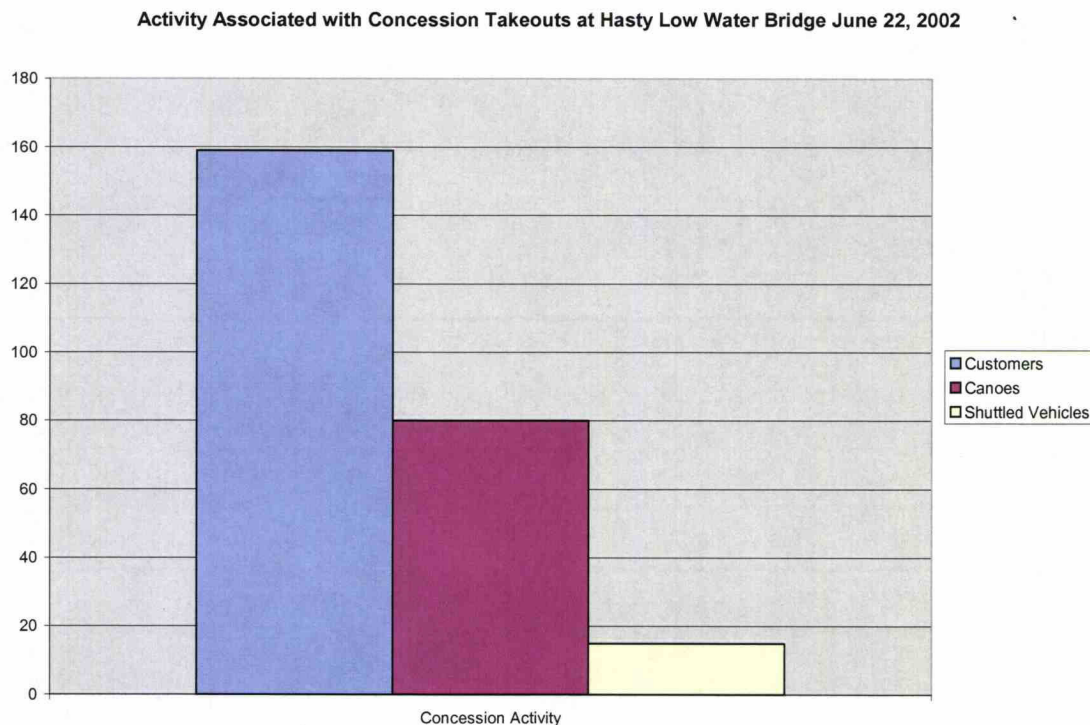
3.1.4 Hasty Low Water Bridge

It is recommended that concessioners be prohibited from using this road crossing as a takeout point for canoes, because there are no developed facilities at this point and visitors are exposed to potential safety risks while accessing the river. Among these risks are:

- Potential collisions between floaters using the bridge to access the river and vehicles traveling through the area on Newton County Route 84;
- Potential collisions between vehicles parked on the roadway shoulders of the bridge approaches and through traffic; and
- Potential for floaters to be sucked through the culverts beneath the bridge.

Under the current situation, as Figure 3-9 shows, on a peak season Saturday concession takeout operations in the area expose a significant number of visitors to the potential issues described above.

Figure 3-9



Impacts to Concession Customers

It is assumed that all of the concession use prohibited at this road crossing would shift to the Hasty Campground Access located a quarter mile upstream. At the campground there would not be enough parking to accommodate the shuttled vehicles currently being parked at the low water bridge. This would require some concession customers to park their vehicles at the put-in point or at the concessioner's place of business and utilize a shuttle to travel from the access. This would increase the overall travel time spent with the concessioner by 30-45 minutes depending on the location of their vehicle.



Concession Operations Impacts

Concessioners would have to provide the additional person shuttles described above, due to the lack of parking spaces at Hasty Campground. This may require the acquisition of additional vehicles for this purpose.

Other Alternatives

Another alternative at this access is to do nothing and address the existing issues during the design process for the proposed bridge replacement, which is currently in the early phases of environmental analysis. However, this alternative was rejected, because the bridge replacement process is expected to take several years.



3.1.5 Hasty Campground

It is recommended that the parking and congestion issues at this access be addressed through the strategy outlined in Figure 3-10 below.

Figure 3-10. Hasty Campground Improvement Elements	
Operations	New Development
<i>Concession</i> • Limit of 2 trailers per concessioner in the access at one time Saturday from 2:00 p.m.-6:00 p.m. during June. • Once parking areas have filled, concessioner must park customer vehicles at put-in or place of business. <i>Private</i> • Once parking areas have filled, privates must use another access or arrange parking and transportation services with a concessioner.	
Design Enhancements	Other
• Place permanent barriers along the roadway shoulder and around the camping area to prevent parking out of bounds. • Divide parking area into concession customer and private user parking areas on Saturdays in June.	• An attendant employed by the Park Service from 10:00 a.m. – 2:00 p.m. on Saturdays in June manages access. • “Parking lot full” warning sign is placed at intersection of Hasty Cutoff Road and Arkansas Highway 74.

Note: The analysis of impacts assumes that use of Hasty Low Water Bridge as a takeout by canoe concessioners has been stopped and that the associated concession customer use activity has shifted to the campground.

Impacts to Private Individuals

With this recommendation the number of parking spaces available to the private canoeist would be reduced from the current level, because canoe concession customers would be entitled to use half of the available parking capacity. Figure 3-11 on the next page shows the impacts on parking for private canoeists.



Figure 3-11. Parking Impacts to Private Canoeists - Hasty Campground		
Peak Parking Demand	Parking Available to Private Individuals with Recommendation	Vehicles Displaced
34 spaces*	12 spaces	22

*Includes use of undesignated parking areas including roadway shoulders.

Private canoeists unable to secure a parking space at the access during the peak period would have the option of changing their takeout location or arranging transportation services and parking with a concessioner in the district. There are two concessioners located in Jasper approximately 10 minutes drive from the location of the “parking lot full” warning sign.

Impacts to Concession Customers

The primary impact to concession customers would be a reduction in the number of parking spaces available for shuttled vehicles at the access point. Currently, concessioners shuttle an average of 40 vehicles to this access for their customers on a peak season Saturday. Figure 3-12 shows an estimate of the number of shuttled vehicles that would not be accommodated under the recommended strategy.

Figure 3-12. Reduction in Vehicle Shuttles - Hasty Campground		
Existing Vehicle Shuttles	Parking Available for Concession Customers	Reduction in Shuttles
40 vehicles*	12 spaces	28

*Includes shuttles shifted from Hasty Low Water Bridge.

Customers unable to arrange a vehicle shuttle would have to make other transportation arrangements with the concessioner, mostly likely by leaving their vehicle at the concessioner’s place of business or at the put-in point. This would increase the time it takes the concession customer to access their vehicle at the end of their float trip by 15-45 minutes depending upon the vehicle location.

Impacts to Concession Operations

The level of impact to concession operations would vary depending on the current method of operating. Two concession businesses do not currently provide vehicle shuttles, so there would be little impact to their operations from this recommendation. The remaining 5 concessioners provide vehicle shuttles as a regular service to their customers, so the loss of parking at the access would require them to transport more customers in concession vehicles. This may require the acquisition of additional vehicles.

Impacts to the natural resources

This recommendation would have no significant impact on natural resources.



Impacts to park resources:

In order to staff the access point during peak periods the park would be required to hire a seasonal employee at a GS 5 or 6 grade level. This employee would work approximately 4 Saturdays, or 32 hours at this location.

Other alternatives

Other alternatives considered at this access included:

1. Introducing a regulation prohibiting concessioners from parking any customer vehicles at the access on Saturdays; and
2. Limiting parking as described in the recommendation, but also developing an overflow parking lot outside of the access and shuttle services to provide transportation.

Alternative 1 was rejected because there was not enough evidence to conclude that concession customers are the primary source of operational issues at this access. Alternative 2 was rejected because of concerns with the viability of a shuttle system given the expected level of use of the overflow parking area.



3.2 Middle District

The recommendations within the Middle District are limited to the Baker Ford Access and focus on working with canoe concession owners to improve the efficiency with which they use the access area during peak time periods. This strategy was chosen, because concession customers are the primary users of Baker Ford during peak periods and long-term environmental consequences of expanding the area to meet current demands cannot be justified at this time. During two site visits to the area in the peak season very little private activity was observed, while a high-level of concession customers were seen using the access point. The level of concession customer use was also noted in the analysis of concessioner receipts, which showed that 466 concession customers put-in at this access point in 211 canoes on June 29, 2002.

While serious consideration was given to improving the capacity of this access or developing an entirely new access point near Love-Hensley or Goggin's Hole to replace Baker Ford, these alternatives were rejected, because of the potential environmental/cultural impacts and costs. Expanding Baker Ford would require developing a launch area along the riverbank, which would very likely erode and place sediment in the river thereby reducing water quality significantly. Developing a new access would require the construction and/or improvement of several miles of road at a high cost to the park. Additionally, new development and use in these areas has the potential to impact cultural resources negatively.



3.2.1 Baker Ford

It is recommended that concessioners stagger their use of this access to improve operations. Figure 3-13 shows the elements of this recommendation.

Figure 3-13. Baker Ford Improvement Elements	
Operations	New Development
<i>Concession</i> • Stagger concession put-in times according to a set schedule on Saturdays from Memorial Day -July 4th • Prohibit use of the informal launch areas downstream of the official launch.	
Design Enhancements	New Staff
• Rehabilitate/expand the existing loading area to provide appropriate bus-turning radii.	

Concession put-ins would be staggered according to a set schedule as outlined in Figure 3-14 on the following page. Every hour the two largest concessions currently operating at this access would each be allotted one 20-minute slot, while the two smaller concessions that regularly use this access would share a 20-minute slot. Crockett's Canoe Rental concession is not included in the schedule because they rarely use this put-in due to its location relative to their business site. However, Crockett's would be allowed to use this location.

To improve safety at the access, the two informal launch areas that have developed at cuts in the bank downstream of the gravel bar would be closed permanently. While this would reduce the capacity of the access, it would not result in additional congestion, if undertaken in concert with the staggering strategy. Finally, the loading area would be rehabilitated/expanded to increase the turn radii at the exit making it large enough for full-size school buses to use it without trouble.



Figure 3-14. Proposed Staggered Put-in Schedule - Baker Ford	
Time Period	Concession
8:00-8:20 a.m.	Buffalo River Outfitters
8:20-8:40 a.m.	Silver Hill Canoe Rental and Buffalo Ridge Canoe Rental
8:40-9:00 a.m.	Buffalo Camping and Canoeing
9:00-9:20 a.m.	Buffalo River Outfitters
9:20-9:40 a.m.	Silver Hill Canoe Rental and Buffalo Ridge Canoe Rental
9:40-10:00 a.m.	Buffalo Camping and Canoeing
10:00-10:20 a.m.	Buffalo River Outfitters
10:20-10:40 a.m.	Silver Hill Canoe Rental and Buffalo Ridge Canoe Rental
10:40-11:00 a.m.	Buffalo Camping and Canoeing
11:00-11:20 a.m.	Buffalo River Outfitters
11:20-11:40 a.m.	Silver Hill Canoe Rental and Buffalo Ridge Canoe Rental
11:40 a.m.-12:00 p.m.	Buffalo Camping and Canoeing
12:00-12:20 p.m.	Buffalo River Outfitters
12:20-12:40 p.m.	Silver Hill Canoe Rental and Buffalo Ridge Canoe Rental
12:40-1:00 p.m.	Buffalo Camping and Canoeing

Impacts to Private Canoeists

Anecdotal evidence suggests that there is a relatively small level of use by private canoeists at this access. However, for those using the access the overall impact would be positive, because the reduction in congestion in the loading area would reduce the time required to put-in at this location. On the downside, private canoeists may find it difficult to find space to launch their canoes during peak periods with the informal launches closed, because canoe concessioners would use all the available space for significant periods of the morning.

Impacts to Concession Customers

This recommendation would reduce the number of put-ins at the access during the period most popular with concession customers: 9:00-11:00 a.m. Based on analyses of concession receipts and site visit observations, it is estimated that the number of concession customers putting-in during this time period would drop from 65% to 51%. Due to the capacity constraints introduced by the staggering schedule and closure of the informal launch areas, the overall number of customer put-ins at the access would be reduced by 46 customers. These visitors would have to put-in at another access point within the district or reschedule their float trip.

Impacts to Concession Operations

The impacts to concession operations would be positive for all concession businesses, with the exception of Buffalo River Outfitters, which would experience a significant downside. Due to the scheduling restrictions and reduction of launch space, Buffalo River Outfitters would be forced to reduce the number of canoe put-ins at this access by approximately 16% (21 canoes) each Saturday that the staggering restriction is in effect. Based on a canoe rental rate of \$35 and a per person shuttle fee of \$10, this would result in a potential loss of \$1195 per Saturday that this



regulation is in effect. However, it is likely that some of these put-ins would be redistributed to other access points rather than cancelled completely and thus not all of the rental income would be lost.

The timesavings from reduced congestion and predictability of operations at the access would provide a significant benefit to all of the concession operations.

Impacts to natural resources

This recommendation would harm and improve the natural resources at the access. The closure of the informal launch areas would reduce erosion and runoff into the river. The rehabilitation/expansion of the loading area may require removing several trees, however, this would be balanced by the closure of the existing exit from the loading area.

Impacts to park resources

There are no other significant impacts from this recommendation based on the study goals and objectives.

Other Alternatives

Other alternatives considered at this access included:

1. Replacing the Baker Ford access with a new access at Love Hensley, Goggin's Hole or the actual site of historic Baker Ford (downstream of the existing access).
2. Improving the loop road and expanding the launch areas to service the existing peak demands.

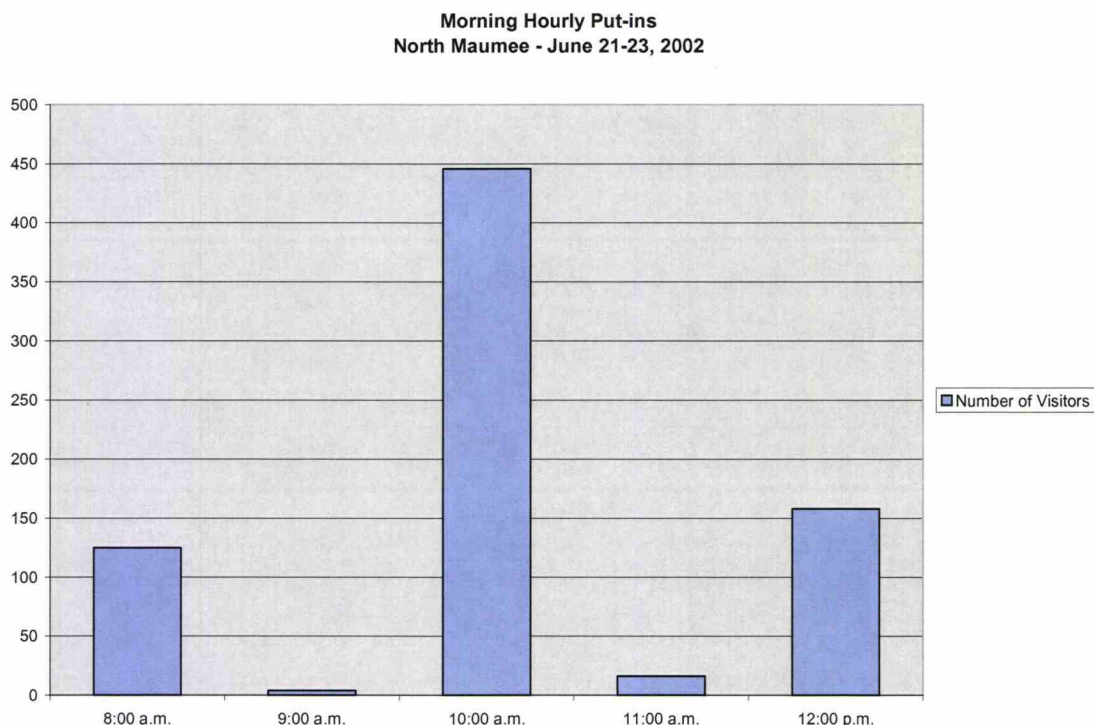
Alternative 1 was rejected because the large costs involved with improving the road to these areas and potential impacts to cultural resources could not be justified without first trying the staggering strategy at Baker Ford. Alternative 2 was rejected because of concerns about environmental impacts from erosion of the bank if the launch were expanded.



3.3 Lower District

The recommendations in this district focus on working with concessioners to improve the efficiency with which they use the access points, because concession customers are the primary users during peak periods. At Maumee North, the analysis of concession receipts showed that 591 concession customers in 265 canoes put-in on June 22, 2002 and a site visit noted very little private use. At the same time the analysis of concession receipts also showed a severe peaking pattern in use on weekends as illustrated in Figure 3-15.

Figure 3-15

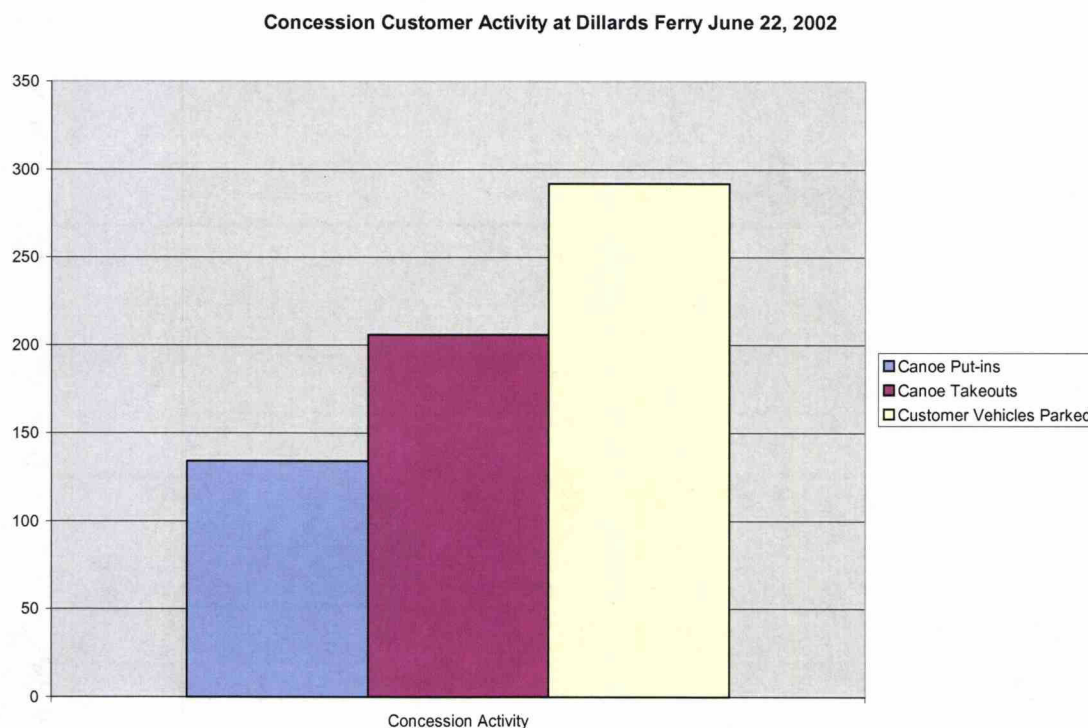


Based on this information the recommendation is to stagger concession put-in times on Saturday mornings as described in Section 3.3.1 on page 3-22.



At Dillard's Ferry concession customers are also the primary user group during peak periods based on site visits and concession receipts. Figure 3-16 below illustrates the concession activity at this area.

Figure 3-16



However, a staggering strategy would not be effective at this access, because the principal operational issue is parking. The recommendation at this access focuses on trying to manage parking and operations through targeted physical improvements and additional staffing. Due to the heavy level of concession customer use it is also recommended that concession businesses bare the responsibility for providing the additional staffing, as described in section 3.3.3 on page 3-25.



3.3.1 Maumee North

It is recommended that the operational concerns at this access be addressed by requiring concession operators to stagger put-in times on weekend mornings between Memorial Day and the weekend after July 4th. The schedule proposed for staggering put-ins is shown in Figure 3-17 below.

Figure 3-17. Proposed Staggered Put-in Schedule - Maumee North	
Time Period	Concession
8:00-8:30 a.m.	Wild Bill's Outfitters
8:30-9:00 a.m.	Dillard's Ozark Outfitters
9:00-9:30 a.m.	Dirst Canoe Rental
9:30-10:00 a.m.	Wild Bill's Outfitters
10:00-10:30 a.m.	Dillard's Ozark Outfitters
10:30-11:00 a.m.	Dirst Canoe Rental
11:30 a.m.-12:00 p.m.	Wild Bill's Outfitters
12:00 - 12:30 p.m.	Dillard's Ozark Outfitters
12:30-1:00 p.m.	Dirst Canoe Rental

Impacts to Private Canoeists

Anecdotal evidence suggests that there is a relatively small level of use by private canoeists at this access. However, for those using the access, the overall impact would be positive because the reduction in congestion in the loading area would reduce the time required to put-in at this location.

Impacts to Concession Customers

This recommendation would have no significant negative impacts on concession customers.

Other Impacts

There are no other significant impacts expected from this recommendation.

Other Alternatives

Other alternatives considered at this access included extending the loop road/loading area upstream approximately 50 meters to provide enough capacity to service the peak demands, given the current concession use patterns. This alternative was rejected because the resource impacts cannot be justified without first attempting the staggering strategy outlined above.



3.3.2 Spring Creek

No expansion of facilities or boat concession operational changes is recommended at this access. Although the planned closure of the overflow camping facilities at Dillard's Ferry in the winter of 2002-2003 may shift campers to this access, the additional use of the area is not expected to create significant operational or safety concerns. Figure 3-18 below shows the estimates of the changes in camping activity based on consultation with district staff and actual counts of campsites set up at Dillard's Ferry and Spring Creek on a weekend day during the year 2002 peak season.

Figure 3-18. Future Peak Camping Activity at Spring Creek		
Existing Peak Campsites	Campsites Relocated from Dillard's Ferry	Total Future Peak Campsites
6	12	18

Based on this expected increase in camping, total parking and canoe concession customer put-in activity is estimated to increase to the levels shown in Figure 3-16.

Figure 3-19. Future Parking and Boating Activity at Spring Creek		
Future Peak Parking Activity	Future Peak Canoe Concession Put-ins	Future Peak Canoe Concession Takeouts
29 vehicles	50	7

At this time there is very little parking activity associated with boat concessioner customers at this location, because it is used almost exclusively as a put-in point. Typically, concessioners use this access to provide a half-day float to either Dillard's Ferry or Buffalo Point for customers starting out after 12:00 p.m. The customers park their own vehicles at the takeout and are then shuttled in a concession vehicle back to Spring Creek to put-in. It is unlikely that this use pattern would change because there is no suitable daylong float from this access due to the location of the downstream accesses. The one exception to this pattern is Crockett's Canoe Rental, which occasionally uses the access as a takeout for trips begun at Maumee South. However, this concession is only permitted for 22 canoes so their use levels would not be heavy enough to significantly impact the access.



3.3.3 Dillard's Ferry (Highway 14 Bridge)

At this access it is recommended that a strategy featuring design enhancements to improve parking operations/loading activities and additional staffing be implemented. Figure 3-20 below summarizes the essential elements of this strategy.

Figure 3-20. Dillard's Ferry Improvement Elements	
Operations	New Development
<i>Concession</i> - Once parking areas have filled, concessioners must park customer vehicles at place of business. <i>Private</i> - Once parking areas have filled, privates must use another access or arrange parking and transportation services with a concessioner.	
Design Enhancements	New Staff
- Place permanent barriers along the roadway shoulder and around the edge of the mowed area in the upper portion of the access. - Designate a small portion of the parking area for day users. - Convert approximately 600 square meters of the upper parking area into a bus-loading zone.	Parking at access is managed by two attendants provided by the boat concessions from 8:00 a.m. – 2:00 p.m. on Saturdays between Memorial Day and the weekend following July 4th.

Because concession customers are the primary users of parking at this access, it is recommended that the canoe concession businesses be responsible for training, equipping, and paying the parking attendants.

The analysis of impacts for this recommendation assumes that the recommendation at Buffalo Point described in section 3.3.4 has been implemented and that concessioners have shifted some of their activity to that access point.

Impacts to Private Canoeists and Day Users

Anecdotal evidence suggests that there is a relatively small level of use by private canoeists at this access. However, for those using the access, the overall impact would be positive, because the improvements in parking operations during peak times would make the access easier to use. Day users would experience similar benefits, along with a greater degree of certainty about being able to locate a parking space in the reserved area.



Impacts to Concession Customers

Currently, concession customers have unrestricted use of this access. With this recommendation the number of parking spaces available to the concession customer would be reduced from the current level due to the development of a bus loading area and the closure of road shoulders to parking. Figure 3-21 shows the impacts on parking for concession customers.

Figure 3-21. Parking Impacts to Concession Customers - Dillards Ferry		
Peak Parking Demand	Parking Available to Concession Customers with Recommendation	Vehicles Displaced
196 spaces	170 spaces	26

Concession customers unable to secure a parking space at the access during the peak period would park their vehicles at the concessioner's place of business and then use a concession shuttle to travel to the access. The shuttle ride would increase the time required to reach the access to put-in or return to their vehicle following a float trip by 7-10 minutes over the current situation.

Impacts to Concession Operations

The primary impacts to concessioners from this recommendation would be an increase in the number of customers vehicles parked at their business and the costs associated with employing the two parking lot attendants. Parking would increase at each business relative to the number of canoe permits owned. On a typical Saturday, it is estimated that parking would increase as shown in Figure 3-22.

Figure 3-22. Parking Impacts to Concession Businesses- Dillards Ferry	
Concession	Increase in Number of Vehicles Parking Onsite
Wild Bill's Outfitters	14
Dillard's Ozark Outfitters	8
Dirst Canoe Rental	5

The total cost associated with providing parking lot attendants is estimated to be \$1280 per season assuming that the parking lot attendants are paid at a rate of \$8 per hour. Divided between the three concessioners the cost comes to \$426 per concessioner. For detailed cost estimates please see Appendix A.

Other Impacts

No other significant impacts are anticipated from this recommendation.

Other alternatives

Other alternatives considered at this access included:

1. Prohibiting concessioners from parking any customer vehicles at the access on Saturdays between Memorial Day weekend and the weekend following July 4th; and



2. Relocating the overflow parking lot to a location closer to Buffalo Point, so that it could serve that access, as well.

Alternative 1 was rejected because of potential negative financial impact to concessioners from having to develop additional parking facilities. Alternative 2 was rejected because the cost and environmental impacts could not be justified without first trying the recommendation.



3.3.4 Buffalo Point

It is recommended that the current restriction on concession use at this access on weekends between Memorial and Labor Days be modified to allow customers to use the access on weekends while requiring that customers' vehicles be parked at the concessioners' place of business. The primary reason for this change is to allow the concession customer equal access to the river as the private canoeist and day user. However, it would also have the needed effect of reducing the number of concession customers using Dillard's Ferry, which is currently operating over capacity on weekends.

Impacts to Private Canoeists and Day Users

There would be little impact to private canoeists and day users from this recommendation. Parking operations would not deteriorate, because concession customers would not be allowed to park at the access. The operation of the loading areas would deteriorate slightly due to increased activities from concession customers; however, this would not be at a level to cause serious congestion.

Impacts to Concession Customers

For concession customers the impact of this alternative would be positive because it would allow improved access to the river. Based on analysis of existing concession customer use patterns and concession operations, it is estimated that approximately 34 new concession customers would use this access to put-in and 42 would use it to takeout on a Saturday during the peak season under the recommended regulation.

Impacts to Concession Operations

Based on this recommendation, concessioners would shift a small portion of put-in and takeout activity from Dillard's Ferry Access to Buffalo Point. This shift would be limited by the restriction on parking because concessioners prefer to park customers' vehicles at an access point in the park, rather than at their place of business. It is estimated that concessioners would shift approximately, 15 canoe additional put-ins and 19 canoe takeouts to Buffalo Point under this recommendation.

Other Impacts

There are no other significant impacts expected from this recommendation.



3.4 Refinement of Recommendations

It is important to note that this study was accomplished in four months, a relatively short time frame given the analytical, data gathering and public involvement requirements, and that the analysis was conducted with a limited data set. Among the issues with the data used in developing recommendations were:

- Incomplete visitor use data on private canoeists, campers and day users;
- Concession customer data based on a limited sample of receipts rather than actual counts; and
- No site visits conducted in the western half of the Upper District during the peak-floating season due to the start date of the study.

Due to these limitations it is possible that some recommendations would need to be refined in the light of new findings concerning visitor use patterns and concession operations. Additionally, the Park Service is guided by regulations and policies related to planning and implementation of improvements, so the recommendations would need to be studied under these policies before being implemented.



3.5 Improve Visitor Use Statistics

During the course of the study it became evident that there is a lack of visitor use data for the park and that, as a result, little about existing visitor use patterns is known. In order to facilitate future studies and to provide a method for tracking the results of the strategies suggested in this document, a concerted effort should be made to develop and maintain detailed information on visitor use of the river. Current and improved data that would prove useful in managing transportation issues in the park include the following:

- Boat concessions operations and customer use patterns;
- Private boating operations and visitor use patterns;
- Day use visitor patterns;
- Camping visitor patterns;
- Parking activity at the access points; and
- Roadway travel patterns.

With these data items in hand, the park would be in a good position to consider more comprehensive solutions to transportation problems in the park and to initiate an update of the River Use Management and General Management plans, both of which are over twenty years old. Among the solutions that should be considered are:

- The development of a permit system to control private levels of visitor use on the river in accordance with established limits; and
- Requiring concessioners to distribute their put-ins and/or takeouts to multiple access points.



3.6 Visitor Education

One important aspect of current operational problems that is not addressed in the access-specific recommendations is the behavior of private individuals in the access areas. Particularly in the loading areas, inappropriate behavior such as parking or leaving a vehicle or equipment unattended for extended periods of time is a significant contributing factor to peak period congestion. Similarly, within parking facilities, parallel parking of vehicles in areas that are designed for head-in parking results in an unnecessary loss of parking capacity at critical times. Therefore, it is recommended that an educational campaign be undertaken to teach appropriate use of the access areas. This campaign would include an article in the *Currents Park Guide*, a leaflet for distribution by concessioners and interpretive staff, and an access etiquette section on the park web page. Among the issues that should be stressed are:

- The most efficient way to use a parking area that does not have delineated spaces;
- Appropriate use of loading areas including time limits;
- Passing etiquette on one-lane roads with two-way travel; and
- The impact of improper access behavior on the natural resources.



4.0 Implementation Plan

This implementation plan describes the costs of recommendations and priorities. The cost estimates presented represent conservative estimates of capital costs that would be required to implement the recommendations, as well as the annual costs associated with increased labor for parking attendants. Priorities were developed based on an analysis of the number of visitors currently being impacted by the conditions at the site.

4.1 Costs of Improvements

Capital and annual labor cost estimates were developed for each of the recommendations. Capital costs are based on unit costs contained in the National Park Service Cost Estimating Guideline with Class Cost C Data. This estimating methodology takes into account the potential for significant changes in costs that may occur as projects move from planning into design and construction phases. Based on this methodology the total capital costs associated with the recommendations would be \$342,062. A summary of the capital cost estimates at each access is shown in Figure 4-1 below. For detailed cost estimates please see Appendix A.

Figure 4-1. Capital Cost Estimates	
Access	Capital Cost
Ponca	\$157,046.00
Kyles Landing	\$ 72,550.00
Hasty Campground	\$ 26,130.00
Baker Ford	\$ 19,886.00
Dillard's Ferry	\$ 66,450.00
Total	\$342,062.00

Annual labor costs were developed for the new staff recommended at several of the access points. For the recommended Park Service staff, these estimates were based on an hourly rate of \$11.83, which is equivalent to a GS 5 Visitor Use Assistant position. For the recommended concession provided staff an hourly rate of \$8.00 was assumed. Based on this methodology the total annual labor cost for the Park Service would be \$2,387 and the total annual cost for concessions operators in the Lower District would be \$1,280. The labor costs by access point are shown in Figure 4-2 below. For detailed cost estimates please see Appendix A.

Figure 4-1. Annual Labor Cost Estimates	
Access	Labor Cost
Ponca	\$1,135.00
Kyles Landing	\$1,135.00
Hasty Campground	\$567.00
Dillard's Ferry (concession)	\$1,280.00



4.2 Priorities

Based on a review of the level of visitor use activity and the severity of existing operational problems and/or safety concerns a priority list was developed to guide implementation of the recommendations. As Figure 4-3 shows half of the accesses are in the High Priority Category.

Figure 4-3. Implementation Priority	
Access	Priority Level
Kyles Landing	High
Hasty Campground	High
Dillard's Ferry	High
Baker Ford	High
Ponca	Medium
Buffalo Point	Medium
Maumee North	Low
Hasty Low Water Bridge	Low

Recommendations at High Priority access points should be implemented as soon as possible, because many visitors are exposed to operational difficulties and/or safety concerns that are relatively severe in degree. Low Priority recommendations target accesses where operational and safety issues should be addressed, but only after the higher priorities.



Appendix A

Ponca Access
Capital and Labor Cost Estimates

Item	Unit	Number of Units	Unit Cost	Total Cost
Wooden Bollard Dividers	Feet	2469.84	\$ 25.00	\$ 61,746.00
Bridge Replacement	Each	1	\$ 95,000.00	\$ 95,000.00
Wooden Sign	Each	3	\$ 100.00	\$ 300.00
Total				\$ 157,046.00

remove?

Item	Unit	Number of Units	Unit Cost	Annual Cost
NPS Parking Lot Attendant	Hour	96	\$ 11.83	\$ 1,135.68
Concession Parking Lot Attendant	Hour	0	\$ 8.00	\$ -
Total				\$ 1,135.68

Kyles Access
Capital and Labor Cost Estimates

Item	Unit	Number of Units	Unit Cost	Total Cost
Wooden Bollard Dividers	Feet	2847.04	\$ 25.00	\$ 71,176.00
Wooden Gate	Feet	20	\$ 48.70	\$ 974.00
Wooden Sign	Each	4	\$ 100.00	\$ 400.00
Total				\$ 72,550.00

Item	Unit	Number of Units	Unit Cost	Annual Cost
NPS Parking Lot Attendant	Hour	96	\$ 11.83	\$ 1,135.68
Concession Parking Lot Attendant	Hour	0	\$ 8.00	\$ -
Total				\$ 1,135.68

**Hasty Campground Access
Capital and Labor Cost Estimates**

Item	Unit	Number of Units	Unit Cost	Total Cost
Wooden Bollard Dividers	Feet	1033.2	\$ 25.00	\$ 25,830.00
Wooden Sign	Each	3	\$ 100.00	\$ 300.00
Total				\$ 26,130.00

Item	Unit	Number of Units	Unit Cost	Annual Cost
NPS Parking Lot Attendant	Hour	48	\$ 11.83	\$ 567.84
Concession Parking Lot Attendant	Hour	0	\$ 8.00	\$ -
Total				\$ 567.84

Baker Ford Access
Capital Cost Estimates

Item	Unit	Number of Units	Unit Cost	Total Cost
Realign Road	Miles	\$ 152.00	\$ 93.00	\$ 14,136.00
Surface Road Through Parking Area	feet	230	\$ 25.00	\$ 5,750.00
Total				\$ 19,886.00

**Dillard's Ferry Access
Capital and Labor Cost Estimates**

Item	Unit	Number of Units	Unit Cost	Total Cost
Wooden Bollard Dividers	Feet	2050	\$ 25.00	\$ 51,250.00
Bus-Loading Area	Square Yard	600	\$ 25.00	\$ 15,000.00
Wooden Sign	Each	2	\$ 100.00	\$ 200.00
Total				\$ 66,450.00

Item	Unit	Number of Units	Unit Cost	Annual Cost
NPS Parking Lot Attendant	Hour	0	\$ 11.83	\$ -
Concession Parking Lot Attendant	Hour	160	\$ 8.00	\$ 1,280.00
Total				\$ 1,280.00



River Access News

Study Introduction

The purpose of the Buffalo National River Access Study is to develop a recommended program to improve the operations of boat accesses in the park. During peak use periods, typically spring and early summer weekends, the existing operations at several river accesses are negatively impacting visitors' experience and safety, as well as, park resources and facilities. Among the most critical issues are:

- Congestion in the boat loading and launch areas;
- Peak period visitor activity overwhelms existing onsite parking facilities;
- Inefficient and improper use of access facilities; and
- Narrow, steep and curvy roads.

The study will consider all existing boat accesses excluding those in the Lower Wilderness Area. Several alternatives will be evaluated to assess potential benefits and impacts. In generating the alternatives the study will consider the factors that shape operations at the river accesses to include:

- Design of facilities such as boat launches and parking areas;
- Concession and private party boating activity; and
- Other visitor use activity, primarily day use and camping.

Stakeholder input will also be a key element in developing the alternatives. The final study product will be a recommended program and implementation plan to improve the operations at the river accesses.

The study is funded by the National Park Foundation through the Transportation Scholar program sponsored by the Ford Motor Company. For more information see the article on this page.



Congestion in the loading area on a Saturday afternoon at the Hasty Campground Access



National Park Transportation Scholars

The National Park Transportation Scholar Program is an opportunity for National Parks to receive expert assistance from transportation professionals on projects such as transportation planning, analysis, coordination with local communities, environmental and traffic studies, and other transportation related tasks. This program is a partnership between the National Park Foundation, the National Park Service and the Eno Transportation Foundation. It is made possible through the generous support of Ford Motor Company, a Proud Partner of America's National Parks.

The program was developed to support and promote sustainable transportation solutions that help preserve park resources and enhance visitors' experience. It is designed to provide National Parks with expert assistance for projects lasting three months to one year.

Nathan Conable, who comes to the park through the program leads the study. Mr. Conable will spend four months in the park working with park staff and stakeholders to develop the plan. Before coming to the park, (continued on back page)



National Park Service
U.S. Department of the Interior

Buffalo National River
402 N. Walnut, Suite 136
Harrison, Arkansas 72601

EXPERIENCE YOUR AMERICA

Transportation Scholar (continued)

he worked as a traffic engineering and transportation planning consultant in Atlanta, Georgia for several years.

Beginning this summer, the program will place between four and eight Transportation Scholars in National Parks this year. In addition to Mr. Conable, Transportation Scholars have already begun work at several other parks including:

- Glacier National Park, Montana
- National Capital Park, Washington, D.C.
- Gateway National Recreation Area, New York City

To find out more about the program visit the National Park Foundation website at <http://www.nationalparks.org>.

Study Schedule

Task	June	July	August	September
Data Gathering				
Problem Definition				
Develop Recommendations				
Stakeholder Involvement				

Stakeholder Involvement

Your input is crucial to the success of the study. To keep you involved two more issues of this newsletter will be distributed later in the summer. A stakeholder workshop to develop alternative solutions to the problems at the river accesses will take place in August. The time and date have not been specified at this time. In the meantime if you have any

input or if you would like to be added to the mailing list, please contact Linda Nommensen, Concessions Specialist, at (870) 741-5446 extension 264.



River Access News

Most Critical River Access Points Identified

The most critical river accesses have been identified based on input, observations and data gathered from the following sources:

- Interviews and site visits with over 10 park staff persons;
- Saturday visits to select river access points during June and July; and
- Interviews with all canoe concession owners permitted to operate in the park.

Visitor use patterns and operational/safety concerns at each access were analyzed to identify areas where relatively high numbers of visitors are:

- Delayed or otherwise inconvenienced when trying to access the river;
- Adversely impacted by spillover from activities related to boat access; and
- Exposed to potential safety concerns.

Based on the analysis the most critical accesses have been identified as:

- Buffalo Point
- Dillard's Ferry
- Spring Creek
- Maumee North
- Baker Ford
- Hasty Low Water Bridge
- Hasty Campground
- Kyles Landing
- Steel Creek
- Ponca

Access points not included in this list may also have had operational issues, however, they tended to be less severe and/or impact a relatively smaller number of visitors.

The remainder of the River Access Study will focus on developing and evaluating alternatives to address the concerns at the most critical accesses.



Dillard's Ferry has been identified as one of the *most critical* access points.

Study Goals

When deciding which of the alternative solutions to recommend for implementation, the following goals will guide the River Access Study:

Goal 1: Enhance and protect quality of visitor experience at river accesses.

Goal 2: Minimize impacts on park resources from river access development and use.

Goal 3: Maintain and improve safety at river accesses.

Goal 1 establishes the importance of improving the visitor experience at the most critical river accesses. It is important to note that enhancement of the visitor experience must be considered from a broad perspective taking into account potential consequences of improvements at the access on other aspects of the river experience. For example, while a capacity increase at an access point may improve the loading and launching portion of a float trip, it may also increase the number of canoeists using the river segment, potentially degrading the experience for those who enjoy
(continued on back page)

The purpose of the Buffalo National River River Access Study is to recommend a program to improve the operations of boat accesses throughout the park and minimize the impact on park resources from these activities. The study is funded by the National Park Foundation through the Proud Partner Transportation Scholar program sponsored by the Ford Motor Company. For more information please contact Nathan Conable at (870) 741-5446 ext. 268



EXPERIENCE YOUR AMERICA

Study Goals (continued)

solitude on the river.

Goal 2 relates to the need to preserve the river in its natural and wild state. Most visitors enjoy the park because of its spectacular beauty and unspoiled nature. If improvements aimed at enhancing the visitor experience might simultaneously impact natural resources, careful consideration must be given to whether the improvement is worthwhile. Additionally, the park operates with limited funding to maintain facilities, so the costs of maintenance arising from improvements must also be minimized.

Goal 3 establishes the importance of providing a safe experience for visitors while using the accesses. This is particularly important on the roadways connecting to the access points, where in some instances, the combination of wet surface condition, extreme grades and sharp curves is a safety concern.

Stakeholder Workshop Held August 22

Stakeholders representing many interests within the park gathered on August 22, 2002, at the Henley Federal Building in Harrison to help develop alternative ways to address operational and safety issues at the most critical river accesses. The workshop was an evening affair and featured a presentation and small group breakout session. Ivan Miller, Superintendent, welcomed the stakeholders. The presentation by Nathan Conable, Proud Partner Transportation Scholar, covered:

- The study goals and objectives;
- Findings concerning visitor use patterns;
- Most critical access points; and
- Site specific operational and safety concerns.

Following the presentation participants broke into small groups to generate alternatives to address the problems identified at the most critical accesses (see article front page). No alternative was deemed unworthy with the emphasis being

on an open and creative discussion of potential solutions. Among the solutions identified were:

- Increasing the size of facilities including parking and loading areas;
- Developing satellite parking lots and shuttle services;
- Improving loop roads used for loading and circulation;
- Posting a traffic control person during times of heavy use; and
- Staggering the times that boat concessioners may put-in and/or takeout of the river.

The workshop kicks off the Alternative Development phase of the River Access Study. The solutions generated during the workshop will serve as the starting point for developing a full range of alternatives that will then be evaluated against the study goals and objectives. For more information on the study goals and objectives see the article on the front page.



River Access News

Final Recommendations

Final recommendations have been made for improvements at the ten *most critical* access points identified in the study based on an analysis of the potential impacts to visitors, concessioners and park resources defined by the study goals. Enhancements to the design of access facilities; additional staffing to manage parking areas; modifications to concession operations; and increased regulation of private activities are among the recommended improvements. A summary of the actions proposed at each access point is shown below.

At this point there is no intention of immediately implementing any of the recommendations. Over the next few months the Superintendent will review these recommendations to decide on an appropriate course of action. Additionally, any implementation actions are subject to the policies and regulations of the National Park Service including environmental clearances and financial feasibility. Stakeholder comments on the recommendations are encouraged as described in the article on the next page.

Upper District

Ponca Phase 1

- Remove old bridge structure and move launch to west bank of the river;
- Install wooden dividers to prohibit parking out-of-bounds; and
- Designate private and concession parking areas.

Phase 2

- Lift restriction on Saturday morning boat concession use;
- Limit of 2 trailers per boat concessioner in the access on Saturday mornings; and



Boat concessioners like the one shown here at Dillards Ferry would be a partner in implementing the recommended strategies.

- Park Service staff manage parking at access on Saturdays during peak period of use.

- Park Service staff manage parking at access on Saturdays during peak period of use.

Steel Creek

- No improvements recommended.

Kyles Landing

- Develop area for temporary concession canoe trailer storage;
- Install wooden dividers to prohibit parking out-of-bounds;
- Designate private and concession parking areas;
- Limit of 2 trailers per boat concessioner in the access on Saturdays during peak periods of use; and

Hasty Campground

- Install wooden dividers to prohibit parking out-of-bounds;
- Designate private and concession parking areas;
- Limit of 2 trailers per boat concessioner in the access on Saturdays afternoons; and
- Park Service staff manage parking at access on Saturdays during peak period of use.

(continued next page)

The purpose of the Buffalo National River River Access Study is to recommend a program to improve the operations of boat accesses throughout the park and minimize the impact on park resources from these activities. The study is funded by the National Park Foundation through the Proud Partner Transportation Scholar program sponsored by the Ford Motor Company.



National Park Service
U.S. Department of the Interior

Buffalo National River
402 N. Walnut, Suite 136
Harrison, Arkansas 72601

EXPERIENCE YOUR AMERICA

How to Comment

Stakeholder comments on the final recommendations are encouraged. A full copy of the final report may be obtained by writing to the address below. Please address any comments or inquiries to:

Superintendent
Buffalo National River
402 N. Walnut, Suite 136
Harrison, Arkansas 72601

The telephone number at the Buffalo National River is (870) 741-5443. Office hours are Monday-Friday 8:00 a.m. – 4:30 p.m.

Final Recommendations (continued)

Hasty Low Water Bridge

- Prohibit canoe concession takeouts at this bridge.

Middle District

Baker Ford

- Rehabilitate/expand loop loading area;
- Stagger boat concession put-in times Saturdays from 8:00 a.m. – 1:00 p.m.; and
- Prohibit use of the 2 informal launches located at cuts in the bank downstream of gravel bar.

Lower District

Maumee North

- Stagger boat concession put-in times Saturdays from 8:00 a.m. – 1:00 p.m.

Spring Creek

- No improvements are recommended.

Dillard's Ferry

- Install wooden dividers to prohibit parking out-of-bounds;
- Convert portion of existing parking area to a bus-loading zone;
- Designate small private and day use parking area; and
- Boat concession staff manage parking at access on Saturdays during peak period of use.

Buffalo Point

- Lift restriction on boat concession use; and
- Require boat concessioners to park customer's vehicles at their place of business on weekends during the peak season.

