

Illinois River Jones Porta-Potties And Trash Bags

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ABSTRACT

This project focused on waste management in a recreational area, including litter and human waste. It utilized educational methods such as signs and informational brochures to transmit an environmental message to visitors. A trash bag distribution project and float crew were used to reduce litter. Permanent and pit toilets were put in place to prevent human waste. The objectives were accomplished an environmental message was transmitted. Literally tons of litter and human sewage were removed from the basin.

EXECUTIVE SUMMARY

The Oklahoma portion of the Illinois River is a state-designated scenic river. Approximately 400,000 people use the river annually for recreational purposes, such as swimming, fishing, camping and hiking. A 32-mile stretch of the river is used heavily for commercial floating in kayaks, inflatable rafts and canoes. The objectives of this project were 1) to reduce the release of untreated human waste to the Illinois River by providing increased accessibility to sanitary facilities for river users and 2) to reduce the load of litter to the river from recreational users through the distribution of free trash bags. Two permanent, waterless pit toilet facilities were constructed in a public access area. Seventeen portable pit toilets were leased throughout the recreational season and placed on gravel bars adjacent to the river for high visibility and accessibility. These 19 toilet facilities prevented an estimated 8,500 gallons of untreated human waste from being released into the river each year. Nearly 120,000 trash bags were distributed to river visitors. According to a survey conducted by the Oklahoma Scenic Rivers Commission (OSRC), the trash bag distribution program resulted in over 160 tons of solid waste being removed from the river basin. The OSRC maintenance crew and float crew removed an additional 26 tons of litter, 4 tons of metal and 300-400 tires from the Illinois River recreational area in 2001. Two hundred and ten river visitors completed a survey that included questions relating to water quality, litter, erosion and other factors relating to a satisfactory recreational experience. Over half the people surveyed rated the appearance of the water as “good” to “very good”. Nearly half the people surveyed saw no litter or very little litter. Half of those surveyed reported seeing a moderate amount of erosion. Sixty percent are aware of the OSRC’s efforts to keep the river corridor and water clean. Only 39% of those surveyed received and used the free trash bags provided through the distribution program, but 62% brought back litter that was not their own. Thirty-three percent of those surveyed used the public restroom facilities. Ninety percent reported that their experience on the river enhanced their appreciation and respect for clean water and a clean environment. This project had significant biological impact on the environment and was deemed a success.

Oklahoma Scenic Rivers Commission, trash bags, litter abatement, human waste, toilets, Oklahoma, Illinois River, recreation, commercial floating

PROJECT INTRODUCTION

The Illinois River, one of six state-designated scenic rivers in the state of Oklahoma, originates in the Boston-Ozark Mountain Region of Arkansas. It flows approximately 40 miles north, then west, through Benton and Washington Counties of Arkansas before reaching the Oklahoma state line. The river then flows another 70 miles west, then south, through Adair, Delaware and Cherokee Counties in Oklahoma before emptying into Tenkiller Reservoir. The Illinois River Basin encompasses approximately 1,645 square miles. Figure 1 is a map of the Illinois River Basin.

The Oklahoma portion of the Illinois River hosts approximately 400,000 visitors per year. Recreational activities include floating, hiking, fishing, camping, bird watching and day use for picnicking and other recreation. The majority of visitors to the river area come for the purpose of floating the river. There are approximately 15 commercial outfitters located along the upper portion of the Illinois River.

In addition to being important fisheries and recreational areas in the state, the Illinois River and Lake Tenkiller are the main sources of drinking water for the eastern half of Cherokee County. The population of Cherokee County is close to 34,000 and growing. Tahlequah, with a population of approximately 12,000 people, is the largest municipality in the basin. There are ten significant permitted point source discharges into the Illinois River or its tributaries and three commercial nursery operations located in the Illinois River Basin.

The Oklahoma Scenic Rivers Commission (OSRC) is responsible for promulgating rules for the “proper protection of the aesthetic, scenic, historic, archaeological and scientific features” and to “protect the ecosystem and environment from pollution, despoliation and destruction or waste of natural resources” of the scenic river portion of the Illinois River. The OSRC also works closely with the commercial outfitters to provide information and other services to river users.

Availability of restroom facilities has been cited as inadequate and a significant cause for the release of untreated human waste into the Illinois River. In previous 319(h) Illinois River grants programs, ten permanent toilet facilities were constructed in public access areas along the Illinois River. After less than one year from the Memorial Day 1994 opening, over 12,000 gallons of waste were pumped from these facilities. Although the construction of these toilets significantly reduced the human waste that could have contaminated the stream, ten toilet facilities were inadequate to meet the needs of the estimated 400,000 visitors annually. Two additional permanent toilet facilities were constructed in 2001. Seventeen portable toilet facilities were leased throughout the recreational seasons of 1998-2001.

Solid waste in and along the stream is another ongoing problem. Other trash bag distribution programs have been very successful in reducing litter left behind by visitors, including the program initiated in the Illinois River area through another 319(h) project. The purpose of the trash bag program is two-fold. The first aspect of the program is to encourage river users to properly dispose of the litter they generate. Free trash bags that are provided to them for this purpose facilitate their efforts. The second aspect of the trash bag program is to increase public awareness of the need for a clean environment through the environmental message printed on the trash bags. This project funded the continuation of the trash bag distribution program by

providing funding for the purchase and distribution of 371,000 trash bags stenciled with an environmental message.

In the past, trash bag distribution programs have been successful in significantly reducing the amount of litter left in the river corridor by recreational users. However, a substantial amount of trash remains. Recreationists typically leave behind aluminum cans, paper, food wrappers, and items that float away when their canoes capsize. Large items such as tires, wrecked canoes, nonfunctional household appliances and animal carcasses find their way into the river basin as well. These items are usually dumped illegally or washed into the stream during high water events. Even the most environmentally conscious floater cannot or will not haul these items downstream to properly dispose of them. A seasonal crew was hired to float segments of the Illinois River five days a week to remove any trash from the stream and adjoining areas. Additional responsibilities of the crew included distributing trash bags to river visitors and conducting trash bag surveys.

Another effort to clean up water quality sought to increase public awareness of the need to protect our natural resources. This was accomplished through printed material such as informational signs and distribution of brochures. The mascot of the Illinois River, "Illinois Jones," was included on some of the signs and the brochure to spread his message, "Don't be a trasher!" The OSRC posted informational signs in public access areas that listed rules regarding litter and promoted river ethics. Welcome signs denoting watershed boundaries and identifying the Illinois River, Flint Creek and Barren Fork Creek as state-designated scenic rivers were installed on major highways to increase the public's awareness of the resource.

PROJECT MAP

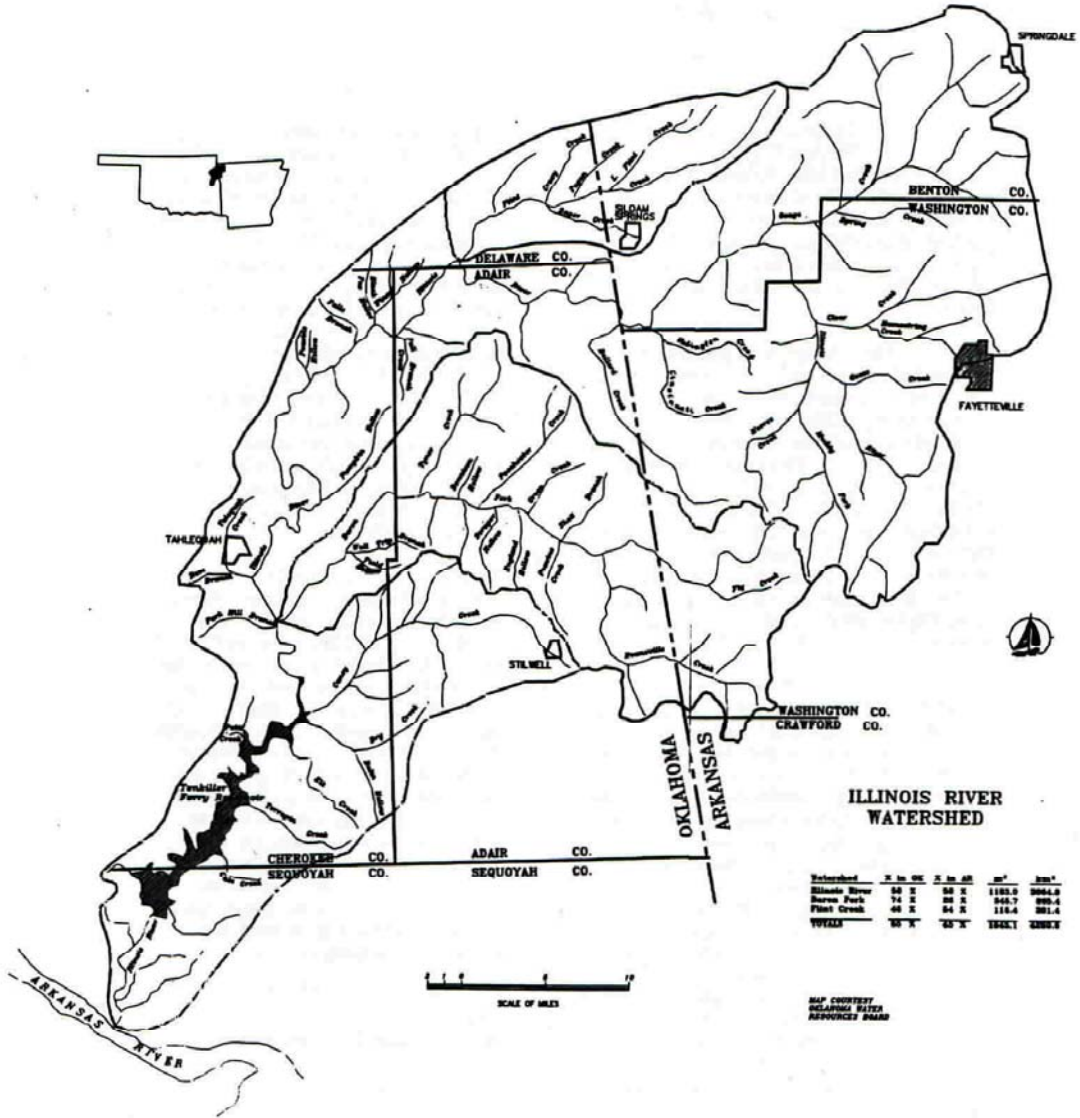


Figure 1. The Illinois River Basin.

PROJECT OBJECTIVES

To reduce the release of untreated human waste to the Illinois River by providing increased accessibility to sanitary facilities for river users. To reduce the load of litter to the river from recreational users through the distribution of trash bags.

PROJECT DURATION

The project lasted 6 years, from October 1995 through December 2001.

PROJECT TASKS

Task 1--Trash Bag Program

Litter left behind by recreationists in the Illinois River area is an ongoing problem. Educating people that use the river concerning the proper disposal of trash remains a high priority. This project funded the purchase of trash bags with an anti-litter message. These bags were distributed to river visitors to encourage litter removal.

Approximately 371,000 trash bags were purchased with funding from this project. Over 120,000 trash bags were distributed between November 1996 and September 2001. The Oklahoma Scenic Rivers Commission stores the bags and distributes them to businesses along the river corridor, including commercial outfitters. These businesses, in turn, distribute them to campers, floaters and other visitors. Additionally, OSRC staff members distribute bags to individuals who stop by the OSRC Visitor Center, during educational programs and while interacting with the public on the river. Trash bags are also provided to volunteer groups who wish to pick up litter in the watershed.

The OSRC estimated that 85% of the trash bags purchased by this project were distributed to commercial outfitters. The results of the trash bag survey show that visitors used 70% of the bags they received for trash disposal. Visitors used the remaining 30% to store clothing, towels and other items they wished to keep dry, or they did not use the bags. The average return weight of the bags is between 4 and 5 pounds. Visitors who received trash bags from their commercial outfitters removed over 160 tons of litter from the river area.

Fifteen percent of the bags purchased by this project were not distributed to commercial outfitters. These bags were distributed by the OSRC directly to groups or individuals for clean-up projects. Clean-up projects include events such as the annual Illinois River Cleanup, the Cherokee County Trash-Off Day and smaller scale projects carried out by civic groups, environmental groups and the Boy Scouts. One hundred percent of these bags were used for litter removal. The average return weight of the bags during this type of event is between 5 and 6 pounds. Almost 50 tons of trash were removed from the river area through clean-up events. The trash bag program resulted in a total estimated weight of 210 tons of trash being removed from the river area between November 1996 and September 2001.

The first polyethylene trash bags ordered were approximately 16" X 36" in size and had a 30-gallon capacity. The OSRC obtained \$2,500 in corporate sponsorships to help offset the cost of

the bags. These donations allowed the OSRC to purchase many more bags than originally planned. Corporate sponsors included Budweiser, Pepsi, Food-4-Less (a grocery store) and E-Z Mart (a convenience store). Corporate sponsors were acknowledged on the bags.

OSRC maintenance and float crew staff observed that most of the bags they collected during the survey or retrieved from trash barrels in the public access areas were only ¼ full of litter. When it was time to reorder bags, the OSRC decided to try a smaller bag to reduce waste. The 24” X 32” bag that was chosen seemed to be a good size for the aluminum cans, food wrappers and other waste campers and floaters generated.

The environmental message printed on the trash bags read,

“FOR A GREAT DAY ON THE WATER, REMEMBER TO
HELP PRESERVE OKLAHOMA STREAMS
PACK IT IN, PACK IT OUT

FINE FOR LITTERING- \$200

AND
BOAT SMART FROM THE START
WEAR YOUR LIFE JACKET

PROVIDED BY THE
OKLAHOMA SCENIC RIVERS COMMISSION
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OKLAHOMA CONSERVATION COMMISSION”



Figure 2. OSRC Administrative Assistant, Cheryl Allen, shows one of the trash bags distributed to river visitors to encourage litter removal from the Illinois River area.

Task 2--Toilet Facilities

Approximately 400,000 visitors come to the Illinois River each year for recreational purposes. Prior to this project, only ten permanent toilet facilities existed along the 32 miles of river primarily used for recreation. These toilets are located in the public access areas along the river. Permanent pit toilets are purposefully constructed well out of the flood plain, to prevent contamination of the river from the pit contents during high water events. The toilet facilities are located in the camping area of the public access area, and are generally not visible from the river or adjoining gravel bar (although there are signs describing the availability of the facilities at the water's edge). While the pit toilets are not difficult for people floating the river to reach, they tend to be inconvenient, located 200-600 feet away from the river's edge. Peavine, Round Hollow and the Edmondson Public Access Areas each have only two toilet facilities. No Head Hollow, Todd, Echota and the Stunkard Public Access Areas each have only 1 toilet facility, and the Riverside Park Public Access does not have any. These 10 toilet facilities are inadequate to meet the needs of 400,000 visitors. This project provided funding for the construction of two additional permanent toilet facilities and the leasing of seventeen portable pit toilets to meet the needs of the visitors.

Permanent toilets

Two permanent pit toilets were installed in Round Hollow Public Access Area. The toilets were placed in the north end of the public access area. Prior to their construction, campers and visitors at the south end of the access area had to walk approximately 300-500 feet to avail themselves of the existing facilities. The toilets installed at Round Hollow are pre-fabricated, waterless pit toilets. These toilets are constructed of a super-strong polyethylene that is low-maintenance, easy to clean and resists graffiti. They are odor-free and meet all ADA accessibility requirements. The toilets were constructed in September 2001, after the recreational season ended.

Over 3,000 gallons of sewage were pumped from two permanent toilets constructed near Combs Bridge during a time frame including four recreational seasons (FY 1992 104 (b)(3) Task 400). After less than one year from the Memorial Day 1994 opening, over 12,000 gallons of waste were pumped from ten permanent toilet facilities constructed along the Illinois River in another 319 (h) project. According to this data, the two toilets constructed during this project could prevent over 1,500 gallons of untreated waste from entering the stream per year. More information about the toilets is included in **Appendix A**.

Portable toilets

Portable toilet rental provided the additional toilet facilities necessary during the recreational season (Memorial Day through Labor Day). The portable pit toilets were placed on gravel bars where they were highly visible and easily accessible to floaters. The toilets can quickly and easily be moved from the river's path in case of a high water event. Seventeen portable toilets were leased and placed in public access areas along portions of Flint Creek, Barren Fork Creek and the Illinois River, all within the Illinois River watershed.

The toilets were leased from Site Services, a licensed vendor that placed the facilities at the beginning of the recreational season, removed them at the end of the season and moved them from the flood plain in case of a high water event. Site Services cleaned and maintained the toilets 3-4 times a week and provided any necessary repairs. It was extremely important to keep the facilities clean to encourage their use. Site Services pumped approximately 1,700 gallons of waste from the portable toilets between May and September 2001. This project provided funding for a four-year period (1998-2001). General specifications for the portable toilets are included in **Appendix B**.



Figure 3. Prefabricated permanent pit toilet facilities installed at Round Hollow Public Access Area along the Illinois River.

Task 3--Signage

The OSRC installed thirteen signs informing visitors that they were entering the watershed of a state-designated scenic river (Figure 4). These signs were installed on all major highways at the boundaries of the Illinois River Watershed. They were also placed at the boundaries of the Flint Creek and Barren Fork Creek Watersheds. These streams are tributaries of the Illinois River and are state-designated scenic rivers as well. The signs read “Welcome to the Illinois River (or other) Watershed, A State-designated Scenic River, Please Keep Oklahoma Streams Clean!”

The OSRC inventoried the signage along the river to determine where visitor information signs were outdated, nonexistent or damaged. Priorities were signs that identified the location of toilet facilities, signs that informed visitors of the rules regarding litter and other informational signage that contained an environmental message. Nineteen signs were replaced, repaired or installed as needed. Each of these signs included an environmental message such as ““Pack it In, Pack it Out” or Protect Our Rivers, Don’t Litter”.

Signs identifying the location of toilet facilities are located at the edge of the stream just before every commercial outfitter and public access area. The sign identifies the site by name and includes the universal sign for restroom facility. These signs encourage those who recreate on the river to protect it by using the facilities that are available to them. Nearly every sign posted by the OSRC contains an environmental message. Every public access area and every commercial outfitter displays prominent signs listing the rules prohibiting glass and styrofoam in the river area and explaining the rules regarding littering a state-designated stream.



Figure 4. Watershed boundary sign.

Task 4-Float Crew

Litter removal by float crew

This task was initiated to supplement the efforts described in the previous three tasks of the workplan. The trash bags, signs, and toilets were very effective, but some trash still found its way into the water and along the shore. To remedy this problem a seasonal float crew was hired during the recreational season of 2001 to float the Illinois River and remove litter from the stream and streambank. The OSRC float crew floated in canoes and picked up trash in the segment of the Illinois River that is used for commercial floating. This area begins near Chewey Bridge and ends near the junction of U.S. Highway 62 and State Highway 10, a 32-mile stretch of river. This segment of river was divided into five equal sections. The float crew policed one of each of the five sections each day of the work-week (Monday through Friday) from Memorial Day weekend through Labor Day weekend, as weather permitted. This schedule resulted in the entire commercial segment of the Illinois River being policed for trash by the end of the week. The five-section rotation was repeated each week throughout the season.

The Float Crew gathered 692 bags of trash from May 24 through September 28, 2001. The OSRC disposed of a total of 26 tons of trash from May through September 2001. The weight figure includes trash collected by the OSRC float crew as well as trash the OSRC maintenance crew collected from the trash receptacles located in the public access areas. This figure does not include metal objects, such as barrels, barbecue grills, car parts and other metal items that are illegally disposed of by residents or that are washed into the river basin during high water events. The OSRC maintenance supervisor estimates that the OSRC removes approximately 4 tons of metal from the river basin annually. Neither does the figure above include the 300-400 tires collected and disposed of by the OSRC each year. Many residents choose to dispose of their tires by dumping them illegally, rather than pay the \$1 tire disposal fee (as evidenced by the large number of tires the OSRC retrieves within its jurisdiction). The OSRC then assumes the tire disposal fee of up to \$400 annually. Essentially, the OSRC is financially penalized for doing a good job.

Brochure distribution

The Illinois River Floater's Guide was designed to encourage environmentally friendly behavior in visitors to the Illinois River and its tributaries. The Floater's Guide introduces the Illinois River and emphasizes the beauty and value of this natural resource. It explains clearly that littering a scenic stream is punishable by up to a \$1,000 fine and /or a 30-day jail term. The prohibition of glass and styrofoam containers and bottles is listed twice, and the guide explains the specific rules regarding littering a designated scenic river area. The edition of the Floater's Guide used at the beginning of this project promoted the "Illinois Jones" cartoon character, the mascot of the Illinois River. The Floater's Guide was revised in 1999 to promote the "Pack it In, Pack it Out" environmentally friendly philosophy, and to encourage visitors to ask for the free trash bags provided by this project. The Illinois Jones character was not included in the revised Floater's Guide due to the character's heavy use and promotion in other local 319(h) projects, a sister watershed demonstration project and a continuing education project within the Illinois River Basin. The Floater's Guide also includes general information about the Illinois River,

safety and emergency information, a map of the river, and contact information for commercial outfitters and related businesses.

The Floater's Guides are distributed to river visitors through several avenues. They are mailed to individuals who request them from the OSRC office. They are provided to the commercial outfitters and other businesses in the Tahlequah area. The brochures are also distributed to Oklahoma Welcome Centers across the state, and several Chambers of Commerce. Approximately 28,000 Floater's Guides were distributed from October 1995 through September 2001. Please refer to **Appendix C** for copies of the original and revised Illinois River Floater's Guides.

Visitor surveys

Two hundred and fifty Illinois River visitors were asked to complete a survey that focused on the quality of their experience from a recreational standpoint. Two hundred and ten individuals completed the survey and 40 individuals refused to participate. OSRC staff conducted the surveys on twelve weekend dates in August and September 2001. The surveys were administered at various canoe take-out points along the river, usually mid-afternoon, when a large number of people were coming off the river. A summary of the survey results follows. For the sake of brevity, the author's comments about each survey question follow the corresponding question in italics. The survey results exclusive of the author's comments are presented in **Appendix D**.

Summary of the 2001 Illinois River Visitor Survey

Agreed to Be Surveyed 84%

Refused to Be Surveyed 16%

1. How many times have you visited the Illinois River?

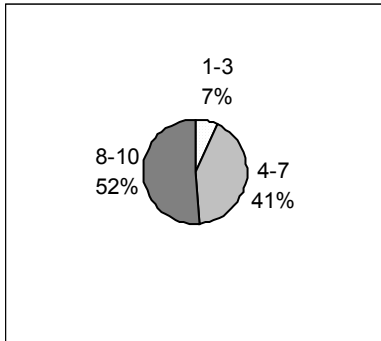
First time 19%

2 times 13%

3+ times 68%

Eighty-one percent of those surveyed are repeat visitors to the Illinois River. The high return rate indicates visitors are having a satisfactory recreational experience. These numbers indirectly demonstrate success of the efforts of this project—reduction of litter and human waste in the Illinois River Area. An excess of either of these would most certainly result in an unsatisfactory recreational experience. The other exciting aspect of the repeat visitors is that it provides another opportunity to increase public awareness of the need to protect our environment and water quality.

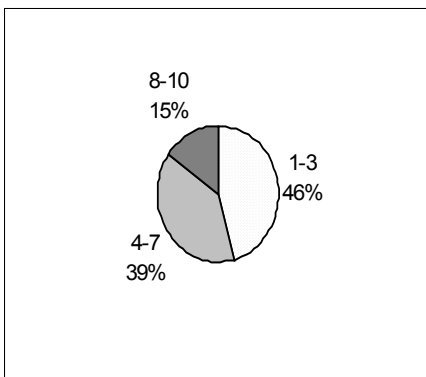
2. On a scale of one to ten, one being very bad and ten being very good, how would you rate the appearance of the water of the Illinois River?



Over half the people surveyed (52%) rated the appearance of the water as "good" to "very good" (a score between 8-10), and 41% rated it as "fair" to "satisfactory" (a score between 4-7). Only 7% rated it as "very bad" to "bad" (between 1-3).

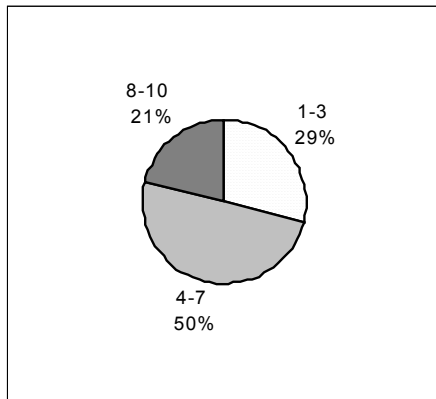
Although "very bad" and "very good" were not defined for visitors, the authors of the survey assumed the qualities the average visitor attributes to "appearance" of the water. Visitors who come to recreate and enjoy the stream appreciate a stream and stream bank that are free of litter. They expect that the water is free of algae, scum, foul odors and is relatively clear. This question is closely related to question #11 of the survey, which asks visitors whether their experience on the river enhanced their appreciation and respect for clean water and a clean environment. Ninety percent of those surveyed said yes. Certainly an enhanced appreciation of the resource is closely tied to good appearance of the water.

3. On a scale of one to ten, with one being no litter and ten being a large amount of litter, rate the amount of litter you saw during this visit.



Nearly half the people (46%) saw no litter or very little litter (a score between 1-3). Thirty-nine percent of the people saw some litter (a score between 4-7), and only 15% saw a large amount of litter (a score between 8-10). This excellent evaluation can, in part, be contributed to the efforts of the OSRC float crew and an increased public awareness.

4. On a scale of one to ten, with one being no erosion and ten being a large amount of erosion, rate the amount of bank erosion you saw during this visit.



Twenty-nine percent of those surveyed saw little or no erosion of the banks along the river (a score between 1-3). Half the people surveyed saw some erosion (a score between 4-7), and 21% saw a large amount of erosion (a score between 8-10)

It is exciting to see that at least 71% of those surveyed are cognizant of the fact that erosion is occurring. Before the public will support erosion remediation and prevention projects, they must be aware that erosion is a local problem and be aware of the detrimental effects of erosion on wildlife, stream flow, flood control, water clarity and other aspects of water quality.

5. Have you seen and read the various signs posted that advise of the amenities, rules, and need for a clean environment?
Yes 69%
No 31%

The OSRC attempts to use a minimum of signage to preserve the aesthetic value of the Illinois River Corridor. When signage is used, it is carefully designed to provide the most important information in a clear manner. The location of signs is carefully chosen, as well, to have the maximum impact. The fact that an overwhelming number of individuals surveyed (69%) saw and read the signs is validation that the information on the signs is being read by river visitors and that the visitors are receiving an environmental message. A large portion of the informational signage along the river was provided by this project and other 319(h) projects.

6. Are you aware of the efforts of the Oklahoma Scenic Rivers Commission to keep the river corridor and the water clean?

Yes 60%

No 40%

It is estimated that 300,000 people visit the Illinois River on an annual basis for recreational purposes. Since the OSRC usually has a maximum of about 18 staff, the OSRC relies mostly on printed material to get its messages to the recreational public. Well over half of the Illinois River visitors are aware of the OSRC's environmental efforts. This can be attributed to the success of the printed material, such as the signage that is in place along the river corridor and the public access areas and the Floater's Guide. Another factor that likely contributes to the level of awareness is the fact that many visitors have been to the river more than once (81% of those surveyed in 2001 were repeat visitors). Our hope is that each time a person returns, their level of awareness and appreciation for the resource continues to increase and that a cleaner environment will be found.

7. Did you receive and use the free trash bags that were provided for litter disposal?

Yes 39%

No 60%

Due to the nature of the question, it is difficult to sort out whether the public is not receiving the bags, or not using the bags they received. In future surveys, it would be helpful to divide this question into two separate parts to more easily ascertain the success of each aspect of the program.

Only 39% of those surveyed received and used the free trash bags provided by this project. This fell short of our expectations. Since the survey was tallied, the OSRC has been investigating how different commercial outfitters distribute the bags to their customers. The distribution methods vary greatly. Some outfitters place a box of bags near the front door of the business without any explanation. In other operations, a staff person hands bags to a member of the group during the canoe rental transaction. Other operators carry bags on the buses that transport patrons to the starting point of their float and discuss the free trash bag program and its goal of reducing litter in the river basin. The OSRC plans to meet with the operators before the next recreational season to find a uniform program that will ensure the public is receiving the bags. The program must be simple in order to be implemented by the operators.

8. Did you bring back or pick up any other litter that was not your own?

Yes 62%

No 38%

Most people picked up or brought back litter other than their own. Certainly this indicates the majority of visitors are environmentally conscious. It is safe to assume that those who are bringing back the litter of others are probably disposing of their own litter correctly. Additionally, in survey question #3, only 15% reported seeing a large amount of litter. This indicates that the multifaceted approach this project is taking to reduce litter in the Illinois River area is successful.

9. Did you take advantage of the portable or permanent restroom facilities along the river corridor?

Yes 33%

No 67%

While only 33% of those surveyed used the restroom facilities provided, it does not necessary mean that those who did not take advantage of the facilities left their waste behind. About 1,700 gallons of waste were removed from the seventeen portable pit toilets in the 2001 recreational season. Between spring 1995 and November 1998, over 3,000 gallons of sewage were pumped from two permanent pit toilets in a canoe access area. In fact, one third of the visitors utilizing the facility and the large amount of waste being removed from these facilities indicates the project was successful.

10. Rate your use of a personal flotation device (like a life jacket) during the time you spent in a canoe, raft, tube or kayak

a. I did not have a personal floatation device 4%

b. I had a personal flotation device but did not wear it 54%

c. I had a cushion-style personal flotation device 8%

d. I wore a personal flotation device part of the time 8%

e. I wore my personal flotation device the entire time 13%

f. I did not float down the river in a canoe, raft, tube or kayak 12%

This question was included at the request of the OSRC administrator, since one aspect of the OSRC's duties is ensuring the safety of visitors in and along the river.

11. Has your experience on the river today enhanced your appreciation and respect for clean water and a clean environment?

Yes 90%

No 10%

The whole experience on the river was a positive one for the visitors who have increased their awareness and appreciation of a clean environment and have reduced the waste and trash left behind. This experience will help visitors to be more conscientious and hopefully alter their environmental behavior.

12. Do you have any suggestions for the Oklahoma Scenic Rivers Commission about ways your visit to the Illinois River could be improved?

Keep up the good work (10)

Reduce litter (10)

Limit or ban alcohol use (9)

Increase law enforcement (9)

Mileage markers needed (7)

Comments about having a positive experience (6)

Concerns about water quality (6)

Provide more trash cans (6)

Littering: Increase education and information and/or enforcement and/or fines (6)

Remove trees (3)

More public access areas (3)

Signage indicating location of public access areas

More restroom facilities (3)

Signage indicating location of restroom facilities (3)

Cleaner restroom facilities

Erosion a problem/river too shallow (4)

Too many boats (2)

Concerns about young children on river (2)

More signage indicating location of public access areas

More funding for public access areas

No smoking

No foul language

RV dump stations needed

Designated beach and area for watercraft needed

Increase promotion of the Illinois River Area

Better fishing

Safety sessions should be required by state

Running water

Increase availability of day use permits

Restrict loud music during the day

Reduce camping along river

Provide showers

Timed lighting

Lower rates

Fix canoes

Larger life vests available for larger people (over 150 lbs)

Of the 109 individuals who responded with comments, 15% had comments about having a positive experience or praised the efforts of the agencies that manage the river. Thirty-one percent made suggestions about environmental improvements in the Illinois River. Seventeen percent had suggestions for improving informational signage or restroom facilities.

MEASURES OF SUCCESS

Task 1-Trash bags

Over 120,000 trash bags were distributed to river visitors between November 1996 and September 2001. In a survey early in the project the average weight of trash bags brought back by visitors were 4-5 lbs. Trash bags returned during clean-up events averaged 5-6 lbs. Based on these averages, visitors removed 160 tons and clean-up participants removed about 50 tons. Together, volunteers removed 210 tons of litter from the river corridor between November 1996 and September 2001.

While only 39% of those surveyed received and used the free trash bags that were provided, 62% brought back litter that was not their own. Additionally, in survey question #3, only 15% reported seeing a large amount of litter. This indicates that the trash bag distribution project, coupled with the efforts of the OSRC float crew and maintenance crew has been successful and is making an impact on the amount of litter in the river corridor.

Task 2-Toilet facilities

Two permanent pit toilet facilities were constructed in Round Hollow Public Access Area in 2001. This brings the total number of public permanent toilet facilities in the Illinois River Basin to twelve. The average amount of waste removed from other permanent pit toilets is 444 gallons/toilet/year. The two new toilets may prevent 888 gallons of untreated human waste from entering the stream each year. These toilet facilities will be available to visitors for many years, as the OSRC will continue to maintain them.

Seventeen portable pit toilet facilities were rented throughout the recreational seasons of 1998-2001. The vendor removed 1,700 gallons of untreated human waste from these facilities in 2001. Based on these figures, the portable pit toilets may have prevented 6,800 gallons of sewage from entering the Illinois River over the life of this project. The portable pit toilet project is of highest priority to the OSRC, and the agency is committed to finding funding to continue this project.

While only 33% of visitors reported using the public toilet facilities that were available to them, the amount of untreated human waste that has been prevented from entering the stream indicates the importance and success of the permanent and portable toilet facilities. Nearly 70% of visitors did indicate that they saw and read the signs that advised them of these amenities available to them (as well as the river rules and need for a clean environment).

Task 3-Signage

The primary focus of this task was to install signs at the boundaries of each watershed to raise visitor awareness of the resource. Thirteen signs were installed on every major highway entering the Barren Fork Creek, Flint Creek and Illinois River Watersheds. These signs are visible to the passengers of every vehicle entering one of these watersheds, whether there to visit the resource or just passing through.

The second aspect of this task was to survey the public access areas and river corridor and replace visitor information signs that had been vandalized, stolen or were in other need of repair. Nineteen signs were replaced, each included an environmental message such as "Pack it In, Pack it Out" or Protect Our Rivers, Don't Litter".

Sixty-nine percent of visitors surveyed saw and read the various signs posted that advised of the toilet facilities, rules and need for a clean environment. Sixty percent were aware of the efforts of the OSRC to keep the river corridor and water clean. The results of this survey indicate that the signs in the river corridor were successful in having a major impact on river visitors.

Task 4-Float Crew

The float crew removed 692 bags of litter from the stream and surrounding area. The float crew, coupled with the OSRC maintenance crew removed 26 tons of trash from the Illinois River, Flint Creek and Barren Fork Creek areas in 2001. This figure did not include the 300-400 tires and 4 tons of metal disposed of by the OSRC in 2001.

The visitor survey results indicate the efforts of the float crew, coupled with the trash bags program are having a significant impact. Nearly half the people (45%) saw no litter or very little litter (a score between 1-3) and 38% of the people saw some litter (a score between 4-7).

Brochures

Approximately 28,000 brochures were distributed between October 1995 and September 2001. The brochures encourage visitors to ask for a free trash bag. Rules regarding the prohibition of glass and styrofoam in the river corridor are explained, as well as the rules prohibiting littering a state-designated scenic stream. The brochures encourage environmentally friendly behavior. The impact of the message contained in the brochures can be assessed from the results of the visitor survey. Sixty percent of visitors are aware of the OSRC's efforts to keep the river corridor and water clean. Sixty-two percent of visitors brought back litter other than their own.

Survey

Eighty-one percent of visitors to the Illinois River are return visitors. This certainly indicates that these people are having a satisfactory recreational experience. In question #2 of the visitor survey, over half the people surveyed (52%) rated the appearance of the water as "good" to "very good" (a score between 8-10), and 41% rated it as "fair" to "satisfactory" (a score between 4-7). Ninety percent of visitors reported that their experience of the river enhanced their appreciation and respect for clean water and a clean environment. These factors, when considered with the other results of this project, clearly indicate the overall success of this project.

CONCLUSION

The Oklahoma Scenic Rivers Commission implemented this project over a six-year period. Supported by the Oklahoma Conservation Commission and funded by the Environmental Protection Agency, the effort was managed to a successful conclusion. Literally tons of sewage and litter were removed from an environmentally sensitive area, and a mechanism and plan were left in place to perpetuate the effort beyond the life of the project. An environmental message was transmitted and received by the recreational users. We feel this message will translate to enhanced environmental behavior. This project has been a success, but is only a beginning. The Oklahoma Scenic Rivers Commission is seeking other funds and support to continue where this project has left off.