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DATE

PUBLIC USE ON THE KANEKTOK RIVER

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T.D. NO.  
U.S. Fish and Wildlife Service

CITATION 1011 ANCHORAGE, ALASKA  
Anchorage, Alaska 99500

Steve Martin  
USF&WS Volunteer

OBJECTIVE

- 1) Collection of public use data on the Kanektok River and Kagati Lk
- 2) Promote catch and release fishing techniques,
- 3) Educate the public on the Refuge and Wilderness Area use.

METHOD OF STUDY

First year of study. Two USF&WS Volunteers established a camp at Kagati Lake, headwaters of the Kanektok River, and made contact with nearly all the people landing at the lake for whatever purpose. No official forms were carried, all information was derived through personable conversation. Information on the refuge was disseminated casually and needle-nose pliers were given to fisherman to promote catch and release fishing.

MAIN FINDINGS

433 people were contacted: 49 stayed at Kagati Lake; 384 floated the river in 56 parties. Guided use accounted for 53.5% (38 parties, 294 people), unguided use for 46.5% (33 parties and 90 people).

A season total of 3,362 user days were recorded with 76% of these being professional guided use days.

CONCLUSIONS

The public use documented at Kagati Lake is an unknown proportion of the overall river use. Data is lacking for a complete comparison of the generally accepted sportfishing increase.

MANAGEMENT IMPLICATIONS

This is the first step to establishing a data base from which decisions on wilderness and fishing qualities on the Kanektok River will be able to make educated decisions.

On Reserve

ADDITIONAL REMARKS

The total number of use days recorded in no way reflects the total use of the river by sportfisherman. This is due to the use that originates from the village of Quinhagak and from professional guide camps on the river.

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U.S. Fish and Wildlife  
Togiak National Wildlife Refuge  
Box 10201, Dillingham Alaska 99576

DEPARTMENT OF THE INTERIOR  
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PUBLIC USE ON THE KANEKTOK RIVER

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I.D. NO.

AUTHOR(S)

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CITATION

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PUBLIC USE ON THE  
KANEKTOK RIVER SYSTEM.

By

Steve Martin ✓

USF&WS Volunteer

Key Words: Kanektok River  
Kagati Lake, Kuskokwim  
Bay, Southwest Alaska  
Sportfishing Effort,  
Public Use,  
River Use.

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P.O. Box 10201  
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June thru September 1985

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## INTRODUCTION

The Kanektok River is one of three principal rivers in the Togiak National Wildlife Refuge. It is approximately 93 miles long; a clear water river that originates at Kagati Lake in the Ahklun Mountains. It flows roughly west through the mountains, braiding its way through the coastal plain, to its terminus on the Kuskokwim Bay at the village of Quinhagak. The upper 73 miles (approximately) of the river lie within Togiak NWR, and have been designated wilderness area.

It is a visually beautiful river; flowing through tundra, dense willow and alder thickets, and stands of cottonwood. It's a river system rich in wildlife; especially birds, which include waterfowl, raptors, shorebirds, and passerines. It's shores are home to many mammals as well, including brown bear, moose, red fox, and beaver. The Kanektok River system is also a very productive fishery.

Host to annual runs of King, Red, Pink, Chum, and Silver salmon, it also supports a considerable population of native fish, such as Dolly Varden, Arctic Char, Arctic Grayling, and Rainbow Trout. In fact, it is nearly the westernmost limit of the natural range of Rainbow Trout.

It is a unique river. A wild river which is still virtually unspoiled by modern man.

The Kanektok is host to the subsistence efforts of the villagers of Quinhagak, as it has been for untold years. More recently, it has become host to a growing number of sports fishermen as well.

The major reason Togiak NWR was established by act of Congress in 1980, was to ensure the protection of the area's wildlife resources; including the Kanektok River. Public use is one of the major problems to be dealt with in protecting these resources. In fact, it is one of the issues that must be dealt with in the long term comprehensive management plan of Togiak NWR. The plan is currently in preparation as mandated by Congress in the Alaska National Interest Lands Conservation Act of 1980 (ANILCA).

Public use (guided and unguided) on the river over the past several years has greatly increased. The refuge staff, aware of this, has become very concerned about the effect of increased human presence on the river, wilderness values, etc. Similar sentiments have been voiced by several concerned guides operating on the river. As a result, a public use survey

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was initiated for river use--primarily for floaters. Furthermore, effective management of any resource depends upon accurate data. This study is the first step towards more effective management of this unique river system.

A field camp, staffed by refuge volunteers, was established at Kagati Lake--where the river starts. It is here, at the lake, that virtually all of the float trips on the river begin. The camp was maintained throughout the entire summer season (June 21 through September 15, 1984). Using an inflatable rubber raft equipped with an outboard motor, the volunteers made it a point to contact every party arriving at Kagati Lake.

There were three specific objectives of the camp: 1) To obtain public use data; 2) To promote Catch and Release sportfishing; and 3) To educate the general public in "wilderness ethics".

Concerning the first objective--public use data--information was collected on the size of the party, its purpose (river float, day fishing, hunting, claim assessment, etc.), whether the group was guided or unguided, duration of the trip, the group's origin, and any comments or suggestions the interviewed people might have; especially regarding future management of the river system.

It was suggested prior to the start of the survey, that no forms or questionnaires be carried as the presence of such fact-gathering materials might intimidate or inhibit the responses of the people encountered. This seems to be an accurate assessment of the situation. Several people commented on the lack of forms, saying they were less inclined to talk freely to a person with a questionnaire in hand. Instead, attempts were made at conversation with each group, with pertinent questions raised during the course of conversation.

There are, however, certain limitations to this approach. It's a more time consuming approach than a questionnaire; though that may be more than offset by the occasional detailed responses received. Finally, it is very difficult to remember names, addresses, and responses of surveyed people without a form to take notes on.

Another limitation of a survey, conducted at the start of a float trip, is that there is no way to gauge the impact of the river on the public after the float is completed. Thus, many valuable suggestions or opinions may be missed. In addition, there is no way to measure the presence of those who motor the lower river from Quinhagak, or from the sport fishing camps outside the refuge boundary to within the refuge.

The second point--Catch and Release sportfishing-- although not required under Alaska Sportfishing regulations, was treated by the volunteers as a practice recommended by the refuge, and followed by almost all of the commercial fish guides (at least as far as Rainbow Trout and other non-anadromous fish species were concerned). Fliers and pamphlets were given to groups encountered at Kagati Lake; detailing proper catch and release techniques for salmonid fish. Long nosed (needlenose) pliers were provided by the King Salmon Fisheries Station, to be given to those members of the public who failed to bring any along with them. Finally, demonstrations of Catch and Release techniques were made to a number of unguided float and day fishing groups.

The third objective--wilderness ethics education--was brought up in the course of conversations with the people contacted on the lake. Basically, the term "wilderness ethics" means proper wilderness behavior. Specifically, a group should camp only on gravel bars, because they are less sensitive to human use. Furthermore, gravel bars are periodically scoured clean of debris by high water, especially during spring breakup. For that reason, a group should camp below the ordinary high water mark along the river. Wilderness ethics also encompasses other forms of appropriate behavior such as: cutting no standing vegetation, only burning dead and downed wood; picking up and packing out litter, both that of the group and that found along the river; proper burying of human waste and burning toilet paper; and in short, practicing the minimization of human presence along the river from the beginning of the float clear through to the end.

#### OBSERVATIONS

Before examining the actual numbers, some summarization about Kagati Lake and the Kanektok River are in order.

It is difficult to categorize those people who came to Kagati Lake but did not float the river. This group of people includes: fly fishermen who were practicing Catch and Release with Lake Trout (both guided and unguided parties); spin fishermen; "meat" fishermen from Anchorage and Bethel (those seeking to keep their legal limit of Lake Trout); sightseers; Interior Department employees; mining claim assessors; bear guides and hunters. These people were, however, only a fraction of the number of those who came to Kagati Lake to specifically float the Kanektok River.



A few general observations about those people floating the river in 1984 are possible. Obviously, all of the guides and their clients came well prepared to float, as were most of the unguided parties. These groups used river rafts ranging in size from 12-18 feet in length, complete with rowing frames and oars. The exceptions to these generalizations are:

- °One private group traveled the river by Klepper (folding kayak). A member of this party hit a sweeper and was rescued by another member of the same party, but lost his boat.
- °One group of three floated on a raft overloaded with gear: 3 ice chests, 7 waterproof bags, and an 8-hp outboard motor. This group planned to use paddles instead of oars to maneuver around sweepers, snags, and rocks in the channel.
- °Another group of three arrived at the lake with 2 rafts which they planned on tying together, stern to bow. One member of this party had no hip boots (just 10 pr. of socks).
- °A second group of three with 2 rafts were also prepared to tie their rafts together; however, they planned to float in the first raft and haul gear in the second. This way, one man would be guiding both rafts so two men could fish at all times.

NOTE: The last two groups were both cautioned to change their tactics in order to be assured of a successful float.

The people preparing to float were primarily fly fishermen, although much spinning tackle was in evidence. Most groups claimed to know, and were prepared to practice Catch and Release fishing. Many of these lacked forceps, hemostats, or needlenose pliers necessary for releasing hooked fish.

The majority of the non-guided float parties had one or more members who had been down the river at least once before. One couple was floating for their 13th year this season.

A total of 433 people in 71 parties was noted at Kagati Lake in the 1984 summer season. Of that number, 384 people (88.7% of the total) in 56 parties were river floaters; both commercially guided and unguided. Kagati Lake users made up the difference with 49 people (11.3% of the total).

FIGURE 1 shows the distribution of visitors to Kagati Lake in this period in terms of total users, and broken down into lake and river users.

The bulk of the floaters traveled in guided parties. Numerically speaking, 294 floaters (76.6% of the total number of floaters) in 35 parties were members of guided float parties. They made up 67.9% of all users of the Kagati Lake/Kanektok River system. 90 people in 21 parties (23.4% of the



river floaters) traveled in private or unguided float parties, comprising 20.8% of all drainage system users.

For ease of calculation, each float guide was considered a member of the float trip he departed with. Thus, if the float guide made 8 trips, he was counted 8 times. Whether the guide fishes or not, his presence on the river has an impact on the river in terms of additional camping facilities and additional garbage to dispose of; not to mention his ability to locate large concentrations of fish in order to ensure his clients' fishing success. Although these guides were counted as floaters, the time they spent at the lake (usually 24 hours before the arrival of clients) preparing rafts, cleaning equipment, etc., was considered lake use; especially in calculations of man-use days on the lake.

The average size of a lake user's group was 3.1 people. This average includes day fishermen, hunters, mineral assessors, etc., using the lake during the 1984 season.

During this period, the average size of a private or unguided river float party was 4.3 people. The average size of a commercial guided river float was 8.5 people. The average duration of both guided and unguided float trips was the same: 8.1 days. An average of 4.7 parties started floats each week; 1.8 unguided and 2.9 guided float parties per week.

The guided parties of both lake users and river floaters were from all over the United States, but primarily from the western states. Unguided lake users were almost entirely from Alaska (36 people or 73% of all lake users). The unguided float parties were composed of people primarily from Alaska (46 people or 51% of all unguided float parties). Nearly 28% were from 6 western states (CA, CO, OR, ID, NV, and WY). An additional 13% were from other states (MI, FL, TX, OK, MN, WV, DC, and ME), leaving 8% of the unguided river floaters from unknown starting points.

NOTE: Figure 2 provides summarizations of the data collected on a weekly basis through the 1984 summer season.

Of the 49 lake users, 31 were fishermen (63.2%), 25 were unguided day fishermen (51%) looking for Lake Trout. Six people were guided day fishermen (12.2%) and ten people were bear guides and hunters (20.4%). Five people were Interior Department employees (10.2%) and the remaining three people (6.1%) were assessing mineral claims near the lake.

In terms of river use, all the people were there ostensibly for sport fishing or wilderness experience reasons; essentially recreational purposes.

Figure three shows the distribution of float trip starts during the season. The graph of guided trips shows three peaks: one large and two small.

The largest peak occurred the week of July 7-13; appearing to coincide with the King salmon run. The second peak, occurring the week of July 28-August 3, seems to coincide with a late run of Red salmon, or the start of the Silver salmon run. The last peak, on August 11-17, coincides with the approximate timing of the bulk of the Silver salmon run. Unguided float party starts peaked in the period of July 28-August 28, during the Silver salmon run.

Man use days were calculated for lake and river use in the period from June 21-September 15, 1984. The combined total number of use days was 3,361.5 days or approximately 40 man use days on the drainage per day. To look at it in another way, on a typical day, approximately 40 people were on the lake, or floating the river. (Keep in mind this does not take into account the use from three sportfishing camps on the river within refuge wilderness boundaries, nor use by people traveling up river into the refuge wilderness area from below it's boundaries).

Use days on the lake make up a minor fraction of use on the entire drainage. The total lake use was 242.5 man days (7.2% of the total). In fact, this is an inflated figure in that it includes the time spent by commercial fish guides on the lake setting up camp and preparing equipment prior to starting their river floats. An adjusted figure that excludes use of the lake by river guides for float preparation is 141.5 man use days (4.2% of total drainage use). If bear hunting is excluded, the seasonal total of lake use is 41.5 days (approximately 1.2% of the total).

Obviously the bulk of man use days calculated were for river float trips. This total was 3,119 man use days (92.8% of the total recorded use on the Kanketok River system). The use days will be referred to as "float days". The total number of float days breaks down to approximately 37 float days on the river per day. This is the equivalent of 37 people floating the river on any given day of the 1984 summer season.

Approximately 78% of the float days were logged by commercial guided float trips (2,428 float days). This is nearly 29 commercially guided floaters on the river each day of the season. The other 22% of the float days in 1984 were logged by private parties (691 float days). This is equal to 8 unguided floaters on the river each day of the summer.

## CONCLUSIONS

At present, use of the Kagati Lake portion of the Kanektok River drainage is relatively minor compared to the use the river receives. It is however, the staging point for float trips on the Kanektok. At this time, it is as a staging area for float trips the refuge should be most concerned with, and not as a day use area.

There is no data on unguided use of the drainage prior to the 1984 season, and only minimal data on guided use prior to this period. Based on conversations with guides and private floaters who have been on the river in previous years, public use is on the upswing, and is certainly greater than it was previously considered to be.

Apparently at least two float guides intend to run more float trips on the Kanektok in 1985 than they did in 1984. With the addition of two new sport fishing camps within the refuge wilderness in 1984, it appears as though the river will see significantly more public use next year. As a result, resident fish populations will experience more intense sport fishing pressure next year compared to this year. Because these new camps are located in the midst of what several guides feel is their area, they will undoubtedly have an impact of the local Rainbow Trout population next season.

## RECOMMENDATIONS

The author of this report would like to make a number of recommendations relating to future management of this river system. Some stem directly from the public use survey. Other suggestions are based more directly from the conversations with guides and private floaters who have been on the river and are thus in a position to see the changes that increased public use may bring to the river.

The reader of this report must keep in mind that the primary concern of Togiak National Wildlife Refuge must be, by definition, the health of wildlife populations in the area. Human use of the river, not including subsistence use, must only be a secondary concern. Actions on the part of the refuge pertaining to river management should have wildlife populations in mind first, and a high quality wilderness experience for the public second.

A continuation of the current moratorium on the issuance of special use permits to commercial guiding operations on the Kanektok River system

is suggested. This moratorium should be maintained at least until knowledge of the size, distribution, recruitment rates, age/class structure, and other parameters of the resident fish populations of this river can be obtained. A determination must be made on how much sport fishing activity the Kanektok River system can support without detriment to the resident fish populations.

An additional suggestion is that the number of float trips on the river (guided and unguided) be held at the 1984 level, or reduced prior to a determination of resident fish population parameters; and how much sport fishing activity these populations can sustain without damage to them.

Consideration should be given to the establishment of a permit system for individual floats of the river by both guided and unguided parties, or at least regulations on the numbers of boat launches per day at Kagati Lake. This would serve to restrict the intensity of sport fishing pressure, and would help to ensure that these floaters arrived at the lake with adequate equipment to float the river.

In addition, an effort ought to be made to restrict the amount of time a group or camp may remain in one location on the river to time periods less than one full season. This would help to reduce fishing pressure in a given area on the river, reduce impact on local vegetation, and help to ensure a genuine wilderness experience for those floating the river.

ANILCA made existing subsistence use of the refuge a primary priority; the implication being that other uses of these lands, including recreation, are secondary in importance. The author recommends beginning a study of the type and extent of subsistence use on the refuge portion of the Kanektok River. This would be important information to have in order to gauge the total human impact on fish and wildlife populations of the river.

The public use survey conducted at Kagati Lake in the summer of 1984, should be continued in 1985. It is the best way of determining the number of people floating the river. It provides data useful in projecting future use of the drainage, and may suggest trends of public use applicable to other drainages in the refuge.

The field camp at Kagati Lake should also continue promoting catch and release sport fishing--especially the demonstrations dealing with the proper techniques for releasing fish unharmed. It is an appropriate place

to continue educating the general public in proper wilderness behavior.

NOTE: Wilderness values must not be compromised with overcrowding.

Based at the headwaters of the river, there was no way for the public use survey to determine the number of people on the lower river in 1984. With three seasonal sport fishing camps within the refuge wilderness boundary, and two or more camps just outside the refuge boundary, there is obviously additional public use that could not be measured. As a result, consideration should be given to public use work on the lower river as well.

There is currently no way of judging the river's impact on the public. More comments from the people using the river could be obtained by having someone stationed on the lower river within the refuge boundary. It is possible that comment forms handed out at Kagati Lake could be mailed to refuge headquarters. This would serve as a valuable public feedback mechanism for river management.

Consideration might be given to dissemination of refuge information and policies through the five major air taxi operators that service the drainage: Yute Air, Armstrong Air, Manokotak Airlines, Bush Air, and Executive Air.

#### BIOLOGICAL CONSIDERATIONS

Little is known, at this time, of the size or movements of the resident fish populations for the river (Rainbow Trout, Arctic Char/Dolly Varden, or Grayling). Furthermore, nothing is known about the population dynamics of these species. Studies should begin to obtain this much needed information. Tagging and sampling the non-anadromous resident fish, especially Rainbow Trout, would provide information pertinent to decisions about long term public use on the river.

In the interim, until these studies are complete and a determination of the carrying capacity of the river in terms of subsistence and sport fishing uses can be made, and to ensure a balanced multiple age class fish population structure, this study makes a number of additional suggestions:

- °Urge the Alaska Department of Fish and Game to drastically reduce sport fishing limits on all fish species in the drainage. The current limits are 15 fish/day and 30 in possession for most species, including Rainbows. Consideration should be given to the institution of a no kill policy regarding Rainbows, or perhaps reducing current limits to 2 fish/day and 5 fish in possession.

These actions would lower kills of this species on the river, as well as protect populations under increasing fishing pressure. It would also work to reduce some traffic and fishing pressure from some of the more heavily populated areas in the state. These are areas with fishing limits much more conservative than those currently in force on the Kanektok.

°Urge ADF&G to outlaw sport fishing with bait within this drainage. This is because of high mortality rates for fish caught with bait.

°Make Rainbow Trout a refuge or even regional species of special emphasis.

°Prohibit introduction of hatchery reared fish on the drainage. This is for a number of reasons: the possibility of introduced disease in the drainage; competition between hatchery and resident fish for the same resources; subsequent reduction in genetic diversity and variability in the resident fish species populations.

°Restrict or eliminate the use of power boats for sport fishing purposes on that portion of the river within the refuge wilderness area. This would prevent adverse impact of intensive day in, day out fishing of Rainbow Trout and habitat disturbance along the middle and lower sections of the river. It might also increase the frequency of wildlife sightings along this stretch of river and thus help to maintain a high quality wilderness experience for those people on the river.

Finally, two more suggestions of a biological nature are appropriate. The first is to start a wildlife resources inventory of this drainage. In addition to fisheries work, this would include waterfowl productivity studies and surveys of raptors, shorebirds, passerines, and furbearing mammals that inhabit the drainage. Secondly, a vegetative ecological survey of the drainage should be undertaken. This survey would include ecological work and identification of vegetative associations, vegetative mapping, and identification of successful community types.

COMMERCIAL GUIDE USE

GUIDE	# CLIENTS	#GUIDES	#USE DAYS ON RIVER**	# TRIPS
Dave Duncan & Sons				
7-Day float	48	24	504	7
10 Day float	75	39	1140 1710	9
Kibbons 11-Day float	4	2	66	1
Bus Bergman 7-Day float	36	18	378	9
Mike Edwards	8	4	96	3
Mike Trotter	12	6	126	3
Chuck Wirschem	7	5	84	2
Doyle Williams 7-Day float	4	2	42	1
Total	194	100	2436**	35
**Indicates actual use days on River. Does not include days at Lake by guides getting ready to float the river.				



The following are some of the many quotations from both commercial guides and private floaters talked to at Kagati Lake.

"This is our 13th year on the river. Until three years ago, we never saw anyone on the river. Occasional footprints or a bit of burned wood on a sandbar, maybe. Last year we saw several people and signs of many more; plus litter. But after this (pointing to 2 different camps set up on the lake) we may have to look for another river to float."

--floater from Anchorage.

"Stop the use of hardware (pixies and spoons); they are too hard on fish."

--float guide #1

"I don't want the Feds to say some one can't float the river, but a permit system like Denali's may be necessary."

--floater from Anchorage

"Deal with the power boat and garbage problems on the river."

--float guide #2

"Reduce limits to 1 or 2 fish per day and no big fish, might do it. Enforce the fine for litter. I'm opposed to a permit system."

--floater from Anchorage

"Set up a system like the one on the Snake River: So many people on the river per day; one guided party one day and one unguided party the next; soon permits required for all parties."

--float guide #3

"I favor a limited entry system for guides and a permit system for the unguided."

--floater from Tulsa, OK

"Coordinate the guides so their put-ins don't conflict; permit the private parties."

--float guide #4

"Don't let it get like the Situk River."

--floater from King Salmon

"I'm upset with the number of jetboats and the number of near-permanent camps on the river. The wilderness should be for rafting only."

--float guide #5

"I strongly oppose permits for private parties."

--floater from Portland, OR

"Crack down on commercial guides. The moratorium on special use permits is good. Ban motors on the river; rafting only. All private floaters should be required to have permits to float; or at least certain minimal gear standards like an ELT (Emergency Location Transmitter), raft, oars, rowing frame, rain gear and hip boots."

--float guide #6

FIGURE 1

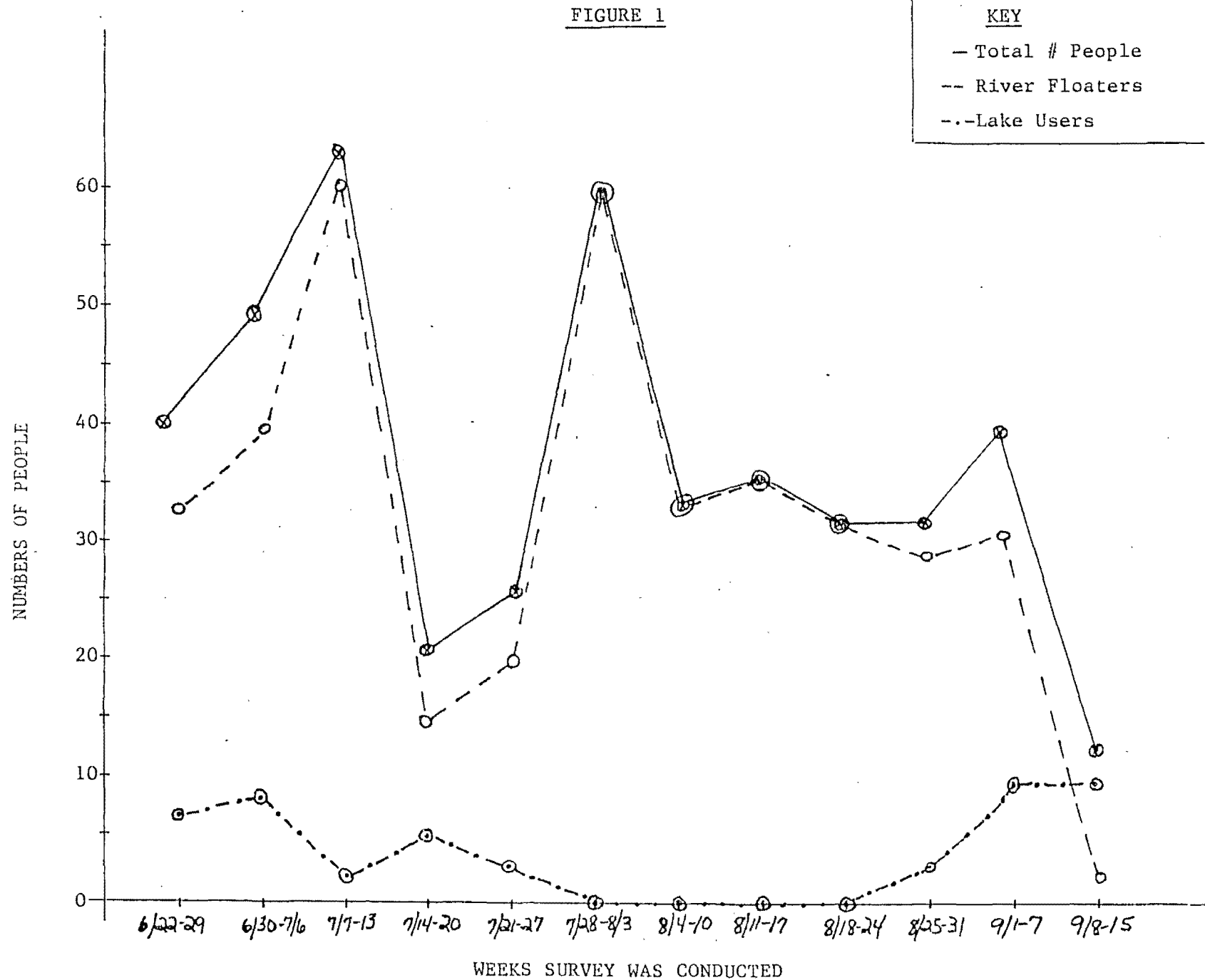
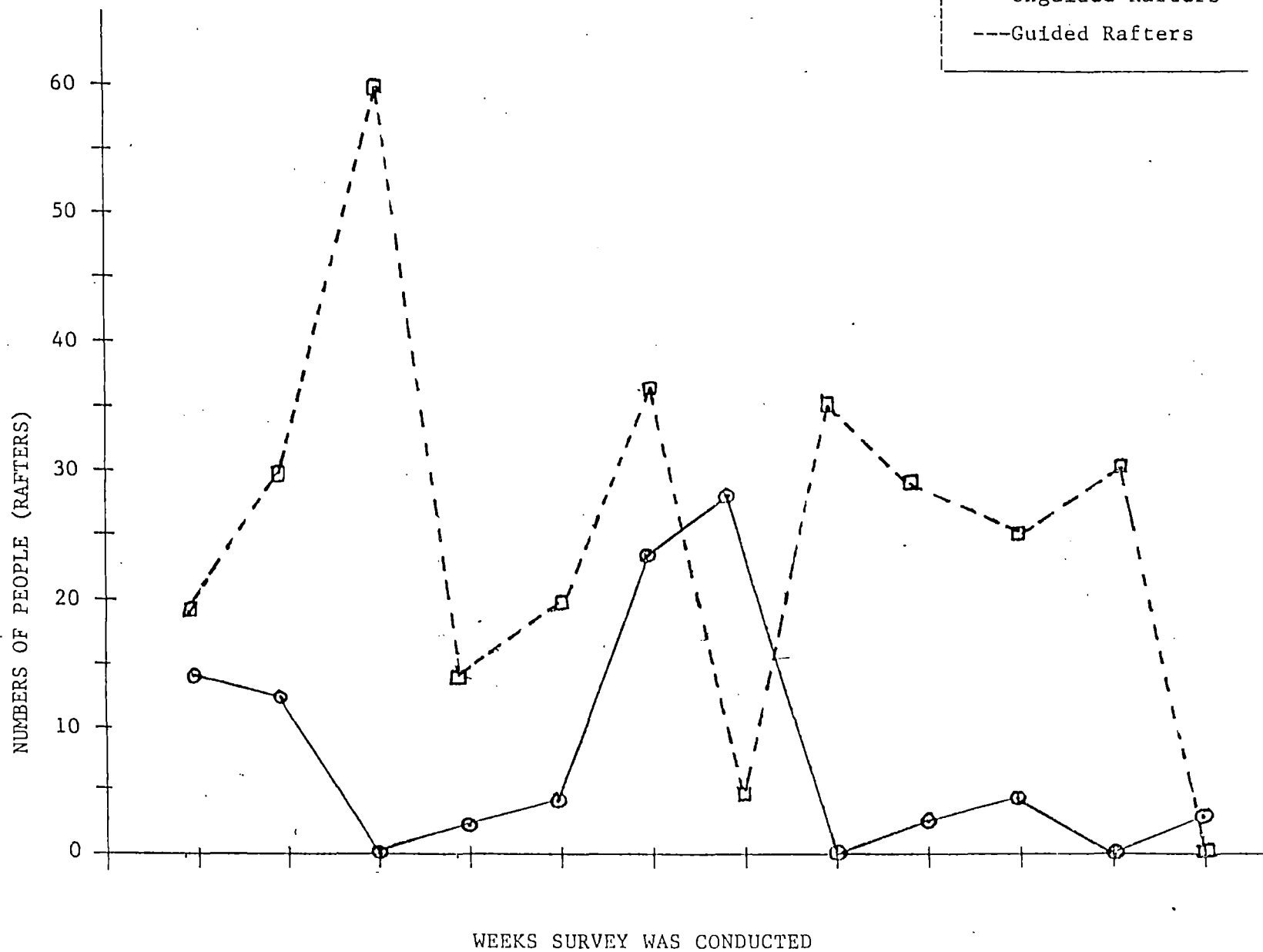


FIGURE 2	Total Number People	River Floaters	Lake Users	On- Guided Floaters	Unguided Floaters	Guided Floaters Minus Guides	Total Number Parties	Guided Parties	Unguided Parties	Guided Float Parties	Unguided Float Parties
June 21-29	39	32	7	14	18	12	8	3	5	2	4
June 30-July 6	48	40	8	12	28	18	11	4	7	4	3
July 7-13	61	59	2	0	59	39	8	7	1	7	0
July 14-20	20	14	6	2	12	8	4	1	3	1	1
July 21-27	25	22	3	4	18	12	4	3	1	2	1
July 28-Aug. 3	59	59	0	23	36	24	7	4	3	4	3
Aug. 4-10	33	33	0	27	6	4	7	1	6	1	6
Aug. 11-17	35	35	0	0	35	23	4	4	0	4	0
Aug. 18-24	30	30	0	2	28	18	4	3	1	3	1
Aug. 25-31	30	27	3	3	24	16	5	3	2	3	1
Sept. 1-7	40	30	10	0	30	20	7	4	3	4	0
Sept. 8-15	13	3	10	3	0	0	2	1	1	0	1
Total	433	384	49	90	294	194	71	38	33	35	21
Average per Week	36.08	32.00	4.08	7.5	24.5	16.17	5.92	3.17	2.75	2.92	1.75
Percent of Total	100%	88.68%	11.32%	20.79%	67.90%	44.80%	100%	53.52%	46.48%	49.30%	92.58%

FIGURE 3



"What effect do people have on salmon redds? What's the impact of people walking through, or jetboats going through spawning beds?"

--float guide #4

"It's the last river of its kind in North America."

--floater from Michigan

"Fishing's off when it ought to be good on the lower river....Yeah, it may be pretty crowded on the river next year."

--float guide #6

"I'm amenable to complete permitting of each float. Just keep it a rafting river. Powerboat fishing is hammering the native fish population. I'm even willing to see a reduction in the number of use days to protect the river."

--float guide #7

"Don't let them destroy the fishing here like they have in the Lower 48. No hatchery fish; just native fish. I've seen what striped and black bass have done to the native fish in California. No kill on the rainbow--the other species can probably survive."

--floater from southern CA

"We don't need the protein so badly to be killing native rainbows."

--float guide #7

"Fishing's off for the second trip in a row. Oh yeah, they (clients) caught fish. But they didn't leave the river amazed. Probably fishing pressure, especially from camps downriver that can fish the same holes day after day."

--float guide #8

"The number of people on the river doubled in two years. It'll double again next year and the year after that if nothing's done; in five years it'll be gone."

--float guide #3

Note: Birds seen at Kagati Lake from June 21 through September 10, 1984  
Numbers in parenthesis ( ) indicate number of sightings pre species.

Arctic Loon (34)  
Common Loon (28)  
Red Throated Loon (19)  
Red Necked Grebe (13)  
Canada Goose (7)  
Tundra Swan (1)  
White Winged Scoter (5)  
Black Scoter (70)  
Surf Scoter (6)  
Oldsquaw (33)  
Common Goldeneye (12)  
Common Merganser (21)  
Greater Scaup (52)  
Lesser Scaup (2)  
Green Winged Teal (17)  
Northern Pintail (23)  
Mallard (4)  
American Wigeon (3)  
Red Breasted Merganser (12)  
Lapland Longspur (39)  
Savannah Sparrow (39)  
Chipping Sparrow (3)  
American Tree Sparrow (13)  
Gold Crowned Sparrow (50)  
Fox Sparrow (5)  
White Crowned Sparrow (3)  
Snow Bunting (2)  
Bank Swallow (2)  
Tree Swallow (5)  
Cliff Swallow (9)  
Common Redpoll (23)  
Yellow Wagtail (54)  
Water Pippit (12)  
Black Capped Chickadee (10)

Northern Shrike (2)  
American Robin (1)  
Hermit Thrush (22)  
Swainson's Thrush (3)  
Varied Thrush (1)  
Wilson's Warbler (21)  
Yellow Warbler (21)  
Orange Crowned Warbler (4)  
Belted Kingfisher (6)  
Willow Ptarmigan (4)  
Arctic Tern (47)  
Bonaparte's Gull (2)  
Glaucous Winged Gull (52)  
Mew Gull (29)  
Long Tailed Jaeger (6)  
Least Sandpiper (13)  
Western Sandpiper (6)  
Semipalmated Plover (34)  
Short Billed Dowitcher (1)  
Black Turnstone (2)  
Common Snipe (3)  
Red Necked Phalaropes (4)  
Greater Yellowlegs (7)  
Rusty Blackbird (1)  
Black Billed Magpie (3)  
Raven (24)  
Rough Legged Hawk (23)  
Northern Harrier (17)  
Red Tailed Hawk (1)  
Bald Eagle (10)  
Golden Eagle (2)  
Gyr Falcon (6)  
Peregrine Falcon (6)

