

Cooperative Research for Monitoring Recreation Use of the Lower Salmon River

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Research Topic(s): Use estimation methods, Survey techniques, Boater characteristics
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1. Abstract

This study was not only an effort to gather useful, reliable recreational use data on the Lower Salmon River, Idaho, but also to develop a process for cooperative research bridging university and agency arenas. Compound sampling was used combining survey research and unobtrusive, nonparticipant observation to estimate use, observe recreationist behaviors, and gather perceptions and opinions relevant to current and future management actions. Results provide valuable data for future planning efforts and illustrate a beneficial research process to all parties involved.

2. Study Purpose

- “To describe an approach that managers can use to collect valid and reliable information about recreation uses of a linear river corridor with open access” (p. 42)
- Use a compound sampling approach “to gather both quantitative and qualitative information about recreation use along a portion of the Lower Salmon River in Idaho” (p. 44)

3. Findings

Response rate: 96%.

3.1. Use estimation

3.1.1. Summer

- Weekend: 99,323 ($\pm 13\%$)
- Weekday: 89,711 ($\pm 16\%$)
- Total: 189,034 ($\pm 15\%$)

3.1.2. Fall

- Weekend (and Total): 38,535 ($\pm 19\%$)

3.1.3. Winter/spring

- Weekend (and Total): 36,617 ($\pm 16\%$)

3.2. User conflicts

- Launch waiting times over one hour were observed to increase tension and and potential conflict
- Survey results suggest “most recreationists did not perceive conflicts occurring in the management area” (p. 52)

3.3. Recreational activities

Overall, “relaxing, viewing scenery, and observing wildlife ranked among the five activities in which visitors participated in most often during all three use seasons” (p. 52)

3.3.1. Summer

Camping and swimming most popular

3.3.2. Fall

Steelhead fishing most popular, and camping important

3.3.3. Winter/spring

Picnicking was most important

3.4. Recreation facility improvements

Majority of current users does not desire expanded facilities or increase in regulation

3.5. Distribution of users

Weekday use tended to occur on river segments three and five, whereas weekend use occurred mostly on segments one, three, and four

4. Key Discussion Points

- The sampling design allowed researchers to correlate use and distribution information with behaviors and opinions of users
- Cooperative research between university researchers and agency managers provides benefits to all involved
 - ! Direct involvement of the manager meant the data obtained through this study was applicable to management needs, and the manager gained new knowledge in research design and survey methods and the latest techniques
 - ! Researchers were able to apply research techniques to help solve practical problems, learn about current management issues and budget constraints, and gain new data for classroom study
 - ! Student involvement provided a vital link of communication between university and agency personnel, and ensured valuable skills in research, field work, and project management were gained
- Results of this study have been used in the development of a river corridor management plan that will benefit recreation users “through improved management decisions based on statistically valid and reliable data” (p. 55)

5. Management Recommendations

- Monitoring criteria for user conflicts might include length of wait time at a launch using a prescribed management standard “that fewer than 5 percent of the boaters can use a ramp over one hour” (p. 52)
- Distribution information “is useful for the manager’s determination of personnel allocation” during each season of use
- User distribution can also help managers target specific areas and user groups when regulation changes need to be posted for users or other pertinent management information
- Future studies should use proportionate sampling of strata based on use numbers gathered in this study

6. Research Design

- Unobtrusive, nonparticipant observation – to get a visitor count and observe visitor behavior
- Survey research, random sample, stratified by three strata: use season (summer: 6/15-9/15, fall: 9/16-12/31, winter/spring: 1/1-6/14), river segments (six equal ten-mile segments), and day types (weekday: Tuesday-Thursday, weekend: Saturday-Sunday)

6.1. Study Area

Lower Salmon River, Idaho from Vinegar Creek to Hammer Creek Recreation Area

6.2. Data Collection Instruments

Three 3 ½-hour time blocks each day were surveyed with the researcher spending one hour of each block observing recreationists and the remaining 2 ½ hours administering on-site questionnaires.

6.2.1. Unobtrusive, nonparticipant observation

- Modified instant-count sampling method was used
- “Observer counted all recreationists along the river corridor within a given segment during the one-hour observation period” (p. 48)
- Observations were made driving along the river at a constant speed
- Counts were made for each recreation activity based on the number of people engaged in the activity at the time of the observation

6.2.2. Survey research - on-site questionnaire

- Total Design Method by Dillman was used
- “The first three stationary recreationists encountered at designated sites” (p. 49) and at dispersed sites were contacted to fill out a questionnaire
- An attempt was made to replace refusals with the next recreationist

- “Recreationists within each strata were sampled equally because use patterns and distribution between river segments and time of use were unknown at the outset of this study” (p. 50)

6.3. Study Population

All recreationists on sampled days using the study area:

- From June 15, 1985 to June 14, 1986
- Throughout the week during the summer (except Fridays and Mondays) and on weekend days during the fall and winter/spring seasons
- At designated sites (developed recreation sites, heavily used undeveloped sites, and areas of interest to river manager) and dispersed sites (all other areas along river corridor)
- During three time periods: 800-1130, 1230-1600, and 1700-2030

6.4. Sample Size

Number of recreationists completing on-site questionnaire:

- Summer season – 296 recreationists
- Fall season – 139 recreationists
- Winter/spring season – 133 recreationists

6.5. List of Variables and Operational Definitions

6.5.1. Unobtrusive, nonparticipant observation

Number of recreationists in river segment, category of recreational activity engaged in, distribution of users along river corridor, potential conflict among users

6.5.2. On-site questionnaire (survey questionnaire not provided in paper)

“Recreationists’ opinions, their preferences for facility and management action, and activity participation and distribution” (p. 49)

7. Theories Used in Study

N/A