

Comparative Analysis of Whitewater Boating Resources in Oregon: Toward a Regional Model of River Recreation

Shelby, B., Johnson, R. L., and Brunson, M. (1990). *Comparative analysis of whitewater boating resources in Oregon: toward a regional model of river recreation*. WRR1-108. Corvallis, OR: Water Resources Research Institute, Oregon State University.

River(s): Clackamas, Deschutes, Rogue, Upper Klamath
Research Topic(s): User experience, Boater characteristics, Economic value of recreation, User satisfaction, Flow effects, Crowding
Type of Publication: Report

1. Study Purpose

- 1) “To compare the experiences provided on some of Oregon’s most popular whitewater rivers.” (p. 2)
- 2) “To undertake an in-depth analysis of whitewater recreation on a 15-mile stretch of the Clackamas River near the Portland metropolitan area.” (p. 2)

2. Findings

Clackamas response rate was 84%, Upper Klamath response rate was 76%, the Deschutes and Rogue response rates were not reported.

2.1. Use Patterns

- Vehicle access plays a factor in length of visit. The Clackamas and Upper Klamath offer similar boat miles, but the Clackamas is much closer to a large population base and has multiple paved accesses, whereas the Klamath is accessed by a rough dirt road. Most day use occurs on the Deschutes on the stretch paralleled by a good access road. Boat ramps on the Rogue are separated by a three-day float.
- Advance planning are dependent on distance to the river and management factors (e.g., lottery system on Rogue requires planning six months ahead).
- Boat type is determined by hydrodynamic characteristics (e.g., kayaks at Bob’s Hole on the Clackamas), distance to river, quality of fishing (i.e., more gear = more storage space), and types of commercial outfitting (e.g., rafting on the Klamath).

2.2. Social Impacts and Perceptions of the Experience

- “boaters’ standards for social impacts are most likely to be exceeded on the Deschutes, and least likely to be exceeded on the Clackamas. Impacts on the Rogue and Upper Klamath tend to be the same as, or slightly greater than, users’ standards” (p. 76-77).

2.2.1. Time in sight of other parties on river

- Deschutes boaters had the most relaxed standard and it was also the one most often exceeded (standard = 1.98 hours in sight of others, average reported was 3 out of 4 hours).
- Clackamas standard = 1.75 hours, average was 1.4 hours
- Klamath was nearly the same as the standard (standard = 1.4 hours, average was 1.32 hours)
- Rogue standard = 0.52 hours, reported experience was not part of this study, but an earlier study indicates impacts are about 0.5 hours out of 4 hours.

2.2.2. Perceived crowding

- Deschutes received highest crowding rating (5.8 out of 9)
- Clackamas, Upper Klamath, and Rogue all were reported at the “slightly crowded” level (rated between 3 and 4)
- “Since social impacts are within or nearly within boaters’ standards for these rivers, we might infer that whitewater recreationists can accept being “slightly crowded” at Oregon’s high-quality recreational settings, but are not willing to experience use densities beyond that level.” (p.79)
- Coping strategies for crowding were assessed on the Clackamas and Deschutes. 46% of Deschutes boaters and 35% of Clackamas boaters reported avoiding other boaters as their primary strategy. Other boaters reported trying to “change the way they think about the river, becoming resigned to a more crowded experience.” (p. 79)

2.2.3. Satisfaction with experience

- All rivers had high satisfaction ratings; Rogue and Upper Klamath were slightly higher than the other rivers.
- Authors suggest the Rogue and Upper Klamath ratings were higher because recreationists invested more (money, time) into their trips.

2.2.4. Current and preferred river experience

- Deschutes, Clackamas, and Upper Klamath users reported “undeveloped recreation” as the current experience provided (i.e., “where one can expect to see other users some of the time”)
- Rogue users selected “semi-wilderness” as the current experience.
- On all four rivers, more users preferred a more wild experience than what currently exists, with the Klamath having the largest gap between preferred and current.

2.3. Economic Values

See report for details.

2.4. Substitutability

Two options were given for users unable to boat on the planned trip date: boat on a different river on that day or do a different activity.

- “large majority of boaters on the Clackamas, Deschutes and Rogue would substitute a different river trip” (p. 84).
- Clackamas boaters selected rivers close to the Willamette Valley, Klamath boaters selected major rafting rivers in both California and Oregon, Rogue boaters primarily selected the Deschutes and listed other rivers nearby the Rogue. (Deschutes survey did not ask this question).
- “Similarity of experience” (p.86) plays an important role in substitute river selection.
- Klamath boaters would choose a different activity. It is noted that Klamath boaters are much different from the other rivers’ boaters – most are on commercial outfitted trips, most don’t consider whitewater boating their favorite activity, and most are unfamiliar with the Klamath River resource and cannot name similar rivers.
- Alternate activities chosen include: hiking (Klamath and Clackamas), fishing (Rogue).

2.5. Visitor Characteristics

- “Demographic comparison of the four user populations shows more similarities than differences” (p. 87) – well educated, good financially, higher percentage of males.
- Clackamas trips are usually day trips and tend to have a higher percentage of males, more singles, fewer children, and lower family income.
- Deschutes boaters report having the most boater experience and Klamath are least experienced.
- Clackamas boaters are primarily from the Willamette Valley, as are Deschutes also with a portion from Central Oregon. Klamath and Rogue have very different geographic user populations.
- Motives for boating are linked by the use patterns for each river. Multi-day trips are required on the Rogue and common on the Deschutes resulting in motives primarily geared towards relaxing in the outdoors. Clackamas and Klamath trips are shorter and boaters are primarily interested in running rapids. However, these top two motives are common for all rivers.

2.6. Effects of Flow Rates and Seasonal Change (Clackamas only)

- Peak season is April and May, but boaters use the river year round (August and September least preferred months).
- Water levels are primary factor in determining season of use.
- Weather is a minor factor in river trips.

- Average optimum flow was reported at 2,958 cfs, average minimum flow = 1,305 cfs, average maximum flow = 9,605 cfs (average differed when broken down by boat type)
- Three boater groups were found: early season, late season, and those who would boat at any time.
 - Late season boaters generally have less boating experience and would not rate whitewater boating as their favorite activity.
 - Year round boaters tended to be kayakers.
 - Good weather and fishing played a larger role with late season boaters than early season.
 - Year round and early season boaters tend to be part of a boating club, valued solitude, testing skills, and meeting other boaters.

3. Key Discussion Points

- When faced with a choice of finding another river on their planned trip date or another activity, boaters “are very likely to choose an alternative river experience” (p. 93), which means that management restrictions placed on one of these rivers are likely to affect use on the other rivers in the “system.”
- Distance to the river and season are the primary factors in choosing a substitute river, however similarity of experience also plays a role.
- River setting variation is determined by the following variables: season, trip duration, remoteness, type of boats used, and availability of commercial outfitting.
- Hometown of the user is key to river selection.
- Management actions taken on largely commercial rivers like the Klamath will not likely have a great impact on other rivers in the “system.”

4. Management Recommendations

The authors recommend a set of questions to ask when instituting a management action that would result in displacement of users to another river: (p. 101-102)

- Where do most of the river’s users live?
- How long do boaters typically stay at the river of interest?
- What other rivers offer boating opportunities during the peak season for the river of interest?
- Do most boaters use commercial outfitting services?
- What type of boats do most visitors use?
- How remote is the river?

- What management constraints already exist on the river of interest?
- How unique or diverse are the boating opportunities offered on the river of interest?

5. Research Design

Survey research, census (Clackamas and Klamath).

5.1. Study Area

Clackamas River – 13 miles, Three Lynx power station to the North Fork Reservoir

Deschutes – 97 miles, undammed section below Warm Springs

Rogue – 35 miles, confluence with Grave Creek to Foster Bar

Upper Klamath – 15 miles, Boyle powerhouse to Copco Lake

5.2. Data Collection Instruments

Mail questionnaire (Clackamas and Klamath are included in report).

5.3. Study Population

Clackamas – boaters using the river between February and July 1988

Deschutes – boaters who purchased passes during 1986

Rogue – private, non-outfitted boaters who obtained permits during summer of 1984

Upper Klamath – boaters using the river during June, July and August 1988

5.4. Sample Size

Clackamas – 19 days sampled, 401 boaters surveyed

Deschutes – unknown

Rogue – unknown

Upper Klamath – 20 days sampled, 554 boaters surveyed

5.5. List of Variables and Operational Definitions

5.5.1. Use patterns

Advance planning required, type of boat used, percent of population who camp, mean one-way distance travelled, months when boating is best.

5.5.2. Social impacts and standards

- Time in sight of others – number of hours out of four
- Perceived crowding - used nine-point scale where users rated the experience from “not at all crowded” to “extremely crowded” (p. 78)
- Satisfaction with experience – used six-point scale where users rated experience from “poor” to “perfect.” (p. 78)
- Current river experience and preferred river experience – both used five-point scale from “wilderness” to “social recreation” (p. 78)

5.5.3.Economic value

See report for details.

5.5.4.Substitutability

Questions asked most likely substitute choice (another river or another activity), most likely substitute river, and/or rivers perceived as most similar.

5.5.5.Visitor characteristics

Level of education, household income, average age, average number of children, marital status, sex, boating experience, location of hometown, and motives for boating the river.

5.5.6.Effects of flow rates and seasonal change (Clackamas only)

Minimum, maximum, and optimum flows, pre-trip flow check, and river gauge check.

6. Theories Used in Study

N/A