Date:	March 1, 2024
To:	Federal Energy Regulatory Commission
From:	Southern California Edison
Subject:	**Kern River No. 3 Hydroelectric Project (FERC Project No. 2290): REC-1 Whitewater Boating Level 1 Structured Interview Analysis**

1.0 INTRODUCTION

By letter dated February 1, 2024, the Federal Energy Regulatory Commission (FERC) requested Southern California Edison (SCE) to provide the results of the REC-1 Whitewater Boating Study: Level 1 Structured Interview Questionnaire. This information, in conjunction with other information from the Level 1 study—including the literature review, hydrology summary, and Project facility operation information—and the Level 2 study results reported by SCE in the REC-1 interim Technical Memorandum (SCE, 2023), will be used to evaluate progress and the potential need to modify the approved Study Plan regarding data collection approaches used in the Level 3 Intensive Study.

SCE proposed to complete a Level 3 Intensive Study in the Revised Study Plan (RSP) filing using the single flow survey and flow comparison survey approach (SCE, 2022). This approach follows a scientifically accepted method as described in *Flows and Recreation: A Guide to Studies for River Professionals* (Whittaker et al., 2005) to collect flow preference information and recreation use patterns on rivers where a controlled flow study is not possible and/or have unpredictable flow. In the Revised Study Plan (SCE, 2022), SCE committed to providing enhanced flow opportunities, when feasible, and to collect flow preferences based on boater knowledge gaps identified in Levels 1 and 2 of the study. Flow enhancements are discussed below as part of the Level 3 Intensive Study Implementation.

Refer to *REC-1 Whitewater Boating Interim Technical Memorandum* (SCE, 2023) for a description of the other Level 1 study methods, including a discussion on the development and deployment of the Structured Interview Questionnaire. The questionnaire and associated public outreach are provided as Appendix C and D to the REC-1 interim Technical Memorandum.

2.0 LEVEL 1 STRUCTURED INTERVIEW QUESTIONNAIRE DATA SUMMARY

SCE developed a Structured Interview Questionnaire for the whitewater boating community per the requirements of the FERC Study Plan Determination. The Structured Interview Questionnaire asked boaters about the individual whitewater segments from Fairview Dam to Riverside Park to document recreation use patterns, estimated boating

flow ranges for each segment for respective watercraft, potential knowledge gaps about boating flows in the Fairview Dam Bypass Reach,[1] and flow information needs.

The Structured Interview Questionnaire was available to the public for over 14 weeks (May 5 through August 15, 2023). In total, 51 responses were documented; however, 1 response was an initial test of the survey by the study lead and was removed from the analysis, for a total of 50 responses. The following analysis of the Structured Interview Questionnaire responses documents the composition of the survey participants, whitewater recreation use patterns across river segments, estimated boating flow ranges for each segment for respective watercraft, potential knowledge gaps about boating flows in the bypass reach, and flow information needs.

The 50 respondents included a mix of genders, ages, and skill levels of the whitewater boating community on the North Fork Kern River (NFKR) (Table 2-1). Sixty-eight percent of the respondents were male. Fifty percent of the respondents self-identified as possessing advanced whitewater skills, while another 30 percent indicated they possessed expert whitewater skills. Most of the respondents were over age 40 (Figure 2-1), 8 percent were between the age of 20 to 29, and 18 percent were between the age of 30 to 39.

Table 2-1. Structured Interview Respondent Gender and Whitewater Skill Level

Gender	Count		Skill Level			
	No.	% of Total	Novice	Intermediate	Advanced	Expert
Male	34	68%	2%	4%	44%	18%
Female	11	22%	2%	10%	6%	4%
Non-binary	2	4%	0%	0%	0%	4%
Choose not to answer	3	6%	0%	2%	0%	4%
Total	**50**	**100%**	**4%**	**16%**	**50%**	**30%**

[1] The Fairview Dam Bypass Reach is defined as the approximately 16-mile bypass reach of the North Fork Kern River (NFKR) between Fairview Dam and the Kern River No. 3 Powerhouse tailrace.

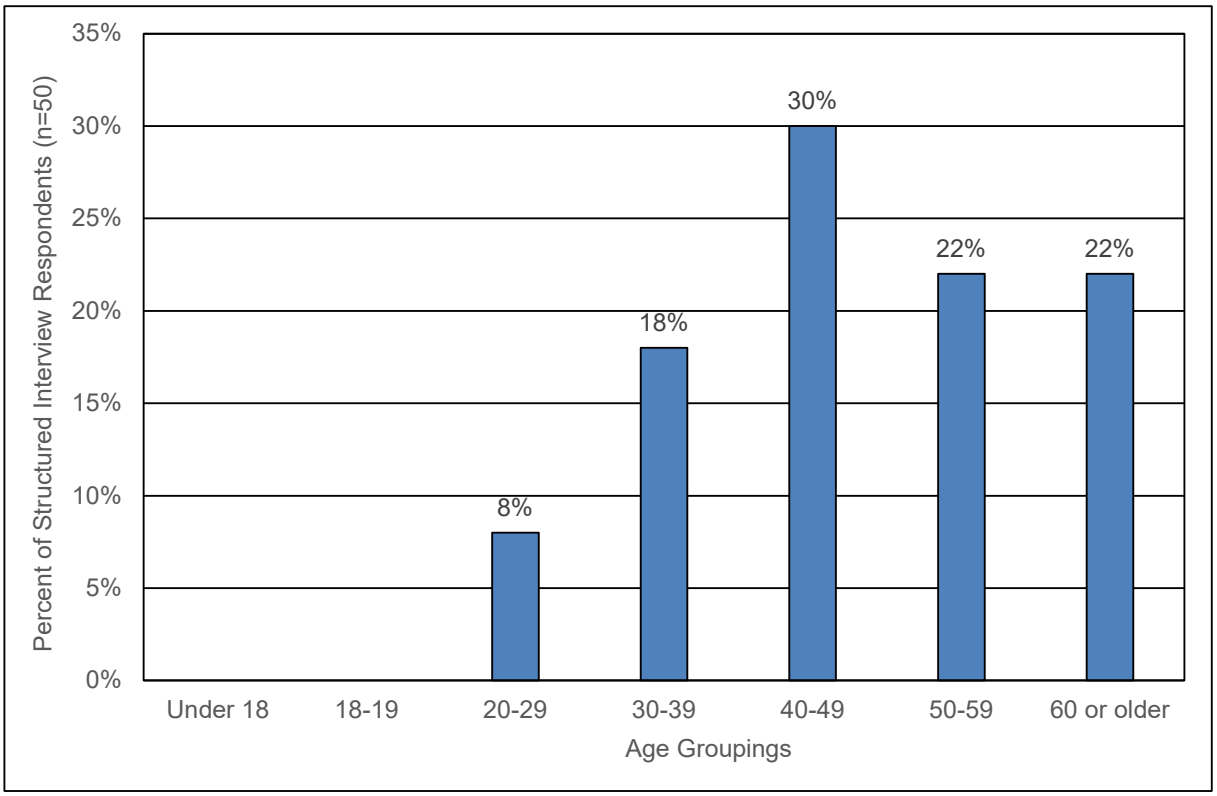


Figure 2-1. Structured Interview Respondent Age Range.

Thirty-four percent of the respondents' primary residence was in the Kernville area between Lake Isabella and Kernville (Figure 2-2). Los Angeles County and Orange County were represented by 14 percent and 10 percent of the respondents, respectively. Ninety-eight percent of the respondents indicated they recreate as non-commercial boaters on the NFKR, 22 percent indicated they work as commercial guides, and 22 percent indicated they operate in both capacities (Figure 2-3).

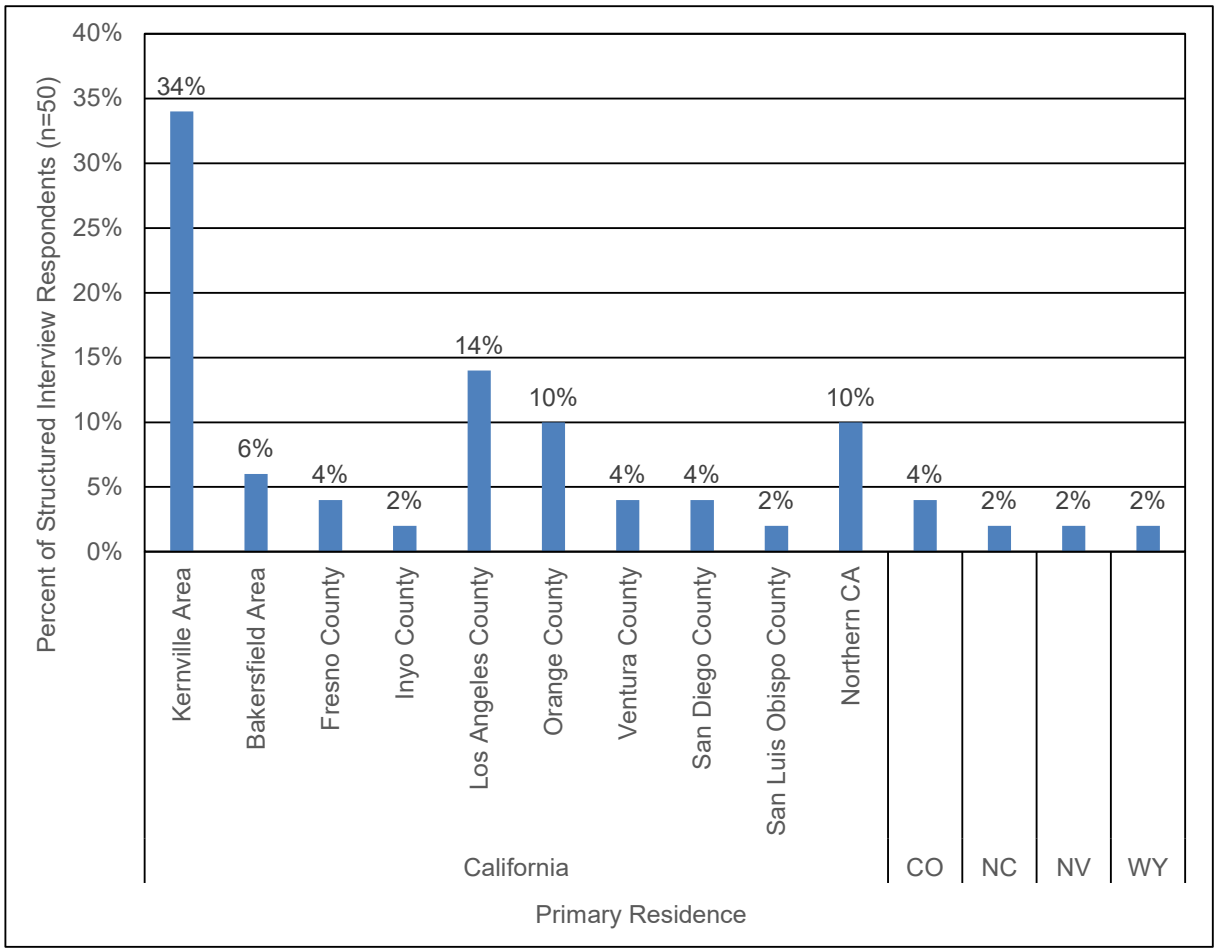


Figure 2-2. Structured Interview Respondent Primary Residence.

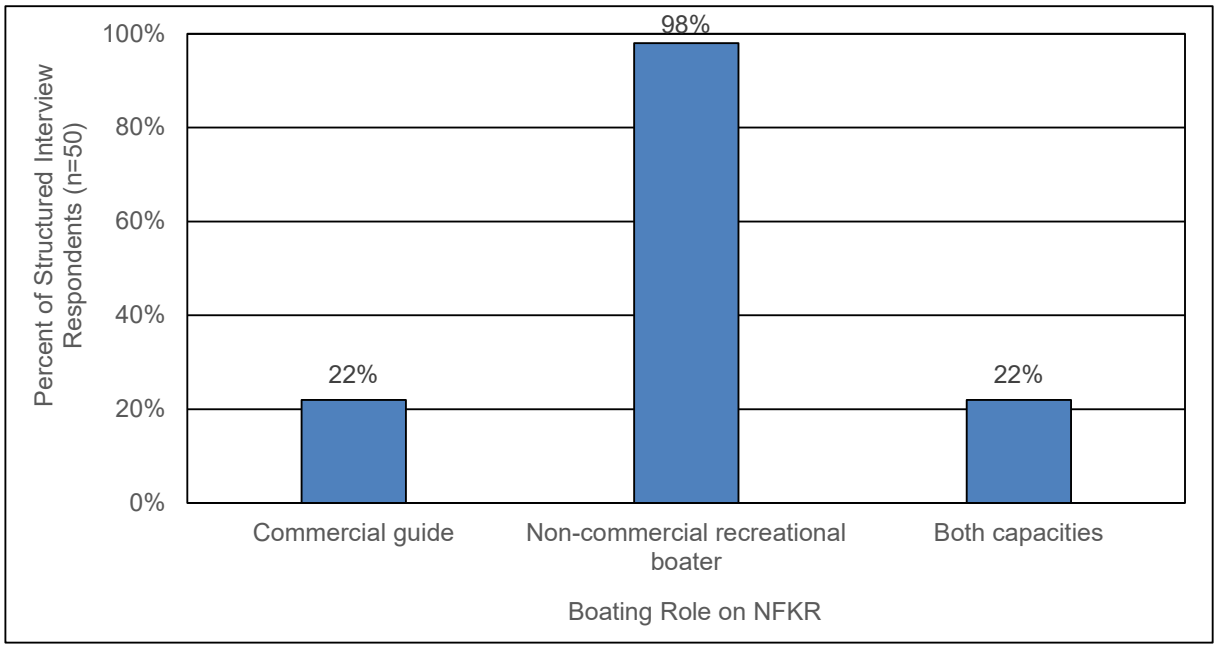
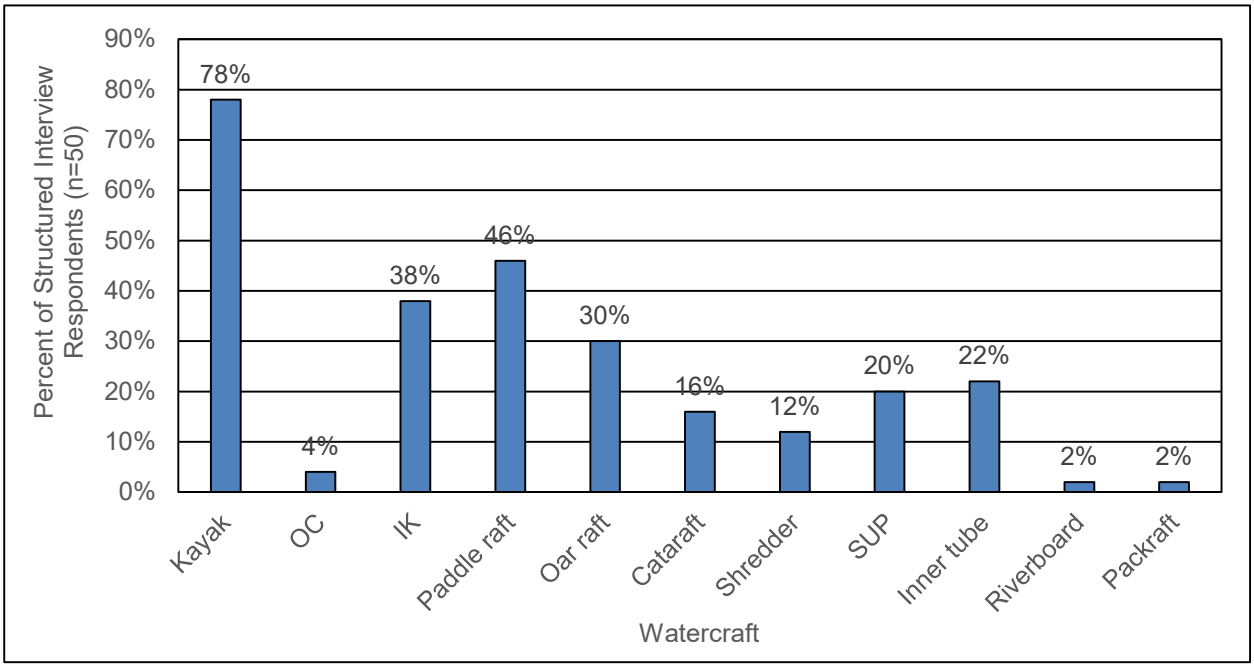


Figure 2-3. Structured Interview Respondent Boating Role on the NFKR.

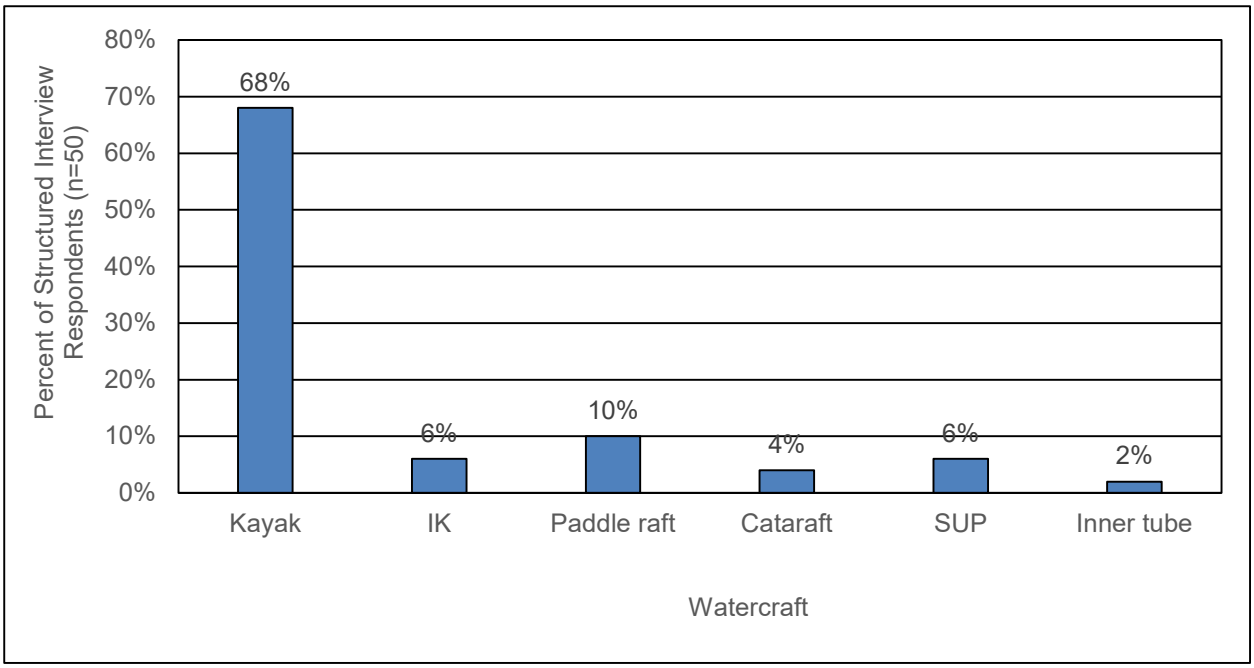
Structured Interview respondents use a variety of watercraft on the NFKR (Figure 2-4), with most respondents using more than one type. Kayaks were the most prevalent watercraft, used by 78 percent of respondents. Paddle rafts were used by 46 percent. Riverboards and packrafts were the least commonly used watercraft.



IK = inflatable kayak; OC = open canoe; SUP = standup paddleboard

Figure 2-4. Watercraft Types Used by Structured Interview Respondents on the NFKR.

When asked which watercraft they used most, respondents listed kayaks (68 percent) followed by paddle rafts (10 percent), inflatable kayaks (IKs) (6 percent), and standup paddleboards (SUPs) (6 percent) (Figure 2-5). No other watercraft types were identified by respondents for most often used.



IK = inflatable kayak; SUP = standup paddleboard

Figure 2-5. Watercraft Types Used Most Often by Structured Interview Respondents on the NFKR.

The Structured Interview Questionnaire queried respondents on their recreation use patterns on the NFKR. More than half of respondents said they make more than 21 trips per year, and 8 percent of respondents said they make more than 100 trips per year (Figure 2-6). One respondent said their number of trips fluctuated annually depending on the type of water year and availability of whitewater opportunities on the NFKR. For the majority of respondents using kayaks, IKs, paddle rafts, and catarafts, trips are 3 to 4 hours long (Figure 2-7). Trips for some kayakers and paddle rafters are only 1 to 2 hours long, while trips for a smaller percentage (10 percent) of kayakers are 5 to 6 hours long. Respondents indicated that trips using SUPs and inner tubes were typically 1 to 2 hours long. Weekends are the most popular time to boat, followed by weekdays between 8 a.m. and 5 p.m. (Figure 2-8). Holiday weekends and holidays were also popular. The least popular time to boat was weekdays after 5 p.m.

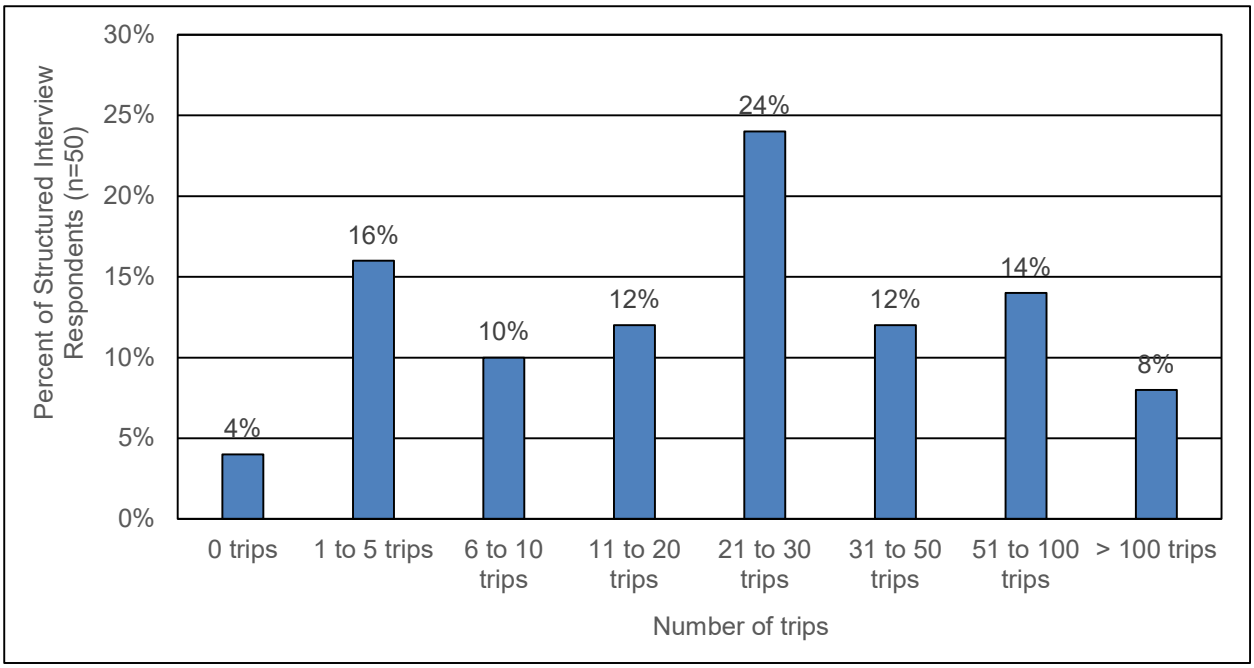
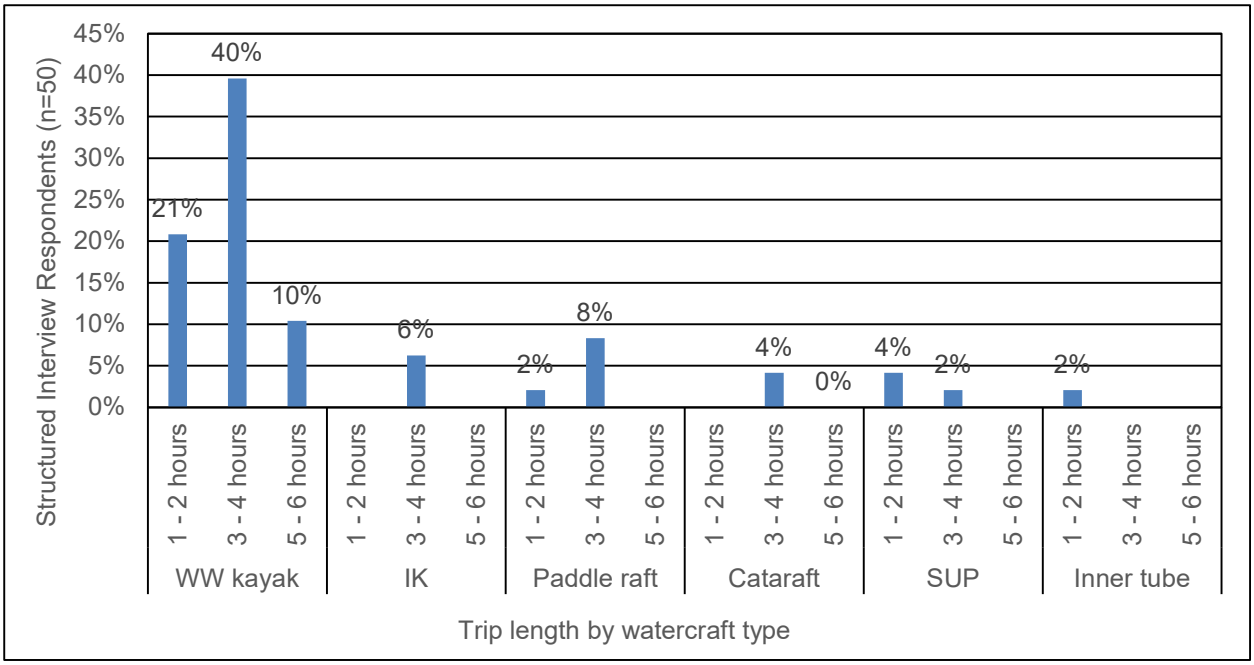


Figure 2-6. Annual Number of Trips on the NFKR.



IK = inflatable kayak; SUP = standup paddleboard; WW = whitewater

Figure 2-7. Typical Trip Length for Respective Watercraft Types on the NFKR.

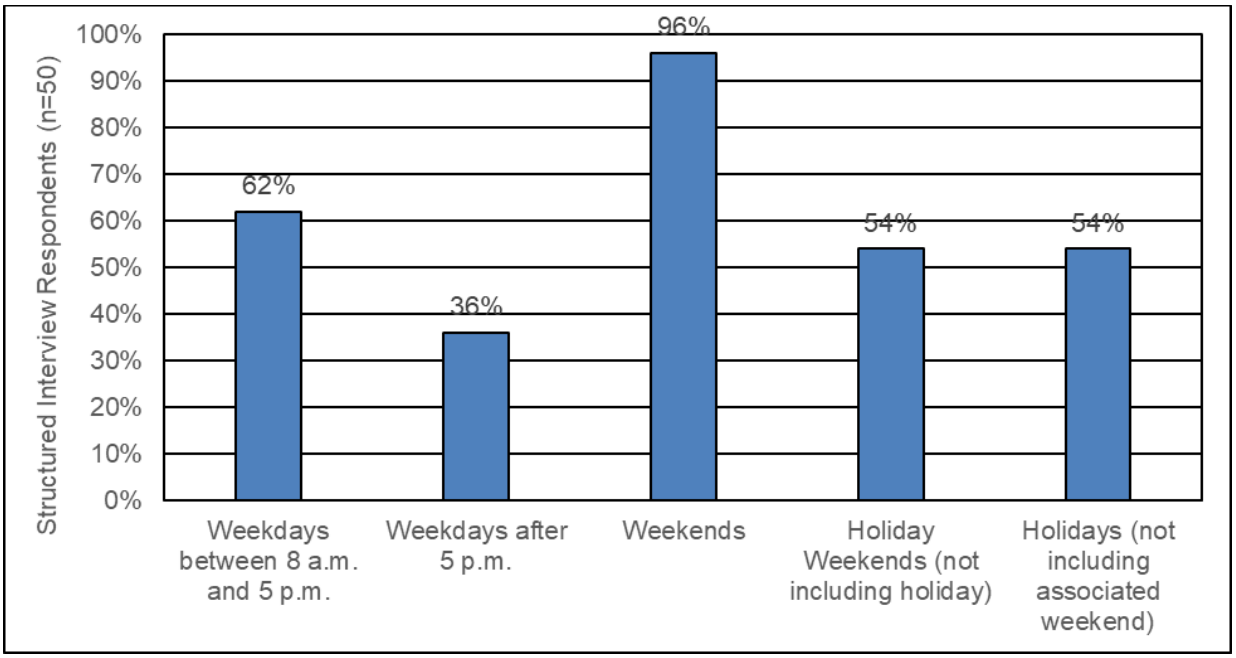


Figure 2-8. Days When Boaters Typically Take Trips on the NFKR.

Respondents cited a number of attributes that attracted them to the NFKR (Figure 2-9). The quality of the whitewater on the NFKR was highest among the respondents (96 percent), followed closely by river access (84 percent), spending time with friends (82 percent), diversity of whitewater segments (80 percent), landscape and scenery (76 percent), closest boating to where they live (70 percent), and whitewater difficulty (70 percent). The opportunity for camping was cited by 28 percent of respondents.

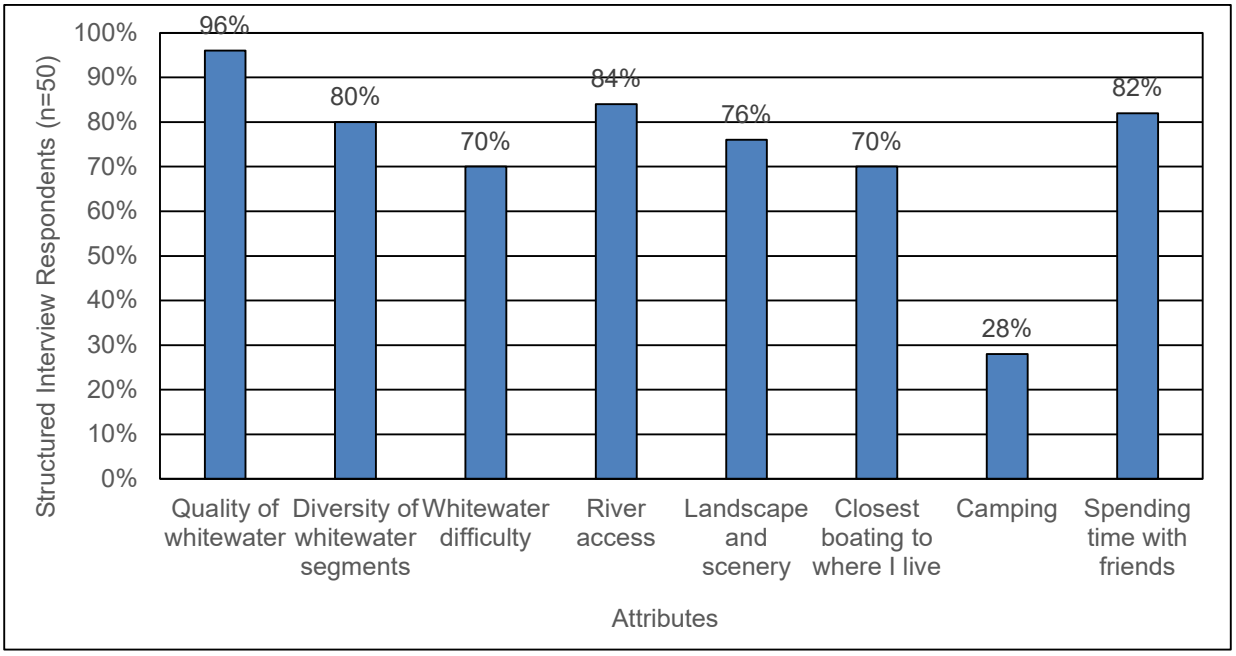


Figure 2-9. Attributes Attracting Boaters to the NFKR.

Respondents to the Structured Interview Questionnaire identified the river segments they boat on the NFKR (Figure 2-10). The nine river segments are as follows, from upstream to downstream:

1. Sidewinder / Bomb's Away (Sidewinder)
2. Fairview
3. Chamise Gorge (Chamise)
4. Salmon Falls
5. Goldledge / Ant Canyon (Goldledge)
6. Thunder Run
7. Camp 3 / Cables Run (Camp 3)
8. Riverkern Beach (Riverkern)
9. Powerhouse / Lickety Split (Powerhouse)

Respondents had the highest percentage of experience boating the Powerhouse, Riverkern, Camp 3, and Chamise river segments, with Fairview, Goldledge, and Thunder Run close behind. Respondents had the least experience boating the Sidewinder and Salmon Falls river segments. Analysis of responses by watercraft type indicates that respondents using kayaks, paddle rafts, and catarafts have experience on all nine river segments; respondents using IKs are limited to experience on six river segments; and respondents using SUPs are limited to experience on two river segments (Figure 2-11).

Structured Interview respondents were asked to list the river segments in order from their most favorite (1) to least favorite (9) (Figure 2-12). The median response for kayakers indicated Chamise was the favorite segment followed by a three-way tie between Goldledge, Thunder Run, and Camp 3. Fairview, Salmon Falls, and Powerhouse were in a three-way tie for least favorite river segment for kayakers. IKers identified Thunder Run and Camp 3 as their favorite river segments. Paddle rafters selected Thunder Run as their favorite river segment, followed by Camp 3. Salmon Falls was the least favorite river segment for paddle rafters. Catarafters identified Goldledge as their most favorite river segment, followed closely by Camp 3, Chamise and Thunder Run. Powerhouse was the least favorite river segment for catarafters. SUPers identified Riverkern and Powerhouse as their favorite river segments. SUPers did not rate any of the other river segments.

Choosing a river segment to boat on a given day is influenced by a number of variables that change on a regular basis. Some of these variables include discharge, watercraft type, skill level, boating group, weather, etc. Favorite river segments change as these variables change. The Structured Interview Questionnaire did not specify the conditions for the suite of variables for respondents listing their favorite river segments. Consequently, the responses to this question in the Structured Interview should be treated with caution. Nonetheless, the response provide insight on whitewater recreation use patterns by watercraft type across the nine river segments.

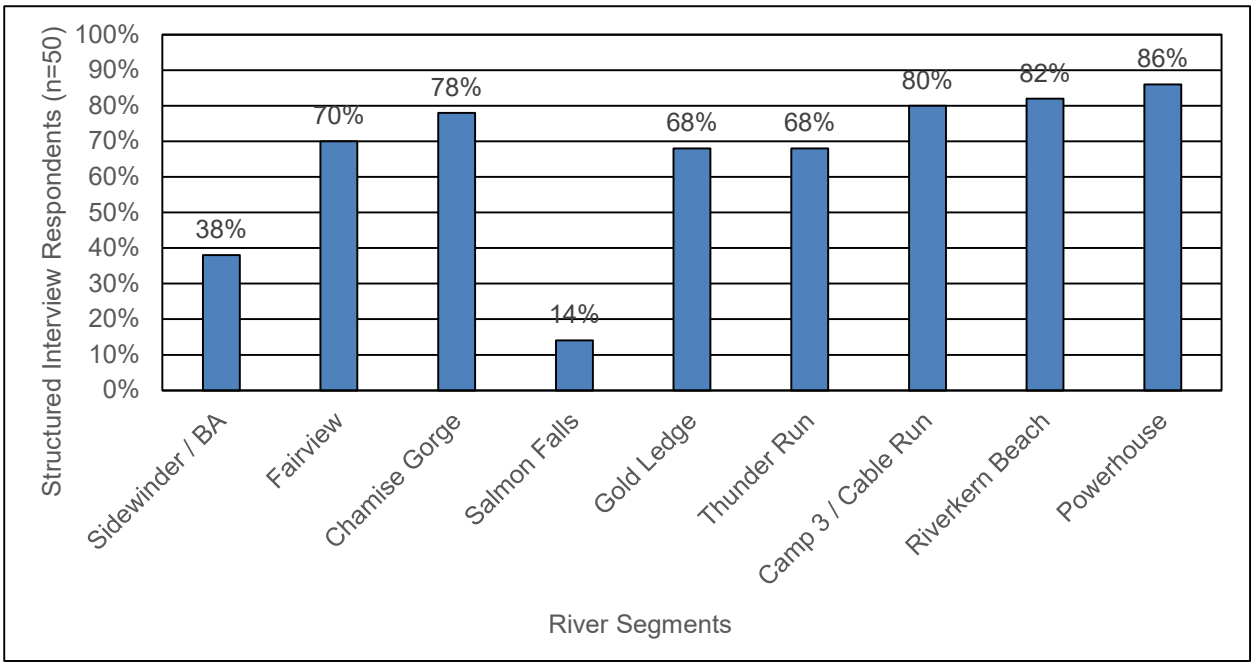
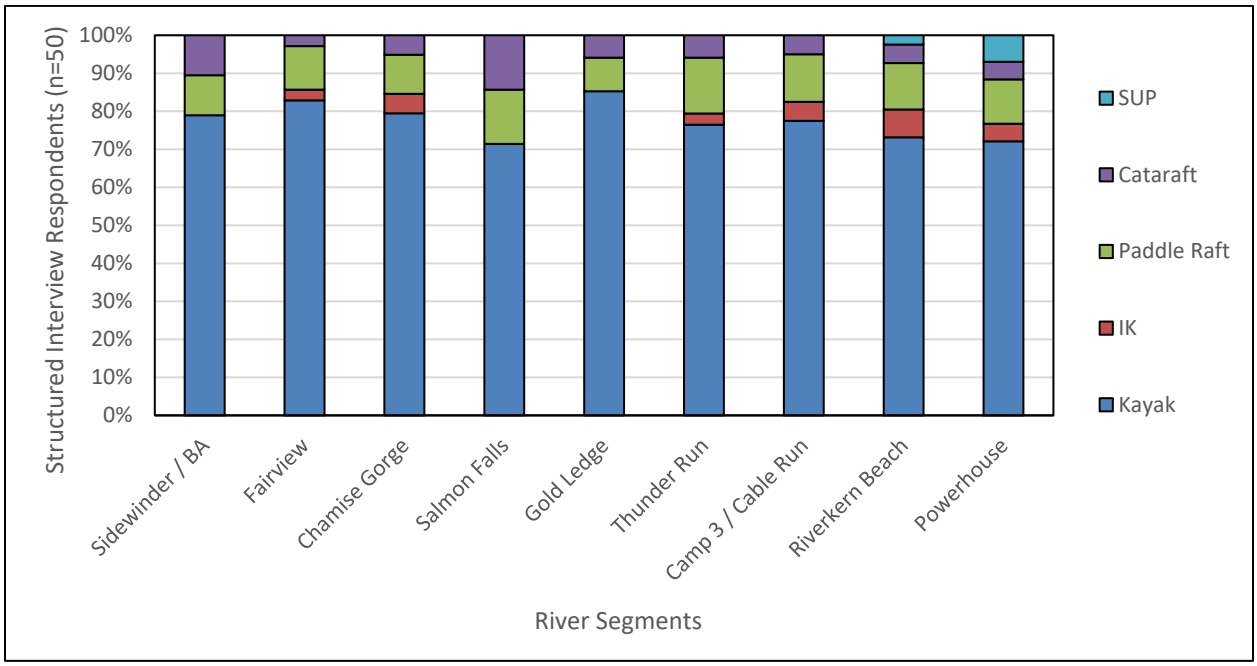
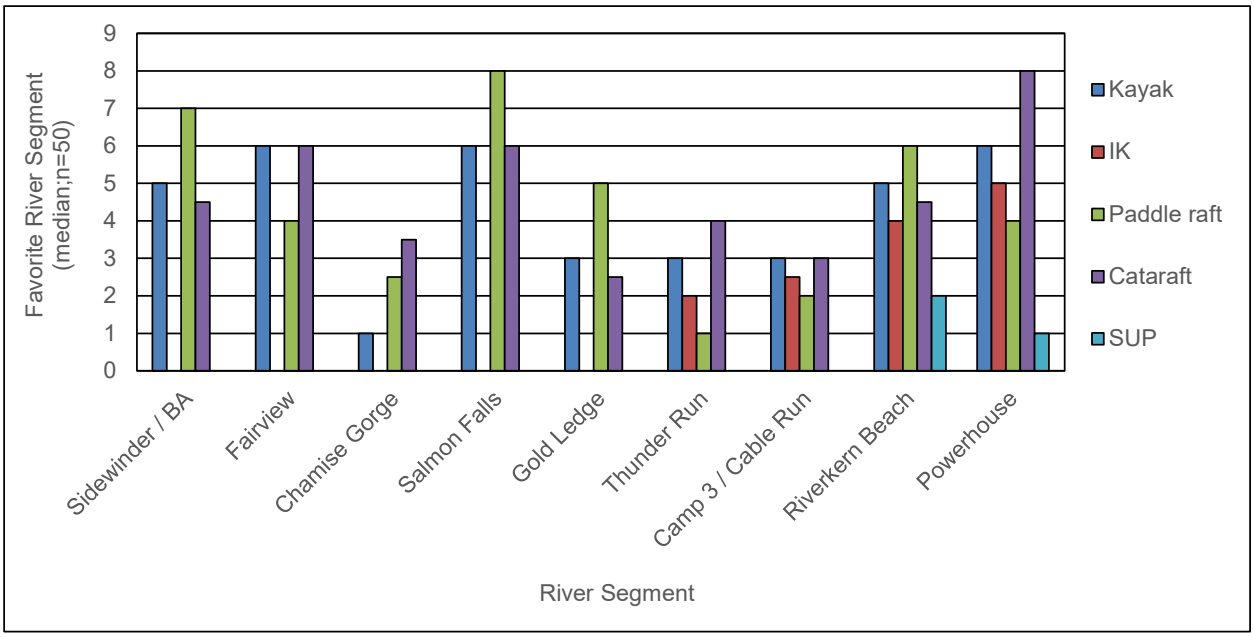


Figure 2-10. River Segments Boated on the NFKR by Respondents.



IK = inflatable kayak; SUP = standup paddleboard

Figure 2-11. River Segments Boated on the NFKR by Watercraft Type for the Respondents.



Note: Most favorite (1) to least favorite (9)
IK = inflatable kayak; SUP = standup paddleboard

Figure 2-12. Favorite River Segment (median) on the NFKR by Watercraft Type for the Respondents.

Respondents were asked to rate the whitewater difficulty for the nine individual river segments across four different flow ranges:

- 700 to 2,000 cubic feet per second (cfs)
- 2,000 to 3,500 cfs
- greater than 3,500 cfs
- less than 700 cfs

These increments were selected based on ranges listed in guidebooks and online river information pages, communication with boaters, and direct experience on the river segments.

For flows ranging from 700 to 2,000 cfs, the majority of respondents rated Chamise, Goldledge, and Camp 3 Class IV; Thunder Run Class V; and Fairview, Riverkern, and Powerhouse Class III (Figure 2-13).

For flows ranging from 2,000 to 3,500 cfs, most respondents were nearly equally divided between rating Chamise Class IV or Class V (Figure 2-14). Most respondents rated Goldledge and Camp 3 as Class IV and Thunder Run as Class V. A higher number of respondents were not sure what the whitewater difficulty of Fairview was at this flow range.

For flows greater than 3,500 cfs, more respondents rated Chamise as Class V compared to lower flows (Figure 2-15). Respondents were nearly evenly split between Class IV and Class V for Goldledge at flows greater than 3,500 cfs. Responses for whitewater difficulty for Thunder Run were similar to the other flows, with the majority rating the segment Class V. The majority of respondents rated Camp 3 Class IV, but a small number of respondents rated it Class V. The whitewater difficulty rating for Riverkern and Powerhouse remained similar to the ratings at the other flows. Respondent uncertainty with the whitewater difficulty at Fairview increased yet again for flows greater than 3,500 cfs.

For flows less than 700 cfs, two-thirds of the respondents rated the whitewater difficulty for Chamise Class IV, while another third of the respondents rated it Class III (Figure 2-16). Respondents were nearly evenly split between Class III and Class IV for the Goldledge river segment. The majority of respondents decreased the whitewater difficulty on the Thunder Run to Class IV, Camp 3 to Class III, and nearly evenly distributed between Class II and III for Fairview, Riverkern, and Powerhouse.

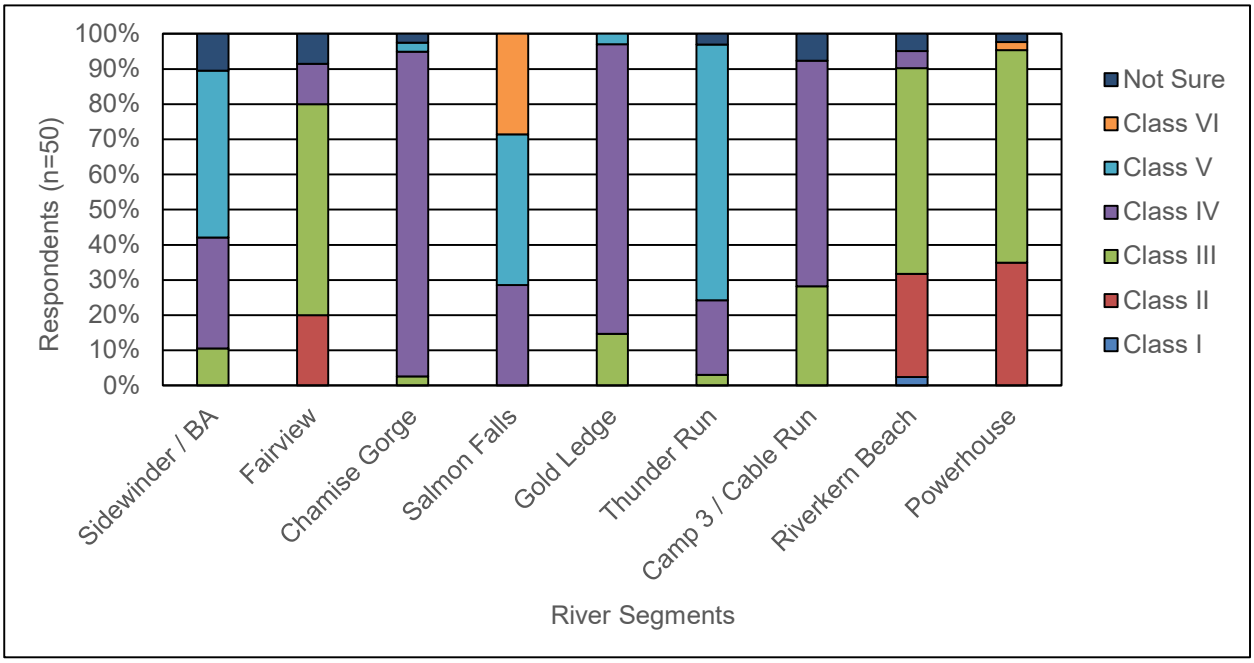


Figure 2-13. Respondent Rating of Whitewater Difficulty for River Segments (Discharge 700–2,000 cfs).

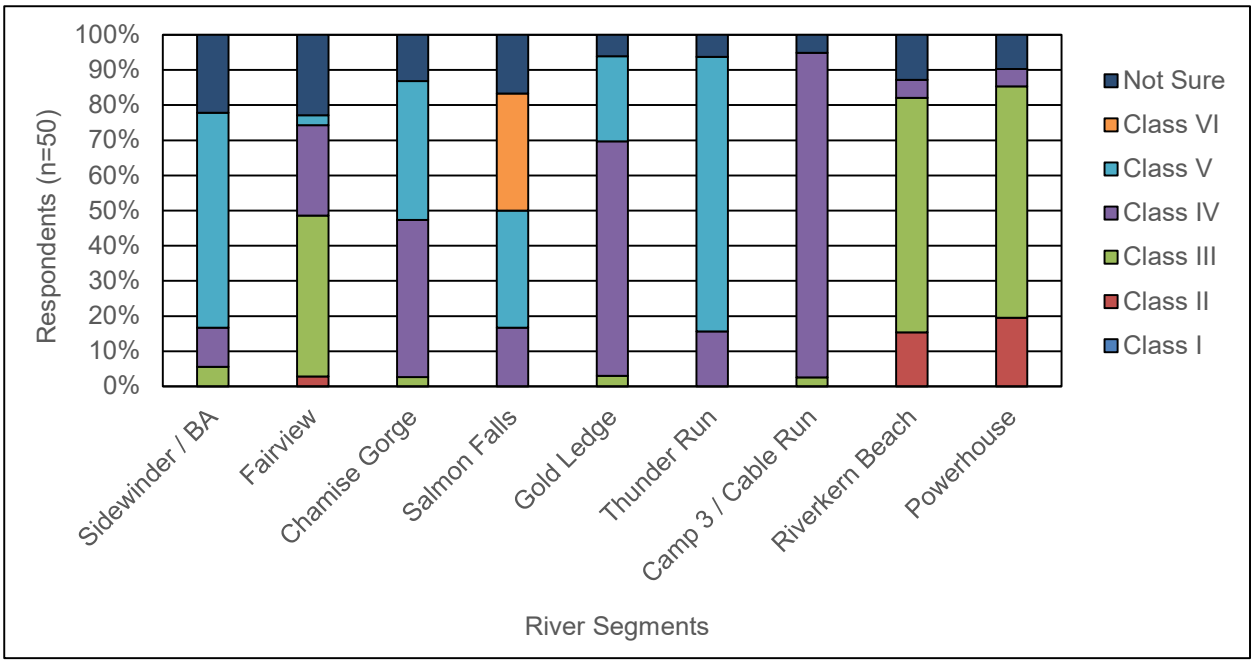


Figure 2-14. Respondent Rating of Whitewater Difficulty for River Segments (Discharge 2,000–3,500 cfs).

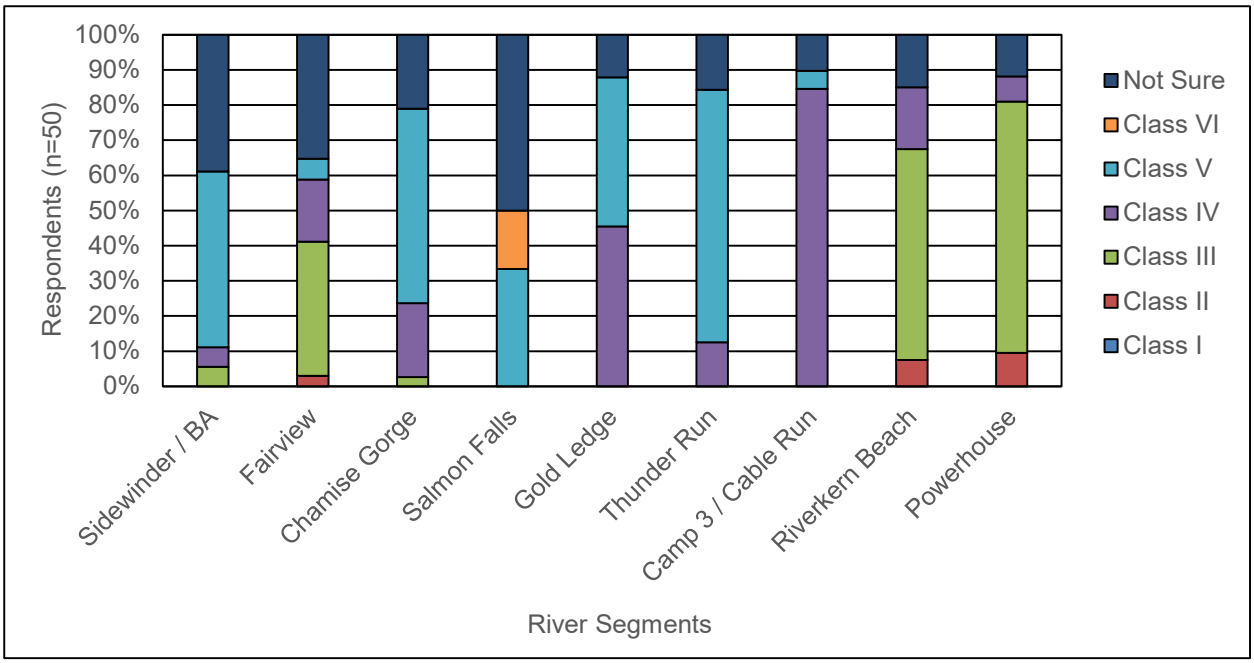


Figure 2-15. Respondent Rating of Whitewater Difficulty for River Segments (Discharge > 3,500 cfs).

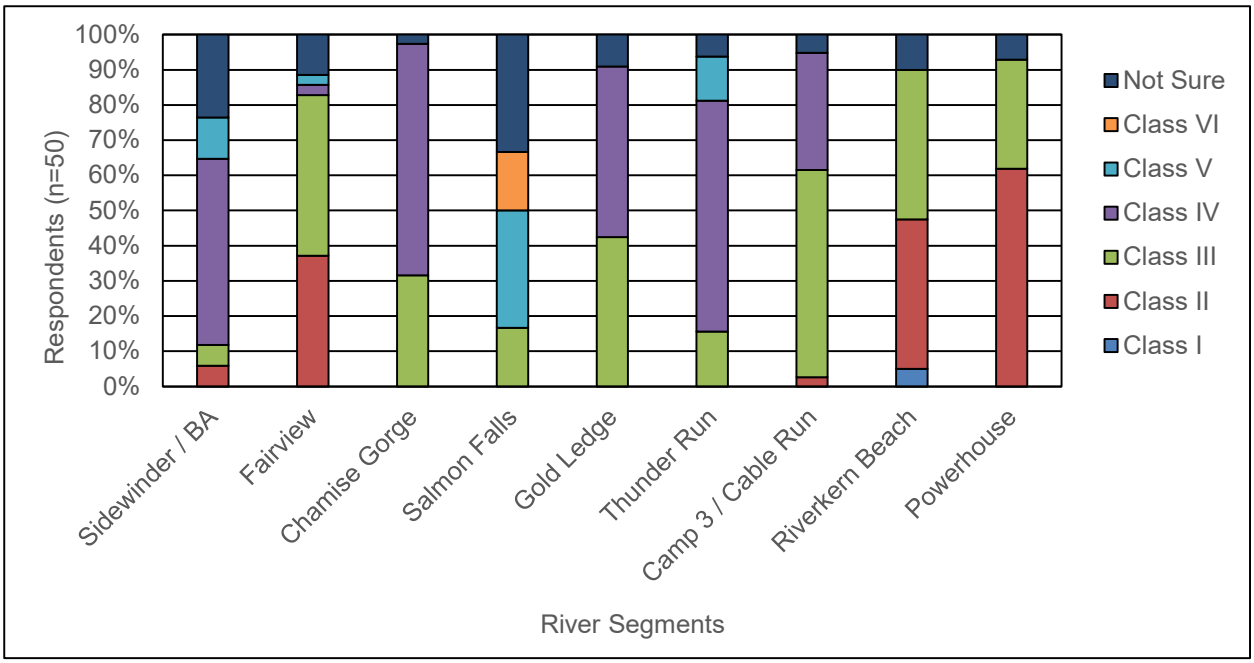


Figure 2-16. Respondent Rating of Whitewater Difficulty for River Segments (Discharge < 700 cfs).

Structured Interview respondents were asked to estimate their minimum acceptable and optimum flow preferences by watercraft type for the respective river segments. Respondent estimates of minimum acceptable flows were displayed on box whisker plots containing five descriptive statistics: median, 25 percent and 75 percent quartile ranges, minimum and maximum value (Figure 2-17). A single value is displayed on river segments where only one response was received for a watercraft type. The minimum acceptable flow estimates from respondents should be used with caution. Respondents provided estimates to an open-ended question. The information obtained from respondents should only be used to help develop flow ranges and associated flow increments for flow preference questions in the Level 3 comparative flow survey.

Kayakers were the highest number of respondents estimating the minimum acceptable flow for the individual river segments followed by rafters (combining paddle rafts and oar rafts). The lowest median minimum acceptable flow identified by kayakers was 300 cfs on the Chamise river segment. The minimum acceptable quartile range from 25 and 75 percent for kayakers on Chamise was 200 to 450 cfs. The minimum acceptable median for IKs on Chamise was 200 cfs. The minimum acceptable median for rafts and catarafts on Chamise was 700 and 725 cfs respectively. On the Goldledge river segment, the minimum acceptable median flow for kayakers was 500 cfs while the median for rafts and catarafts was 850 cfs and 750 cfs respectively. On the more difficult Thunder Run, the minimum acceptable median flow for kayakers was 600 cfs while the median for rafts and catarafts was 1,000 cfs and 950 cfs respectively. On the less difficult Fairview river segment, the minimum acceptable median flow for kayakers was 400 cfs while the median for rafts and catarafts was 550 cfs and 450 cfs respectively. On the Camp 3 river segment, the minimum acceptable median flow for kayakers was 600 cfs while the

median for rafts and catarafts was 650 cfs respectively. The minimum acceptable median for SUP respondents on the Riverkern and Powerhouse river segments was 500 cfs.

For optimum flow estimates, respondents were encouraged to provide a flow range in their answer rather than a single flow number. Responses are displayed on box whisker plots for the optimum low and optimum high for each watercraft type for respective river segments. The box whisker plot for Sidewinder, Fairview, Chamise, and Salmon Falls is displayed in Figure 2-18. The box whisker plot for Goldledge, Thunder Run, Camp 3, and Riverkern is displayed in Figure 2-19. The box whisker plot for Powerhouse is displayed in Figure 2-20. Similar to the caution regarding the respondent estimates of the minimum acceptable flows, the respondent optimum flow estimates serve the purpose of helping guide development of flow ranges and flow increments for flow preference questions in the Level 3 flow comparison survey.

In Chamise, the median optimum low and optimum high flow for kayakers ranged from 750 cfs to 1,500 cfs. The median optimum low and optimum high flow for catarafts was 1,350 cfs and 3,100 cfs respectively. Rafters median optimum flow range was similar with 1,500 cfs and 2,500 cfs for a low and high respectively. In the Fairview river segment, the median optimum low and optimum high flow for kayakers ranged from 1,150 cfs to 2,000 cfs. The median optimum low and optimum high flow for rafts was 800 cfs and 1,250 cfs respectively. In the Goldledge river segment, the median optimum low and optimum high flow for kayakers ranged from 1,200 cfs to 2,000 cfs. The median optimum low and optimum high flow for catarafts was 1,500 cfs and 3,250 cfs respectively. Rafters median optimum flow range was similar with 1,500 cfs and 2,500 cfs for a low and high respectively. In the Thunder Run river segment, the median optimum low and optimum high flow for kayakers ranged from 1,000 cfs to 1,500 cfs. The median optimum low and optimum high flow for catarafts was 1,600 cfs and 3,350 cfs respectively. Rafters median optimum flow range was similar with 2,000 cfs and 3,750 cfs for a low and high respectively. In the Camp 3 river segment, the median optimum low and optimum high flow for kayakers ranged from 1,200 cfs to 3,400 cfs. The median optimum low and optimum high flow for catarafts was 2,000 cfs and 4,750 cfs respectively. Rafters median optimum flow range was similar with 1,250 cfs and 2,250 cfs for a low and high respectively. In the Powerhouse river segment, the median optimum low and optimum high flow for kayakers ranged from 1,200 cfs to 3,000 cfs. The median optimum low and optimum high flow for catarafts and rafts was 1,500 cfs and 3,000 cfs respectively. SUP median optimum flow range was 1,100 cfs and 1,800 cfs for a low and high respectively. IK median optimum flow range was 450 cfs and 3,400 cfs for a low and high respectively.

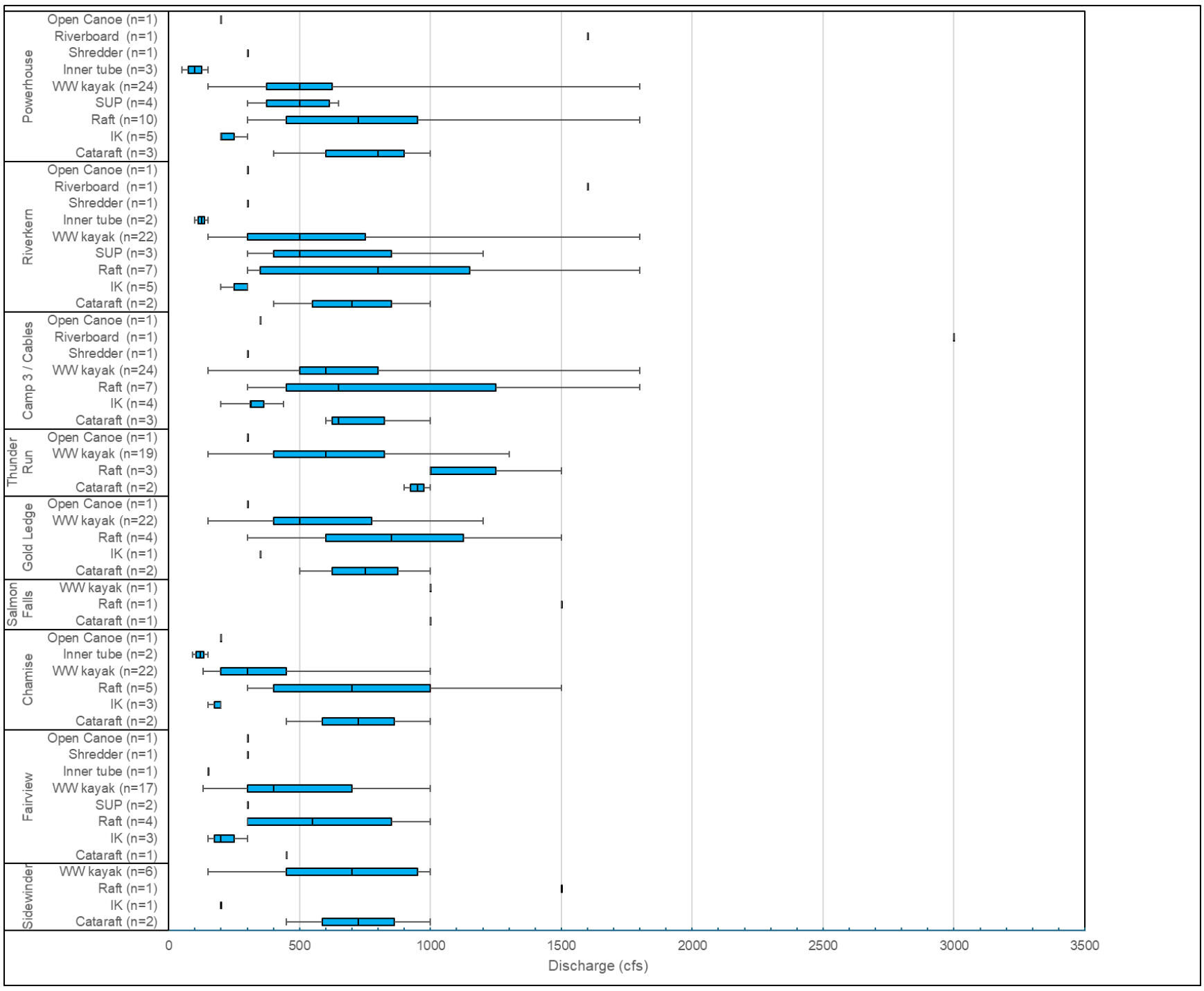
The Structured Interview Questionnaire asked respondents to identify where gaps exist in their experience or knowledge of flows on the NFKR. Some respondents provided a single number while others included a range. In some cases, respondents implied a range by using the “<” symbol followed by a flow number. For responses incorporating a “<” symbol, SCE inserted the minimum instream flow of 40 cfs. This is the lowest flow allowed in the license and is present for individuals to boat at some point during the calendar year. Inserting the 40 cfs value allows for the lowest flow that can be provided.

The knowledge gaps for Sidewinder, Fairview, Chamise and Salmon Falls for respective watercraft types are illustrated in a box whisker plot (Figure 2-21). The median knowledge gap at the high end for all watercraft types across the four river segments was less than 700 cfs. In the Fairview river segment, the median knowledge gap on the high end for kayaks was 300 cfs and the 25 percent quartile range was 200 cfs. For rafts in this river segment, the median knowledge gap on the high end was 550 cfs and the 25 percent quartile range was 375 cfs. In the Chamise river segment, the median knowledge gap on the high end for kayaks was 175 cfs and the 25 percent quartile range was 130 cfs. For rafts in Chamise, the median knowledge gap on the high end was 700 cfs and the 25 percent quartile range was 550 cfs. The median knowledge gap at the low end for all watercraft types across the four river segments was 40 cfs. The latter reflects SCE's assignment of 40 cfs to any response that included a "<" symbol. Further communication will be necessary with the boating community to get clarification on the low end to distinguish between actual knowledge gaps for these river segments versus lack of interest in boating flows in the range of the minimum instream flows required in the FERC license.

The knowledge gaps for Goldledge, Thunder Run, Camp 3, and Riverkern for respective watercraft types are illustrated in a box whisker plot (Figure 2-22). Similar to the four segments upstream, the median knowledge gap at the high end for all watercraft types across these four river segments was less than 700 cfs with the exception of a riverboard respondent that specified a knowledge gap for flows less than or equal to 1,600 cfs in the Camp 3 and Riverkern segments. In the Goldledge river segment, the median knowledge gap on the high end for kayaks was 500 cfs and the 25 percent quartile range was 450 cfs. For rafts in this river segment, the median knowledge gap on the high end was 550 cfs and the 25 percent quartile range was 475 cfs. In the Thunder Run river segment, the median knowledge gap on the high end for kayaks was 475 cfs and the 25 percent quartile range was 188 cfs. For rafts in this river segment, the median knowledge gap on the high end was 700 cfs and the 25 percent quartile range was 600 cfs. In the Camp 3 river segment, the median knowledge gap on the high end for kayaks was 500 cfs and the 25 percent quartile range was 275 cfs. For rafts in this river segment, the median knowledge gap on the high end was 700 cfs and the 25 percent quartile range was 400 cfs. In the Riverkern river segment, the median knowledge gap on the high end for kayaks was 300 cfs and the 25 percent quartile range was 175 cfs. For rafts in this river segment, the median knowledge gap on the high end was 550 cfs and the 25 percent quartile range was 325 cfs. Similar to the four segments upstream, the median knowledge gap at the low end for all watercraft types for Goldledge, Thunder Run, Camp 3 and Riverkern was 40 cfs assigned by SCE where respondents implied a range but did not specify a lower number. Further communication will be necessary with the boating community to get clarification on the low end to distinguish between actual knowledge gaps for these river segments verses lack of interest in boating flows in the range of the minimum instream flows required in the FERC license.

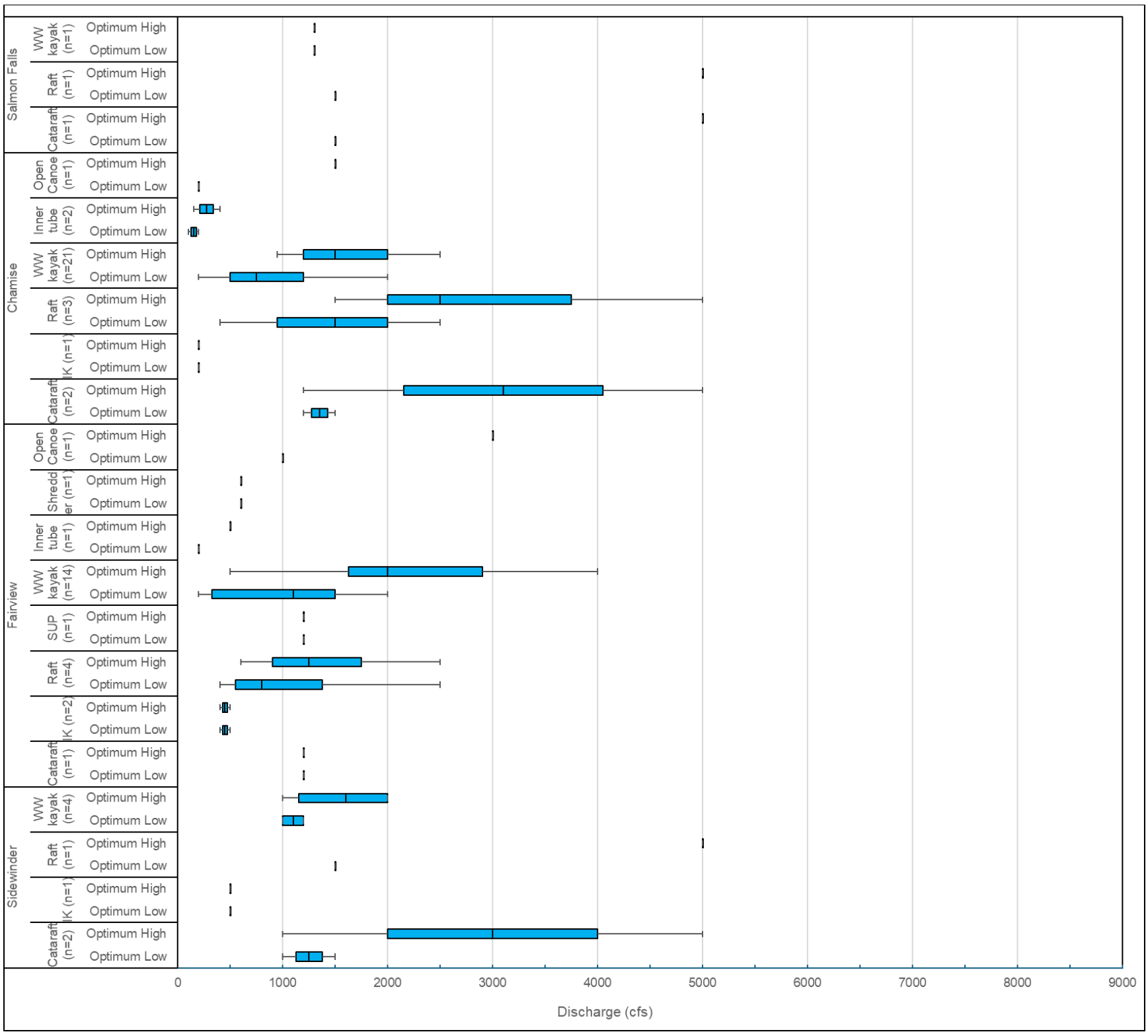
The knowledge gaps for the Powerhouse river segment for respective watercraft types are illustrated in a box whisker plot (Figure 2-23). Similar to the eight segments upstream, the median knowledge gap at the high end for all watercraft types in the Powerhouse river segment was less than 700 cfs with the exception of a riverboard respondent that

specified a knowledge gap for flows 800 cfs. For kayaks in this river segment, the median knowledge gap on the high end was 300 cfs and the 25 percent quartile range was 238 cfs. For rafts in this river segment, the median knowledge gap on the high end was 500 cfs and the 25 percent quartile range was 300 cfs. For IKs in this river segment, the median knowledge gap on the high end was 150 cfs and the 25 percent quartile range was 125 cfs. For SUPs in this river segment, the median knowledge gap on the high end was 600 cfs and the 25 percent quartile range was 300 cfs. Similar to the eight segments upstream, the median knowledge gap at the low end for all watercraft types for the Powerhouse river segment was 40 cfs assigned by SCE where respondents implied a range but did not specify a lower number. Further communication will be necessary with the boating community to get clarification on the low end for knowledge gaps for this river segment.



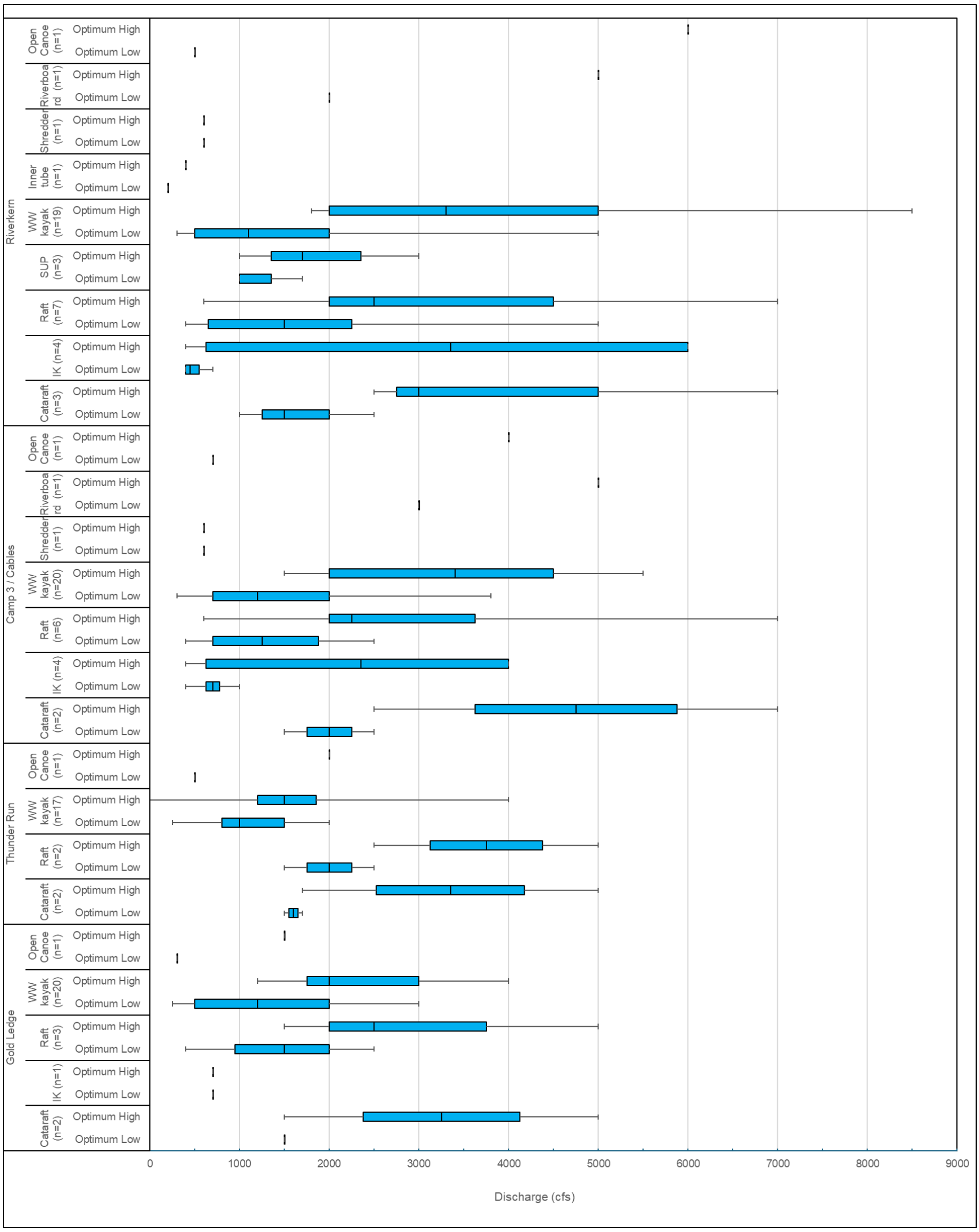
cfs = cubic feet per second; IK = inflatable kayak; SUP = standup paddleboard; WW = whitewater

Figure 2-17. Respondent Estimate of Minimum Acceptable Flows by Watercraft Type for Respective River Segments



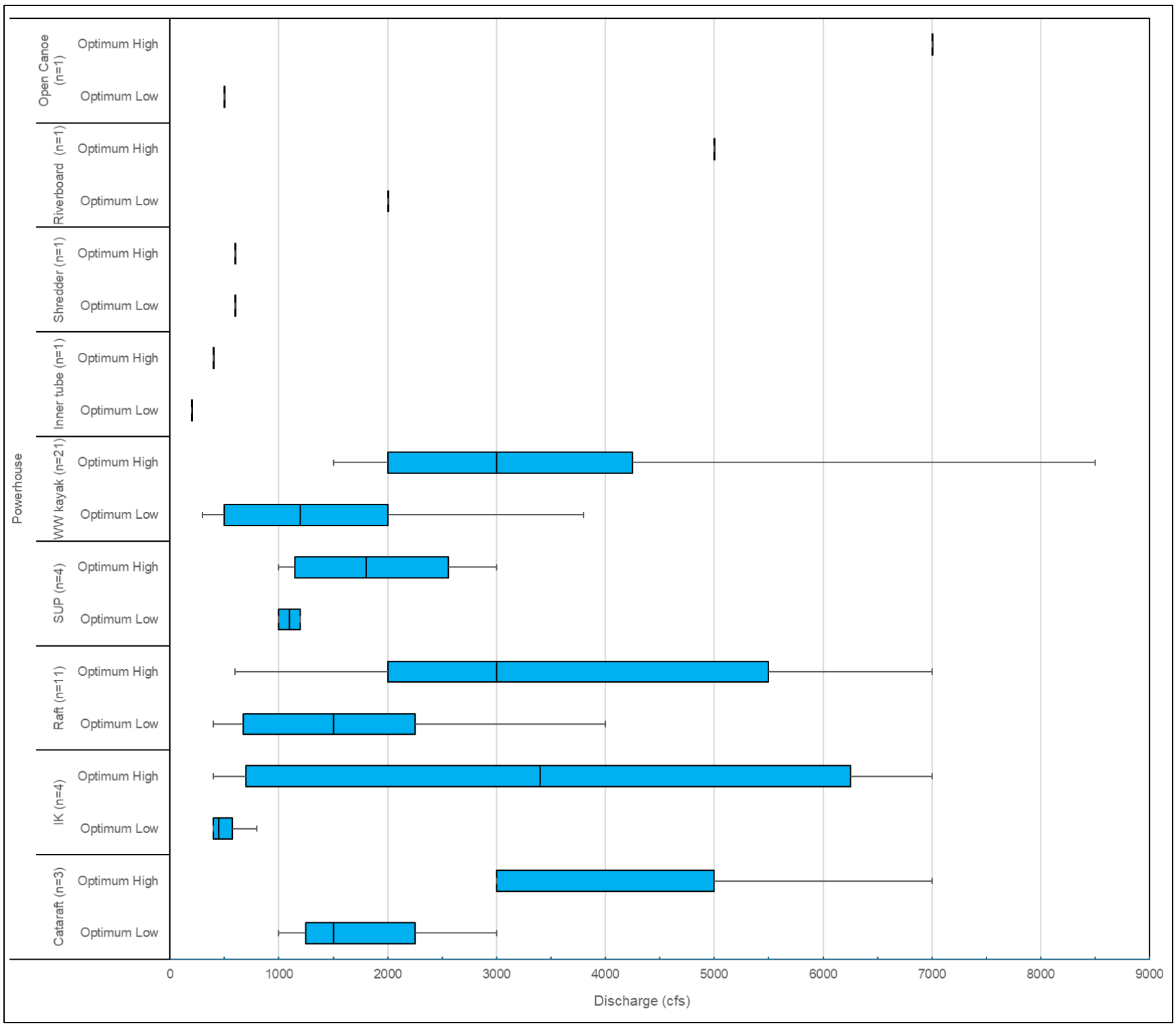
cfs = cubic feet per second; IK = inflatable kayak; SUP = standup paddleboard; WW = whitewater

Figure 2-18. Respondent Estimate of Optimum Flows by Watercraft Type for Sidewinder, Fairview, Chamise and Salmon Falls.



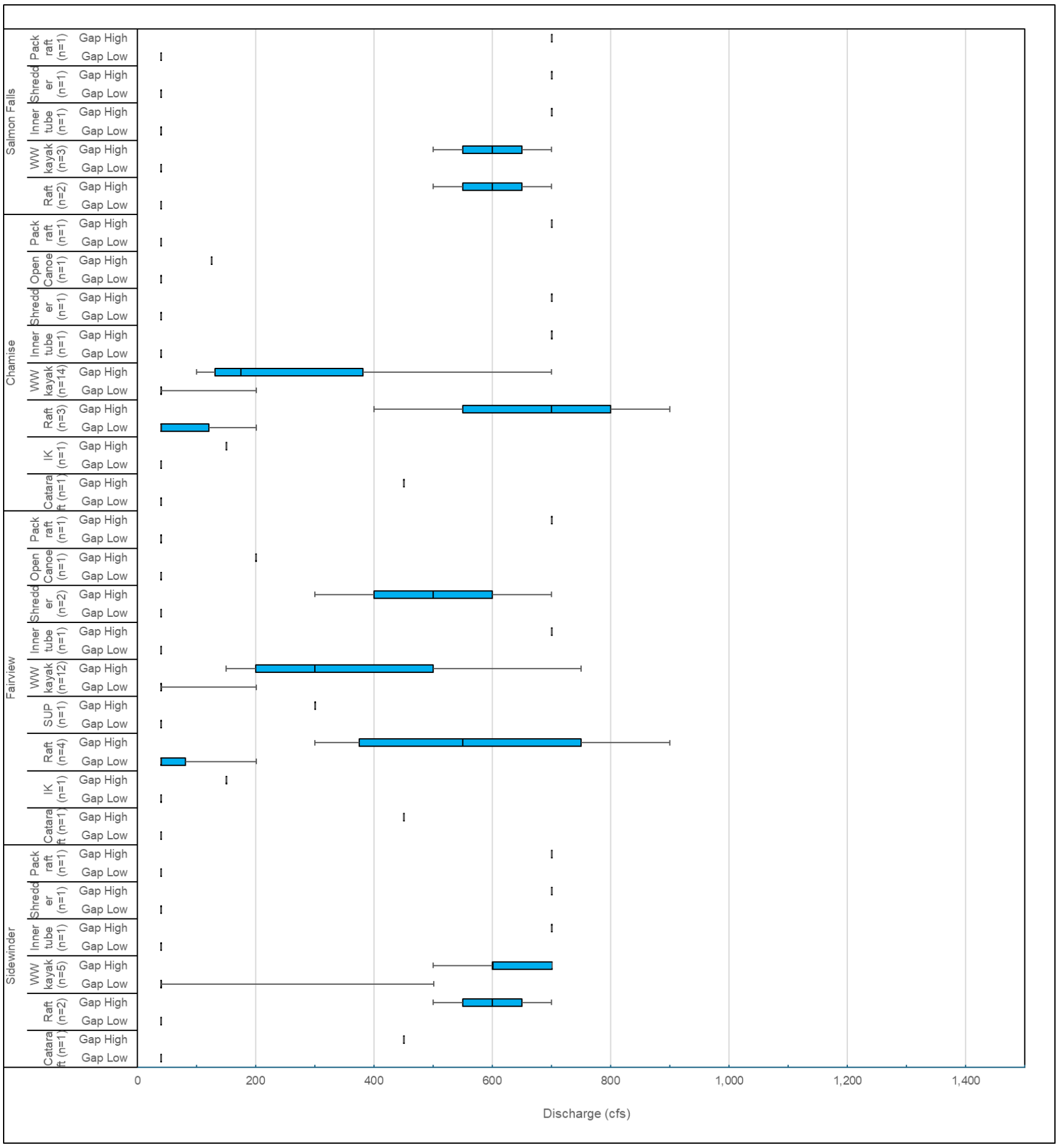
cfs = cubic feet per second; IK = inflatable kayak; SUP = standup paddleboard; WW = whitewater

Figure 2-19. Respondent Estimate of Optimum Flows by Watercraft Type for Goldledge, Thunder Run, Camp 3, and Riverkern.



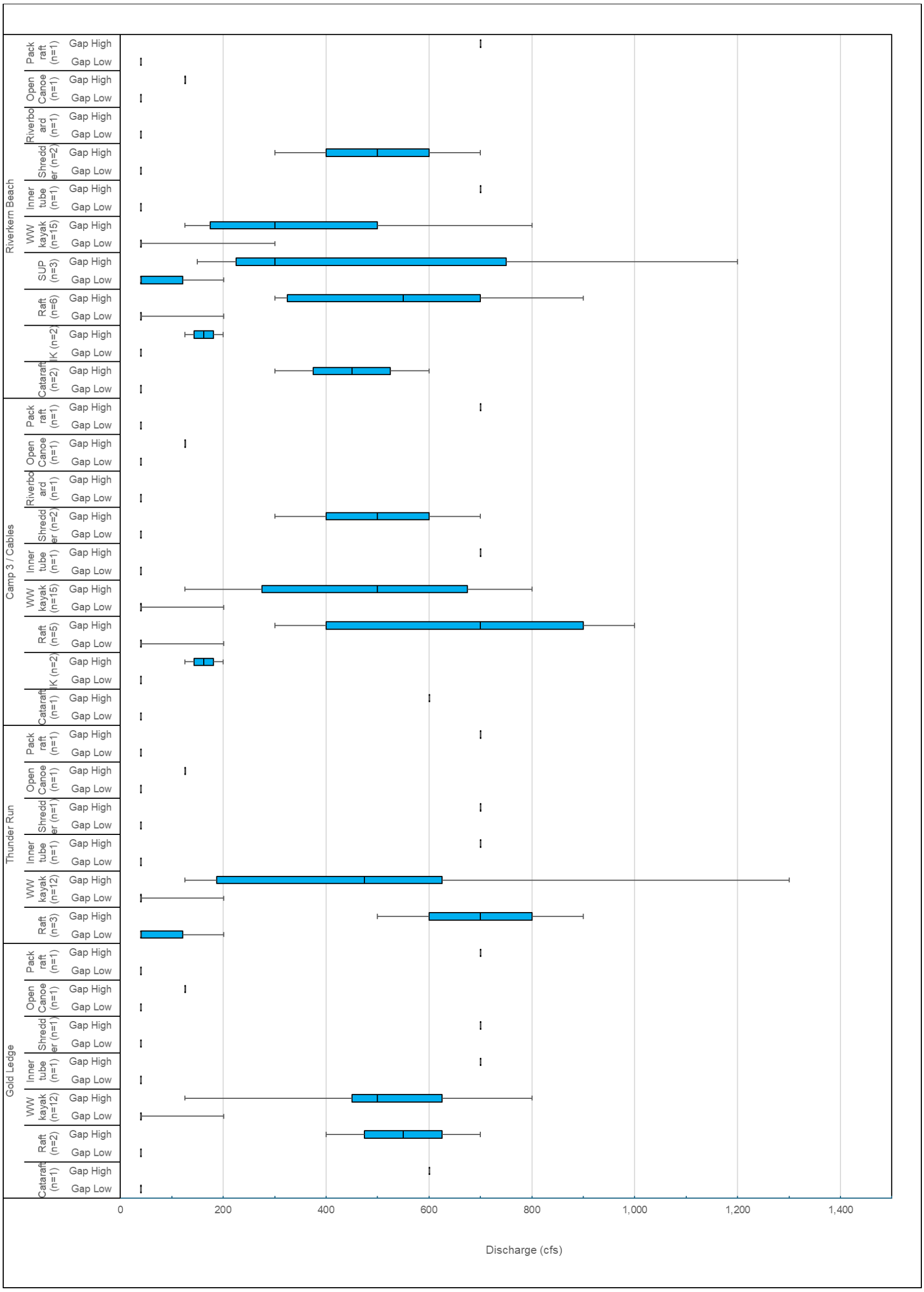
cfs = cubic feet per second; IK = inflatable kayak; SUP = standup paddleboard; WW = whitewater

Figure 2-20. Respondent Estimate of Optimum Flows by Watercraft Type for the Powerhouse River Segment.



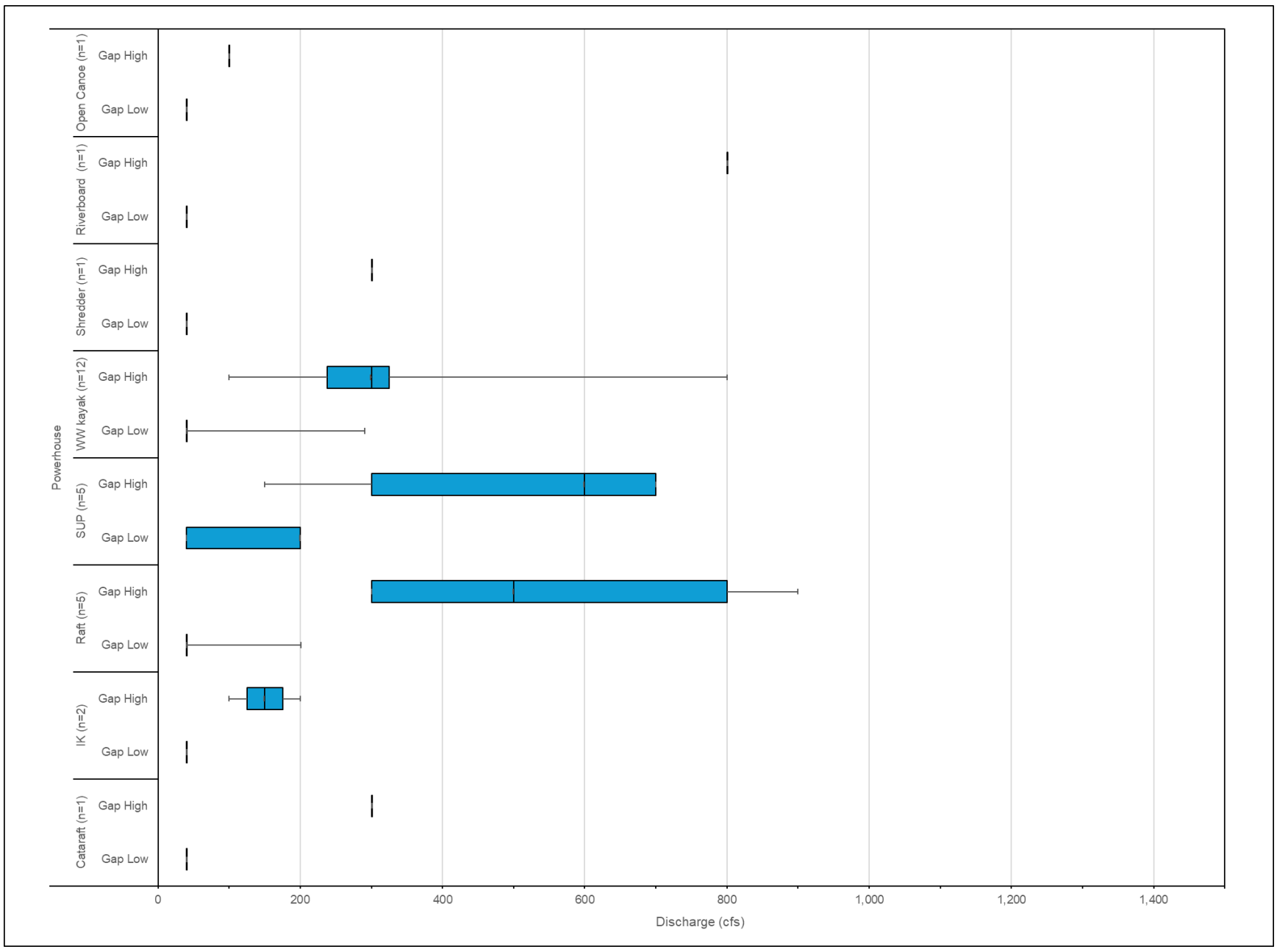
cfs = cubic feet per second; IK = inflatable kayak; SUP = standup paddleboard; WW = whitewater

Figure 2-21. Respondent Flow Knowledge Gaps by Watercraft Type for Sidewinder, Fairview, Chamise and Salmon Falls.



cfs = cubic feet per second; IK = inflatable kayak; SUP = standup paddleboard; WW = whitewater

Figure 2-22. Respondent Flow Knowledge Gaps by Watercraft Type for Goldledge, Thunder Run, Camp 3, and Riverkern.

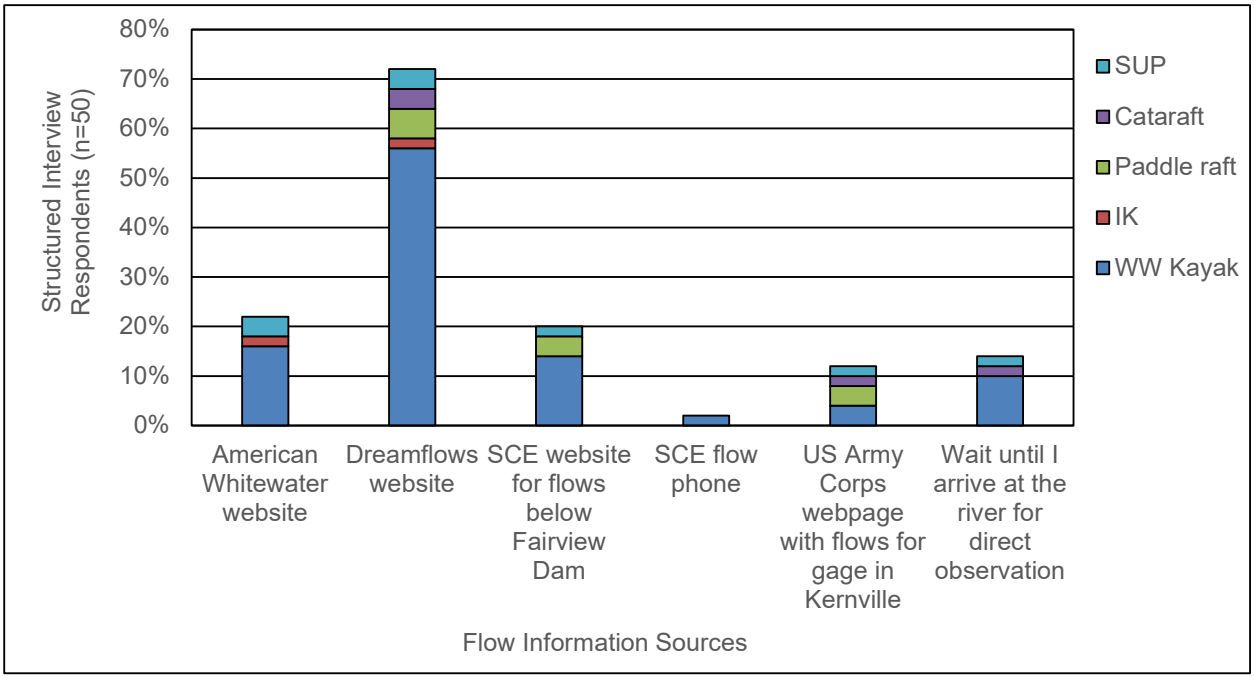


cfs = cubic feet per second; IK = inflatable kayak; SUP = standup paddleboard; WW = whitewater

Figure 2-23. Respondent Flow Knowledge Gaps by Watercraft Type for Powerhouse.

Boaters use a number of information sources to determine the flow volume in the NFKR (Figure 2-24). Dreamflows was most used by respondents for all watercraft types, followed by the American Whitewater website and the SCE flow information website. Five respondents indicated they check flow information on the Sierra South whiteboard outside the store. Sixty-eight percent of respondents said the existing flow information sources meet their needs, while 8 percent said they do not (Figure 2-25). Respondents identified the following flow information improvements: add more gages and fix existing gauges to improve accuracy, provide 15-minute interval data, and forecast a power generation schedule for boaters outside the area to predict flow conditions below Fairview Dam.

The Structured Interview Questionnaire asked respondents to compare the whitewater opportunities on the NFKR in the bypass with other whitewater opportunities in the watershed as well as Southern and Northern California (Figure 2-26). Most respondents considered the bypass river segments either similar, better, or among the best. For Southern California, 48 percent of respondents considered the bypass river segments to be among the best whitewater opportunities.



IK = inflatable kayak; SUP = standup paddleboard; WW = whitewater; SCE = Southern California Edison

Figure 2-24. Flow Information Sources used by Respondents.

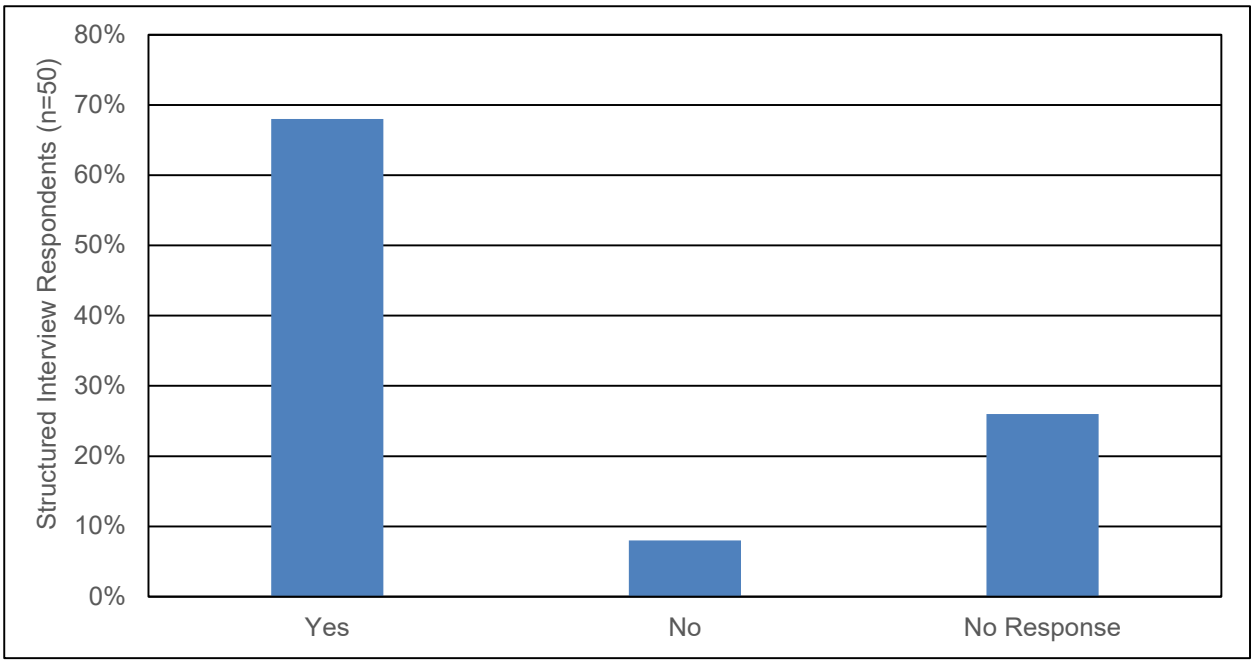


Figure 2-25. Does Available Flow Information Sources Meet Your Needs?

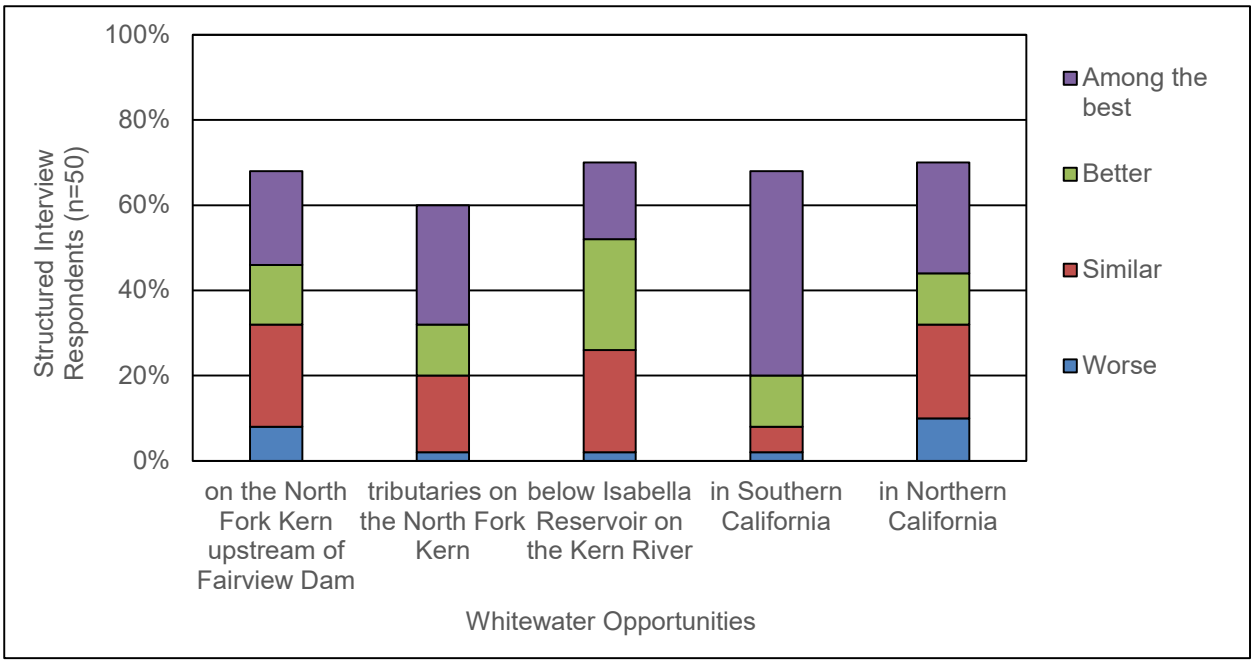


Figure 2-26. Comparison with Whitewater Opportunities in Other Locations.

3.0 LEVEL 3: INTENSIVE STUDY IMPLEMENTATION

In 2024, SCE will complete the following elements of the Level 3 Intensive Study:

- Analysis of the Level 3 whitewater single flow survey (data collected in 2023 and the analysis distributed to Stakeholders in Q1 2024 as an addendum to the REC-1 interim Technical Memorandum);
- Provide enhanced flows targeting knowledge gaps in boater experience on the river segments in the Fairview Dam Bypass Reach;
- Deploy a whitewater flow comparison survey;
- Conduct a whitewater focus group; and
- Complete a hydrology analysis to quantify the annual number of whitewater boating days using flow preference curves from Level 1, Level 2, and Level 3.

Based on the data collected in Levels 1 and 2, SCE will provide enhanced flows designed to target knowledge gaps in boating flows identified in the Level 1 Structured Interview Questionnaire (refer to Figures 2-21 through 2-23) and the Level 2 Limited Reconnaissance (discussion included as part of the SCE's Initial Study Report filing [SCE 2023]). SCE proposes four flow enhancements (Table 3-1), allowing study participants to boat and evaluate individual target flows and rate the quality of the boating opportunity.

Further communication with the boating community may be needed to help refine the proposed flow enhancements; in particular, the lowest target flow, the proposed flow increments, and the range of flows for enhancements. Because the flow enhancement targets are heavily influenced by unregulated inflow to Fairview Dam, the flows listed in Table 3-1 should be viewed as an approximate target range and not absolute discharge volumes. To provide the greatest operational flexibility and opportunity, SCE is preparing to provide flow enhancements during the spring run-off period (typically April into May). If needed, flow enhancement opportunities may also occur on the descending limb of the hydrograph later in the summer.

Study participants will also have an opportunity to complete a final flow comparison survey to evaluate the quality of boating opportunities across a range of flows previously identified in Levels 1 and 2. The flow evaluation data collected in the Level 3 Intensive Study will be used to develop flow preference curves for each watercraft type for the respective river segments.

Table 3-1. Potential Flow Enhancements for Boater Evaluations in 2024

Flow Enhancement Number	Approximate Flow Enhancement Volume (cfs) [a]	River Segment(s)
1	200	Sidewinder, Fairview, Chamise, Goldledge, Thunder Run, Camp 3, Riverkern, Powerhouse
2	400	
3	600	

Flow Enhancement Number	Approximate Flow Enhancement Volume (cfs) [a]	River Segment(s)
4	800	

cfs = cubic feet per second
Note:
[a] flows measured at SCE Gage No. 401 (Kern River below Fairview Dam)

SCE will work with the boating community to compile a list of potential study participants prior to implementing flow enhancements in spring 2024. Any interested boater may sign up to participate in the evaluation of the flow enhancements, and SCE will encourage participants that are representative of the broader boating community, including watercraft type, geographic locations, skill levels, age, and genders. However, full representation of the boating community may not be possible for all flow enhancement opportunities. SCE will use the list of interested boaters to establish communication protocols and directly communicate information about the flow enhancement schedule, as well as documentation and completion of a flow evaluation survey and other study logistics prior to a flow enhancement opportunity. Documentation of the outreach efforts will be included in the final Technical Memorandum.

4.0 REFERENCES

FERC (Federal Energy Regulatory Commission). 2022. *Study Plan Determination for the Kern River No. 3 Hydroelectric Project.* Accession No. 20221012-3024. October 12.

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