Technical Report

Payette River Recreation Area Management Plan

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March 17, 2026

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Logan, Utah, USA

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Executive Summary

This report provides a baseline for recreation planning and management across the Payette River system. The river continues to support high-quality whitewater recreation across multiple reaches and user groups. The study also identifies strain at specific access points and during predictable peak periods, especially where parking, circulation, launch design, and basic facilities do not match current use.

Constraints are concentrated, not corridor-wide. The system is not uniformly over capacity. Most management challenges occur at a small number of high-demand access sites, especially Banks, Beehive Bend, and Alder Creek, and during summer weekends and midday-to-afternoon peak periods. Parking is one of the clearest physical bottlenecks. Banks and Beehive Bend carry the highest parking demand. Beehive shows acute peak-period stress, while Banks operates near its practical limit for longer parts of the day. Alder Creek has a smaller parking footprint and no amenities, so even moderate demand creates operational strain. Danskin has more physical capacity, though it would benefit from better circulation and site organization.

Parking problems do not stem only from the number of spaces. Site function also matters. Trailer movement, loading and unloading, traffic flow, access-route design, restroom availability, and ADA accessibility shape both visitor experience and management burden. Field assessments show that several access points are usable but not fully efficient, durable, or well matched to current boating use. Survey results also show that users perceive worsening conditions over time, especially for parking, traffic, and crowding.

These findings support a phased planning strategy.

- **Near-term priorities** should target low-cost fixes at the most stressed sites. These include better parking organization and directional signing at Banks, better staging and circulation at Beehive Bend, sanitation and basic access improvements at Alder Creek, and targeted staff or host presence during peak summer weekends.
- **Mid-term priorities** should focus on targeted design and coordination. Banks and Beehive Bend warrant more formal evaluation of parking layout, circulation, staging, and launch-area function. Danskin should be considered for circulation controls and better organization to improve performance and absorb future demand. Accessibility improvements at key sites should also be part of this phase.
- **Long-term priorities** should focus on adaptive management. Agencies should maintain a lightweight monitoring program that tracks parking, site function, visitor experience, and crowding over time. Long-term capital planning should be selective and focus investment where a site's role within the recreation system, demand, and physical opportunity align. Corridor-wide education and consistent messaging around river etiquette, parking behavior, and launch/take out efficiency should also be strengthened.

The Payette River remains a strong recreation asset. The main management need is not broad expansion. It is targeted, phased action to sustain recreation quality, improve operations, and address recurring problems before they become harder or more expensive to manage.

1. Introduction

The Payette River system is one of Idaho's most important whitewater recreation areas. It supports commercial rafting, private boating, kayaking, inflatable kayaking, and other river-based activities. The system also includes access points, parking areas, ramps, and other facilities that support river use. Because use is distributed across several distinct segments and user groups, managers need clear information on current conditions, emerging constraints, and future management needs.

This technical report supports development of the Payette River Recreation Management Plan (RAMP) for the Boise National Forest. The report describes current recreation conditions, summarizes key use patterns, and provides information to guide management. The plan supports long-term management of whitewater-dependent recreation while conserving recreation opportunities, scenic quality, heritage resources, and native plant communities. It also seeks to reduce user conflict and support management, communication, and long-term monitoring.

The study addressed several planning needs. It estimated boating-related use by river segment. It described user groups, group size, and group type. It examined capacity conditions, especially on the Main Payette and the lower five miles of the South Fork Payette. It identified opportunities to improve capacity, such as new access sites or shuttle systems. It reviewed recreation sites for improvement needs. It also collected input from outfitters, agencies, user groups, and the recreating public. Together, these topics provide the basis for a recreation management plan grounded in current conditions and visitors' experience.

Managers need a clear baseline to make effective decisions. Without one, it is difficult to determine whether current facilities meet visitor needs, whether crowding or conflict is increasing, or where future investment would have the greatest benefit. This study documents how the Payette River system is used and how that use relates to facilities, visitor experience, and management concerns. The report provides a practical basis for future planning and decision-making by the Boise National Forest and its partners.

2. Study Purpose and Objectives

The purpose of this study was to collect and analyze information to support development of the Payette River Recreation Area Management Plan. The study had five objectives:

- Measure boating-related recreation use across the Payette River system by river segment, user group, group size, and group type.
- Examine recreation-capacity conditions at access points, parking areas, and on-river locations.
- Evaluate recreation sites and facilities to identify needs related to parking, ramps, toilets, signage, and trash service.
- Gather input from visitors, outfitters, guides, agencies, and other stakeholders on use patterns, recreation experiences, user conflict, and management needs.
- Identify management and infrastructure options that may protect river values while supporting high-quality recreation opportunities.

3. Methods

3.1. Study Design

This study used a convergent mixed-methods design to establish a baseline of recreation use, visitor experience, access site function, and capacity conditions across the Payette River system. In a convergent design, researchers collect multiple types of data during the same general period, analyze them separately, and interpret them together. This approach was appropriate because no single method could fully describe use, visitor experience, infrastructure constraints, and management needs across the corridor.

The study combined four data sources: on-site visitor surveys, camera-based interval and motion-triggered photography and image-derived counts, stakeholder input from outfitters, guides, agencies, and user groups, and field-based site and facility audits. Together, these sources were used to estimate boating-related use by segment, describe user groups and trip patterns, assess physical and social capacity, identify site improvement needs, and evaluate opportunities to improve access and management.

This design also allowed triangulation across data sources. Surveys described visitor characteristics, trip attributes, crowding, encounters, and opinions. Camera data documented parking use and on-river watercraft activity over time. Stakeholder input added operational knowledge on use, safety, and infrastructure concerns. Field audits documented how major access sites functioned on the ground. This combination was necessary because river capacity is not defined by a single threshold [1]. It reflects use intensity, timing, encounters, site function, parking performance, and user experience.

3.2. Study Area

The study covered the Payette River recreation corridor, with primary attention to six river segments: Lower Main Payette (Beehive–Horseshoe Bend), Upper Main Payette (Banks–Beehive), Lower South Fork or Staircase Segment (Garden Valley–Banks), Upper North Fork or Cabarton Segment (Cabarton–Smith's Ferry), Middle South Fork or Swirly Canyon (Danskin–Alder Creek Bridge), and Upper South Fork or Canyon Segment (Deadwood–Danskin) (Figure 1). These segments include major put-ins, take-outs, campgrounds, day-use areas, informal access points, and boating reaches used by both commercial and private recreators. Most of the study area is managed by the Boise National Forest, with some reaches and sites managed by the Bureau of Land Management. Because the corridor lies

within about an hour of Boise and includes several well-known whitewater reaches, it experiences strong day use and pronounced seasonal and weekend peaks.

3.3. Timeframe

Fieldwork occurred during the main summer boating seasons over two years. Data collection ran from June through September 2024 and from May through August 2025. These periods captured the main warm-season window, when boating use is highest and when parking, launch, and encounter conditions are most likely to be under pressure. Visitor surveys, camera-based interval and motion-triggered photography, and stakeholder outreach all occurred during daytime hours associated with normal river use.

3.4. Data Collection Overview

Data collection addressed five core needs. First, the study measured boating-related use and activity patterns across the corridor. Second, it documented visitor experiences and perceptions, including crowding, encounters, and access conditions. Third, it evaluated how major access points functioned in terms of parking, launch and take out design, facilities, and accessibility. Fourth, it gathered input from service providers and other stakeholders on operational concerns and management needs. Fifth, it used these data sources to assess current capacity conditions and identify opportunities to improve access, circulation, and recreation management.

3.4.1. On-Site Visitor Survey

3.4.1.1. Sampling Strategy

The research team collected on-site survey data through intercept-style exit interviews with river users at major take-out locations. Surveyors approached boating groups as they finished trips and left the water. To avoid over-representing large groups, the protocol selected one adult respondent, age 18 or older, from each exiting group. Participation was voluntary. Each completed interview therefore represented one recreation party, not every individual in that party.

Survey effort focused on the main take-out locations used by recreators: Banks, Banks Beach, Free Banks, Beehive, Deer Creek, Alder Creek, Danskin, and Kayaker Corner. When site conditions changed, survey effort shifted accordingly. For example, changes at Free Banks shifted sampling toward other take-outs. Survey days were randomly selected, and surveys were administered between 10:00 a.m. and 4:00 p.m., the main daytime use period.

The protocol changed for commercial boating groups in 2025. Surveyors approached outfitters and guides less often because many had already completed the survey and were often busy loading gear and serving clients. Even when surveyors did not re-survey those groups, they still counted the number of people in each outfitted group. That distinction matters because the survey captured perceptions and trip characteristics, while use estimates also depended on counting group flow through the site.

3.4.1.2. Survey Instrument and Administration

The research team designed the on-site questionnaire with the Boise National Forest and administered it on iPads using Qualtrics XM. The survey instrument, provided in Appendix A, included closed-ended and open-ended questions on trip characteristics, activity type, group composition, prior experience, satisfaction, perceived crowding, encounter conditions, facility issues, and views about recreation conditions on the Payette River.

In addition to survey responses, surveyors tallied the number of people taking out and the number of floaters passing each take-out during the survey period. These tallies documented group flow during active sampling and helped verify or interpret use estimates derived from camera data. Surveyors asked 740 people to participate and completed 548 surveys, for a 77% response rate (Figure 2).

3.4.2. Camera-Based Photography

3.4.2.1. Equipment and Placement

The research team used camera-based interval and motion-triggered photography to document parking conditions and on-river watercraft use at major recreation nodes. The study used Bushnell Trophy Cam HD trail cameras equipped for time-lapse and motion-assisted image capture. Cameras were mounted on trees, posts, or other fixed structures about 10 to 12 feet above ground and angled to maximize field of view while minimizing interference with visitors.

To evaluate parking use, cameras were placed at Beehive, Banks, Danskin, Deadwood, and Alder Creek parking areas, though Alder Creek parking coverage occurred only in 2025. To evaluate on-river use, cameras were also placed to view the river channel just upstream of Beehive, Banks, Alder Creek, and Danskin. These locations represented major access points and high-use segments and provided repeatable vantage points for monitoring both parked vehicles and passing watercraft.

3.4.2.2. Camera Protocol

Each camera was programmed to take photographs at fixed intervals during daylight hours as well as to take photographs if objects triggered the camera's infrared sensor. Cameras collected images during the entire boating season, concurrent with the administration of the on-site surveys. Cameras stayed in the same locations through the active season and were checked periodically to replace batteries and memory cards and reduce data loss. After retrieval, images were downloaded, backed up, and organized by site, date, and time.

3.4.2.3. Image Processing and Use Metrics

Image analysis focused on two indicators: parking occupancy and on-river watercraft presence. Counts were linked to camera ID, date, and time. The analysis treated images as

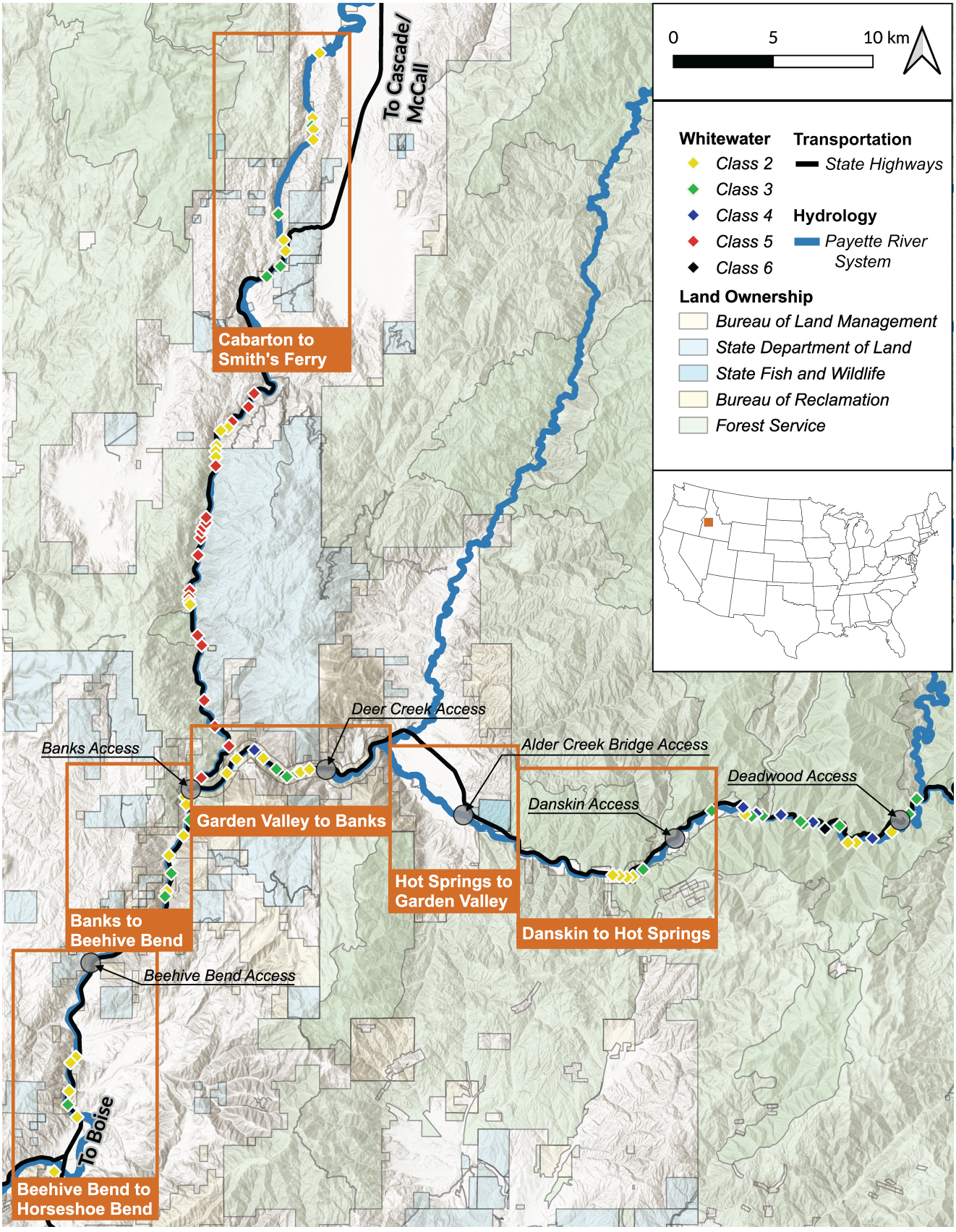


Figure 1: Map of the Payette River Corridor. The Payette River Corridor offers world-class whitewater recreation opportunities. The study area is segmented into distinct reaches, noted in the figure, of interest to recreation resource managers.

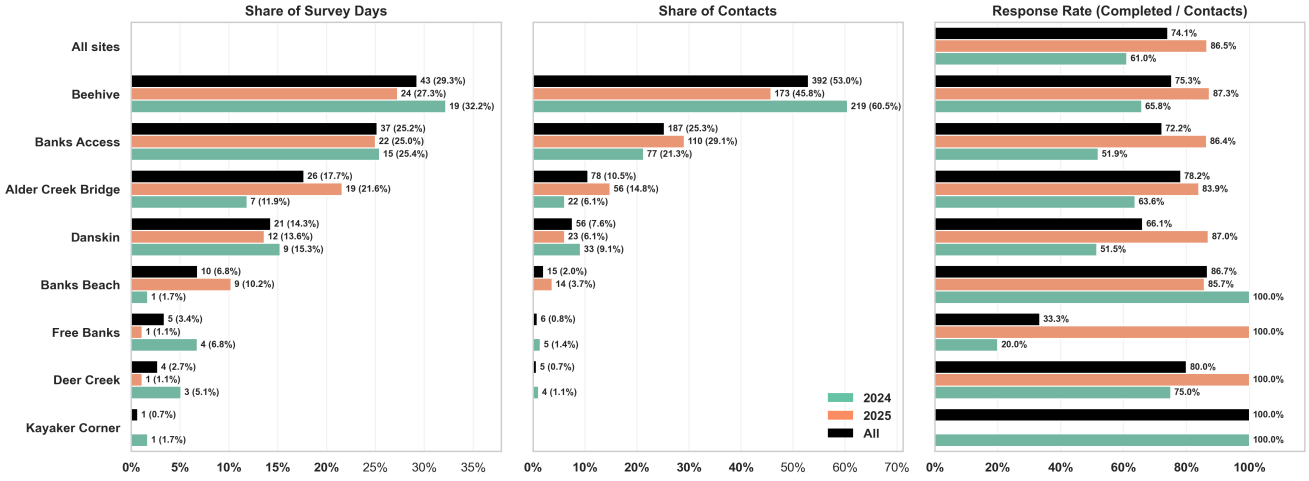


Figure 2: Summary of On-Site Sampling Effort and Response Rate, by Site. The on-site survey was administered at eight access points along the Payette River, sampled proportional to estimated use. In total, 740 recreationists were contacted, 548 of whom completed the survey; this calculates out to a 74.1% response rate.

repeated snapshots of use, not unique user events, because the same vehicle or boat could appear in multiple images. To convert those snapshots into interpretable indicators, the research team aggregated counts to hourly and daily summaries, including average and maximum vehicles or watercraft observed per hour and per day at each site. Results were then summarized by time of day and day type to identify peak periods and typical use conditions across the season. These processed camera data produced segment-level and site-level patterns such as weekday–weekend contrasts, afternoon peaks, and average monthly totals by day of week. Full details on the methodological workflows used to quantify parking capacity and on-river use are detailed in Smith and Lamborn [2].

3.4.3. *Stakeholder Input: Outfitters, Guides, Agencies, and User Groups*

The research team collected stakeholder input to provide context that visitor surveys and camera counts could not capture. This component focused on outfitters and guides, but also included other agencies and user groups where available. Participants commented on river use patterns, launch and take out conditions, parking and circulation issues, safety concerns, business operations, infrastructure needs, and management options. The research team used these data descriptively to characterize recurring operational themes and compare provider perspectives with survey and field audit findings.

3.4.4. *Site and Facility Review*

The study included a structured review of major recreation sites to identify improvement needs and evaluate current facility function. The review covered parking supply, circulation, launch and take out design, restrooms, trash service, changing areas, picnic infrastructure, signage, and accessibility. The review relied on field audits, site photographs, and direct observation by trained field technicians. For each site, technicians documented its primary function within the river system, the quality of parking and circulation, the route from parking to water, the design and condition of launch or take out features, the presence of amenities, and any apparent accessibility issues. The result was a structured qualitative audit of site performance rather than a formal engineering inventory. The research team later interpreted these site reviews in relation to visitor demand, parking pressure, access constraints, and possible future improvements.

3.4.5. *Capacity Analysis*

A central part of the study examined current use and recreation capacity. Here, capacity refers to whether existing use levels, facility conditions, and interaction patterns place pressure on recreation opportunities, visitor experience, site function, or safety. Because river capacity is multidimensional, the analysis did not rely on a single threshold. Instead, it used multiple indicators, including parking occupancy, physical parking opportunity, site-function observations, reported encounters with other watercraft, perceived crowding, long-term perceptions of worsening conditions, and stakeholder input on congestion and access issues.

3.4.6. *Physical Capacity: Parking Opportunity and Parking Occupancy*

The research team assessed physical capacity in part through parking analysis because parking and staging are among the most visible constraints in a boating corridor. The analysis considered corridor-wide conditions, with focused attention on Banks, Beehive Bend, Danskin, and Alder Creek. Parking opportunity at these sites was estimated through a spatial workflow based on high-resolution aerial imagery and computer vision [2]. In that workflow, parking

opportunity refers to surfaces that appear physically suitable for parking based on imagery, land-cover classification, and basic terrain constraints. The research team delineated parking-related surfaces spatially and converted them to area measures, producing mapped estimates of existing parking areas and additional potential parking areas.

The research team then converted mapped areas into estimated parking units assuming a high-density benchmark of 50 vehicles per acre. This density is based on a mix of about 44 single-vehicle stalls and 6 vehicle-plus-trailer stalls per acre, with the rest of the footprint devoted to maneuvering and minimal buffering. This benchmark converted mapped parkable area into a comparable capacity indicator across sites. The resulting values represent an indicator of physical opportunity, not a statement of authorized or striped parking supply. Ownership, circulation, slope, sanitation, resource protection, and road-safety constraints may reduce what is usable on the ground. The research team interpreted parking-opportunity estimates alongside camera-based parking-occupancy patterns so they could compare spatial supply with temporal demand.

3.4.7. Social Capacity

The research team examined social capacity through survey-based indicators of crowding, encounters, and perceived change over time. Respondents were asked how on-river crowding, parking availability, and traffic had changed since they first began recreating on the Payette River. They were also asked to report the number and type of other watercraft encountered during their trip and to rate crowding at the put in, on the river, and at the take out. These measures characterized the social environment in three ways: perceived change over time, the mix of on-water encounters, and where crowding was strongest during the trip sequence. Site-specific comparisons were then used to evaluate differences across river segments.

3.5. Analysis of Capacity-Enhancing Opportunities

The study also considered opportunities to improve access and corridor function, including new or expanded parking, improved launch and take out design, better circulation, shuttles, sanitation improvements, and accessibility upgrades. The research team did not assess these opportunities as a separate dataset. Instead, they identified them by synthesizing parking-opportunity mapping, camera-based use patterns, site audits, visitor comments, and stakeholder observations. In practice, a site or issue became a candidate for improvement when multiple sources pointed to the same constraint. For example, a site where parking often reached capacity in camera data, field technicians documented circulation problems, and visitors repeatedly mentioned parking or safety concerns would be treated as a strong candidate for future intervention.

3.6. Data Analysis

The research team analyzed quantitative and qualitative data separately and then integrated them during interpretation. Quantitative survey and image-based data were summarized with descriptive statistics, including totals, percentages, medians, averages, distributions, and comparisons across sites, segments, and user types. The results use summaries for encounter counts and temporal aggregation for camera-based use intensity, including monthly totals by day of week and diurnal heat maps. These analyses identified the magnitude, timing, and distribution of recreation use and showed where the corridor experienced the greatest operational pressure.

The research team reviewed qualitative data from open-ended survey responses, stakeholder input, and field audits for recurring themes related to parking, launch conditions, bathrooms, access safety, crowding, conflict, and site improvement needs. They then compared those themes with the quantitative findings to identify convergence across sources. This interpretation stage emphasized triangulation: the strongest findings were those supported by camera counts, survey responses, stakeholder observations, and site audit findings. That step was especially important for capacity assessment because no single measure could adequately represent actual conditions on the river.

3.7. Scientific Defensibility and Study Limits

The study's data sources serve different purposes and offer different levels of scientific defensibility. On-site visitor surveys and stakeholder interviews describe the range of perspectives present on the corridor, but they do not provide a statistically representative census of all users. Camera-based interval- and motion-triggered photography and group tallies provide a stronger observational record of use levels and timing at selected sites, but those data still depend on site placement, camera view, and the period of deployment. Parking opportunity mapping provides a spatially explicit estimate of physical parking potential, but it does not establish whether all mapped space is developable or appropriate for management use. For these reasons, each dataset was interpreted according to its strengths and limits, and major conclusions were based on convergence across multiple lines of evidence rather than on any single method.

4. Results

4.1. Visitor Characteristics, Trip Patterns, and Recreation Activities

4.1.1. Sociodemographic Characteristics

The survey sample indicates that Payette River users are mostly working-age adults with strong ties to the regional urban corridor (Figure 3). Ages clustered in the 20 to 49 range, which accounts for about 75% of respondents. The largest groups were ages 30 to 39 (29%), 20 to 29 (25%), and 40 to 49 (21%). Participation declined after age 50: 50

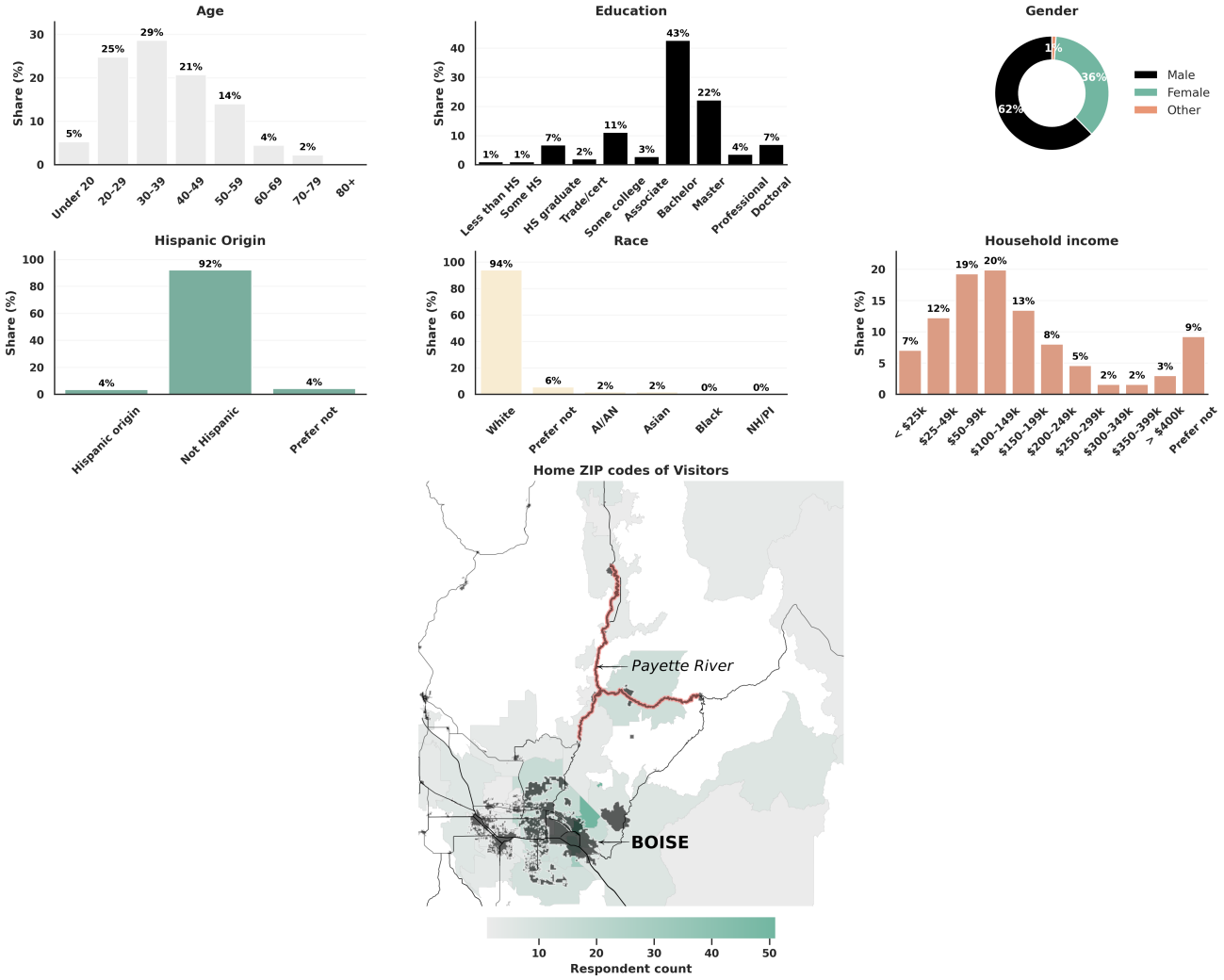


Figure 3: Sociodemographic Characteristics of Payette River Users. The sample was concentrated among adults ages 20–39 (54%) and was highly educated, with 76% reporting at least a bachelor's degree. Respondents were predominantly male (62%), non-Hispanic (92%), and White (94%). Reported household incomes spanned a wide range, with 52% falling between $50,000 and $200,000. Home ZIP codes indicate that many respondents reside in the Boise metropolitan area.

to 59 account for 14%, 60 to 69 for 4%, and 70 to 79 for 2%. About 5% were under 20, and almost none were 80 or older.

Respondents also reported high levels of formal education. Forty-three percent reported a bachelor's degree. Another 33% reported graduate or professional training, including 22% with a master's degree, 4% with a professional degree, and 7% with a doctorate. Eleven percent reported some college, and 7% reported high school as their highest credential.

The sample of river users was 62% male, 36% female, and about 1% other. Ninety-two percent identified as non-Hispanic, 4% identified as Hispanic, and 4% preferred not to answer. Ninety-four percent identified as White. Small shares reported other racial identities, including about 2% American Indian or Alaska Native and about 2% Asian. About 6% preferred not to report race. Very few respondents identified as Black or Native Hawaiian or Pacific Islander.

Household income spanned a broad range but clustered in the middle-to-upper brackets. Thirty-nine percent reported incomes between $50,000 and $149,999. Another 13% reported $150,000 to $199,999, and 8% reported $200,000 to $249,999. Nineteen percent reported less than $50,000. About 12% reported $250,000 or more, and 9% preferred not to answer.

Home ZIP codes showed that users were drawn primarily from the Boise metropolitan area, with concentrations along the regional transportation network and within a practical driving radius of the corridor.

4.1.2. Group Characteristics and Watercraft Use

Survey responses show that boating on the Payette River is primarily self-guided (Figure 4). Only 9% of respondents reported using a guide ($n = 49$), while 91% reported unguided trips ($n = 492$). Trip duration is concentrated in

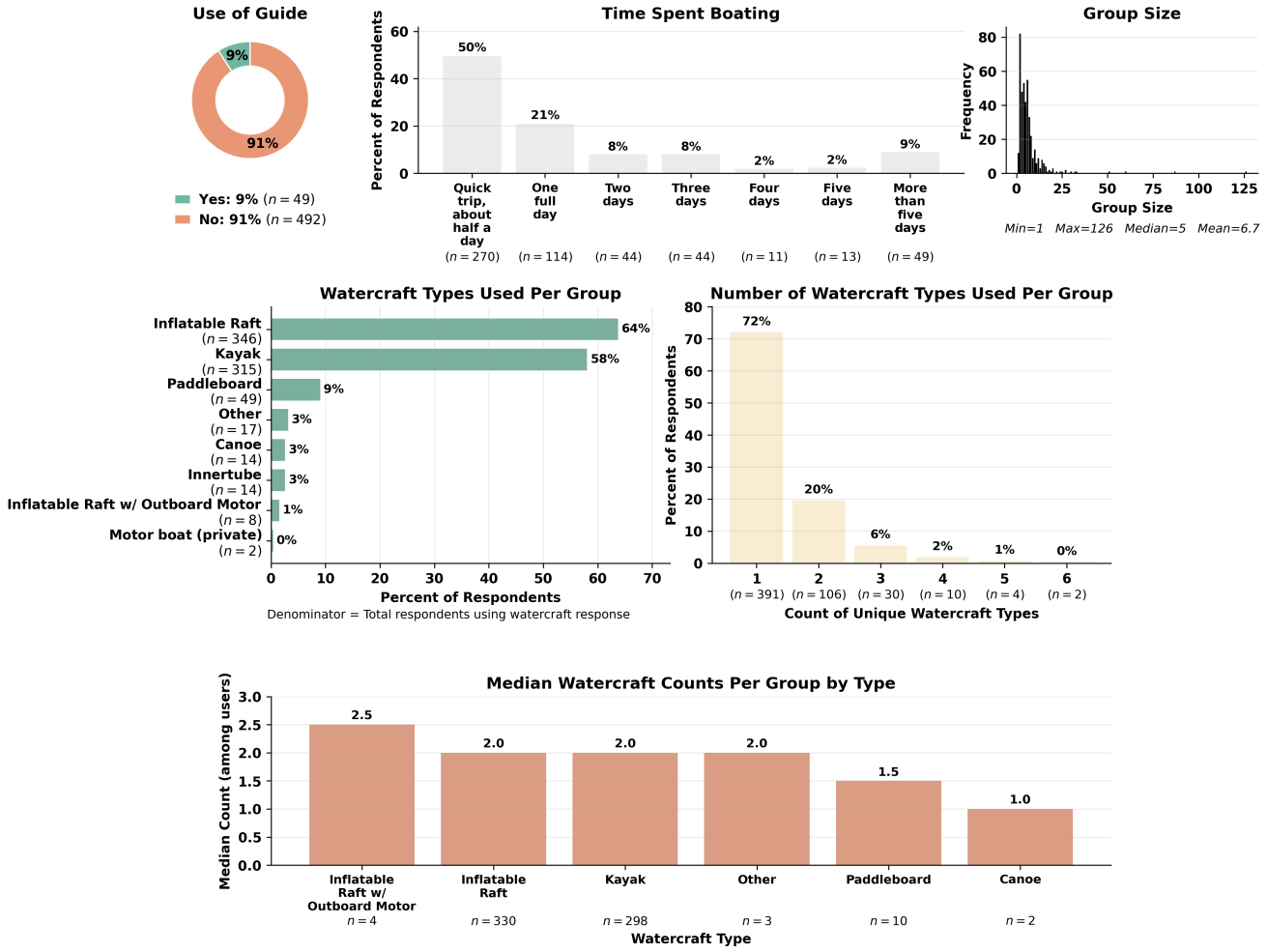


Figure 4: Trip Characteristics and Watercraft Use Patterns Among Survey Respondents. This multi-panel figure summarizes key trip attributes and watercraft use reported by recreationists surveyed along the Payette River. The Use of Guide panel (top left) shows the share of respondents who participated in a guided trip (Yes/No). Time Spent Boating (top center) reports the distribution of trip-duration categories, expressed as the percentage of respondents selecting each option. Group Size (top right) displays the frequency distribution of reported group size; summary statistics (minimum, maximum, median, and mean) are provided beneath the plot. The middle row characterizes boating mode: Watercraft Types Used (left) reports the percentage of respondents who used each watercraft type (multiple selections permitted), with sample sizes shown for each category; the denominator reflects respondents who provided any watercraft-use response. Number of Watercraft Types Used (right) summarizes the diversity of watercraft use per respondent as the percentage reporting 1, 2, 3, ... unique types. The bottom panel, Median Watercraft Counts by Type, reports the median number of watercraft used among respondents who reported using each type (non-zero counts only), with sample sizes shown beneath each bar. Percentages are rounded to whole numbers; n values indicate the number of respondents contributing to each estimate.

short outings. Half of respondents described their trip as a half-day excursion (50%; $n = 270$), and 21% reported a full day on the river ($n = 114$). Two-day and three-day trips each accounted for 8% of responses ($n = 44$ in each category). Four-day and five-day trips were rare, at about 2% each. Nine percent reported trips longer than five days ($n = 49$), which suggests that a smaller share of users engage in extended stays or repeated boating days.

Group sizes were modest but right-skewed. The median group size was 5, and the mean was 6.7. The largest reported group size was 126. Most use therefore comes from small- to medium-sized groups, though a small number of large parties can affect crowding and facility demand on peak days.

Watercraft use was dominated by paddle-powered and inflatable craft. Inflatable rafts were reported by 64% of respondents ($n = 346$), and kayaks by 58% ($n = 315$). Paddleboards were reported by 9% ($n = 49$). Canoes, innertubes, and other craft each accounted for about 3%. Motorized use was minimal. Inflatable rafts with outboard motors were reported by 1% ($n = 8$), and private motorboats by less than 1% ($n = 2$).

Most respondents reported using only one watercraft type (72%; $n = 391$). Twenty percent reported two types, and 6% reported three types. Median counts by craft type were

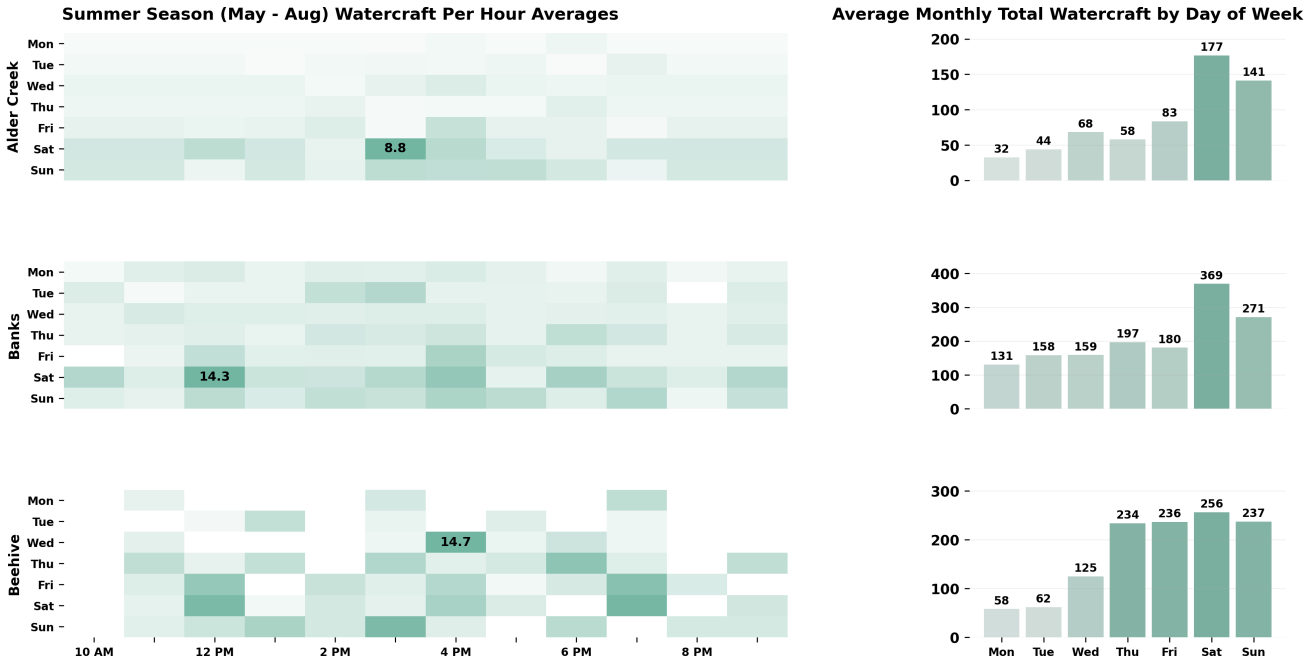


Figure 5: Summer-Season Patterns in On-River Use by Site: Watercraft-Per-Hour and Average Monthly Totals by Day of Week. (A): Site-specific heatmaps of mean watercraft per hour during the summer season (May–Aug.) during 2024 and 2025, with hour of day (10 a.m.–9 p.m.) on the x-axis and day of week on the y-axis. Hourly values are based on the calibrated computer vision-derived watercraft-per-hour series; to provide complete hour × day surfaces for visualization, missing cells are imputed for plotting using a tiered, day-of-week–aware approach (cell mean if observed; otherwise day-of-week mean; otherwise hour-of-day mean; otherwise site mean; otherwise 0). The maximum cell in each site heatmap is noted. **(B):** Average monthly total watercraft by day of week, computed by scaling the heatmap means by the number of calendar occurrences of each day-of-week × hour combination during May–Aug. (2024–2025), and dividing by the eight included months. Imputation reliability: 68–89% of site-days are imputed in the daily estimation workflow (Banks 68%, Beehive 74%, Alder Creek 89%). Back-test error metrics (boats/day) are Overall MAE = 8.72, with site-specific performance ranging from Alder Creek (MAE = 1.28) to higher errors at Beehive (MAE = 20.59). These reliability metrics can be interpreted as the margin of error (±) for the day-of-week estimated counts shown in Panel B.

generally about two for common categories such as rafts and kayaks, which reinforces the pattern of small groups using a limited number of craft.

4.2. Recreation Use Patterns Across the Payette River System

4.2.1. Overall Boating-Related Use

Use was not evenly distributed across days or hours (Figure 5). A relatively small set of peak periods, especially weekend afternoons, accounted for a disproportionate share of seasonal volume. Day-of-week totals show a clear weekend premium at each site, with Saturday and Sunday forming the upper end of the weekly distribution. Even where weekday use was substantial, it rarely approached Saturday levels.

At the segment level, use followed distinct demand regimes. Banks and Beehive sustained consistently high average monthly totals across the week. Alder Creek had the lowest weekday totals but still showed pronounced weekend peaks. These patterns suggest that the system includes both primary segments that support sustained weekday boating and secondary segments that function more as weekend-driven use areas.

4.2.2. Temporal Patterns of Use

Temporal patterns of on-river use were consistent with a peak-season recreation corridor: use was high enough in midsummer that weekday–weekend cycles were easy to see Figure 5. All sites showed higher totals on weekends than on weekdays, but the size of that difference varied by segment. At Beehive, weekday totals were notably lower than weekend totals. Other segments showed a smaller weekday–weekend split, which may reflect regular weekday use by local or repeat users, guided activity, or operational factors that spread arrivals across the week. The management implication is straightforward: weekend-only strategies will miss a substantial share of use on the busiest core segments, though they may be sufficient for lower-volume reaches.

The diurnal pattern was also consistent (Figure 5). Use was lowest in late morning, rose through midday, and peaked in the afternoon to late afternoon. Most sites reached their highest use between about noon and 6:00 p.m., with many clustering around 3:00 to 5:00 p.m.

The highest-use periods occurred when weekends coincided with the afternoon peak. Several sites showed Saturday maxima in the mid-to-late afternoon. These periods are the clearest candidates for congestion mitigation, safety staffing, messaging, and targeted enforcement because they likely correspond to both the highest encounter rates and the highest operational strain.

4.2.3. Spatial Patterns of Use

Segments upstream of Banks and Beehive were the most consistently high-volume segments based on average monthly totals by day of week. Each sustained relatively high totals across several weekdays in addition to strong weekend peaks. These segments function as core nodes in the system's boating network. Alder Creek, by comparison, had lower totals overall, but still experienced short pulses of high use.

Taken together, these findings show a summer recreation corridor with demand concentrated in specific segments and predictable peak windows. That predictability is useful because it allows managers to target action at weekend-afternoon peaks.

4.3. Carrying Capacity Analysis

4.3.1. Physical Capacity

4.3.1.1. Parking Capacity and Opportunity

Parking is one of the most important physical constraints in the Payette River corridor because nearly all boating trips depend on reliable access for loading, staging, shuttle coordination, and take out. When parking is limited, the effects extend beyond the lot. Overflow parking can create safety issues along roads and bridges, reduce the ability to use trailers, slow turnover at launches and take outs, and increase visitor frustration. For these reasons, the analysis treated parking capacity as a core component of physical carrying capacity. To assess parking opportunity, the research team evaluated the full river corridor, with focused attention on the Banks, Beehive Bend, Danskin, and Alder Creek parking areas.

Parking opportunity was uneven across both focal sites and the corridor as a whole (Figure 6, Table 1). At the corridor scale, estimated parking capacity was concentrated in two reaches: Beehive Bend to Horseshoe Bend, with 169 spaces, and Danskin to Hot Springs, with 139 spaces. In contrast, Banks to Beehive Bend had 49 spaces, and Hot Springs to Garden Valley had 47. This pattern shows that parking opportunity is concentrated at a limited number of nodes rather than distributed evenly across the corridor.

Danskin ranked second among the focal sites, with about 124 estimated parking units. The existing developed parking area accounted for about 33 units. Two additional opportunity areas, one north and one south of the site, contributed about 17 and more than 74 units. This suggests that Danskin is less constrained by raw space than by site organization and management.

Beehive Bend had an estimated total of about 61 parking units, split between about 33 units in the existing lot and 28 additional units in a nearby opportunity area. That gives the site some room for added parking, but the total developable footprint remains modest relative to use.

Alder Creek had the smallest estimated parking opportunity, with about 27 units. Only about 7 units were associated with the existing developed parking area, while the area south and west of the existing dirt parking area could contribute 20+ additional units.

Across all four access areas, the analysis identified about 362 parking units of total physical opportunity. Of these, about 122 units were associated with existing parking areas and about 240 units with additional opportunity areas. About two-thirds of mapped parking opportunity therefore lies outside the currently developed lots. This gap matters because current parking supply and total physical opportunity are not the same thing.

When interpreted alongside the broader findings, especially strong use intensity at Banks and Beehive and repeated visitor comments about parking, the analysis helps distinguish between sites that are space-constrained and sites where parking problems may be more solvable through redesign, overflow management, or circulation improvements. Beehive appears moderately constrained in a high-demand setting. Banks and Danskin have greater room for management or design interventions that could improve effective parking capacity. Alder Creek has the most relative expansion capacity, given its lack of any formal parking infrastructure (or other amenities).

4.3.1.2. Parking Use and Occupancy

Parking use varied substantially across the four focal sites, but several patterns were consistent (Figure 7). Parking demand was uneven among sites. Banks and Beehive Bend carried the largest loads. Alder Creek functioned as a small but constrained site. Danskin remained lightly used relative to its estimated capacity. Parking use also followed a clear daily rhythm. Counts rose through the morning, peaked from late morning to mid-afternoon, and declined through the evening. Weekend use was usually higher than weekday use, especially in the core summer season.

Banks showed the highest overall parking occupancy and appears to be the corridor's most consistently stressed parking site. In May, weekend mean hourly counts reached about 45 vehicles, and weekday use reached the upper 20s. These values approached the estimated capacity of 49 spaces. June use declined, but midday demand remained substantial. July and August also showed sustained use, with peak weekend counts around 29 to 30 vehicles in July and lower-20s values in August. Banks therefore experienced sustained parking pressure across much of the boating season, especially from late morning through late afternoon.

Beehive Bend also showed high parking demand, but its pattern was sharper and more episodic. In May, weekend mean hourly counts reached about 43 vehicles, and weekday counts peaked around 21. Those weekend values exceeded the estimated capacity of 33 spaces during peak periods. June remained busy, and July and August weekend counts

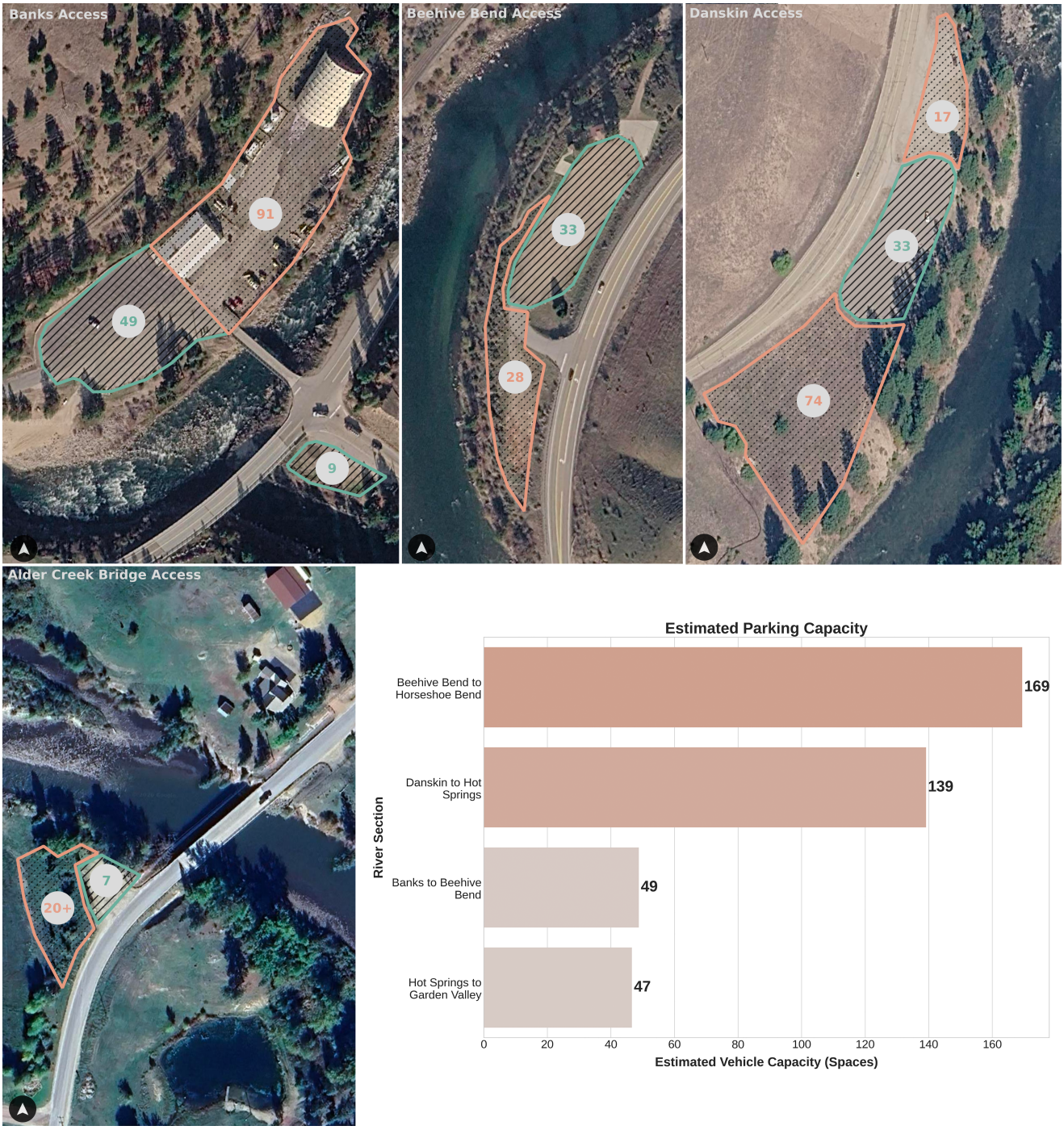


Figure 6: Current and Potential Parking Capacity at Major Access Points and Current Parking Capacity by River Section. Aerial images: Aerial imagery showing estimated current parking areas and additional parking-opportunity areas at Banks Access, Beehive Bend Access, Danskin Access, and Alder Creek Bridge Access. Values shown within each polygon indicate the estimated number of parking units associated with that area. Green-outlined polygons represent existing or currently used parking areas, while orange-outlined polygons represent additional potential parking-opportunity areas identified through image-based analysis. Together, these site-level estimates illustrate differences in current parking supply, expansion potential, and relative physical parking constraints across the four primary river access locations. **Chart:** Estimated parking capacity for four boating reaches in the Payette River corridor based on mapped parking-opportunity areas translated into vehicle spaces using the river-access capacity methodology. Capacity is highest for the Beehive Bend to Horseshoe Bend reach (169 spaces) and the Danskin to Hot Springs reach (139 spaces), reflecting the concentration of parking opportunity at Beehive Bend/Banks and Danskin. Capacity is substantially lower for the Banks to Beehive Bend reach (49 spaces) and the Hot Springs to Garden Valley reach (47 spaces), indicating more limited parking supply within those reaches. These reach-level estimates provide corridor-wide context for the site-specific parking analysis and illustrate how physical parking opportunity is unevenly distributed across the system.

Table 1
Existing and Potential Parking Capacity at Major River Access Points

Parking Area Description	Size (m^2)	Size (acres)	Parking Capacity (assuming 50 vehicles/acre)
Banks Access			
Existing Banks Parking	3,974	1.0	49
Idaho Transportation Department Maintenance Lot	7,375	1.8	91
Free Banks	754	0.2	9
Beehive Bend			
Existing Paved Beehive Bend Parking	2,670	0.7	33
Potential Beehive Bend Parking	2,275	0.6	28
Danskin			
Existing Danskin Parking	2,667	0.7	33
Potential Danskin Parking (North)	1,388	0.3	17
Potential Danskin Parking (South)	5,995	1.5	74
Alder Creek			
Existing Alder Creek Parking	569	0.1	7
Potential Alder Creek Parking	1,637	0.4	20

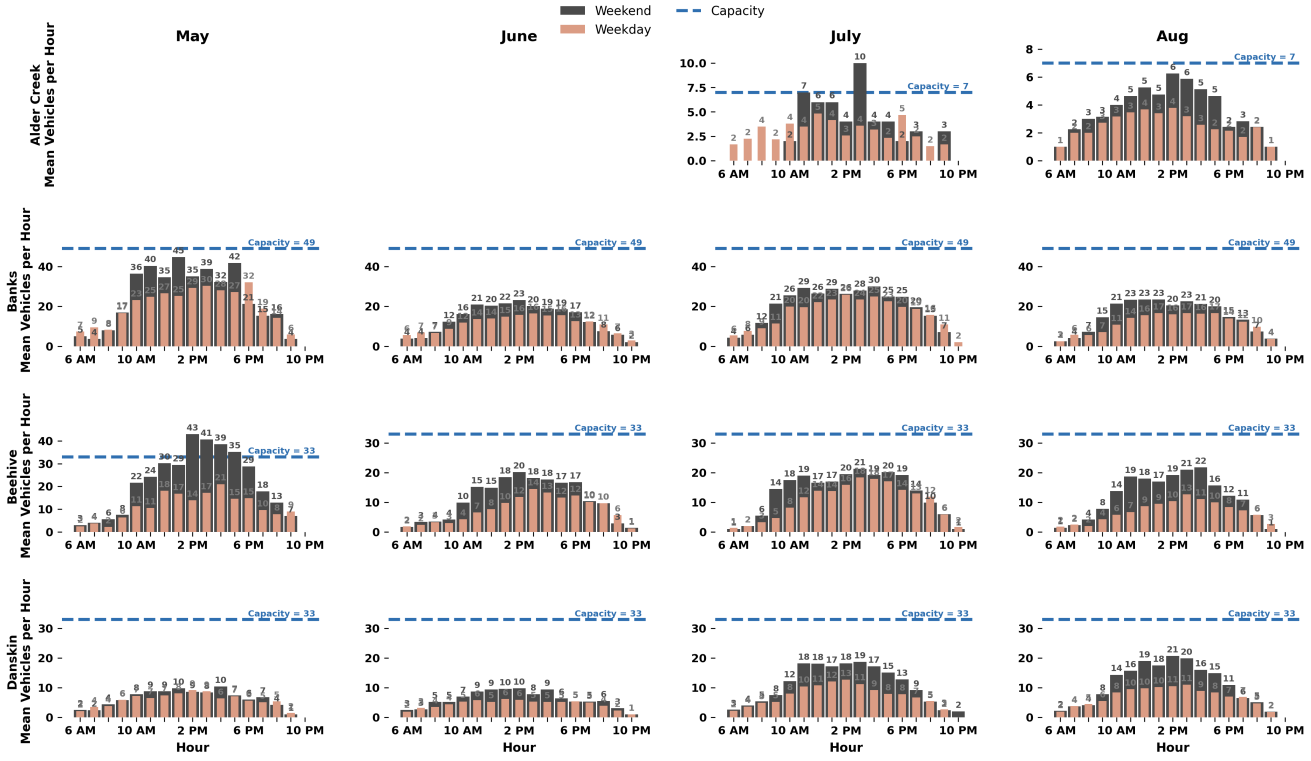


Figure 7: Mean Hourly Parking Occupancy at Major Access Sites by Month and Day Type. Mean hourly vehicle counts observed at Alder Creek, Banks, Beehive Bend, and Danskin parking areas during the 2025 boating season, shown separately for weekdays and weekends in May, June, July, and August. Dashed blue lines indicate the estimated parking capacity for each site based on the parking-opportunity analysis. The figure shows strong differences among sites in both overall parking demand and the extent to which use approaches or exceeds estimated capacity. Banks and Beehive Bend consistently carry the highest parking loads. In May, Beehive Bend exceeded estimated capacity during peak weekend hours and Banks approached capacity during late morning through afternoon periods. Alder Creek remains a small but constrained site, reaching or exceeding estimated capacity during parts of July and approaching capacity again in August. Danskin shows lower parking occupancy throughout the season and remains well below estimated capacity across most hours and months. Across sites, parking demand generally rises through the morning, peaks from late morning to mid-afternoon, and then declines into the evening, with weekend use typically exceeding weekday use.

again reached about 20 to 22 vehicles. Even when later-season counts did not exceed capacity, the site still had a limited operating margin.

Alder Creek was the smallest site in the analysis, so even moderate use created pressure. Data were available only for July and August. In July, weekend counts reached a peak of 10 vehicles in the afternoon, which exceeded the site's estimated capacity of 7 spaces. August values were lower but still approached capacity. These results reinforce the conclusion that Alder Creek is small and constrained. Even modest use can create operational stress.

Danskin showed the lowest relative parking pressure. In May and June, mean hourly counts were generally below 10 vehicles and rarely approached half of the site's estimated capacity of 33 spaces. Use increased in July and August, but even then peak weekend counts reached only the high teens to low 20s. Danskin therefore retained substantial unused parking supply under current conditions.

Across all sites, the time-of-day pattern was consistent. Demand began at low levels around 6:00 a.m., rose through the morning, peaked between about 11:00 a.m. and 3:00 p.m., and then declined into the evening. Weekend effects were also clear. At nearly every site and in nearly every month, weekend counts exceeded weekday counts, sometimes by a wide margin. Parking pressure is therefore not simply a matter of seasonal average demand. It is concentrated in a relatively small number of high-use periods.

Taken together, these results distinguish different forms of parking constraint. Banks appears to be a chronically high-demand site that operates near its practical limit over long portions of the day. Beehive Bend faces acute peak-period stress within a modest lot. Alder Creek is constrained by small size. Danskin has substantial unused supply under current conditions. Effective management responses should therefore be tailored to each site rather than applied uniformly across all high-use access points.

4.3.2. Social Capacity

4.3.2.1. Perceived Crowding Over Time

Survey respondents were asked how on-river crowding, parking availability, and traffic to and from the corridor had changed since they first began recreating on the Payette River (Figure 8). Responses show deterioration in each category, indicating increased use throughout the corridor. For traffic, 57% reported conditions were "a lot worse" and 26% "slightly worse." For on-river crowding, 42% reported "a lot worse" and 36% "slightly worse." Parking availability was also viewed as worsening, with 32% reporting "a lot worse" and 33% "slightly worse," though 26% reported no change and 7% reported improvement.

4.3.2.2. Expectations of Watercraft Encounters

Survey respondents reported the number of other watercraft they encountered by craft type during their trip (Figure 9). Across the full sample, encounters were most consistently associated with inflatable rafts, jet or motor boats, and kayaks. Median encounter counts suggest that respondents typically observed about five inflatable rafts, about four jet or motor boats, and about four kayaks. Encounters with innertubes and paddleboards were lower and more variable. Canoes and rafts with motors were least frequent. The distributions were right-skewed, which means that a subset of trips occurred under much more crowded conditions than the median trip.

Site-specific patterns broadly matched the corridor-wide pattern but differed in intensity (Figure 9). Beehive Bend showed the highest and most variable encounter distributions. Banks showed moderate encounter counts, with relatively high kayak encounters. Alder Creek showed lower and more compressed distributions. Overall, the on-water social environment was shaped primarily by raft, motor-boat, and kayak traffic, with the highest encounter rates at Beehive Bend.

4.3.2.3. Perceived Crowding On the Trip

Respondents rated crowding at three stages of river access: the put in, on river, and take out (Figure 10). Across the full sample, crowding was most often rated low to moderate, but a meaningful share of responses fell in the upper part of the scale, especially at take outs. Many users still experienced uncrowded conditions, but severe crowding was a recurring experience for some.

Patterns varied across sites. Beehive Bend showed the strongest skew toward higher crowding across all stages. Banks showed lower crowding at the put in and on-river stages, but higher crowding at the take out. Alder Creek Bridge showed lower crowding overall, though take out ratings were still higher than put in and on-river ratings.

These results show that crowding is not uniform across the trip. It is most consistently elevated at take out locations. That suggests that management actions aimed at egress capacity, parking turnover, and staging space may yield the largest improvements in perceived congestion.

4.3.2.4. Perceived Crowding Relative to Expectations

Respondents also compared encounter levels with what they expected for their trip (Figure 11). For the two dominant craft categories, inflatable rafts and kayaks, most respondents reported that encounter rates matched expectations: 57% for rafts and 58% for kayaks. A meaningful minority reported fewer encounters than expected, while relatively few reported more than expected. This suggests that unexpectedly high encounter rates for these common craft types were not widespread.

Patterns differed for less common craft types. Jet and motor boats showed a split distribution, with nearly equal shares reporting "a lot more," "a little more," and "about what expected." Innertubes skewed toward "about what expected," but a sizable share reported more than expected. Overall, most users found raft and kayak encounters broadly consistent with expectations, while motorized and niche craft types were more likely to produce mismatches between expectations and experience.

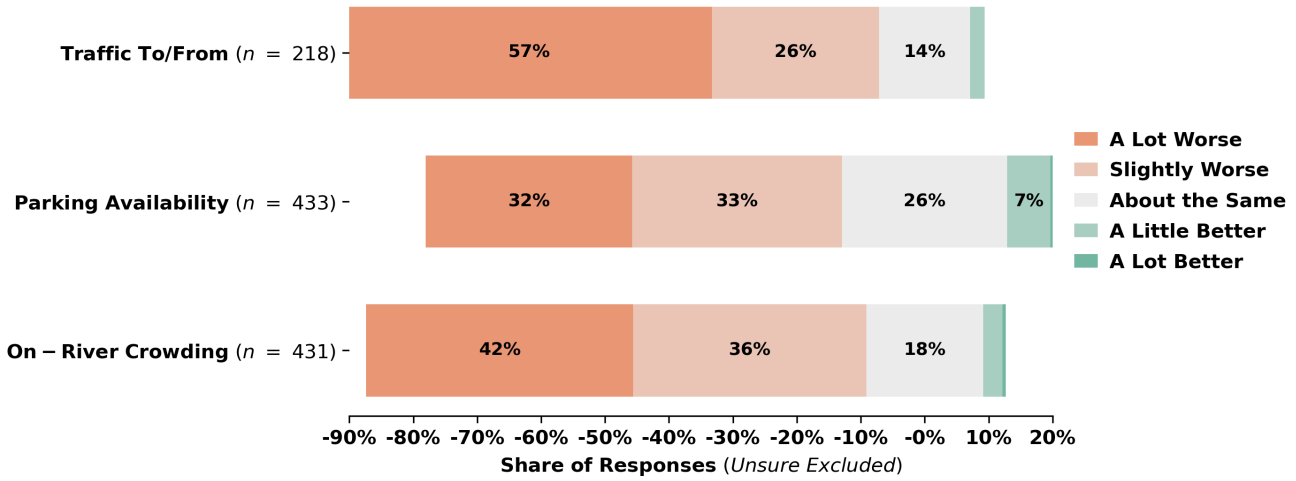


Figure 8: Perceived Change in Congestion and Access Conditions Since Respondents Began Visiting the Payette River. Diverging stacked bars summarize respondents' perceptions of how conditions have changed over time for on-river crowding, parking availability, and traffic to/from the river. Responses are shown as the share of respondents selecting each category, with "About the Same" centered, worse conditions plotted to the left (*A Lot Worse*, *Slightly Worse*), and better conditions plotted to the right (*A Little Better*, *A Lot Better*). "Unsure/Prefer not to answer" responses are excluded; sample sizes for each item are shown in parentheses. Overall, respondents most frequently reported conditions have become worse, particularly for traffic to/from the corridor and on-river crowding.

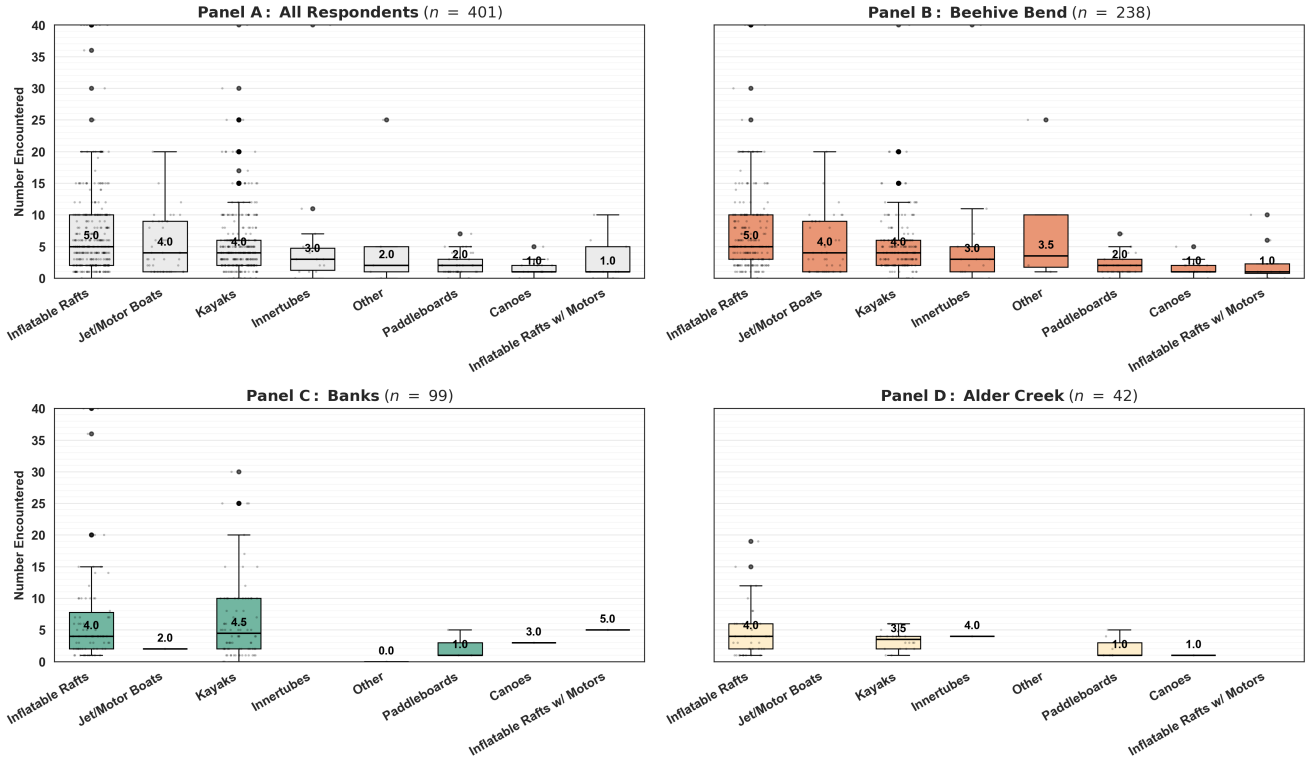


Figure 9: Distributions of Encountered Watercraft Types and Counts on the Payette River. Box-and-whisker plots summarize the self-reported number of other watercraft encountered during respondents' trips, disaggregated by craft type. Panel A presents results for all respondents ($n = 401$), while Panels B–D show site-specific distributions for the sections of river above Beehive Bend ($n = 238$), Banks ($n = 99$), and Alder Creek ($n = 42$). The y-axis reports the number of watercraft encountered. Boxes indicate the interquartile range with median lines; whiskers extend to $1.5 \times \text{IQR}$, and points represent individual responses/outliers. Numeric annotations within boxes indicate the median count for each craft type.

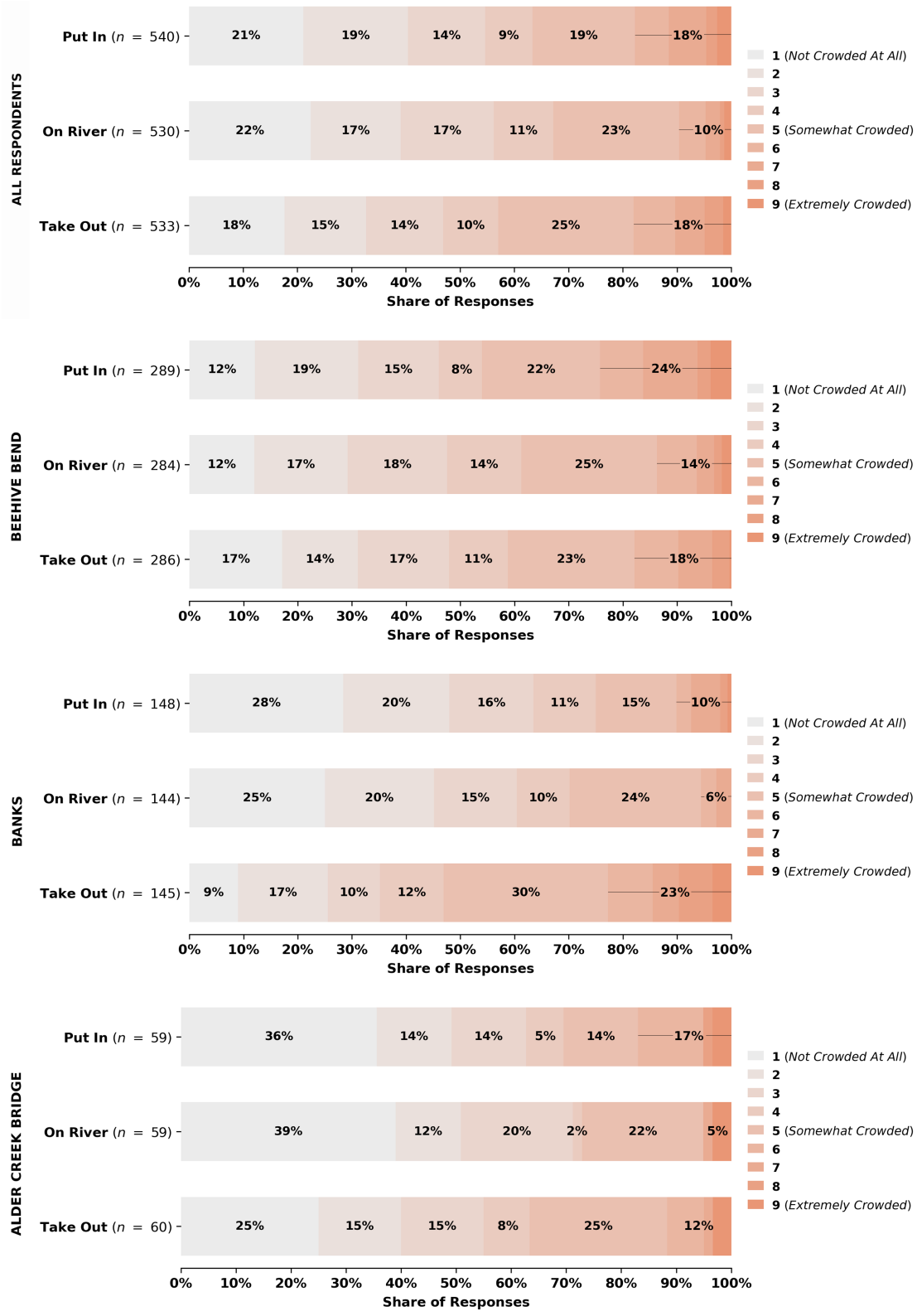


Figure 10: Perceived Crowding Across Stages of Payette River Access (Put In, On River, Take Out). Stacked bars show respondents' ratings of perceived crowding at three stages of the recreation trip—Put In, On River, and Take Out—using a 9-point scale (1 = Not Crowded at All; 9 = Extremely Crowded). Results are shown for the full sample (top panel) and for the three highest-sample locations—Beehive Bend, Banks, and Alder Creek Bridge (lower panels). For site-specific panels, "Put In" reflects the most common upstream launching location associated with each reach: Banks for Beehive Bend, Deer Creek for Banks, and Danskin for Alder Creek Bridge. The Banks panel includes respondents intercepted at Banks Access; Free Banks respondents are excluded. Sites with smaller sample sizes are not shown. Percentage labels are displayed for response categories $\geq 5\%$; unlabeled segments represent $< 5\%$ of responses.

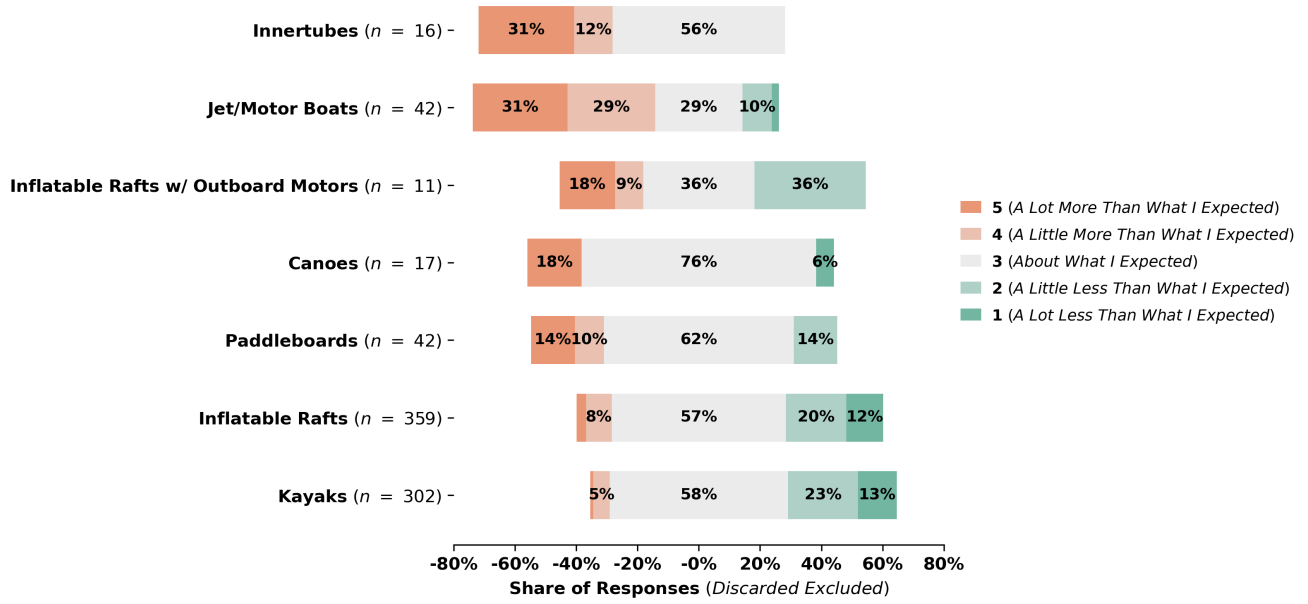


Figure 11: Perceived Watercraft Encounters Relative to Expectations, by Craft Type. Diverging stacked bars show how respondents rated whether the number of encounters with specific watercraft types was more or less than expected during their trip. Responses are plotted on a 5-point scale where 3 = About What I Expected (centered), values 1–2 indicate fewer encounters than expected (plotted to the right), and values 4–5 indicate more encounters than expected (plotted to the left). "Discarded" responses are excluded, and sample sizes for each craft type are shown in parentheses. Overall, most respondents reported encountering inflatable rafts and kayaks in numbers that were about what they expected, while perceptions for less common craft types show greater variability and smaller sample sizes.

4.3.2.5. Number of Other People Encountered Relative to Expectations

Respondents also compared the number of people they encountered at the put in, on river, and take out with what they expected (Figure 12). Across all three stages, responses clustered around the midpoint. About 48% to 51% reported that the number of people was about what they expected. Among the rest, more respondents reported fewer people than expected than more people than expected. Unexpectedly high crowding was therefore not pervasive. If anything, respondents more often reported conditions that were somewhat quieter than expected.

4.3.2.6. Effect of Out-Group Encounters

Respondents were asked whether encounters with specific watercraft types improved, had no effect on, or worsened their experience (Figure 13). Across most non-motorized craft types, most respondents reported no effect. In contrast, jet and motor boat encounters were more polarizing and more often negative. About 30% reported that they greatly worsened the experience, and 33% reported that they slightly worsened it, compared with 35% reporting no effect. Negative encounter impacts were therefore concentrated in motorized interactions.

Respondents also evaluated how encounters with other recreationists affected their experience at the put in, on river, and take out (Figure 14). At all stages, most said encounters had no effect. Positive effects were more common than negative effects. Roughly 39% to 44% reported that encounters improved their experience, while only a small share reported that encounters worsened it.

Respondents who reported negative encounters were also asked what it was about their encounter that made it negative (Figure 15). Negative encounters were concentrated at the highest-use access nodes. At the put in, reports clustered at Banks. On river, reports were dominated by the section of river above Beehive. At the take out, the largest counts again occurred at Beehive and Banks. Across stages, the most common reasons were other groups getting too close, group size, and delays caused by groups taking too much time. Rude comments, loud behavior, and disallowed activities were less common. This pattern suggests that many negative encounters reflect crowding and limited functional space at key nodes rather than widespread interpersonal hostility. That finding points toward infrastructure design, circulation management, and clearer behavioral norms as practical tools for reducing negative encounters.

4.4. Access Sites, Facilities, and Functional Conditions

4.4.1. Site and Facility Review

Field audits show that access-site conditions across the Payette River system are functional but uneven. Most sites provide basic river access, but their ability to support current recreation use varies with parking supply, circulation, launch

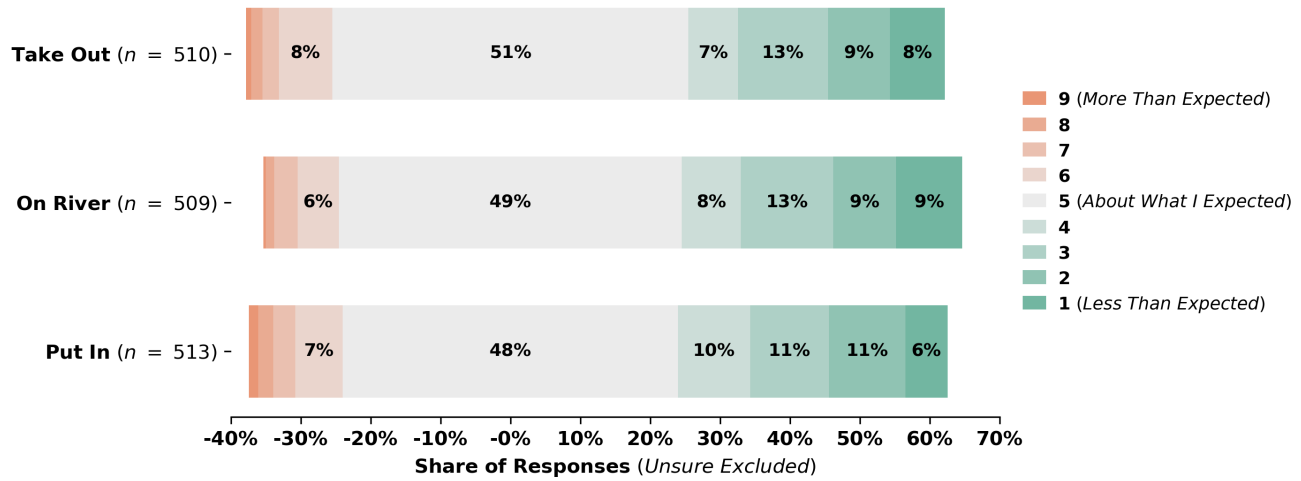


Figure 12: Perceived Crowding Relative to Expectations Across Stages of River Access. Diverging stacked bars show how respondents evaluated the number of people encountered at the Put In, On River, and Take Out relative to what they expected for that trip. Responses are plotted on a 9-point scale where 5 = About What I Expected (centered), values 1–4 indicate fewer people than expected (plotted to the right), and values 6–9 indicate more people than expected (plotted to the left). "Unsure/Prefer not to answer" responses are excluded; sample sizes for each item are shown in parentheses. Across all stages, roughly half of respondents reported conditions were about what they expected, while the remaining responses were split between encountering fewer versus more people than expected.

design, amenities, and accessibility. The most functional sites are those where parking, loading, and river access work together as a coordinated system. The least functional sites are those where one or more of those elements breaks down under actual use, especially during peak summer periods. Across the system, the main constraints involve the quality, safety, and efficiency of the route from the parking area to the water rather than the simple presence or absence of access.

4.4.1.1. Parking and Circulation

Parking and circulation conditions varied across sites, but several locations stood out as pressure points (Figure 16). Banks Access was one of the busiest and most constrained sites in the system. Field technicians described parking as very limited and noted that the lot fills daily during peak season, with weekend users often unable to find space.

Beehive Bend also showed recurring parking constraints, though the pattern was more episodic. Parking was generally manageable on weekdays but often reached capacity on summer weekends. Alder Creek Bridge showed a similar pattern. Weekday parking was usually adequate, but on weekends trucks and trailers reportedly spilled onto Alder Creek Road. In contrast, Danskin Station was described as having surplus parking under current conditions, and several other sites, including Confluence, Deer Creek, Deadwood Campground, and Hot Springs Campground, were described as generally adequate.

These findings show that parking performance depends not only on how much space is available, but also on how that space functions under actual use. Trailer maneuvering, loading and unloading, and peak-use concentration all affect practical capacity. A site may have open space and still function poorly if users cannot enter, stage, turn around, or exit efficiently.

4.4.1.2. Launch and Take Out Function

Launch and take out conditions also varied across sites (Figure 17). Banks Access appears to have the most developed launch infrastructure among the major access points, with both a wide paved ramp and a wooden ramp serving the beach area. Heavy use still creates operational strain, especially when parking and circulation problems spill into the launch zone.

Beehive Bend also includes a developed access structure, consisting of a dirt approach, a wooden ramp, rollers, and a loading area. Field notes indicate that this infrastructure does not function well for many of the boats that use the site. The ramp was described as too wide and the rollers too far apart for most watercraft using the Upper and Lower Main. This finding matters because it shows that infrastructure can exist and still fail to meet the needs of users.

Other sites were constrained by slope, surface condition, or informal design. Alder Creek Bridge had a short but steep dirt trail with two large boulders that made it difficult to move rafts in and out. Deer Creek included a wooden ramp and adjacent stairs, but the stairs did not align well with the ramp and the access route did not extend fully to the river's edge. Deadwood Campground showed similar problems, with one route too narrow for rafts and another route eroded, rocky, and difficult to cross while carrying boats. Danskin had a more formal wooden ramp, but technicians still noted the need for better vehicle control near the launch area to reduce congestion caused by trailers backing directly toward the river.

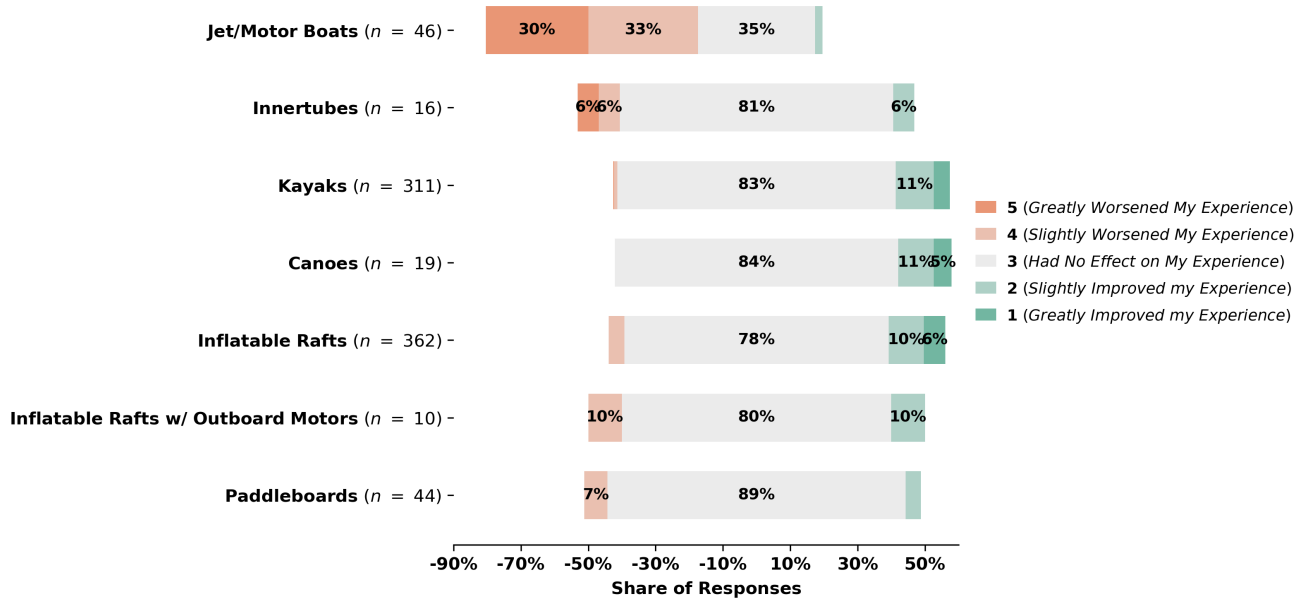


Figure 13: Perceived Effects of Encounters With Different Watercraft Types on Trip Experience. Diverging stacked bars show how respondents reported that encounters with specific watercraft types affected their trip experience. Responses use a 5-point scale where 3 = Had No Effect on My Experience (centered), values 1–2 indicate encounters improved the experience (plotted to the right), and values 4–5 indicate encounters worsened the experience (plotted to the left). Sample sizes for each craft type are shown in parentheses. Percent labels are displayed for response shares $\geq 5\%$; unlabeled segments are $< 5\%$. Overall, encounters with most non-motorized craft types were reported to have no effect by a large majority of respondents, while motorized encounters (jet/motor boats) show a higher share reporting negative effects.

4.4.1.3. Facilities and Amenities

Basic site amenities also varied substantially. Banks and Beehive Bend were the most developed access points in this respect. Both sites included changing rooms and two pit toilets, and Beehive Bend also had picnic tables. Danskin included two pit toilets, while Confluence provided a pit toilet, handicap parking, and picnic tables.

Several other sites had limited infrastructure. Alder Creek Bridge had no restroom facilities and showed evidence of human waste near the access trail. Deer Creek included only a porta-toilet. Hot Springs Campground and Deadwood Campground relied more on nearby campground infrastructure than on dedicated river-access facilities. Kayaker Corner and Jetboat Ramp had no documented site facilities.

This uneven distribution matters because restrooms, changing areas, picnic tables, and related facilities are not just conveniences. They also help manage concentrated use, reduce off-site impacts, and improve site function.

4.4.1.4. ADA Accessibility

Accessibility was another area of uneven performance. Banks and Beehive Bend were the most important sites in this regard because they serve a disabled paddler group using the Upper Main several times each summer. Both sites included paved handicap parking, but neither provided fully effective river access.

At Banks, the paved ramp was gradual, but technicians noted that the ridged concrete surface and the fact that the ramp did not reach the river's edge created difficulty for wheelchair users. At Beehive Bend, there was no continuous ramp to the water. Instead, wheelchairs could reportedly be pushed or pulled along gradual stairs next to the wooden ramp, but that was not described as a fully accessible solution.

Confluence performed better in this respect, with paved handicap parking and a gradual slope to the river, though the route itself was not paved. Most other access points had no documented ADA accessibility. These findings show that accessibility at Payette River access sites is partial and inconsistent rather than fully integrated into site design.

Accessibility should therefore not be measured only by the presence of designated parking. A site may include formal ADA features and still fail to provide practical river access.

4.4.1.5. Overall Site Performance

Taken together, the field audits show that access limitations are concentrated at the same locations identified elsewhere in the report as use bottlenecks. Banks appears most constrained by heavy demand, limited parking, circulation challenges, and incomplete ADA access. Beehive Bend combines moderate-to-high parking pressure with a launch design that does not fully match the boats using the site. Alder Creek Bridge shows one of the clearest gaps in both basic amenities and effective raft access. Danskin appears comparatively strong overall, though it would benefit from

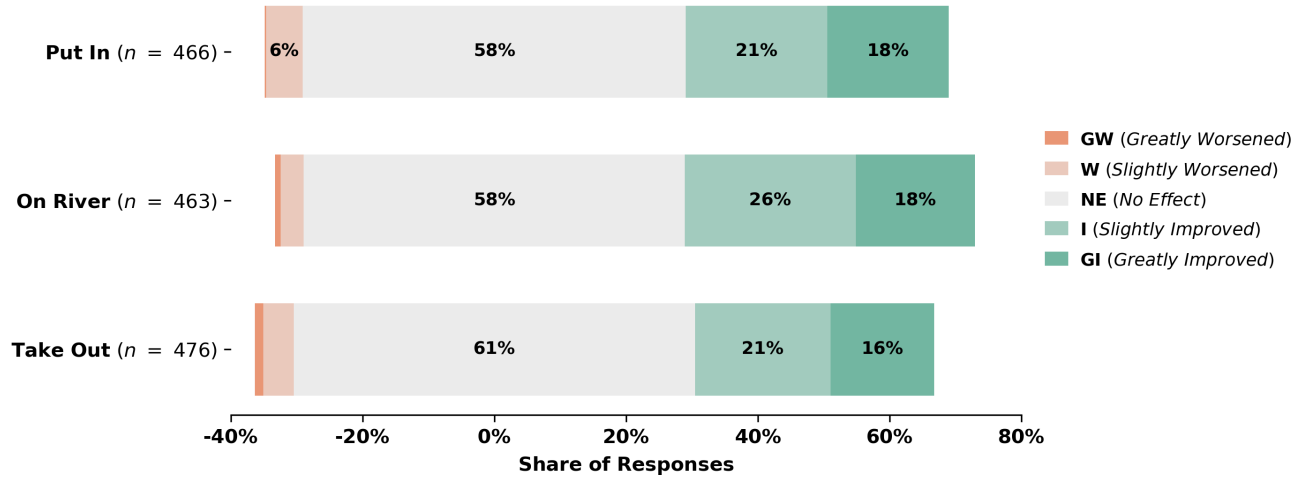


Figure 14: Perceived Effects of Encounters With Other Groups on Trip Experience Across Stages of River Access. Diverging stacked bars summarize how respondents reported that encounters with other recreation groups affected their trip experience at the Put In, On River, and Take Out stages. Response options include Greatly Worsened (GW), Slightly Worsened (W), No Effect (NE), Slightly Improved (I), and Greatly Improved (GI). The neutral category (No Effect) is centered, with negative effects plotted to the left and positive effects plotted to the right; sample sizes for each stage are shown in parentheses. Across stages, a majority of respondents reported no effect, while a substantial minority reported that encounters improved their experience and relatively few reported that encounters worsened it.

better vehicle organization and launch-area circulation controls.

More broadly, the review shows that access sites across the Payette River system are generally functional, but many operate close to or below ideal performance during higher-use periods or for some user groups. These findings reinforce the need to view access sites as active pieces of recreation infrastructure whose performance depends on parking, circulation, launch design, amenities, and accessibility working together.

4.4.2. Infrastructure Improvement Priorities

The findings point to a small number of recurring infrastructure priorities rather than a need for broad corridor-wide expansion. The clearest needs are concentrated at Banks, Beehive Bend, and Alder Creek. At these sites, parking, circulation, launch design, sanitation, and accessibility do not consistently match current use. Danskin also warrants attention, but the need there is more about site organization and circulation than basic shortage of space or facilities.

At Banks, the main priority is to improve how the site functions under heavy demand. Parking demand is high, circulation is constrained, and access to the launch area can become inefficient during peak periods. Improvements should focus on parking layout, trailer movement, loading and unloading, pedestrian safety, and the relationship between.

Beehive Bend also includes a developed access structure, consisting of a dirt approach, a wooden ramp, rollers, and a loading area. Field notes indicate that this infrastructure does not function well for many of the boats that use the site. The ramp was described as too wide and the rollers too far apart for most watercraft using the Upper and Lower Main. This finding matters because it shows that infrastructure can exist and still fail to meet the needs of users.

Other sites were constrained by slope, surface condition, or informal design. Alder Creek Bridge had a short but steep dirt trail with two large boulders that made it difficult to move rafts in and out. Deer Creek included a wooden ramp and adjacent stairs, but the stairs did not align well with the ramp and the access route did not extend fully to the river's edge. Deadwood Campground showed similar problems, with one route too narrow for rafts and another route eroded, rocky, and difficult to cross while carrying boats. Danskin had a more formal wooden ramp, but technicians still noted the need for better vehicle control near the launch area to reduce congestion caused by trailers backing directly toward the river.

4.4.2.1. Facilities and Amenities

Basic site amenities also varied substantially. Banks and Beehive Bend were the most developed access points in this respect. Both sites included changing rooms and two pit toilets, and Beehive Bend also had picnic tables. Danskin included two pit toilets, while Confluence provided a pit toilet, handicap parking, and picnic tables.

Several other sites had limited infrastructure. Alder Creek Bridge had no restroom facilities and showed evidence of human waste near the access trail. Deer Creek included only a porta-toilet. Hot Springs Campground and Deadwood Campground relied more on nearby campground infrastructure than on dedicated river-access facilities. Kayaker Corner and Jetboat Ramp had no documented site facilities.

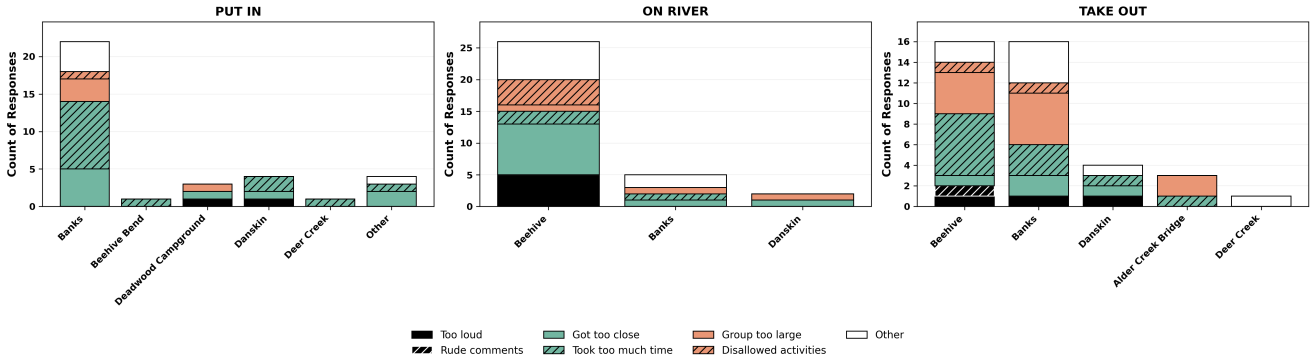


Figure 15: Reported Reasons for Negative Encounters With Other Groups Across Stages of River Use. Stacked bar charts summarize respondents' reported reasons for negative interactions with other recreation groups at three stages of the river trip: Put In, On River, and Take Out. Bars are grouped by location (x-axis) and show the count of responses attributed to each reason category, including too loud, rude comments, got too close, took too much time, group too large, disallowed activities, and other. Reasons are not mutually exclusive (respondents could select multiple categories), so totals reflect the number of coded responses rather than the number of unique respondents. Locations with zero responses for a given stage are not shown. Open-ended responses to the "other" reasons option included: Put in ("Cascade River Co. feels they own the river and crowded the put in and are rude," "Jet boarder rude," "No parking available last weekend," "Others didn't use the parking lot correctly," "Not enough parking, very crowded"); On river ("We helped a swimmer from another group and it was a bit of a mess," "Lots of jet boats without understanding of etiquette," "Motorized boats can be dangerous for others," "They parked their boat right under the rope swing we were using," "Motorized watercraft are rude, invade where they want, and are dangerous"); Take out ("In the way," "People sitting where we wanted to take out," "Cars driving too fast almost hit myself and child," "People driving way too fast through the Banks parking lot," "Just busy," "Crowded parking lot," "Dog off leash barking," "Rafting groups clogged the already small parking lot. About 7 commercial rafts clogged up an entire lane in the parking lot closest to the fence side near river. It's the commercial activities and small parking that lead to the negative experience and the traffic from Boise people on Sunday versus people locally trying to access the river. 1.5 hours of traffic just to go 5 mi").

This uneven distribution matters because restrooms, changing areas, picnic tables, and related facilities are not just conveniences. They also help manage concentrated use, reduce off-site impacts, and improve site function.

4.4.2.2. ADA Accessibility

Accessibility was another area of uneven performance. Banks and Beehive Bend were the most important sites in this regard because they serve a disabled paddler group using the Upper Main several times each summer. Both sites included paved handicap parking, but neither provided fully effective river access.

At Banks, the paved ramp was gradual, but technicians noted that the ridged concrete surface and the fact that the ramp did not reach the river's edge created difficulty for wheelchair users. At Beehive Bend, there was no continuous ramp to the water. Instead, wheelchairs could reportedly be pushed or pulled along gradual stairs next to the wooden ramp, but that was not described as a fully accessible solution.

Confluence performed better in this respect, with paved handicap parking and a gradual slope to the river, though the route itself was not paved. Most other access points had no documented ADA accessibility. These findings show that accessibility at Payette River access sites is partial and inconsistent rather than fully integrated into site design.

Accessibility should therefore not be measured only by the presence of designated parking. A site may include formal ADA features and still fail to provide practical river access.

4.4.2.3. Overall Site Performance

Taken together, the field audits show that access limitations are concentrated at the same locations identified elsewhere in the report as use bottlenecks. Banks appears most constrained by heavy demand, limited parking, circulation challenges, and incomplete ADA access. Beehive Bend combines moderate-to-high parking pressure with a launch design that does not fully match the boats using the site. Alder Creek Bridge shows one of the clearest gaps in both basic amenities and effective raft access. Danskin appears comparatively strong overall, though it would benefit from better vehicle organization and launch-area circulation controls.

More broadly, the review shows that access sites across the Payette River system are generally functional, but many operate close to or below ideal performance during higher-use periods or for some user groups. These findings reinforce the need to view access sites as active pieces of recreation infrastructure whose performance depends on parking, circulation, launch design, amenities, and accessibility working together.

4.4.3. Infrastructure Improvement Priorities

The findings point to a small number of recurring infrastructure priorities rather than a need for broad corridor-wide

Banks Access



Beehive Bend Access



Danskin Access



Alder Creek Bridge Access



Figure 16: Peak Parking Conditions at Major Access Points. Representative photographs showing high-use parking conditions at Banks Access, Beehive Bend Access, Danskin Access, and Alder Creek Bridge Access during the study period. The images illustrate differences in lot size, parking layout, vehicle concentration, and the extent to which each site appears able to accommodate peak boating-related demand. Together, the photographs provide visual context for the parking-capacity analysis by showing how major access points function under busy conditions and where crowding, limited space, or constrained circulation may affect site performance.

expansion. The clearest needs are concentrated at Banks, Beehive Bend, and Alder Creek. At these sites, parking, circulation, launch design, sanitation, and accessibility do not consistently match current use. Danskin also warrants attention, but the need there is more about site organization and circulation than basic shortage of space or facilities.

At Banks, the main priority is to improve how the site functions under heavy demand. Parking demand is high, circulation is constrained, and access to the launch area can become inefficient during peak periods. Improvements should focus on parking layout, trailer movement, loading and unloading, pedestrian safety, and the relationship between the main lot, the bridge approach, and nearby auxiliary parking areas. The site does not appear to lack parking opportunity in the broader area. It lacks a parking and circulation system that performs well during busy periods.

At Beehive Bend, the main priority is to improve site function within a modest physical footprint. However, parking, bathrooms, and entrance-exit safety remain recurring concerns. Future work should treat these issues as linked. Parking layout, staging space, access design, and highway egress all shape how the site functions during peak use. Incremental phased upgrades may therefore be more effective than isolated one-off improvements.

At Alder Creek, the clearest priorities are sanitation, parking management, and access-route function. The site has limited parking, no amenities, and a difficult route between parking and the river. These constraints matter because even moderate use can create local stress at a site this small. Future improvements should focus on basic functionality first, especially sanitation, clearer parking organization, and safer, more usable access to the water.

Banks Access



Beehive Bend Access



Danskin Access



Alder Creek Bridge Access



Figure 17: Launch and Take Out Conditions at Major Access Points. Representative photographs of launch and take out areas at Banks Access, Beehive Bend Access, Danskin Access, and Alder Creek Bridge Access during the study period. The images illustrate differences in access design, surface condition, slope, and the continuity of the route from parking and staging areas to the water. Together, these photographs provide visual context for the site and facility review by showing how launch and take out infrastructure varies across access points and how those differences may affect ease of use, boat handling, circulation, and overall site function under current recreation conditions.

Table 2
Statistical comparison between the number of respondents who reported needed infrastructure improvements between 2024 and 2025 at Banks Access and Beehive Bend

Type of Infrastructure Improvements	Difference in Percent of Respondents Reporting Needed Improvements (2025–2024)	Test	Statistic	p-value
Banks Access				
Bathrooms	+13%	χ^2	5.604	0.018
Boat launch	–4%	χ^2	1.360	0.244
Changing rooms	+3%	Fisher's exact	0.440	0.487
Parking capacity	+18%	χ^2	6.344	0.012
Parking lot quality	+3%	χ^2	0.663	0.415
Parking lot entrance/exit	–4%	χ^2	0.410	0.522
Trails[1]	n/a	n/a		
Beehive Bend				
Bathrooms	+13%	χ^2	11.283	0.001
Boat launch	–20%	χ^2	23.888	< 0.001
Changing rooms	0%	χ^2	0.022	0.881
Parking capacity	+9%	χ^2	4.389	0.036
Parking lot quality	+1%	χ^2	0.064	0.800
Parking lot entrance/exit	–2%	χ^2	0.336	0.562
Trails	–3%	χ^2	1.372	0.242

[1] Too few observations for comparison.

At Danskin, improvements should focus on organization rather than expansion. The site appears to have room to accommodate current demand, but circulation, trailer staging, and launch-area management could be improved. Because Danskin has more unused capacity than the other focal sites, it may also play an important role in absorbing future demand if site organization improves.

These priorities suggest that future investments should be selective and site-specific. The strongest candidates for improvement are the sites where user demand, facility deficiencies, and operational strain overlap most clearly.

4.4.4. Influence of Recent Infrastructure Improvements

The study was administered in 2024 and 2025, and documented infrastructure changes occurred at Banks Access and Beehive Bend between survey years. To test whether visitors noticed those changes, we compared the share of respondents in each year who said specific infrastructure elements needed improvement. Because the response variable was dichotomous (improvement needed vs. not needed) and sample sizes varied by year, we tested year-to-year differences in proportions using chi-square (χ^2) tests. We used Fisher's exact test when cell counts were small (Table 2).

Results show clear year-to-year shifts at both sites. At Banks Access, the share of respondents who said bathrooms needed improvement increased by 13 percentage points ($p = 0.018$). The share who said parking capacity needed improvement increased by 18 percentage points ($p = 0.012$). These changes indicate that bathroom service and parking supply were more salient constraints in 2025 than in 2024. Other categories, including boat launch, changing rooms, parking lot quality, and entrance/exit, did not change significantly ($p > 0.05$). Trail-related responses could not be tested because counts were too small.

At Beehive Bend, several year-to-year changes were also significant. The share of respondents who said bathrooms needed improvement increased by 13 percentage points ($p = 0.001$), and the share who flagged parking capacity increased by 9 percentage points ($p = 0.036$). In contrast, the share who said the boat launch needed improvement declined by 20 percentage points ($p < 0.001$). This decline is consistent with visitors noticing the launch improvements made between survey years. Other categories, including changing rooms, parking lot quality, entrance/exit, and trails, did not change significantly.

Taken together, these results suggest that recent infrastructure work improved one visible part of the Beehive experience, the launch area, but did not resolve other persistent constraints. At both Banks and Beehive, bathroom concerns increased, and parking remained or became more prominent. This pattern suggests that targeted improvements can shift visitor perceptions, but that gains in one part of the site may reveal or intensify concern about other bottlenecks when overall demand remains high.

4.4.5. Open-Ended Comments About Infrastructure Needs

Open-ended survey comments about infrastructure needs reinforce the same pressure points identified in the close-ended results: parking, bathrooms, and launch or access function (Figure 18). The comments also add detail about

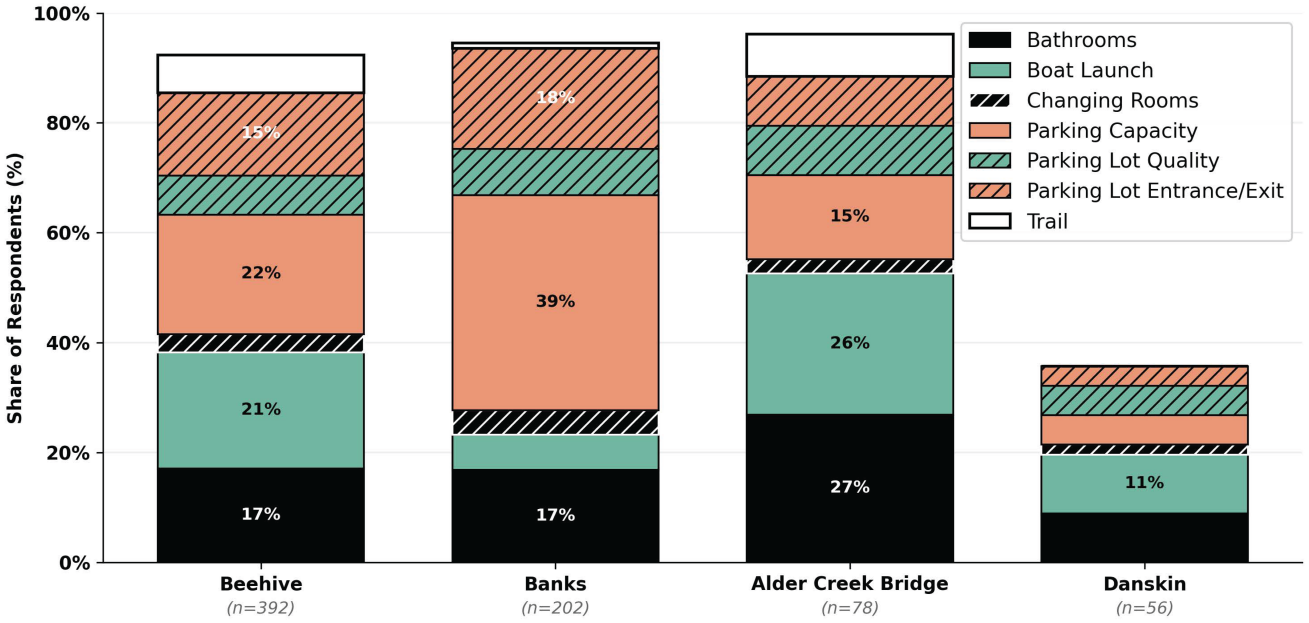


Figure 18: Reported Infrastructure Improvement Needs at Payette River Access Points. Stacked bars show the share of respondents at each survey location who indicated that specific infrastructure elements require improvement (multiple selections allowed). Sites shown include Beehive ($n = 392$), Banks ($n = 202$), Alder Creek Bridge ($n = 78$), and Danskin ($n = 56$). Across sites, the most frequently cited needs relate to parking capacity, boat launch conditions, and bathrooms, with additional concerns about parking lot entrance/exit safety, parking lot quality, changing rooms, and trails.

why respondents viewed facilities as deficient and how concerns changed between 2024 and 2025 at the two sites with the largest number of responses, Banks Access (Table 3) and Beehive Bend (Table 4).

At Banks Access in 2024, survey respondents most often mentioned parking capacity (18 comments; 44%) and parking lot quality (15; 37%). Comments repeatedly called for paving, clearer striping, including designated trailer spaces, and more room overall. Safety and circulation also emerged as clear concerns. Entrance and exit comments (4; 10%) described the bridge approach as unsafe and called for turning lanes, traffic control, or staffing during busy weekends. Bathrooms were a secondary but consistent theme (7; 17%), usually framed as a need for more facilities and basic repairs. In 2025, the same pattern persisted. Parking capacity remained the dominant category (44 comments; 41%), with some calls for adjustments to the improved traffic control near the bridge. Bathroom comments increased in prominence (23; 21%) and focused on cleanliness, supplies, and additional facilities. By contrast, boat-launch comments dropped to 2% (2 comments), which suggests that launch issues were less salient in 2025 than parking and bathroom constraints.

At Beehive Bend in 2024, the dominant concern was boat launch and access function (52 comments; 36%). Respondents called for a legitimate ramp, a more functional take out, and better accessibility for moving people and equipment. Parking capacity (29; 20%) and parking lot quality (27; 19%) were also prominent, with repeated calls for more parking and paving. Bathrooms (20; 14%) and trails or access paths (11; 8%) reflected both maintenance concerns and accessibility problems, especially stairs, steepness, and general usability. In 2025, the pattern shifted. Boat-launch comments dropped sharply to 12 comments (8%), while parking-capacity comments increased to 35 (23%) and bathroom comments remained common (27; 18%). The remaining launch comments in 2025 were more evaluative than urgent. They focused on design and user-experience shortcomings rather than the absence of infrastructure. At the same time, continued calls for turn lanes and safer highway egress indicate that circulation problems remained unresolved.

These open-ended responses sharpen the interpretation of the quantitative data. At Banks, comments point to a parking and circulation problem first, with bathrooms as a secondary but growing concern. At Beehive, comments show a more distributed set of needs, with parking, bathrooms, and highway access being recurring issues. The open-ended record therefore supports the broader conclusion that some improvements were noticed, but that the main access bottlenecks at the busiest sites remain unresolved.

5. Recommendations

The recommendations below are intended to improve how the Payette River system functions under current demand without assuming large new capital budgets in the near term. The findings point to a phased, site-specific strategy rather than a single corridor-wide solution. Some problems are operational and can be improved quickly through better organization, maintenance, and communication. Others require design, coordination, and capital planning. Still others

Table 3
Open-ended comments about needed infrastructure improvements at Banks Access, by year

Type of Improvement	Count	Proportion of Respondents	Representative Comments
2024			
Bathrooms	7	17%	Toilet seat in women's restroom fixed; need to be cleaned.
Boat launch	5	12%	Ramp; there's a large drop off that needs to be addressed; less steps, rolling ankles seems likely.
Changing rooms	1	2%	Need more; line too long.
Parking capacity	18	44%	More parking; twice as much may still not do; allow parking on state side on weekends.
Parking lot quality	15	37%	Better pavement; clearer lines and spaces for trailer parking; long overdue.
Parking lot entrance/exit	4	10%	Sketchy one-lane bridge makes this a terrifying exit/entrance; safer entrance/exit; we need a stoplight, super dangerous on busy weekends; faster leave on crowded days, busy main road.
Trails	1	2%	Same, the trail from take out up is in rough shape.
2025			
Bathrooms	23	21%	Refresh toilet paper; more and cleaner; more frequent cleanings.
Boat launch	2	2%	They could put more parking.
Changing rooms	5	5%	More rooms; cleaning.
Parking capacity	44	41%	Shade structures, more parking; more parking in general or weekend accommodations; more parking along roadway/free parking.
Parking lot quality	16	15%	It's really tight on the side of the bridge; more of it, lots more; also, a shade structure would be great, but not at the expense of parking; easier raft access at takeout.
Parking lot entrance/exit	9	8%	Better than before, but still not great; no protected left-hand turn traveling north on 55 into the Banks parking lot; this creates so much northbound traffic; right turn lane into Garden Valley.
Trails	1	1%	More access trails on National Forest will reduce social trails.

Note: Representative comments are transcribed and lightly standardized for LaTeX formatting.

Table 4
Open-ended comments about needed infrastructure improvements at Beehive Bend, by year

Type of Improvement	Count	Proportion of Respondents	Representative Comments
2024			
Bathrooms	20	14%	The bathroom seat was unhinged; more toilets.
Boat launch	52	36%	Ramps for truck access to river; Beehive takeout needs to have a better ramp; needs a better trail up Beehive; roller ramp would be great.
Changing rooms	4	3%	More cleaning would be nice; enclosures.
Parking capacity	29	20%	More parking on busy days; stop non-trailer vehicles from parking in trailer spots; create some more parking.
Parking lot quality	27	19%	Less dusty and better access to concrete pad; pavement needed.
Parking lot entrance/exit	9	6%	Turning left on 55 is scary; also, Beehive takeout needs improvement for accessibility; turn lane or roundabout to get in and out of lot onto highway.
Trails	11	8%	Less steep steps down to the water; the stairs are so difficult to climb and it could be dangerous for some; it also makes the trail river exit unusable for some.
2025			
Bathrooms	27	18%	Cleaner and better toilet seat; cleaner bathrooms.
Boat launch	12	8%	Terrible, terrible, terrible ramp for taking out; total lack of user experience; total lack of mechanical design and understanding of the intended use and deterioration of components over time; the ramp is too wide to carry a raft up it easily; re-fit it's worse now than before; hard to walk up; stairs are lower than the ramp; very hard to use; hard to lift boat up to the ramp; this ramp repair was so exciting last year while it was happening, and such a disappointment now.
Changing rooms	3	2%	Stalls in the changing rooms.
Parking capacity	35	23%	The put in should see a slight increase in parking capacity; more parking at put in; need more parking.
Parking lot quality	16	11%	Paving; I wish there was an option to buy a Payette River Corridor season pass here at Beehive.
Parking lot entrance/exit	7	5%	Beehive entry/exit is scary with traffic on Highway 55; unsure how to improve the safety of exiting Beehive Bend due to increased traffic on Highway 55; Beehive exit is always hard, people ignoring red light for bridge at Banks exit.
Trails	6	4%	They changed the trail from blacktop to gravel, not ADA accessible; our participants must use the ADA trail; they cannot do stairs; the bottom of the ADA path needs to be more accessible.

Note: Representative comments are transcribed and lightly standardized for LaTeX formatting.

point to the need for long-term monitoring and adaptive management if the Boise National Forest and its partners want to maintain recreation quality as use grows.

5.1. Near-Term Actions

Near-term actions should focus on low-cost measures at the sites where strain is most visible and recurring, especially Banks, Beehive Bend, and Alder Creek.

At Banks, the highest priorities are parking organization and traffic flow. These actions include clearer striping where feasible, clearer designation of trailer-compatible spaces, temporary traffic control during the busiest weekends, and improved directional signing for entry, exit, and overflow behavior. Parking crowding, lot condition, and bridge-area circulation emerged repeatedly in user comments, and the parking analysis shows that the site operates near its practical limit during peak periods. These problems are good candidates for near-term operational fixes before more expensive capital changes are pursued.

At Beehive Bend, near-term work should focus on staging and circulation. The launch improvements appear to have reduced some concerns, but many recreationists expressed dissatisfaction with the poor alignment between the ramp's design and the practical needs of boaters. Additionally, parking, bathrooms, and highway ingress and egress remain recurring issues. The most feasible actions are better organization of loading and unloading space, additional directional signs, and routine maintenance of the approach path and launch edges. These solutions would help alleviate the observed and reported congestion that occurs during peak use; small improvements in staging and movement can yield meaningful benefits.

At Alder Creek, the near-term priority is basic sanitation and access management. Field audits documented the absence of restroom facilities and evidence of human waste near the access trail. The parking analysis also shows that the site is easily stressed because of its small size. Near-term action should therefore include improved sanitation service (even via porta-potties in the very near future), clearer site-use information, more explicit parking boundaries, and minor work on the route between parking and the river.

Across the corridor, staff presence and communication should be targeted to the peak periods identified in the use analysis, especially summer weekends and midday-to-afternoon peaks. Temporary ranger presence, volunteer hosts, or contracted weekend support at the busiest sites will likely be more effective than diffuse corridor-wide coverage. Messaging should focus on parking etiquette, trailer staging, launch and take out efficiency, and basic safety expectations at high-use nodes.

5.2. Medium-Term Management Actions

Medium-term actions should focus on design, coordination, and targeted capital improvements where the analysis shows a persistent mismatch between demand and current site function.

At Banks, this means evaluating a more formal redesign of parking and circulation. That evaluation should account for trailer movement, overflow demand, pedestrian safety, and the relationship between the main lot, the bridge approach, and nearby auxiliary parking opportunities. The site has substantial parking opportunity in the broader area, but the problem is not only the number of spaces. It is also how vehicles arrive, stage, turn, and exit during busy periods. A redesign should therefore focus on functional performance, not just space count.

At Beehive Bend, medium-term work should focus on integrated site redesign. Parking remains tight, bathrooms need attention, and the access design still does not fully match how many visitors move people and equipment through the site. A medium-term project should therefore evaluate parking configuration, staging space, access routes, and entrance-exit safety as one system. Paving the lot could also help, given the ability to clearly demarcate loading/unloading zones, desired circulation, and parking areas with striping.

At Danskin, medium-term work should emphasize circulation controls, trailer organization, launch-zone management, and signage that clarifies where different user groups should stage and exit. The site appears capable under current demand, and its strategic value may increase if agencies want to improve corridor function without relying only on the most stressed nodes.

The medium-term period is also the right time to evaluate accessibility upgrades at Banks, Beehive, and Confluence. ADA-related conditions are partial and inconsistent, especially at the two major sites (Banks and Beehive) that already serve disabled paddlers. Future design should treat accessibility as a functional performance issue, not as a secondary compliance matter. The most practical next step is an accessibility-focused site assessment that identifies improvements with the greatest user benefit per dollar spent.

5.3. Long-Term Planning Priorities

Long-term priorities should focus on sustaining recreation quality as use grows. They should not simply react to today's bottlenecks.

The strongest long-term recommendation is to adopt an adaptive management framework that uses continued monitoring of parking, use timing, crowding, and access-site performance to guide future investment. This study provides a baseline, and the findings already show strong perceptions that traffic and parking availability have worsened over time. Without some continuing monitoring capacity, managers will have difficulty detecting when operational problems become structural capacity problems.

Long-term capital planning should be selective and phased. The corridor-wide analysis suggests that Banks offers the greatest room for parking-related design intervention, perhaps via land acquisition or swap of the Idaho Transportation Department's maintenance lot. Beehive faces a more limited physical footprint in a high-demand setting, although there is room to effectively double the parking

capacity at the site. Alder Creek remains woefully limited in both size and infrastructure. Future investment should therefore not assume that every site can or should be expanded equally. Instead, planning should focus on which nodes are best suited to absorb demand safely and efficiently, and which should be managed more conservatively because of topography, road access, environmental constraints, or river-edge conditions.

A second long-term priority is stronger corridor-wide information and education. Some user frustrations stem from congestion and facility limits, but others stem from how users interact at put ins, and take outs. Over time, the Boise National Forest and its partners should build a more consistent corridor identity around river etiquette, launch efficiency, parking behavior, and site-specific expectations. This approach will likely be more affordable and more flexible than relying only on infrastructure expansion.

5.4. Recommendations by Topic

5.4.1. Facilities

Facility investments should prioritize bathrooms, access-route improvements, launch and take out durability, and site organization at the locations where deficiencies are both recurring and consequential. The clearest candidates are Banks, Beehive Bend, and Alder Creek. Danskin is a secondary candidate for organization and circulation upgrades rather than major expansion.

5.4.2. Capacity Management

Capacity management should begin with operational tools. These include better striping and parking organization, overflow protocols, temporary weekend staffing, targeted signage, and better use of sites that still have available room. Managers should consider more restrictive tools only if monitoring shows that operational fixes are no longer sufficient.

5.4.3. Visitor Information and Education

Messaging should focus on when and where congestion is most likely, how users should stage and park, what site-specific constraints exist, and what etiquette is expected on the river and at crowded launches and take outs. The strongest return will likely come from targeted messaging at Banks and during summer weekends.

5.4.4. Conflict Reduction

The most feasible conflict-reduction strategy is not broad new regulation. It is better separation and sequencing at access points, clearer expectations for commercial and private users, and focused education where user interactions predictably intensify. This is especially important at the busiest nodes and where passive floaters are encountering jetboats.

5.4.5. Monitoring and Data Collection

The Forest should maintain a lightweight monitoring program built around repeat parking counts or camera deployments at the highest-use nodes, periodic visitor surveys, and periodic site audits. A modest repeat-measurement design would be enough to evaluate whether conditions are stabilizing, worsening, or responding to interventions.

In sum, the study does not point to a need for immediate corridor-wide expansion. It points to a phased strategy: fix the most visible operational problems now, design targeted upgrades where the evidence is strongest, and build a long-term monitoring framework so future decisions remain tied to observed conditions rather than anecdote. That approach is the most feasible under constrained budgets and the most consistent with sustaining the high-quality recreation opportunities that currently define the Payette River system.

6. Discussion

This study provides a corridor-wide baseline of recreation use, access-site function, and capacity conditions across the Payette River system. The findings show a recreation system that remains highly valued and broadly functional, but one that is beginning to show strain at selected sites and during selected times. The Payette River continues to support a high-quality whitewater recreation experience across several boating reaches. At the same time, physical and social pressures are not evenly distributed. They are concentrated at a limited number of access points, during predictable peak periods, and in parts of the corridor where parking, circulation, and site design do not match current use.

6.1. Implications for Payette River Management

A central finding of the report is that the most important constraints in the corridor are operational rather than purely numerical. The results do not suggest that the entire system is uniformly over capacity. Instead, they show that visitor experience and management burden are shaped by a few recurring bottlenecks. Parking pressure at Banks and Beehive Bend, limited parking and amenities at Alder Creek, circulation and launch inefficiencies at several access points, and uneven accessibility across the corridor all point to the same conclusion: many of the most visible problems stem from how infrastructure functions under concentrated demand, not simply from the total amount of use in the system. That distinction matters because it suggests that at least some current problems can be addressed through targeted design, organization, and maintenance rather than large-scale expansion alone.

The physical capacity analysis supports that interpretation. Corridor-wide parking opportunity is uneven, and site-specific parking use is strongly concentrated in time. Some reaches, especially those associated with Beehive Bend–Horseshoe Bend and Danskin–Hot Springs, have more parking opportunity than others. At the site level, Banks and Danskin appear to offer meaningful room for improved

management or design intervention, while Beehive operates within a smaller footprint and Alder Creek remains small and constrained. When these spatial patterns are compared with parking-occupancy results, the contrast becomes clearer. Banks functions as a chronically high-demand site that operates near its practical limit for much of the day. Beehive is more vulnerable to acute peak-period overload. Alder Creek is constrained less by total demand than by very limited supply. Danskin appears to have spare physical capacity under current conditions, even if the site would still benefit from better organization. These differences show that parking problems in the corridor are not all the same and should not be managed as though they are.

The site and facility review reinforces that point. Access-site performance depends on the interaction of parking, circulation, launch design, amenities, and accessibility. Several sites provide workable access, but not always in a way that is efficient, durable, or well matched to current boating use. In a river corridor, the visitor experience depends on how smoothly people, gear, and vehicles move between parking areas and the water. A site may technically provide access and still function poorly if trailers back into circulation routes, loading areas are undersized, restroom facilities are absent, or the route to the river is steep, eroded, or poorly aligned with the boats being used. The field findings at Banks, Beehive Bend, Deer Creek, Alder Creek, and other sites point to this pattern. They show that access quality depends not only on whether infrastructure is present, but on whether it works under real conditions.

The social capacity findings add another layer. Survey results show that many users perceive worsening conditions over time, especially for parking, traffic, and crowding-related issues. However, respondents rarely identified conditions during their visit as crowded, and that conditions were as, or less, crowded than they expected. These Even though river users have noticed changes over time, conditions overall seem acceptable for most users under most conditions. Perceptions of crowding were very targeted at specific times and at specific places. Put ins, take outs, and access corridors seemed to matter more than on-river conditions in shaping whether a trip feels crowded or stressful. This is a useful reminder that visitor experience in a boating corridor is multi-phased. It begins before launch, continues on the river, and extends into take out, shuttle, and return-travel conditions. Management focused only on on-water encounters would therefore miss an important part of the recreation experience.

Another important result is that many current issues appear manageable if agencies address them early and strategically. The results do not suggest a corridor in crisis. They suggest a corridor at an inflection point. Recreation opportunities remain strong, and the Payette River continues to support a wide range of highly valued boating experiences. However, the recurring patterns identified in this study, especially concentrated parking pressure, sanitation gaps, circulation inefficiencies, and partial accessibility, indicate that conditions could worsen if left unaddressed. Because the main problems are concentrated and predictable, management responses can also be targeted. That is a more favorable condition than one in which degradation is diffuse, system-wide, and already severe.

The findings also support a phased management strategy. Some needs are operational and can be addressed through relatively low-cost actions such as improved signing, better parking organization, minor access-route work, temporary staffing during peak periods, or sanitation upgrades. Other needs are more structural and will require medium-term design and capital planning, especially at Banks and Beehive Bend. Still others call for long-term monitoring and adaptive management. This phased approach aligns limited agency budgets with the scale and urgency of the problems identified in the study. It also reduces the risk of overbuilding or misallocating scarce resources in a corridor where some sites remain functional and some reaches still have physical room to absorb change.

The study also highlights the importance of matching future interventions to site role. Access points in the Payette River system do not all serve the same function. Some operate as major staging and transition nodes. Others function as specialized put ins or take outs, and some serve as secondary or more limited access points. Future improvements should reflect those differences. A high-volume, multi-use node such as Banks requires a different management approach than a smaller site such as Alder Creek. Likewise, a site such as Danskin, which appears to have room to function more effectively, may warrant a different set of investments than a site such as Beehive Bend, where demand is concentrated in a smaller footprint. Treating all access points as interchangeable would likely reduce management efficiency and weaken the fit between infrastructure and use.

6.2. Limitations

Several limitations should be acknowledged. First, much of the analysis reflects the main boating season, so it emphasizes warm-season peak-use conditions rather than year-round patterns. That focus is appropriate for a whitewater management plan, but it means that some seasonal variation outside the main study window is not represented fully.

Second, survey findings reflect the views of participating users. They should therefore be interpreted as showing the range and prevalence of observed concerns rather than as a full census of all corridor users.

Finally, site audits are qualitative and functional rather than engineering-level assessments. These limitations do not undermine the value of the findings, but they do mean that the results are best used to guide management priorities and future design work, not to replace detailed engineering, traffic, or permitting analysis if those become necessary later.

6.3. Conclusion

The Payette River system remains a strong recreation corridor, but its continued quality will depend on active stewardship. The most important management lesson is not

that the corridor has reached a single fixed capacity threshold. It is that capacity in this setting is dynamic, site-specific, and shaped by infrastructure, timing, user behavior, and visitor expectations. Sustaining high-quality recreation opportunities on the Payette River will therefore require an equally dynamic approach: address the most visible operational problems now, plan targeted improvements where the evidence is strongest, and continue to monitor how conditions change over time. That approach is the most feasible under constrained budgets and the most consistent with protecting the quality of experience that makes the corridor valuable.

References

[1] Interagency Visitor Use Management Council, Visitor Use Management Framework: A Guide to Providing Sustainable Outdoor Recreation, Technical Report, Interagency Visitor Use Management Council. 2016.

[2] J. W. Smith, C. C. Lamborn, Computer Vision Workflows for Physical Carrying Capacity Analysis and Monitoring in Linear Recreation Corridors. Machine Learning with Applications 26 (2026) . https://doi.org/10.1016/j.mlwa.2026.101012.