

The good, the bad, and the unusual: What makes a boating access work (or not)?



Summary information about a working database of
representative river-based boat launches across the country

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Introduction

We should not judge a river by its boat ramp, but the scene at a put-in or take-out can leave an indelible mark on a trip. Having the place to yourself for rigging or packing up is an underrated pleasure, and a distinct contrast to the pressure of outfitters barking to get out of the way of their stacks of boats and bus-load of clients. But some access facilities work well under load, while others fail even with low use because of design, terrain, or other challenges like unclear etiquette. The trick is matching facilities and management to the location, use level, types of use, and recreation experiences.

This report is a follow-up on two publications: a 2018 revision of the NPS and RMS e-book “Prepare to Launch!” (River Management Society, 2018) and the recently published NPS/RMS/AW “River Access Planning Guide” (O’Keefe & Selter, 2020). Both address development issues and provide design and construction examples. But they conclude that “there is no single ‘best’ design or standard for a given launch development project” because of “physical space, environmental needs, technical expertise, and financial resources.”

Both publications identify the need to review, organize, and document a database of example launches serving different recreation opportunities, types of craft, and environmental settings. Queries of this database may help stakeholders and planners narrow their range of options or provide examples that inspire effective or innovative designs. Analysis may also help with specific recommendations about access facilities in complex planning processes such as Federal Energy Regulation Commission licensing or multi-agency cooperative action plans.

This report documents the first iteration of a national river access database that included 270 launches. It summarizes methods used to develop and populate the database, and reports findings across a diversity of locations, geographic settings, amounts/kinds of use, and types of facilities. Finally, it suggests improvements to make the database more searchable, flexible, and open to additional entries.

This report was developed by Confluence Research and Consulting in partnership with the National Park Service, River Management Society, and American Whitewater. It also includes an image gallery and a sortable database which is linked below. A sidebar in the methods section below describes ways of using the database.

Good, Bad and Unusual River Access Database

<https://drive.google.com/file/d/1pyHojhCX65rdrDCfsYpqiZDvrDMv7YBw/view?usp=sharing>

Gallery of representative launches and issues from the database

https://drive.google.com/file/d/1_eMS_X7Ra1CZLQqPiFKh3S-ZOkrTNaQk/view?usp=sharing

Methods

A brief history of the project

Phase I was completed by Confluence Research and Consulting in fall 2018, supported by the National Park Service (NPS) and River Management Society (RMS). Confluence wrote an article for the River Management Society Journal (Shelby, Whittaker and Shelby, 2018), describing the need for such a database, the access variables that should be included, the utility of guidelines for access facilities, and ways to integrate the database with the River Access Planning Guide (O’Keefe & Sectar, 2020) developed by NPS, RMS, and American Whitewater).

The article was published in the Fall 2018 RMS Journal, and announced a follow-up session at the October 2018 River Management Symposium in Vancouver, WA. Confluence provided an interactive presentation for a full room of managers and stakeholders who produced lists of important access variables and examples of specific launches and launch features that were “good, bad, or unusual.”

From this meeting, follow-up correspondence, the River Access Planning Guide project, and our past work across the country, Confluence developed an expanding list of launches, water trails, or other shoreline development projects. They illustrated critical launch variables and seeded the database described in this report.

Phase II of the project is summarized in this report. It developed a spectrum of launch types or categories, designed and populated a database with examples of each, and summarized characteristics of launches.

Developing the database and report

Confluence conducted the project, with input and review from a core team of staff from NPS and AW. The core team held seven meetings from August 2019 thru August 2020. Specific steps are listed below.

- ***Develop variables to include in the database*** and define ways to reliably measure and code them.
- ***Develop categories or types of launch access facilities***, arrayed along a development, use, and management spectrum.
- ***Populate the data base*** with examples of actual access facilities for each type. The goal was 250 launch examples, with geographic and jurisdictional diversity (e.g., all regions in the U.S., and projects developed by federal, state, and local agencies through FERC and other land use planning processes).
- ***Develop the database in the Google Forms platform*** to be easily completed by a diversity of personnel from topic-by-topic prompts; a hardcopy survey was also developed for field use (see Appendix A).

- **Distribute the form to a diversity of river managers, outfitters, and non-commercial users** (contacted by Confluence and the core team). Confluence staff entered data for about 55% of the launches in the database; the rest were done by core team members or other contacts.
- Confluence **downloaded the database from Google drive and analyzed the data**. In total the database has information describing 269 launches, distributed across the country (see Table 1) and with every state represented.
- The geographic distributions reflect rivers and access areas of interest, but also the availability of personnel who contributed data. The **database is designed to be expanded in the future**, allowing increased representation from different states, regions, or categories of launches.
- **Analysis focused on summary statistics or other characteristics** for key variables. Averages or ranges help identify commonalities, while other analyses identify differences.
- The report included **ways to use the ROS spectrum and database** when considering development or improvements.
- During all these steps, **Confluence researchers developed and organized information, and the core team reviewed project deliverables**. The report does not advocate any particular characteristics for individual sites; these should be developed on a site-by-site basis.
- NPS will print the report and summary information, with an additional photo gallery of representative examples. The report and database are 508 compliant.

Table 1. Region of launch

	Count	%
West	91	33%
Northeast	47	17%
Midwest	43	16%
Southeast	39	14%
Alaska	39	14%
Southwest	12	4%
Hawaii	1	<1%

Categorizing launches – The Access Opportunity Spectrum

The **Recreation Opportunity Spectrum (ROS)** is an established management concept that has been used to **classify opportunities land managers provide and the types of experiences users have when they visit** (Driver and Brown, 1978; Clark and Stankey, 1979). The ROS describes how combinations of biophysical, social, and managerial attributes interact to provide specific types of recreation opportunities and experiences. The ROS concept helps consider how natural attributes such as scenery, vegetation, mountains, and rock features fit with human-based facilities, conditions, uses, and values.

The ROS concept describes how attributes combine to provide high-quality conditions, allowing 1) agencies to systematically consider how changes in attributes may produce different recreation opportunities, and 2) users to choose opportunities that fit with their preferences. Different combinations of attributes create different opportunities for users with different skills, expectations, time commitments, and cultures. The ROS concept can be used to determine what kinds of opportunities are available or to plan for new ones.

In general, the spectrum ranges from “primitive” to “paved,” and categories are arrayed with increasing levels of use and development (or decreasing levels of naturalness). The ROS is not intended to pigeon-hole or standardize recreation opportunities by dictating specific facility and use decisions within a category. Instead, it encourages thoughtful consideration of how management decisions may change the attributes that affect recreation experiences. Availability of a full spectrum of opportunities reflects the diversity of options that managing entities are trying to provide; this diversity can occur at different scales (e.g., on a single acre, within a park, or across a larger region).

To help categorize different combinations of facilities at river access points, **this project introduces the Access Opportunity Spectrum (AOS)**, adapted from ROS and related frameworks (e.g., the Water ROS; Aukerman & Haas, 2004). The concept is used as an organizing principle; the project is not a “test” of the opportunity spectrum, nor are we advocating particular descriptions within or distributions across categories of opportunities. Note that the AOS classification of a launch may be quite different from the river segment it serves (e.g., the highly developed launch site at Lees Ferry is the gateway for a long wilderness-like segment of the Colorado River through the Grand Canyon) or the ways users get there (e.g., primitive launches in Alaska are often reached by air taxi services).

Usefulness and limitations of the opportunity spectrum

The broader Recreation Opportunity Spectrum is **particularly helpful...**

- At a broad comparative level.
- For developing an inventory of what’s available for your resource area, or for a larger region.
- To consider how your site or resource area fits with other areas or within a larger region.
- To consider what facilities or attributes may be needed, or to show why you are **not** providing certain facilities or attributes at your site (e.g., because they are available elsewhere).

- For broadly allocating land, sites, or other resources among opportunities or experiences.
- For thinking critically about consistency among the biophysical, social, and managerial attributes that make up particular recreation opportunities or experiences.
- For introducing a non-recreation audience to Recreation 101 concepts. It helps them consider 1) specific objectives for the kind(s) of experience(s) they are trying to provide, and 2) how specific actions related to biophysical, social, and managerial attributes do or do not fit with those objectives.
- To show how recreation opportunities tend to migrate towards the higher use and higher development end of the spectrum over time (because development is generally improved, not removed).

What the ROS will **not** do is...

- Make decisions or replace thoughtful decision processes that consider many other criteria.
- Provide a short-cut for choosing a recreation opportunity -- “I’ll take one of those” – where all the specific components simply fall in line.
- Provide a set of standards that all opportunities or sites in a particular category must follow.
- Provide finer distinctions or resolutions between access sites.
- Provide hard and fast boundaries between ROS categories.
- Identify attributes within a single ROS category that are always internally consistent or identical across locations.

The concept was developed by broad conceptual thinkers who conducted Forest Service workshops around the country. They were flexible about accommodating unusual situations and resolving shortcomings, but sometimes frustrated practitioners who wanted definitive rules that specify “things should be like this!”

Developing AOS categories

The spectrum concept is designed to make planners, managers, and stakeholders aware of their setting and the variables that affect the recreation opportunities they are providing. Applied to access areas, the AOS shows how launch facilities fit with that setting, and how categories of launches may have similar levels of use and development.

That said, many launch design and facility decisions are focused on solving problems of topography, site characteristics, and use level; it would be a mistake to let category labels drive decision-making. Similarly, it may make sense to have one or two attributes different from other attributes within a category. For example, primitive launches for long multi-day trips may need bigger or more developed parking lots because vehicles stay there for many days, while an urban launch may not need designated parking because that exists nearby.

The category judgments for launch sites in the database were made by individual contributors. The goal was to create an *initial AOS judgment*, although there may be some consistency challenges that will be resolved with future iterations. These are no hard-and-fast rules for qualifying a launch for a given category. The goal of this project is to *bring data to discussions about attributes and how they vary* within or between categories. This helps *identify and clarify issues* that stakeholders and planners might consider when working through a planning/decision-making process to develop or improve access at a particular site.

With these caveats, we developed the following general categories of launches.

Primitive

Primitive launches generally have lower use and development and few amenities. Signs of humans or their impacts are minimal, with shores and waterways generally natural and undisturbed. On-site management presence is minimal and agencies rely on stewardship and cooperation from visitors, although restoration and monitoring may occur. Users are expected to have skills and equipment to be completely self-reliant, and they may experience challenges and a sense of adventure. Values include remoteness, solitude, and wilderness. These launches may access wilderness-like or backcountry areas, and may be reached by challenging trails, roads that require 4WD vehicles, or airfields usable only by small aircraft.

Semi-primitive

Semi-primitive launch facilities tend to be rustic and minimal (e.g., ramps and parking lots are more likely to be gravel than paved or concrete). On-site management is rare, but an information kiosk or small-scale signage is typical, as are rustic restrooms. Users are expected to have the skills and equipment to be largely self-reliant, although these sites offer less adventure and challenge than primitive launches. Values include natural environments, tranquility, and escape from the developed world. The surrounding landscape tends to be dominated by natural resources, but limited development may be present (e.g., power lines, livestock, farms in the distance, occasional homes or small buildings, historic structures, and past mining or logging sites). Adjacent shorelines and waterways have a natural appearance but may show signs of recreation or historic use, and roads may not be paved.

Rural

Rural launches are likely to have low use and minimal or rustic facilities, but these may include paved ramps, parking, restrooms, picnic tables, fish cleaning sites, or a shelter. On-site management is infrequent, but signage indicates regular attention. Users are expected to have the skills and equipment to be largely self-reliant, although these sites offer fewer challenges than primitive or semi-primitive launches. Values focus on harmony between human and natural environments, tranquility, and escape from daily routines. Surrounding landscape is typically pastoral, with some development related to agriculture, ranching, or forestry; signs of recreation and other uses are common. Primary and secondary roads are generally paved and 2WD accessible. Adjacent shorelines and waterways appear

natural, but may have visible levee protection, irrigation, or domestic animals (or signs of their presence).

Suburban

Suburban launch facilities are likely to include designated parking areas, restrooms, developed ramps, and signage. Management presence is more frequent than rural and semi-primitive launches, and rules and enforcement are generally more obvious. Use levels may be high, possibly busy and congested at times. Users are not expected to have specialized skills or equipment, so facilities tend to be designed for ease of use. Values include convenience and a blend of human and natural environments.

Surroundings often include low to medium density residential areas, commercial development, or multi-activity parks (e.g., in small towns). Adjacent shorelines and waterways may be natural-appearing, but banks are often channelized or levee-controlled to prevent flooding and property damage

Urban

Urban launch facilities generally include paved parking lots, ramps, docks, restrooms, and possibly retail and restaurants. Management presence is frequent and may include on-site staff. Use levels are often high, and launches are expected to be congested at times. Users are not expected to have specialized skills or equipment, so facilities tend to be designed for ease of use. Values focus on convenience and safety rather than naturalness or solitude. These launches are often in a metropolitan area with extensive surrounding development, although there may be pockets of natural areas such as greenway parks, commercial courtyards, and residential gardens or landscapes. Shorelines and waterways may appear natural, but banks are generally channelized or levee-controlled, and may be completely hardened with riprap or concrete.

Using the launch database

The Good, Bad, and Unusual access database includes 270 entries as of October 2020 and is available at the following link:

<https://drive.google.com/file/d/1pyHojhCX65rdrDCfsYpqiZDvrDMv7YBw/view?usp=sharing>

The database is an Excel file and is generally organized with access sites in rows and site characteristics or other variables in columns. Each site has been identified with a unique identification (ID) number and name; to help readers navigate through the data, the 75 variables are color coded by the following topics:

- Location information
- Type of launch and AOS category
- Staging characteristics
- Ramp and slide characteristics
- Parking characteristics
- Amenities
- Use information
- Boat and trip types
- Signage, management presence, and fees
- Issue evaluations
- Comments about challenges, suggested solutions, and bad or unusual designs

The file uses a **Master Data Tab** to sort by state, and sites within states are alphabetical. This provides the raw data. The file also includes eight **example Sorted Data Tabs** where data have been organized to illustrate ways of reviewing data for specific purposes.

With seventy-five variables, there are too many sorting choices to cover every topic that a reader might investigate. The following list illustrates a range of options.

- **AOS category and staging areas.** Organizes similar AOS launches together and shows how their on-land and in-water staging areas differ.
- **Parking type and quantity.** Groups different types of parking, then sorts by the number of parking spaces.
- **Parking type and distance to water.** Groups different types of parking, then sorts by parking distance.
- **Use density and parking quantity.** Groups launches by use level and shows how number of spaces varies.
- **High use problem launches and staging.** Sorts for high use problems on holidays and weekends, then shows staging characteristics.
- **Launches with slides.** Filters out 19 launches with boat slides.
- **Launches with ramps.** Identifies 106 launches with boat ramps.
- **Launches with trails and stairs only.** Identifies 145 launches without vehicle access to water.

Findings

Findings are organized by topic, as listed in the Table of Contents at the beginning of the report. For each topic, we provide the questions that prompted responses (in italics), a table that summarizes results, and bullets for important findings.

Initial AOS categorization

Choose the setting that best fits the access area (separate questions asked the type of recreation opportunity offered on adjacent river segments).

Table 2. Access Opportunity Spectrum (AOS) represented in the database

	Count	%
Urban	33	12%
Suburban	44	16%
Rural	102	37%
Semi-primitive	82	30%
Primitive / backcountry	12	4%

- The data set included an array of launches across the AOS spectrum, although there were fewer primitive and urban launches.
- The AOS category refers to the launch itself, not the river segment(s) served by the launch. Coders could choose only one AOS category for the launch, but several launches served more than one type of river recreation opportunity. The most frequent combinations were primitive & semi-primitive, and rural & suburban.

Other launch setting characteristics

- Most launches were both put-ins and take-outs (73%). If single purpose, they were more likely to be put-ins (19%) than take-outs (9%).
- Most launches are for rivers (95%), but some access lakes (13%), estuaries (5%), and wetlands (3%).
- Most launches are adjacent to flatwater (60%), although some have strong currents (24%) or small rapids (14%). Very few have large rapids (1%). Urban and suburban launches are more likely to have flatwater adjacent to the launch. Some example launches adjacent to strong currents or rapids include Little Falls, Potomac River, Washington DC (large rapids); Pack Saddle Park, North Santiam River, OR (small rapids); and Rock Park, Truckee River, NV (strong currents).
- Most launches have small water level / tidal changes of 1-3 feet (47%) or less than 1 foot (29%), although 15% have 3-6 feet and 8% over 6 feet. Example launches with larger depth changes include Lookout Campground and Boat Launch, Blue River, OR; Odell Venters Landing, Lynches River, SC; and Deep Creek Access, Deep Creek/Cook Inlet, AK.

Boat types

What types of boats use your launch?

Table 3. Boat type

	Count	%
Kayaks	257	93%
Canoes	208	76%
Rafts	158	57%
Stand up Paddleboards (SUPS)	113	41%
Jon boats or skiffs (with motors)	65	24%
Drift boats	57	21%
Pack rafts	54	20%
Larger powerboats	30	11%
Tubes	22	8%
Dingy sailboats (under 12 feet)	8	3%
Larger sailboats	4	1%

About 27% percent of launches are used only by smaller boats like kayaks, canoes, SUPs, and tubes, but not by larger boats that typically use trailers (like rafts, drift boats, motorized craft, or sailboats).

On-land staging facilities

What sort of facilities are available for staging or rigging boats on land near the launch? Check all that apply.

Table 4. Shore based staging areas

	Count	%
Informal use of parking areas	178	67%
No space available without blocking ramp/trail or parking areas	75	28%
1-2 short-term parking spaces near ramp/slide/stairs to river	44	17%
Large designated staging/rigging area (no parking allowed)	22	8%
3-5 short-term parking spaces near ramp/slide/stairs to river	20	8%
Small separated and designated staging/rigging area (no parking)	13	5%

- Most launches do not have formal on-shore staging areas for use before boats are launched down the ramp/slide.
- The most common situation is informal staging in parking areas (67%), or staging/rigging blocks ramps or parking (28%). Responses may add to over 100% because respondents could choose more than one. Examples of informal rigging areas include Trout Creek Campground, Deschutes River, OR and Mayberry Park, Truckee River, NV.
- About one quarter of launches have small short-term on-shore rigging areas (1-2 or 3-5 spaces), and 13% have designated rigging areas with no long-term parking at the ramp. Examples of larger formal staging areas include Pearce Ferry, Colorado River, AZ and Stackhouse, French Broad River, NC.
- The distance between water and an on-shore staging area where boats can be dropped – which could be labeled the **carry distance** -- was not measured for the database. Subsequent analysis and core team discussions suggest this may be an important future variable.

In-water staging facilities

For boats in the water, what sort of staging / rigging areas are available? Assume typical flows/tides. Check all that apply.

Table 5. Type of in-water staging

	Count	%
Natural beach	126	47%
Upland bench or non-beach bank where boats can be tied up	99	37%
None – boats must be occupied and traveling as soon as they are in water	58	22%
Designated shoreline accessible by trails or stairs, but without extensive infrastructure	30	11%
Designated shoreline with docks, cleats, tie-down rings, or other infrastructure, etc.	27	10%

- Launches with natural beaches (47%) generally have room for more boats. Examples include Round Hollow Public Access, Illinois River, OK and Sand Wash, Green River, UT.
- Over one-third had upland benches or a non-beach bank for staging boats after launch. These banks tend to be steeper and may show erosion as users create paths to their boats. Examples include Deerlodge Park, Yampa River, CO and Dirty Devil, Colorado River, UT. Launches addressing this problem with infrastructure and bank stabilization include Fisherman’s Bridge, Arkansas River, CO and Maupin City Park, Deschutes River, OR.
- Surprisingly, 22% of launches apparently have no in-water staging area, requiring boaters to occupy boats immediately after launching. This kind of constraint, possibly due to fast currents or steep banks, may necessitate better on-shore staging areas.

Ramp facilities

Launch ramp slope - If there is a ramp for vehicles, try to estimate the slope.

Table 6. Launch ramp slope

	Count	%
<5% (under 3 degrees; not designed for in-water trailer access)	44	28%
6 to 11% (5 to 7 degrees; shallow ramp; may not allow “float-on” trailers)	61	38%
12 to 15% (7 to 9 degrees; typical developed launch grade for float-on trailers)	43	27%
Over 15% (10 degrees or more; steep ramp – may require 4WD)	11	7%

- Ramp slopes generally vary by whether they accommodate in-water/float-on trailers, or simply allow people to get their boats to the water’s edge.
- Slopes do not appear to vary by AOS category; launches that serve large or heavier craft (especially motorized boats or rafts used for multi-day trips) generally have steeper ramps that allow boats to float off trailers (e.g., The Pillars, Kenai River, AK).

If you have a vehicle-accessible ramp, please note any other notable features.

Table 7. Ramp features

	Count	%
Availability of turnaround at top of ramp	65	70%
Problems with mud from tides/flow changes	67	72%
Variable ramp gradient due to terrain issues	26	28%
Short-term docks next to ramp	23	25%
Problems with erosion undercutting ramp infrastructure	12	13%

- Efficiency and circulation are among the most often reported problems at launches (see additional discussion on problems below). Availability of a turnaround that accommodates trailers addresses the problem, and 70% of launches with ramps have it. Examples of effective turnarounds include Mere Point Boat Launch, Casco Bay, ME; Dudley’s Landing, New River, VA; and Clark Creek/Tillery Dam, Pee Dee River, NC.
- Mud from tides or flow changes affects 72% of launches, while problems with variable ramp gradients are less common (28%). Ramps with mud problems include Kenai City Ramp, Kenai River, AK) with its 20-foot tides. Ramps with terrain issues include Bentonsport Boat Ramp, Des Moines River, IA and Meral’s Pool/Lumsden, Tuolumne River, CA.
- Short-term docks are most common at rural (8%) urban (12%), and suburban, (18%) settings.

Other launch hardware or features.

Table 8. Launch tools

	Count	%
Kayak launch	31	48%
Dock-based cleats	17	26%
Loaner PFD's	13	20%
Shore-based cleats or rings	11	17%
Dock-based bull rails	6	9%
Pumps	1	2%

Analysis by AOS suggests several interesting findings:

- Primitive launches generally do not have features or tools, although a least one primitive launch had shore-based cleats/rings (e.g., Big Eddy, Rio Chama, NM).
- Semi-primitive launches tend to have fewer features than rural, suburban, or urban launches.
- Kayak launches are more common at rural (18%), suburban (14%), and urban (18%) launches compared to semi-primitive (4%) and primitive (0%) launches.
- All suburban launches have a vehicle turnaround at the top of the ramp, as do over 70% of urban and rural launches. About half the semi-primitive launches had them.

Slides

Slides refer to structures for lowering boats down steep slopes using ramps or rails made of metal, wood, or sometimes plastic. They are rare (8% of the database), and generally are at put-ins rather than take-outs (because it can be challenging to pull boats up steep slides).

If you have a boat slide, please estimate its gradient, length, and width (skip this section if no slide).

Table 9. Percent of launches with slides by ROS

	Count	%
Primitive / backcountry	0	0%
Semi-primitive	7	3%
Rural	12	4%
Suburban	1	0%
Urban	3	1%
Total	23	8%

Table 10. Slide length in feet

	Count	%
10 or less	2	9%
11 to 30	8	35%
31 to 99	4	17%
100+	9	39%

Table 11. Slide width in feet

	Count	%
5 or less	2	9%
6 to 10	10	45%
11 to 15	5	23%
16+	5	23%

- Few slides were short; examples include Meadow Run, PA (5 ft); Beaver Creek North Access, Beaver Creek, IA (10 ft); and Green Cottage, Pere Marquette River, MI (14 ft).
- Many (39%) were over 100 feet. Examples include Ojalla Park, Siletz River, OR (107 ft); Cyr Bridge, Clark Fork River, MT (120 ft); Awendaw Creek Canoe Launch, Awendaw Creek, SC (140 ft); and Fisherman's Bridge Launch, Arkansas River, CO (2x handrail launches, 115 ft and 150 ft).
- Most slides were 6 to 15 feet wide, and wider slides typically have stairs on either side.

Selected comments from individual respondents about slide features

Metal staircase and handrail on either side of the boat ramp. There is a head-high bar with friction device at the top of the ramp to assist launch. The county used to supply a 140 ft rope but it was continually stolen, so now is not provided.

Paired metal rails in middle of stairs/trail about 1 foot wide between rails -- allows for raft or kayaks to be slid down with friction. Rail is about 2 to 4 feet above stairs. Stairs are wooden 6x8 wood ties. Resting areas between sets of 10 to 12 stairs.

Two wide-gage PVC pipes are used to slide rafts down to river from highway parking lot. It has some variable gradient but probably averages 60% (as steep as a set of stairs). Guides use rope to control speed of descent. A low-tech solution.

The boat slide is user created and terrifyingly steep. Ropes have been secured by users to lower rafts and to aid pedestrians down the bank that has become loose and eroded.

There is a 6"x6" wheel stop at the top of the boat slide so the vehicle has to stop and the boat is lowered down the slide with the trailer's winch.

Trail access and trail gradients

Most launches offer trail access to the river (62%), along with ramps (51%) or slides (7%). Only 40% percent appear to have trail-only (no vehicle) access to the water.

Common ramp surfaces include poured concrete (22%), pre-fabricated concrete (8%), gravel (5%), and natural (20%).

Trail access appears slightly more common in semi-primitive and rural vs. urban and suburban locations.

If there is a trail or trail-stairs combination, try to estimate the steepest gradient.

Table 12. Steepest trail gradient

	Count	%
<10% (under 5 degrees – usually no stairs)	72	45%
11% to 15% (7 to 9 degrees – typical developed launch without stairs)	39	24%
15% to 30% (9 to 17 degrees – mix with more runs than stairs)	22	14%
30 to 60% (17 to 31 degrees – mix with more stairs than runs)	18	11%
60% to 80% (31 to 39 degrees – typical indoor stairs)	7	4%
80% to 100% (39 to 45 degrees – very steep stairs)	2	1%
Over 100% (over 45 degrees – may include some ladders or require ropes)	1	1%

- Most access trails are not steep and do not have stairs (about 69% of launches).
- It is rare for trail access to require stairs as steep as those in a home, but there are several with a mix of stairs and runs (including Bull Pen Access, Chattooga River, GA; Tallulah Gorge, Tallulah River, GA; and Horseshoe Bend, Nooksack River, WA).
- Examples of very steep access trails include Tallulah Gorge, GA and Sultan River, WA.
- The distance from parking to water’s edge for trail-only launch areas was not explicitly measured in the database. This relates to the **carry distance** variable discussed with on-land staging areas, and it should be included in future iterations of the database.

Selected comments from individual respondents about ramps, slides, and trails

Docks next to ramp have low-level planks that make boarding paddlecraft easier.

Grades between the river level and parking area make a trail or ramp difficult without a large footprint. Users have developed a system of ropes to help lower people, boats, and gear. Erosion from use and parking lot run-off have made the informal boat slide quite treacherous.

Highway riprap prevents erosion, but makes access to water challenging.

Wide, long, benches next to unloading zones assist with loading kayaks to/from vehicles and packing/rigging. Barrier prevents vehicle or trailer access. Launch is for small boats only.

Two different angled ramps for use at different stages (which affect current direction).

Staging space on lawn. Some artificial rock fingers create eddies and launch aids. Launch from beach or paved walking path to water's edge. Paved haul trail with bridge connects whitewater park to Deschutes River Trail on the opposite bank. Miller's Landing (downstream) and a concrete ramp (upstream) are accessed by the paved trail.

There is a crane to facilitate trailer to river transfers without in-water access.

We originally installed a boat slide but found it was hard to design one that worked for all users (kayakers, rafters, drift boats) so we removed it.

300 feet to river from Main Street parking areas. Berms and boulders prevent vehicles (including 4 wheelers) from accessing the river. Nice wide trails on either side of berms/boulders but they want vehicles out. Ironically, 4 wheelers can get access to beach from other locations downstream, so 4-wheeler erosion is rampant anyway, but river users can't get to beach to pick up boats.

Variable slopes and terrain from a wide natural ramp. Main ramp area is only 90 feet wide and only about 30 feet is sloped appropriately for trailer use. High water is easier -- less steep -- but currents can be swifter and closer to shore (making eddies smaller). Failure to land appropriately means boats get downstream into alders and challenging carry-out situations. Missing the launch altogether commits boaters to a Class III canyon (its class I/II otherwise) and 6-mile row/paddle across a lake (commonly with 3-6 foot waves on the lake from glacial outflow winds).

This doesn't appear to be originally designed as a ramp, it's very steep and there are stories of epic mud to get to the ramp. Surface is slippery small gravel when dry. People sometimes put a long line on their boats so they can be dragged up the ramp, or use rollers to make this easier. Might have been re-purposed from a construction staging area, and pressed into service as a take-out as Lake Powell levels dropped, leaving decent river current to Dirty Devil and making it unnecessary to have a motor for the flat-water to Bullfrog.

Plenty of space for rigging but none designated. During very low reservoir levels, the ramp can become muddy and rutted. It is necessary to carry up gear and boats or else tether 4x4 vehicles together.

No formal facility for launching -- boaters use rip rap to move boat from parking to river. Very fast currents with little eddy. There is a big beach 100 feet upstream, but road does not offer vehicle access

Steep user created trail to river through trees. Rafts have to be turned on side to negotiate past trees and brush in a couple of places. About 80 feet from parking to river's edge.

Neither a ramp nor a trail. From parking area river is accessed by carrying boats, or some choose to back vehicles down a steep, unimproved road on the river bar to get closer. Vehicles often get stuck. Other than for drift boats, there is no genuine need to back vehicle close to the river and most boats are carried to the river.

The launch was designed to address a steep slope and informal use that caused erosion and pulling of vegetation. Paddlers must navigate stairs without the use of any railings or boat slide. Many paddlers are currently sliding boats down the banking next to the stairs. Getting a boat into and out of the water can be tricky, because the stairs only accommodate one person at a time. Getting in and out of boat is difficult without stepping onto underwater stairs.

It is an industrial-looking cement landing and launch area that extends into the otherwise natural river, midway through the run. It is very jarring, unattractive, and detracts from the scenery of the river.

Parking

What type of parking does your access site have? Check all that apply.

Table 13. Type of parking

	Count	%
Designated lot with unmarked spaces	143	53%
Designated lot with marked spaces (typically paved)	81	30%
Turnout with gravel (unmarked) parking	61	23%
User-created or informal parking along roadside shoulder	54	20%
Designated parallel parking along roadside shoulder	18	7%
Turnout with marked spaces (typically paved)	4	1%

- The most common parking is designated lots, although most do not have designated spaces (often due to gravel surfacing).
- Examples with marked spaces include North Hartland Dam Launch, Ottaquechee River, VT; Howard Bridgeman River Access, Ashley River, SC; and West Table, Snake River, WY. Example launches with unmarked spaces include Grave Creek boat ramp, Rogue River, OR; Sang Run State Park, Youghiogheny River, PA; and Lower Skilak Lake, Kenai River/Skilak Lake, AK.
- Parallel parking along the roadside shoulder is relatively rare (7% of launches), and it may create safety concerns if equipment and staging/rigging activities extend into the active roadway. Examples include Drake Park, Deschutes River, OR; Phoenix Park Canoe Launch, Eau Claire/Chippewa River, WI; and Alligator River/Bufalo City kayak put-in, Mill Tail Creek, NC.
- Other findings across AOS categories:
 - Launches on the more developed end of the spectrum are more likely to have designated, marked, or paved parking lots.
 - Most urban launches have a paved lot with marked spaces (64%).
 - Most suburban launches have a paved lot with marked spaces (50%) or a designated lot with unmarked spaces (38%).
 - Most rural launches have a designated lot with unmarked spaces (60%), but 30% have a paved lot with marked spaces.
 - Most semi-primitive launches have a designated lot with unmarked spaces (62%).
 - Primitive/backcountry launches are most likely to have no parking, informal parking on roadside shoulder, or gravel turnouts.

Considering all of these parking areas, please estimate the total number of individual spaces for vehicles. If a space is designated for a vehicle and a trailer, count that as two spaces.

Table 14. Parking quantity

	Count	%
3 to 5 spaces	23	9%
6 to 10 spaces	39	15%
11 to 15 spaces	38	14%
16 to 20 spaces	24	9%
21 to 30 spaces	34	13%
31 to 50 spaces	46	17%
51 to 100 spaces	32	12%
101 to 200 spaces	24	9%
Over 200 spaces	8	3%

- The size of parking lots varies considerably, although there appears to be a bimodal distribution with most smaller lots accommodating 6-15 spaces and larger lots 30-100 spaces.
- Lots that accommodate over 100 vehicles/trailers include Barber Park, Boise River, ID; Foster Bar, Rogue River, OR; and Satan’s Kingdom put-in, Farmington River, CT.
- Lots for over 200 vehicles include Riverbend Park, Deschutes River, OR; Flamingo Marina, Flamingo Canal/Florida Keys, FL; and Tamarack Rd/Juniper Dr, Clark Fork River, MT (over 200 spaces on roadside shoulder).
- Other findings across AOS categories:
 - Primitive/backcountry launches usually have less than 10 parking spaces.
 - The size of lots at semi-primitive, rural, suburban, and urban launches varies widely, although few have less than 10 spaces.
 - Urban launches were more likely than any other AOS category to have over 200 spaces; they appear to serve recreation or urban visitors aside from boaters.

Please estimate the distance from the center of the largest parking area to the water at the bottom of the ramp/slide/trail. If parking is along an access road, make the estimate from a **median location** along the road.

Table 15. Distance from parking to water

	Count	%
< 50 feet	16	6%
50 to 100 feet	45	17%
100 to 200 feet	61	23%
200 to 500 feet	98	38%
500 to 1,000 feet	23	9%
1,000 to 2,500 feet	11	4%
½ to 1 mile	3	1%
Over 1 mile	3	1%

- Parking distance to launches varies widely.
- Across all launches, the most common parking-to-ramp distance is 200-500 ft.
- No urban launches have a parking-to-water distance longer than 1,000 ft.
- Although rare (6 in the database), there were primitive, semi-primitive, and rural launches with parking-to-ramp distances over a half-mile (with three of those over a mile). Examples of longer distances include Tallulah Gorge put-in, Tallulah Gorge, GA; Cebolla Mesa, Rio Grande, NM; and Green Creek, Chattooga River, NC.
- Topography and the availability of flat space often factor into these distances.
- **Carry-distance** (the distance a boat must be carried if it cannot be dropped at the river's edge) may be more important than distance from parking to the river. For future iterations of the database, we recommend measuring and coding a separate variable for carry distance.

Of the total number of spaces, estimate the percent designated for vehicles with trailers.

Table 16. Percentage of trailer parking

	Count	%
0%	148	59%
1% to 33%	62	25%
34% to 66%	21	8%
67% to 100%	21	8%

Roughly what percentage of boats are launched by trailer?

Table 17. Percentage of trailer launches

	Count	%
None	136	53%
1% to 10%	53	21%
11% to 33%	12	5%
34% to 67%	31	12%
Over 67%	26	10%

Of the total number of spaces, estimate the percent marked or designated (on pavement with markings, or identified by log bumpers, etc.).

Table 18. Percentage of delineated parking spaces

	Count	%
0%	148	60%
1% to 33%	24	10%
34% to 66%	12	5%
67% to 100%	63	26%

- Most parking lots do not delineate spaces (for cars **or** trailers), perhaps because lots are gravel and marking can be challenging.
- About 26% of launches have all parking spaces delineated, and 8% have 67-100% delineated for trailers. Examples include Lee’s Ferry, Colorado River, AZ; Plank Road Meadow Boat Launch, Des Plaines River, IL; and Silverwood Lake Marina, Silverwood Lake, CA. Several of these have greater use by motorized boats (which generally require trailers).

Roughly what percentage of boats are launched by trailer?

Table 19. Percentage of trailer launches

	Count	%
None	136	53%
1% to 10%	53	21%
11% to 33%	12	5%
34% to 67%	31	12%
Over 67%	26	10%

Please describe any other notable parking features. Check all that apply.

Table 20. Other parking features

	Count	%
Multiple lots with varying distance to ramps	68	44%
One-way traffic circulation	66	43%
No parking signs to keep vehicles off road shoulders, vegetation, etc.	57	37%
Pull-through trailer parking	57	37%
Signs indicating parking suggestions (e.g. “diagonal parking only”)	51	33%
Overflow lots for high-use periods	48	31%
Parking attendants during high-use times	9	6%

- Nearly half of all launches have multiple parking lots with varying distances, which is common when steep terrain constrains the amount of flat topography.
- One-way circulation (43%) can help improve traffic flow. Examples include Osceola Landing, St. Croix River, MN; Earl’s Ford, Chattooga River, SC; and Willamette Boat Launch/Crystal Lake, Willamette River, OR.
- Parking attendants to assist with circulation during high use times are rare (6%). Examples include Sheep Gulch and West Table, Snake River, WY; Cooper Landing, Russian River, and Pillars on the Kenai River, AK; and Gibson County Park, Suwanee River, FL.

Selected comments from individual respondents about parking

Alaska tradition of parking trailers over the edge of the lot into grass/dunes is practiced here to provide more space for vehicles. People back trailers right off the parking surface -- only possible with empty trailer and 4-wheel drive.

Multiple lots with signs, etc. to keep things organized and functioning (e.g., only 2 vehicles at a time in private trip launch area, short term parking for cars with trailers, long term lot for vehicles awaiting shuttles).

Parking lot users must pay fee to park in lot (which is owned by and leased from a private landowner). Users then have key for gate at entrance to parking area. River access is free, just must pay to park. Other free options exist to access this section of river.

There is a pull-through for trailers for unloading. The parking area closes after 8pm with a gate for security of the dam infrastructure. Cars left overnight will be towed. You are able to walk (approx 1/2 mi) from the gate to parking area to retrieve your car, and the gate will open from the inside.

Launch is integrated into hotel complex with heavy use (200+ rooms) and parking primarily for hotel guests. There is apparently some parking for public recreation at the site, but it can be hard to find during peak summer season. Outfitters have got top of ramp and short-term staging areas designated no parking, which makes for easier staging but has diminished availability of parking.

This land is owned by three entities and its management is therefore confusing. NPS manages the put-in and path from the parking lot. DC Water owns the facility adjacent to the parking lot and built the bathrooms as a community service during restoration. The upper lot is County property and when the lots fill, ticketable roadside parking begins to take place.

Ramp has poor turn around radius so most people back 400+ feet from main parking lot circulation pattern, which makes for slow retrievals.

Square lot; unclear where people should park.

Completely inadequate for use on release weekends with disorganized parking on the approach road and adjacent areas.

Toilets

Type of toilets - choose all that apply.

Table 21. Type of toilets

	Count	%
Vault toilets	79	33%
No toilets	64	27%
Running water toilets	50	21%
Portable toilets	38	16%
Pit toilets	15	6%

Location of toilets - choose all that apply

Table 22. Toilet location

	Count	%
At parking	142	85%
At ramp	32	19%
At trailhead	11	7%

Total number of toilets - include men's, women's and unisex.

Table 23. Number of toilets

	Count	%
1	28	16%
2	69	41%
3	5	3%
4	33	19%
5	1	1%
6	7	4%
8	11	6%
10	4	2%

- About three-quarters of all launches have restrooms of some sort, with pit/ vault toilets the most common.
- There were some differences by AOS category, with more developed settings more likely to have more than two toilets or running water. In contrast, primitive launches were more likely to have no toilets or toilets with no running water.

Other amenities

Other facilities – choose all that apply.

Table 24. Other amenities

	Count	%
Trash cans	117	62%
Boardwalk or graveled trails	63	33%
Picnic shelters	46	24%
Recycle cans	45	24%
Campground	45	24%
Office	34	18%
Changing rooms	29	15%
Launch host	26	14%
Small store	18	10%
Campground host	18	10%
Boat storage	15	8%
Picnic tables	11	6%
Ice concession	8	4%
Webcams	5	3%

If you have a campground, how many sites?

Table 25. Number of campsites

	Count	%
10 or less	10	18%
11 to 20	13	24%
21 to 60	15	27%
60 to 100	0	0%
100+	9	16%
Informal/dispersed	5	9%
By permission only	3	5%

- About one-quarter of all launches have a campground in the area. Of those with campgrounds, 42% have less than 20 sites and another 9% informal undeveloped camping only. Examples include Diamond Point, White River, MI and Madesi/Pit 5, Pit River, CA.
- About 27% had 20 to 60 sites, and 16% had over 100 sites. Examples include Lapine State Park, Deschutes River, OR; Chickahominy Riverfront Park, Chickahominy River, VA; and Spearfish Hatchery, Spearfish Creek, SD.

Selected comments from individual respondents about amenities

Extensive campground attached -- over 170- sites and multiple toilets, etc. Roughly 8 (4 x two-holers) are used by boaters. Several ELP boardwalks/stairs for anglers to access river without tramping vegetation.

Hudson River Greenway installed a boat rack with gear lockers and cables so visiting paddlers can secure their boats and gear with a single padlock while exploring on shore.

Self-service kayak rental is an interesting feature at this site. See website for more information: <http://upstatekayakrentals.com/self-serving-kayak-hubs.html>. Donna Larkin, the business owner, reports that she built the smart-phone enabled racks in her living room over the winter. She has deployed them at several locations in the Albany-Schenectady area.

Weyerhaeuser provides trash bags tied around trees at pullouts (many popular fishing sites) to prevent litter along the road.

Host used to have a community dolly available to wheel rafts to beach. Now people have to bring their own and horse rafts over the blocking boulder and gate.

Even though this site was developed at significant expense, there is no developed, useable, access that facilitates paddlers getting to the river. Kayakers have used a small opening next to the ADA fishing pier. Rafts are generally lifted over the pier into the water. The recreation releases have a trigger of 80 boaters to add release days. This number overwhelms the capacity of the single vault toilet.

Level of challenge

In general, what is the level of challenge for using your launch site?

Table 26. Challenge level

	Count	%
Low challenge – users required to apply basic skills and effort	171	64%
Medium challenge – may require greater skills and effort	82	30%
Challenging – requires specialized equipment/longer carries on steep trails	13	5%
Low challenge – professional assistance available	3	1%

- Most launches (64%) require only basic skills and effort – e.g., backing down a short ramp, parking in designated spaces, or short carry distances.
- However, 30% require slightly greater skills or effort. Typical examples include Banks public access, Payette River, ID and River Rim Park, Deschutes River, OR.
- Thirteen launches (5%) require specialized equipment (e.g., Haines Junction, Dezadeash/Alsek River, AK and Bitch Creek Slide, Teton River, ID) or longer carries on steep trails (e.g., Cebolla Mesa, Rio Grande River, NM and Green Creek, Chattooga River, NC). These are more common in semi-primitive and primitive settings.
- Very few launches have professional assistance (launch-hands) on site, and the three with these services were in urban settings.

Signage

Please describe the level of signage at your launch covering the following information topics.

Table 27. Signage

	None	Low	Medium	High
Invasive species information	62%	26%	9%	3%
Trip planning information	58%	26%	16%	0%
Interpretive information	50%	31%	15%	4%
Parking / circulation guidance	47%	36%	15%	2%
Agency regulations	40%	35%	21%	4%
Resource protection	39%	39%	17%	4%
Hazard / safety	39%	37%	19%	5%

- Most launches have signage covering several topics, but few appear to have medium to high levels (about 15 to 20%, depending on the topic).
- The most common signage topics were hazards/safety (24% medium or high) and resource protection (23% medium or high). The least common topics were trip planning (58% had none) and invasive species (62% had none).

Level of management

Please describe the relative level of management presence at your launch.

Table 28. Management presence

	Count	%
Rare (a few times per season)	97	38%
Infrequent (a few times per month)	52	21%
Low (a few times per week)	38	15%
Medium (nearly daily)	30	12%
High (daily, but not all day)	16	6%
Full time (regular daily hours)	20	8%

- The level of management presence at launches varies, but a majority (59%) have staff present infrequently or rarely.
- About 14% have daily or full-time staff. Examples include Texas Tubes, Comal River, TX and Boundary Creek, Middle Fork Salmon River, ID.

Selected comments from individual respondents about management

DOT turnout rather than obvious boat access.

Former wasteland near coal piles...completely transformed into a popular parklet.

Permits and shuttle tokens are paid for and picked up at window at top of ramp to launch; chalk board with river level information is updated regularly.

There is NO parking allowed at take out on scheduled release days. Pay for and use the shuttle service.

Located at farthest distance possible from USFS ranger district office; therefore is generally forgotten. Further complicated in that the land is part of Klamath NF but its management is delegated to Six Rivers NF.

Ongoing management challenges, probably exacerbated by IDOT having land ownership but not set up to manage recreation.

Paddlers are required to hike this 1.2-mile trail rather than put in at a nearby bridge.

Talkeetna City may have de facto jurisdiction over the park, but DNR probably has jurisdiction over the beaches which are below mean high water. Excessive concern about keeping 4 wheelers out has made vehicle use for launching impossible.

Unclear management / ownership of launch because it is integrated into resort hotel complex. Outfitters (who work through the hotel) store boats and frames and buses at the site. Other boaters have to compete with hotel guests for parking.

Fees

Please describe the fees required at your launch.

Table 29. Fees

	Parking	Launch	Camping	Other
No	83%	89%	82%	86%
Seasonal	6%	4%	7%	3%
Year round	12%	7%	11%	10%

- Fees are surprisingly uncommon (82-89% have no fees, depending on type of fee).
- Of those with fees, about two-thirds apply year-round.

Selected comments from individual respondents about fees

\$20 season pass for Payette river system.

Permits are free, but there is a fee to reserve a permit during the permit season.

The camping fee changes depending on whether or not water is available.

Voluntary contributions.

Shuttle fee from takeout to top of hill parking lot (not back to launch).

Season and amount of use

Please describe other seasonal use patterns at your launch.

Table 30. Seasonal use patterns

	Count	%
Relatively regular use over long (over 6 months) season	86	49%
High use on fishing/hunting opening days	39	22%
Distinct short seasons due to flow conditions (e.g. short runoff)	21	12%
Distinct high use days due to publicized flow releases	19	11%
Distinct short seasons due to fishing conditions (e.g. salmon runs)	12	7%
Rare use due to infrequent adequate or high-quality flows	12	7%

- Comments from launch contributors indicate that use level information was challenging to report. Use may vary seasonally or over years, and the lack of fees and minima management presence reduce the reliability of use characterizations. With these caveats, launch use findings suggest:
 - About half of launches are used year-round.
 - For seasonal launches, the most common season lengths were from April/May to September/October. There were some obvious geographic differences with longer seasons in the southeast.
 - Peak densities are generally much higher than year-round densities.
 - Most launches (99%) have some non-commercial boating use, while just under half (45%) also serve outfitted/guided use.
 - Few launches (16%) offer rental boats. Examples include Milwaukee Kayak Rental, Milwaukee River, WI and Bellamy Harbor Park, Erie Canal/Mohawk River, Rome, NY
 - Few launches (8%) have separate facilities for guided and unguided trips; examples include Barnard, French Broad River, NC and Wilson Boat Ramp, Snake River, WY. Even fewer have separate facilities for car-top vs. trailer launches (7%), motorized vs. non-motorized users (3%), or swimming (3%).

Selected comments from individual respondents about use levels

Peak boating use is during the rainy season. Area is popular for fishers in fall. Weyerhaeuser restricts recreation access to weekends only to prevent conflict with logging operations.

Steep canyon wall makes access with all craft difficult but particularly for rafts. Rafters sometimes float an empty raft over the top of the 200' tall dam and catch it in the river below.

We don't ban motorized boat launchings, but you must be able to carry everything because ramp is closed to vehicles/trailers.

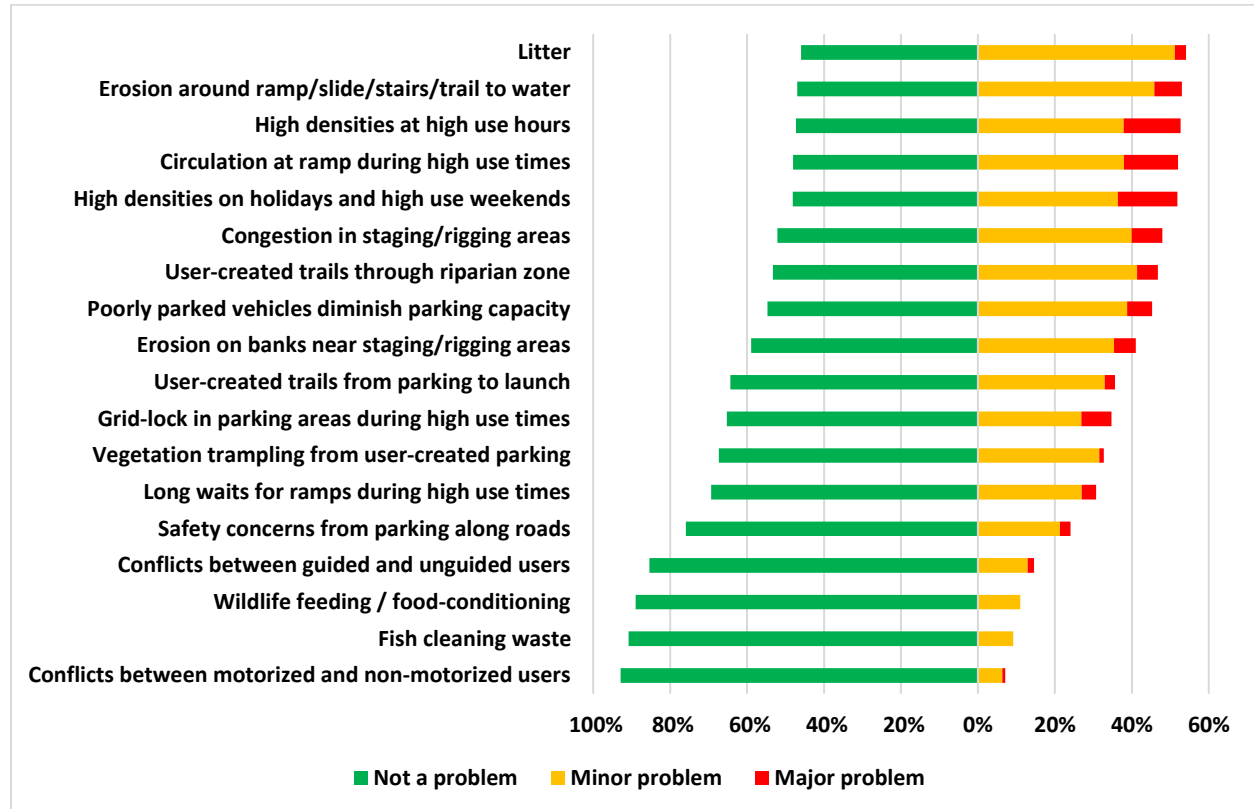
During busy season FS limits use to approx. 6 trips per day, based on campsite capacities downriver. Space above slide is small, and boat slide is one boat at a time. Some trips arrive with boats on trailers loaded and ready to go down the slide, but others are assembling and rigging in the area at top of ramp. The eddy below the ramp fills with 30-50 boats each afternoon, everyone trying to get an early start the next morning. Gear that isn't in the boat when it goes down the slide has to be hauled by hand down the trail and loaded into boats from rocky shore.

Guides using drift boats dominate at the ramp; can be rude with less skilled private boaters who don't get the queuing/turnaround system (which is not dictated by sign, but by custom).

Reported problems

Please evaluate whether the following issues are problems at your launch.

Figure 1. Other problems



- Most launches have few major problems, but many launches have several minor problems.
- Litter is an issue at just over half of the launches, but only 3% report this is a major problem.
- The most common problems relate to higher use, including congestion at rigging areas, circulation at the ramp, or high densities during holidays and high use times. These tend to be major problems at about 15% of launches; examples include Harper Bridge, Deschutes River, OR; Westwater Boat Ramp, Colorado River, CO; and Chili Bar, South Fork American River, CA.
- Erosion-related problems (including the ramp, staging areas, or user-created trails) are problems at about 40-50% of launches. Few (7%) reported these as major problems.
- User conflicts between guided/unguided use and motorized/non-motorized use were infrequent problems.
- We conducted additional analysis for more frequently reported problems by AOS category (Tables 31 through 35, below). In general, primitive launches have fewer problems with use-related issues and urban launches have more. However, there is no clear pattern that suggests certain categories of launches are more susceptible to these problems. Based on comments, it appears that many

major problems are a function of topography, terrain, and design rather than level of use or type of facility.

Table 31. High densities on holidays

	Primitive	Semi-primitive	Rural	Suburban	Urban
Major problem	0%	18%	15%	15%	17%
Minor problem	17%	26%	39%	49%	50%
Not a problem	83%	56%	46%	36%	33%

Table 32. Circulation at ramp during high use times

	Primitive	Semi-primitive	Rural	Suburban	Urban
Major problem	8%	19%	17%	8%	4%
Minor problem	8%	28%	45%	40%	52%
Not a problem	83%	53%	39%	53%	44%

Table 33. Erosion around ramp

	Primitive	Semi-primitive	Rural	Suburban	Urban
Major problem	8%	10%	6%	7%	3%
Minor problem	17%	49%	49%	45%	38%
Not a problem	75%	41%	45%	48%	59%

Table 34. User created trails through riparian zone

	Primitive	Semi-primitive	Rural	Suburban	Urban
Major problem	8%	8%	2%	5%	11%
Minor problem	25%	49%	43%	36%	29%
Not a problem	67%	44%	55%	60%	61%

Table 35. Litter

	Primitive	Semi-primitive	Rural	Suburban	Urban
Major problem	0%	1%	2%	3%	8%
Minor problem	33%	60%	46%	54%	52%
Not a problem	67%	38%	52%	44%	40%

Good, bad, unusual comments

Selected comments from individual respondents gathered from open-ended questions.

Please describe any issues / challenges at this launch (aside from the list above).

Boulders at launch trail end are obstacles for staging in-water boats. Users have moved some boulders around to create small swimming / wading areas.

Major makeover in 2000s improved this launch. Used to have multiple trailer fails due to a mud / gravel ramp and poor design into a river with flow variation during peak salmon run. Double concrete ramp has solved those problems.

The stone steps are large stones with about an 18-in step. The large slabs have held up to numerous flood events but some users do not like the height of step. Could carve steps into the stones.

The challenge with this site is that it is an industrial-style poured concrete launch in the midst of a run with a largely unbroken riparian area/bank. Even though there is a road next to the river, this site intrudes into the river far more than the road, and also tends to be crowded with people. While an access site in this location may make sense, the design and aesthetics detract from the recreational experience.

During low water the ramp becomes rutted and muddy. Must tether 4x4 vehicles or carry gear up the bank. The Takeout is notoriously easy to miss, has a small eddy, and often quick sand banks. High alertness and greater boat spacing are recommended.

In Portland there is some on-water conflict between motorized and non-motorized use because of wakes. Conflicts are exacerbated by major oceanic shipping lanes and several newer house boat communities in downtown. Wakes are undesirable/potentially dangerous for human powered users, cause bank erosions, and can rip out dock cleats/cause serious damage to house boats.

Infrequent management/law enforcement means there is crime/graffiti at the bridge. The road to the bridge is single lane with lots of blind corners and steep drop-offs. There is a long history of murders, accidents, and crime going back to the CA gold rush. The bridge's namesake was murdered after 6 months of operation in the mid 1900's. The power utility is in conflict with recreation users over improvements to this site.

https://secure.everyaction.com/ATRo1cTUgU6nRK_9N9hQjw2

Main conflict in past was 4-wheelers tearing up beaches and riparian vegetation. In closing the area to their use, boaters cannot get close to river for trailer use -- have to carry rafts to parking lot (about 300 feet, but mostly flat ground). Area is heavily used by commercial jet boat tours, who often tie up on this beach, so there are tourists on foot in area.

No parking lot is available. County only owns a narrow right of way next to the road and bridge. Auto traffic passes over the bridge and through the parking areas at high speed. Tubers putting in usurp all the space at the water's edge. Tubers must rig along roadside and carry tubes to water.

Parking is too far from the beach for kayakers. There are not good staging areas next to parking. There is not enough parking to reliably get a spot near the beach. This is why kayakers use the informal access upstream. Some of these improvements would attract more boaters.

Some kayakers prefer to launch from adjacent riparian area rather than use steps, which has caused erosion. They like "seal launching."

This is the only public canoe launch in the Town of Lee. It meets a great need, but the design should have better considered the needs of novice paddlers.

User-created trail is a problem because it is very steep, traverses near-vertical canyon walls, and is dangerous. There was a recent kayaker fatality on the trail. This is the only river access that I know of that has involved a boater fatality. <https://www.americanwhitewater.org/content/Accident/detail/accidentid/49082>

Please describe good or innovative solutions to any problems listed above.

A fisheries habitat restoration project is being designed for this site by the Salmon River Restoration Council (srrc.org) and will look at dual-purpose stream alterations that will benefit boaters.

Bringing in portable toilets on release weekends.

Crane for unloading heavier 12-person scenic rafts in use on this segment.

Human waste education -- examples of toilets and bag systems at put-in.

Parking used to be informal gravel pullouts. The county paved and widened the shoulder, and the speed limit is seasonally reduced to 35 mph. One side of the bridge is now reserved for non-boaters. There is a delineated space on the boating side for take-outs. There is a reserved drop-off zone near the path to the water so tubers don't have to carry along the road. Past the delineated parking, the shoulder is signed and strictly enforced no parking which defines a capacity for the launch.

Plastic stair steps from dock to water help inexperienced boaters get in canoes.

Portage canoe racks for resting shoulders.

The Oregon State Marine Board in cooperation with the City of Portland have instituted several no-wake zones around house boat communities and natural areas. No wake zones include Holgate Channel/Ross Island Archipelago which are serviced by Willamette Park. Other no-wake zones include the Multnomah Channel and North Portland Harbor. Although no-wake zones are ostensibly for safety, property protection, and natural resource protection, non-motorized users are attracted to these sites.

This launch is well situated to take advantage of the hydroelectric project. It is possible to time your trip so that you have class II rapids on the way down and a flatwater paddle back to your vehicle after water levels rise.

Paddlers could be allowed to simply put in near the bridge at an existing river access area (sliding rock) that requires no hike.

Maybe have fewer parking stalls in order to create a staging area for boats.

Canal is fully engineered for tubing. Multi-million dollar budget has turned this segment of river into a water park. Alcohol is legal on the Comal River, but only in non-disposable containers. Warm water and engineered channel prevent serious injury or death but minor injuries (bumps, bruises, scrapes, ankle sprains) are common. There is lots of signage and walk-arounds for the whitewater features.

Considerable tubing use on this stretch of river on hot summer days. This facility seems to accommodate issues associated with that, like parking and potential conflict. A walking trail from here upstream to Willamette Park is a great shuttle option for tubers who float this short stretch. This ramp fits into an interesting "ramp opportunity spectrum" that includes Willamette Park upstream and Michael's Landing downstream. Together they offer put-ins and take-outs of several different kinds, with several different uses and adjacent facilities, and in several different locations. All of this accommodates different kinds of trips and recreation opportunities.

A few signs to keep launching/staging area clear would prevent congestion. Poor parking can block in other users. Some alder clearing on access road would free up other parallel parking options.

Elevated light penetrating boardwalks for keeping anglers out of riparian zone are helpful, but increase level of development at site. Close proximity of boats and anglers is sometimes a source of conflict.

People sometimes leave rollers (sections of PVC pipe, for example) here to make it easier to drag boats up the steep ramp.

The ferry is an interesting access option. Non-motorized -- uses the river current to bring over groups of 25.

The rock stairs are subtle and blend into the scenery nicely. Having two options for those wanting to run a large rapid in the middle is nice.

Unpaved ramp seems to work fine, avoids an even more industrial feel.

Please describe any bad designs, facilities, or management that exacerbate problems listed above.

Parking is over-developed and too small. A less-developed site with more area would be more appropriate. Instead of bringing in fill to develop a paved parking area at the elevation of the road, a less formal parking area closer to river elevation would have better met user needs and could have more efficiently utilized the space available to accommodate users on release weekends. No accommodations are made for boaters to actually get to the riverbank--the ramp stops 150' from the river's edge. In short, it's a nice parking lot but a poor river access.

Not designed for launch use. That said, a trail with even minimal improvement would make things better for users. I don't know whether the lack of a trail is intentional (to keep this from becoming a launch site), or just an oversight.

Little thought was given to how boaters would access the river at this site.

Berms and boulders are designed to prevent 4-wheeler use -- they also make raft carry ins difficult.

Configuration of railings, gates, and ramps leading to floating dock and roller ramp are difficult for wheelchair users to negotiate on their own. There is no way for an independent wheelchair user to get their boat from the parking area to the roller ramp.

Facility is completely undersized but overbuilt for frequency of use. A bigger less-developed facility would be more appropriate. The distance to the river is too far for the type of use. The facility is in the wrong location (too much flatwater until rapids begin). Trails do not accommodate rafts.

For the \$5 million price tag for this access site, the lack of a trail to the river is a significant deficit.

Landing was put in without permission or consultation - launch facing upstream instead of downstream - not consistent with best practices....

Mixed use park -- not specifically designed for boating use. No tube drop-off next to river, so tubers often clutter parking lot with their craft as they prepare to run river.

No engineered transition from paved access road to gravel parking lot, which leads to a drop-off from the pavement to the gravel due to stormwater erosion.

Stairs lack a boat slide and there is no means to secure a boat once it is in the water. Stairs are narrow and can be slippery.

The access problem is a result of natural conditions; however, the dam owner (Siskiyou County) determined that access wasn't an issue that needed to be addressed when they built the dam in the late 1960s. The county provides no management or upkeep. Local boaters are hesitant to seek improvements for fear of access closure.

The juxtaposition of two major highways, three river segments, public use, and private commercial operations create major challenges. The original parking associated with the restaurant and store made sense as the initial "design," but as use increased it was overwhelmed and created conflicts.

This place gets busy every day during the season, and there isn't much space. Everyone needs to cooperate and try to be efficient, sometimes people new to the game can slow things down and frustrate those around them.

Yes, the poured concrete construction extending into the river creates a jarring industrial-feeling intrusion into a more natural river corridor.

Park needs to remove a single refrigerator-sized boulder to facilitate passage of boats from water to land.

Needs better-designed access trail with resting areas and less steep gradient. Will have to be multiple switchbacks to stay within right of way. State should have secured larger right of way and planned for river use when constructing bridge and highway in 70s/80s or after private road was gated in 2010s. Current public access is poor. Commercial rafters have cut deals with nearby landowners to use other sites. Public has no options.

This may be the most over-engineered launch/dock I've seen for hand-launch boats. The concrete work installed to hold the floating dock against river currents is staggering. The slotted dock and overhead grab bar may have been installed in hopes of aiding paddlers with mobility limitations but it is difficult to see how they would use or benefit from it. Shore-side facilities are nice but I've never encountered a paddler using them outside organized events. The dock is mainly used by anglers and the neoclassical pavilion and restrooms by picnicking families.

Parking was clearly thought about and provided, but a lack of direction leads to haphazard parking and loss of available sites.

Because there is only parallel parking and few other public access points available, users may have to walk 1/4 mile or more from car. Adjacent private launches owned and operated by Sunriver Homeowners Association charge a launch fee.

Please describe any unusual conditions or facilities present at your launch.

PVC slide is interesting low-tech material. White color has aesthetic issues and looks "cheap." Uncertain liability for private boaters using slide, which appears to have been built and maintained by two guide operations (who have let privates use it on occasion -- if you ask nicely). Public can carry boats to beach without using the slide. Slide cannot be used to retrieve boats.

Many locals that use this area do not consider poor aesthetics to be a problem.

Tractor assisted launch -- 6-foot tires on a front-end loader available for launches. They take your trailer and boat down. \$75 for round-trip launch and retrieval. \$100 for rescuing DIY trucks who fail and become stuck in sand. Another \$100 for boats that get swamped during retrieval. Wind can create conditions (3-5 foot waves) that makes retrieval challenging. Tractor assisted launch is permitted commercial activity. Tractor assisted launch is definitely in the "unusual" category. Allows launching from beach in tough surf conditions. But carnage still occurs -- boats have to time arrival as the tractor backs down or current and waves can swamp boat or truck or both. It's a dance.

Although this is an urban stream, it offers a 6-mile reach that is floatable year-round (except when frozen). That would be a great local recreational resource in a metro area of approx. 200,000 people. A current downside is that local communities have CSOs during rainy periods, but are supposed to be working towards doing away with them.

Outfitters use a winch truck to hoist rafts from water level onto the bridge (~100 ft) and de-rig on the bridge surface. Generally considered unsafe but it saves them money and time. Private boaters have to hike boats and gear up to 1/4 mile on a narrow road. Alternatively, there is a commercial service that will tow rafts to Moccasin Point Marina farther down the lake.

Putting the road in the creek bed might be considered poor siting or design in some circles. It is clearly the "low tech" solution with the initial low cost, even though it is labor-intensive and requires ongoing vigilance and maintenance.

SCDNR prevented us from including a hand rail/boat slide due to their opinion it would be a hindrance during flooding.

The slide is fun to use, and can turn into a real adventure if something gets stuck or gets loose.

Alternative launch area exists at mouth of Kings River, but this is almost always occupied by RVs and 4-wheeler camps that do not make boaters feel welcome. Boaters tend to use this inadequate gravel pad next to the river instead. It has no real ramp, parking, or facilities.

Use is low; by appointment on mail train only (not offered every day). No facilities; train stops on demand when river trip on board. Unload on side of tracks. Carry about 100 feet to natural beach across a slough next to riprap protecting tracks. Must pay for train tickets.

Suggested notable examples

Coders assessed these launches as better examples of well-designed sites that work as intended, or could be used as examples for specific AOS categories.

Alligator River – Buffalo City kayak put-in, Mill Tail Creek, NC

Stumbled upon this launch during a drive from FLA to MA. It had a number of nice features that I hadn't seen before.

Cebolla Mesa, Rio Grande, NM

Beautiful river access.

Taos Junction, Rio Grande, NM

Best and most convenient river access point in state of New Mexico.

Mineral Bottom, Green River, UT

Good example of a low-cost, low-tech ramp that makes use of natural terrain.

Michael's Landing, Willamette River, OR

Good low-tech, low-development use of a well-located desirable site.

Lower Skilak Lake, Kenai River, AK

Four different lots; all have multiple pull-through spaces for trailers. Just a well-designed parking and circulation situation -- although some of the lots are about 1,500 feet away.

Charleston Marina, South Slough, OR

Kayak benches in combination with a barrier are helpful for kayakers and establish unloading area, while preventing non-small boaters from using the launch. Well separated from nearby marina and launch for larger boats.

Round Hollow Public Access Area, Illinois River, OK
Round Hollow is overall a really nice public access area.

Ohiopile State Park, Lower Youghiogheny, PA
Permit window and info kiosk are unique and well done.

Long Dock Park – Beacon Pint, Hudson River, NY
Probably the classiest boat storage facility you'll find. See: <https://www.architectmagazine.com/project-gallery/kayak-pavilion-for-long-dock-park>.

Sand Wash, Green River, UT
Unlike many launch areas, the Sand Wash area (if not the ramp itself) is a nice place to spend time.

Harbor View Plaza – Greenfield Ave, Milwaukee River, WI
Excellent example of urban design.

Big Hole Ozaukee County, Milwaukee River, WI
Well-designed parking area and signage; keeps cars away from launch area.

Database improvements

The database collected launches from across the country. It provides a useful selection of launches to compare similarities and differences across a range of launch types and facility arrays. Because it was a pioneering effort, it is not surprising that there were suggestions for improvements if the database is expanded or developed for additional analyses. The items listed below are simply reminders; they are not sorted by priority or difficulty of implementation.

- The goal was for data entry to take about ten minutes, with a form that an interested but untrained contributor could complete with simple desktop information (Google Earth searches, etc.).
- Database contributors reported difficulty putting launches or adjacent segment opportunities into the AOS and ROS categories. Report content has helped us identify the challenges in these categories and revise them to make that task easier. These improved definitions should be incorporated into future database entry forms, with a goal of easier desktop entry and greater consistency across contributors.
- Contributors noted the length of the data entry process (roughly 10 pages of questions under five general categories) and said it discouraged multiple entries. Data entry for a launch typically took 20 minutes (twice as long as we planned), although after someone made several entries they got faster.
- Analyses suggested several variables that could be simplified or eliminated. The goal is to reduce response burden and focus on the most important variables, and limit entries to variables that are visible from desktop sources. Improvements include:
 - Reduce detail about types of facilities. Focus should be parking size, parking distance, type of ramps or slides, and the size and proximity of staging areas. It is less important to identify details of signage, number of toilets (which don't vary meaningfully), or other amenities (which aren't particularly related to access).
 - Reduce detail about use levels and their seasonal or over-the-years variation. As a desktop exercise, contributors reported considerable difficulty with this.
 - Reduce detail about management setting issues such as fees, regulations, and management presence (again, challenging for a desktop contributor).
 - Add a carry distance variable for launches without vehicle access to a ramp or slide. This measures the actual distance people must carry gear and boats from their vehicles to the water, and may be more important than the distance from parking to the water (the metric measured in the current database).
- For questions or topics that were not relevant for some launches, the database needs a better **skip to** response format.
- The Google Forms platform allowed easy entry by a variety of contributors. But it is not efficient for statistical analysis, especially for **select all that apply** variables. Explore options to insert database questions into a survey/data entry program that better accommodates filtering and analyses.

Future opportunities

As we have become more familiar with the database, we have identified additional opportunities for making the database more useful for planners, site designers, and stakeholders.

- The geographic diversity of the database is a major strength and can be integrated with GIS or Google Earth applications that would allow users to click and zoom on specific launches. An interactive tool would be a great way to connect database information with satellite or mapping imagery, allowing readers to find and review launches in specific regions.
- Similarly, it would be useful to have the database seamlessly integrated with the contributed photos of the site, which are particularly effective for illustrating facilities, issues, and possible solutions. The excel database file has contributed photos, but several photo tagging systems would allow improved searches for launches with specific characteristics. In the next iteration of the launch entry form, variables allowing tags for photos will be an important feature.
- Expansion of the database could further strengthen the initial conclusions, and provide more easily searchable examples of launches with different characteristics. If such an expansion occurs, a plan should be developed to simplify the input form, and then develop a process for deciding who and when submissions will be made.
- If the database is expanded, consider improved connections between perceived problems and possible solutions. A major strength of the database is providing examples for addressing topography, use, and facility challenges. The current database asked contributors to identify common problems, but only asked about solutions through an open-ended prompt. We have made several connections between findings and design or facility responses in the photo gallery, but more explicit paired questions could be developed in the next iteration of the database.
- Contributors and core team members noted that the current database focuses primarily on physical facilities and related conditions, with less information about how diverse populations use launches, physical access issues (ADA compliance), or related social issues such as how launches provide access for visitors using public transportation or lack of personal vehicles. While out of the scope of the current project, these are researchable topics (although some are complex and perhaps beyond the realm of desktop entries) .

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Appendix I: Hardcopy data entry form

Instructions for completing the form: Please enter information for example boating launches / access areas in the following form. The examples will be entered into a Launch / Access Database (a project for the National Park Service and River Management Society) designed to summarize access areas across an “Access Opportunity Spectrum.”

The form asks about 10 pages of questions under five general categories:

- Location and context (e.g., location, river, recreation setting)
- Types of facilities (e.g., staging areas, launches, parking, and other amenities)
- Levels and types of use (e.g., typical and peak use levels, types of craft)
- Management setting (e.g., signage, management presence, regulations, fees)
- Issues and other comments (e.g., problems, “good, bad, and unusual” solutions)

As you answer the questions for a launch, please note:

- Questions are designed to be answered from memory, a quick site visit, or by using desktop-available information (e.g., Google Earth or street view, simple searches).
- Answering questions for each launch should take about ten minutes.
- Provide as much information as you can, but it is okay to estimate (e.g., the number or size of parking lots, gradient of ramps, level of signage) to be efficient.
- It is okay to skip specific questions if you don’t know the answer; we would rather have correct information than wild guesses. We will seek missing information later.
- A question at the end of each entry asks you to evaluate your level of certainty about the information; this will help us prioritize entries that require more research.
- The form includes open-ended questions where you can provide further information about the five main topics or other “good, bad, or unusual” characteristics of the launch.
- At the end of the form, we provide an email address where you can send up to five photos illustrating some of the good, bad, or unusual features of your launch. You may send these at any time but please include the name and location of the launch.

Please enter your contact information in case we need to follow up with you for more information:

- Name _____
- Email _____
- Phone number _____

Please send us up to 5 photos of your launch/access:

- Send us pictures that illustrate how your launch works
- Include any good, bad, or unusual characteristics
- Email the photos to goodbadunusual@gmail.com
- Please include the name and location of your launch

Thanks for helping us out!

16. How many rafts or boats can use the "in-water" staging / rigging area at one time? *check one*

- 1 to 2 boats 3 to 5 boats 6 to 10 boats Over ten boats

17. Which type of launch(s) are available? *check all that apply*

- Informal or user-created trail Developed trail Stairs Boat slide Walkable ramp
 Driveable ramp to water's edge (no trailer in water) Driveable ramp into water (trailer in water)

18. If there is a ramp, what is its surface? *check one*

- Natural surface Stair-step Gravel Pre-fabricated concrete Cut stone
 Poured concrete Other: _____

19. If there is a ramp for vehicles, try to estimate the slope. *check one*

- <5% (under 3 degrees; not designed for in-water trailer access)
 6 to 11% (5 to 7 degrees; shallow ramp; may not allow use of "float-on" trailers)
 12 to 15% (7 to 9 degrees; typical developed launch grade for float-on trailers)
 Over 15% (10 degrees or more; steep ramp – may require four wheel drive)

20. If you have a vehicle-accessible ramp, how many lanes does it have? _____

21. If you have a ramp, how long is it from top to water line at typical flows / tides?

- <50 ft 50 to 99 ft 100 to 200 ft >200 ft

22. If you have a vehicle-accessible ramp, please note any other notable features. *check all that apply*

- Availability of turnaround at top of ramp Variable ramp gradient due to terrain issues
 Variable ramp angles for changes in current direction at different flows/tides
 Short term docks next to ramp
 Problems with mud from tides/flow changes that affect ramp conditions
 Problems with erosion undercutting ramp infrastructure

23. If you have a boat slide, please estimate:

gradient _____ length _____ width _____

Boat slide additional features / comments: _____

24. If there is a trail or stairs, try to estimate the steepest gradient. *check one*

- <10% (under 5 degrees -- usually no stairs)
 11% to 15% (7 to 9 degrees -- typical developed launch gradient without stairs)
 15% to 30% (9 to 17 degrees – mix with more runs than stairs)
 30 to 60% (17 to 31 degrees – mix with more stairs than runs)
 60% to 80% (31 to 39 degrees -- typical indoor stairs)
 80% to 100% (39 to 45 degrees – very steep stairs)
 Over 100% (over 45 degrees -- may include some ladders or require ropes)

25. Other launch hardware or features. *check all that apply*

- Kayak launch
- Dock-based cleats
- Dock-based bull rails
- Shore-based cleats or rings
- Water for boat cleaning
- Loaner PDF's
- Pumps
- Tools

26. What type of parking does your access site have? *check all that apply*

- Informal parking on roadside/shoulder
- Designated parallel parking on roadside/shoulder
- Turnout with gravel (unmarked) parking
- Turnout with marked spaces (typically paved)
- Designated lot with unmarked spaces
- Designated lot with marked spaces (typically paved)

27. Considering all of these parking areas, please estimate the total number of individual spaces for vehicles (If a space is designated for a vehicle and a trailer, count that as two): _____ parking spots

28. Please estimate the distance from the center of the largest parking area to the water at the bottom of the ramp/slide/trail (If parking is along an access road, make the estimate from a "median location" along the road). *check one*

- < 50 feet
- 50 to 100 feet
- 100 to 200 feet
- 200 to 500 feet
- 500 to 1,000 feet
- 1,000 to 2,500 feet
- 1/2 to 1 mile
- Over 1 mile

29. Of the total number of spaces, estimate the percent designated for vehicles with trailers: _____

30. Of the total number of spaces, estimate the percent marked or designated (With lines, pavers, or log bumpers): _____

31. Please describe any other notable parking features. *check all that apply*

- One way traffic circulation
- Signs indicating parking suggestions (e.g. "diagonal parking only")
- Pull-through trailer parking
- Multiple lots with varying distance to ramps
- Overflow lots for high use periods
- No parking signs to keep vehicles off road shoulders, vegetation, etc.
- Parking attendants during high use times

32. Other facilities Choose all that apply *check all that apply*

- Boardwalk or graveled/crushed rock trails
- Webcams
- Trash cans
- Recycle cans
- Boat storage
- Picnic shelters
- Changing rooms
- Ice concession
- Small store
- Office
- Launch host
- Campground
- Campground host
- Other: _____

33. If you have a campground, how many sites? _____

34. Type of toilets. *Check all that apply*

- Pit toilets
- Portable toilets
- Vault toilets
- Running water toilets
- No toilets

35. Location of toilets. *Check all that apply*

- At trailhead At parking At ramp

36. Total number of toilets (include men's, women's and unisex): _____

37. In general, what is the level of challenge for using your launch site? *check one box*

- Low challenge – professional assistance available (e.g., dockhands)
Low challenge -- but must apply basic skills and effort (e.g., back up trailers to water, carry boats to/from water)
Medium challenge – requires greater skills and effort (e.g., longer/complex ramps, boat slides, moderate boat carries)
Challenging; for skilled or determined users – requires special equipment or carries on steep trails.

38. Earliest month of use (If all year, January): _____

Latest month of use (If all year, December): _____

39. Earliest month of **peak** use season: _____

Latest month of **peak** use season: _____

40. Level of interaction / density of use during higher use times in peak season. *check one box*

- Rare – a few groups PER WEEK
Low – up to 5 groups PER DAY
Medium – 6 to 10 groups PER DAY
High – 3 to 5 groups AT ONE TIME
Very high – 6 to 10 groups AT ONE TIME
Extremely high – over 10 groups AT ONE TIME

41. Average level of interaction / density of use over entire season. *check one box*

- Rare – a few groups PER WEEK
Low – up to 5 groups PER DAY
Medium – 6 to 10 groups PER DAY
High – 3 to 5 groups AT ONE TIME
Very high – 6 to 10 groups AT ONE TIME
Extremely high – over 10 groups AT ONE TIME

42. Use on some launches varies on weekends/holidays vs. weekdays. Which of the following best describes how use varies at your launch? *check one box*

- Weekdays are generally higher than weekends/holidays
Weekdays and weekends have similar use levels
Weekends/holidays are about 25% higher than weekdays
Weekends/holidays are 50% higher than weekdays
Weekends/holidays are about 75% higher than weekdays
Weekends/holidays are about 100% higher than weekdays
Weekends/holidays are higher than weekdays by more than a factor of 2

43. Please describe other seasonal use patterns at your launch. *check all that apply*

- High use on fishing/hunting opening days
- Distinct high use days due to publicized flow releases
- Distinct short seasons with specialized flow conditions (e.g., short runoff)
- Distinct short seasons due to specialized fishing conditions (e.g. salmon runs)
- Relatively regular use over long (over 6 months) season
- Rare use due to infrequent adequate or high quality flows
- Other: _____

44. What types of trips occur at your launch? *check all that apply*

- Guided trips
- Rental boats available
- Do it yourself or private trips

45. What types of boats use your launch? *check all that apply*

- Packrafts
- SUPS
- Kayaks
- Canoes
- Rafts
- Drift boats
- Jon boats or skiffs (with motors)
- Dingy sailboats (under 12 feet)
- Larger powerboats
- Larger sailboats
- Other: _____

46. Roughly what percentage of boats are launched by trailer? _____

47. Does your launch have separate facilities for... *check all that apply*

- People launching from trailers vs. car-tops
- Motorized vs. non-motorized boats
- Guided trips vs. private trips
- Swimming
- Guided trips to conduct pre-trip briefings

48. Please describe the level of signage at your launch covering the following information topics. *circle one number per row*

	None	Low	Medium	High
Hazard / safety	0	1	2	3
Resource protection	0	1	2	3
Invasive species information	0	1	2	3
Interpretive information	0	1	2	3
Trip planning information	0	1	2	3
Agency regulations	0	1	2	3
Parking / circulation guidance	0	1	2	3

49. Please describe the relative level of management presence at your launch. *Check one.*

- Rare (a few times per season)
- Infrequent (a few times per month)
- Low (a few times per week)
- Medium (nearly daily)
- High (daily, but not all day)
- Full time (regular daily hours)

50. Please describe the fees required at your launch. *Circle one per row*

Parking	No	Seasonal	Year round
Launch	No	Seasonal	Year round
Campground	No	Seasonal	Year round
Other fees	No	Seasonal	Year round

51. Please evaluate whether the following issues are problems at your launch. *Circle one per row*

	Not a problem	Minor problem	Major problem
Erosion around ramp/slide/stairs/trail to water	1	2	3
Erosion on banks near staging/rigging areas	1	2	3
User-created trails through riparian zone	1	2	3
User-created trails from parking to launch	1	2	3
Vegetation trampling from user- created parking	1	2	3
Circulation at ramp during high use times	1	2	3
Grid-lock in parking areas during high use times	1	2	3
Poorly parked vehicles diminish parking capacity	1	2	3
Safety concerns from parking along roads	1	2	3
Conflicts between guided and unguided users	1	2	3
Conflicts between motorized and non-motorized users	1	2	3
High densities at high use hours	1	2	3
High densities on holidays and high use weekends	1	2	3
Litter	1	2	3
Fish cleaning waste	1	2	3
Wildlife feeding / food-conditioning	1	2	3
Long waits for ramps during high use times	1	2	3
Congestion in staging/rigging areas	1	2	3

Other comments

52. Please describe any issues / challenges not listed above. _____

53. Good or innovative solutions to any problems above? _____

54. Any bad design, facilities, or management that exacerbate problems above? _____

55. Any unusual conditions or facilities that you'd like us to know about? _____

56. Location, setting, flows, or context? _____

57. Ramps, slides or trails for getting boats to and from the river? _____

58. Other facilities at your site? _____

59. Types or level of use at your launch? _____

60. Management setting? _____

61. Please evaluate the information you provided for this launch. *Mark only one oval.*

- Very accurate and comprehensive (no need for further research)
- Accurate and comprehensive (may need minor review or double-checking)
- Accurate with some missing data (needs information for specific unanswered questions)
- Some missing data or uncertainty (needs some additional research and review)
- Rough guesses only (requires considerable additional research)