

Chapter 8: Case studies

This chapter provides six case studies with detailed information about pioneering or innovative allocation systems or issues. Case studies include:

- Grand Canyon: Precedents, controversy, and innovation
- Idaho's Four Rivers Lottery: Standardizing application procedures
- McNeil River: Evaluating allocation systems
- Arkansas River: Allocation on a high use river
- Boundary Waters: A common pool model
- Lower Deschutes: A river-based common pool

Grand Canyon: Precedents, controversy, and innovation

*People count up the faults of those who keep them waiting.
French proverb*

Grand Canyon is the place where river allocation began in 1972, setting precedents for many other rivers and developing some of the most complex (and contentious) systems in the country. The Grand Canyon also has some of the best information about consequences of allocation systems; its on-line launch calendar tracks 100% of launches, users, user-days, and boats from Lees Ferry to Diamond Creek. This case study reviews Grand Canyon capacity and allocation history, and then describes the (recently replaced) multi-year waiting list, innovative alternatives considered in a recent plan revision, and the weighted lottery adopted in 2006. The park continues to adjust the permit system as the waiting list transitions to a weighted lottery system.

A brief history of Grand Canyon allocation

River running in Grand Canyon grew dramatically from about 500 people in 1965 to over 17,000 in 1972. The National Park Service froze commercial use in 1972 and non-commercial use a year later, then began a series of multi-year studies to examine visitor impact issues. At the time, commercial use was 92% of the user-days (and 97% of the users), and the initial system gave each outfitter control of an annual allocation of user-days, which were distributed informally through the season with a negotiated calendar.

Non-commercial permits were initially issued on a first-come/first served basis, and an informal waiting list was available for cancellations. Anticipating demand for the small number of non-commercial launches, a "no repeat" rule (only one trip every two years) was included in the system. Demand in the non-commercial sector outstripped supply from the outset, and a lottery was established from 1976 to 1979.

As planning came to a head at the end of the 1970s, Grand Canyon's allocation controversy focused on the one-sided split between commercial and non-commercial use. The situation was partially addressed by increases in both sectors in the proposed 1979 plan. Commercial use increases of about 29% were designed to provide additional user-days to convert motorized to non-motorized use within five years. That conversion never occurred (in part because of the "Hatch Amendment," a 1981 Congressional "rider" that blocked parts of the 1979 plan), but those commercial use increases remained. On the non-commercial side, user-days went from about 8,000 in the 1970s to 45,000 by the end of the 1980s. This boosted the non-commercial user-day proportion from 8% to 30%, even though summer use remained below 25%.

The 1979 plan also replaced the non-commercial lottery with a waiting list and scheduling system. Initially it provided permits to those willing to wait a few years, but demand continued to exceed supply defined by capacities and waiting length increased each year. Through the 1990s and early 2000s, subtle permit system changes increased non-commercial use to 54,000 user days (about 35% of the total), but the waiting list for roughly 250 permits per year had exceeded 4,000 names by 1990 and 8,000 by 2003 (the start of another plan revision).

The 2006 plan changed several aspects of the allocation system, including:

- Switching from capacities driven by user-days on the commercial side and launches on the non-commercial side to a launch-based system for all use (although it retained the annual commercial user-day capacity);
- Increasing non-commercial use in the shoulder and winter seasons to boost non-commercial use (by user-days) to nearly 50%.
- Implementing a weighted lottery in place of the waiting list and scheduling system.
- Developing protocols to transition from the waiting list to the new system.

The plan also explored (but did not implement) alternative allocation concepts such as a points-based auction and all-user registration effort. Consequences of this work are briefly discussed below.

The non-commercial waiting list: A cautionary tale?

Grand Canyon's multi-year waiting list system for non-commercial use was unique and controversial. Initially considered efficient and fair, its complexities and inability to cope with high demand led the NPS to freeze new additions in 2003 and replace the system in 2006. Characteristics, issues, and advantages/disadvantages of the waiting list are listed below.

- ***How it worked (in brief).*** Individuals mailed application and paid fees (\$100 by 2003) to receive a "place in line." There were no age restrictions, but trip leaders had to be 18 by the date of the launch. Each fall, the park contacted the top 300 people on the list to schedule about 250 launches. People who received a date were moved from the waiting list to "Scheduled Permits," but people who didn't could stay on the waiting list indefinitely. Even after initial scheduling, permit holders who found themselves unable to take the trip could "defer" the trip to the same date in three years time.
- ***Staying on the list.*** People who wanted to remain on the waiting list were required to indicate "continuing interest" at least three years in four or they were dropped from the list. A person could join only one other non-commercial trip while waiting on the list (there were no limits for those not on the list). Overall, 42% of those joining the list left the list before receiving a permit. Of those, about one-third missed "continuing interest" deadlines, about one-third joined more than one other non-commercial trip, about a quarter scheduled a launch then cancelled, six percent removed their names voluntarily, and two percent died.
- ***A successful secondary distribution system.*** By 2003, a person joining the list of over 8,000 names theoretically had to wait more than 20 years to schedule a trip. However, not everyone had to wait that long. About 30% of scheduled launches were cancelled, making about 65 dates per year available to people on the list. The secondary (call-in) distribution system allowed people waiting longer to apply earlier for those cancellations, but about 5% of launches went to people who had joined the waiting list that same year.

- **The “repeat use” issue.** Critics sometimes claimed that “repeat use” inflated non-commercial demand and the length of the waiting list. However, analysis showed that 87% of non-commercial boaters took only one trip in five years, and only three percent took more than two (Sullivan, 2003). While people claimed to know non-commercial boaters who “run the river every year,” this was true for less than half of one percent.
- **Would higher non-commercial use have “fixed” the waiting list?** When the waiting list was discontinued in 2003, NPS analysis (Sullivan, 2003) showed that even if twice as many non-commercial trips were offered in the previous 15 years, the waiting list would exceed 4,000 names (an estimated wait of seven years) and still be growing. Unless supply and demand are roughly balanced, waiting times will *always* grow under this type of system. The Alsek-Tatshenshini (which adopted the Grand Canyon model) has such a balance. Most applicants receive a launch within one or two years. It has about 120 people on the list each year, about 60 receive launches in the primary system, while others pick up cancellations.
- **Other waiting list problems.** The Grand Canyon waiting list system was accused of several other problems, including: 1) lack of clarity about who should join (e.g., NPS did not discourage people who might not be able to organize a trip); 2) confusing rules that changed several times; 3) long waits between scheduling and launch dates discouraged realistic trip planning; 4) long waits favored less spontaneous users who could plan years in advance; 5) onerous and punitive rules apply only to non-commercial users on the wait list, putting an “unequal” burden on them compared to commercial users; 6) repeat use rules worked against safety or visitor impact goals (because repeat user experience helps trips “function” better); and 7) creation of a “scarcity” mentality, which encouraged “redundant” applications from several people in a prospective group.
- **Guaranteed eventual success.** With all the criticism of the waiting list, it had one important advantage: those who observed the rules would eventually obtain a permit. Lotteries, in contrast, cannot make that guarantee (although weighted lotteries address this issue).
- **Highlighting non-commercial demand and allocation dysfunction.** Analogous to a popular restaurant that continues to take reservations even after the kitchen is closed, the long waiting list was *prima facie* evidence that Grand Canyon’s allocation system was broken. Maintaining such a list in the face of increasing demand may indicate a restaurant’s popularity, but keeping people’s expectations high while their stomachs remain empty is not a recipe for success. Moreover, the commercial sector could be compared to a large banquet room, with a steady stream of commercial passengers bypassing the waiting list customers.

An untried alternative: The all-user registration system and adjusting split

One allocation action contemplated in the 2003-06 planning effort would have collected information about commercial and non-commercial demand and adjust splits more realistically. The draft river management plan (NPS, 2004) proposed a program that would have required all users to register through an NPS-operated “gateway” before deciding whether to join a commercial trip or apply for a non-commercial permit. This would allow the NPS to assess demand for different types of trips as well as the length of time between an individual’s initial registration date and when they got to take a trip. The program included adjustment prescriptions if the current split was out of balance with actual demand or waiting times.

The details of this untried system are beyond the scope of this report, but it had at least three features designed to make it more attractive to stakeholders. First, multiple-year averages from demand data would be used to avoid large adjustments from any given year. Second, adjustments

were limited to losses (or gains) of no more than two launches per month per sector to minimize the pace of changes. Third, no sector would be allowed to go below 40% of the total user-day allocation.

Despite these features, several stakeholder groups remained strongly opposed, claiming an all-user registration program and adjusting split would develop another layer of bureaucracy for commercial passengers, require substantial administrative effort, and prolong user conflicts between commercial and non-commercial boaters. Underlying these concerns, stakeholder groups appeared uncertain whether demand information would ultimately increase or decrease allocation in their sector (true demand for the two types of trips remains unknown). When several interest groups developed “Joint Recommendations” in response to the NPS draft plan (Grand Canyon River Outfitters Association, Grand Canyon Private Boaters Association, Grand Canyon River Runners Association, and American Whitewater, 2005), the all-user registration / adjusting split concept was explicitly opposed. The NPS, which had initially made all-user registration “common to all alternatives,” removed it from the final plan.

From a scientific perspective, an all-user registration remains the one practical way to learn about demand and consequences when a split system is already in place, although it still only measures intention to take a trip rather than true demand. From a public policy perspective, an adjusting split also remains conceptually attractive, and might be politically feasible with safeguards that prevent fast adjustments and guarantee minimum splits. Until one is implemented, however, actual benefits and consequences of such a program remain speculative.

The new non-commercial weighted lottery

In addition to non-commercial use increases, the 2006 plan developed a weighted lottery for the non-commercial sector. For more detailed information about the Grand Canyon non-commercial permit system, see the NPS regulations, a list of “Frequently Asked Questions,” and application/success statistics on the park website (NPS, 2007) or interest group reviews (e.g., River Runners for Wilderness through its “Riverwire” bulletin board).

- **How it works (in brief).** Potential applicants create a profile in the NPS internet-based system before applying for a specific year’s main lottery (or smaller follow-up lotteries). The profile tracks your latest trip in the Grand Canyon and awards “points” (up to a maximum of five) for every year since your last trip. Applications with more points have increased chances of winning permits in the lottery. Establishing a profile is free, but applying in the main lottery costs \$25 per year (this covers follow-up lotteries in that same calendar year). In the main lottery, one can apply for up to five dates. If you win, \$400 is due within 10 days to confirm the launch. Once you take a trip (as a leader or a passenger on another permit), your “points” revert to one for the next year.
- **Trip leader policy.** Applications can include potential alternative trip leaders (PATLs) that allow the trip to continue if the original trip leader can’t go. Individuals can be on only one application in any lottery. In addition, the number of points for an application is the lowest number of any co-applicant (trip leader or PATL). One key to success in the lottery is to not include anyone as a trip leader (or PATL) if they have been down the river in recent years; those people can still be invited on a trip that has received a permit, just not as trip leaders.
- **No repeat policy.** Individuals are allowed one trip (commercial or non-commercial) per year.
- **Timing and number of lotteries.** The first main lottery for 2007 dates was in October 2006, and seven follow-up lotteries were held through 2007. A more typical schedule was established in 2007 for 2008 dates, with the main lottery in May and four follow-up lotteries

in June, Oct, and December. A May lottery creates an effective planning horizon of 12 to 16 months for summer launches. Future plans are to move the main lottery to February (for more consistency with other rivers), but it will apply for summer launches a year and several months distant.

- **Secondary distributions.** Follow-up lotteries have been used to distribute cancellations that become available about a month in advance of the date. However, the NPS has recently posted cancellations less than a month out on its website; people can pick them up through a call-in system. The NPS is currently testing an internet-based automatic notification system.
- **Phased transitions from the waiting list.** The NPS developed a three-phase transition from the old waiting list system to the new weighted lottery. First, it offered launches to people who had been waiting the longest (and were due in the next few years). Second, it offered one-time refunds of fees for those with high numbers or those less interested in applying for future permits. Third, it offered people who could combine sufficient “waiting points” (from years on the list) to schedule launches over the next several years. Taken together, these options removed about 3,000 names from the list.

The remaining 5,000 were shifted to the new system with extra points for their relative position on the list. The park is also tracking waiting times to ensure former waitlist users get to take a trip at least as soon as they would have under the old system. Based on 2007 data, 23% of the applicants in the main lottery were former wait list participants with extra points and they received about 28% of the permits. Combining all the 2008 trips scheduled through the transition and lottery, former waitlist participants accounted for 345 trips, much higher than the 250 offered under the old system.

- **Odds of success.** About 8% of the applications in the 2007 main lottery were offered permits, but this is averaged over the entire year. In the fall non-motor season percentages dropped to 4%, while May-Aug was 5%, Mar-Apr was 12%, and Dec-Feb was 86%. These odds are based on a lottery that distributed just less than 200 trips. After about 300 “transition launches” become part of the annual lottery, the chances of success will improve dramatically.



Grand Canyon was the first river to allocate use, and it has tried several different approaches, including a pure lottery, reservations/waiting use, and a weighted lottery. High demand and historical use patterns have made allocation decisions controversial.

Idaho's Four Rivers Lottery: Standardizing application procedures

Four Idaho Wild and Scenic Rivers (Main Salmon, Middle Fork Salmon, Selway, and Snake through Hells Canyon) share a common system. This illustrates the advantages of regional coordination and shows how a pure lottery works under a split allocation approach.

- **How it works (in brief).** There is a two-month application window (Dec 1 to Jan 31), with the drawing in February, and successful applicants are notified by the end of February. Applications are made in the trip leader's name and that person may indicate up to four date / river "choices." Winners are chosen by a random number generation program that draws applicants after sorting for each river, date, and by choices (first choice, second choice, etc.). In essence, the system holds "mini-lotteries" for each day in the season. If there are no more applicants for a certain date and river among the "first choices," the drawing moves on to "second choices" and so on. Permits are offered to the trip leader who must accompany the trip; the permit is non-transferable. Applications can be made on-line or through the mail. Fees can be paid by credit card.
- **Assessing demand for different rivers.** The lottery is a potential indicator of demand for different rivers and dates. Based on 2007 data, the Middle Fork receives the most first choice applications (63%), followed by the Main Salmon (21%), Selway (9%) and Snake (6%). The most popular Middle Fork dates have roughly three times as many applicants as the most popular Main Salmon dates, four times the most popular Selway dates, and ten times the most popular Snake dates.
- **Chances of success.** For all four rivers taken together, about 16,000 people apply each year for about 1,080 permits, a roughly 7% chance of success. However, odds are variable for different rivers and dates, with chances of success higher on the Snake and Main Salmon than the Middle Fork and Selway. On the most popular Selway dates, there may be 90 "first choices" competing for a single launch (just over a 1% chance); on the most popular Middle Fork days, as many as 400 apply for three to four launches (also about a 1% chance). In contrast, there are rarely over 100 applicants for the four launches available on the most popular Main Salmon dates (a 4% chance), and rarely more than 30 apply for three launches available on the most popular Snake dates (a 10% chance).
- **The effect of the "first choices" drawing.** Because there is high demand for most "river-date combinations," most permits are awarded to applicants who name a river and date as their first choice. On the Middle Fork (99%), Selway (98%), and Main Salmon, (95%), nearly all the permits are awarded to "first choices" so there is little reason for applicants to list a second, third, or fourth choice. On the Snake through Hells Canyon, about 85% of all permits go to "first choices," and lower choices can be relatively successful during the shoulders of the control season. By combining all four rivers into one system and giving priority to "first choices," the system allows applicants to effectively compete for only one of these four rivers each year (through the primary distribution). If a group wants to compete for more than one river, they need to have other members of their group complete applications as well (a practice that may be common, but no one knows for sure). The "first choices" effect may have been a deliberate way to discourage groups from applying for several trips and then taking the "best" one they draw (which increases cancellations on the others), but this effect is not highlighted in lottery materials and may not be well understood by many applicants.
- **Administrative efficiencies.** The system creates some administrative efficiency: there is a single application and website, standardized procedures, and a single office can administer

the drawing and manage program statistics. However, each river operates its own capacities, fees, regulations, and secondary distribution systems.

- ***Simplifying applications for users.*** The system creates “one-stop-shopping” with standardized procedures and clearly-stated chances of success. However, it limits the number of rivers one might apply for (the “first choices” effect described above).
- ***Standardizing applications across other rivers?*** The four rivers lottery is a potential model for application procedures on other rivers. Users would probably appreciate standardized filing dates, websites, fees (especially if they were lower), and payment mechanisms (e.g., on-line credit cards). Users would probably dislike such a system if it extended the “first choices” effect to more rivers (narrowing the number for which they could realistically compete in a given year). Making applications too easy might also encourage greater participation, decreasing the chances of success.
- ***Privacy concerns and centralization.*** Several agencies are considering whether to centralize and/or contract river permit application processes. Many Forest Service and National Park Service campground reservations are processed through large travel industry services (e.g. Reserve America). Aside from the loss of local contact between users and managers, centralization may increase fees despite economies of scale because contractors charge a service fee. New privacy laws and regulations have increased the standards for keeping public information secure, and the cost of meeting these standards may be too high to implement at a field office level (Christianson, personal communication, 2007). If these new standards are enforced, some existing river permit systems may have to be overhauled, providing opportunities for standardization and efficiency.



Beach on Idaho's Main Salmon, one of four rivers that are included in a single lottery system.

McNeil River: Evaluating permit systems

McNeil River State Game Sanctuary and Refuge protects about 200 square miles of wildlife habitat and provides a popular bear-viewing area about 250 miles southwest of Anchorage, Alaska. People have been visiting the area for bear viewing since the 1940s, and crowding concerns led to a 10 person per day limit at the falls in 1973. The area is accessible only by air; most viewers stay for several days and camp about an hour's walk from the falls (where the highest bear concentrations are found). The permit program has some features relevant to river allocation, and has conducted a survey to evaluate the system (Bright, 1998).

- Ten people per day can get permits for “Four days at the falls,” with no more than three people in a group.
- If some permittees choose not to go to the falls every day, “standby” permittees are allowed to take their places. This maximizes viewers at the falls.
- An earlier informal standby system allowed people to travel to the campground or “get in line” via radio from air taxi locations for potential daily openings to the falls. Demand overwhelmed this system, producing crowding at the campground and air taxi terminals and disappointment among those who traveled to the campground but couldn't go to the falls.
- The current standby system was implemented in 1993, designating three standby permit-holders for each four-day block. With average use of about seven to eight primary permit-holders per day, most standby users (97%) have been able to go to the falls. Most applicants (73%) support this secondary distribution system.
- Cancellations among lottery winners are filled by standby users. However, there is strong support (over 70%) for a supplemental lottery to fill these openings instead.
- Prior to 1993, successful applicants were not allowed to re-enter the lottery for four years. This rule created a form of weighted lottery by increasing chances for those who had failed in the past. The study showed strong support for this rule, particularly among unsuccessful applicants.
- In recent years, declining demand led the agency to reduce re-application waiting time to one year; this also raised agency revenue because application fees are non-refundable. (Decreased demand is probably due to the creation of substitute (and cheaper) bear viewing opportunities on the Katmai coast near McNeil River).
- There was strong support for commercial use fees for “special permits” available to scientific, educational, and media groups.
- A proposal to offer a small number of permits (less than one percent) in a price auction was considered “unfair” by 66% of respondents, but 12% reported they would participate in such an auction.
- The system previously offered 65% of the permits to Alaskan residents (a “split system” on residency). Non-residents were strongly (71%) opposed.
- The survey asked about application and user fee increases. Willingness to pay was higher than existing fees, and led to fee increases. Current application fees are \$25 per person and user fees for the “Four day permit” are \$150 for residents and \$350 for non-residents.
- Higher fees may have discouraged applications although other factors may also have contributed. Odds of success in the past were about one in seven (14% chance per year); in recent years it has increased to one in four (25% chance).

Arkansas River: Allocation on a high use river

The 148-mile Arkansas River in Colorado has multiple day use segments used by over 400,000 boaters and anglers per year. Cooperatively managed by Colorado State Parks and the BLM, the Arkansas has had commercial use limits (number of outfitters and per day use limits) on some segments since 1995, but has not yet implemented non-commercial limits defined in a 1998 plan. With increasing and shifting use, managers face challenges adapting the commercial-only system or limiting both sectors. Highlights include the following:

- The Arkansas defines use limits by boats rather than by people or user days. On several whitewater segments, the number of boats is probably a better indicator of certain impacts (e.g., waiting times at rapids and launches, number of other craft in sight, boats passing anglers). However, this can create capacity challenges if there are shifts in boat types (e.g., increases in anglers using single-person float tubes compared to the number of multi-angler rafts or driftboats).
- Use limits on various Arkansas segments range from 10 boats per day (Leadville to Granite) to 600 boats per day (Buena Vista to Fisherman’s Bridge).
- The Arkansas uses a split system, but recognizes substantial differences in demand for different segments. Figure 5 shows intended splits for nine segments (if use were to reach those limits). Based on historical use levels (circa 1989-1994), commercial use is higher on whitewater segments and lower on fishing segments.
- Limits are enforced (which the Arkansas labels “rationing”) only when they were exceeded more than five days in the previous year (and only for those dates when it was exceeded). Rationing remains in place for at least three years (even if limits are not reached during those years).
- When rationing occurs, reductions in outfitter “boats per day” allocations are applied proportionally. Formulas for this are complicated, and compare outfitters’ reported use in comparison to total commercial use in two of the previous five years.
- There is additional “grandfathered” historical use for multi-day trips, instructional trips, and off-season rescue training trips. This use is not reduced when rationing occurs.
- Commercial users have a within-sector pool allowing donation of unused boat-days. The donating outfitter counts them as utilization of their allocation, while the receiving outfitter gets to use those boat-days, but can’t count it as part of their utilization nor to increase future allocations.
- When commercial use consistently exceeded limits and required rationing on some segments (e.g., Numbers to Railroad Bridge), outfitters wanted to “trade” unused capacity on other segments (e.g., Brown’s Canyon) to the non-commercial side. Because non-commercial boaters were approaching limits in Brown’s Canyon, they were amenable. Agencies supported such arrangements as long as they addressed real shifts in use or forestalled implementing a non-commercial permit system. They recognize there are limits to these strategies, and a non-commercial system will need to be developed eventually.

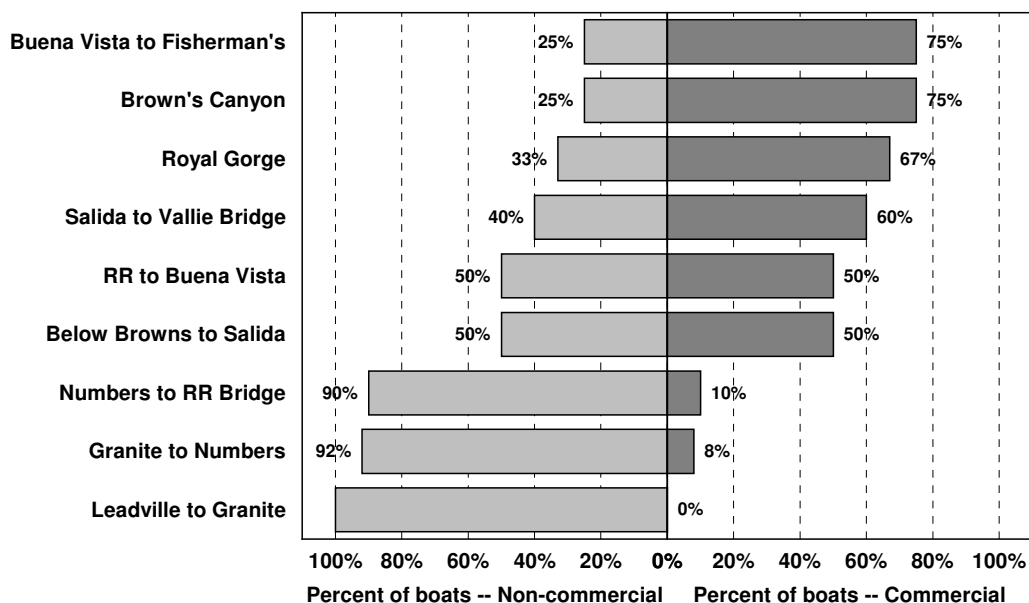


Figure 5. Commercial / non-commercial splits on various Arkansas River (CO) segments.

Notes: Non-commercial use has not exceeded limits frequently enough to implement a full permit system. Segments are ordered by their proportion of non-commercial use.

Lower Deschutes: A river-based common pool

The 97-mile Lower Deschutes River is a well-known whitewater and fishing river in Central Oregon, with a mix of day/multi-day and motorized/non-motorized use. The Deschutes is the first “common pool” on a river with substantial use; this case study reviews its capacity and allocation history and describes the new system (starting its 4th year in 2008):

- Multiple-agency management.** The Deschutes was designated a State Scenic Waterway in 1970 and a National Wild and Scenic River in 1988. It is cooperatively managed by BLM, Oregon State Parks, the Confederated Warm Springs Tribes, and several local governments. The BLM and State have traded lead roles at various times, and the Warm Springs Tribes have played a critical role as advocates for use limits and a common pool system. Management decisions are made by consensus.
- Concern about increasing use and impacts.** Boating use on the Deschutes grew from about 40,000 boater-days per year in the mid-1970s to 100,000 by the mid-1980s, and over 150,000 in the 1990s. Some impact problems accompanied these increases, and concern over capacity issues led to studies and planning efforts, including a Governor’s Task Force (1980-81), a state legislature-mandated capacity study (1986-87), a BLM-lead river management plan (1991-93), a study of potential reservation system options (1995), a supplement to the river management plan (1997), and a new study of use and impacts due in 2008. These efforts have consistently found or acknowledged that use and impacts were too high at certain times and places, and that limits would become necessary if use continued to increase.
- Deschutes River capacities.** The 1993 plan defined standards for key indicators and linked them to capacities for weekends (Friday-Sunday) and weekdays on different segments.

Daily use limits range from 325 boaters per day (weekdays, Segments 3 and 4) to 550 (weekends, Segment 1) to 1,700 (weekends, segment 2). Each of the segments also has seasonal use limits.

- ***Use levels trigger limits.*** Despite indirect management actions to control impacts and reduce peak use levels, capacity triggers established in the 1993 plan were exceeded in the early 2000s. The 1997 supplement to the plan called for a common pool use limit system when that happened, but agencies delayed implementation, hoping to reduce use or impacts with less costly and controversial actions. However, a 2003 lawsuit filed by two private boater organizations (Northwest Rafters Association & National Organization for River Sports) forced the issue, leading to a 2004 settlement, initiating the use limit system in 2005.
- ***A history of user fees.*** The Deschutes has had a “required but unlimited” boater-pass system since the late 1970s. With passes available from over 50 vendors and agencies, the fees have been used to support river patrols; develop launches, campsites, and vault toilets; and assist with land purchases. In the mid-1990s fees were raised on weekends (from \$2 to \$8) to help distribute use more evenly through the week (and it was effective). The boater pass system also offered a “pathway” to the limited use system, because users were accustomed to required passes and the mechanisms were in place.
- ***The Deschutes River common pool reservation system.*** Boater passes must be purchased for every person in a commercial or private group for each day they will be on the river. The permit can be bought under one or more name, and at least one person from the reservation must be on the trip. Once a person has made a reservation and received a permit, they can decide whether to rent equipment, hire a guide, or outfit themselves. If the segment and date they wish to use the river is limited, the website keeps track of and reports available spaces until there are none left. Once a person purchases a pass and reservation, they can print it at home or the vendor will print it for them. A person can have only one reservation at a time (but a spouse or friend could have a second reservation).

To accommodate different planning horizons, 50% of the spaces are released 180 days in advance of a launch, 20% 30 days before, 15% 14 days before, and 15% two days before.

Commercial guides cannot make reservations under their own names, but can make them on behalf of clients. If at least one person is named on a reservation, an outfitter can fill the remainder of the trip (up to the group size limit, if there are spaces left on that day) without providing additional names (but fees must be paid). When the trip actually goes, at least one person on the reservation must be present and there are no refunds for cancellations.

- ***Limited implementation – so far.*** The system has been operational from 2005-2007, but triggers have required daily use limits on weekends on Segment 1 from July 1 to September 3 (550 people per day). Of the 28 days when limits were in place in 2007, actual use only reached those limits on three days. Due to high fishing use in 2007, Segment 4 weekends will also be limited from Jul 1 through Oct 15 (325 people per day) in 2008.
- ***Technological challenges.*** Development of the reservation website was expensive (possibly in excess of \$300,000), primarily because it had to be developed from scratch with no existing models. Development also became entangled with unrelated Department of Interior security issues; it was eventually moved to a State of Oregon website. Finally, there are cell coverage challenges that limit the ability of rangers to access system data on-river or at launches to ensure compliance.
- ***Other compliance challenges.*** Lack of a real-time link from the field to the database limits the ability to check permits, creating a potential for counterfitting (because permits are printed from home computers and are easily modified). When improved cell coverage makes

such links available, handheld scanners will read bar codes on printed passes and quickly show if a trip is “legal.” In addition, some outfitter trips have not included any of the original passengers that made a reservation.

- **Ability to use the system.** After initial challenges with the website, the system appears to be easily understood and working well. Agencies have received few complaints about making reservations or purchasing boaters passes, and most boaters have been unable to find space on the river (only three days on one segment filled in 2007).
- **Primary effect: redistributing use.** The allocation system indicates high use levels and redirects users to lower use times/segments (it occurs even when limits haven’t been reached).
- **Opinion toward the common pool.** The system remains controversial because it does not follow the traditional split approach used on other rivers. Many commercial outfitters strongly oppose any system that does not give them the certainty of a set allocation, or the ability to sell their company with such an allocation. They have also expressed concern that the system works against anglers who may be more spontaneous (based on hatches or the previous day’s fishing). Some have also reported depressed commercial use in 2007, which they attribute to an “onerous” permit system that deters “less sophisticated” commercial passengers from trying the system (Brown, 2007). However, use data shows no dramatic change in the proportion or total amount of commercial use, even as Section 2 use (which remains unlimited) is actually 20% lower than peaks in the late 1990s.

In general, non-commercial groups appear satisfied with the system, but some wonder how well it will work if more triggers are exceeded and more days are actually limited. Redistribution may also cause increased use on lower use days or segments which previously offered distinct low density experiences. Finally, many people are curious about how well the system will work if limits need to be implemented on high use Segment 2, where guided use is a higher proportion of total use and demand is thought to be more spontaneous.

The Deschutes common pool system has a relatively short history, applies to a limited number of days and segments, and monitoring of consequences for different user groups has been sparse. However, it demonstrates that a common pool is feasible even on a high use river, has not yet had substantial effects on commercial use, and appears to be distributing use without a sector bias.



High use launch area (Harpham Flat) on a busy weekend day on the Lower Deschutes River.

Boundary Waters: A common pool allocation system

The 1.3 million acre Boundary Waters Canoe Area Wilderness (BWCAW) has over 1,200 miles of wilderness canoe routes on lakes in Northern Minnesota, attracting about 250,000 users each year. The area was set aside for canoe-based recreation in 1926, designated Wilderness in 1964, and the Forest Service established use limits in 1966 to protect recreation experiences and control resource impacts (with further guidance provided by a 1978 BWCAW Act). The Boundary Waters' use limit system has implications for river allocation because it is often referenced as the model for a "common pool" approach. The current system and its applicability to river settings are described below:

- **Boundary Waters use limits.** Use limits in the Boundary Waters control overnight use through per day quotas for trip starts from entry points. There are also weekly motorized quotas for specific lakes (motors are allowed on about 10% of the lake area). About 60 entry points access overnight routes where limits apply; they are distributed over about 150 miles of rural roads. Entry point limits usually range from one to five groups per day, although some are slightly higher (seven to nine per day) and three are much higher (14, 18, and 27). Groups are limited to four canoes or nine total people. Once a trip has launched, there are no limits on length of stay (most groups stay less than a week).
- **A common pool approach.** Permits are available to individual trip leaders (or up to three alternate trip leaders) and are not controlled by outfitters (although they can apply on behalf of clients). Once a person receives a permit, they can decide to hire a guide, rent outfitter equipment, or use their own equipment. If guides accompany a trip, they and their boats count in the group size limits.
- **Primary distributions: a pure lottery.** Some entry points are more popular, and often reach their limits during peak summer periods, so a lottery was developed to distribute use from May 1 to September 30. Applications are taken from December 1 through January 15 via internet or mail (although this is being phased out) through a contracted reservations service (Reserve America). Over 90% are made through the internet. Applicants can specify a first and second choice entry point and date. In 2006 there were about 8,100 applications and 81% received permits for one of their two choices, a much higher success rate than lottery rivers described in this report.
- **Secondary distributions: A web/phone reservation system.** After the lottery is completed in January, Reserve America takes reservations for remaining starts. Because there are so many entry points, most users can find something even in peak season, but they may have to settle for second choices.
- **Permit pick-up.** All permits (from the lottery or reservation) must be picked up in-person by a trip leader (or alternate) from a Forest Service or "cooperator" permit station (there are roughly 60 of these in the area). Applicants must specify which station they will use (the system will otherwise default to the closest station to the entry point), and permits are non-transferable.
- **Fees.** Success with the lottery or a reservation costs \$12, and is not refundable if the trip cancels. User fees are \$16 per person per day (less for youth, with seasonal passes available for frequent visitors), payable when the permit is picked-up (or on-line starting 2009).
- **Reasons why the common pool may work well in Boundary Waters.**
 - The Boundary Waters does not require advanced boating or route-finding skills (although managers encourage it to prevent Search and Rescue incidents). Most people don't need

or want a guide, although guides are sometimes hired for their fishing expertise. Because there appears to be low demand for such guided trips (and high demand for “partially outfitted” trips), obtaining a guaranteed allocation for guided trips has not been a priority for the outfitting companies.

- Group sizes are small compared to most rivers (the limit is nine, but the average size is four), which makes “tour trips” (combining users that don’t know each other) challenging for outfitters to organize. The “culture” of Boundary Waters focuses on small group trips with friends and family, and relatively few resorts combine guests.
- Most outfitters provide a range of services from “partial outfitting” (boats and food) to “complete outfitting” (all equipment and food) to “guided complete outfitting” (where a guide accompanies the trip, and usually cooks). This means outfitters can profit from any kind of trip (and don’t require an allocation or special access to ensure business success). This range of services grew “organically” with use levels over the years, and most outfitters (with a few exceptions) are relatively small businesses. About 54 commercial outfitters and 24 not-for-profit organizations (e.g., youth camps) provide services in the BWCA.
- Because some entry point starts are almost always available, the permit system essentially functions as a way to distribute use geographically and seasonally rather than turn people away (although permits for lakes that allow motorized use are highly competitive). When supply is in rough balance with demand, there is less monetary value in a commercial allocation.
- ***Reasons why Boundary Waters may not be a good allocation model for some rivers.***
 - There are few backcountry rivers with so many access points and route options; Boundary Waters is more like land-based backcountry permit systems (e.g., Yosemite, Grand Canyon, Denali, Muir Wilderness). Access to the most popular routes may be limited, but users can usually find other areas where access is available. Use limits on rivers are more likely to completely displace unsuccessful applicants, so the “stakes” are arguably higher.
 - There are few rivers where group sizes are small, tour trip commercial use is infrequent, and outfitters can profit from rental services or fully guided trips. However, rivers with small groups, easier whitewater or flatwater, and rental businesses might be good candidates for a “Boundary Waters-like” system. Potential examples include Nebraska’s Niobrara, the Upper Delaware, and Arkansas’ Buffalo National River.
 - Because outfitters can apply for entry point starts on behalf of their clients (or potential clients), it is possible to inundate the lottery with commercial applications for popular dates, effectively out-competing non-outfitted users. Limits on the number of applications from outfitters/cooperators for those popular dates could address this issue, but this would essentially introduce a split allocation element to the common pool (guaranteed space for the non-commercial sector).

Chapter 9. Opinions toward permit and allocation systems

For every action, there is an equal and opposite criticism.

Steven Wright

This chapter summarizes stakeholder positions about allocation, including several legal challenges, surveys of non-commercial boaters, and interviews with representatives of advocacy groups. It includes a sidebar on allocation research and monitoring needs.

Legal challenges

Allocation systems have been examined in several legal settings. A comprehensive review of legal issues is beyond the scope of this report, but major cases and their implications are listed below.

- Most legal challenges to capacity/allocation systems have been made by non-commercial boater groups opposed to split systems, the percentage of non-commercial use, or the transfer/sale of a commercial permit from one outfitter to another.
- Legal challenges often start with a simple appeal of an agency action (e.g., a permit transfer between outfitters, allocation decisions in a river management plan). However, a few cases have begun when a non-commercial boater was cited for a “protest float,” then disputed the permit requirement on the grounds that the allocation system was unlawful.
- ***Legality of the Grand Canyon split allocation system.*** This contested the lawfulness of split allocation systems focused on the Grand Canyon in the late 1970s. Consolidating two cases (Wilderness Public Rights Funds vs. Kleppe et. al. 1976; Eiseman et. al. vs. Andrus et al., 1977) when it went to the 9th Circuit Court of Appeals (Wilderness Public Rights Fund vs. Kleppe, 608 F.2d 1250, 1979), it supported agency discretion to establish such a system. However, the court also established a standard for assessing particular splits, noting that percentages must be “fairly done.” During the course of the trial, the NPS adjusted Grand Canyon’s user-day split from 92:8 (favoring commercial use) to roughly 70:30. The court implied that it might have overturned the first split.
- ***Legality of the Rogue River split.*** This case (U.S. vs. Garren, 893 F.2d 208; 9th Circuit, 1990) focused on whether a 50-50 split system on the Rogue violated an “equal protection” standard because it did not assess potential demand between the two sectors. As with the Grand Canyon case (above), the court ruled in favor of agency discretion to develop this split (without evaluating the actual demand).
- ***Legality of commercial-only capacities.*** Non-commercial groups appealed agency plans on the Grand Ronde / Wallowa and Sandy Rivers (both in 1997) for not specifying a precise split (only commercial use was limited, so the eventual split was left open-ended). The plaintiff apparently wanted the agency to declare a split favoring non-commercial use because existing non-commercial use was much higher than commercial use). However, both appeals were denied; agencies appear to have discretion to institute commercial-only systems and reserve specific allocation decision-making for the future.
- ***Implementation of limits and a common pool on the Deschutes.*** Deschutes River Public Outfitters (1996) appealed 1993 river management plan capacities and motorized limits, claiming that they reduced existing use (which should be “grandfathered”). The appeal was denied, suggesting that agencies have discretion to reduce existing use in capacity decision-

making. Later, non-commercial groups sued in 2004 to force the BLM to implement those use limits and a common pool allocation system as specified in the river management plan (use levels had exceeded defined levels on several segments). The case never went to trial, but a settlement led to a common pool system for one segment, which is now being expanded to a second (see case study in Chapter 8).

- ***The legality of permit transfers on the Rogue.*** Non-commercial boaters administratively appealed two commercial permit transfers in recent years (Greenbaum, personal communication, 2007). The appeal would have tested agency standards for assessing whether sales between outfitters included the monetary value of allocations. The appeal was denied, but did not assess the merits of the case; the administrative court found that the non-commercial boaters did not have “standing” because they could not show “injury” (regardless of the commercial transfer, use would remain in the commercial sector under a legally authorized split).
- ***Grand Canyon allocation, 2006.*** Four wilderness-oriented groups sued to overturn parts of the 2006 Grand Canyon river management plan (River Runners for Wilderness et al v. Alston et al., 2007). One of many issues contested was the fairness of the new user day splits (nearly 50-50 in user-days). In district court, summary judgment was ruled in favor of NPS on all counts, including the discretion to set allocations in a split system. However, the wilderness groups have appealed this to the 9th Circuit (as of January 2008).

Interviews with national and regional stakeholders

The first lesson of economics is scarcity: there is never enough of anything to fully satisfy all those who want it. The first lesson of politics is to disregard the first lesson of economics.

Thomas Sowell

We reviewed available information (e.g., web pages and comments during planning efforts) and conducted interviews with several national and regional stakeholders involved in river allocation. The goal was to characterize positions about various allocation approaches and systems. The following summaries are not intended to be exhaustive, definitive, nor cover all the organizations that may have addressed allocation over the years, but rather to show the range of opinion. Information is organized alphabetically. Information sources and links to websites with more information about these organizations and their positions are listed in Appendix B.

America Outdoors

American Outdoors (AO) is a national trade organization representing about 550 outfitter and guide companies “in policy-making to maintain access to recreation resources while pursuing a goal of responsible shared use” of natural areas. It has advocated for split allocation systems that provide allocations to the commercial sector and individual outfitters. AO also supports regulations allowing transfers / sales of allocations to new permittees, while recognizing agency responsibility to determine a buyer’s qualifications. AO opposes bid-prospectus systems for distributing allocations. It has not taken positions on allocation systems in the non-commercial sector.

AO has provided comments on many river management plans and is active in national policy issues through congressional and agency contacts. It has not been involved in allocation-related lawsuits, but has supported outfitters who have appealed agency allocation decisions. Recent allocation-related comments have focused on: (1) criticisms of the Deschutes common pool

system for not providing scheduling “certainty” for commercial trips, and (2) opposition to proposed Forest Service policies regarding special use permits, particularly those which grant allocations to non-profit, education, youth, or other groups with less restrictive rules than those for commercial outfitters.

American Whitewater

American Whitewater (AW) is a national non-profit organization focused on conservation of, and access to, whitewater rivers. It has about 8,000 members and about 165 affiliate local paddling organizations. It has advocated for non-commercial access, but does not “automatically” advocate for any allocation approach, and has supported both common pool and split systems for individual rivers. It has published a draft “white paper” on capacities, permits, and allocation (Robertson, 2004), but some positions continue to be debated among staff and board members as comments for specific river management plans are developed. With that caveat, important “principles” from the “white paper” and discussions with staff suggest AW generally supports the following capacity/allocation positions:

- Agencies should use or test “passive controls” or other non-capacity actions before relying on use limits via a permit system. “Self-regulation” or “natural constraints” on use (e.g., flows, difficulty, geographic location) may accomplish use limitation goals on many rivers. In other cases capacities may need to be specified and controlled through a permit system.
- Commercial outfitter allocations should not unfairly limit non-commercial access, but AW is not opposed to commercial use and encourages “a broad spectrum of outfitting services.”
- Commercial outfitting permits should be awarded by merit, reviewed at regular intervals, and should not be “assets” that can be bought or sold.
- AW generally supports common pool systems because access to a public river should not be purchased from a commercial outfitter while those without the money or inclination must wait or compete in lotteries. However, AW has supported split systems on a case by case basis, and has not always advocated a common pool approach (e.g., AW supported a split in the 2006 Grand Canyon planning effort).
- Agencies should involve the non-commercial boating community in developing or evaluating non-commercial permit systems.
- If there is a split system, unused commercial use should be available to non-commercial boaters.
- With split systems, AW has recently supported weighted lotteries that favor “unsuccessful” applicants over unweighted lotteries or other systems that favor returning paddlers. However, it also opposes “penalizing” trip leaders and repeat users for recent or repeat trips because these individuals’ cultural, historic, logistic, and safety experience can improve trips.
- It may be acceptable to have different commercial and private group sizes.
- In evaluating specific systems on specific rivers, AW considers factors such as capacity goals, commercial vs. non-commercial demand, resource impacts, non-boating use, types of experiences, hydrology, and predicted impacts of alternative systems.
- AW has debated trade-offs of allowing commercial outfitters to “control” public land sites to assure site stewardship and enhance trip experiences.
- AW supports greater standardization of the nation’s river permitting systems.

- AW has concerns about considering commercial boat rentals as non-commercial use (which may count against non-commercial allocations), but has taken different positions for different types of rivers (e.g., it supports rentals included with commercial use on the Youghiogheny, but does not require the same for Grand Canyon).
- Permit application processes should be simple and efficient to use; most should be accessible via phone or the internet.
- Fees should be low or non-existent, and if required, they should apply to all users.

National Organization for River Sports

The National Organization for River Sports (NORS) is a national non-profit with about 5,000 members. It focuses much of its attention on navigability and related public access rights, but has also been active in allocation issues. NORS has been a sharp critic of split allocation systems for favoring commercial passengers over non-commercial applicants, creating monetary value from commercial allocations, and “making commercial passengers pay for access above and beyond outfitter trip costs and reasonable profit.” Recognizing that split approaches have been ruled lawful, NORS points out that courts still require allocations to be “fairly made pursuant to appropriate standards” and cannot unfairly deny non-commercial use if commercial space is plentiful (citing the Wilderness Public Rights Fund vs. Kleppe case, 1979). NORS has also noted that these cases tend to frame allocations as being about proportions or the volume rather than price of access.

NORS does not believe that a common pool (also labeled a “single” or “no allocation” approach) is the only “lawful and moral” alternative to a split system, although it was party to a 2004 lawsuit and subsequent settlement that led to the Deschutes common pool. Although NORS claims agencies should be responsible for developing their own “lawful” systems, it has identified several concepts (aside from common pools) that might be used in conjunction with a split approach (NORS, 2008):

- Adjusting the split based on periodic large-scale demand studies.
- Adjusting the split based on annual analyses of unused allocation (which could be either permanently or temporarily assigned to the other sector).
- Employing a “travel industry reservation model” which establishes initial blocks for commercial use, but reduces that based on actual reservations and makes the surplus available to others.
- Conduct a financial analysis of commercial trip costs and regulate prices equal to actual costs plus a reasonable profit.
- Limit the number of outfitters and commercial trips to a low number that ensures some commercial trips are available, then allocate most use to a common pool (allowing those who get the permits to go with or without a guide).
- Use reservations in the non-commercial sector so users will know the time they will have to wait for access to the river to “reduce the current pressure to pay a commercial operator for access rights.”
- Eliminate outfitter charges for access on “support trips” (where outfitters provide a small number of boats or guides only) beyond costs and reasonable profit.

NORS recognizes that any of these would reduce profit in the commercial sector. Although they have joined lawsuits and may initiate others in the future, they most often comment on specific river plans (including Rogue, Deschutes, Dinosaur, Middle Fork/Main Salmon, and Grand

Canyon in the past). It is also completing a book, *Public Rights on Rivers*, that will include sections about allocation issues.

Grand Canyon Private Boaters Association

The Grand Canyon Private Boaters Association (GCPBA) was established in 1996 to advocate non-commercial river runner access in Grand Canyon and other regional river, support Wilderness designation for Grand Canyon National Park, and reform commercial river concessions on public lands. It has advocated for common pool systems or splits favoring non-commercial users in the Grand Canyon and other southwest rivers. GCPBA offered extensive comments about allocation issues during recent Grand Canyon planning, but joined with AW and GCROA to support the existing split system (but with higher non-commercial use in the winter and shoulder seasons so user-day allocations in the two sectors are similar). The final 2006 Grand Canyon plan followed this joint recommendation, and GCPBA has supported most elements of the new plan (and intervened in favor of the NPS in the recent lawsuit over the plan).

Grand Canyon River Outfitters Association

The Grand Canyon River Outfitters Association (GCROA) represents the 16 outfitters in the Grand Canyon and has advocated for the existing split allocation system and a permit transfer policy that guarantees allocations follow outfitter sales. In the recent Colorado River Management Plan (CRMP) revision, GCROA was part of a joint recommendation with GCPBA and AW to maintain the existing split approach and add non-commercial use. However, the recommendation also required removal of an adjusting split and all-user registration concepts proposed in the draft plan. The final CRMP closely followed this joint recommendation, and GCROA have supported most elements of the new plan (and the NPS position in the recent lawsuit contesting the plan).

GCROA has not taken positions on other allocation issues outside Grand Canyon, but GCROA has been interested in improvements to the Grand Canyon non-commercial distribution system. It favored a “real people, real dates” reservation system to improve the old waiting list system (claiming that it would mirror the reservations distribution system in the commercial sector), but has also supported replacing the old waiting list system with the new weighted lottery.

Grand Canyon Guides Association

The Grand Canyon Guides Association (GCGA) represents guides in the Grand Canyon, who have often had a voice independent of the outfitters for whom they work. GCGA does not have an official allocation policy, but provided extensive comments during the CRMP planning process. It supported a 50-50 user day split, but preferred an alternative that would achieve this without increasing overall use (they were willing to “move” some use from commercial to the non-commercial sector). It also supported changes in the non-commercial allocation system, preferring a weighted lottery, but supporting other mechanisms allowing “multiple pathways” to a permit. GCGA also advocated offering cancellations to a “runner-up” group, making everyone on a trip a potential trip alternate, and strong penalties for late cancellations.

Grand Canyon Wilderness Alliance

The Grand Canyon Wilderness Alliance (GCWA) is a coalition of 22 national and regional environmental organizations that provided extensive comments for the recent Grand Canyon plan revision (2006). While focused on enhancing wilderness in the river corridor (particularly

removing motorized rafts and helicopter access), GCWA also advocated a more “fair and equitable” allocation system. Pointing to the ease of purchasing a commercial trip relative to the “20 year wait” on the non-commercial side, it advocated reductions in commercial use and an independent assessment of the “necessary” commercial services that would distribute use based on actual demand. Based on plan comments, the Alliance appears willing to accept an adjusting split system, but did not believe the NPS “all user registration” program would work because the two sectors were not “registering” in the same systems. It also opposed NPS “safeguards” to allow limit the amount of adjustment in any given year or guarantee that either sector would not fall below 40%. GCWA also supported transitional use of a “hybrid common pool / split” approach, and a separate allocation for educational, youth, or non-profit groups.

Northwest Rafters Association

Northwest Rafters Association (NWRA) is a regional organization of non-commercial boaters has advocated common pool approaches to allocation, but has also supported 50-50 distributions or splits favoring non-commercial users. NWRA has worked with NORS in appealing river management plans that limit commercial use without specifying splits (especially when non-commercial use is high). It sued the BLM to force implementation of the Deschutes common pool system, and NWRA members have participated in working groups that have helped shape the Deschutes river management system.

River Runners for Wilderness

River Runners for Wilderness (RRFW) is a regional non-profit that represents non-commercial boaters and wilderness advocates; it has focused much of its attention on Grand Canyon issues. It supports increasing access for non-commercial boaters, but has advocated lower overall use, and elimination of motorized and helicopter use (both of which are largely associated with commercial use). RRFW is the lead plaintiff in a lawsuit to overturn the 2006 Grand Canyon plan on several issues, but a District Court summary judgment ruled in favor of the NPS plan. RRFW announced plans to appeal this to the 9th Circuit in January 2007. RRFW has also offered comments on other river plans and national policy initiatives (e.g., the recent Forest Service proposed regulations for special use permits).

Individual non-commercial boaters

Individual non-commercial boaters (e.g., John Garren of Portland; Michael Greenbaum in the McKenzie River valley) have occasionally launched appeals or “protest floats” designed to legally test aspects of allocation systems. In some cases, these efforts have been associated with non-commercial organizations (e.g., NORS, NWRA); in other cases, they have acted independently.

Surveys addressing allocation systems

Two surveys led by American Whitewater offer interesting information about non-commercial boater attitudes toward allocation issues in Grand Canyon (AW and GCPBA, 2002) and on several capacity/allocation systems nationwide (Westerfield & Colburn, 2006). Both surveys were conducted on-line with “non-scientific” sampling (respondents were self-selected in response to announcements posted on several message boards or emailed to AW membership). With this major caveat, “results” may reflect some opinions in the non-commercial boating community.

2002 AW and GCPBA Grand Canyon Planning Survey

AW and GCPBA conducted this survey in summer 2002. It was available on-line for about one month; announcements were made to AW and GCPBA members and on message boards. In all, 857 people completed surveys (41% were AW members and 20% were GCPBA members). NPS did not participate in the survey, and the lack of defined sampling procedures means there is no way to determine the “representativeness” of the “results.”

- **Profile of the sample.** 55% of respondents had floated the Grand Canyon. Of those who had taken trips in Grand Canyon, the average “most recent trip” was 4 years before. About one-quarter had taken commercial trips in the canyon.
- **Waiting list + scheduling system.** About 36% had been on the waiting list, an additional 36% said they would have joined if it had been shorter, and 41% said they would have eventually joined it. Nearly all (97%) found the existing waiting list unacceptable. Eighty percent said the length of the list was the primary reason they would not or had not joined it, and 42% said the \$100 registration fee was too high.
- **Preferences for application procedures.** Respondents prefer to apply for permits via the web or email. There was less support for (in order) fax, phone, regular mail, and in-person.
- **Preferences for distribution mechanisms.** There was more support for reservation-based systems followed by a weighted lottery, pure lottery, and waiting list. There was little support for first-come/first-served queuing onsite. A majority (79%) preferred hybrid systems that provided two or more ways to obtain permits.

2005 AW and University of Idaho Survey

AW and UI conducted this survey in fall 2005. It was available on-line for about one month; announcements were made to AW members and on boating message boards. In all, 736 people completed surveys.

- **Profile of the sample.** 72% of respondents were whitewater boaters (the rest were flatwater paddlers); results summarized here focus on whitewater boaters. Sixty-six percent were members of AW (or had been in the past); 88% were males; 88% use kayaks, 24% rafts, and 18% canoes. Sixty percent had been boating five or more years, and 69% reported boating more than 30 days per year. Thirty-four percent reported Class II-III skill, 46% reported Class IV skill, and 19% reported Class V skill. Twenty-seven percent were from the Southeast, 24% from the Northwest, and 21% from the Rocky Mountain west.
- **Most popular rivers with permit systems.** Respondents were asked to list the number of years they had applied for permits on several rivers; the average number of years for each river is shown in Figure 6. Only five to 20% of the sample answered questions about these permit rivers (the rest presumably do not apply for permits and may boat elsewhere). Results roughly characterize the popularity of permitted rivers, with Grand Canyon, Middle Fork Salmon, and the Arkansas as the top three. Grand Canyon is the river that people have been applying to the longest, probably an artifact of the multi-year waiting list at the time of the survey.

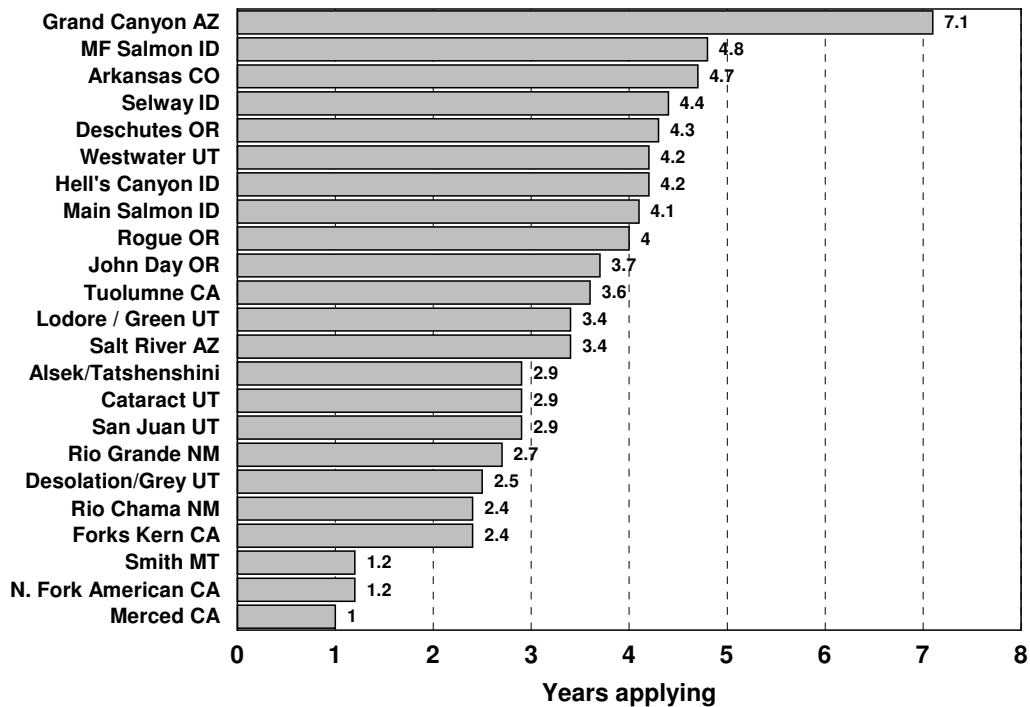


Figure 6. Average number of years applying for permits (among those who apply to any).

- **Success rates.** Respondents were asked to list the number of years they had successfully obtained permits to compare with the number of years they applied (Figure 7). Results characterize respondents' history of success and are interesting to compare to calculated success rates for lottery rivers (see previous chapter). As one might expect, the relative ranking of success rates is similar (e.g., the hardest permits to obtain were on the Grand Canyon, Selway, and Middle Fork Salmon), but there are a few "surprises" as well (e.g., the Main Salmon, Smith and Hells Canyon are also difficult). Also note that several rivers showed 88 to 100% success rates (although we don't know if these respondents were successful with their application, by joining other trips, or through a secondary system).
- **Fairness ratings vs. success rates.** Respondents were asked to rate the fairness of each system on a five point scale (1="very unfair" to 5="very fair") which can be compared to success rates (Figure 8). All except the Grand Canyon system were rated "fair" (3 or higher).
- **Preferences for primary mechanisms.** Respondents were asked to rate support for five different primary distribution mechanisms on a seven point scale (1="strongly oppose," and 7="strongly support"). About 60% of respondents answered these questions. Results show that first-come/first-serve or queuing was the highest rated mechanism. Among other mechanisms, reservations were rated higher than lotteries and weighted lotteries.

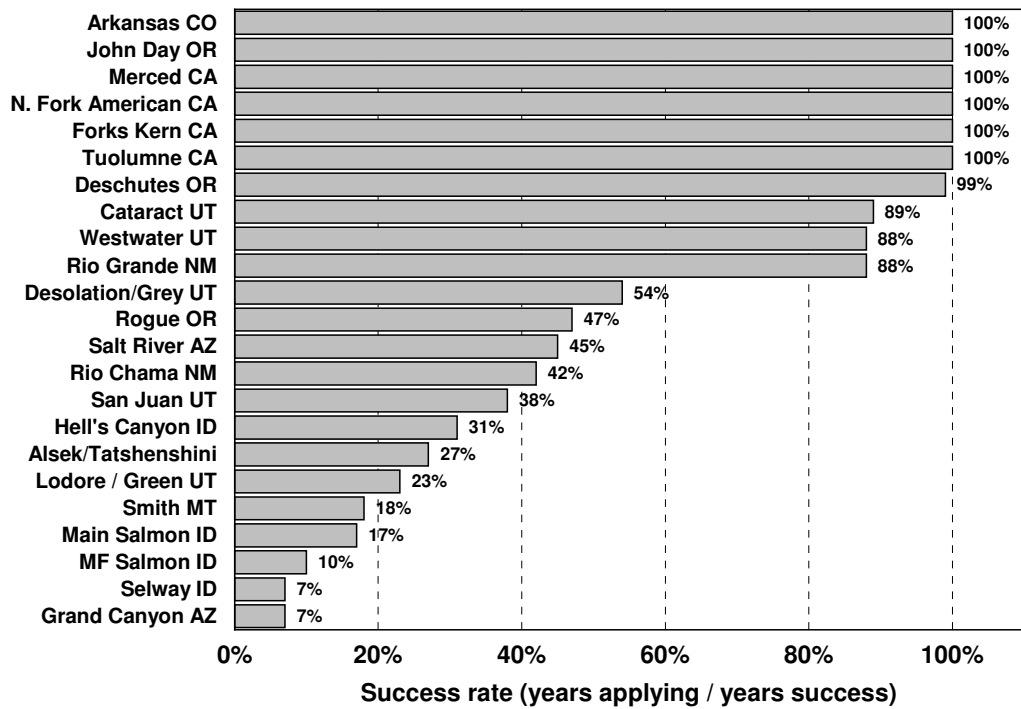


Figure 7. Success rates (years applying / years with success) for permitted rivers.

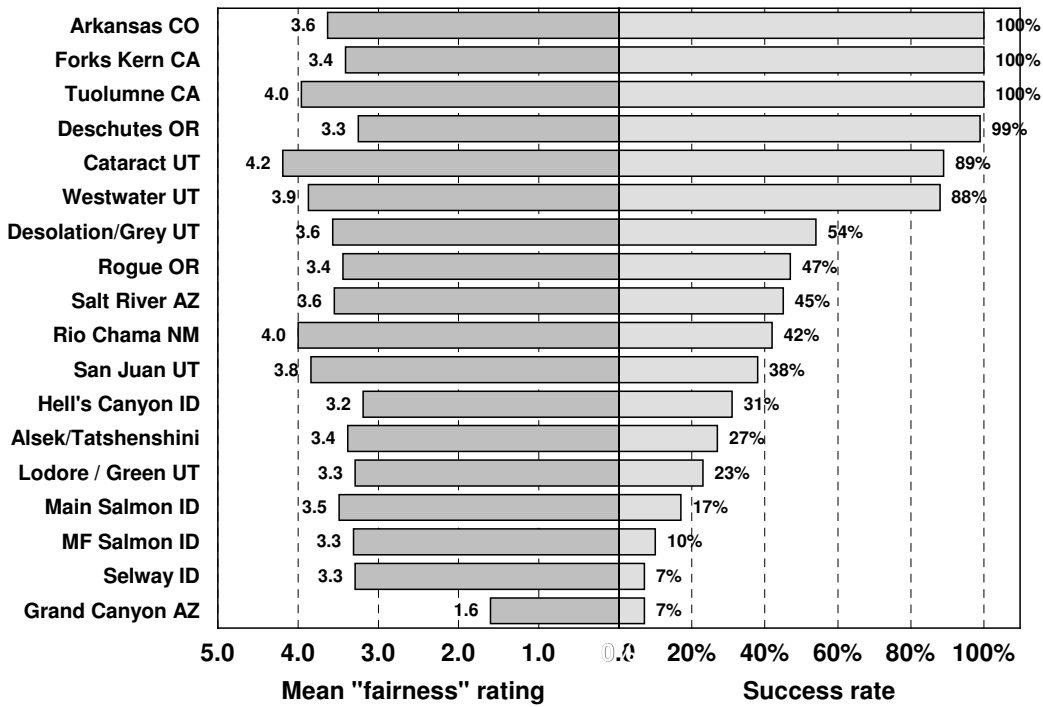


Figure 8. Comparing average "fairness" ratings (1=unfair, 5=extremely fair) with reported success rates.

Allocation research and monitoring needs

River allocation issues received research attention in the 1980s when use limit and allocation systems were being developed, but there has been less work on these issues in recent years. The topic remains complex and controversial, and additional research could help identify the consequences of allocation decisions for agencies, stakeholders, and the public. Potential research and monitoring needs are listed below:

- **Standardized allocation reporting.** Collecting and organizing information about allocation systems is difficult. Agencies generally do not collect, analyze, monitor, or report statistics about use levels on their rivers, and there is very little information about applications, success rates, cancellations, and no shows. Monitoring efforts with standardized reporting requirements would improve comparisons across systems, highlighting more effective distribution systems.
- **A national survey of private boaters about allocation issues.** The University of Idaho study on private boaters reported in Chapter 8 provided some “national” public opinion about allocation systems and distribution options. However, the study sample was self-selected and based on American Whitewater members that may over-represent certain regions (e.g., the Southeast) or types of boaters (e.g., kayakers). In addition, that survey asked only a few allocation preference questions; a more in-depth effort could explore why boaters prefer certain systems or particular elements in a system.
- **Individual surveys of specific systems.** Few agencies have surveyed users before developing allocation systems, and even fewer have assessed public opinion after systems were implemented (McNeil River study findings described in Chapter 9 are an exception). In addition to assessing overall evaluations of existing systems, future work should assess specific elements of those systems (fee structures, application procedures, cancellation “carrots” and “sticks,” etc.). Other research could compare evaluations from those who did and did not obtain a permit, or identify potential users who do not participate and the barriers to participation.
- **Outfitter stability and financial health.** Impacts of permit systems on the number and financial health of outfitters will continue to be an important allocation issue. Analyses of outfitter financial information may help identify the variables that affect commercial success, and how those variables may be related to allocation systems. It would be useful to update the monetary value of commercial permits under different systems or for rivers with different characteristics.
- **Monitoring user preferences for commercial or non-commercial trips.** Relative demand for different trips is a fundamental question for split systems. For rivers with no limits in either sector, systematic use data could provide information about demand. But on rivers with capacities, demand across split sectors cannot be compared because procedures are so different. An “all-user registration” program proposed during a recent Grand Canyon planning effort would have produced comparable information about demand, but several stakeholder groups opposed the concept (perhaps fearful that more accurate demand information might not support their existing allocation). If agencies want to learn about relative demand, all-user registration programs are likely to provide the most reliable (and cost effective) data.