

Upper Colorado River Research Program

Research Program Overview, Results-to-Date, and Takeaways

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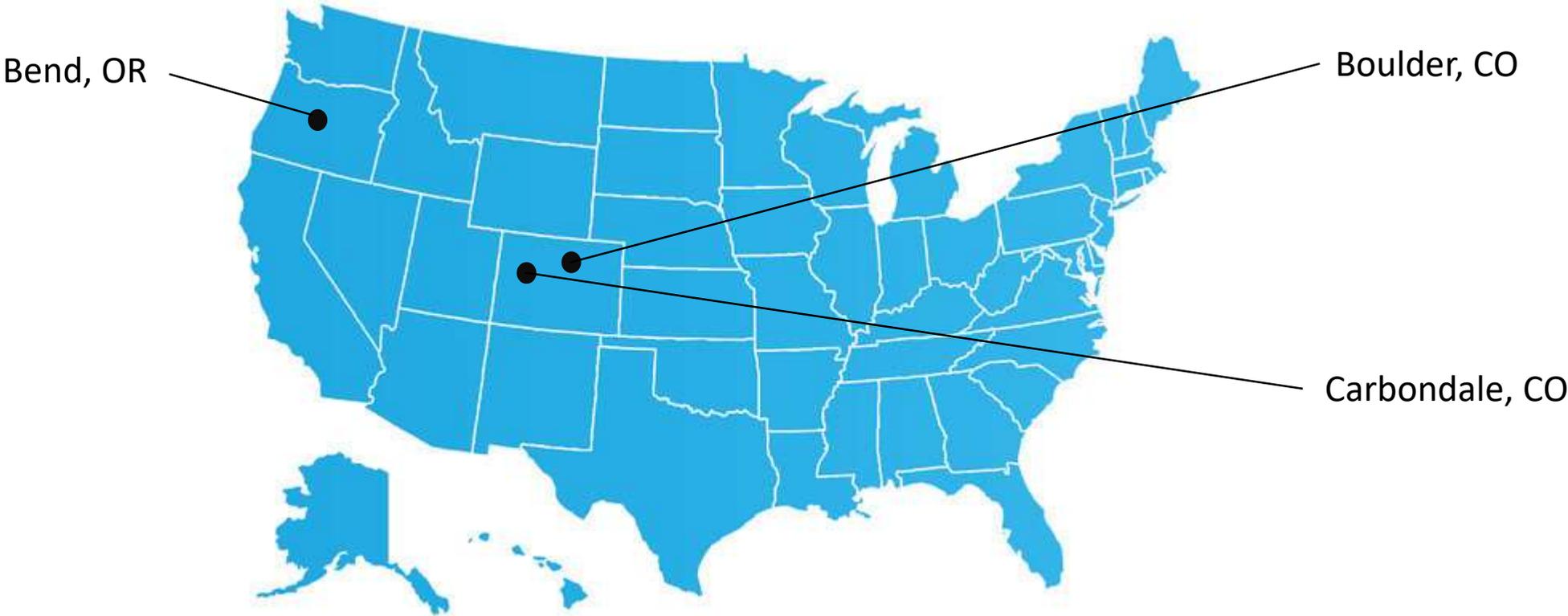
Agenda

Background

Overview and Results: Key elements of the research program

Key Takeaways & Next Steps

RRC Associates



Upper Colorado River Wild & Scenic Stakeholder Group

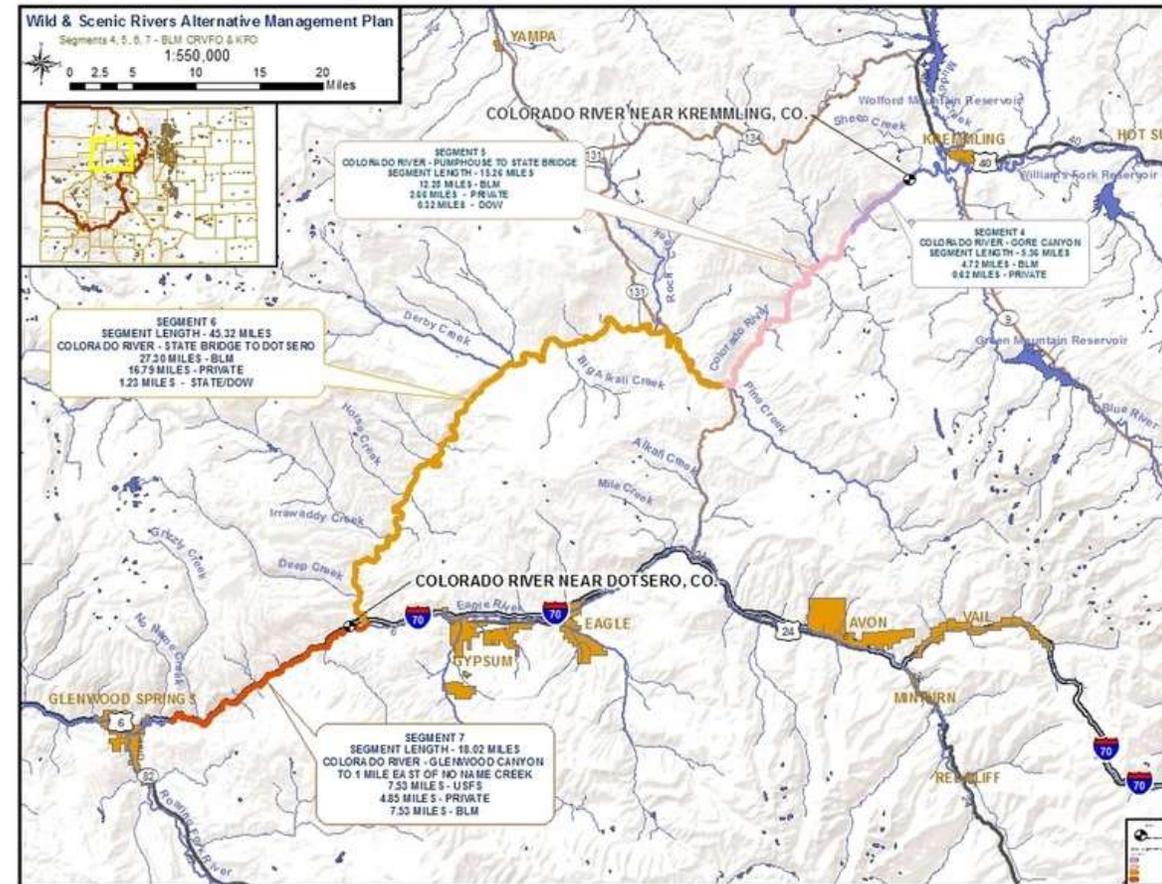


- Independent, collaborative group formed in 2007
- 100+ members from 20+ organizations representing diverse interests

“Our intention is to balance permanent protection of the Outstandingly Remarkable Values, certainty for the stakeholders, water project yield, and flexibility for water users along the Upper Colorado River.”

Area of Interest

54.4 miles of the Upper Colorado River from the top of Gore Canyon downstream to a point one mile east of No Name Creek in Glenwood Springs, Colorado



Program Overview

Multi-pronged research program to understand river use and gather *experiential* data to help determine the management actions needed to ensure that ORVs are protected or enhanced, as outlined by the Stakeholder Group Plan

Research driven by questions such as:

- *Who is using the river?*
- *What is the mix of commercial and private activity?*
- *What factors influence the experience?*

Program Overview

1) Observations

- Accurate picture of recreational fishing and boating use

2) Intercept Surveys

- River user perceptions and user profile

3) Special Angler Survey

- Calculate Total Fishing Effort and Catch Per Unit Effort

4) Traffic Counts

- To create a model for counting river users in the future

5) Commercial & Fee Envelope Data Analysis

- Patterns of use from available sources

6) Panel, Interest Group, and Displacement Web Surveys

- More in-depth questions and tracking changes in perceptions/behaviors over time

Program Overview

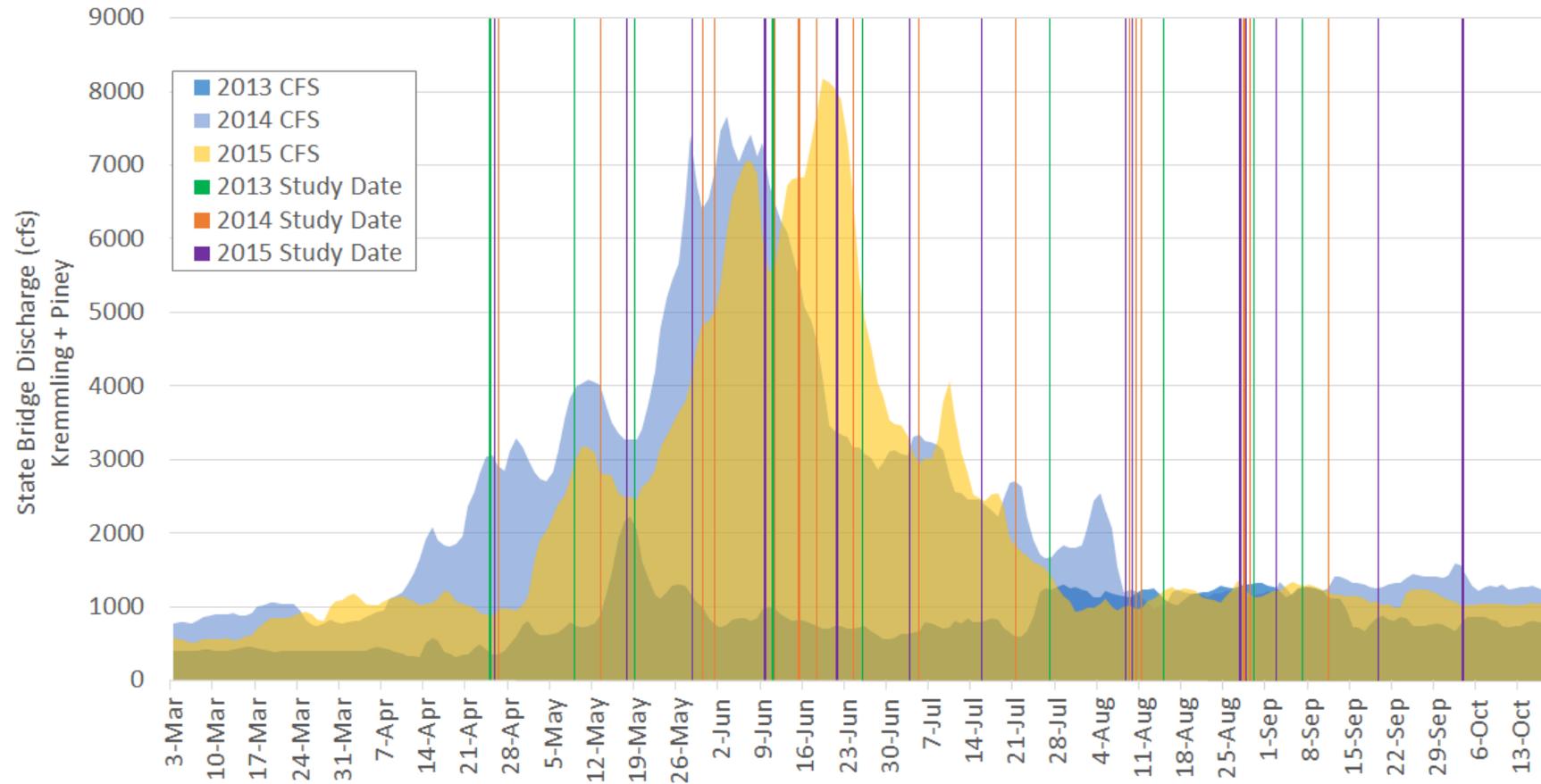
Select sites along the Upper CO River

Sampling of days chosen

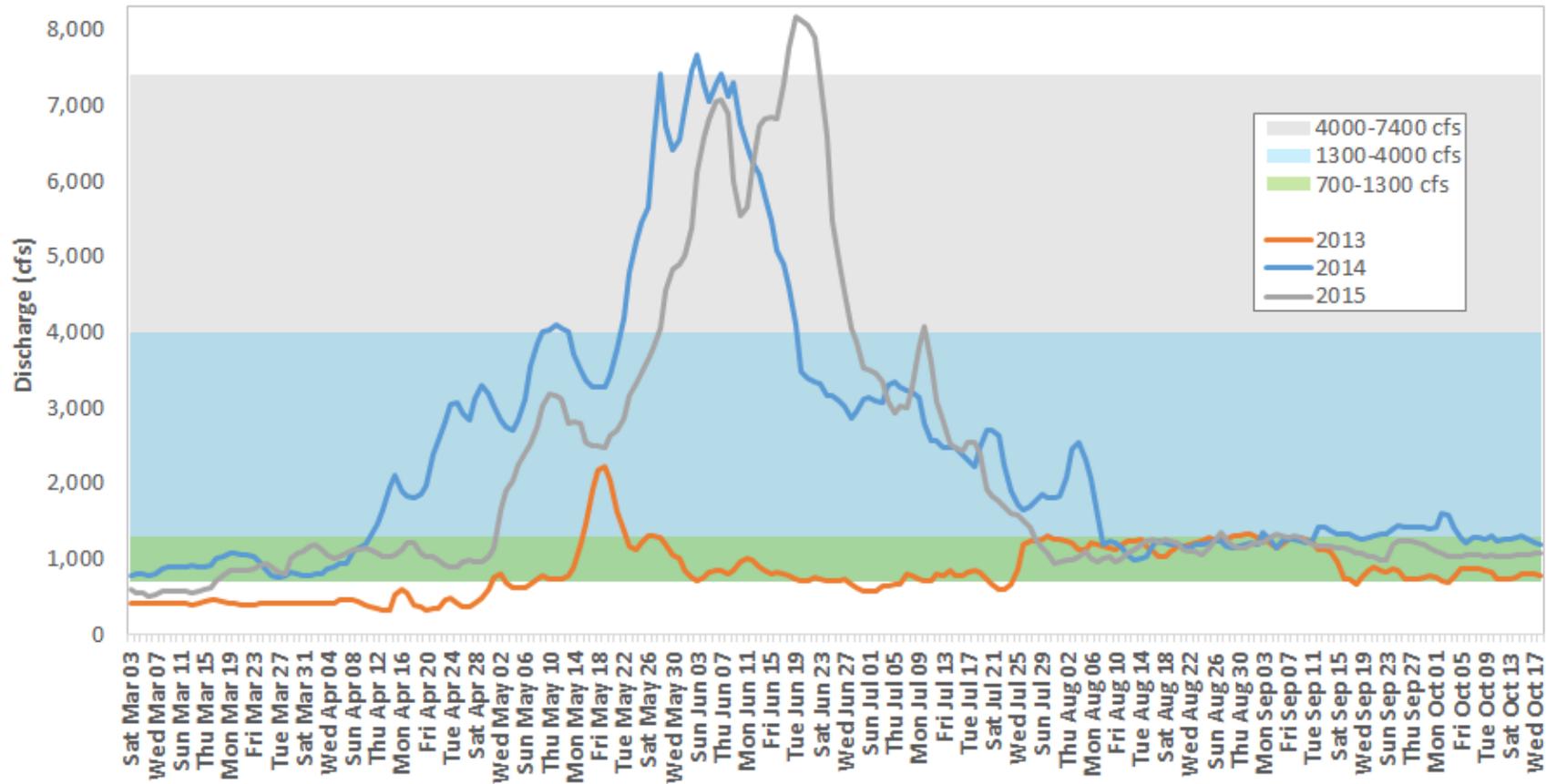
| Year | Days in Field | Survey Sample Size | Survey Margin of Error | Year Type |
|------|---------------|--------------------|------------------------|--------------------|
| 2013 | 9 | 1,151 | +/-2.9% | Dry Typical |
| 2014 | 16 | 1,357 | +/-2.7% | Wettest |
| 2015 | 15 | 855 | +/-3.4% | Wet Typical |
| 2018 | 16 | ~930 | ~ +/-3.2% | Driest/Dry Typical |

Intercept interviewing, observational analysis, and traffic counts took place on these select days

Study Dates



Floatboating Experience Categories



In the Field



In the Field



Observations

Coverage from early morning to late evening (~7am-8pm)

Goal of capturing daily river activity at each site

Items captured:

- Trip type (commercial vs. private)
- Craft type
- Number of boaters/anglers
- Time of day
- Specific activity (launching, taking out, floating by?)
- Taking laps?
- Estimate of number of children in water craft
- Additional comments

Observation Log

Date: _____
 Location: _____
 Hours: _____

| | Trip Type | | | Craft type | | | | | | Number of: | | Time of Day (Military Time) | Circle one: | | | Taking laps/repeat trips? If noted, check box below. | Estimate number of people in party who are 17 or younger. | |
|----|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|------------------------|--------------------------------|-----------------|---|---|--|--|---|
| | Commer- cial | Private | Unknown* | Raft | Dory | Canoe | Inflatable Kayak | Kayak | Stand-up Paddleboard | Float/ Inner Tube | Non-Anglers in Boat | | Anglers in Boat | Boater(s) taking craft out of water? | Boater(s) putting a craft <u>into</u> the water? | | | Boater(s) floating from upstream and continuing on? |
| 1 | <input type="checkbox"/> | | | --- | TO | PI | F | <input type="checkbox"/> | |
| 2 | <input type="checkbox"/> | | | --- | TO | PI | F | <input type="checkbox"/> | |
| 3 | <input type="checkbox"/> | | | --- | TO | PI | F | <input type="checkbox"/> | |
| 4 | <input type="checkbox"/> | | | --- | TO | PI | F | <input type="checkbox"/> | |
| 5 | <input type="checkbox"/> | | | --- | TO | PI | F | <input type="checkbox"/> | |
| 6 | <input type="checkbox"/> | | | --- | TO | PI | F | <input type="checkbox"/> | |
| 7 | <input type="checkbox"/> | | | --- | TO | PI | F | <input type="checkbox"/> | |
| 8 | <input type="checkbox"/> | | | --- | TO | PI | F | <input type="checkbox"/> | |
| 9 | <input type="checkbox"/> | | | --- | TO | PI | F | <input type="checkbox"/> | |
| 10 | <input type="checkbox"/> | | | --- | TO | PI | F | <input type="checkbox"/> | |
| 11 | <input type="checkbox"/> | | | --- | TO | PI | F | <input type="checkbox"/> | |
| 12 | <input type="checkbox"/> | | | --- | TO | PI | F | <input type="checkbox"/> | |
| 13 | <input type="checkbox"/> | | | --- | TO | PI | F | <input type="checkbox"/> | |
| 14 | <input type="checkbox"/> | | | --- | TO | PI | F | <input type="checkbox"/> | |
| 15 | <input type="checkbox"/> | | | --- | TO | PI | F | <input type="checkbox"/> | |
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| 18 | <input type="checkbox"/> | | | --- | TO | PI | F | <input type="checkbox"/> | |
| 19 | <input type="checkbox"/> | | | --- | TO | PI | F | <input type="checkbox"/> | |
| 20 | <input type="checkbox"/> | | | --- | TO | PI | F | <input type="checkbox"/> | |

**If unknown, make attempt to ask boater directly*

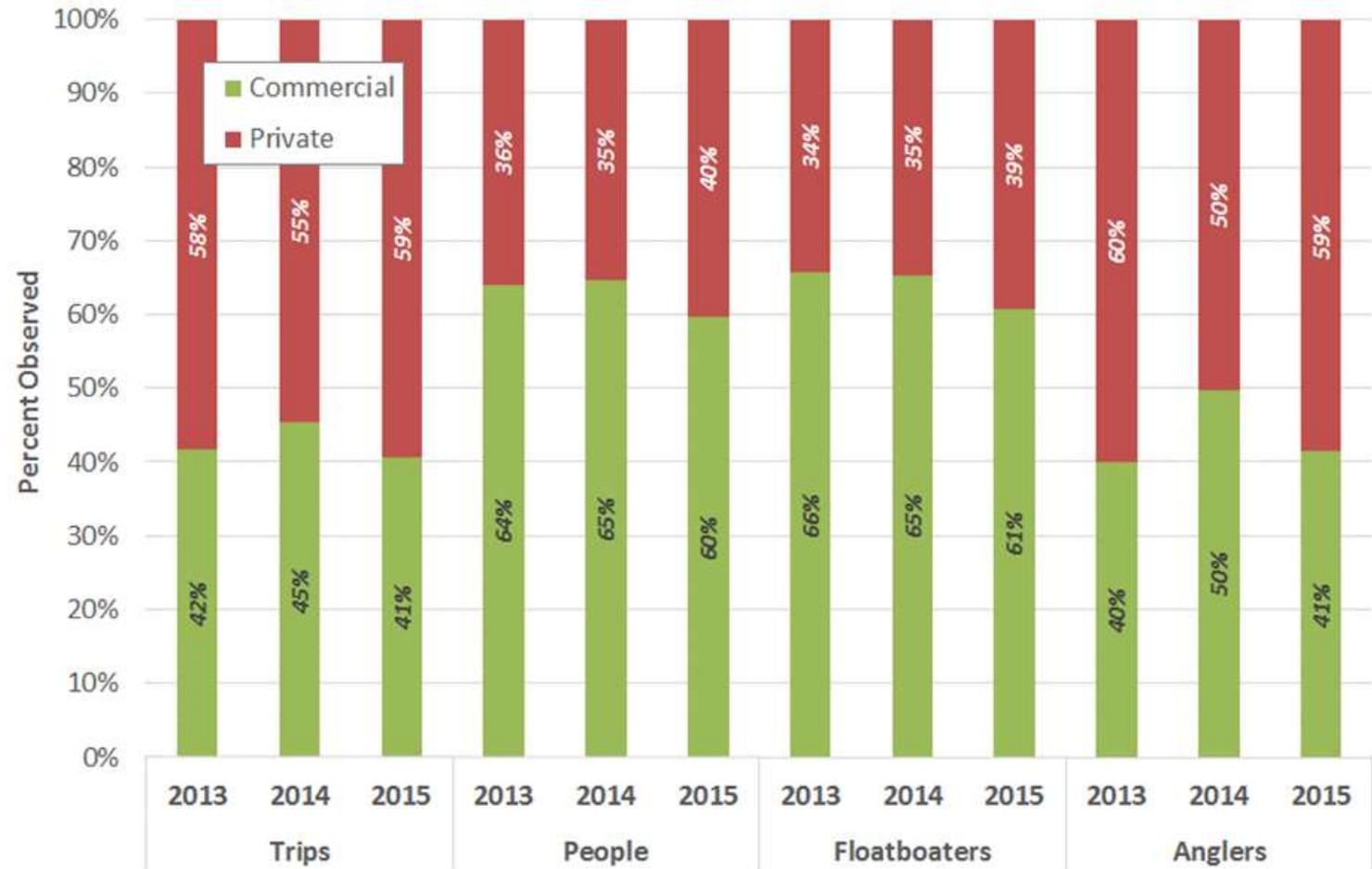
If you have any comments regarding weather changes or other noteworthy observations, please detail them below:

Date: 4/25/13
 Revised: 7/25/2013

Commercial vs. Private Activity

-Private trips comprise larger share of all *trips* recorded

-However, higher share of commercial *users*



Source: 2013-2015 Observation Data

Intercept survey

Two survey forms: floatboater and angler

Goal of understanding the river user experience and what factors reduce or enhance that experience

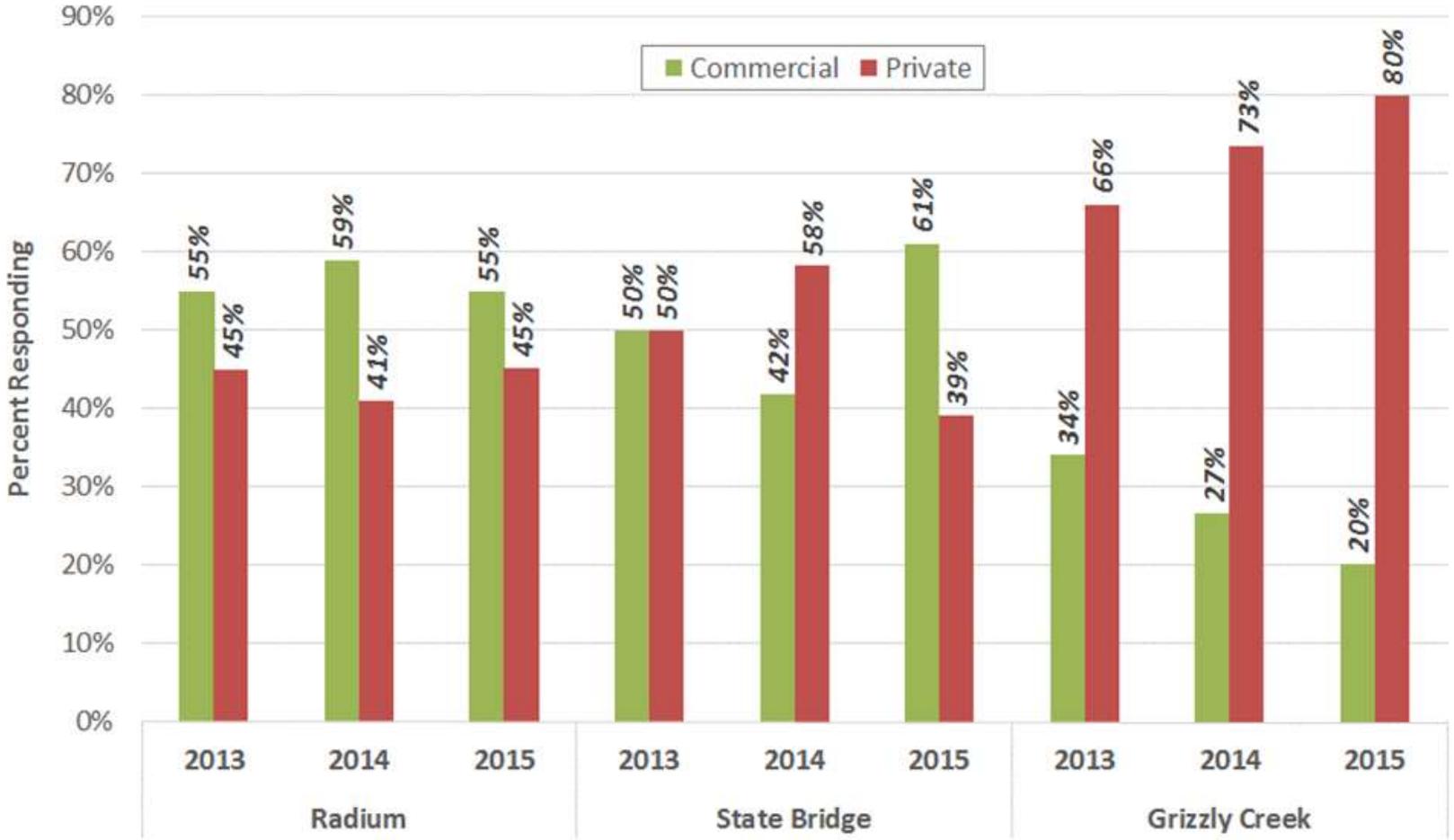
Items captured:

- Angler: number of hours on the river and type and number of fish caught → Designed to complement the CPW “Creel Survey” program
- Previous experience on the river
- Craft type
- Level of experience
- Geographic origin, age, gender
- Likelihood of return
- Experiential factors
- Perception of water level
- Comments

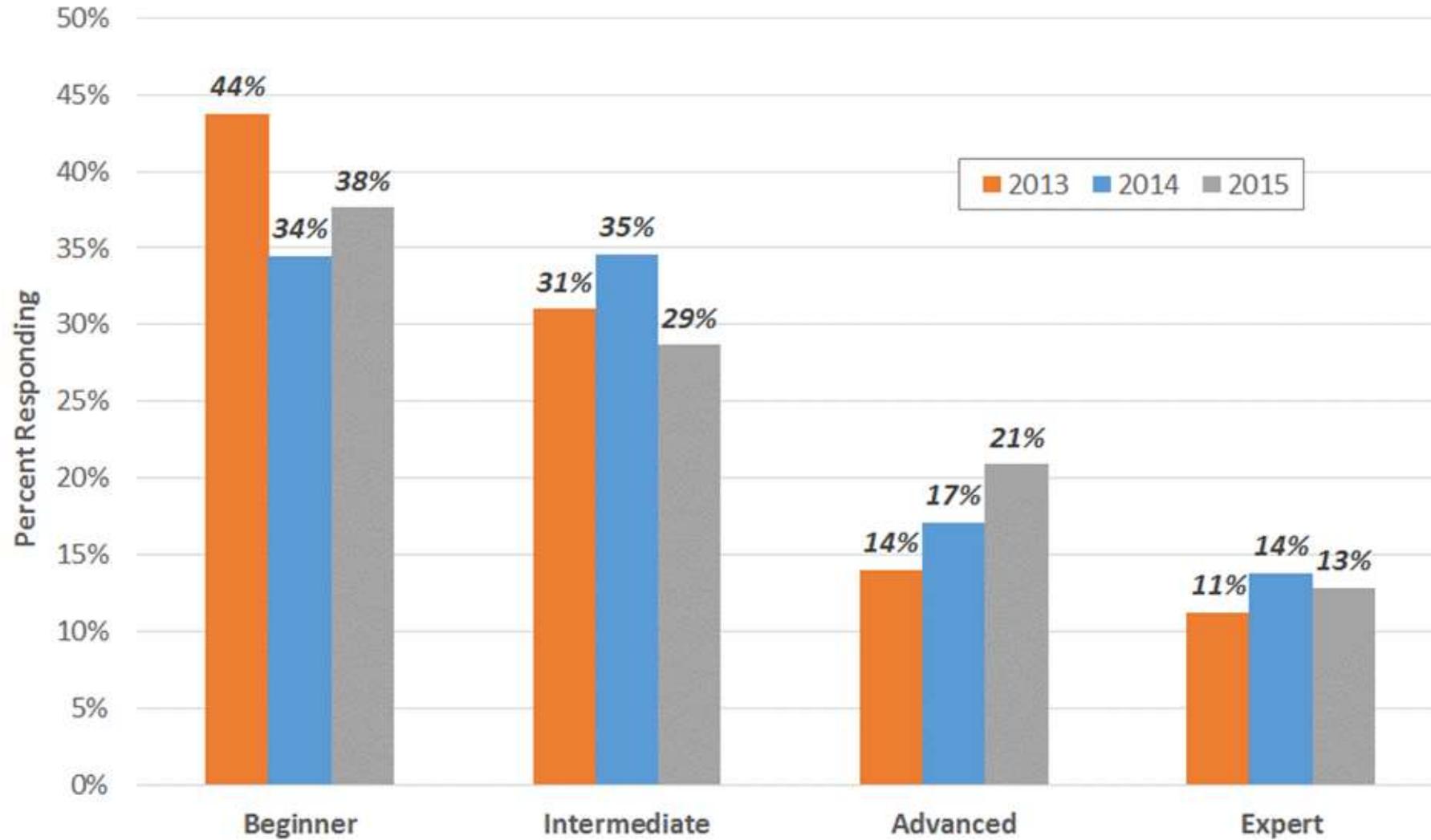
Commercial vs. Private by Survey Site

Self-reported trip type differed from what was observed

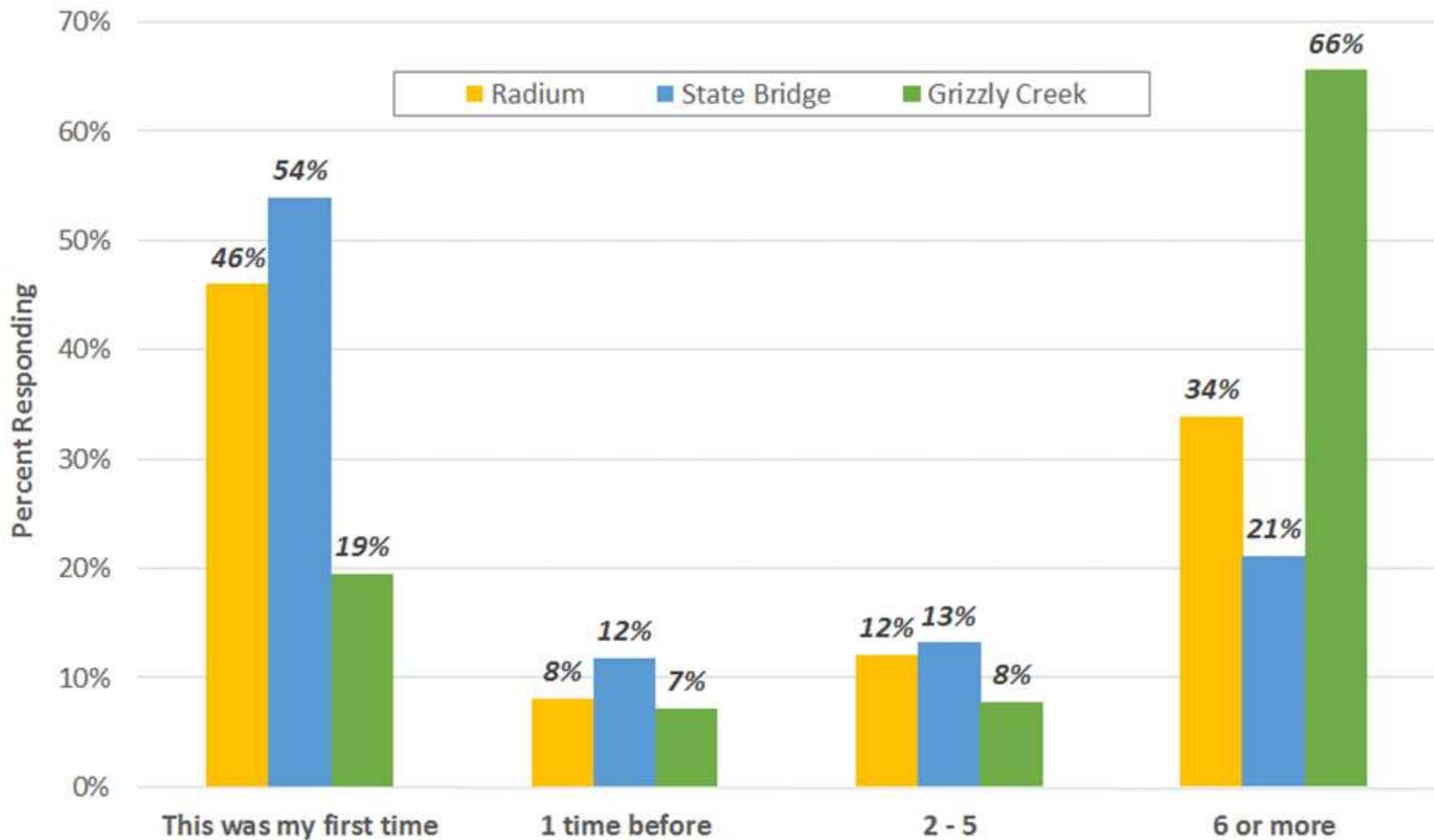
- On the lower reach of the river, commercial activity not as conducive to survey participation, and thus more private users represented in the data



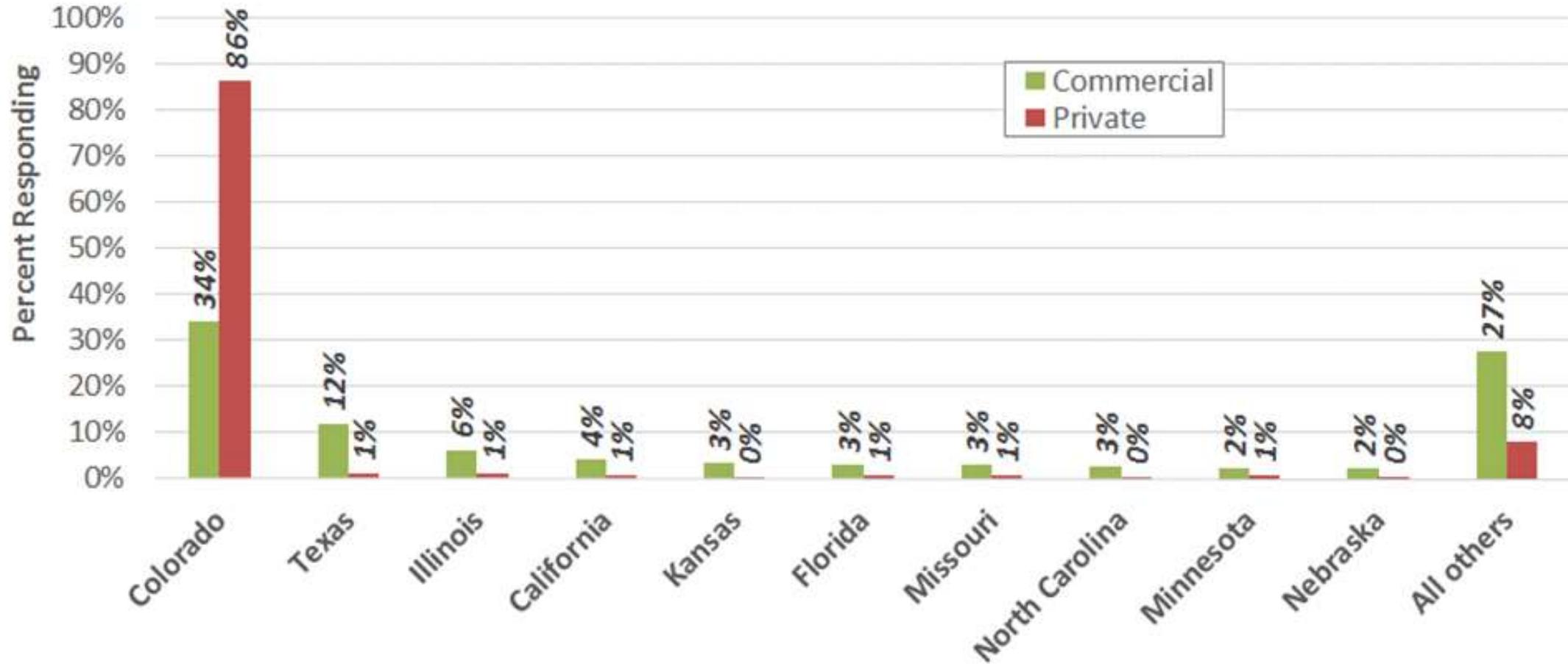
Ability Level



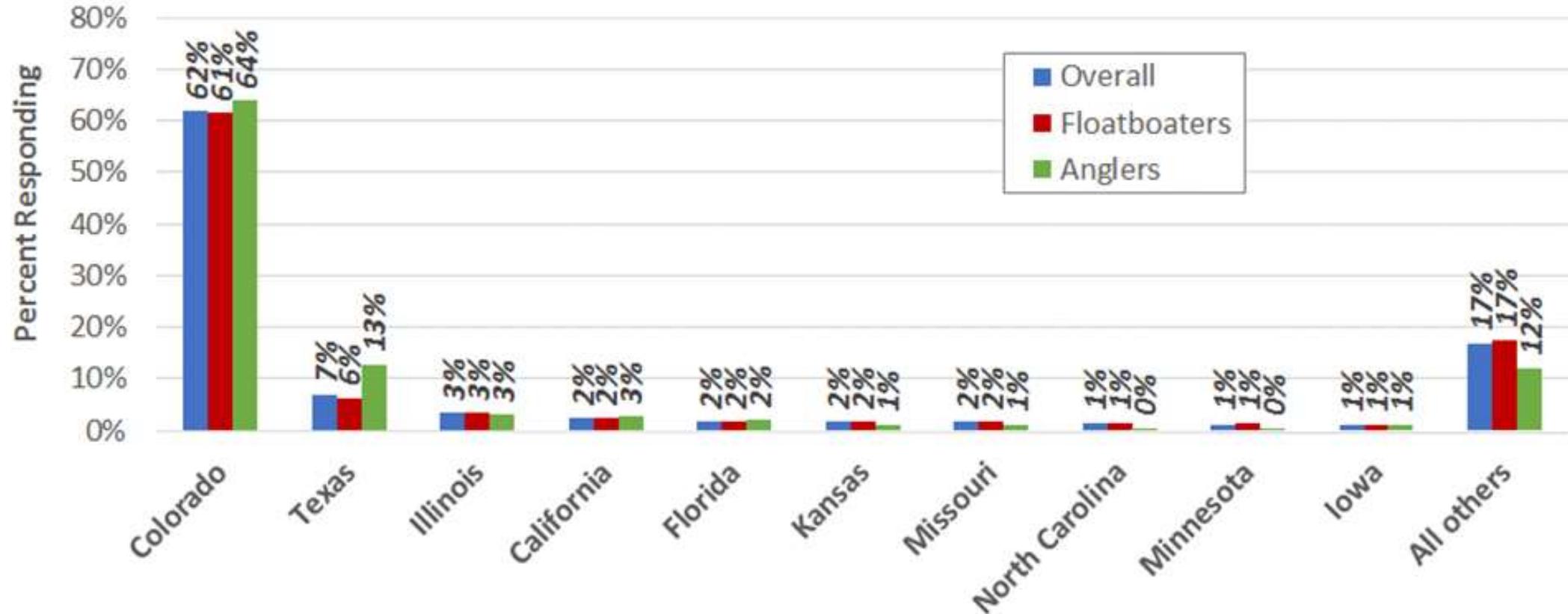
Previous Experience



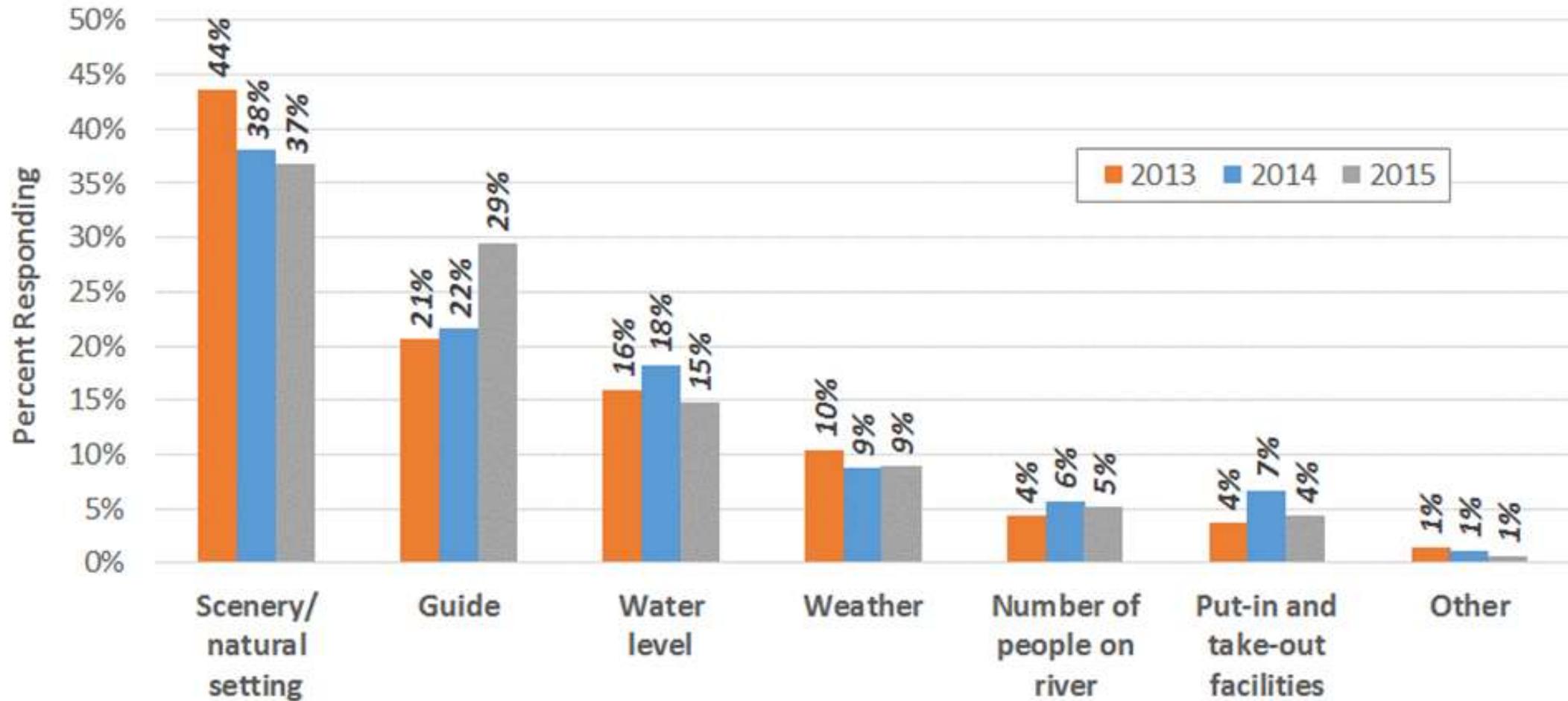
State or Country of Residence by Trip Type



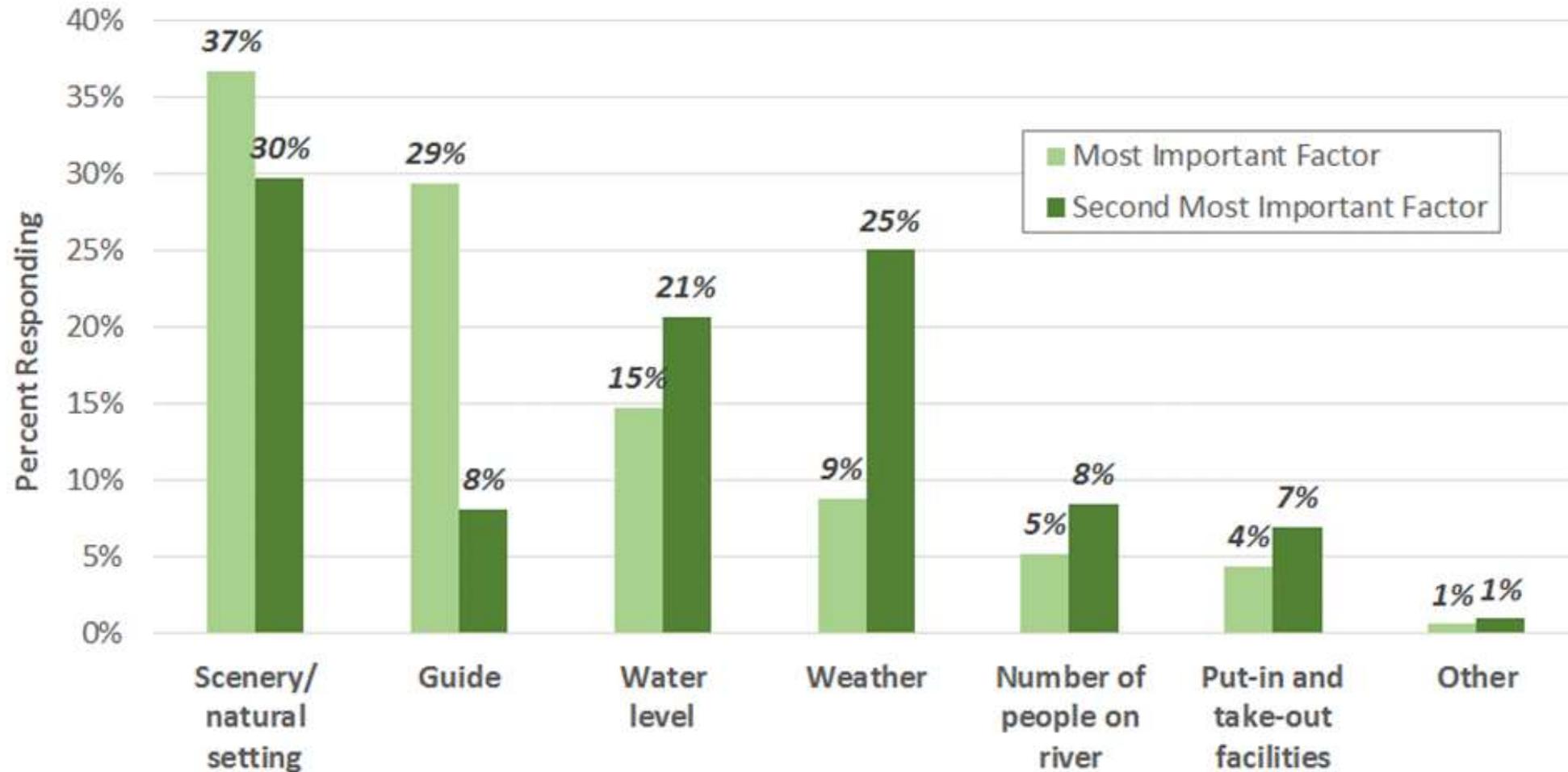
State or Country of Residence by Trip Type



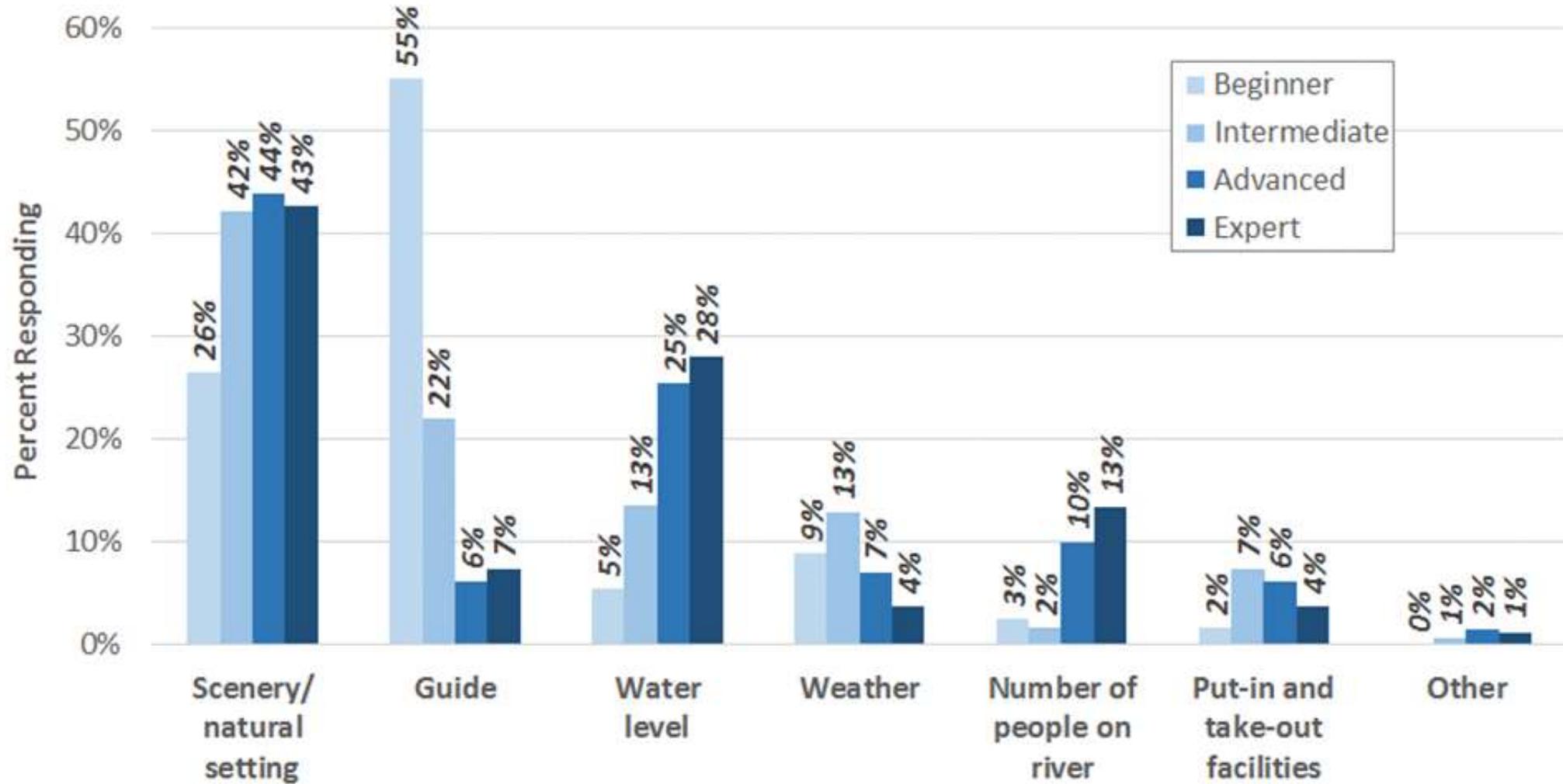
Most Important Factor



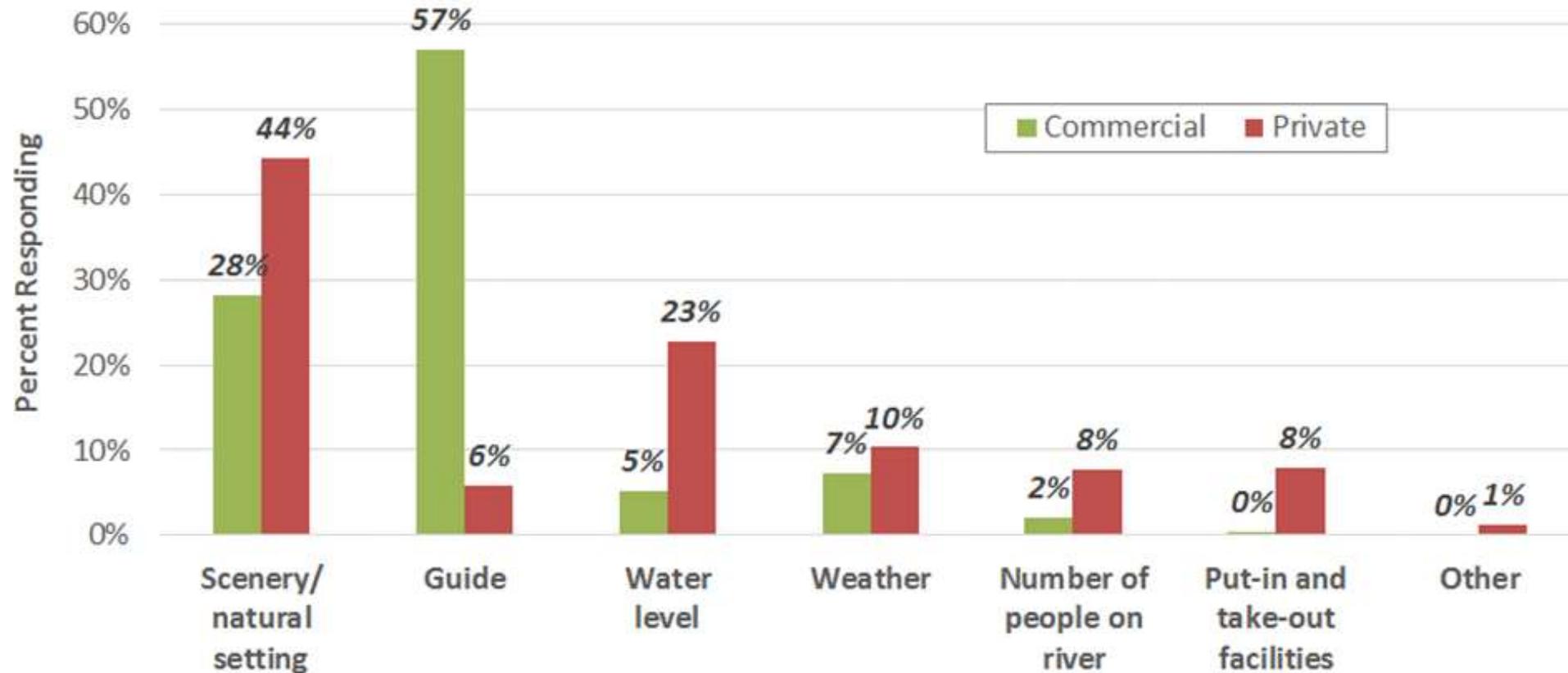
Top 2 Most Important Factors



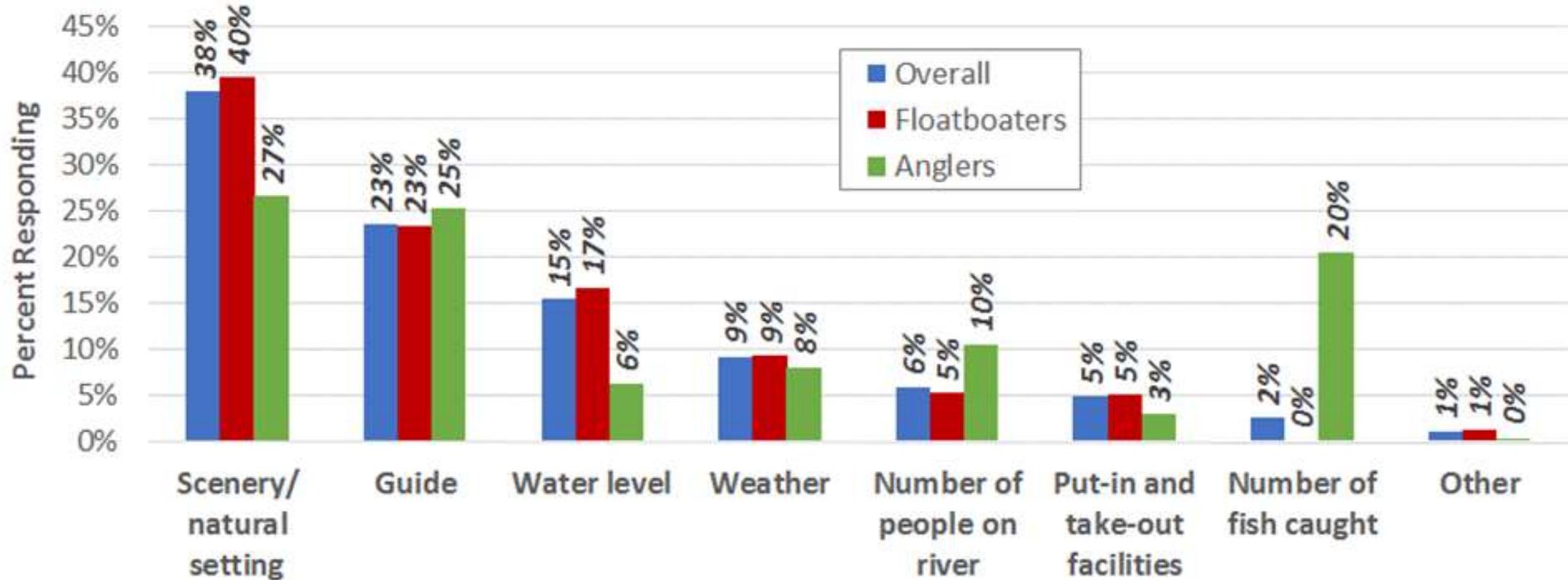
Most Important Factor by Ability Level



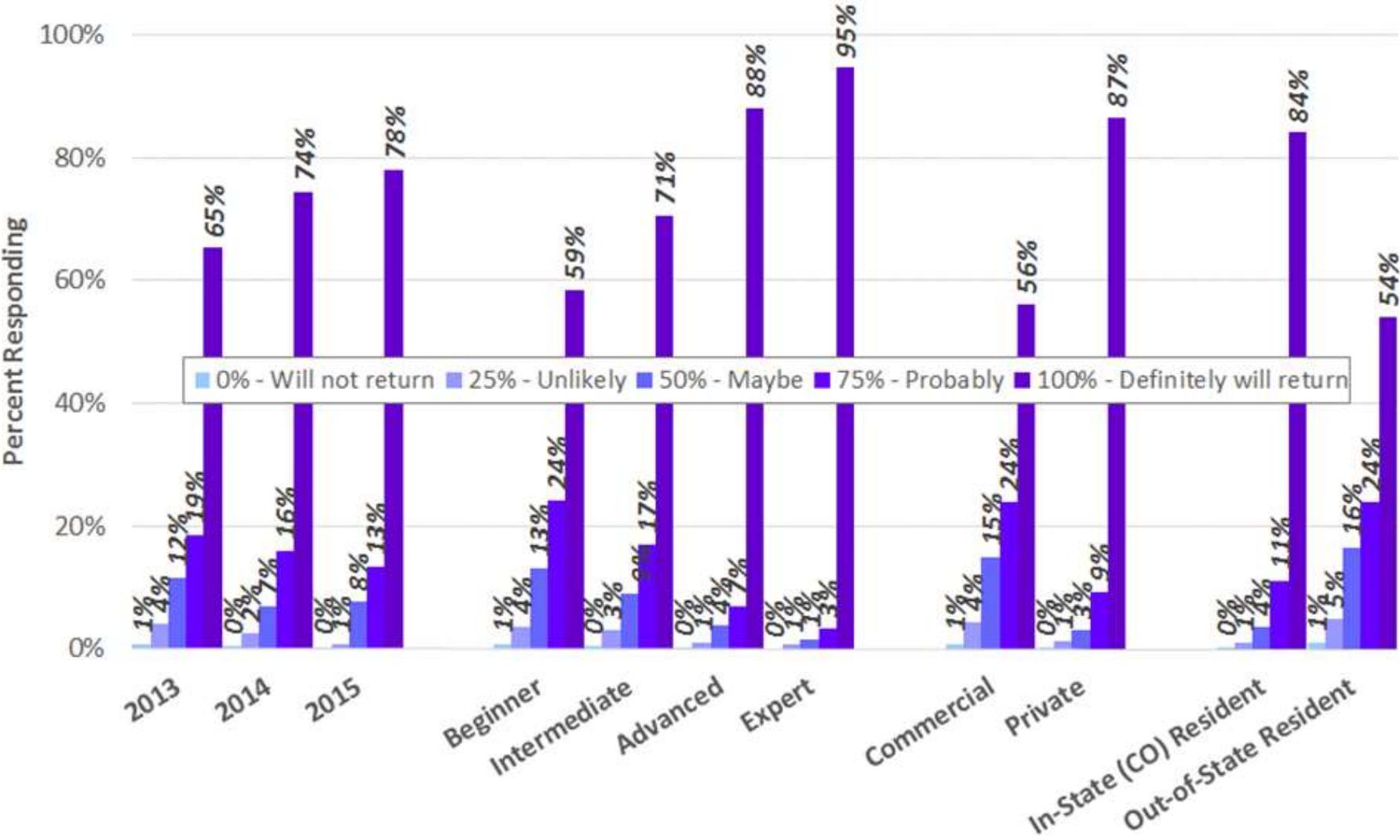
Most Important Factor by Commercial/Private



Most Important Factor



Likelihood of Return



Special Angler Surveys

Effort started in 2017 to collect self-administered surveys from wade anglers

Distributed from kiosks

Estimating TFE (Total Fishing Effort) and CPUE (Catch per Unit Effort) results

Designed to permit comparison with results obtained from anglers who float the river



Traffic Counts

Goal of developing a method for estimating number of river users from traffic counts

Tricky considerations:

- Sites used for non-river activities
- Commercial users transported by shuttle or bus
- Laps

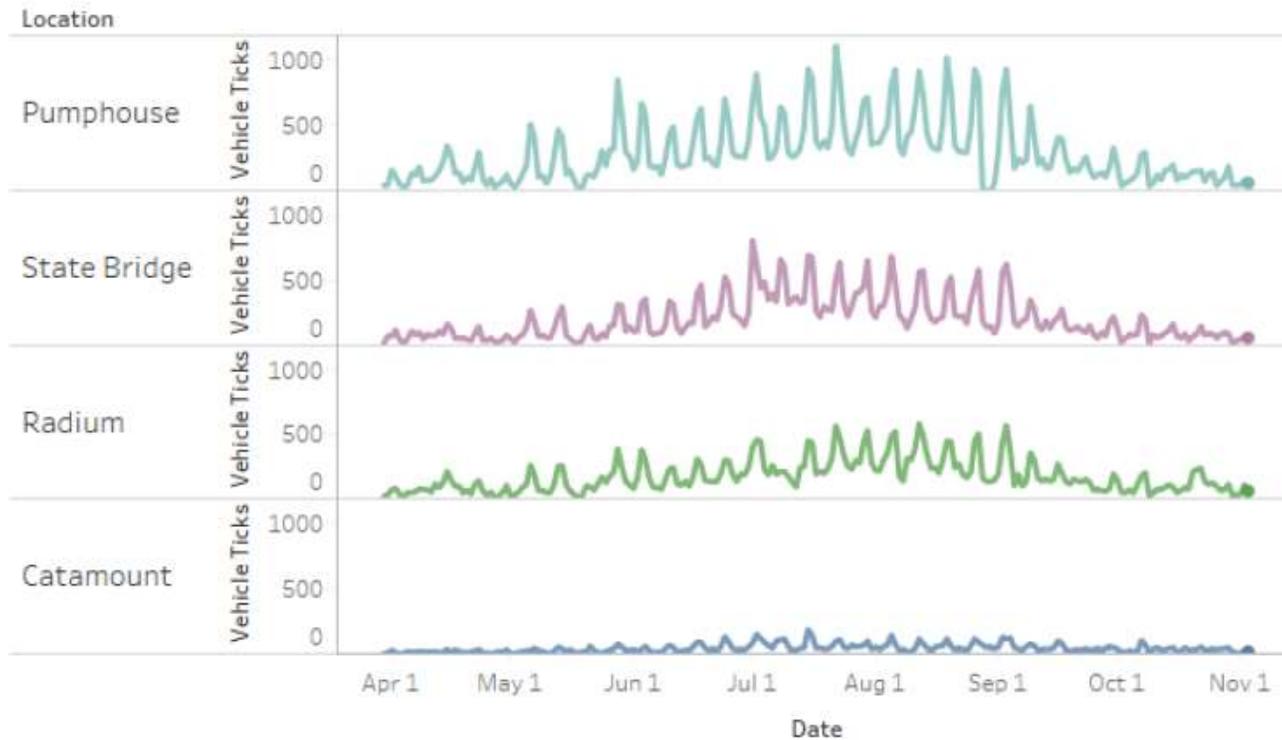
While numbers may not be perfect, we can still get within a close range of actual river counts



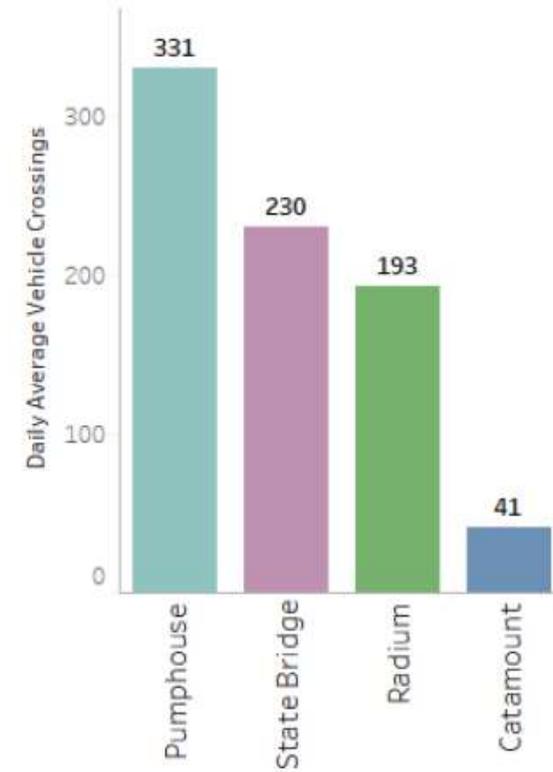
Vehicle Crossings by Location

2017 Vehicle Traffic by Location

2017 Daily Vehicle Crossings March 30 - Nov. 3



Avg. Daily Crossings

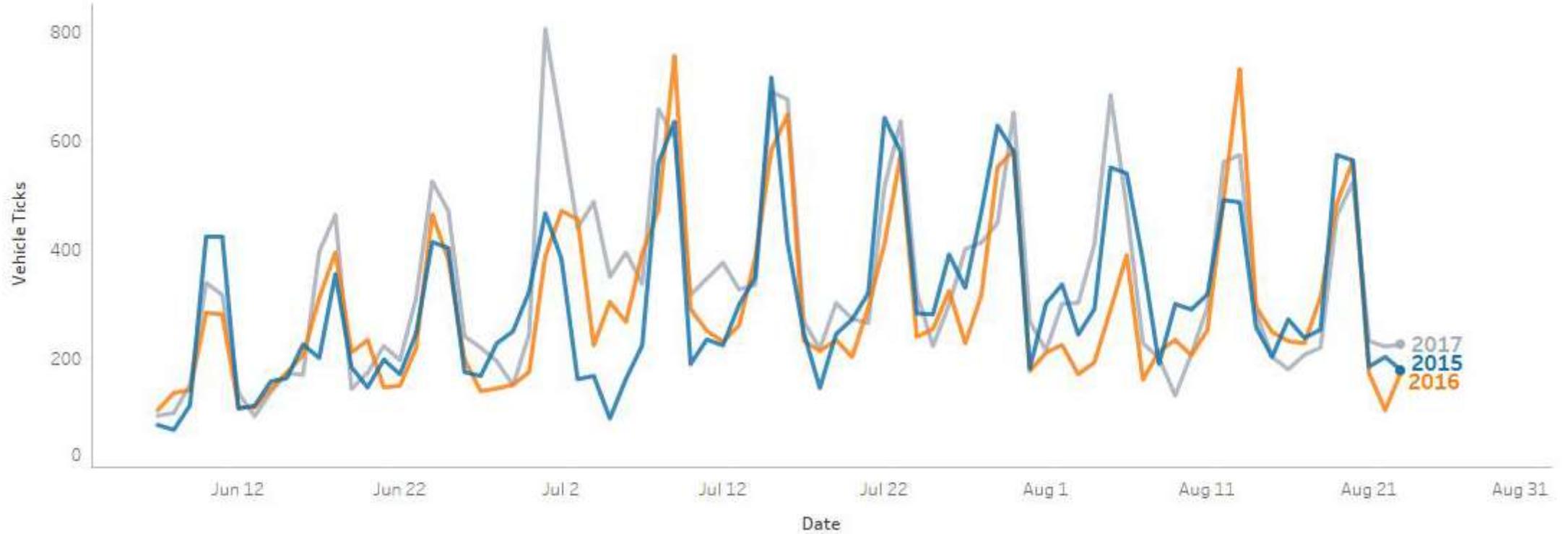


YOY Vehicle Traffic

State Bridge Year Over Year

Daily Vehicle Traffic June 7 - Aug. 23

Dates Aligned by Day of Week



Commercial Data

Commercial post-use reports from BLM and USFS

Cooperative effort with agencies to organize both hardcopy and electronic logs into one consolidated master file

Commercial use at the daily grain

Page _____ of _____

RIVER USE TRIP LOG

Company Name _____ Use Season or Reporting Period JAN 11 to DEC 11

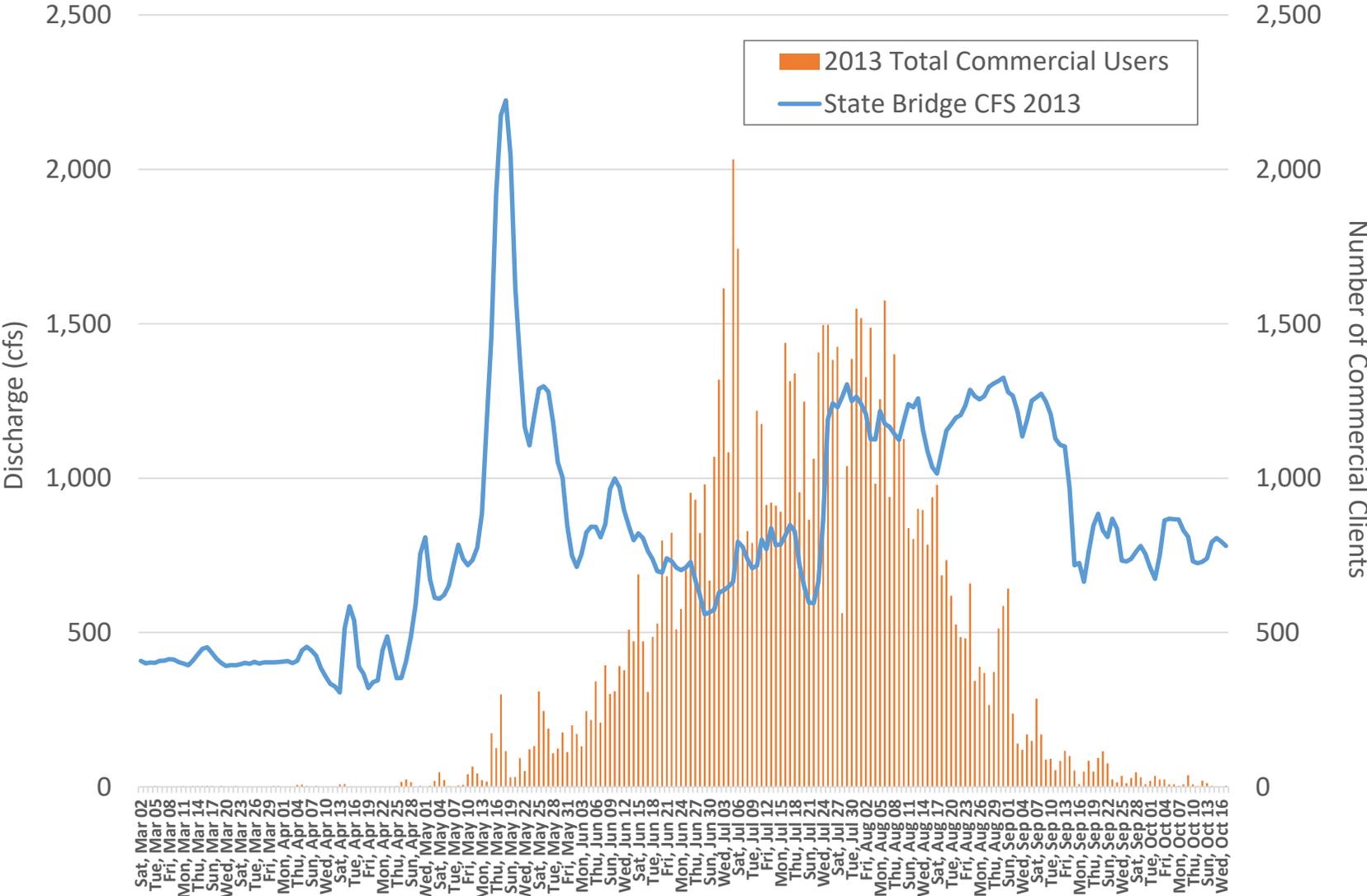
River Section STATE BRIDGE TO RIFLE

Note: Include Trip _____, Stop-Over _____, Take-Out and Activity/Use information for ALL trips. This information will be provided to the Colorado Rivers Outfitters Association.

Enter financial information only for trips involving use of BLM or Forest Service land.

| Launch Site | | Stop-Over Site | | Take-Out Site | | Activity and Use Information | | | | Financial Information |
|-------------|--------------|----------------|----------|---------------|------------|---|------------|-----------------|---------------|-----------------------|
| Date | Location | Date | Location | Date | Location | Type of Trip (Float, Fish, Full Day or 1/2 Day) | # of Boats | Clients Total # | Staff Total # | Gross Receipts \$ |
| 8/22/11 | YELLOW DOG | | | 8/23 | CATAMOUNT | FLOAT | 1 | 2 | 1 | |
| 8/23 | YELLOW DOG | | | 8/23 | CATAMOUNT | FLOAT | 1 | 2 | 1 | |
| 8/24 | YELLOW DOG | | | 8/24 | CATAMOUNT | FLOAT | 1 | 1 | 1 | |
| 8/24 | YELLOW DOG | | | 8/24 | CATAMOUNT | FLOAT | 2 | 4 | 2 | |
| 8/26 | STATE BRIDGE | | | 8/26 | YELLOW DOG | FLOAT | 2 | 4 | 2 | |
| 8/26 | YELLOW DOG | | | 8/26 | CATAMOUNT | FLOAT | 2 | 4 | 2 | |
| 8/27 | YELLOW DOG | | | 8/27 | CATAMOUNT | FLOAT | 1 | 2 | 1 | |
| 8/27 | YELLOW DOG | | | 8/27 | CATAMOUNT | FLOAT | 2 | 4 | 2 | |
| 8/28 | STATE BRIDGE | | | 8/28 | YELLOW DOG | FLOAT | 2 | 4 | 2 | |
| 8/28 | YELLOW DOG | | | 8/28 | CATAMOUNT | FLOAT | 1 | 2 | 1 | |
| 8/30 | YELLOW DOG | | | 8/30 | CATAMOUNT | FLOAT | 1 | 2 | 1 | |
| 9/2 | YELLOW DOG | | | 9/2 | CATAMOUNT | FLOAT | 1 | 2 | 1 | |
| 9/4 | YELLOW DOG | | | 9/4 | CATAMOUNT | FLOAT | 1 | 2 | 1 | |
| | | | | | | | | 35 | 18 | |

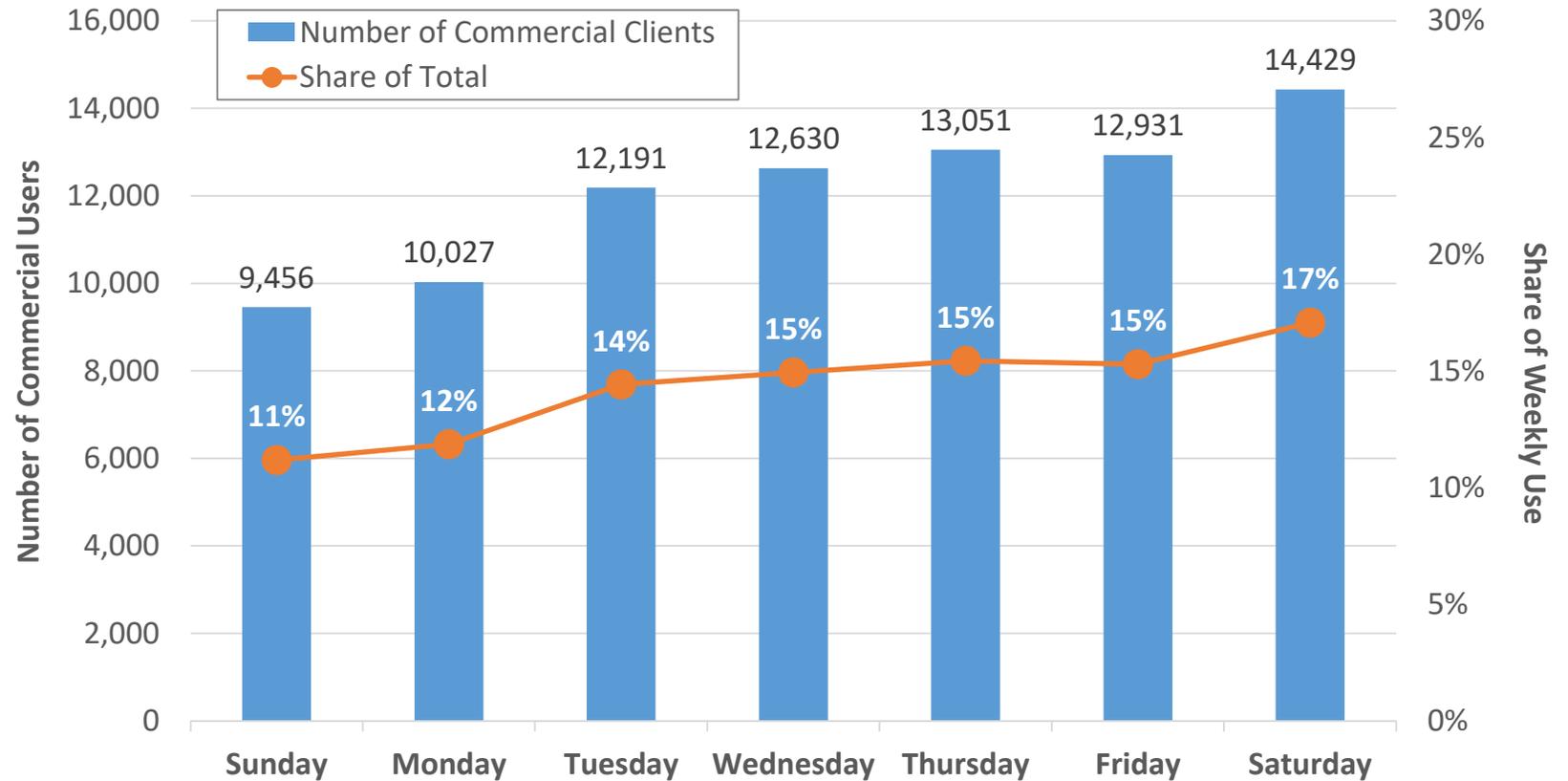
Water Discharge vs. Commercial Activity



Commercial Activity by Day of Week

-Commercial activity was relatively evenly distributed throughout the week

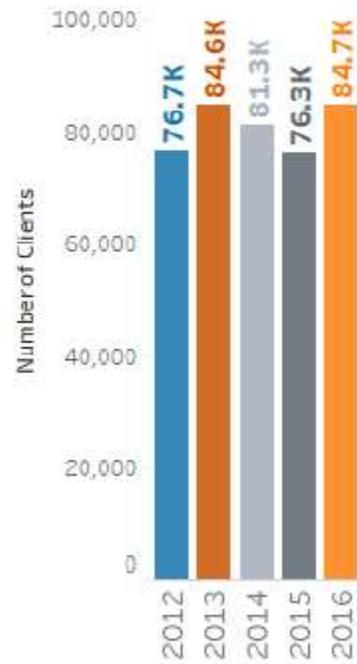
-However, activity increased throughout the week



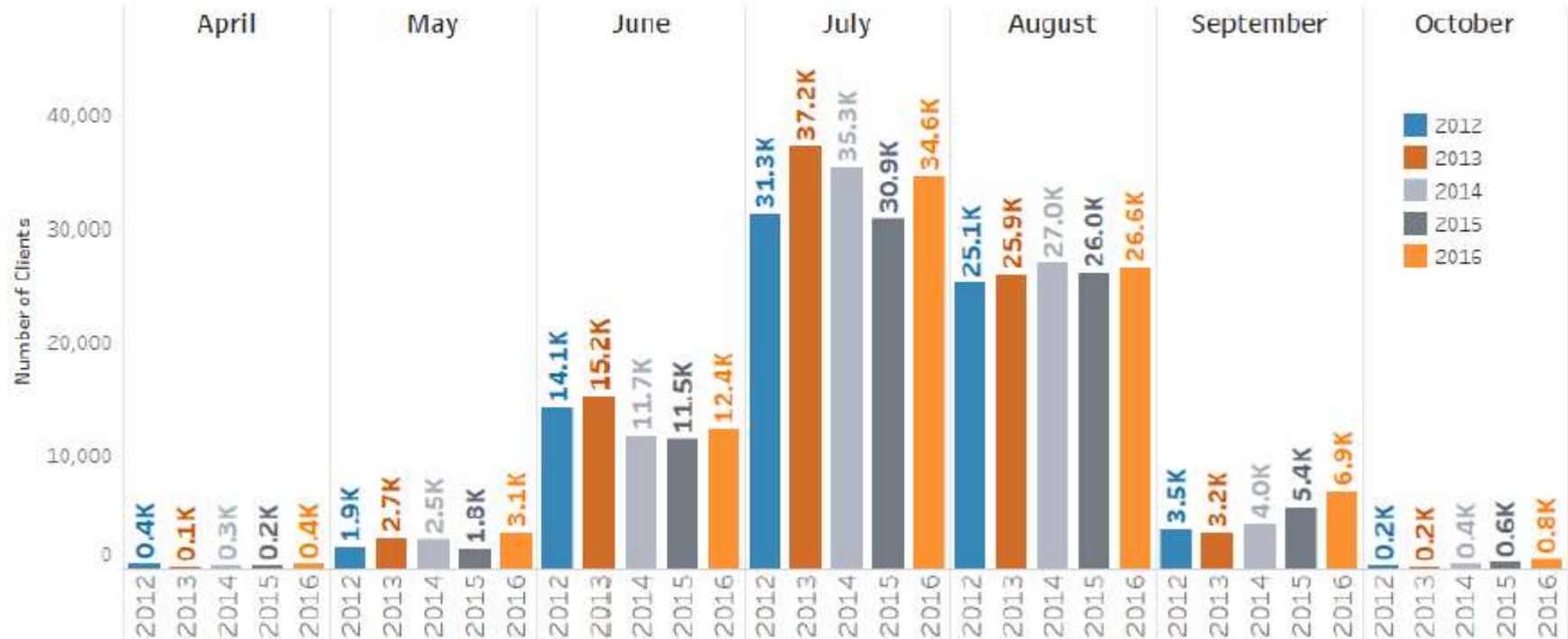
Commercial Users by Month and Year

Number of Commercial Clients 2012 - 2016 by Month, April 1 - October 15, Segments 4-7

By Year



By Year and By Month



Fee Envelope Data

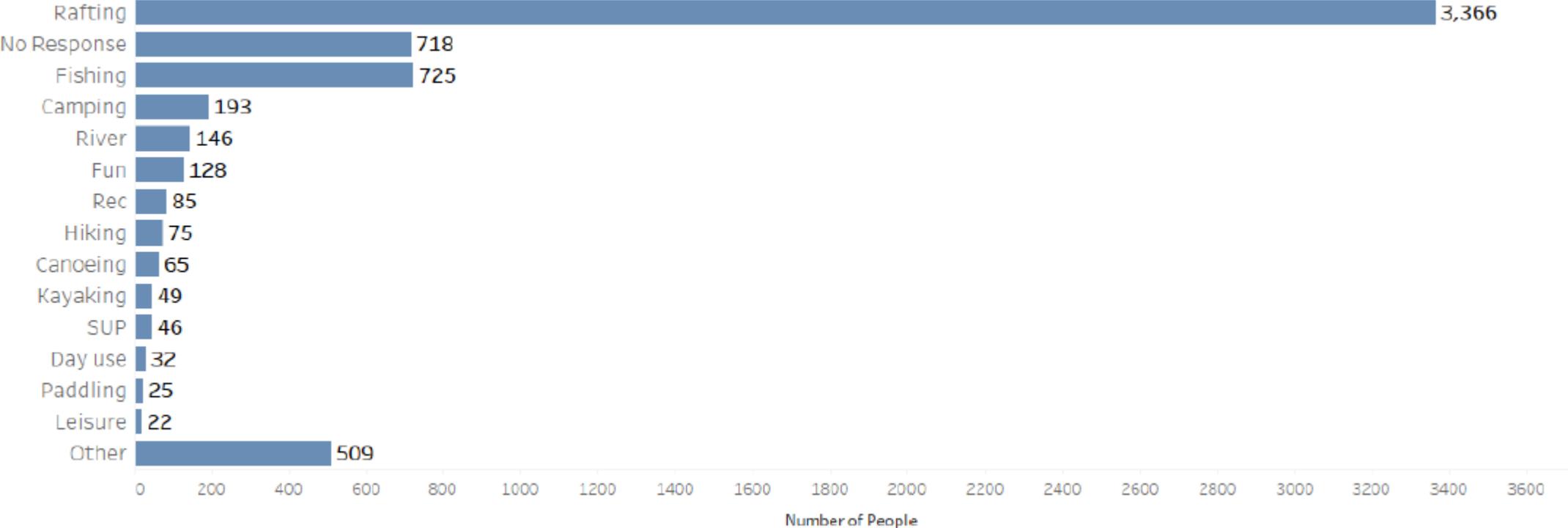
Ongoing data entry of BLM fee envelopes

Random sampling approach

Organized by collection site

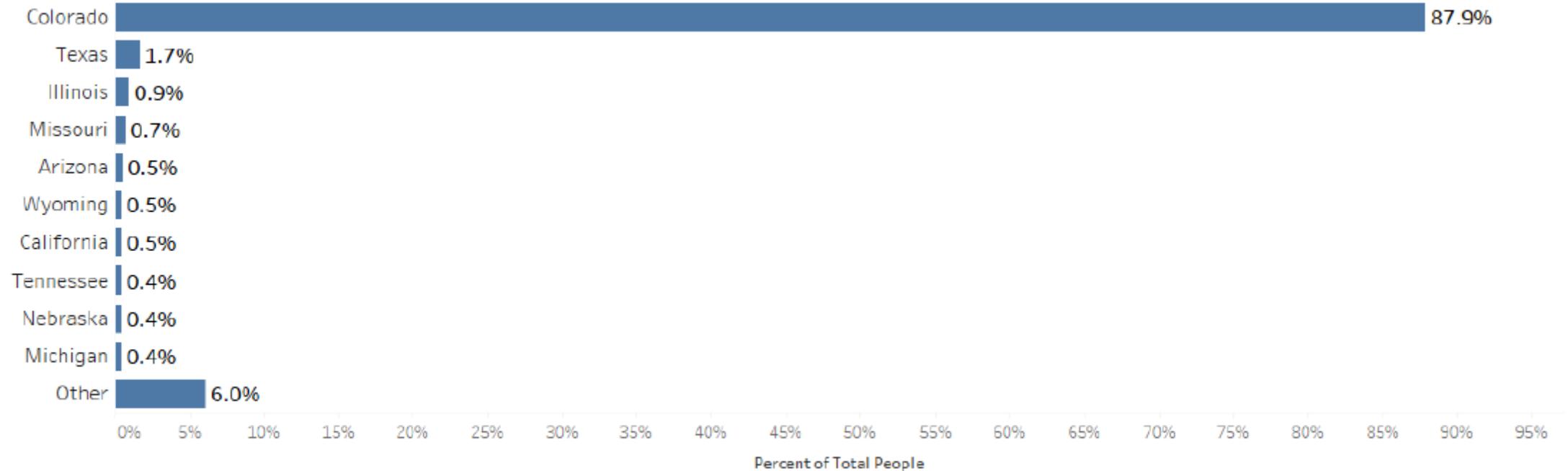
Activity Participation

2017 Fee Envelope Data - Number of People by Activity

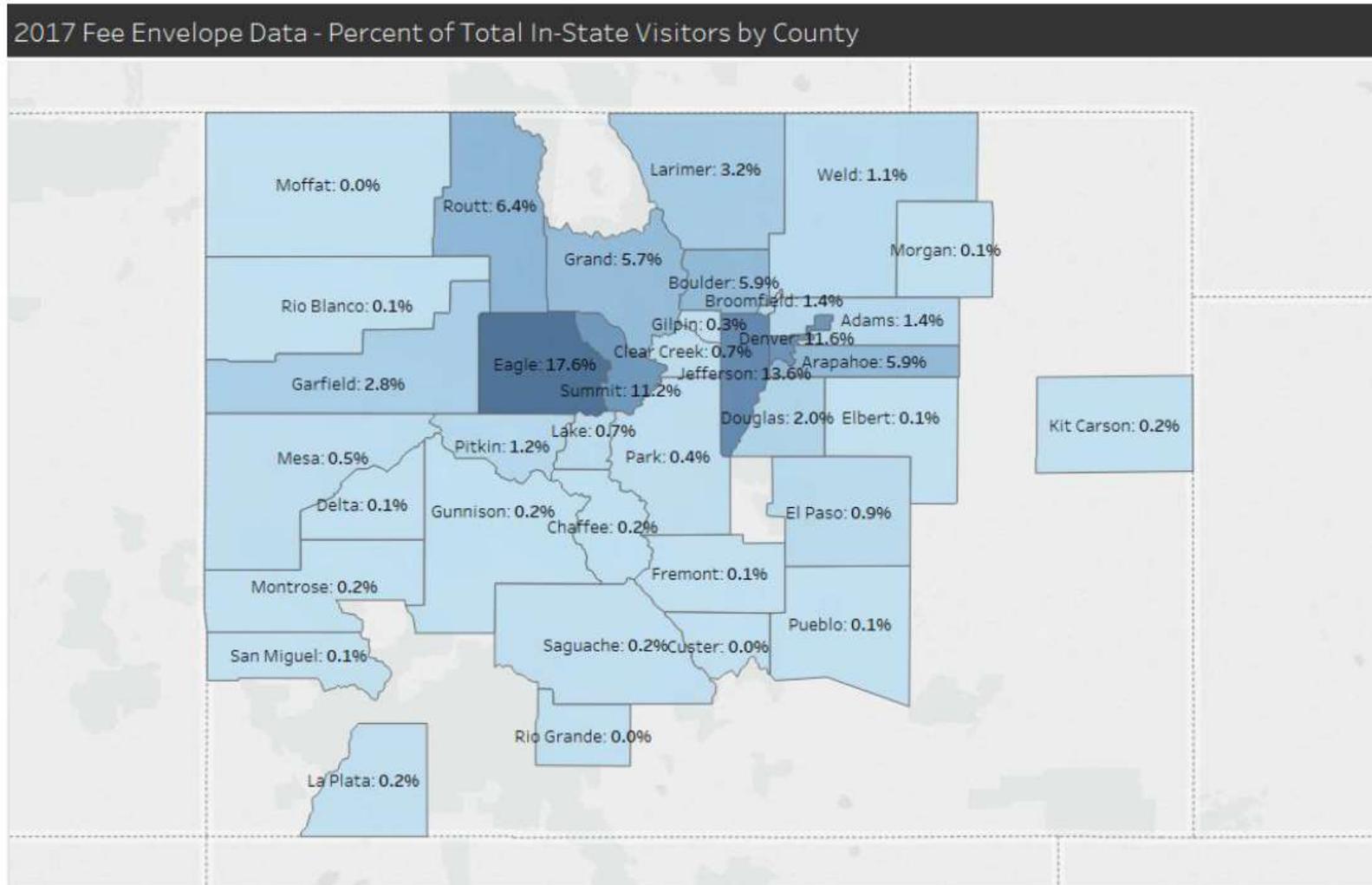


Geographic Origin

2017 Fee Envelope Data - Percent of Total People by State



Colorado County of Residence

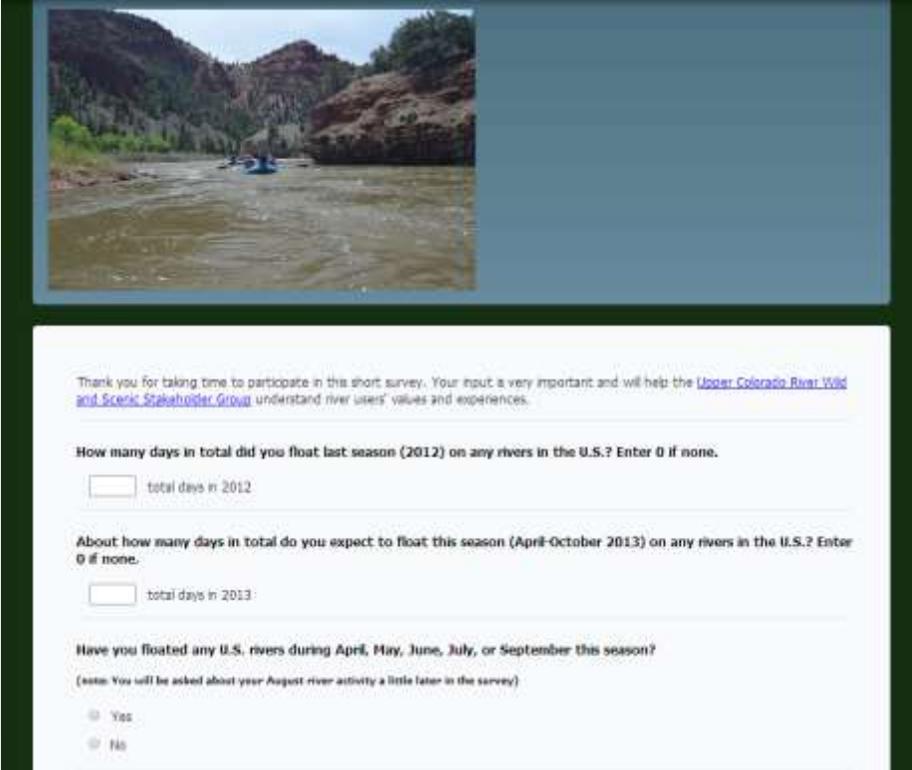


Panel Survey

Email invite sent to all river user email addresses collected

Sample skewed in-state, with more experience on the Upper CO River, higher ability levels and preference for private trips

More recently have surveyed interest groups using email lists



The screenshot shows a survey interface. At the top left is a photograph of a river flowing through a canyon with red rock walls. To the right of the photo is a dark blue rectangular area. Below the photo is a white text box containing the following content:

Thank you for taking time to participate in this short survey. Your input is very important and will help the [Upper Colorado River Wild and Scenic Stakeholder Group](#) understand river users' values and experiences.

How many days in total did you float last season (2012) on any rivers in the U.S.? Enter 0 if none.

total days in 2012

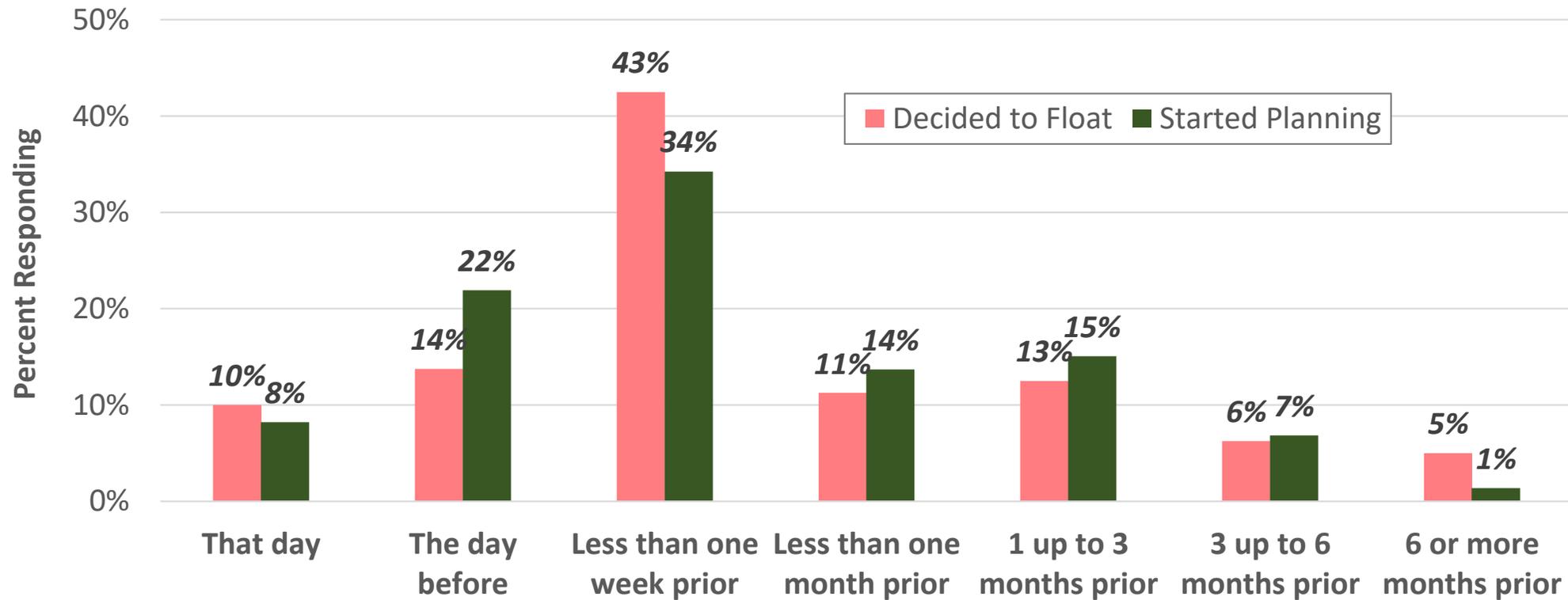
About how many days in total do you expect to float this season (April-October 2013) on any rivers in the U.S.? Enter 0 if none.

total days in 2013:

Have you floated any U.S. rivers during April, May, June, July, or September this season?
(note: You will be asked about your August river activity a little later in the survey)

Yes
 No

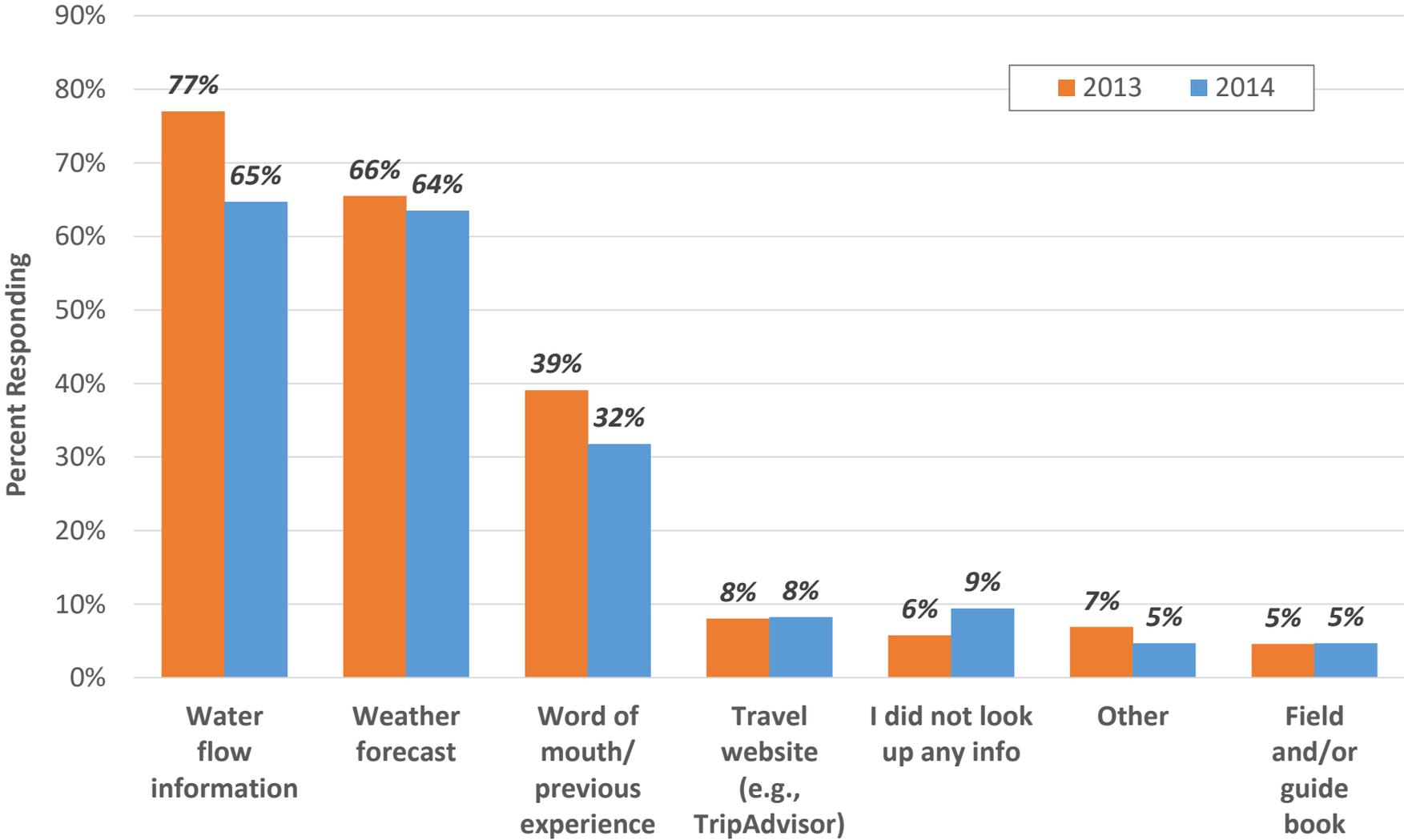
Decision-Making vs. Planning Time for Most Recent Trip on the Upper Colorado River



Ultimately, results show that decision-making and planning often occur very close to the time of the actual trip

Information Consulted Before Trip

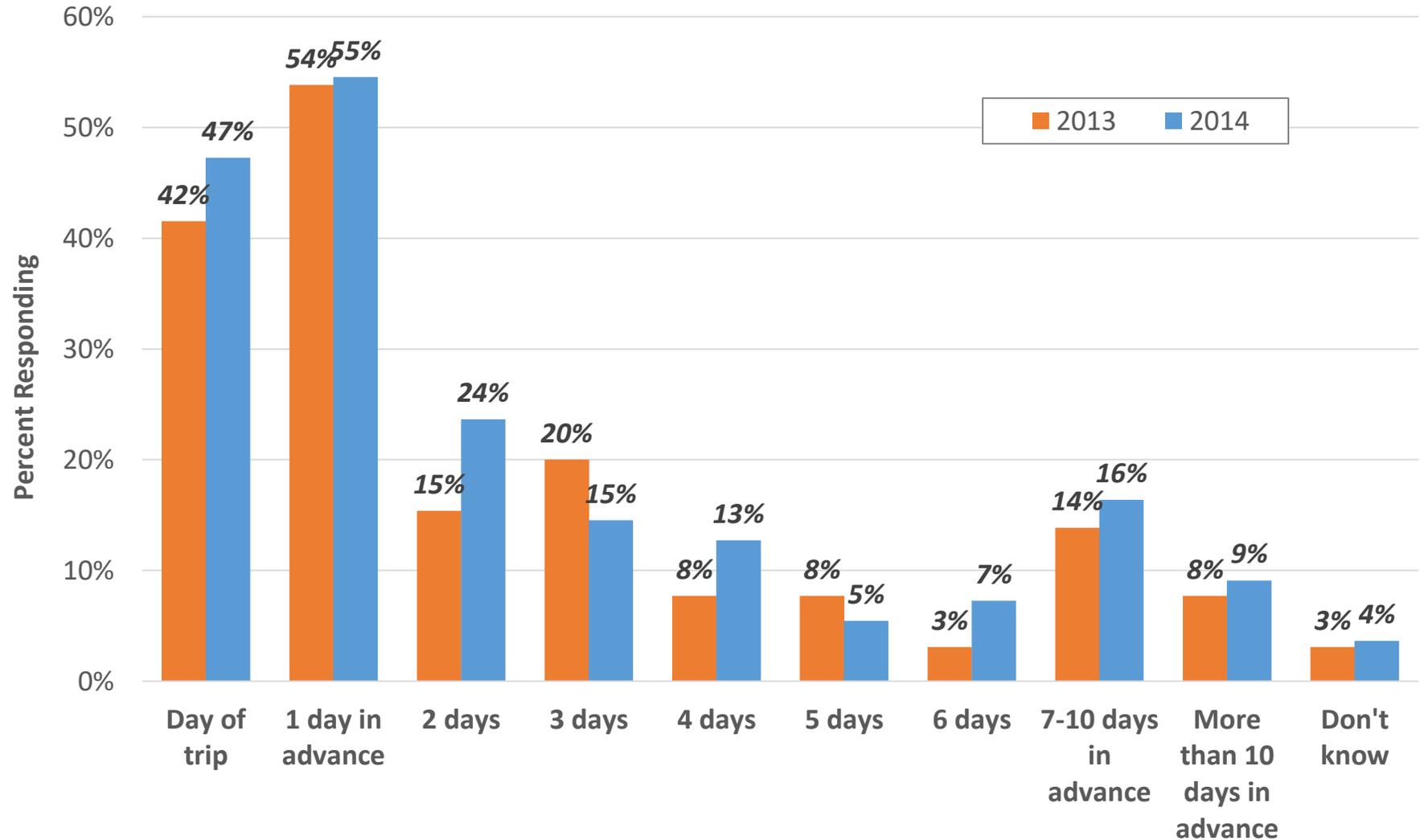
Water flow information and weather forecast most looked up information prior to trip



When Looked Up Water Information

Often look up that info more than once prior to trip

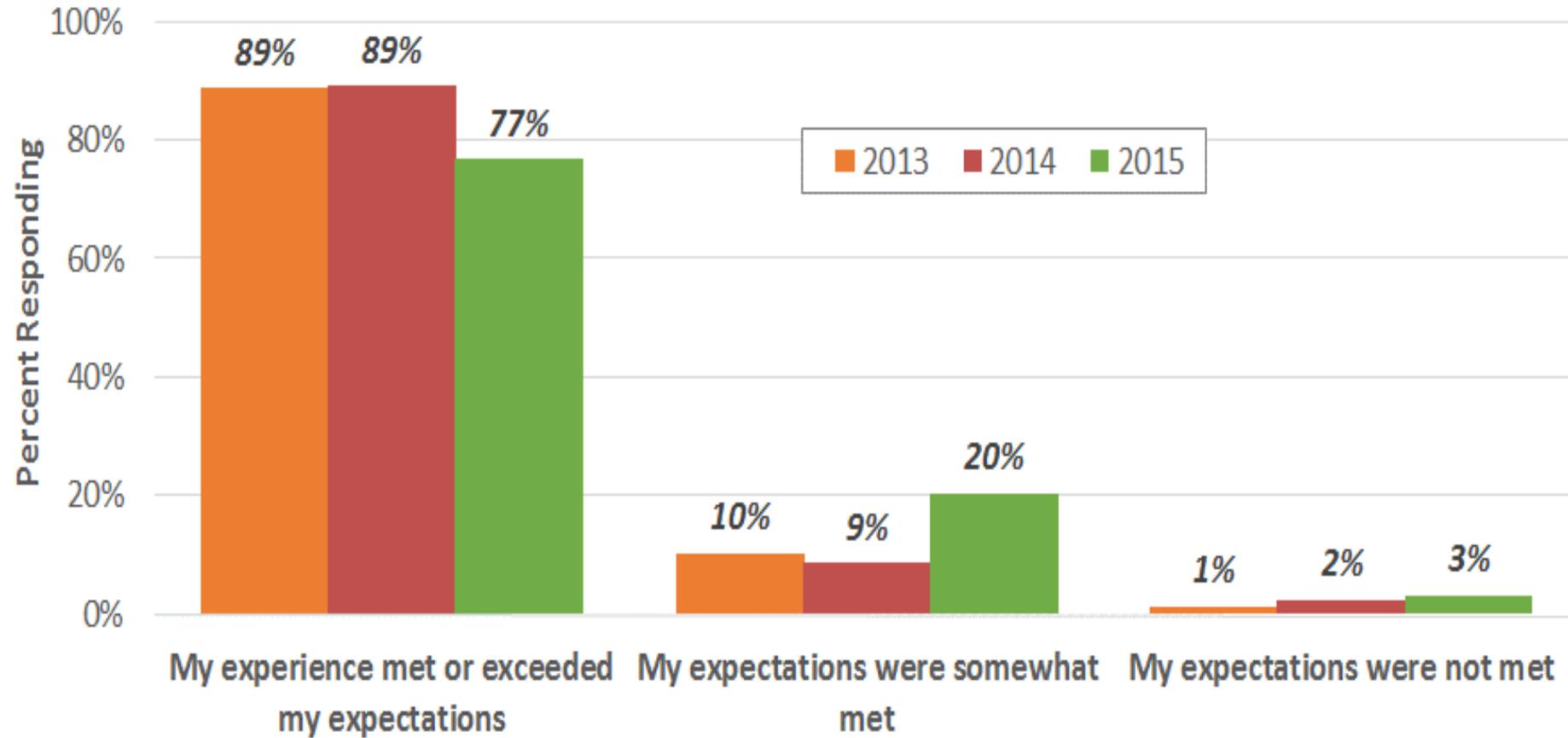
- Particularly day of and day before trip



Two Most Important Factors that Influenced Your Decision to Choose the Upper CO River



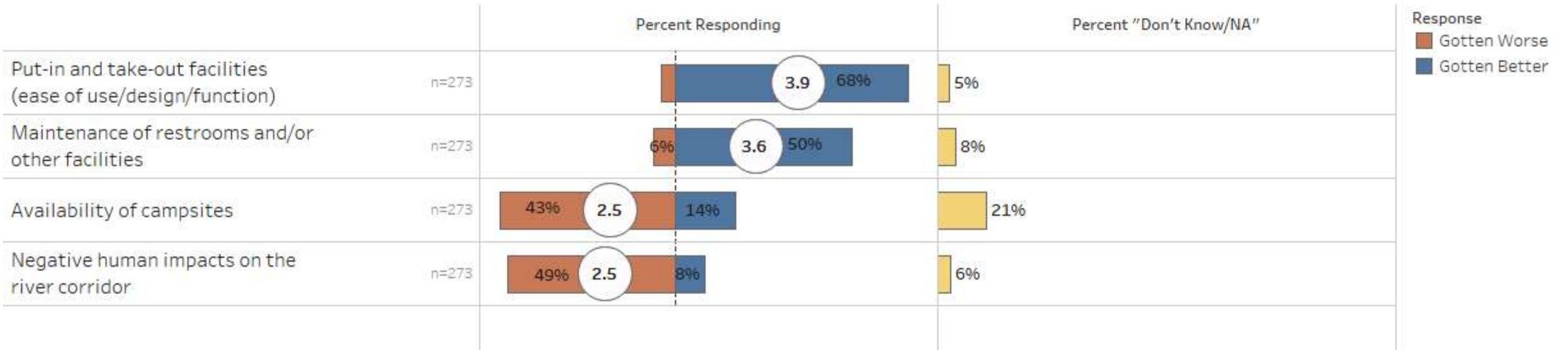
Meeting Expectations?



Interest Group Survey: Change Over Time

In your opinion, to what degree has each of the following changed over time on the Upper Colorado?

Segmented by: None



Overarching Conclusions

Private trips are more prevalent, but more commercial users because of party size

Rafts most common, but changes seen over time (SUP) and by location

Variation in ability levels and trip type by location

Strong local visitation; TX top out-of-state visitor locale

Scenery/natural setting key factor to the experience

- Guide important to commercial users and beginners
- Water level important to private/experienced users

Overarching Conclusions

Likelihood of return is extremely high (continuing to explore this concept)

Commercial activity not as tied to water conditions

Local/experienced users more sensitive to changes over time

Although some variation depending on year type, general consistency in visitor volume/boating behaviors

Future of the Program

Finalizing 2018 intercept data now

Data entry of commercial logs and user fee envelopes

Displacement survey

Visitor modeling

Research protocols established to assess future survey work (year type and thresholds for “likely to return”)

Continued evaluation of using survey data to inform ORV Indicators and Resource Guides

Databasing and interactive online tools to access data

Thank you!

Q & A

