

**STUDY REPORT RR-03**  
**LOWER TUOLUMNE RIVER LOWEST BOATABLE FLOW**  
**ATTACHMENT C**  
**VOLUNTEER BOATER BACKGROUND INFORMATION**

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Between May 30, 2012 and September 30, 2012 the study team received a total of 21 completed boater surveys at flows coordinated with the Districts on reaches that spanned the Lower Tuolumne River from Old LaGrange Bridge to Modesto, CA. The flows at which the boaters ran the river ranged from 98 cfs to 256 cfs.

### *Watercraft Type*

For the study, the Districts received surveys from 10 respondents who paddled hardshell kayaks, followed 10 who paddled inflatable kayaks, 1 drift boat, and 5 canoeists. The HDR staff also paddled a 14 foot raft by R2 watercraft (i.e., inflatable raft less than 12 ft long paddled by two people) (Table C-1).

**Table C-1. Type of watercraft.**

<b>Watercraft</b>	<b>Number of Boater Surveys</b>	<b>Percentage of Boaters Responding</b>
Hardshell Kayak	10	32.2%
R2 (Raft <12 ft long)	1	3%
Inflatable Kayak	10	32.2%
Drift Boat	1	3%
Canoe	8	26%
12' Inflatable Raft	1	3%
<b>Total</b>	<b>31</b>	<b>100.0%</b>

With respect to skill level among the volunteer and study team boaters, one person identified as an expert flatwater boater, 13 identified themselves as highly skilled, six identified as intermediate, and one identified as a novice/beginner boater. The expert-level respondent had been boating for two years on the Lower Tuolumne River, with 10 times on the Lower Tuolumne River; the highly skilled respondents spent an average of 15 years on the Lower Tuolumne River, with an average of 24.5 times down the river; the intermediate level boaters spent an average of seven years on the Lower Tuolumne, with average of 21.2 times down the river; and the novice had not spent any number of years on boating the Lower Tuolumne River, however has flatwater boated 40 days in general flatwater boating (Table C-2).

**Table C-2. Number of years boating the Lower Tuolumne River by skill level.**

<b>Flatwater Boating Skill Level</b>	<b>Average Number Years on Lower T</b>	<b>Days Spent Flatwater Boating</b>		
		<b>Maximum</b>	<b>Minimum</b>	<b>Mean</b>
Expert (n=1)	2	--	--	10
Highly Skilled (n=14)	15	120	2	24.5
Intermediate (n=6)	6.8	40	12	21.2
Novice/Beginner (n=1)	1	--	--	40

Travel from respondent's residence to the put-in ranged from 10 miles or less (4 persons) to over 30 miles (8 persons), with 21 to 30 minutes most frequently identified (8 persons) (Table C-3).

**Table C-3. Approximate number of miles from home to put-in.**

<b>Travel Time</b>	<b>Number of Boaters</b>	<b>Percentage of All Boaters</b>
0-10 miles	4	18
11-20 miles	1	4.5
21-30 miles	8	36
31-40 miles	6	27.2
41-50 miles	1	4.5
51 and greater	2	9
<b>Total</b>	<b>22</b>	<b>100</b>

With respect to boating comparable reaches to the Lower Tuolumne River, boaters identified the following:

- Humboldt Bay
- Lower Chattahoochee
- Lower Merced (Snelling)
- Lower Stanislaus below Knights Ferry
- Lower Stanislaus, Orange Blossom down
- Lower Tuolumne from Waterford to Fox Grove
- Lower Tuolumne, Riverdale Park to Old Fisherman's Club
- Lower Kings below Kings Canyon
- Rio Charma River
- Turlock State Park to Waterford
- Upper Delaware River