

Section 2

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**Boats and Boaters for  
Non-Motorized Boating**



## 2. Boats and Boaters for Non-Motorized Boating

This section of the report examines the number of non-motorized boats in California, the number of non-motorized boating participants in California, and trends in non-motorized boating participation. The data and discussions herein draw on survey results from this study. Appendix B, Appendix C, and Appendix D, respectively, provide summaries of the statewide and regional random surveys, active-user survey, and commercial/institutional survey. Where there are sufficient reliable data, the report examines results by non-motorized boat type and region. There are three key sets of data on non-motorized boating: (1) number of non-motorized boats, (2) number of non-motorized boating participants, and (3) number of non-motorized boating participation days.

This section is organized as follows:

- A. *Number of Non-Motorized Boats in California*
- B. *Number of Non-Motorized Boating Participants in California*
- C. *Number of Non-Motorized Boating Participation Days in California.*

### A. Number of Non-Motorized Boats in California

The statewide, and regional, random telephone surveys provided statistically valid incidence rates of non-motorized boat-owning households at the 95 percent confidence level.<sup>a</sup> **Table 2.1**, on the next page, provides our 2006 estimate for the total number of non-motorized boats in California (1.71 million). This estimate is based on a statewide incidence rate of 7.84 percent of California households owning non-motorized boats, or 969,707 non-motorized boat-owning households, with an average of 1.75 boats per household. In addition to non-motorized boats owned by individuals, there are non-motorized boats owned by commercial and institutional entities that rent, provide instruction, or conduct guided trips, as well as club-owned non-motorized boats. As Table 2.1 illustrates, the vast majority of non-motorized boats in California are owned by individuals.

The estimated number of non-motorized boats in California is significantly higher than the number of registered, primarily motorized, boats in California. The California Department of Motor Vehicles (DMV) reports that as of December 31, 2005, there were 963,758 registered boats in California. This figure includes sailboats over eight feet in length, and some non-motorized boats; however, the vast majority of these boats are motorized.

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<sup>a</sup> The incidence rate is the percent of California households that own one, or more, non-motorized boats. The margin of error at the 95 percent confidence level for overall boat-owning households and subcategories vary, depending on the subcategory number of households surveyed. The overall statewide estimates are accurate at a margin of error of +/- 10 percent; however, regional estimates and boat-specific estimates have higher error rates. Appendix B provides a discussion of margins of error for the State, boat types, and for each region.

## 2. Boats and Boaters for Non-Motorized Boating

**Table 2.1**  
**Estimated Number of Non-Motorized Boats in California (2006)**

Category	Number of Boats	Percent of Total
1. Privately Owned	1,696,987	99.0%
2. Commercial and Institutional Owned	15,062	0.9%
3. Club Owned	2,700	0.1%
<b>Total</b>	<b>1,714,749</b>	<b>100.0%</b>

**Table 2.2**  
**Estimated Number of Non-Motorized Boats by Boat Type in California (2006)**

Boat Type	Privately Owned	Commercial/ Institutional Owned	Club Owned	Total Boats by Boat Type	Percent of Total
1. Inflatable*	707,983	3,526	–	711,509	41.5%
2. Kayak	534,381	8,870	–	543,251	31.7%
3. Canoe	190,063	942	500	191,505	11.2%
4. Rowing Boat	159,856	279	600	160,735	9.4%
5. Sailboard/Kiteboard	55,152	817	–	55,969	3.2%
6. Small Sailboat**	41,237	433	1,100	42,770	2.5%
7. Other	8,315	195	500	9,010	0.5%
<b>Total</b>	<b>1,696,987</b>	<b>15,062</b>	<b>2,700</b>	<b>1,714,749</b>	<b>100.0%</b>

\* For purposes of this study, the “inflatable” category includes inflatable rafts, catarafts, and transoms. Inflatable kayaks are included in the “kayak” category.

\*\* Many boaters consider any sailboat that they store at home, and load on their car, as a “small sailboat”, even if the sailboat is longer than 8 feet in length. This estimate of small sailboats includes a significant number of these longer small sailboats.

### Number of Boats by Boat Type

**Table 2.2**, above, illustrates the estimated number of non-motorized boats by boat type. These figures are based on the statewide random telephone survey results, by boat type for boat owners, as well as the commercial and institutional survey and information from boating clubs.

The largest category of non-motorized boats is inflatable boats and rafts, at 711,509. The inflatable boat category is very broad, and includes everything from small inflatable rafts (but not a toy raft), to a technically sophisticated whitewater raft, to a “Zodiac” tender used with, or without, a motor. Based on the survey responses, inflatable boats owned by respondents cover the full range of this spectrum.

Kayaks make up the second largest category of non-motorized boat, with an estimated 543,251 kayaks in California. **Table 2.3**, on the next page, illustrates the approximate number of kayaks, by the five major subcategories of kayaks. The single largest category of kayaks owned in California are recreational kayaks.

Canoes and rowing boats make up the next two largest categories of non-motorized boats in California. There are an estimated 191,505 canoes, and 160,735 rowing boats in California.

There are an estimated 55,969 sailboards and kiteboards in California. The vast majority of these are sailboards.

There are an estimated 42,770 small sailboats in California. This estimate may be high due to people responding that they had a “small” sailboat, even if it was over 8 feet in length. The distinction between

**Table 2.3**  
**Estimated Number of Kayaks by Kayak Type in California (2006)**

Category of Kayaks	Privately Owned Kayaks	Commercial/Institutional Owned Kayaks	Total Kayaks by Kayak Type	Percent of Total
1. Recreational Kayak	236,891	5,102	241,993	44.6%
2. Sea/Touring Kayak	132,206	1,864	134,070	24.7%
3. Inflatable Kayak*	74,386	1,175	75,561	13.9%
4. Whitewater Kayak	55,095	450	55,545	10.2%
5. Other Kayaks	35,803	279	36,082	6.6%
<b>Total</b>	<b>534,381</b>	<b>8,870</b>	<b>543,251</b>	<b>100.0%</b>

\* There is some ambiguity within kayak definitions, as inflatable kayaks may be used for recreational paddling, touring, and whitewater paddling.

**Table 2.4**  
**Estimated Number of Non-Motorized Boats by Boat Type and Utilization Level in California (2006)**

Boat Type	Privately Owned	Commercial/ Institutional Owned	Club Owned	Total Boats by Boat Type	Percent of Total
a. Boats Utilized 5 Days or More per Year	1,176,351			1,194,113	69.6%
1. Kayak	471,084	8,870		479,954	28.0%
2. Inflatable*	415,931	3,526		419,457	24.5%
3. Canoe	123,880	942	500	125,322	7.3%
4. Rowing Boat	93,674	279	600	94,553	5.5%
5. Sailboard/Kiteboard	44,122	817		44,939	2.6%
6. Small Sailboat**	19,345	433	1,100	20,878	1.2%
7. Other	8,315	195	500	9,010	0.5%
b. Boats Utilized 1 to 4 Days per Year	300,197			300,197	17.5%
c. Boats Not Utilized Within Last 5 Years	220,439			220,439	12.9%
<b>Total</b>	<b>1,696,987</b>	<b>15,062</b>	<b>2,700</b>	<b>1,714,749</b>	<b>100.0%</b>

\* For purposes of this study, the "inflatable" category includes inflatable rafts, catarafts, and transoms. Inflatable kayaks are included in the "kayak" category.

\*\* Many boaters consider any sailboat that they store at home, and load on their car, as a "small sailboat", even if the sailboat is longer than 8 feet in length. This estimate of small sailboats includes a significant number of these longer small sailboats.

a small sailboat for survey purposes and what the sailing public views as a small sailboat (i.e. any sailboat up to about 11 or 12 feet in length) is not clear to the average person.

Table 2.2 and Table 2.3 provide estimates for the total number of non-motorized boats in California, by boat type. However, almost one-third of non-motorized boats in the State were not used regularly. In order to focus on non-motorized boats that Californian's utilized most frequently on State waterways, **Table 2.4**, above, provides estimates of

non-motorized boats, by boat type, for only those boats that were regularly used by California boat owners, or were in commercial, institutional, or club fleets. "Regular" non-motorized boat use for boat owners was defined, for purposes of this study, as boats owned by boat owners that utilized their non-motorized boat(s) five (5) or more days per year.

The study defined two additional categories of non-motorized boat owners: (1) "infrequent" boaters, defined as non-motorized boat owners that utilized their non-motorized boat(s) between

**Table 2.5**  
**Estimated Number of Kayaks Utilized Five Days or More per Year, by Kayak Type in California (2006)**

Category of Kayaks	Privately Owned Kayaks	Commercial/Institutional Owned Kayaks	Total Kayaks by Kayak Type	Percent of Total
1. Recreational Kayak	203,838	5,102	208,940	43.5%
2. Sea/Touring Kayak	121,210	1,864	123,074	25.7%
3. Inflatable Kayak*	68,872	1,175	70,047	14.6%
4. Whitewater Kayak	49,605	450	50,055	10.4%
5. Other Kayaks	27,559	279	27,838	5.8%
<b>Total</b>	<b>471,084</b>	<b>8,870</b>	<b>479,954</b>	<b>100.0%</b>

\* There is some ambiguity within kayak definitions, as inflatable kayaks may be used for recreational paddling, touring, and whitewater paddling.

one and four days per year, and (2) “inactive” non-motorized boat owners, defined as non-motorized boat owners that did not utilize their boat(s) in the last five years. For the latter two boat owner categories, Table 2.4 provides only the total number of non-motorized boats.

Because they are based on a smaller number of survey responses, the boat type estimates provided in Table 2.4 are less statistically accurate than the overall boat type estimates provided in Table 2.2. However, these estimates of regularly used boats provide reasonable estimates of the relative number of boats, by boat type, particularly for kayaks and inflatable boats.

The largest category of non-motorized boats among regularly used boats was kayaks, with an estimated 479,954 regularly used total kayaks in California. **Table 2.5**, above, illustrates the approximate number of kayaks, by the five major subcategories of kayaks. The single largest category of kayaks owned in California was recreational kayaks. Similar to Table 2.4, Table 2.5 only provides kayak type estimates for those kayaks that were regularly utilized on California waterways.

There were an estimated 300,197 infrequently used non-motorized boats, owned by Californian’s that only utilized their non-motorized boat(s) between one and four days per

year. There were an additional estimated 220,439 inactive non-motorized boats, which were not utilized by boat owners during the last five years.

**Table 2.6**, on the next page, provides a comparison of the number of boats, by boat type, between all boats and regularly used boats. The “Number of Boats Utilized Four Days or Less Per Year” category in Table 2.6 includes the 300,197 infrequently used boats that were utilized one to four days per year, and the 220,439 boats that were not utilized within the last five years, for a total of 520,636 boats.

Table 2.6 illustrates the significant variation in utilization levels between boat types. For example, there were an estimated 292,052 inflatable boats that were either infrequently used (1 to 4 days per year), or inactive (not used within the last five years). This represents over one-half (56.1 percent, or 292,052/520,636) of the total estimated 520,636 infrequently used and inactive boats. The last column in Table 2.6 illustrates that 41 percent of inflatable boats (292,052/419,457) were infrequently used or inactive inflatable boats. The same analysis for kayaks shows very different results. Kayaks represent only 12.2 percent (63,297/520,636) of infrequently used and inactive boats, and only 11.7 percent of kayaks (63,297/479,954) were infrequently used or inactive kayaks.

**Table 2.6**  
**Comparison of Estimated Number of Boats by Boat Type and Utilization Level in California (2006)**

Boat Type	Total Boats	Boats by Utilization Level	Number of Infrequently Used Boats and Inactive Boats, by Type	Percent of Total Infrequently Used Boats and Inactive Boats	Percent of Infrequently Used Boats and Inactive Boats, by Boat Type
		<b>Regularly Used Boats</b>			
1. Kayak	543,251	479,954	63,297	12.2%	11.7%
2. Inflatable	711,509	419,457	292,052	56.1%	41.0%
3. Canoe	191,505	125,322	66,183	12.7%	34.6%
4. Rowing Boat	160,735	94,553	66,182	12.7%	41.2%
5. Sailboard/Kiteboard	55,969	44,939	11,030	2.1%	19.7%
6. Small Sailboat	42,770	20,878	21,892	4.2%	51.2%
7. Other	9,010	9,010	–	0.0%	0.0%
		<b>Infrequently Used Boats</b>			
8. Boats Utilized 1 to 4 Days per Year (Infrequently Used)		300,197			
		<b>Inactive Boats</b>			
9. Boats Not Utilized Within Last 5 Years (Inactive)		220,439			
<b>Total</b>	<b>1,714,749</b>	<b>1,714,749</b>	<b>520,636</b>	<b>100.0%</b>	

## Number of Boats by Region

**Table 2.7**, on the next page, provides the estimated number of privately owned non-motorized boats by ten California regions. As Table 2.7 shows, the incidence rate, i.e. percent of households in a given region owning one or more non-motorized boats, varies significantly by region. In general, the less-populated, more rural, regions of the State have higher rates of non-motorized boat ownership, and the urban regions of the State have lower rates of non-motorized boat ownership. Even with a low incidence rate of 4.9 percent, the South Coast region, which is the most populated region of the State, has the greatest number of non-motorized boats. The Sacramento Basin region, with numerous lakes and rivers, has the next largest number of non-motorized boats, with almost 16 percent of households owning one, or more, non-motorized boats. The San Francisco Bay Area is the region with the third greatest number of non-motorized boats. At the

other end of the spectrum, the Eastern Sierra and Northern Interior regions have a relatively small number of non-motorized boats, even though these two regions have high incidence rates. The Southern Interior region has the lowest incidence rate. This low rate is not surprising, given that there are relatively few waterways in the region.

**Exhibit 2.1**, on page 2-7, illustrates the ten State regions, counties, populations, and number of households, by region.

## B. Number of Non-Motorized Boating Participants in California

There are many types of non-motorized boating participants in California:

- Participants that own non-motorized boats
- Participants that rent non-motorized boats

**Table 2.7**  
**Estimated Number of Privately Owned Non-Motorized Boats (NMB) by Region in California (2006)**

Region	Incidence Rate (Percent of Households Owning NMBs)	Number of Households Owning NMBs	Number of NMBs Owned by Households	Percent of Total
1. North Coast (NC)	19.25%	59,391	105,349	6.2%
2. San Francisco Bay Area (SF)	6.56%	173,760	297,465	17.5%
3. Central Coast (CC)	13.87%	49,434	98,903	5.8%
4. South Coast (SC)	4.87%	246,332	398,837	23.5%
5. San Diego (SD)	7.54%	88,429	154,119	9.1%
6. Northern Interior (NI)	23.79%	8,892	17,608	1.0%
7. Sacramento Basin (SB)	15.79%	191,639	365,619	21.6%
8. Central Valley (CV)	7.68%	105,230	175,805	10.4%
9. Eastern Sierra (ES)	20.11%	3,174	6,252	0.4%
10. Southern Interior (SI)	3.15%	43,426	77,030	4.5%
<b>Total</b>	<b>7.84%</b>	<b>969,707</b>	<b>1,696,987</b>	<b>100.0%</b>

- Participants that attend non-motorized boat classes
- Participants that attend guided trips in non-motorized boats
- Participants that boat with non-motorized boating clubs.

The majority of non-motorized boating participation takes place among those that own their own boats; however, the other components of non-motorized boating are still significant and important aspects of the activity.

**Table 2.8**, right, provides an overview of California non-motorized boating participation by category. This table reflects the total number of boat-owning and other participants, and adjusts for overlapping participation by boat owners. For example, a boat owner that participates in both canoeing and kayaking would only be counted once in this table. The 1.9 million figure for boat-owning participants reflects only the 82 percent of boat owners that participated in the last five years. The total 2.5 million participants results in a participation rate of 8.2 percent of Californians, ages twelve and older.

Behind boat-owner participation, guided trip participation is the second largest category. Most guided trip participation takes place either as whitewater rafting or sea kayaking.

Non-motorized boat participation through rentals is also high. Kayaks, canoes, and inflatable boats make up the three most common rental categories.

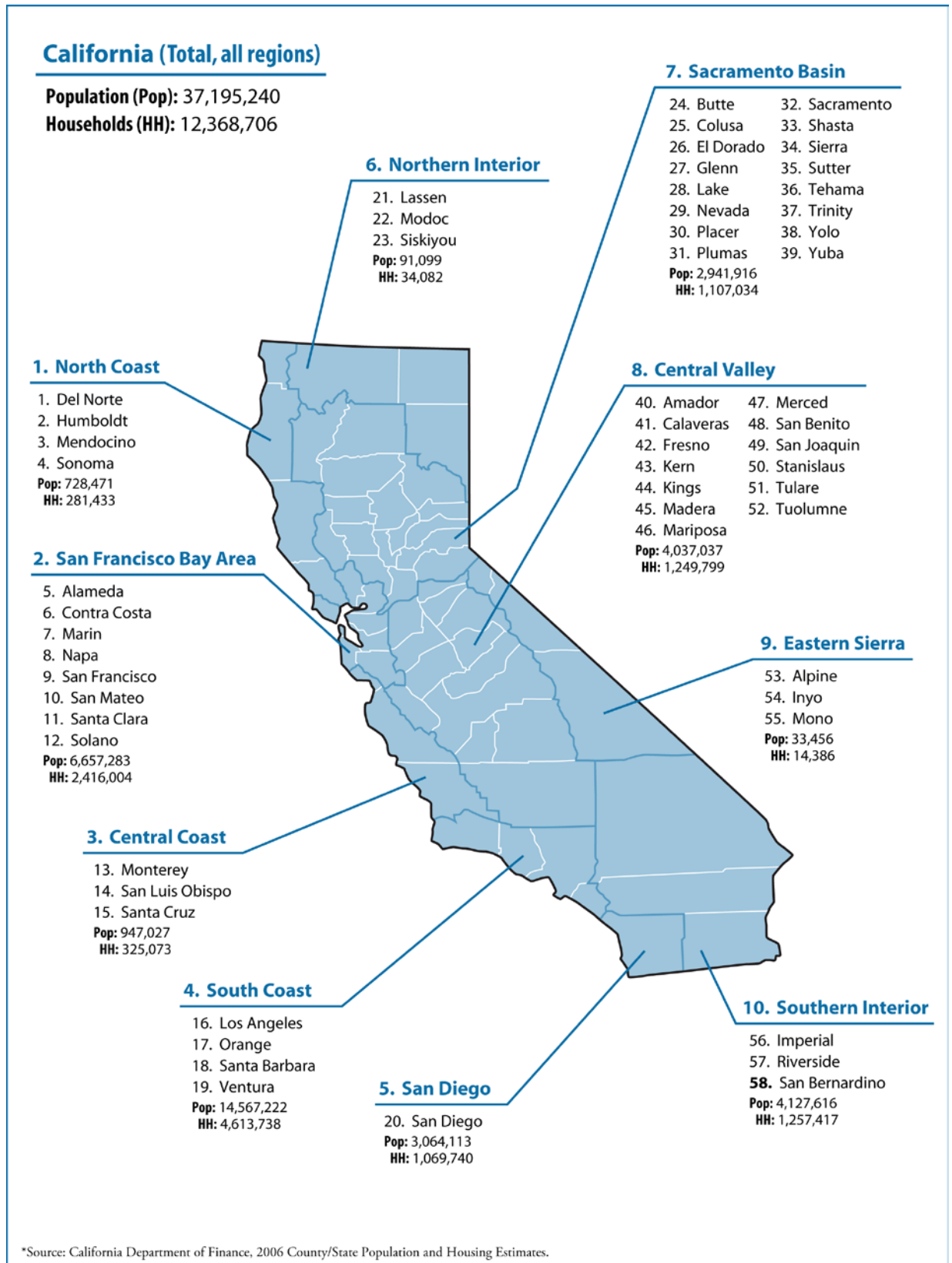
Participation in instruction is relatively low, based on our commercial and institutional survey. There may be a limited amount of double-counting in rental, instruction, and guided trip participation, as some individuals participate in more than one activity in a year. Commercial survey respondents

**Table 2.8**  
**Estimated Number of Non-Motorized Boating Participants in California (2006)**

Participant Type	Number of Participants	Percent of Total
1. Boat-Owning Participants	1,917,503	77.0%
2. Guided Trip Participants	243,827	9.8%
3. Rental Participants	208,902	8.4%
4. Instruction Participants	87,093	3.5%
5. Club Participants	33,000	1.3%
<b>Total</b>	<b>2,490,325</b>	<b>100.0%</b>

Exhibit 2.1

DBW Regions by County, with Regional Population and Number of Households (2006)\*





## 2. Boats and Boaters for Non-Motorized Boating

indicated that the majority of customers participated with them only once, but this does not exclude participating with more than one vendor.

The estimate of 33,000 for club participation in non-motorized boating is conservative, in that it only includes rowing clubs, dragon boat clubs, outrigger canoe clubs, and yacht club small sailboat programs. These data do not include individuals that come to California for non-motorized boating events (races) or vacations. Events such as rowing regattas, dragon boat festivals and outrigger canoe races can bring hundreds of teams and thousands of additional boaters to California. In addition, a smaller number of individuals travel to California specifically for non-motorized boating activities, such as whitewater kayaking, sea kayaking, and windsurfing.

### Number of Participants by Boat Type

**Table 2.9**, below, provides estimated non-motorized boating participants by boat type, for regular non-motorized boaters, as well as commercial, institutional, and club participants.

These estimates are conservative because they do not take into account that a participant may utilize more than one boat type. For boat owners, the boat type participant estimates in Table 2.6 were based on the estimated total number of non-motorized boat participants (1,917,503), multiplied by the percent of regularly and infrequently utilized boats, by boat type. For example, kayaks represented 31.9 percent of regularly and infrequently utilized boats, and thus 31.9 percent of boat participants, or 611,683 kayak participants (1,917,503 x 31.9 percent).

As Table 2.9 illustrates, the number of boat-owning participants was highest for kayaks. However, the total estimated number of non-motorized boating participants was highest for inflatable boats, due to the high number of guided trip, rental, and instruction inflatable boat participants. Kayak and inflatable boat participants combined made up almost two-thirds of 2006 non-motorized boating participants in California.

**Exhibit 2.2**, starting on the next page, provides a summary matrix of boater participants by boat type. This exhibit summarizes characteristics and boating

**Table 2.9**  
**Estimated Non-Motorized Boating Participants by Boat Type in California (2006)**

Boat Type	Boat Owning Participants*	Guided Trip, Rental, and Instruction Participants	Club Participants	Total Participants	Percent of Total
a. Boats Utilized 5 Days or More per Year	1,528,250			2,101,072	84.4%
1. Kayak	611,683	164,525	–	776,208	31.2%
2. Inflatable	540,736	272,765	–	813,501	32.7%
3. Canoe	161,070	60,085	3,000	224,155	9.0%
4. Rowing Boat	120,803	6,164	5,000	131,967	5.3%
5. Sailboard/Kiteboard	57,525	14,356	–	71,881	2.9%
6. Small Sailboat	24,928	8,209	22,000	55,137	2.2%
7. Other	11,505	13,718	3,000	28,223	1.1%
b. Boats Utilized 1 to 4 Days per Year	389,253	–	–	389,253	15.6%
<b>Total</b>	<b>1,917,503</b>	<b>539,822</b>	<b>33,000</b>	<b>2,490,325</b>	<b>100.0%</b>

\* Total participants by boat type were adjusted to match the total number of participants overall. As a result, these estimates assume that each participant utilized only one boat type. Because some participants used multiple boat types, these are conservative estimates of boat type participation.

**Exhibit 2.2**

**Description of Non-Motorized Boating by Boat Type in California (2006)**

Boat Type	Typical Boat Owner Participants (Most-used boat)	Typical Commercial Participants	Typical Active-User Participants
1. Inflatable Boats	Only 38 percent of respondents participated in boating more than 20 years. More respondents participated less than five years (17 percent) and 5 to 9 years (14 percent) than other boat types. Relatively low 78 percent used their boats in the last five years. Participate less than many other boat types, an average of 18, and median of 7, days per year. More than half of respondents use inflatables on various lakes, but also used on mix of rivers and ocean harbors and bays. Respondents in all regions, especially SB, SC, SF, and CV.	Most inflatable rentals in the CV and SB regions, on rivers. Very little inflatable instruction, primarily for guide training. Large majority of commercial non-motorized activity in California is whitewater river rafting, with guides, on various California rivers, mostly in the SB and CV regions, with some additional trips in the NC and NI regions.	Only 8 percent of respondents used inflatable boats as their most-used boat, typically using an inflatable whitewater raft on the South Fork of the American River, or other whitewater rivers. Very few respondents used their inflatable boat on lakes or bays.
2A. Recreational Kayaks	Fewer respondents have boated more than 20 years than for other boat types (45 percent). Relatively large number boating less than 5 years (13 percent) and 5 to 9 years (21 percent). Average years owned for most-used recreational kayak is 4 years. Ninety-four percent of respondents used their kayaks in the last five years. Those respondents participate an average of 35, and median of 16, days per year. Respondents use kayaks on mix of lakes, rivers, and ocean bays and harbors. Respondents in all regions, especially SC, SF, and NC.	Most commercial kayak participation (all types) are rentals and instruction. Most rentals are recreational or sit-on-tops, while instruction is typically sea/touring or whitewater. Most guided trips are for sea/touring kayaks. Almost one-half of guided trips are in the SC region, with large numbers also in CC, SD, and SF.	Just under 10 percent of respondents use recreational kayaks, many on lakes and SC/SD harbors and bays.  (Note: another 13 percent of active-user survey respondents used some other type of kayak, such as racing, flatwater, surf, surfski, fishing, etc.).
2B. Sea/Touring Kayaks	More than one-half respondents have boated more than 20 years, but 13 percent have boated less than five years. All respondents had used their sea or touring kayaks in the last five years. Participate an average of 35, and median of 24, days per year, significantly higher than statewide average. Respondents used their kayaks on a wide variety of ocean areas, lakes, and rivers. More respondents in SB, SD, and SC regions.	See Recreational Kayaks	One-half of respondents use a kayak as the most-used boat. Of these kayakers, 38 percent use sea/touring kayaks, mostly on San Francisco Bay, as well as other ocean locations and lakes.
2C. Inflatable Kayaks	All respondents participated in boating 10 or more years, and all participated within the last five years. Participate an average of 24, and median of 16, days per year. Majority of respondents use their kayaks on lakes. Respondents spread across all regions except CC and SI.	See Recreational Kayaks	A low percentage of respondents used inflatable kayaks. Majority of respondents use their inflatable kayaks on rivers, especially the South Fork of the American, as well as Kern River. Less than one-half use kayaks on lakes.
2D. Whitewater Kayaks	Very few respondents used a whitewater kayak most often. Most have boated more than 20 years. All respondents used their kayaks within the last five years. Participate an average of 40, and median of 25, days per year. Respondents typically use rivers (American, Truckee, others). Respondents in mix of regions.	See Recreational Kayaks	Over one-third of respondents, 35 percent, use whitewater kayaks. The vast majority do so on the Forks of the American River, as well as other whitewater rivers.

## 2. Boats and Boaters for Non-Motorized Boating

### Exhibit 2.2

#### Description of Non-Motorized Boating by Boat Type in California (2006) (continued)

Page 2 of 2

Boat Type	Typical Boat Owner Participants (Most-used boat)	Typical Commercial Participants	Typical Active-User Participants
3. Canoes	More than one-half of respondents have boated more than 20 years. Just under 80 percent used their boat in the last five years. Those that did use their canoes participate an average of 25, and median of 10, days per year. Large majority of respondents canoe on lakes, with a few in harbors and rivers. Respondents spread across all regions, with more in SF, SB, and SC regions.	One-half of commercial canoe participation is rentals in the NC region (especially the Russian River). About 25 percent is due to rentals in the SC region, with significant numbers in SD also. Most instruction in SC, most guided trips in SF.	Ten percent of respondents use some type of canoe as most-used boat. Over one-half were outrigger canoeists, boating from harbors into open ocean. About one-third use standard canoes, in mix of lakes, rivers, and some bays. Just over 10 percent used whitewater canoes, mostly on Forks of the American River and other whitewater rivers.
4. Rowing Boats	Most respondents used rowing boats (not rowing shells). Very few new boater respondents, with 65 percent boating more than 20 years, and 19 percent between 15 and 20 years. Only 6 percent boating less than five years. A total of 87 percent of respondents used their boats in the last five years. Participate an average of 29, and median of 20, days per year. Most respondents were in the SB and NI regions, also SF and NC – very few rowing boats in Southern California. Boats used on mix of lakes and rivers (not whitewater rivers).	Very little commercial activity with rowing boats, primarily teaching rowing using shells or sculls in the SC, SF, SB, and SD regions.  Commercial survey did not capture guided fishing in drift boats, which often do not have motors. This would increase guided trips with rowing boats, but is likely small compared to inflatables and kayaks.	Twelve percent of respondents used rowing boats as their most used boat, almost all of these using rowing shells or sculls. Most respondents used rowing shells or sculls with clubs in Mission Bay, Marina Del Rey, San Francisco Bay (especially near Redwood City), Lexington Reservoir, Sacramento Deep Water Port, and others. Most respondents in SD, SC, SF, and SB regions.
5. Sailboards/ Kiteboards	Very few respondents with sailboards and kiteboards. Two-thirds of respondents participated in boating more than 15 years. Kiteboard respondents used boards in last five years. Those that did use their boards participate a relatively low average of 11, and median of 10, days per year. Half of respondents in SF region, also SC, SD, SB.	Most rental and instruction in the SF region, also significant amount of instruction in the SC region, and limited amounts in SD and SB. Little to no sailboard/kiteboard commercial activity in interior regions, except SB. Limited guided trips, all in SF region.	Majority of survey respondents in SF region, also responses in SC and SD regions. Most use specific locations in SF bay. Relatively few kiteboarders as compared to sailboarders, although many respondents owned both.
6. Small Sailboats	Few respondents specified small sailboat as their most-used boat. One-half have participated in boating more than 20 years, 25 percent for 15 to 20 years, and 17 percent for 5 to 9 years. Two-thirds participated in boating in the last five years. Participate an average of 39, and median of 35, days per year. Most respondents in SF region, use sailboats on SF bay, others use on lakes.	Most participation is for sailing instruction. Small sailboats are typically used for junior sailing programs, although many programs use sailboats that are greater than 8 feet in length.	Very few respondents specified small sailboat as most-used boat. Mix of newly purchased boats and old boats. Most used for racing, in coastal regions.
7. Other Boats	Very few respondents with “other” type of most-used boat, including pedal boat and dragon boat, all used within last five years. One-half respondents participated in boating more than 20 years, and one-half participated between 5 and 9 years. Participate a very high average of 61, and median of 65, days per year. Use on SF bay, rivers, and lakes.	Majority of rental participation in NC region, for pedal boats. Most instruction in SF, SD, and SC regions, for dragon boats, stand-up paddle surfing. Limited guided trips.	Most active-user survey other boat respondents used dragon boats as their most-used boat, accounting for 4 percent of all respondents. Most located in SC region, also some in SF and SD. Many use Long Beach/Naples area, also Mission Bay, and San Francisco Bay.

**Table 2.10**  
**Estimated Non-Motorized Boating Participants by Region in California (2006)**

Region	Boat Owning Participants	Guided Trip, Rental, and Instruction Participants	Club Participants	Total Participants	Percent of Total
1. North Coast	116,947	70,523	–	187,470	7.5%
2. San Francisco Bay Area	318,111	45,122	9,000	372,233	15.0%
3. Central Coast	120,223	26,404	1,400	148,027	5.9%
4. South Coast	516,644	108,317	12,800	637,761	25.6%
5. San Diego	166,157	52,979	9,600	228,736	9.2%
6. Northern Interior	18,375	13,953	–	32,328	1.3%
7. Sacramento Basin	339,881	122,627	200	462,708	18.6%
8. Central Valley	238,857	96,622	–	335,479	13.5%
9. Eastern Sierra	5,451	725	–	6,176	0.2%
10. Southern Interior	76,857	2,550	–	79,407	3.2%
<b>Total</b>	<b>1,917,503</b>	<b>539,822</b>	<b>33,000</b>	<b>2,490,325</b>	<b>100.0%</b>

**Table 2.11**  
**Estimated Non-Motorized Boating Participation Days in California (2006)**

Participant Type	Number of Days	Percent of Total
1. Boat-Owning Participants	45,905,022	94.6%
2. Club Participants	1,870,000	3.9%
3. Guided Trip, Rental, and Instruction Participants	726,472	1.5%
<b>Total</b>	<b>48,501,494</b>	<b>100.0%</b>

patterns for boat owners, commercial/institutional participants, and active-user participants. The latter category is based on results of the active-user Internet survey of 1,518 non-motorized boaters.

### Number of Participants by Region

**Table 2.10**, above, provides estimated non-motorized boating participants for each of the ten regions. The South Coast, Sacramento Basin, San Francisco Bay Area, and Central Valley regions had the largest number of non-motorized boating participants.

**Exhibit 2.3**, starting on the next page, provides a summary matrix of boater participant characteristics by region. The exhibit summarizes boat owning participants, commercial/institutional participants, and active-user participants. Note that non-motorized boaters may frequent waterways out of the region they reside in.

### C. Number of Non-Motorized Boating Participation Days in California

Number of participation days reflects the total number of non-motorized boaters, multiplied by the average number of days of participation, and the percent of boat owners that participated in non-motorized boating over the last five years. The total number of participation days, by activity, is provided in **Table 2.11**, left. The 48.5 million participation day figure is based on the statewide average number of days per year for boat owners of 24.0. This 48.5 million participation day figure also was adjusted to reflect the fact that 18 percent of respondents did not use their boat in the last five years.

## 2. Boats and Boaters for Non-Motorized Boating

### Exhibit 2.3

#### Description of Non-Motorized Boating by Region in California (2006)

Page 1 of 2

Region	Typical Owned Boat Type (Most-used boat)	Typical Boat Owning Participants	Typical Guided Trip, Rental, and Instruction Participants	Typical Active-User Participants
1. North Coast	Mix of most-used boat types, including canoes, inflatable rafts, recreational kayaks, rowing boats, sea/touring kayaks.	More than one-half of respondents have boated more than 20 years. Participate an average of 23, and median of 11, days per year. Mix of most-used waterways, including Russian River, Lake Mendocino, Lake Sonoma, Eel River, various harbors, and others.	Generally high numbers of rentals and guided trips. Relatively large number of canoe rentals, mix of local and out-of-town; mostly novice boaters; mix of rivers and sea kayaking for guided trips.	Mostly sea kayakers, most using Russian and Petaluma Rivers, as well as ocean and harbors.
2. San Francisco Bay Area	About one-third of most-used boats are inflatable rafts, also relatively high numbers of canoes and recreational kayaks. A few small sailboats and sailboards.	More respondents boating between 10 to 20 years than statewide averages. Participate an average of 21, and median of 7, days per year. Less than half of respondents use waterways in the SF region as most-used waterways. Many use SB lakes (Tahoe, Shasta), and NC rivers and lakes.	Generally high number of instruction participants. Most rental and instruction are local participants, beginners; more out-of-town participants for guided trips; primarily canoe and sea kayak for all three activities in SF Bay and local lakes.	Large number of sea kayakers and windsurfers/ kiteboarders. Several active and organized non-motorized boating clubs in the region. Also significant number of whitewater boaters that travel to the Forks of the American River.
3. Central Coast	Mix of most-used boat types, including about equal numbers of canoes, inflatable rafts, recreational kayaks, and rowing boats. Also a few small sailboats and inflatable transom boats.	More than 60 percent of respondents boating more than 20 years, relatively few new participants. Participate an average of 20, and median of 8 days per year. Most used waterway for about one-third of respondents was Monterey Bay area, another one-third at regional lakes, remaining one-third out-of-region.	Modest number of all three categories. Mix of locals and out-of-area participants, more out-of-towners for guided trips. Primarily sea kayaking in Monterey Bay area; primarily beginners.	Mix of many boat types. Several respondents using outrigger canoes, fishing kayaks, and sea/touring kayaks on local ocean and bays. Also many whitewater boaters traveling to SB and CV rivers.
4. South Coast	Over one-third of respondents use inflatable rafts as most-used boat. Also relatively high number of recreational kayaks, followed by canoes and sea/touring kayaks.	Years involved in boating similar to statewide averages. Participate an average of 23, and median of 10, days per year. About one-half of respondents use SC ocean locations as most used waterways. A few use SC lakes and the Colorado River; remaining go out of the region to participate.	Generally more out-of-town participants, especially for guided trips. Relatively high participation on all categories, especially instruction. Most activities take place in ocean locations.	Large number of respondents utilizing rowing shells, outrigger canoes, dragon boats, and sea/touring kayaks. Most using oceans, harbors, especially Marina del Rey and Long Beach area. Several whitewater boaters traveling to Kern River (CV).
5. San Diego	Relatively even mix of most-used boat types between inflatable rafts, inflatable kayaks, recreational kayaks, and sea/touring kayaks.	Almost 20 percent of respondents boating less than five years. Participate an average of 27, and median of 10, days per year. Most-used waterways include San Diego Harbor, Colorado River, and Mission Bay. Also a few local lakes and some out-of-region waterways.	Large number of instruction participants, relatively few guided trips. Many participants from out-of-state, but also locals, college students; mostly novice. Most activities in ocean, Mission Bay.	Large number of respondents using rowing shells/sculls and sailboards; fishing kayaks and sea/touring kayaks also popular. Most use boats on Mission Bay, San Diego Bay, and Lake Hodges.

Exhibit 2.3

Description of Non-Motorized Boating by Region in California (2006) (continued)

Region	Typical Owned Boat Type (Most-used boat)	Typical Boat Owning Participants	Typical Guided Trip, Rental, and Instruction Participants	Typical Active-User Participants
6. Northern Interior	About one-quarter each canoes, rowing boats, and inflatable rafts as most-used boats. Remaining respondents used a mix of kayak types (recreational, sea/touring, and inflatable).	More than one-half of respondents boating more than 20 years. Relatively more respondents in the 5 to 9 year category, and fewer participating less than 5 years than statewide. Participate an average of 21, and median of 10, days per year. Most-used waterways include Lake Siskiyou, Klamath River, Eagle Lake, and Kangaroo Lake. Also mix of other regional lakes and rivers.	Relatively large number of guided trips for whitewater river rafting. Most participants are families from out-of-town, but also some local participation.	Very few survey respondents, although many whitewater boaters in other regions utilized NI rivers (Klamath, Salmon, Pit).
7. Sacramento Basin	More than one-half of respondents use inflatable rafts as most-used boat. Other respondents use a mix of all other boat types. Relatively large number of respondents with inflatable rafts did not use in last five years.	Years involved in non-motorized boating similar to state average, except slightly more in the 15 to 20 year range. Participate an average of 25, and median of 12, days per year. Most used waterways include Sacramento and American Rivers, Lake Natoma, Folsom Lake, and other regional lakes and rivers.	Significant numbers of guided trip participation, primarily whitewater rafting on the South Fork of the American River. Mix of local and out-of-town participants, many groups, all ages and ability levels.	Large number of whitewater kayakers and rafters boating on the Forks of the American River. Also many sea/touring kayakers that use Lake Natoma and local/mountain lakes. Several rowing club members also completed surveys.
8. Central Valley	Just over one-half of respondents use inflatable rafts as their most-used boat. Other respondents use a mix of boats, primarily recreational, sea/touring, and inflatable kayaks.	Greater percentage of new boaters in this region, based on respondents. Over 20 percent boating less than five years, and almost 20 percent boating 5 to 9 years. Still about one-half boating over 20 years. Participate an average of 30, and median of 10, days per year. Respondents use a wide range of regional lakes and rivers as most-used waterways, including Kern River, Bass Lake, and many others.	Significant numbers of guided trip participation on region whitewater rivers (Kern, Kings, Tuolumne, etc.). Relatively more out-of-town, families, and groups. Mix of ability levels, depending on rivers.	Large number of whitewater kayakers and rafters boating on the Kern and King Rivers. Also a mix of sea/touring kayakers, canoes, recreational kayaks on local lakes, some traveling to the ocean.
9. Eastern Sierra	Mix of most-used boat types, including: inflatable rafts, recreational kayaks, canoes, inflatable kayaks, and rowing boats.	More respondents with 10 to 20 years of boating participation, fewer new boaters with less than 10 years participation. Participate an average of 23, and median of 11, days per year. Respondents use a mix of mostly regional lakes and rivers, including: Owens River, Mammoth Lake, Klondike Lake, Crowley Lake, Diaz Lake, and others.	Mix of locals and out-of-town; kayaking on local lakes. Likely also small canoe and kayak rentals on area lakes that were not captured in survey.	Very few survey respondents from this region. Some respondents from other regions traveling to ES lakes for recreational kayaking, canoeing.
10. Southern Interior	One-half of respondents use inflatable raft as most-used boat. Other respondents use mix of other inflatable boats, canoes, others.	Fewer respondents with more than 20 years participation and more in the 5 to 14 year range than statewide. Approximately 40 percent did not boat in last five years. Those that did participate an average of 9, and median of 4, days per year. Few respondents use regional waterways, including Colorado River, Silverwood Lake, Lake Elsinore, Big Bear Lake. Many respondents use mountain lakes in other regions.	No guided trips in this region, relatively little rental and instruction. Mix of local and out-of-town participants.	Mostly sea/touring kayakers using Lake Perris, ocean, and area lakes. Also several whitewater boaters that travel to the Kern River (CV).

**Table 2.12**  
**Estimated Non-Motorized Boating Participation Days by Boat Type in California (2006)**

Boat Type	Boat Owner Annual Participation Days	Club Participation Days	Guided Trip, Rental, and Instruction Participation Days	Total Participation Days	Percent of Total
a. Boats Utilized 5 Days or More per Year	45,023,110			47,619,582	98.2%
1. Kayak	21,284,610	–	231,745	21,516,355	44.4%
2. Inflatable	13,420,545	–	337,083	13,757,628	28.3%
3. Canoe	4,691,745	300,000	101,706	5,093,451	10.5%
4. Rowing Boat	3,365,844	500,000	7,265	3,873,109	8.0%
5. Sailboard/Kiteboard	567,450	–	18,888	586,338	1.2%
6. Small Sailboat*	1,194,846	770,000	10,171	1,975,017	4.1%
7. Other	498,070	300,000	19,614	817,684	1.7%
b. Boats Utilized 1 to 4 Days per Year	881,912	–	–	881,912	1.8%
Total	45,905,022	1,870,000	726,472	48,501,494	100.0%

The majority (94.6 percent) of non-motorized boating participation days is due to boat-owning participants activity. One-time guided trip, rental, and instruction participation makes up only 1.5 percent of participation days. Rowing, outrigger, sailing, and dragon boat club participants make up a somewhat larger number of participation days (3.9 percent).

**Table 2.12**, above, provides total estimated non-motorized participation days by boat type, and use levels. Boat-specific use estimates were only provided for regularly used non-motorized boats. These data reflect boat-specific average participation days per regular boat owner participant, multiplied by the number of boat-specific participants, and adjusted to the statewide 2006 total boat-owner participation days estimate of 45,905,022.

There were an estimated 21.5 million kayak participation days in California in 2006, reflecting over 44 percent of all non-motorized boating

participation days. Inflatable boat participation days were the next highest, accounting for 28 percent of all non-motorized boating participation days. Infrequent boat owner participants accounted for less than 2 percent of total non-motorized boating participation days in 2006.

**Table 2.13**, on the next page, provides total estimated non-motorized boating participation days by region. These data reflect region-specific average participation days, and region-specific percentages for participation in the last five years.

The most populated region in the State, the South Coast, has the greatest number of participation days. This number reflects the high regional population, not a high percentage of non-motorized boat participants. The Sacramento Basin region, with only about 20 percent as many people as the South Coast region, has almost as many non-motorized boating participation days. The Sacramento Basin figure reflects the high percentage of non-motorized boat owners in the region.

**Table 2.13**  
**Estimated Non-Motorized Boating Participation Days By Region in California (2006)**

Region	Boat Owner Annual Participation Days	Club Participation Days	Commercial/ Institutional Participation Days	Total Participation Days	Percent Total
1. North Coast	2,767,040	–	86,377	2,853,417	5.9%
2. San Francisco Bay Area	6,792,986	542,500	54,838	7,390,324	15.2%
3. Central Coast	2,459,585	68,500	33,485	2,561,570	5.3%
4. South Coast	12,165,456	708,000	126,817	13,000,273	26.8%
5. San Diego	4,552,385	531,000	57,476	5,140,861	10.6%
6. Northern Interior	398,278	–	23,415	421,693	0.9%
7. Sacramento Basin	8,584,126	20,000	193,312	8,797,438	18.1%
8. Central Valley	7,313,888	–	147,324	7,461,212	15.4%
9. Eastern Sierra	131,413	–	878	132,291	0.3%
10. Southern Interior	739,865	–	2,550	742,415	1.5%
<b>Total</b>	<b>45,905,022</b>	<b>1,870,000</b>	<b>726,472</b>	<b>48,501,494</b>	<b>100.0%</b>