

The Otter Project

MPA Watch Survey Data

June 2014 - December 2014

Total surveys to date: 5,469

Total surveys for this year: 1,372

Contributing volunteers: 68

MPA Watch is a citizen science initiative to monitor human use of coastal natural resources by training and supporting volunteers in the collection of relevant, scientifically rigorous, and broadly accessible data. Data are meant to inform the management, enforcement, and science of California's marine protected areas (MPAs) and allow us to see how human uses are changing as a result of MPA implementation.

Volunteers record consumptive activities such as commercial fishing, shore fishing, and clamming, and non-consumptive activities such as swimming, SCUBA diving, and tide pooling. Potential users of MPA Watch data span academia, natural resource management agencies, and local communities. Data collection and this report will support MPA assessments and adaptive management; inform enforcement, compliance, and education efforts; and build social capital.

Below show totals of all surveys done in the second half of 2014, broken down into regions & specific sites. **Data from the first half of the year is located in a separate report. Data processes changed in May/June 2014 and consequently, the historic data does not match up with the new system of data collection. All activities are still accounted for, just in a more concise and practical way for citizen science.**

Data from entire year of 2014:

Santa Cruz cumulative total: 997 Santa Cruz total 2014: 196 Bean Hollow: 49 Ano Nuevo: 25 Coastal Bluffs: 44 Natural Bridges: 76	Monterey cumulative total: 2,843 Monterey total 2014: 680 Lover's Point: 320 Asilomar: 172 17 Mile Drive: 77 Pt. Lobos: 80 Malpaso: 31	San Luis Obispo cumulative total: 1,629 San Luis Obispo total 2014: 496 Cambria: 242 Montana de Oro: 191 Pt. Buchon: 63
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Data from June 2014 – December 2014:

Santa Cruz total June 2014 – December 2014: Bean Hollow: 41 Ano Nuevo: 20 Coastal Bluffs: 41 Natural Bridges: 38	Monterey total June 2014 – December 2014: Lover's Point: 212 Asilomar: 116 17 Mile Drive: 48 Pt. Lobos: 63 Malpaso: 20	San Luis Obispo total June 2014 – December 2014: Cambria: 78 Montana de Oro: 66 Pt. Buchon: 23
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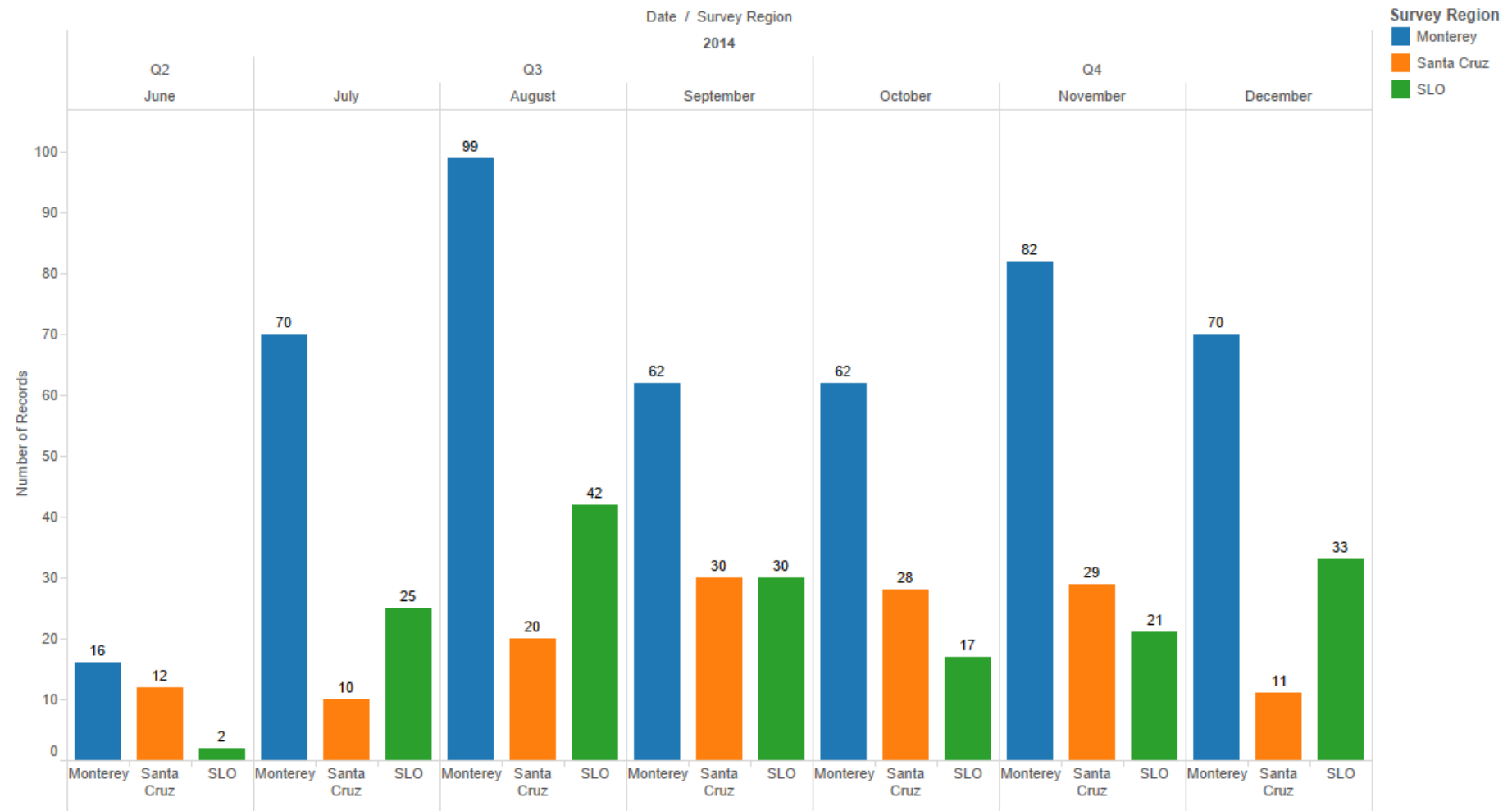
Total Surveys

All Survey Sites

June 2014 - December 2014

MPA Watch surveys are continuously conducted all year long. This next graph shows the number of surveys taken per region, per month. The x-axis shows the different regions: Santa Cruz, Monterey, and San Luis Obispo. The y-axis shows number of surveys completed within this timeframe. We initially saw a decline in Santa Cruz surveys and are pleased with our higher survey numbers, yet continue to work towards more. There were a total of 68 volunteers who took in 1,372 surveys over a period of one year.

Surveys by Month



All Survey Sites

Number of Consumptive Activities, Consumptive vs. Non-Consumptive, Total Activities Recorded June 2014 - December 2014

The next three graphs show several different aspects that when placed next to each other show some important results.

The pie graph shows the total activities recorded for the corresponding region & is separated into categories of where the activity took place: on the beach, on the intertidal rocks, offshore (in water), as boats, or as boats who were actively fishing.

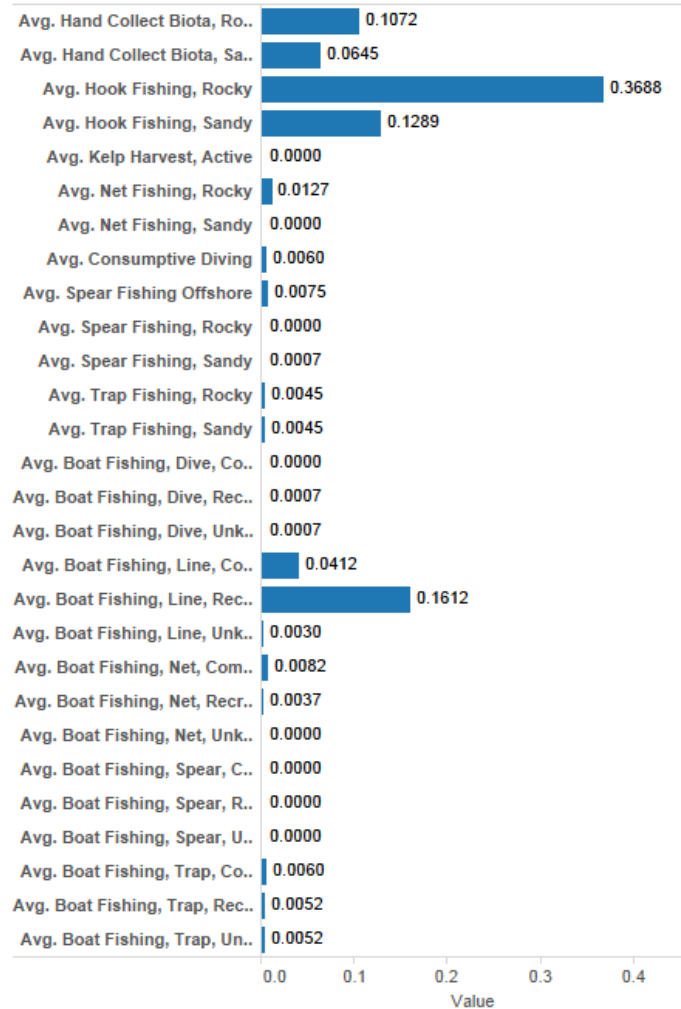
The first bar graph shows the average number of consumptive activities volunteers recorded per survey. There are **28** possible consumptive activities.

A third graph shows average amount of consumptive activities recorded juxtaposed with average number of non-consumptive activities recorded. For example, at Lovers Point, the average number of consumptive activities isn't even 1 (.23), and the average number of non-consumptive activities is about 47 (46.50).

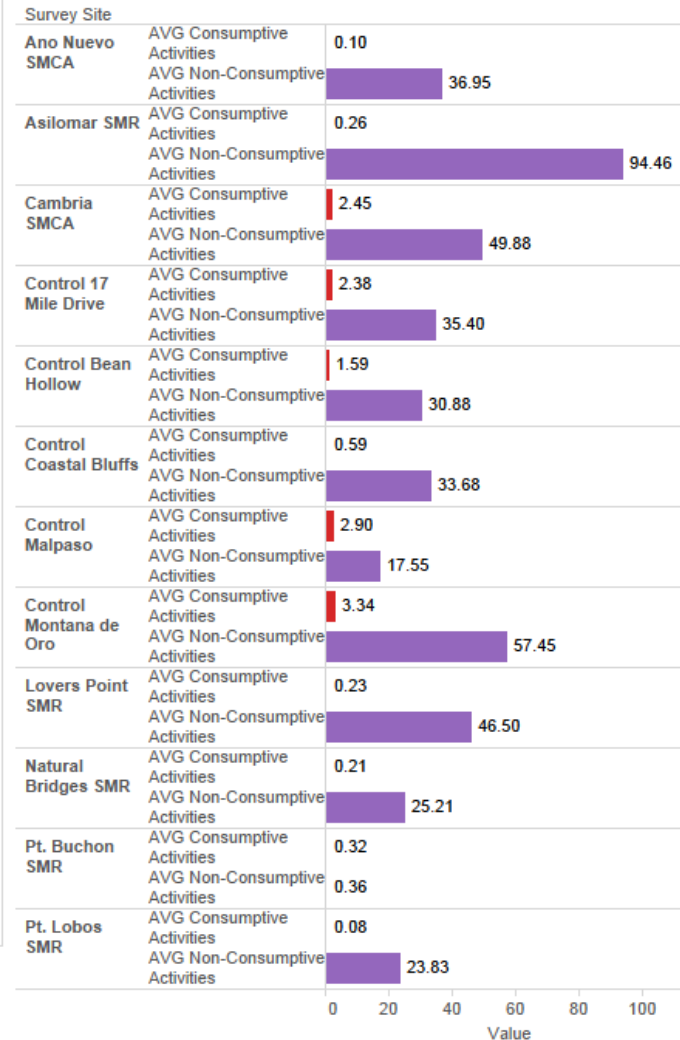
All Survey Sites

June 2014 - December 2014

Total # Consumptive Activities



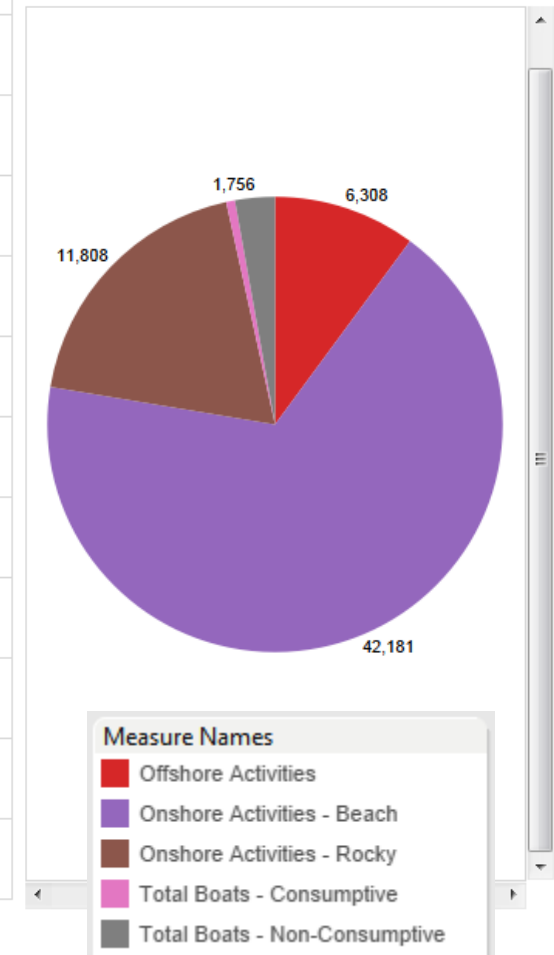
CON vs. NON-CON



Measure Names

- AVG Consumptive Activities
- AVG Non-Consumptive Activities

Total Activities



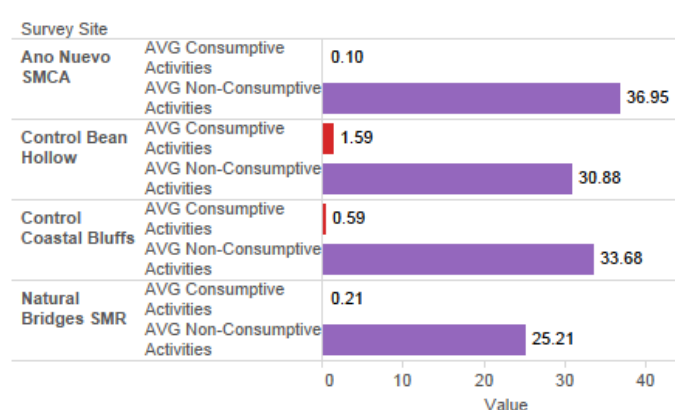
Santa Cruz Survey Sites

June 2014 - December 2014

Total # Consumptive Activities



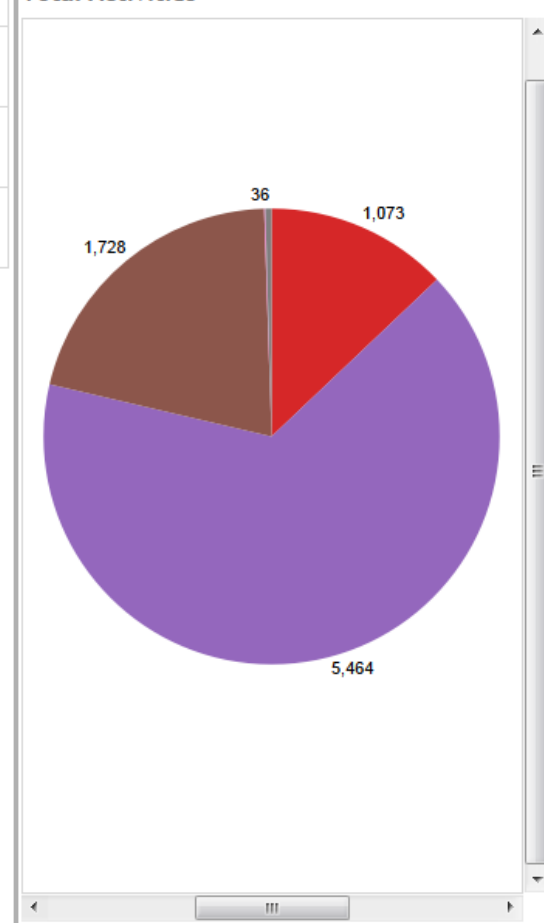
CON vs. NON-CON



Measure Names

- AVG Consumptive Activities
- AVG Non-Consumptive Activities

Total Activities



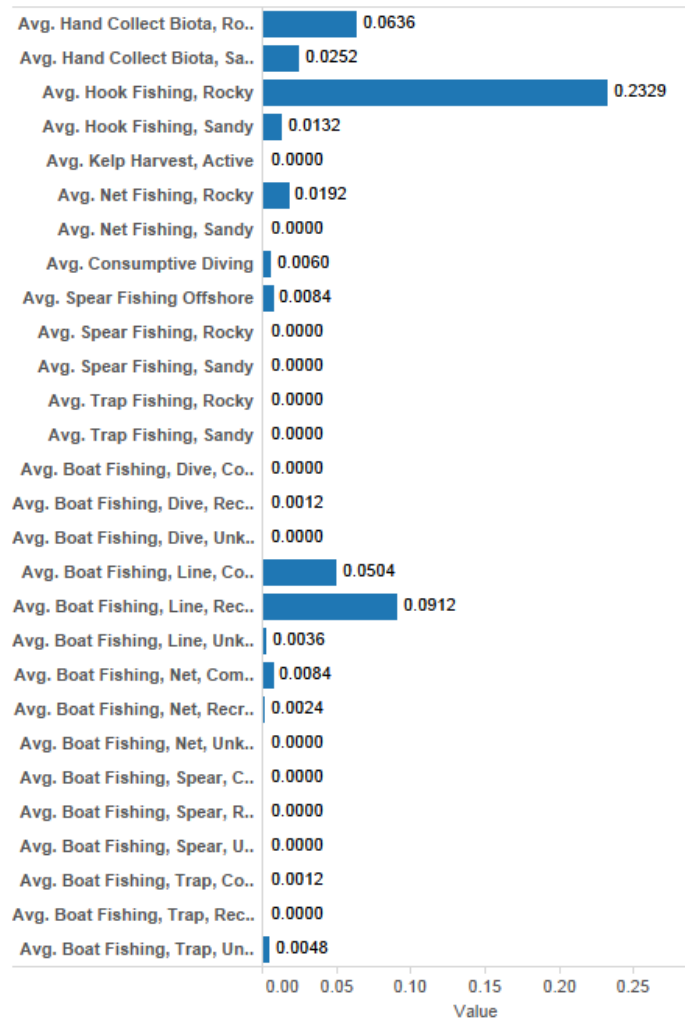
Measure Names

- Offshore Activities
- Onshore Activities - Beach
- Onshore Activities - Rocky
- Total Boats - Consumptive
- Total Boats - Non-Consumptive

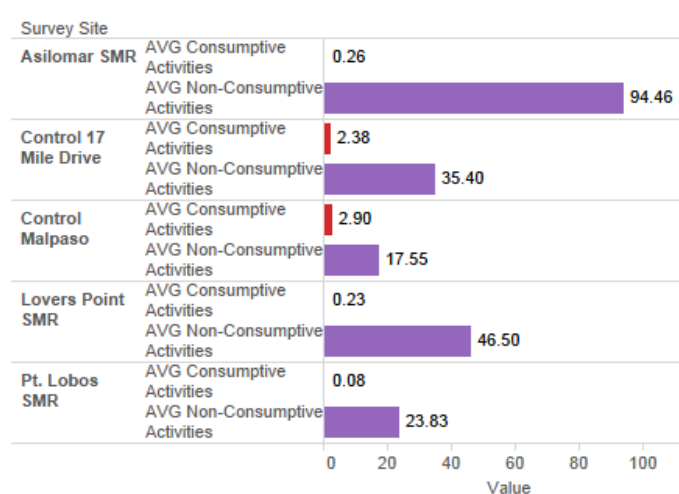
Monterey Survey Sites

June 2014 - December 2014

Total # Consumptive Activities



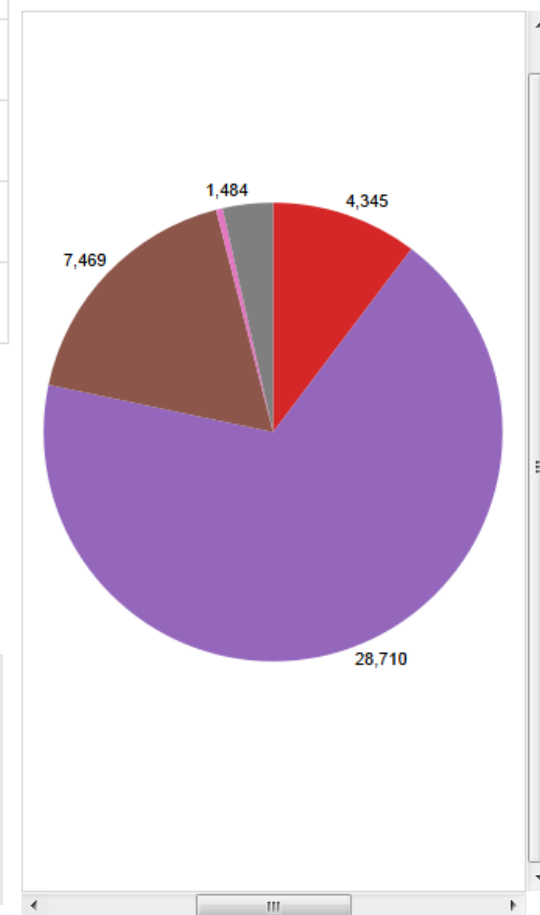
CON vs. NON-CON



Measure Names

- AVG Consumptive Activities
- AVG Non-Consumptive Activities

Total Activities



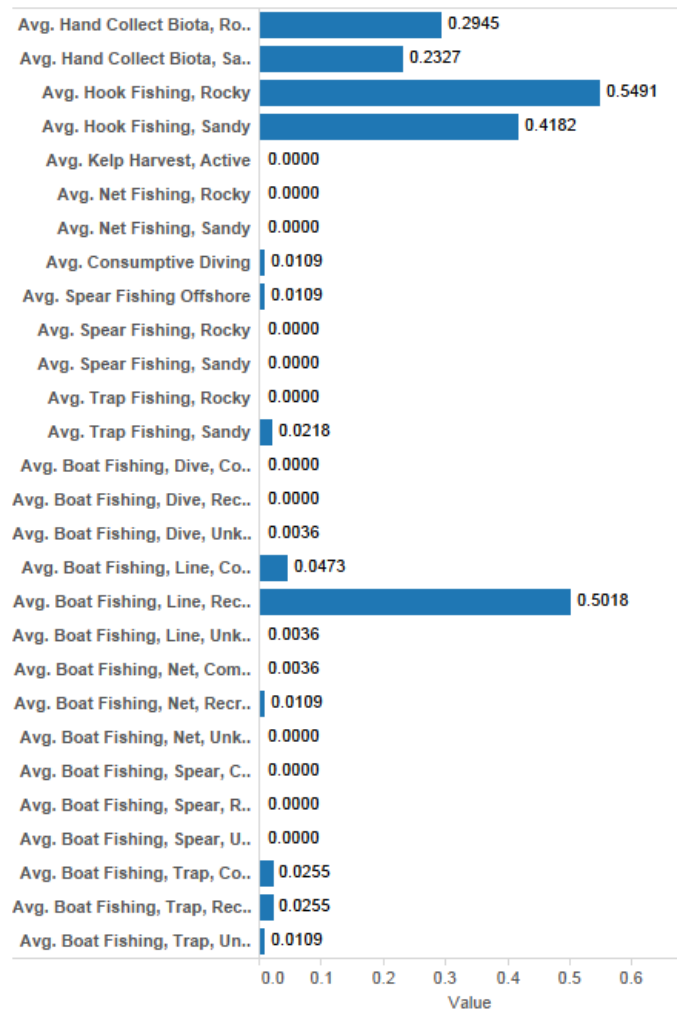
Measure Names

- Offshore Activities
- Onshore Activities - Beach
- Onshore Activities - Rocky
- Total Boats - Consumptive
- Total Boats - Non-Consumptive

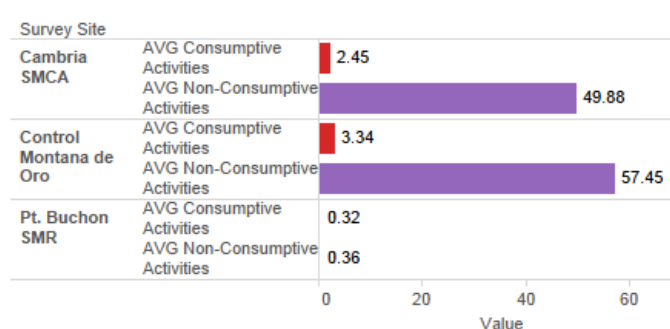
San Luis Obispo Survey Sites

June 2014 - December 2014

Total # Consumptive Activities



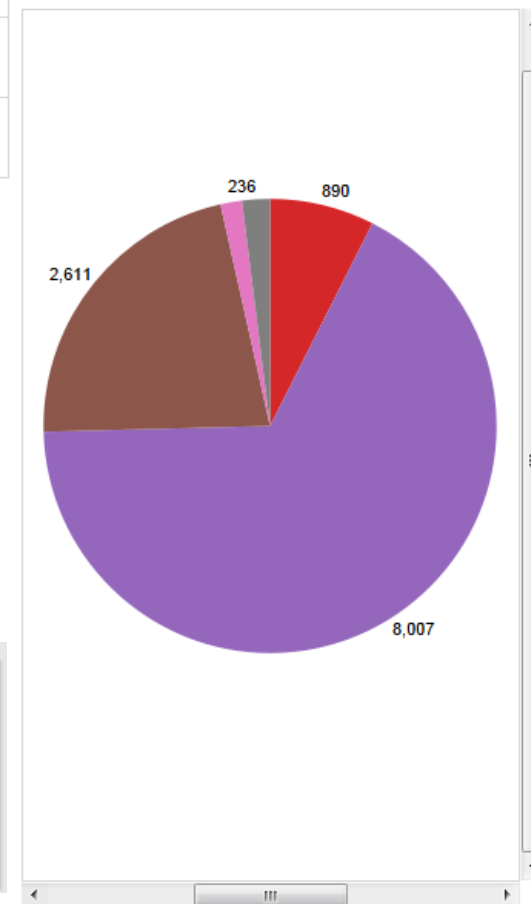
CON vs. NON-CON



Measure Names

- AVG Consumptive Activities
- AVG Non-Consumptive Activities

Total Activities



Measure Names

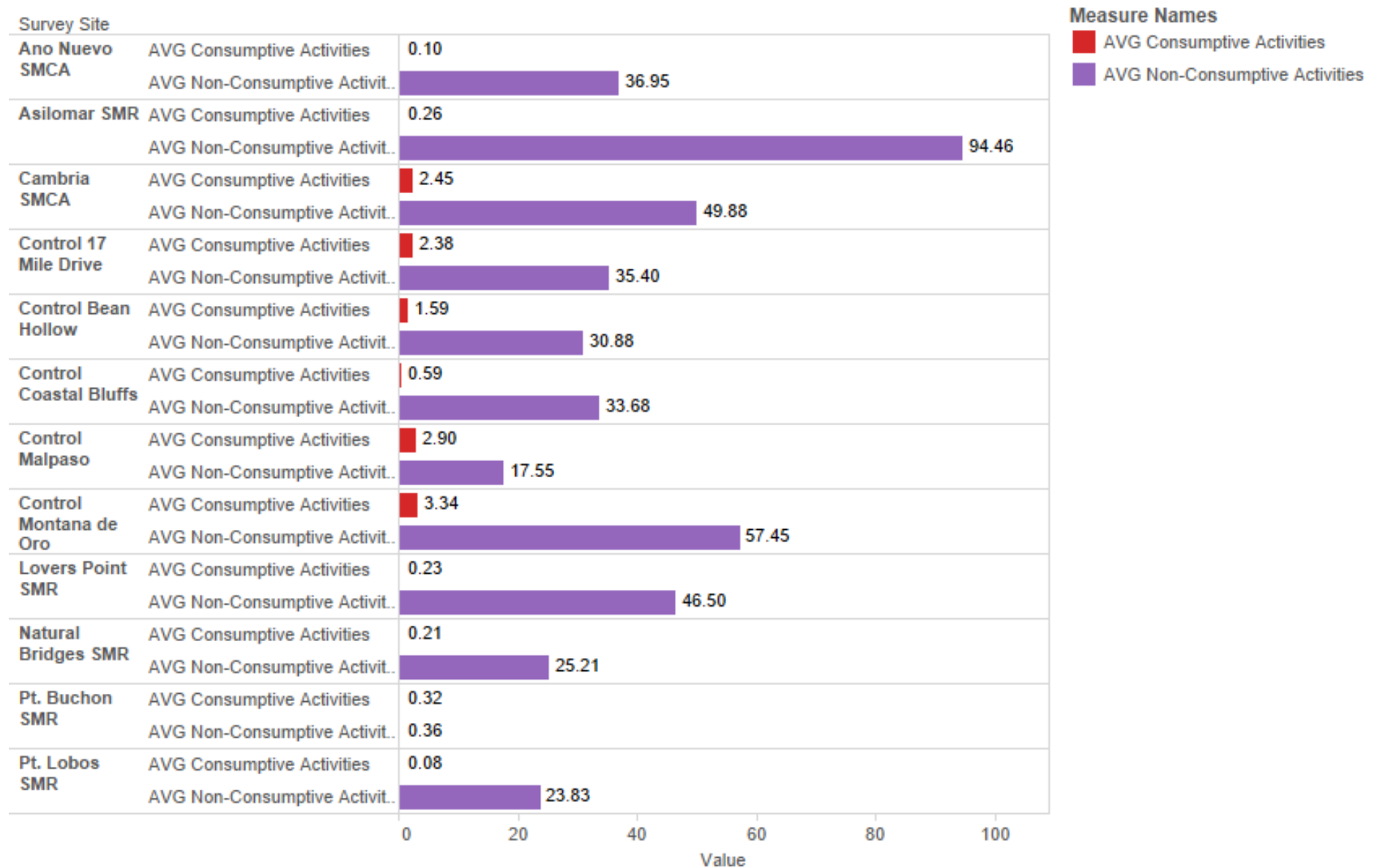
- Offshore Activities
- Onshore Activities - Beach
- Onshore Activities - Rocky
- Total Boats - Consumptive
- Total Boats - Non-Consumptive

Consumptive vs. Non-consumptive

All survey sites

June 2014 - December 2014

CON vs. NON-CON

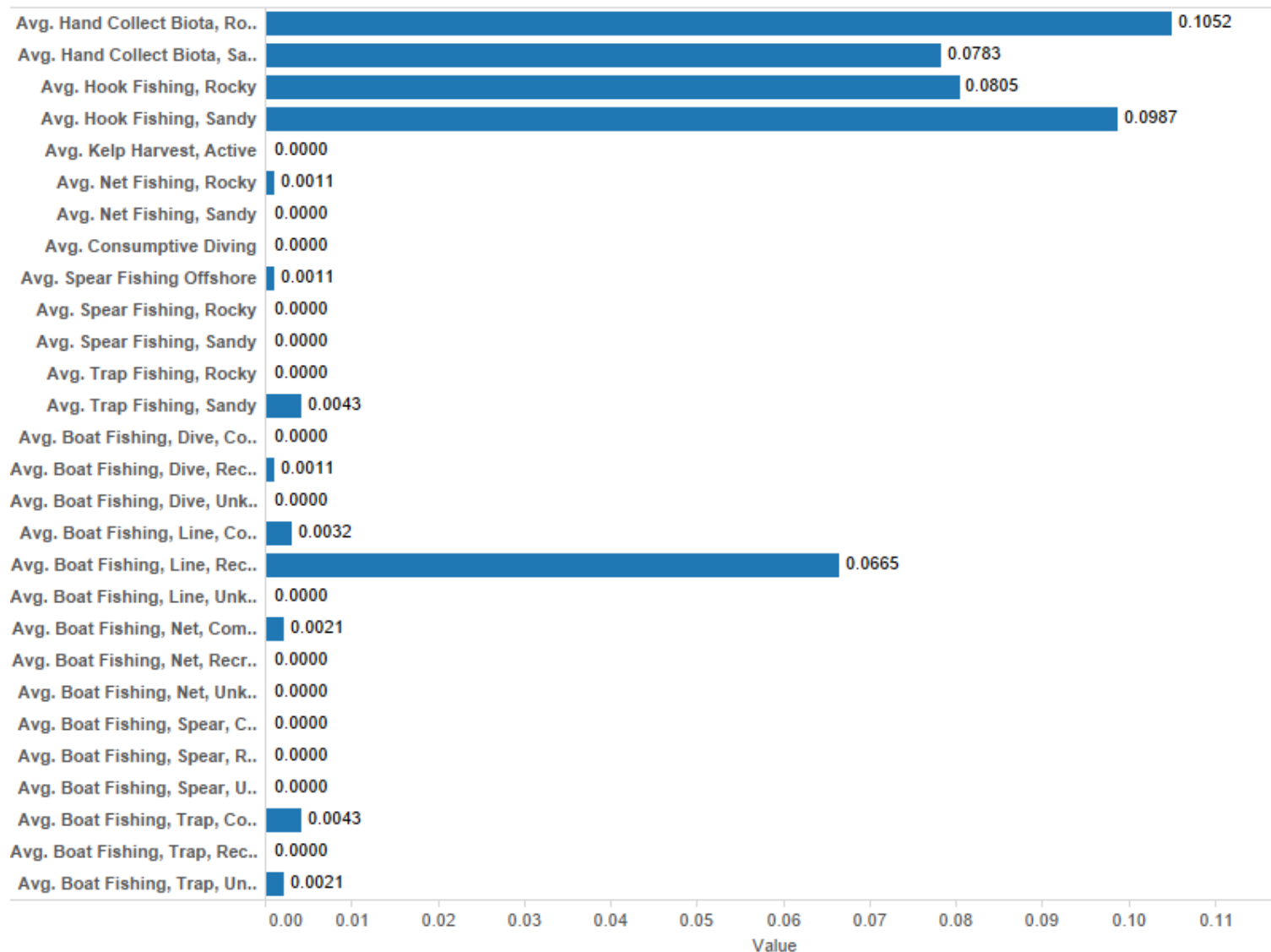


Average Consumptive Activities

All Survey Sites June 2014 - December 2014

Below shows the average amounts of consumptive activities found in actual MPA survey sites. We can infer the biggest problems with non-compliance is rod/reel fishing, whether onshore or offshore. This graph helps to show that consumptive activities are being performed in both control and MPA sites and that these sites have a similar pattern of activities.

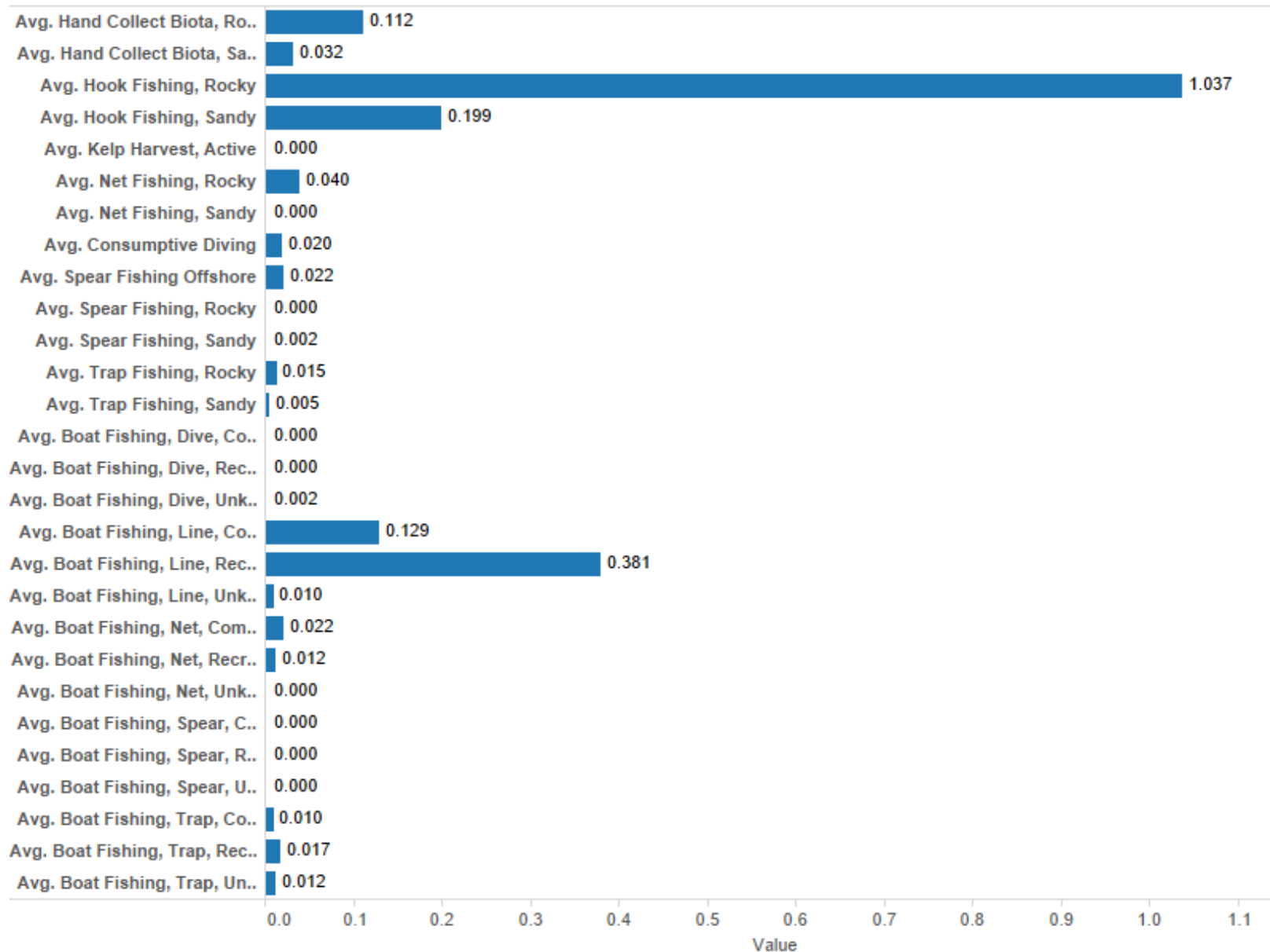
Total # Consumptive Activities



Consumptive Activities in Control Sites

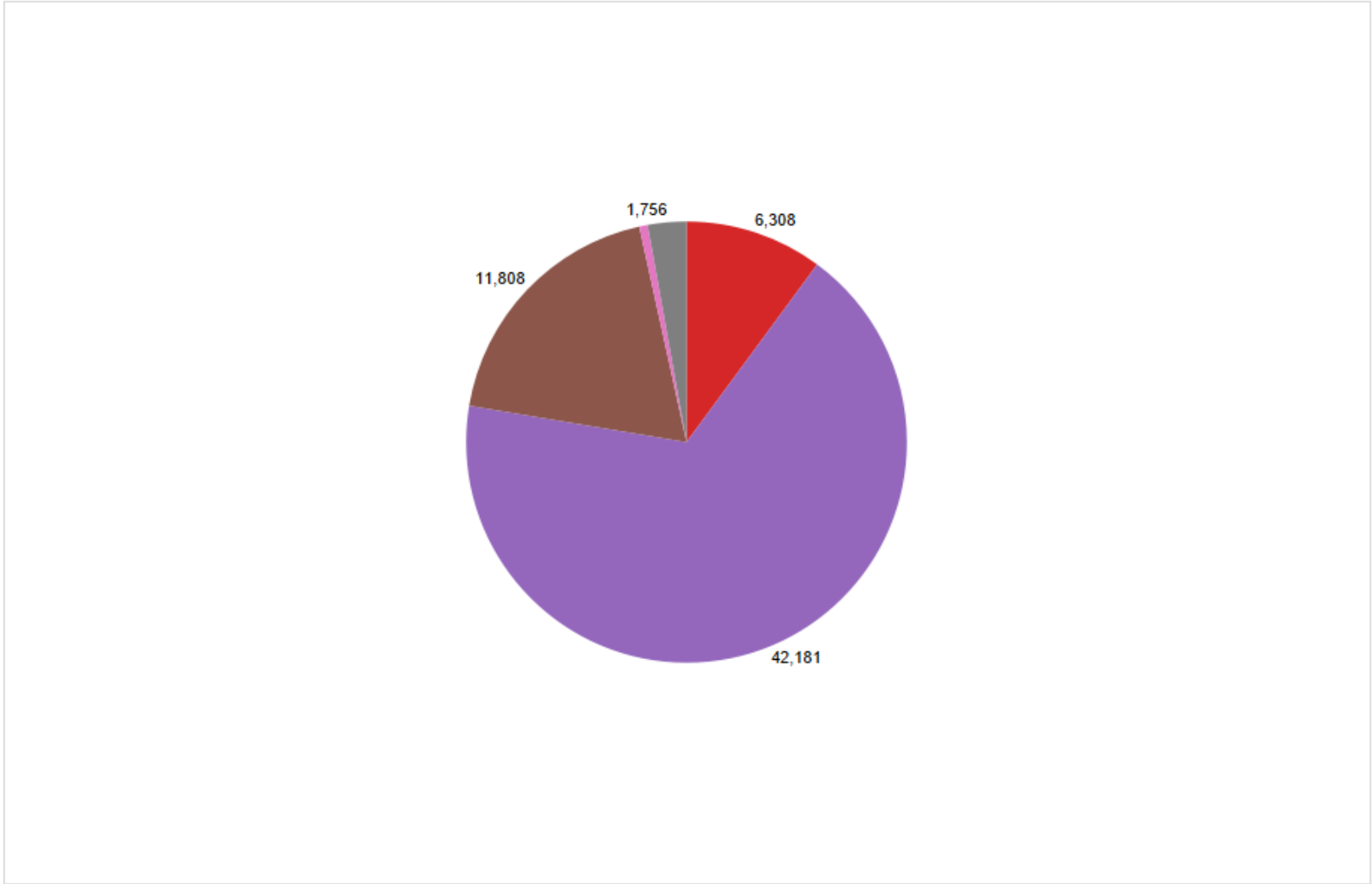
June 2014 - December 2014

Total # Consumptive Activities



Total Number of Activities
All Survey Sites
June 2014 - December 2014

Total Activities



- Measure Names
- Offshore Activities
 - Onshore Activities - Beach
 - Onshore Activities - Rocky
 - Total Boats - Consumptive
 - Total Boats - Non-Consumptive

Average Number of non-consumptive Activities

All Survey Sites

June 2014 - December 2014

Total # Non-consumptive Activities

