



The Otter Project

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MPA WATCH

June 2011 Program Reporting Results

The MPA Watch program expanded into the San Luis Obispo/Cambria Region during the month of May and now covers the entire Central Coast Region. We received a few surveys for the San Luis Obispo/Cambria region for May which is included in this update. Volunteers surveying in the Santa Cruz and Monterey Regions continued monitoring and collecting data in their respective regions and are beginning their third month.

During the month of June, we held volunteer training sessions in Santa Cruz on June 4th, Monterey on June 20th, and in San Luis Obispo on June 24th recruiting a total of 7 new volunteers. We currently have 15 active volunteers in the Santa Cruz and Monterey Region and 5 active volunteers in the San Luis Obispo/Cambria Region. Volunteers in Santa Cruz and Monterey have been monitoring and recording activities for just over 3 months and have submitted 280 surveys. Volunteers in San Luis Obispo submitted 33 surveys (5 surveys in May) in their first month of monitoring. Volunteers from all three regions have submitted a total of 313 surveys through the end of June. This update includes data for the all of the three central coast regions (Santa Cruz, Monterey, and San Luis Obispo/Cambria) through June 30, 2011.

The month of June also saw a modest decline in data collection due to volunteers taking time for planned vacations or unable to continue with their commitment to the program. We have had some challenges with volunteer retention due to various reasons such as economic, loss of student volunteers over summer, and volunteers moving out of the area. Despite the decline, the average number of occurrences remained relatively constant across most sites. The following graphs represent the Average number of Occurrences per Activity within the MPA or Control/Reference Sites being monitored. The Red Arrow in the graph indicates a possible illegal activity occurring within the MPA. Green Arrows indicate possible non-consumptive illegal activity.

Monitoring Sites – Santa Cruz Region

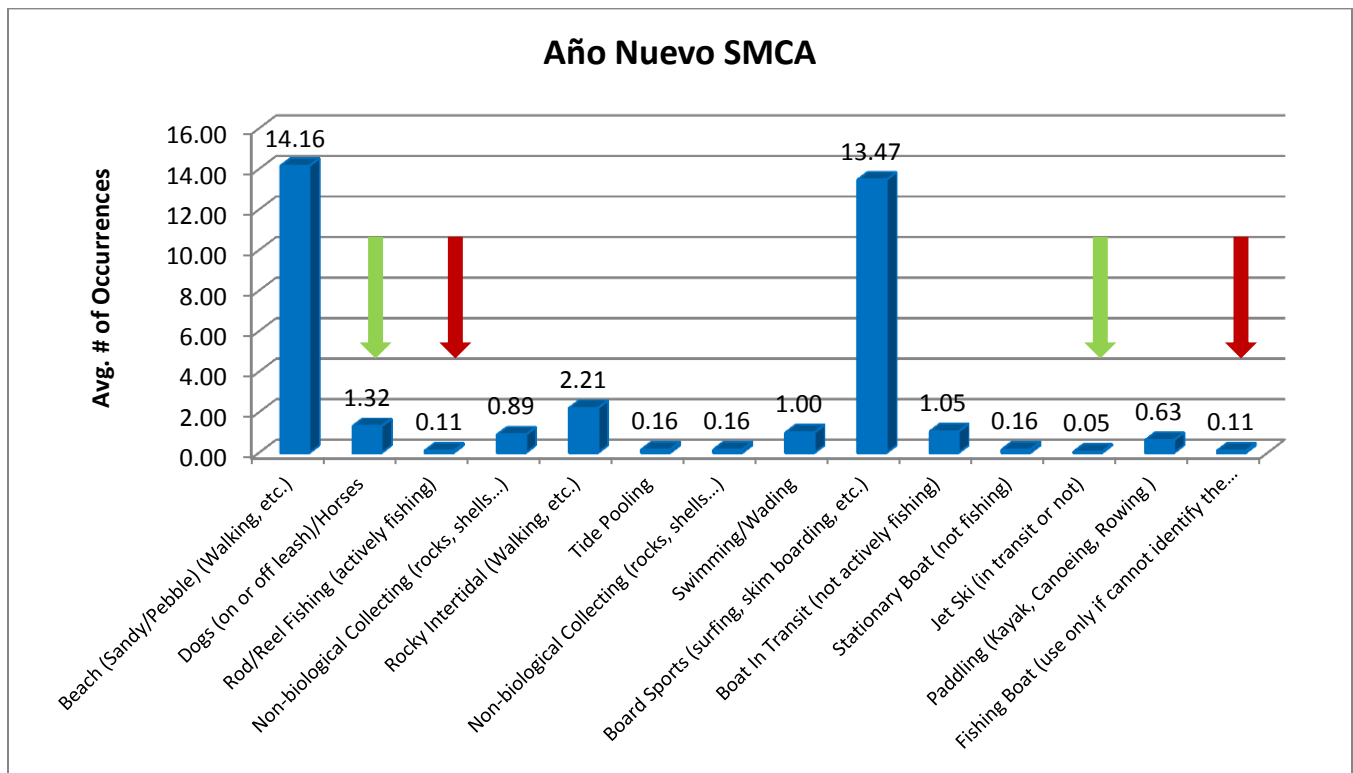


Figure 1: In Año Nuevo SMCA, Take of all living marine resources is prohibited except the commercial take of giant kelp (*Macrocystis pyrifera*) by hand harvest only. Possible illegal fishing activities were recorded as indicated by the red arrows.

Two unidentified fishing boats were seen within the boundaries of Año Nuevo SMCA during May. The specific type of fishing activity was unable to be determined by the volunteer.

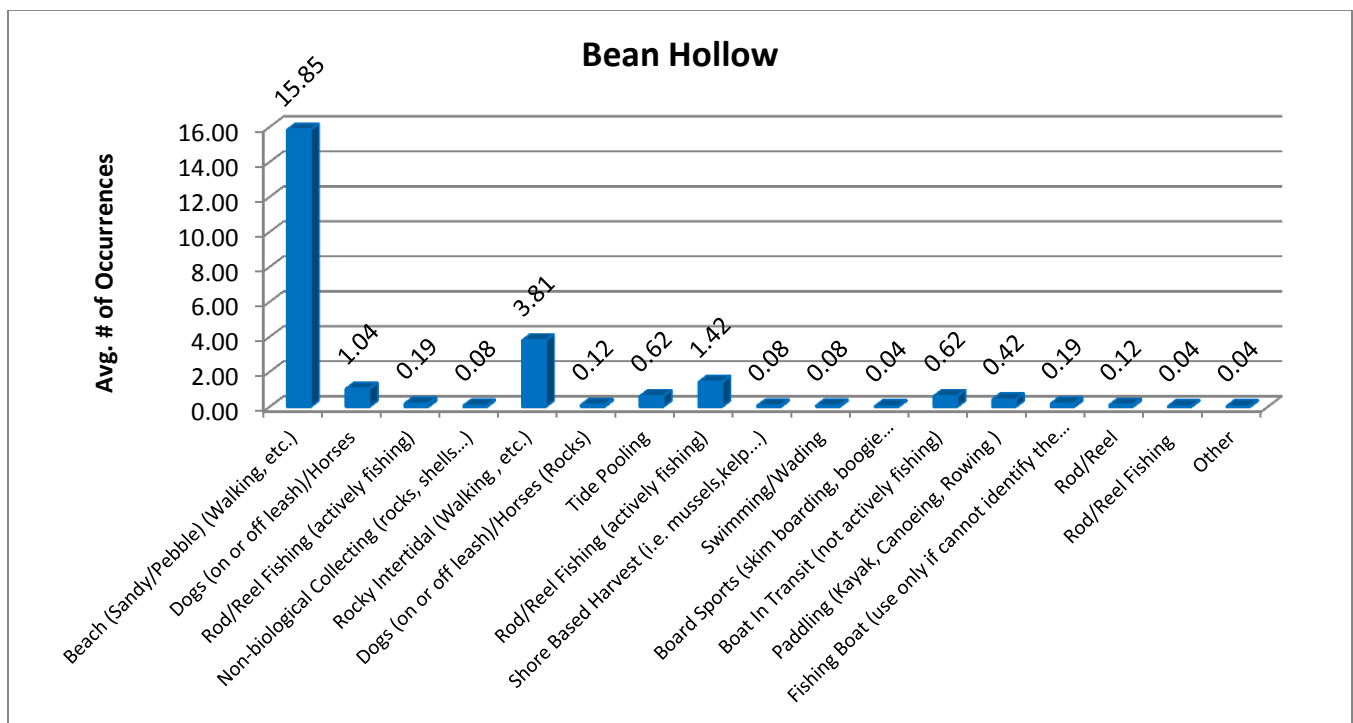


Figure 2: Bean Hollow is the Reference site for Año Nuevo SMCA.

The average number of occurrences within the MPA (Año Nuevo) vs. the control site (Bean Hollow) for the same activities saw a modest increase in activity for both areas again in June.

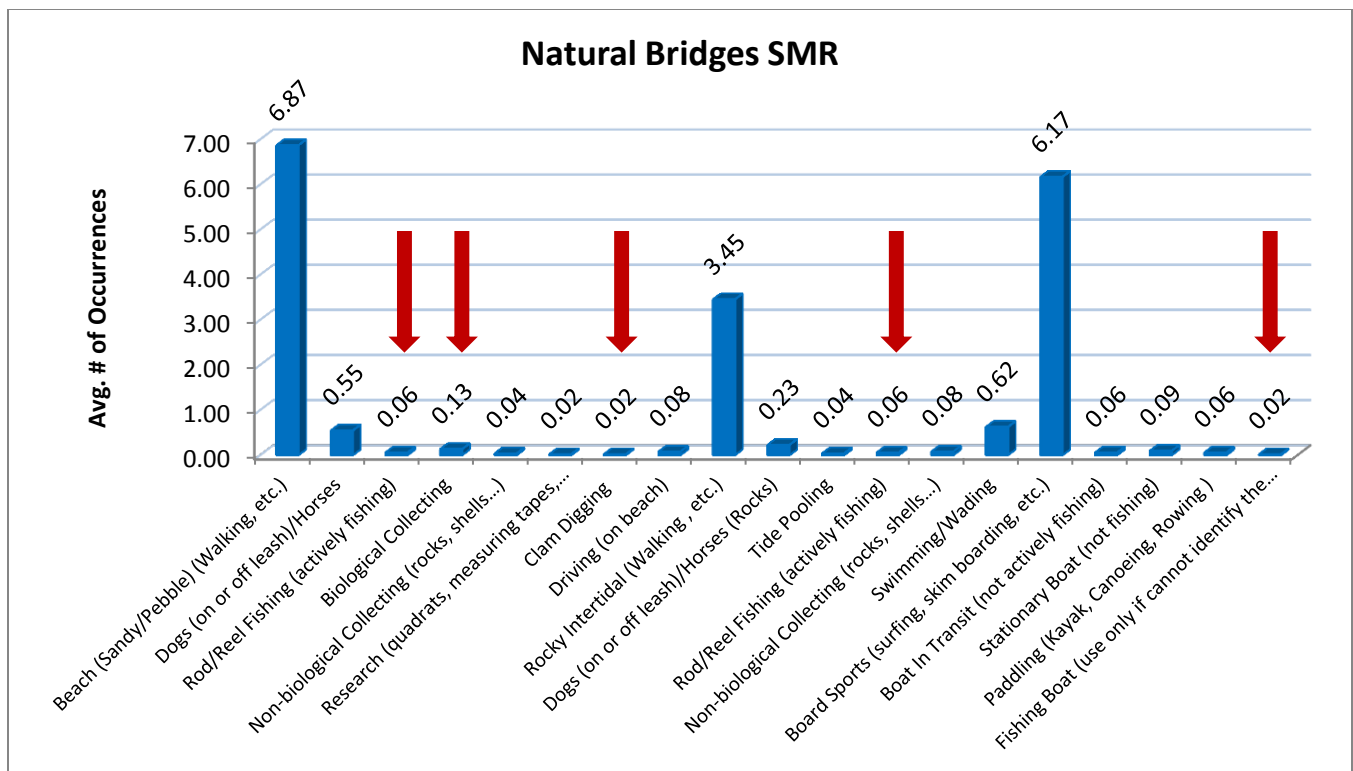


Figure 3: In Natural Bridges State Marine Reserve, Take of all living marine resources is prohibited.

Natural Bridges saw a slight decrease in activity in June. The outer boundary of Natural Bridges is very close to shore and the observed boating activity may have been outside the boundary as reported in the May update. Coastal Bluffs saw a slight increase in activity due to a few surveys being submitted.

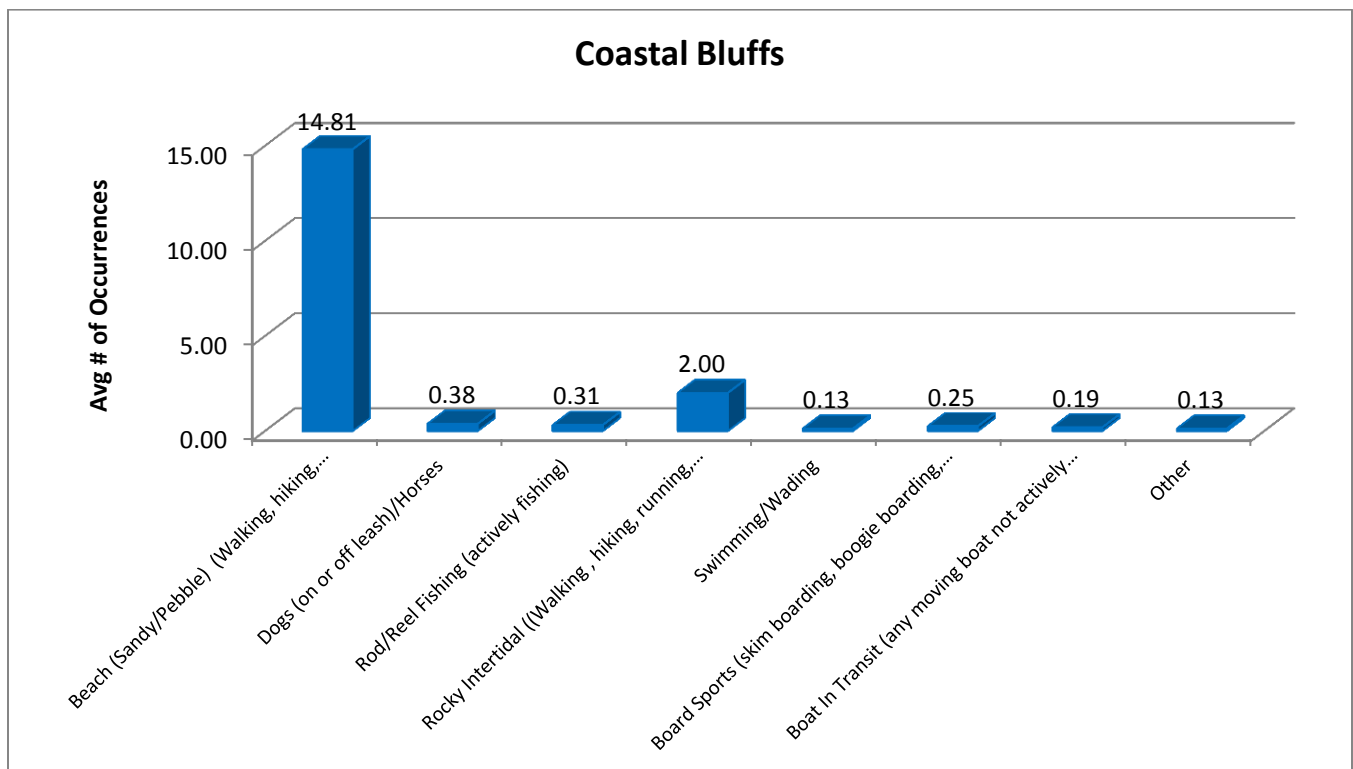


Figure 3: Coastal Bluffs. Located south of Davenport is the Reference site for Natural Bridges SMR.

Santa Cruz Region Summary

In the Santa Cruz Region, Ano Nuevo SMCA and Natural Bridges SMR have experienced some illegal activity. This region has shown to have significantly less activity occurring on average compared to the Monterey region and may be attributed to the remoteness of the sites, especially in the case of Ano Nuevo.

Monitoring Sites – Monterey Region

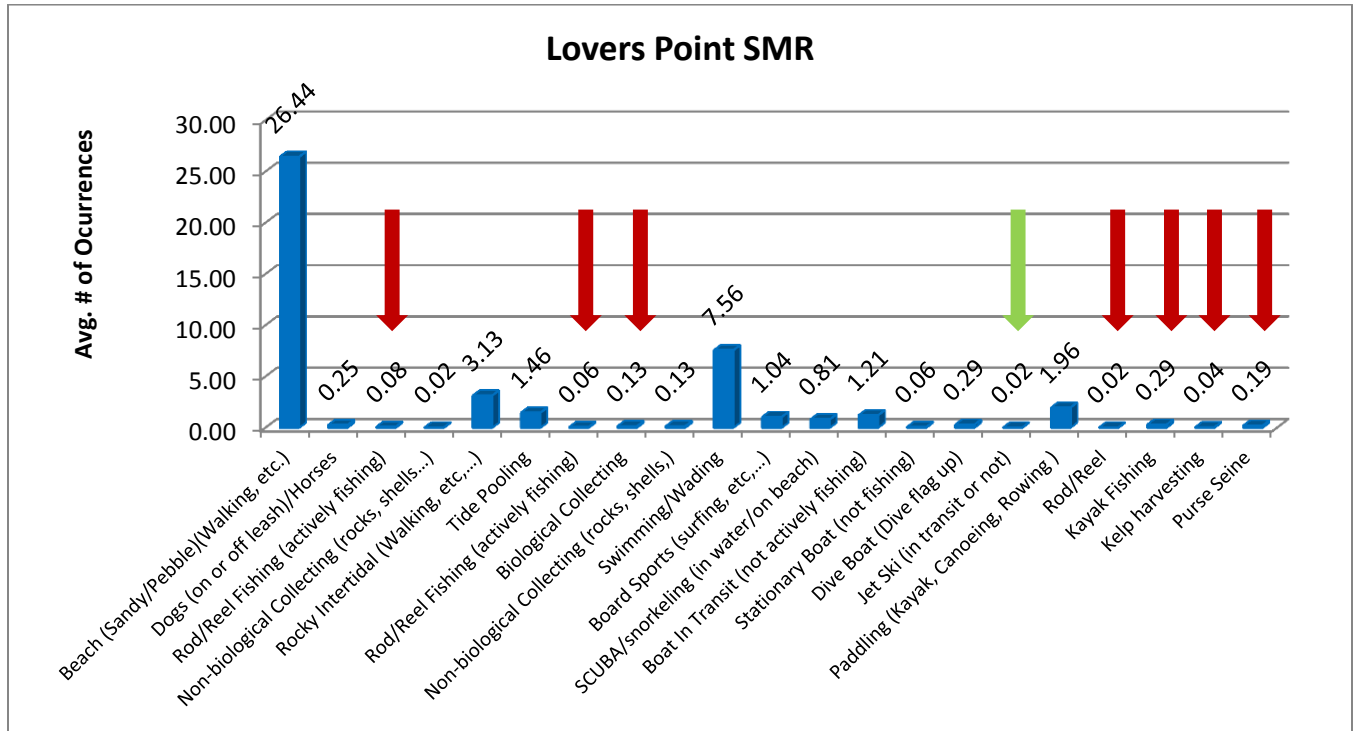


Figure 5: In Lovers Point State Marine Reserve, Take of all living marine resources is prohibited.

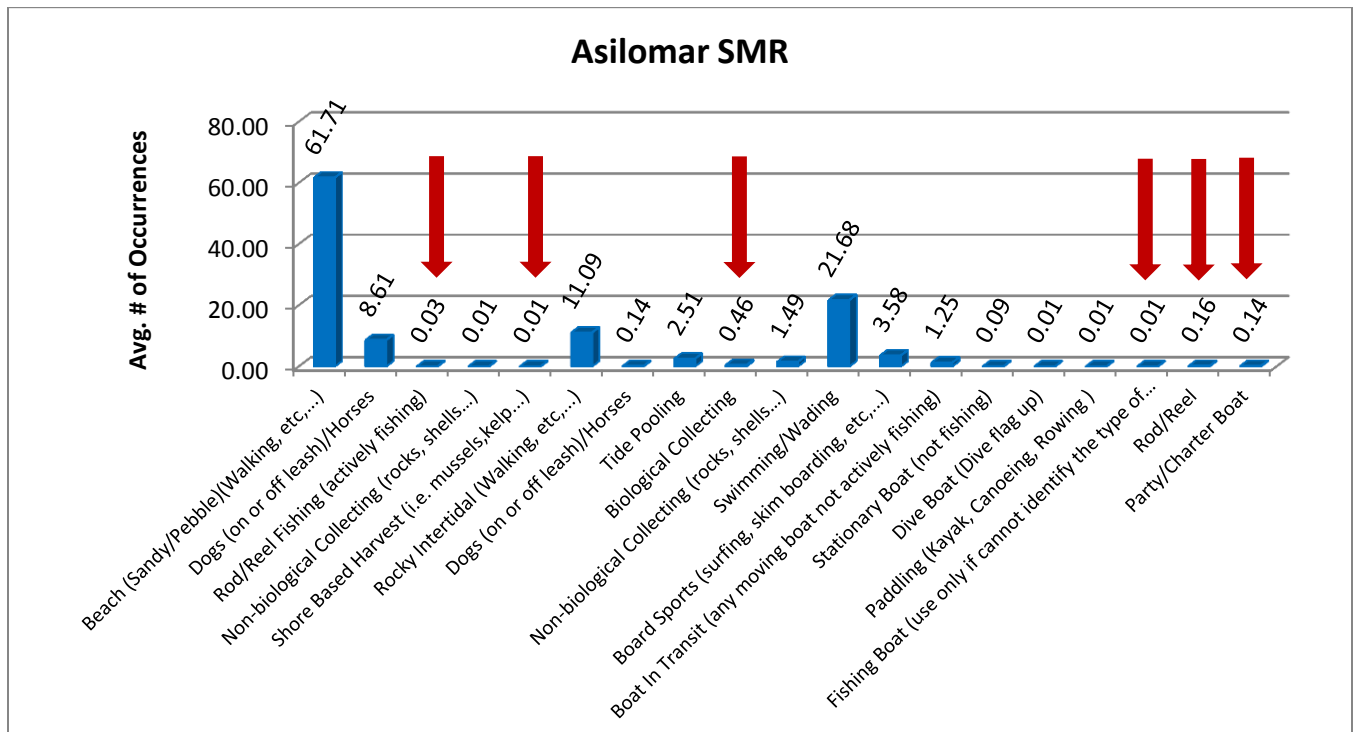


Figure 6: In Asilomar State Marine Reserve, Take of all living marine resources is prohibited.

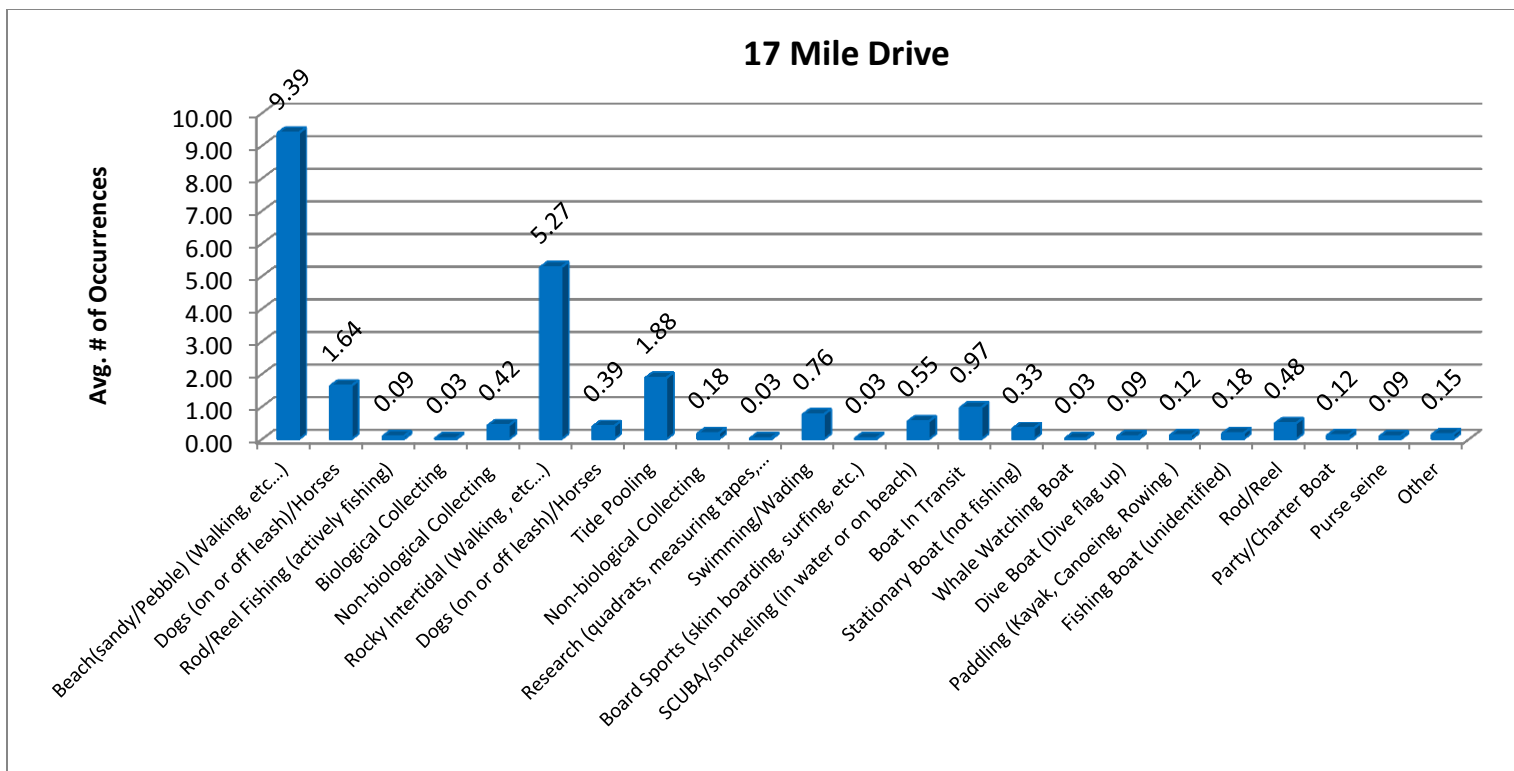


Figure 7: 17 Mile Drive is the Reference site for Lovers Point and Asilomar SMRs.

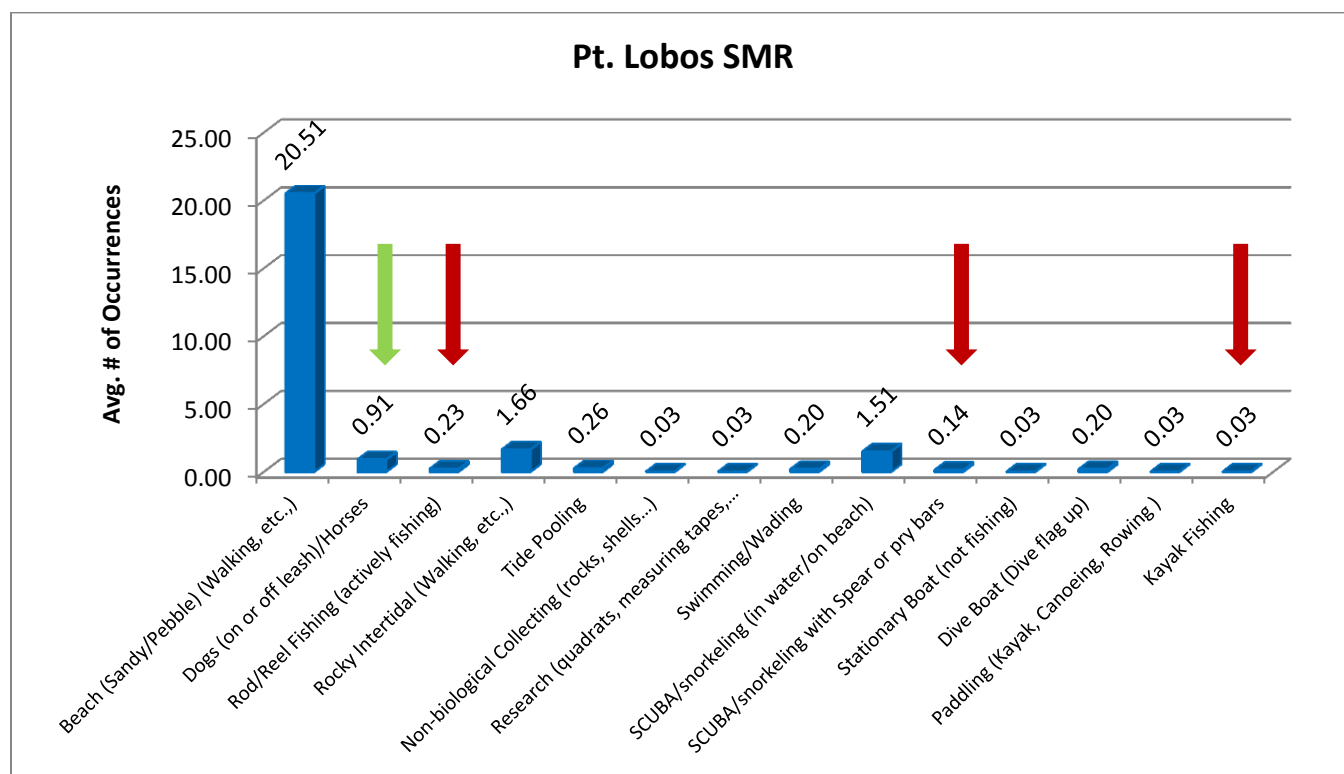


Figure 8: In Point Lobos State Marine Reserve, Take of all living marine resources is prohibited. Within the portion of the Point Lobos State Marine Reserve which also falls within the boundary of the Point Lobos State Reserve (State Park Unit), restrictions on boating and diving activities exist.

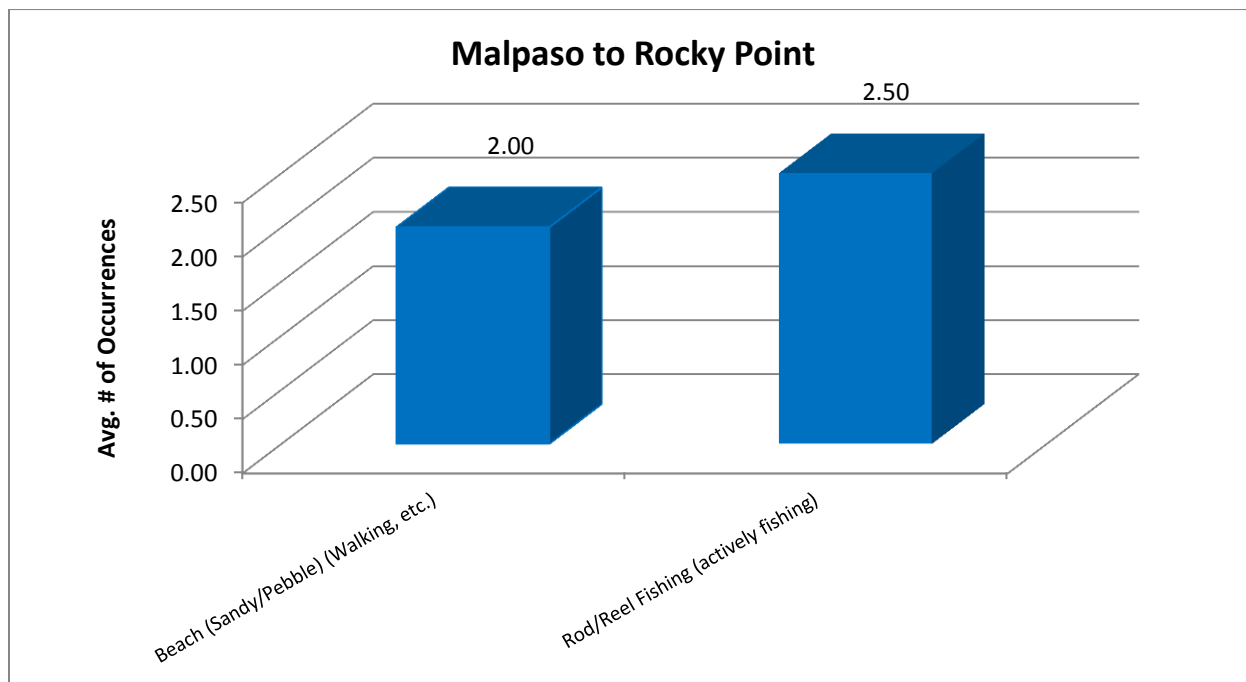


Figure 9: Malpaso to Rocky Point monitoring area is the Reference site for Pt. Lobos SMR.

Monterey Summary

In the Monterey Region, Asilomar and Lovers Point State Marine Reserves continue to have the largest number of people engaged in activities within the MPAs with the most diversity of activities occurring (Figure 5 and Figure 6). All sites saw an increase in the diversity of activities recorded. Both Asilomar and Lovers Point SMRs have issues with illegal activity (biological take) occurring within them. Lovers Point saw a slight increase in shoreline fishing activities in June where Asilomar saw an increase in offshore fishing activities compared to May. Some offshore fishing activities recorded may actually occur just outside of the Lovers Point and Asilomar offshore boundaries but activities close to the offshore boundary are recorded based on the best judgment of the volunteer surveying. Pacific Grove Marine Gardens SMCA is located between Lovers Point and Asilomar SMRs and the recreational take of finfish is allowed. Allowing take in Pacific Grove Marine Gardens SMCA may be causing active shoreline take to occur within the adjoining SMRs as there is no clear delineation of the boundaries. Pt. Lobos saw an increase in overall activity and diversity of activities as well. A couple of surveys were submitted for the Malpaso Creek/ Rocky Point Site (Point Lobos Reference Site). This area is somewhat remote and is continuing to be challenging to recruit volunteers to monitor.

Monitoring Sites – Cambria/San Luis Obispo Region

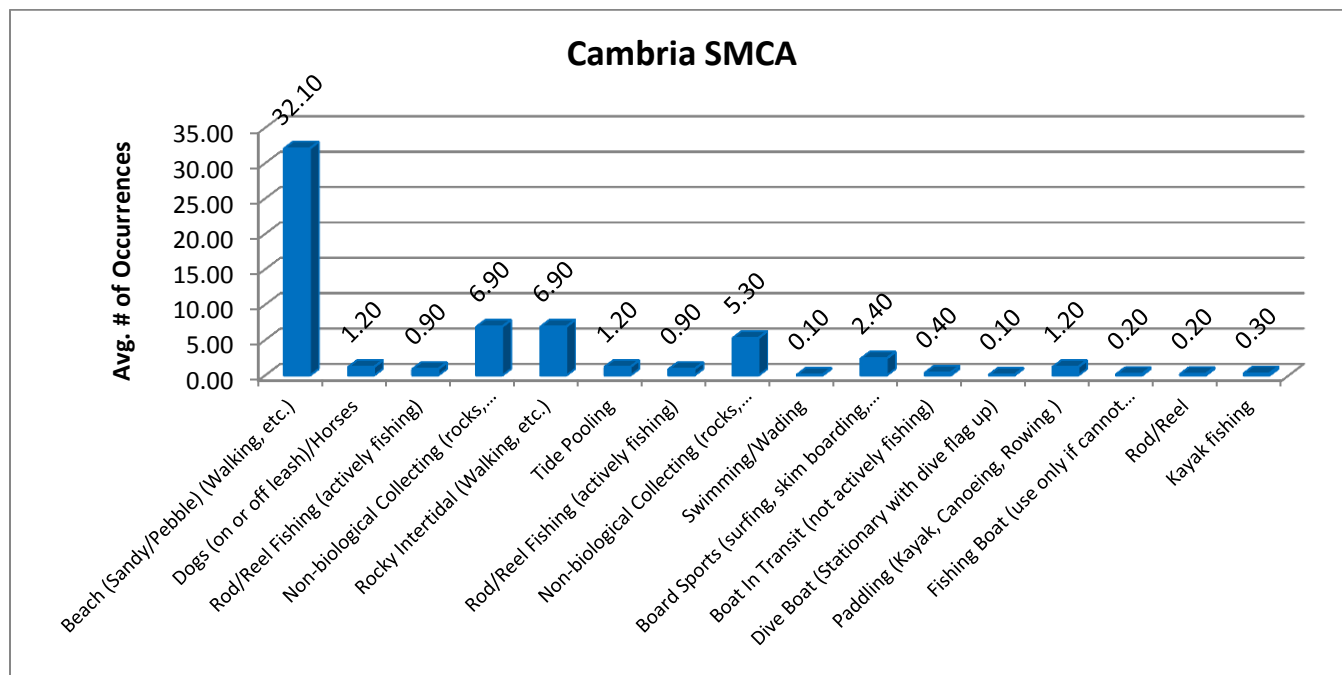


Figure 10: In Cambria SMCA, the commercial take of all living marine resources is prohibited. Recreational take is allowed.

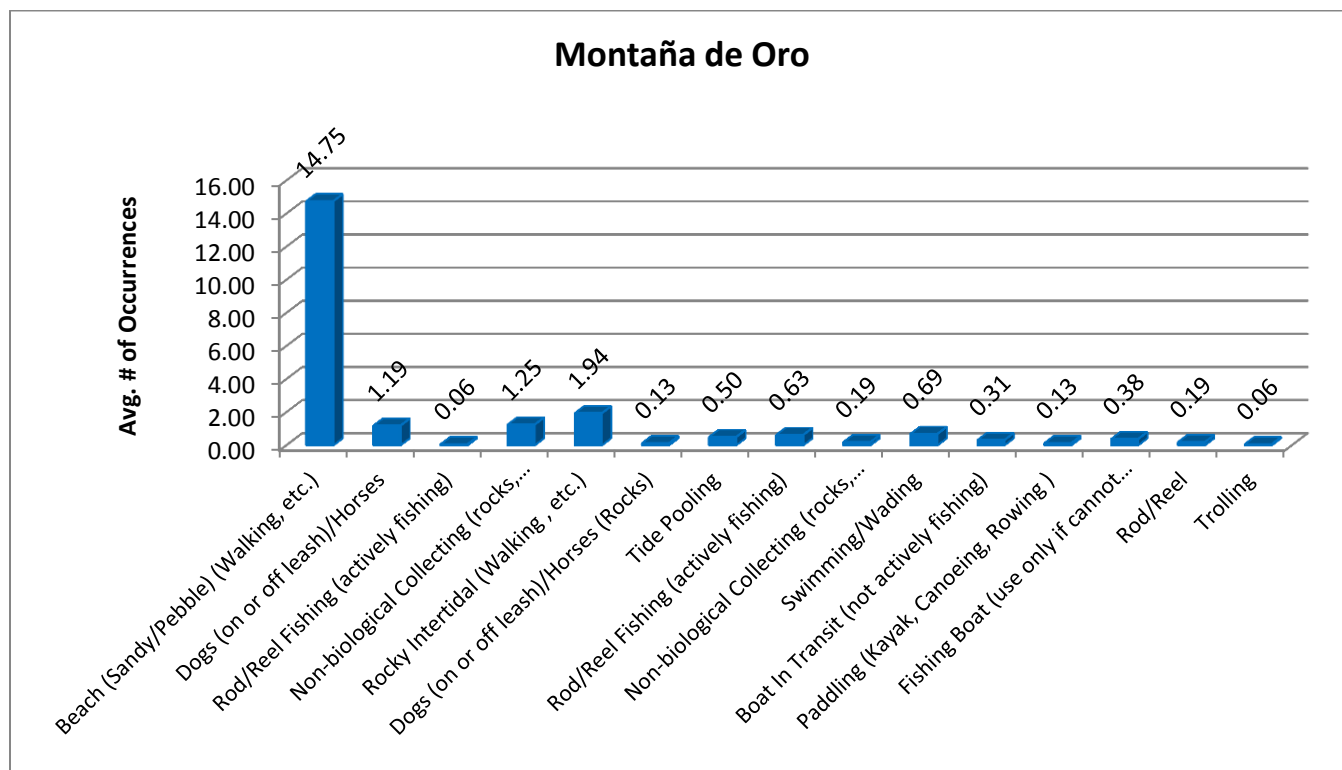


Figure 11: Montaña de Oro is the Reference site for Cambria SMCA and Point Buchon SMR.

Point Buchon SMR has exhibited no activity to date.

All Site Data summary

All Sites within the Santa Cruz and Monterey Regions exhibit issues of illegal activity, most notably rod and reel fishing and biological collecting. Fishing boats have been recorded within Asilomar SMR which is unusual as take is not permitted.

% Consumptive Vs. Non- Consumptive Activity		
Site	Consumptive	Non-Consumptive
Año Nuevo SMCA	0.59	99.41
Bean Hollow (RS)	8.24	91.76
Natural Bridges SMR	1.62	98.38
Coastal Bluffs (RS)	1.72	98.28
Asilomar SMR	0.73	99.27
Lover's Point SMR	1.79	98.21
Point Lobos SMR	1.55	98.45
17 Mile Drive (RS)	4.30	95.70
Malpaso(RS)	55.56	44.44
Cambria SMCA	4.15	95.85
Montana de Oro (RS)	6.65	93.35
Pt. Buchon SMR	0.00	0.00

Figure 12: Percent consumptive vs. non-consumptive activity.

Average Occurrence per survey Consumptive Vs. Non-Consumptive Activity		
Site	Consumptive	Non-Consumptive
Año Nuevo SMCA	0.21	35.26
Bean Hollow (RS)	2.04	22.69
Natural Bridges SMR	0.30	18.34
Coastal Bluffs (RS)	0.31	17.88
Asilomar SMR	0.83	112.19
Lover's Point SMR	0.81	44.38
Point Lobos SMR	0.40	25.37
17 Mile Drive (RS)	1.00	22.24
Malpaso(RS)	2.50	2.00
Cambria SMCA	2.50	57.80
Montana de Oro (RS)	1.50	21.06
Pt. Buchon SMR	0.00	0.00

Figure 13: Average consumptive vs. non-consumptive activity per site.

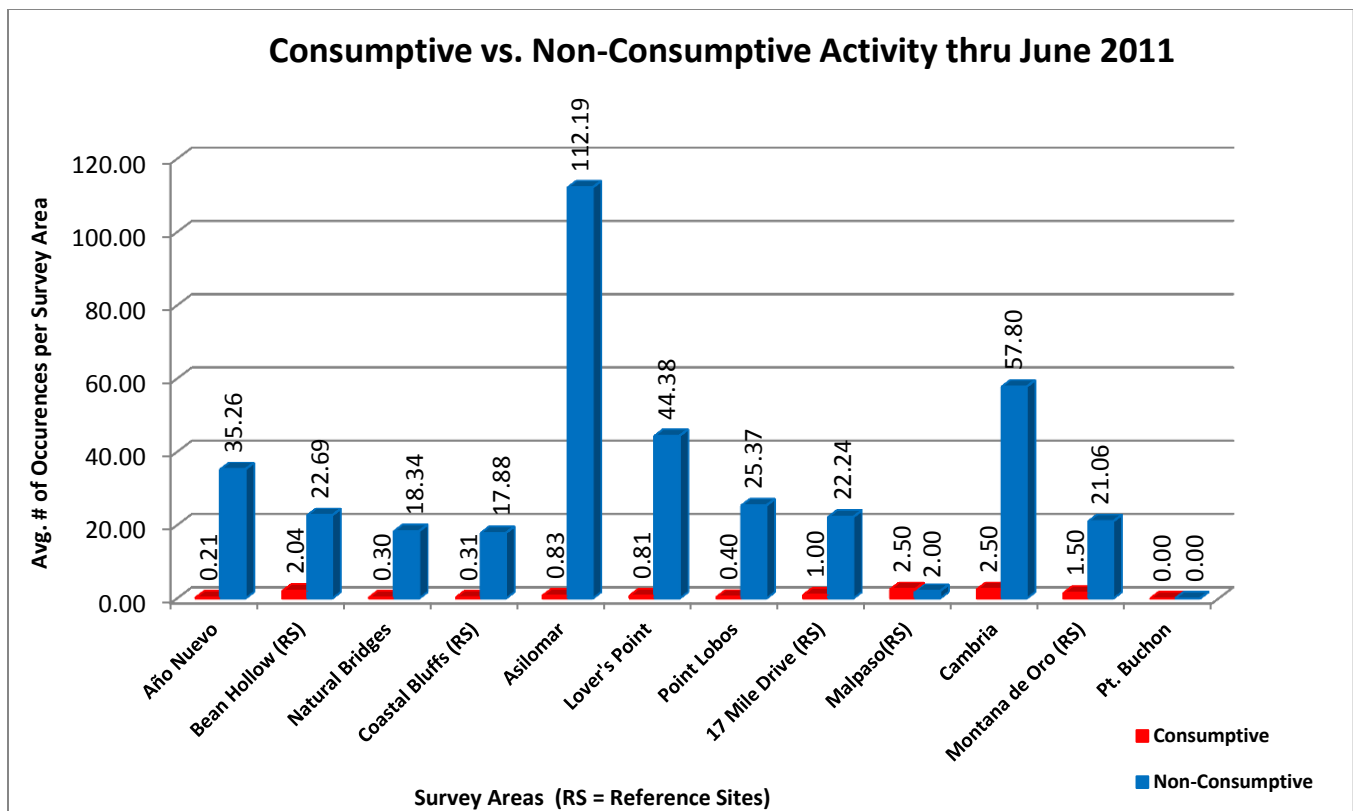


Figure 14: Average # of Consumptive vs. Non-Consumptive Activities per Survey Area

For Marine Protected Areas, Lovers Point and Asilomar State Marine Reserves have the highest averages for consumptive take and greatest amount of illegal activity occurring within MPAs (Figure 13 & 14). Lovers Point has an average of 0.81 consumptive activities or 1.79% occurring per survey and Asilomar SMR, which has the most overall activity, has an average of 0.83 consumptive activities or 0.73% occurring per survey. Natural Bridges State Marine Reserve is the highest in the Santa Cruz region with an average of 0.30 consumptive activities or 1.62% or per survey. Point Lobos State Marine reserve has an average of 0.40 consumptive activities or 1.55% occurring per survey. The high percentages (Figure 12) in Point Lobos and Natural Bridges could indicate the need for more enforcement in specific areas to curtail these activities. In the Cambria/San Luis Obispo region, Cambria State Marine Conservation Area has an average of 2.50 consumptive activities or 4.15% occurring per survey. Point Buchon has had no observed activity this month. All reference sites had a greater percentage of consumptive activities than the MPAs indicating that activity is more often occurring in areas outside of the MPAs.

A full chart of average number of occurrences per survey per site is inserted below (Figure 12) in order to best visualize activity in each site side by side.

	Año Nuevo	Bean Hollow (RS)	Natural Bridges	Coastal Bluffs (RS)	Asilomar	Lovers Point	Point Lobos	17 Mile Drive (RS)	Malpaso (RS)	Cambria	Montana de Oro (RS)	Pt. Buchon
Beach (Sandy/Pebble) (Walking, hiking, running, resting, playing, sitting, camping, art, wildlife viewing)	14.16	15.85	6.87	14.81	61.71	26.44	20.51	9.39	2.00	32.10	14.75	0.00
Dogs (on or off leash)/Horses	1.32	1.04	0.55	0.38	8.61	0.25	0.91	1.64	0.00	1.20	1.19	0.00
Rod/Reel Fishing (actively fishing)	0.11	0.19	0.06	0.31	0.03	0.08	0.23	0.09	0.00	0.90	0.06	0.00
Trap Fishing (actively fishing)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cast Net Fishing (actively fishing)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poke Poling (actively fishing)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Biological Collecting	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00
Non-biological Collecting (rocks, shells...)	0.89	0.08	0.04	0.00	0.01	0.02	0.00	0.42	0.00	6.90	1.25	0.00
Shore Based Harvest (i.e. mussels,kelp...)	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Research (quadrats, measuring tapes, clipboards, scientific equipment...)	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Clam Digging	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Driving (on beach)	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rocky Intertidal (Walking , hiking, running, resting, playing, sitting, camping, art, wildlife viewing)	2.21	3.81	3.45	2.00	11.09	3.13	1.66	5.27	0.00	6.90	1.94	0.00
Dogs (on or off leash)/Horses (Rocks)	0.00	0.12	0.23	0.00	0.14	0.00	0.00	0.39	0.00	0.00	0.13	0.00
Tide Pooling	0.16	0.62	0.04	0.00	2.51	1.46	0.26	1.88	0.00	1.20	0.50	0.00
Rod/Reel Fishing (actively fishing)	0.00	1.42	0.06	0.00	0.00	0.06	0.00	0.00	2.50	0.90	0.63	0.00
Trap Fishing (actively fishing)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cast Net Fishing (actively fishing)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poke Poling (actively fishing)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Biological Collecting	0.00	0.00	0.00	0.00	0.46	0.13	0.00	0.00	0.00	0.00	0.00	0.00
Non-biological Collecting (rocks, shells...)	0.16	0.00	0.08	0.00	1.49	0.13	0.03	0.18	0.00	5.30	0.19	0.00
Shore Based Harvest (i.e. mussels,kelp...)	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Research (quadrats, measuring tapes, clipboards, scientific equipment...)	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.00
Clam Digging	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Swimming/Wading	1.00	0.08	0.62	0.13	21.68	7.56	0.20	0.76	0.00	0.10	0.69	0.00
Board Sports (skim boarding, boogie boarding, surfing, wind surfing and kite surfing)	13.47	0.04	6.17	0.25	3.58	1.04	0.00	0.03	0.00	2.40	0.00	0.00
SCUBA/snorkeling (in water or on beach)	0.00	0.00	0.00	0.00	0.00	0.81	1.51	0.55	0.00	0.00	0.00	0.00
SCUBA/snorkeling with Spear or pry bars	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00
SCUBA/snorkeling with Research Gear (mesh bags, slates, measuring tape...)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paddle Diver Spearfishing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boat In Transit (any moving boat not actively fishing)	1.05	0.62	0.06	0.19	1.25	1.21	0.00	0.97	0.00	0.40	0.31	0.00
Stationary Boat (not fishing)	0.16	0.00	0.09	0.00	0.09	0.06	0.03	0.33	0.00	0.00	0.00	0.00
Whale Watching Boat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00
Dive Boat (Stationary with dive flag up)	0.00	0.00	0.00	0.00	0.01	0.29	0.20	0.09	0.00	0.10	0.00	0.00
Research Boat (stationary)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enforcement (DFG/USCG)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jet Ski (in transit or not)	0.05	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Paddling (Kayak, Canoeing, Rowing)	0.63	0.42	0.06	0.00	0.01	1.96	0.03	0.12	0.00	1.20	0.13	0.00
Fishing Boat (use only if cannot identify the type of boat)	0.11	0.19	0.02	0.00	0.01	0.00	0.00	0.18	0.00	0.20	0.38	0.00
Recreational Boat Fishing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rod/Reel	0.00	0.12	0.00	0.00	0.16	0.02	0.00	0.48	0.00	0.20	0.19	0.00
Trolling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00
Traps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00
Kayak fishing	0.00	0.00	0.00	0.00	0.00	0.29	0.03	0.00	0.00	0.30	0.00	0.00
kelp harvesting	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commercial Boat Fishing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00
Party/Charter	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.12	0.00	0.00	0.00	0.00
Rod/Reel Fishing	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00
Trolling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Traps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
kelp harvesting	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Trawling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Purse seine	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.09	0.00	0.00	0.00	0.00
Long line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gill nets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.04	0.00	0.13	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00

Figure 15: Average Number of Occurrences per Survey for all sites. (RS= Control/Reference Site) Red highlights indicate illegal activity. Green highlights indicate non-consumptive illegal activity.