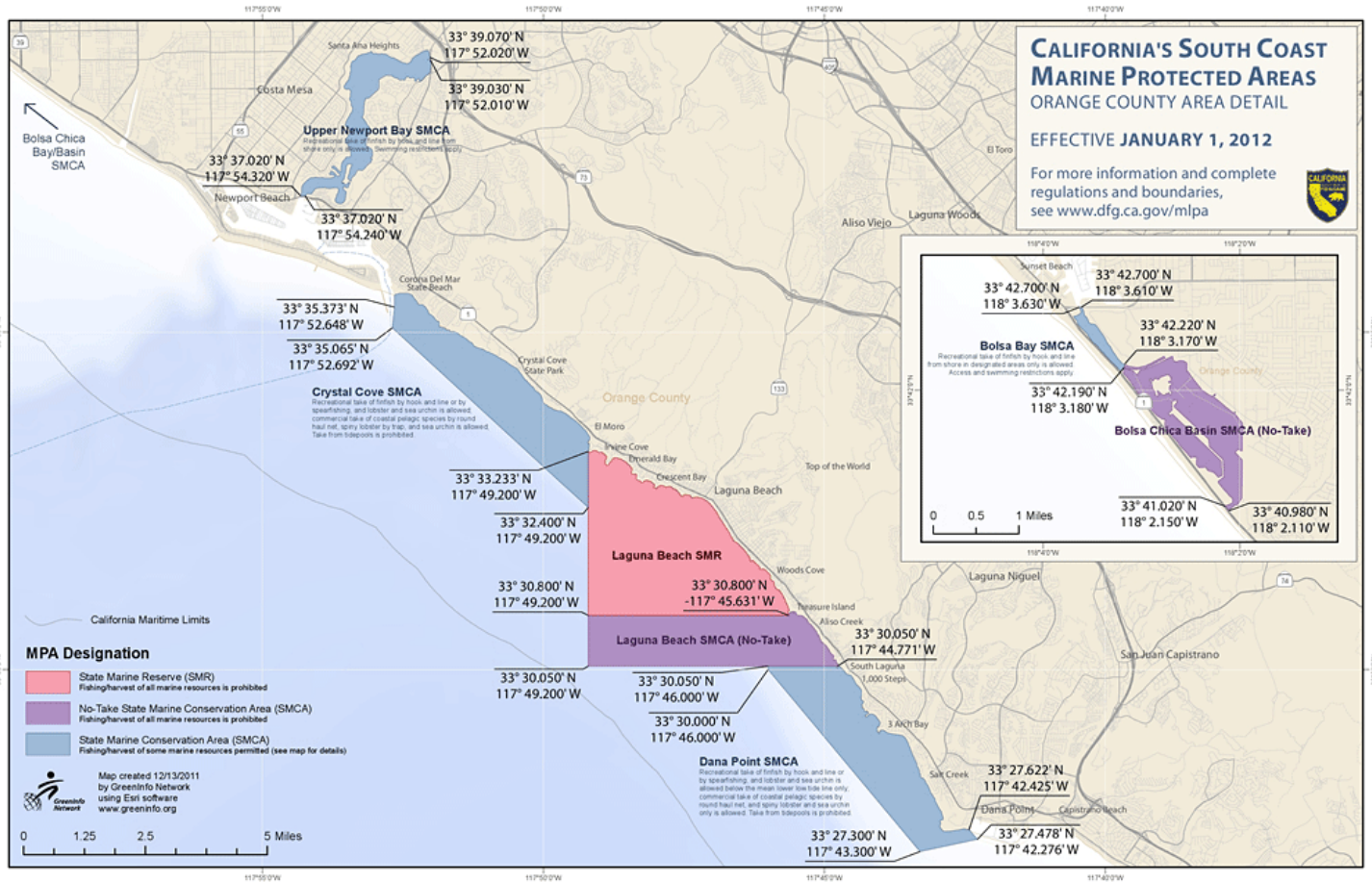




ORANGE COUNTY COASTKEEPER®

Orange County MPAs Watch 4th Quarterly Report 2018



4th Quarter, 2018 Results by Marine Protected Area

MPA	Total Activities	Total Onshore	Total Offshore	Onshore Consumptive	Onshore Non-consumptive	Offshore Consumptive	Offshore Non-consumptive	Potential Violation	Total Surveys
Upper Newport Bay	109	65	44	10	55	2	42	2	20
Crystal Cove	615	573	42	2	571	3	39	0	12
Laguna Beach	761	649	112	0	649	3	109	3	35
Dana Point	1071	710	361	0	710	32	329	2	30
Total	2556	1997	559	12	1985	40	519	7	97

The Orange County Marine Protected Area (OCMPA) Watch Program enlists volunteers, community groups and local government to monitor human activity in the Laguna Beach State Marine Reserve (SMR) and Crystal Cove, Dana Point, Laguna Beach, and Upper Newport Bay State Marine Conservation Areas (SMCAs). MPA Watch is a statewide program with the Orange County component run by Orange County Coastkeeper (OCCK). The goal of MPA watch is to provide information to enhance management and performance of Marine Protected Areas. MPA Watch should be viewed as the first part of a three-step process of monitoring, education, and enforcement to evaluate MPA effectiveness in the management of coastal and marine habitats and resources.

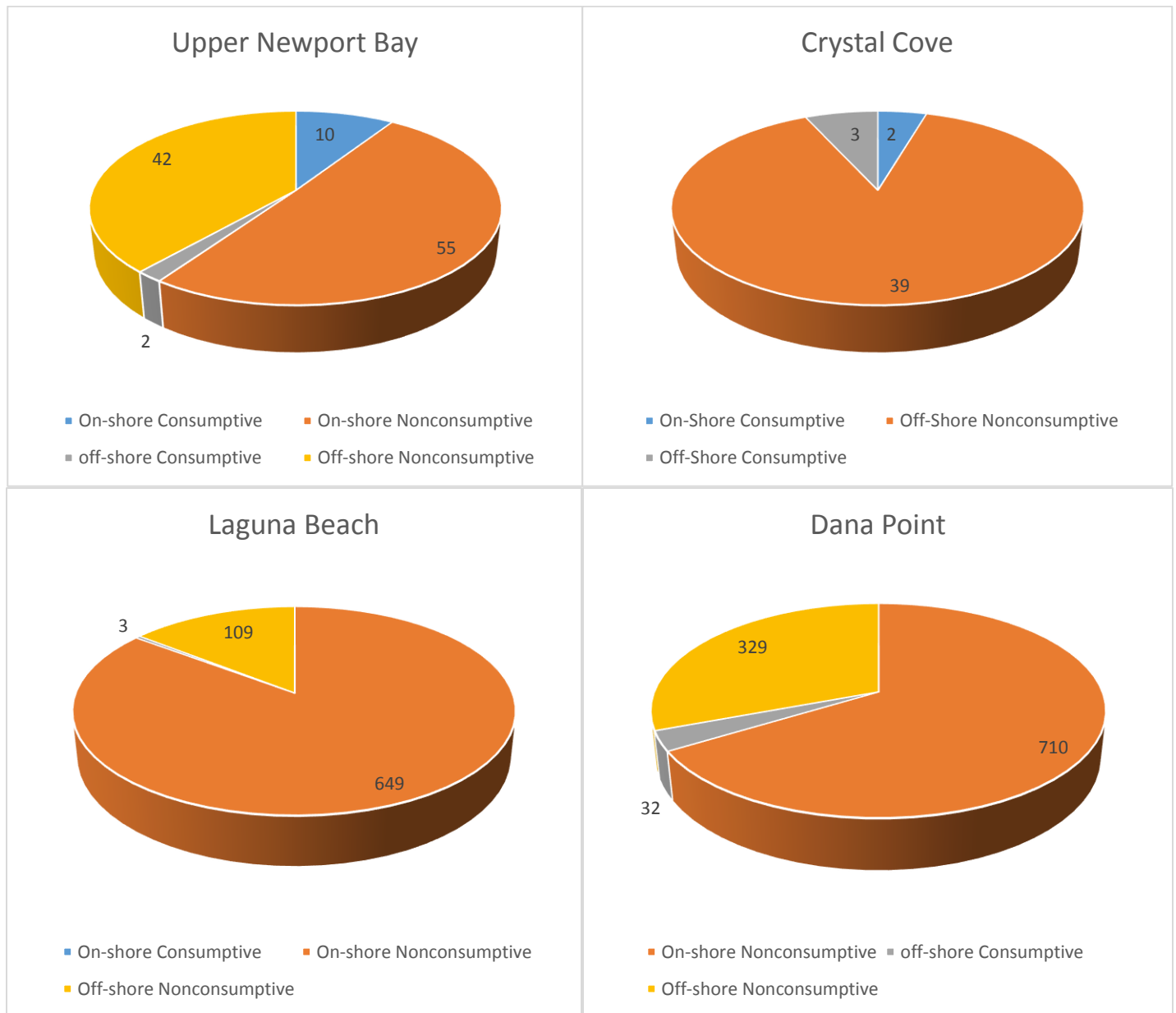
Surveys are conducted at twenty three locations in five Marine Protected Areas: Crystal Cove SMCA (Big Corona, Little Corona, Morning Canyon, Pelican, Los Trancos and Reef Point), Upper Newport Bay SMCA (North Star Beach, Castaways, Rocky Point and Jamboree Bridge), Laguna Beach SMR (Crescent, Shaws, Fisherman's Cove, Heisler, Main, Woods, Moss Point and Montage), Laguna Beach SMCA (Aliso Beach, West Beach and Table Rock) and Dana Point SMCA (Thousand Steps, Salt Creek, Dana Point and Strands). We do not monitor the Bolsa Bay and Bolsa Basin SMCAs due to a lack of human activity there.

We defined a large number of activities that our volunteers would be most likely to observe during their surveys including: beach recreation, wildlife viewing, snorkeling, and paddle boarding, and, fishing. Each activity falls under one of four broad categories: On-shore, Off-shore, Consumptive, and Non-consumptive.

On-shore vs. Off-shore Distinction: On-shore includes any activities that are within the MPA boundaries of the mean high tide line. This, for the purposes of this project, includes sandy beaches and rock areas up to the nearest bluff or man-made structure. Off-shore includes the area within the offshore MPA boundaries as defined in the Fish and Game code and all activities that occur in this area.

Consumptive vs. Non-consumptive: Consumptive activities include recreational and commercial take of marine species both on and offshore. Non-consumptive activities include kayaking, surfing, scuba-diving, wildlife viewing, and beach-visiting.

Number of activities divided by four Orange County MPAs



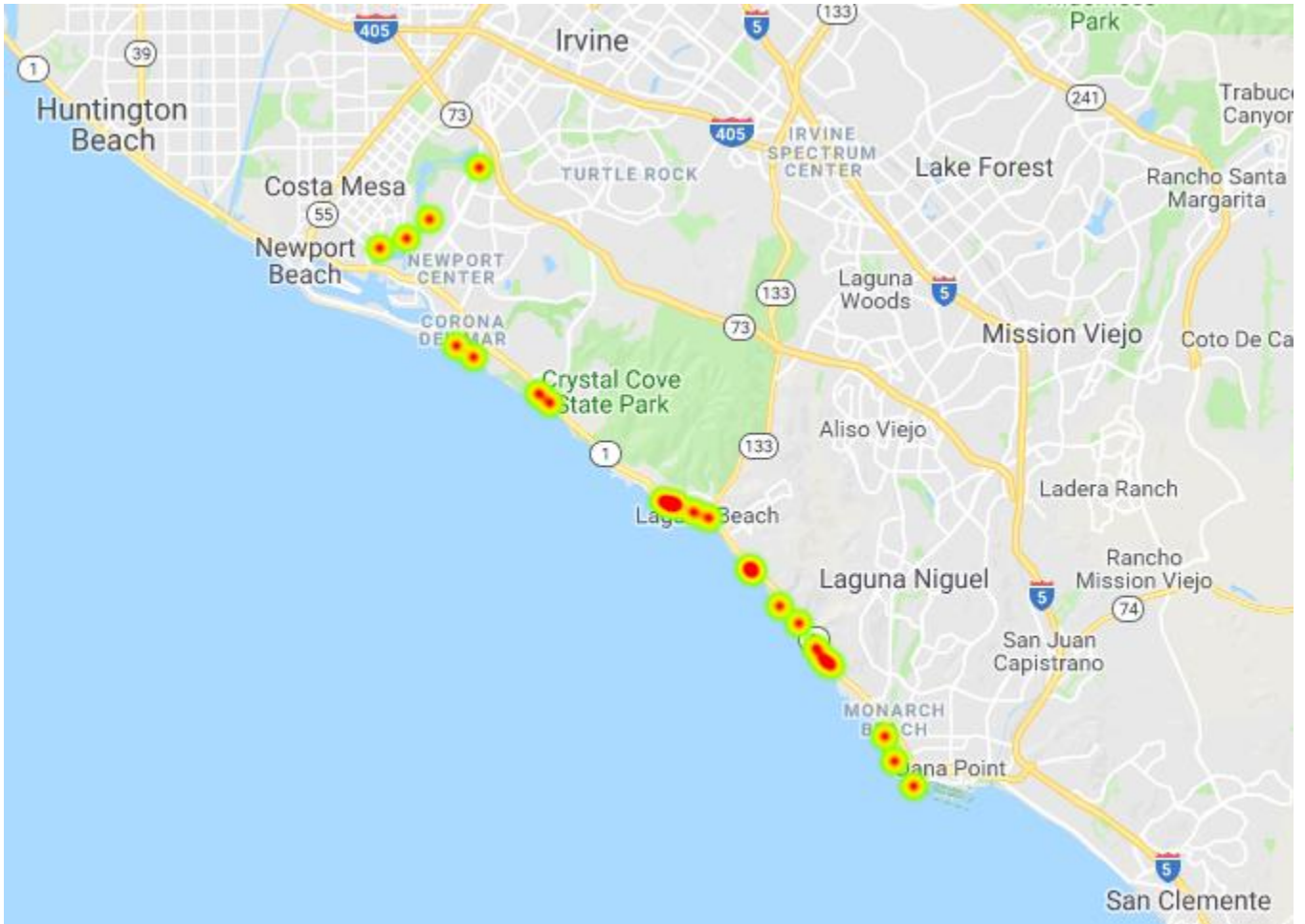
The Crystal Cove and Dana Point SMCAs does not allow take from tide pools.

The Upper Newport Bay SMCA allows fishing from shore using hook and line only.

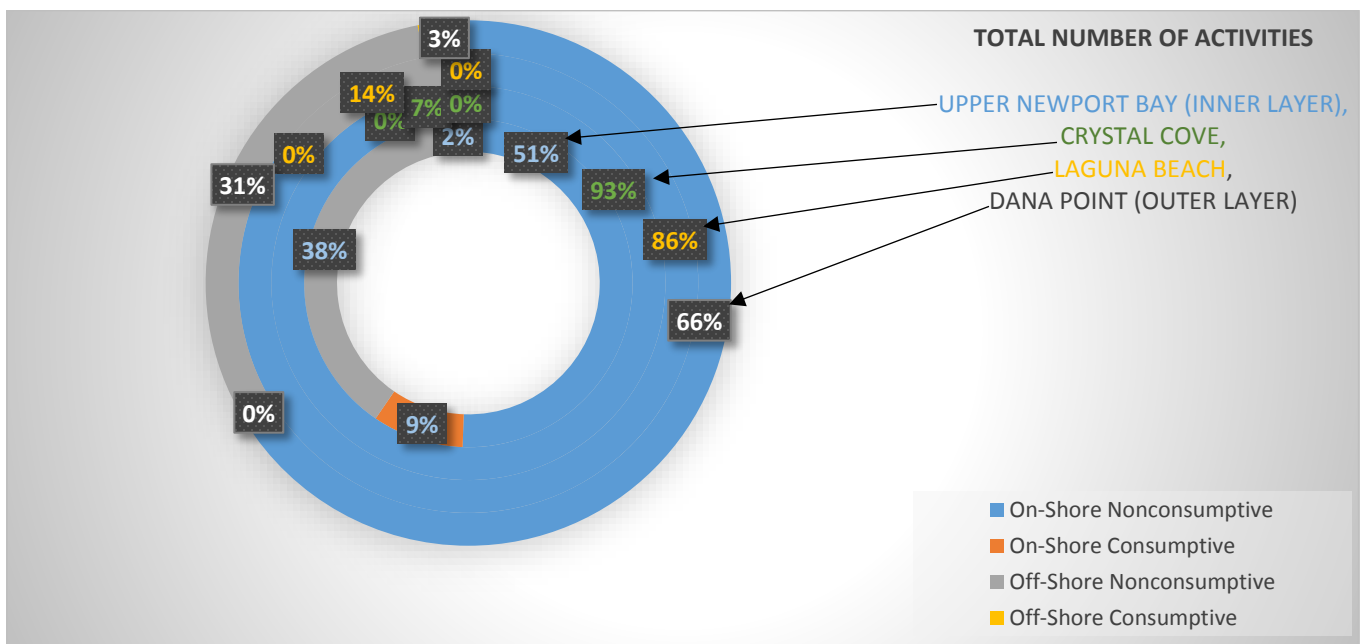
The Laguna Beach SMR and SMCA does not allow take of any marine resources.

During this period (2018-4th Quarter) we observed seven (7) potential MPA violations in the Laguna Beach MPA Watch area (Aliso Creek, Heisler and Fisherman’s cove), Upper Newport Bay (Castaway and North Star Beach) and Dana Point (Little Corona).

4th Quarter 2018 MPAs Total Activities Map

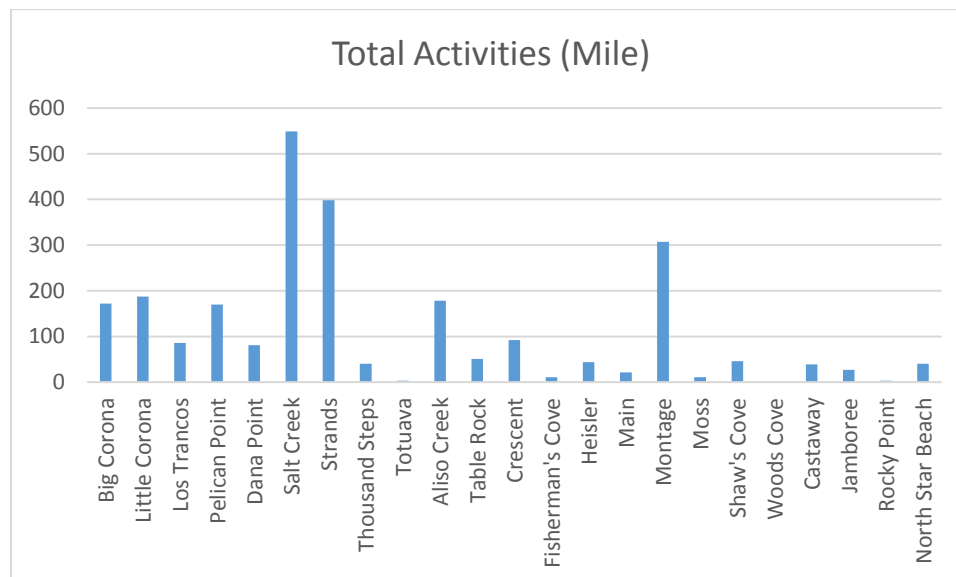


4th Quarter 2018 Orange County MPAs Activities by Mile

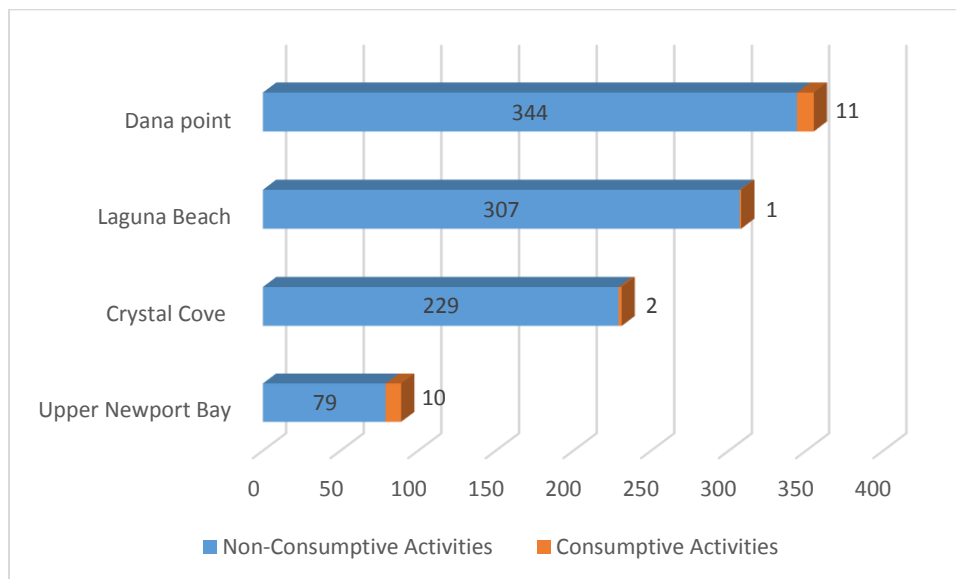


4th Quarter 2018 Orange County MPAs Activities

MPA	Surveys	Activities	Non Consumptive	Consumptive	Activities (Mile)	Potential Violation
Big Corona	2	172	172	0	506	0
Little Corona	5	187	182	5	748	2
Los Trancos	1	86	86	0	66	0
Pelican Point	4	170	170	0	221	0
Dana Point	6	81	74	7	135	0
Salt Creek	9	549	536	13	518	0
Strands	10	398	386	12	504	0
Thousand Steps	4	40	40	0	111	0
Totuava	1	3	3	0	14	0
Aliso Creek	6	178	177	1	712	1
Table Rock	5	51	51	0	464	0
Crescent	5	92	92	0	288	0
Fisherman's Cove	2	11	10	1	157	1
Heisler	1	44	43	1	105	1
Main	1	21	21	0	60	0
Montage	6	307	307	0	558	0
Moss	3	11	11	0	183	0
Shaw's Cove	5	46	46	0	200	0
Woods Cove	1	0	0	0	0	0
Castaway	9	39	28	11	75	1
Jamboree	2	27	27	0	66	0
Rocky Point	3	3	3	0	23	0
North Star Beach	6	40	39	1	235	1



4th Quarter (2018) Total Number of OC MPAs Activities per Mile



MPA	Total Area By Mile	Activities by Mile	Consumptive By Mile	Non-Consumptive By Mile
Upper Newport Bay	1.23	89	10	79
Crystal Cove	2.66	231	2	229
Laguna Beach	2.47	308	1	307
Dana Point	3.02	355	11	344

The volunteers observed the behavior of 2556 people in Orange County MPAs between October and December 2018. A majority of observations – 74 percent —were of onshore recreational activities such as swimming, sunbathing, running and wildlife viewing. Offshore activities such as surfing, diving, snorkeling and boating made up 26 percent of those surveyed.