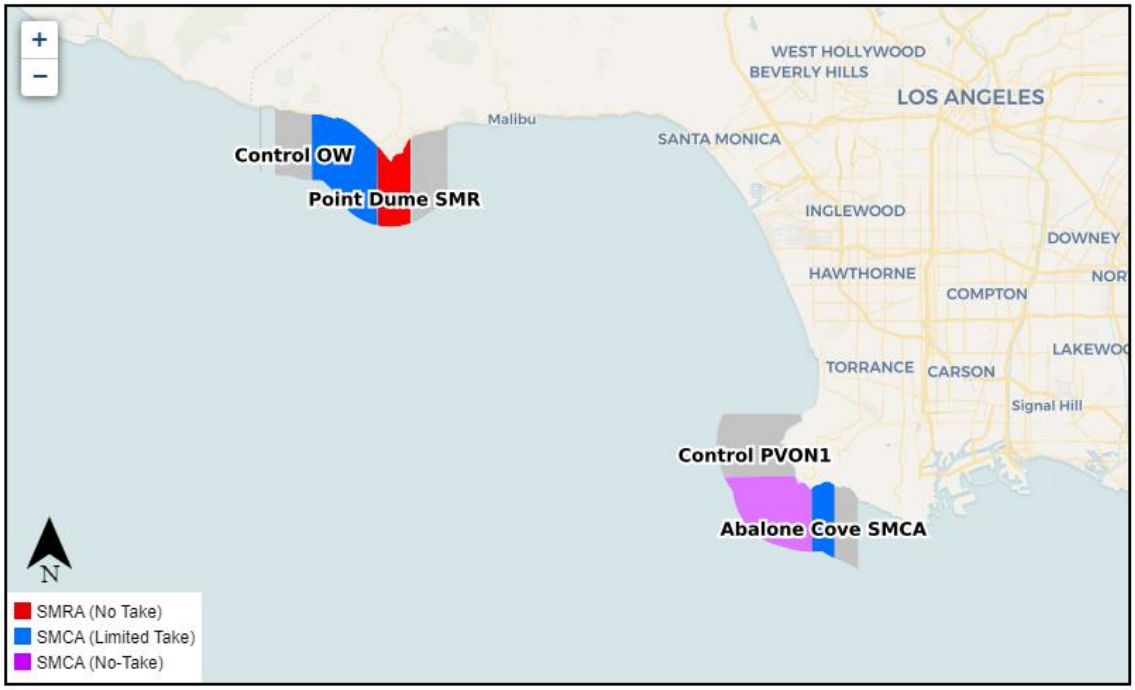
Marine Protected Area (MPA) Watch
Regional Report
LA County Shore-Based
January 1, 2021 – December 31, 2021

Heal the Bay

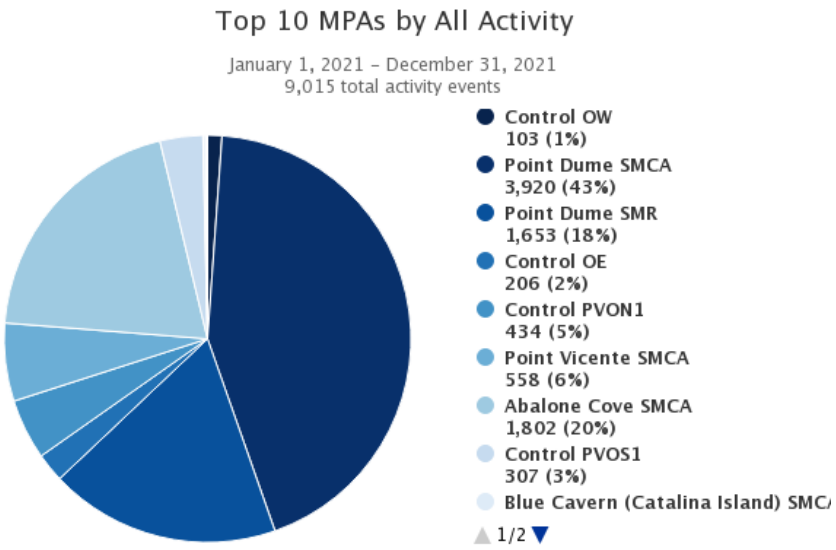


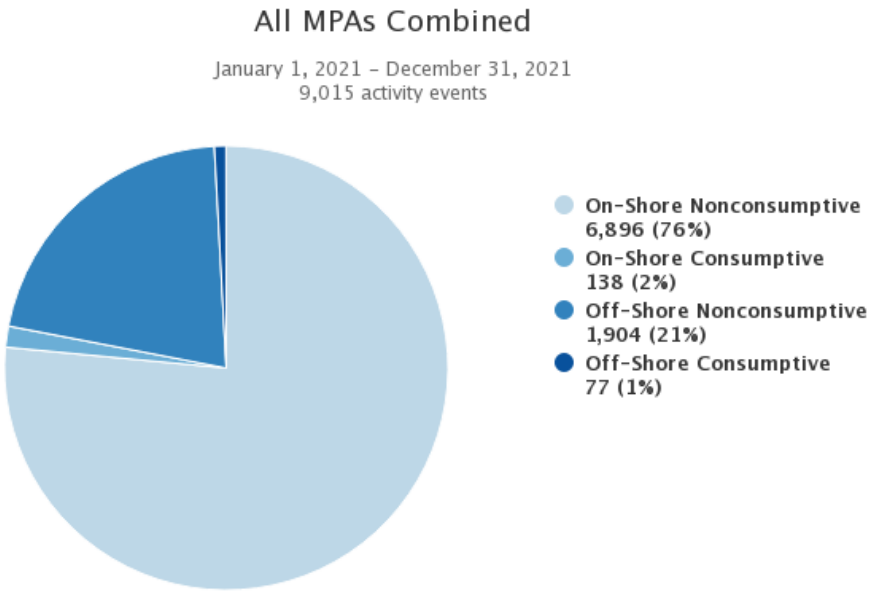
California's network of Marine Protected Areas (MPAS) was established by the Marine Life Protection Act (MLPA) of 1999 to safeguard our marine resources and ecosystems. To ensure success and to inform adaptive management, long-term monitoring of these protected areas must be conducted. Developed in 2011, MPA Watch was designed as a community science program to collect data on human use of MPAs. In Los Angeles County, the non-profit organization Heal the Bay manages MPA Watch shore-based data collection. Our volunteers monitor four MPAs: Abalone Cove State Marine Conservation Area, Point Vicente No-Take State Marine Conservation Area, Point Dume State Marine Conservation Area, and Point Dume State Marine Reserve.

Executive Summary

- In 2021, 45 MPA Watch volunteers conducted a total of 403 surveys across 237 total survey miles and recorded a total of 9,015 activities
- The total rate of activities in LA County MPAs fell below the baseline average of the total 10-year survey period in 2021, including consumptive activity.
- Potential violations decreased this year, indicating an improvement in MPA compliance following an increase in poaching activity in 2020.
- Heal the Bay's MPA Watch program made a significant recovery from the impacts felt from the COVID-19 pandemic in 2020. We trained 109 new volunteers, more than the previous 4 years, and surveys conducted are returning to normal pre-pandemic levels.

Human Use of MPAs January - December 2021

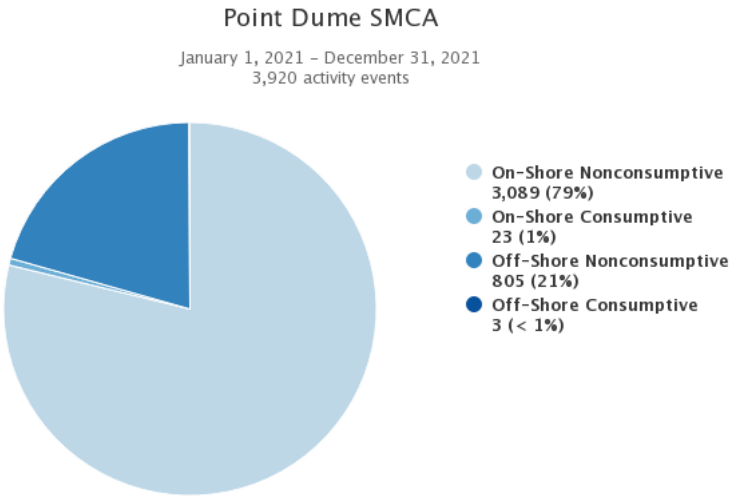


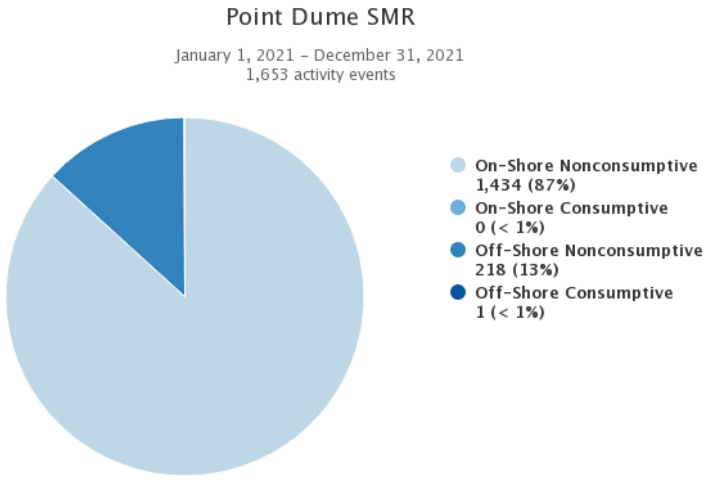


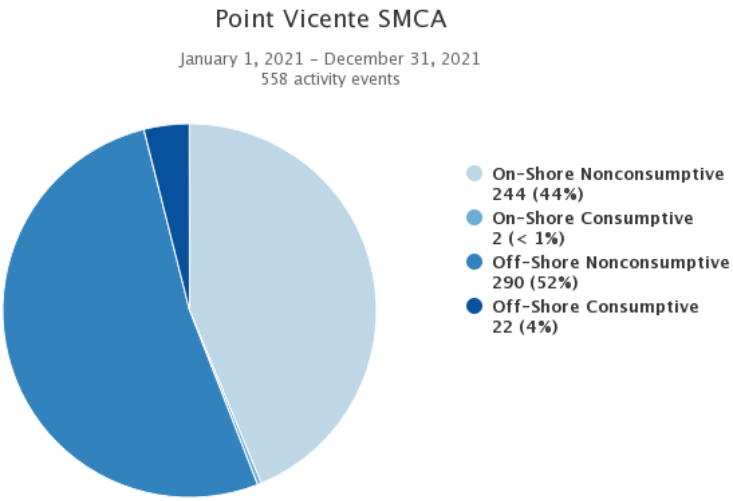
Activity Classifications

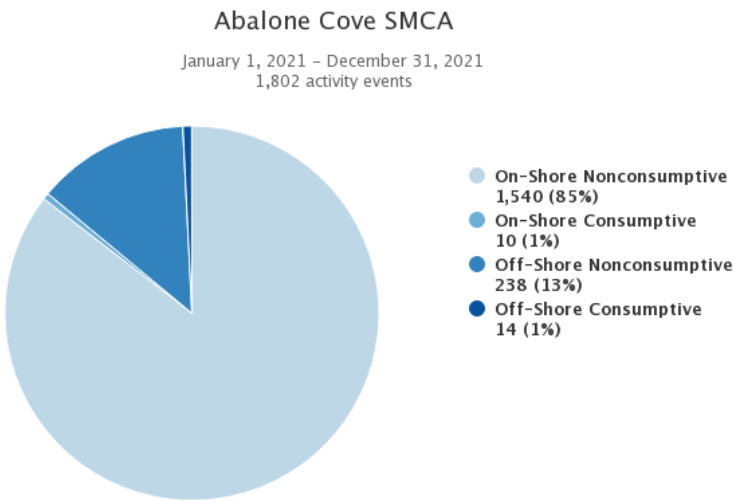
On-Shore - Activities that take place on a sandy or rocky beach. Excludes bluffs, trails, sea walls, parking lots, or other man-made structures. Includes recreation, tidepooling, shore-based fishing, etc.
Off-Shore - Activities that take place offshore, typically in knee-deep water or deeper. Includes surfing, SCUBA diving, kayaking, boat fishing, etc.
Consumptive - An activity in which a natural resource (i.e. fish, kelp, shells) is being collected.
Non-Consumptive - An activity in which a natural resource is not collected.

Activity by MPA



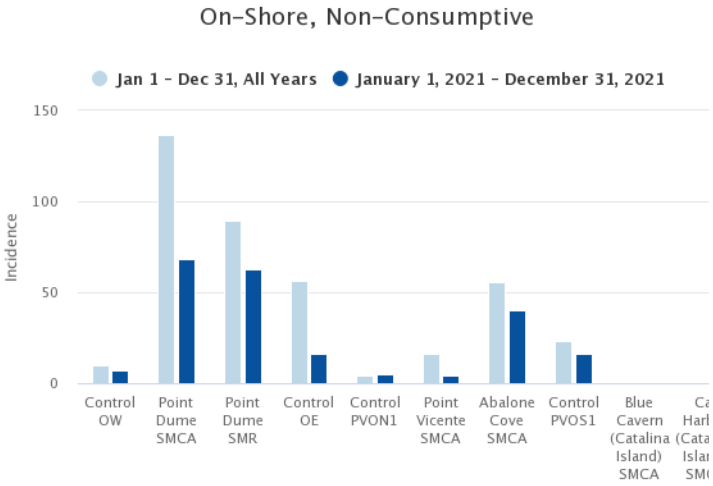


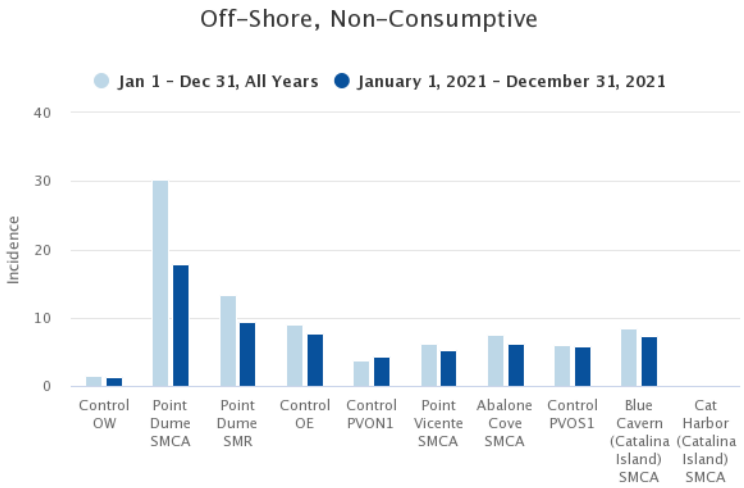


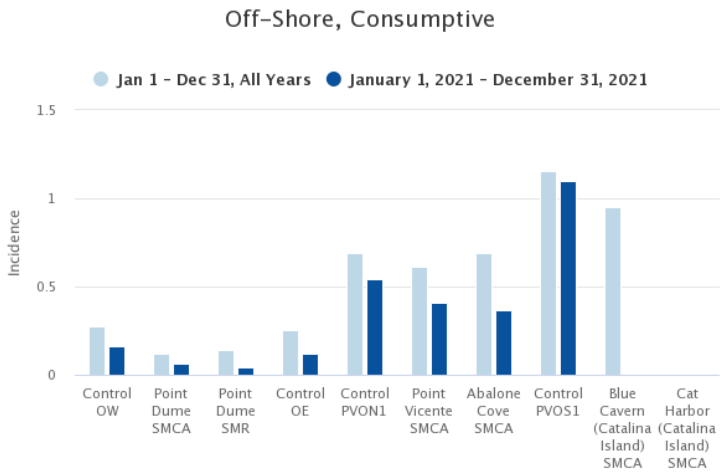


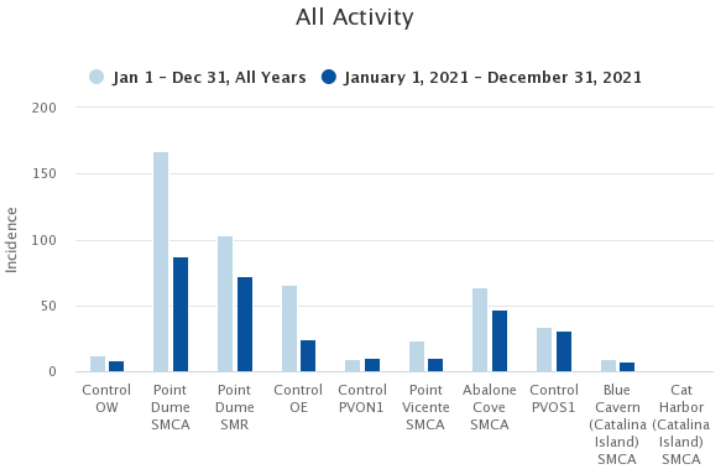
The above pie charts on pages 1 & 2 show raw number of activities observed by the MPA Watch Program in Los Angeles County and do not correct for number of surveys performed.

Activity Incidence by MPA









The above charts show incidence values for each MPA monitored by the MPA Watch Program in Los Angeles County. ***Incidence is calculated as number of activities recorded divided by total survey-miles.***

Activity Incidence by MPA

	On-Shore			
	Non-Consumptive		Consumptive	
MPA	Jan 1 Dec 31 All Years	Jan 1, 2021 through Dec 31, 2021	Jan 1 Dec 31 All Years	Jan 1, 2021 through Dec 31, 2021
Control OW	9.7	7.0	0.3	0.0
Point Dume SMCA	136.4	68.5	0.3	0.5
Point Dume SMR	89.8	62.3	0.3	0.0
Control OE	56.4	16.4	0.4	0.1
Control PVON1	4.1	4.9	1.3	0.6
Point Vicente SMCA	16.2	4.5	0.2	0.0
Abalone Cove SMCA	55.3	39.9	0.7	0.3
Control PVOS1	23.5	15.9	3.6	7.8
Blue Cavern (Catalina Island) SMCA	0.0	0.0	0.0	0.0
Cat Harbor (Catalina Island) SMCA	inf	nan	inf	nan
All MPAs Combined	69.4	29.1	0.5	0.6

	Off-Shore			
	Non-Consumptive		Consumptive	
MPA	Jan 1 Dec 31 All Years	Jan 1, 2021 through Dec 31, 2021	Jan 1 Dec 31 All Years	Jan 1, 2021 through Dec 31, 2021
Control OW	1.5	1.3	0.3	0.2
Point Dume SMCA	30.3	17.8	0.1	0.1
Point Dume SMR	13.3	9.5	0.1	0.0
Control OE	9.0	7.6	0.3	0.1
Control PVON1	3.8	4.3	0.7	0.5
Point Vicente SMCA	6.3	5.3	0.6	0.4
Abalone Cove SMCA	7.5	6.2	0.7	0.4
Control PVOS1	6.0	5.9	1.2	1.1
Blue Cavern (Catalina Island) SMCA	8.5	7.3	1.0	0.0
Cat Harbor (Catalina Island) SMCA	inf	inf	inf	nan
All MPAs Combined	13.5	8.0	0.3	0.3

MPA	Total Combined Jan 1 Dec 31 All Years	Total Combined Jan 1, 2021 through Dec 31, 2021
Control OW	11.8	8.4
Point Dume SMCA	167.2	86.9
Point Dume SMR	103.5	71.9
Control OE	66.1	24.2
Control PVON1	9.8	10.3
Point Vicente SMCA	23.3	10.3
Abalone Cove SMCA	64.2	46.7
Control PVOS1	34.2	30.7
Blue Cavern (Catalina Island) SMCA	9.5	7.3
Cat Harbor (Catalina Island) SMCA	inf	inf
All MPAs Combined	83.7	38.1

The above table shows incidence values for each MPA monitored by the MPA Watch program in Los Angeles County.

Incidence is calculated as number of activities recorded divided by total survey-miles.

Notes on Calculating Incidence

The baseline rate for the reporting period was calculated by summing the total use count for each category during the same period from each previous year and dividing this value by the transect miles surveyed at each site. The miles surveyed were calculated by first identifying the length of each transect for all the MPAs in question and multiplying the length of the transect by the number of surveys that had been taken along that transect during the same time period. For MPAs with multiple transects, the total distance traveled for each transect within the MPA were summed together to get the total miles surveyed within that MPA. In the tables, “inf” references a rate too small to calculate and “nan” references a rate of 0.

COVID-19

COVID-19 continued to impact Heal the Bay's MPA Watch program in 2021, however the program has recovered significantly from the severe impacts felt in 2020 and has overcome many pandemic-related challenges. Our program fully reopened on July 1 2020 after a 3-month closure and has since operated quite successfully using virtual programming. As documented in our previous reports, Heal the Bay implemented a virtual training program using training videos and online quizzes to continue recruiting and training volunteers for the MPA Watch program during the pandemic. Heal the Bay used this virtual training program three times in the first half of 2021 to train 55 volunteers. During the summer of 2021, we converted this virtual training program into a hybrid training program, continuing to utilize the training videos and quizzes we created and also offering additional in-person field trainings. We implemented this hybrid program in the summer and fall of 2021 and trained another 56 volunteers, totaling 109 volunteers trained for the entire year, more than the previous 4 years.

Volunteer participation significantly increased from 2020 to 2021. We saw increases in surveys completed, volunteers trained, volunteer retention, and active volunteers this year. While many of surveys are still being conducted by a handful of top volunteers, we were able to return to pre-pandemic survey levels this year. Heal the Bay is still taking precautions for COVID-19, including additional safety training, a Volunteer Safety Agreement that all volunteers must sign, and COVID vaccine requirements for all our volunteers. We will continue to monitor COVID-19 very carefully and hopefully will be able to return to in-person programming sometime in 2022.

As reported in 2020 and in the first half of 2021, COVID-19 and subsequent increased visitation and harvesting of organisms also had an enormous impact on LA County's rocky intertidal zone, both inside and outside MPAs. While the MPA Watch data will undoubtedly miss a great deal of this take, both volunteers and MPA managers anecdotally noticed an enormous uptick in take from the tidepools of Abalone Cove SMCA and surrounding areas in 2020. Thankfully, this take lessened during the summer of 2021, however Heal the Bay is still monitoring the situation closely. Our MPA Watch team, including managers and interns, conducted a series of tidepool visitation surveys at 4 locations across LA County during the summer of 2021, both inside and outside MPAs. We spoke to over 200 visitors and gathered data on languages spoken by visitors, where visitors were coming from, and what activities they were participating in at the tidepools. We are currently analyzing that data and will include an analysis and recommended actions in our MPA Decadal Management Review report to the California Department of Fish and Wildlife in January 2022.

Breakdown by MPA

Point Dume State Marine Reserve

Point Dume became a State Marine Reserve (SMR) in 2012 as part of the third phase of the California Marine Life Protection Act (MLPA). Point Dume SMR is located at Point Dume in Malibu, California and encompasses a total of 7.53 square miles. Classified as an SMR, all take is strictly prohibited in this MPA. With panoramic views and miles of visibility down the Malibu coast, Point Dume is known today as an ideal location for hiking, rock climbing, and beach recreation.

Centuries before the settlement of Spanish missionaries in the area, the Indigenous Chumash tribe inhabited Point Dume. Living closely in relation to their natural environment, the Chumash treated Point Dume as a sacred place and a sun shrine. Point Dume's significance relates directly to its position, as it juts out into the Pacific Ocean. Chumash people used the top of Point Dume as a lookout to observe seasonal migrations of marine mammals, schools of fish, and movements of people along the coastline.[1]

In 2021, non-consumptive activity incidence decreased in the Point Dume SMR, both onshore and offshore. Onshore consumptive activity saw the most significant decrease from the previous all-year average, from .3 to 0 incidences per survey mile. Offshore consumptive activity also decreased to 0. Only a single count of consumptive activity (unknown fishing) was recorded for the entire year for Point Dume SMR, a hopeful trend for this MPA. The most common activities in this MPA in 2021 were sandy beach recreation (78%), offshore recreation (6%), surfing (6%) and rocky beach recreation (4%) and surveys in this MPA made up only 6% of all MPA Watch surveys for the year. It should be noted that surveying in this MPA was difficult in 2021 due to multiple transect closures. These closures were caused by access stair construction (which has been ongoing since early 2020) and a significant road closure due to major damage from an unprecedented high King Tide event. Only 24 surveys were conducted in this MPA, due in part to these closures.

Point Dume State Marine Conservation Area

Located adjacent to the Point Dume State Marine Reserve, Point Dume SMCA encompasses 15.92 square miles and runs along Zuma and El Matador beaches in Malibu, CA to the northwest of Point Dume. Adopted in 2012 along with Point Dume SMR during phase three of the MLPA adoption process, this MPA was chosen as the location for a SMCA due to diverse habitats, high species diversity, and monitoring & research opportunities. Similar to the Point Dume SMR, this site plays a significant role in Chumash maritime culture and is well suited for tribal co-management, maritime cultural preservation, and education and outreach.

As a conservation area, Point Dume SMCA does allow some consumptive activity. The recreational take by spearfishing of white seabass and pelagic finfish is permitted, along with the commercial take of swordfish by harpoon and coastal pelagic species by round haul net,

[1] Robinson, T., Draft Initial Study and Mitigated Negative Declaration - Point Dume Natural Preserve (2003). Retrieved from https://www.parks.ca.gov/pages/980/files/Point Dume MND_ Draft2.pdf

brail gear, and light boat. There is an incidental take limit of no more than 5% by commercial fishing activity, and take pursuant to beach nourishment and sediment management practices is also permissible.

Point Dume SMCA had the most recorded activity of all survey sites in LA County in 2021 with 43% of recorded activities, the same contribution as 2020. Also similar to last year, this MPA had the highest activity incidence of all four MPAs and control sites, indicating it is the most heavily trafficked site. Onshore non-consumptive activity is by far the most common, making up 79% of the recorded activity observations. Total activity in this MPA experienced a decrease in incidence from the previous all-year average by 48%, however on-shore consumptive activity increased from 0.3 to 0.5 incidences per survey mile. Surveyors reported 6 hook and line fishers across the 52 surveys collected for the year and 17 counts of hand collection of biota from the sandy beach, mostly reported as collection of washed up kelp The most common activities in this MPA in 2021 were sandy beach recreation (making up 76% of the total activities), surfing (12%), offshore recreation (8%) and rocky beach recreation (4%).

Point Vicente No-Take State Marine Conservation Area

Point Vicente State Marine Conservation Area (SMCA) is a no-take MPA established in 2012. This MPA protects key habitats and covers fifteen square miles. Home to the Point Vicente Lighthouse and 3.7 miles of scenic shoreline, Point Vicente attracts many tourists. Beach access in this MPA is limited which makes beach recreation and other activities less common, however, tourists can still enjoy the views and occasional wildlife viewing from the bluff trails. As a no-take SMCA, no recreational or commercial take is permitted within its boundaries. Specially permitted incidental take for infrastructure maintenance is legally permissible.

As with previous years, Point Vicente SMCA had more offshore activity than any other LA MPA in 2021, making up 56% of the total observed activity, up from 48% last year and only 30% for the 10 year survey period. Consumptive activity accounted for a total of 4% of the activities observed, down from 9% in 2020 although still higher than any other MPA in LA County. Total activity incidence saw a decrease from the previous average during this timeframe, from 23.3 observations per survey mile to 10.3 observations per survey mile, a 56% decrease. This decrease includes consumptive activity, which is a positive sign as consumptive activity had increased in 2020 during the start of the COVID-19 pandemic. Volunteers recorded the most surveys in this MPA during this timeframe, a total of 147, making up 36% of the total number of surveys conducted. The most common activities recorded were rocky beach recreation (28%), power boating (15%), sailing (8%), and wildlife watching (7%). Most of the consumptive activity recorded in this MPA was boat-based and the most common gear-type was line, however one count of commercial net fishing was observed. While at least 6 potential violations were recorded (not including 18 counts of unknown fishing where a violation can’t be determined), none of those violations were reported.

Abalone Cove State Marine Conservation Area

Located adjacent to Point Vicente SMCA, Abalone Cove SMCA spans just 1.2 miles of shoreline and encompasses only 4.7 square miles. The smallest of the MPAs in LA County, this

protected area is located on the south of the Palos Verdes Peninsula. It was adopted in 2012 and along with Point Vicente SMCA, includes the only south-facing headland in the entire region. The shoreline of this MPA is known for its rocky intertidal habitat. As an SMCA, Abalone Cove SMCA does allow some take of marine organisms. Within the MPA boundaries, the recreational take by spearfishing of white seabass and pelagic finfish; and market squid by hand-held dip net is permitted. The commercial take of swordfish by harpoon; and coastal pelagic species and Pacific bonito by round haul net, brail gear, and light boat are also permitted. Additionally, like Point Vicente SMCA, Abalone Cove SMCA partially contains a superfund site, and therefore take pursuant to the mitigation actions of the superfund site is permitted.

In 2021, Abalone Cove SMCA had a decrease in consumptive activity, from 4% of total activity down to 2%. While consumptive activity spiked for this MPA in 2020, according to activity incidence, that spike has dropped back down, with offshore consumptive activity at 0.4 incidences per survey mile and onshore consumptive activity at 0.3 incidences per survey mile. All other activity types decreased from previous years, with total activity decreasing from 64.2 observations per survey mile to 46.7 observations per survey mile, a 34% decrease (although there was a small increase from 2020 activity rates of 44.1 observations per survey mile). Consumptive activity was mostly hook and line fishing from shore and boats and hand collection from the rocky intertidal zone this MPA is known for. More tidepooling activity is observed in this MPA than all others with 175 of the total 259 observations (68%) made throughout the year. The most common activities observed in this MPA in 2021 were rocky and sandy beach recreation (41% and 33% respectively), tidepooling (10%), kayaking (4%) and power boating (2%).

Potential Violations

The rate of consumptive activities across all LA MPAs surveyed by MPA Watch remains relatively low in most MPAs as in previous years and the increase in consumptive activity seen in 2020 has decreased again in 2021. Consumptive activities accounted for only 2% of total activities in LA MPAs in 2021. In our 2020 report, we detailed a concerning increase in take from two of the LA County MPAs based both on MPA Watch data and on anecdotal evidence from volunteers, managers, and interns. These MPAs are located in Palos Verdes and have historically been the sites of higher instances of consumptive activity (both permitted and restricted) as compared to Malibu.

When taking a closer look at observed consumptive activity, the highest rates are actually occurring at a control site, PVOS1, also known as Sacred Cove, located just south of the Abalone Cove SMCA. This site is often given as an alternative for fishing and tidepool collecting to Abalone Cove by local rangers and docents. In 2021, 89 instances of consumptive activity were recorded from just 20 surveys – an incidence rate of 7.8 observations per survey mile for onshore consumptive activity. This rate is much higher than any other site and is also higher than the average of 3.6 observations per survey mile for the 10 year survey period. This is indicative of effective MPA regulations and relatively good compliance in this area.

In 2021, 88 total potential violations were observed across all 4 MPAs in 23 surveys of the 404 surveys conducted, accounting for just under 6% of surveys. In comparison, in 2020, MPA Watch volunteers observed 96 violations in 25 surveys of the 296 total surveys conducted, accounting for 8.5% of surveys. Of the potential violation observations made in 2021, only 4 were reported by MPA Watch volunteers. This is a trend we have seen in previous years and indicates that, while they are trained in CalTIP reporting procedure, many potential violations go unreported by MPA Watch volunteers in LA County. Our team is unsure as to whether this is due to a lack of knowledge that the observation was a violation, a lack of confidence in reporting, or a lack of desire to report. We are taking steps to increase the reporting rate of potential violations to better inform MPA enforcement practice and officers.

Next Steps

Looking forward into 2022, Heal the Bay's MPA Watch team will prioritize transitioning back to hybrid or possible in-person trainings for our new volunteers as soon as it is safe to do so. We continue to take all necessary precautions to keep our team and volunteers safe as we continue to be impacted by the COVID-19 pandemic. We are incredibly proud of the steps we have taken to maintain our program's strength this past year and want to keep that momentum going and continue to increase our numbers even more. We are also taking time to analyze our volunteer retention rates and survey our volunteers and interns to gain a better understanding of why some volunteers stick with us while others don't and use that information to improve the program and increase retention.

In addition to training new volunteers, we have and will continue to prioritize updating training materials and hosting virtual refresher courses for our current volunteers to keep them informed of survey protocol. Last year, we released a brand new training manual to our volunteers with improved survey instructions and guidance, difficulty and accessibility ratings, additional scientific information, and updated photos. Next year, we will release another version of this manual with more updated instructions and a new Traditional Ecological Knowledge section to honor Indigenous management of coastal and marine ecosystems. We also hope to expand our private training program to include local educational institutions and continue hosting MPA docent trainings as a subset to our MPA Watch program.

Finally, we plan to continue collaborating with PhD students in the Barber Lab at UCLA to begin a second 2-year eDNA study in the MPAs of Malibu in addition to analyzing the data from the first 2-year study from our 2019-2021 partnership. In lieu of in-person eDNA events, staff has and will continue to collect samples with research partners until the pandemic has slowed sufficiently to reinstate volunteer sampling events. We are very excited to see what these data will show and to contribute to advanced long-term monitoring of our local MPAs.

Additional Information

LA County MPA Watch is part of a larger statewide MPA Watch effort. For more information about this program, please visit www.mpawatch.org. If you are interested in joining the Heal the Bay MPA Watch volunteer team, please attend one of our monthly volunteer orientations for

more information. Volunteer orientations are held once quarterly, and are a necessary prerequisite to attend one of our four yearly MPA Watch trainings.

For additional information on MPA Watch, including survey sites, participating organizations, protocols and datasheets, media kit, and how to get involved, please visit mpawatch.org. Connect with MPA Watch on social media @MPAWatchOrg.

To learn more about Heal the Bay's MPA Watch Program and to register for an orientation or training, please visit healthebay.org/mpa. For information on California's network of marine protected areas, please visit californiampas.org. For details on the rules, regulations and management of California's MPAs, please visit wildlife.ca.gov/MPAs.

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MPA Watch Volunteer Training, Abalone Cove, October 2021