



Marine Protected Area (MPA) Watch
Regional Report
Marin County
January 1, 2024 – June 30, 2024



MPA Watch is a statewide collaborative effort to collect critical human use data to enhance the management and conservation of marine protected areas (MPAs). MPA Watch data informs the management, enforcement, and science of California's MPAs and provides insight into how human uses are changing as a result of MPA implementation. By involving local communities in this important work, MPA Watch programs inspire and empower stewardship, and educate California communities about ocean ecosystems. MPA Watch trains volunteers to observe and collect unbiased data on coastal and marine resource use. The Marin County Marine Protected Area (MPA) Watch Program, organized by the Environmental Action Committee of West Marin, engages community scientists in four MPAs in Marin County and one adjacent site.

Executive Summary

This report includes MPA Watch data from January 1 – June 30, 2024¹. In this period, 100 surveys were conducted by 46 volunteers who observed 1,599 activities over 150 survey miles.

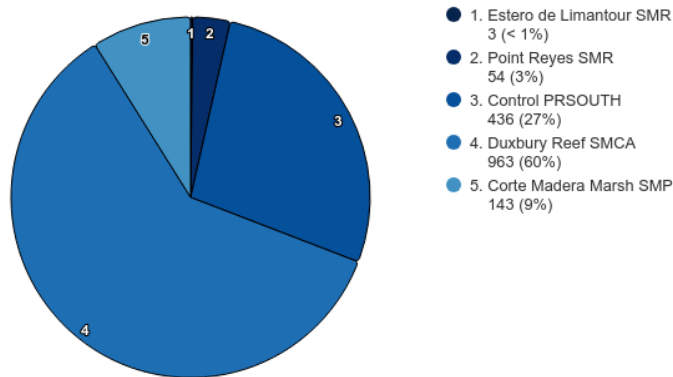
- Point Reyes State Marine Reserve (Point Reyes SMR), Estero de Limantour State Marine Reserve (Estero de Limantour SMR), and Limantour Beach Control (Control PRSouth) are accessed through the Point Reyes National Seashore.
- Duxbury Reef State Marine Conservation Area (Duxbury SMCA) is accessed through Marin County Parks and Open Space at Agate Beach.
- Cortes Madera Marsh State Marine Park (Cortes Madera Marsh SMP) is accessed through the city of Cortes Madera.

HUMAN USE OF MPAS

January 1, 2024 - June 30, 2024

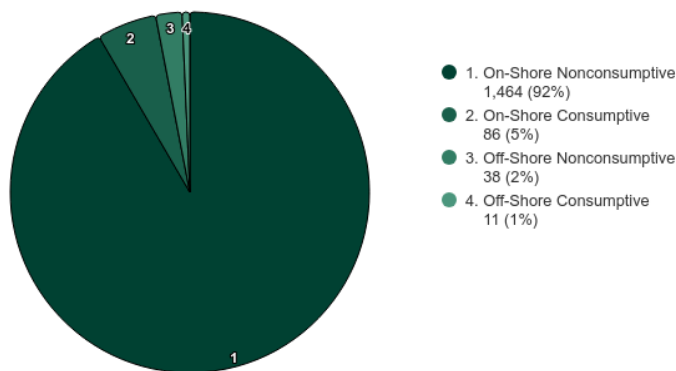
Top 5 MPAs by All Activity

January 1, 2024 - June 30, 2024
1,599 total activity events



All MPAs Combined

January 1, 2024 - June 30, 2024
1,599 activity events



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.

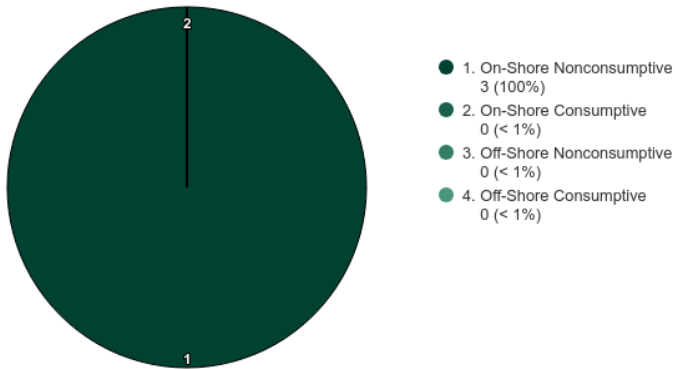
Consumptive - An activity in which a natural resource (i.e. fish, kelp, shells) is being collected.

Non-Consumptive - An activity in which a natural resource is not collected.

ACTIVITY BY MPA¹

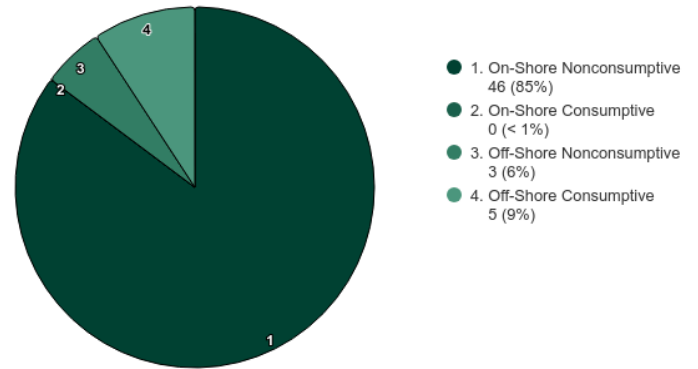
Estero de Limantour SMR

January 1, 2024 - June 30, 2024
3 activity events



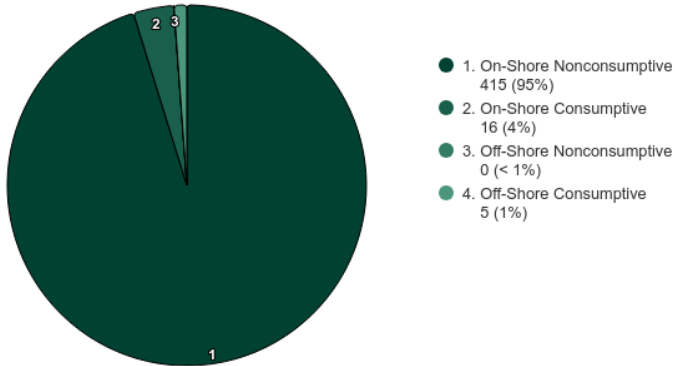
Point Reyes SMR

January 1, 2024 - June 30, 2024
54 activity events



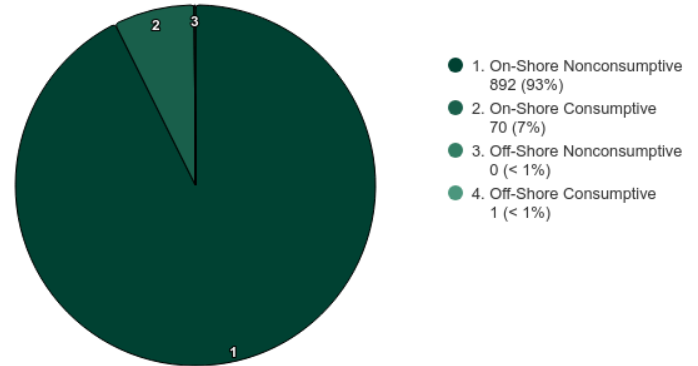
Control PRSOUTH

January 1, 2024 - June 30, 2024
436 activity events



Duxbury Reef SMCA

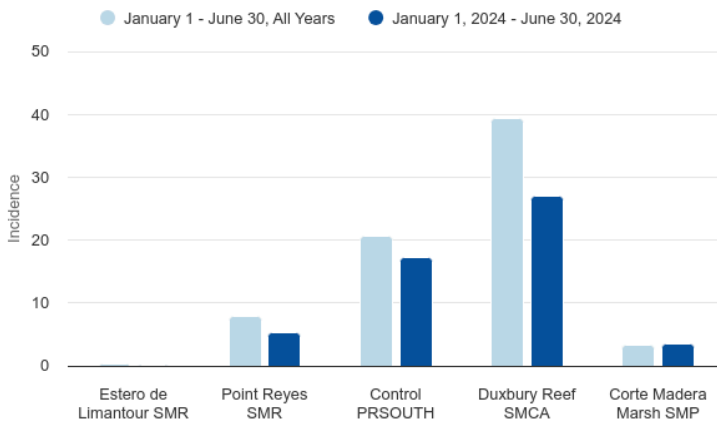
January 1, 2024 - June 30, 2024
963 activity events



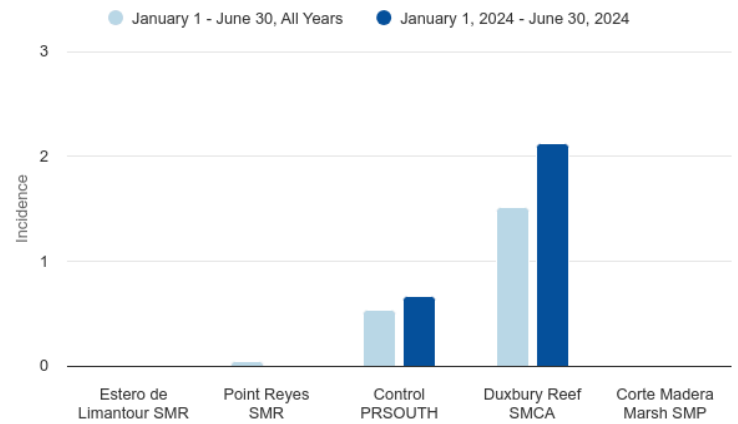
¹ Observation count of activities (onshore / offshore) and type (consumptive / non-consumptive) in each survey area.

ACTIVITY INCIDENCE BY MPA

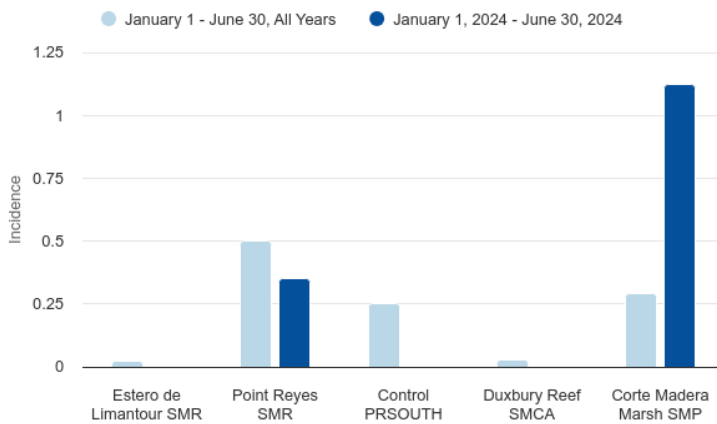
On-Shore, Non-Consumptive



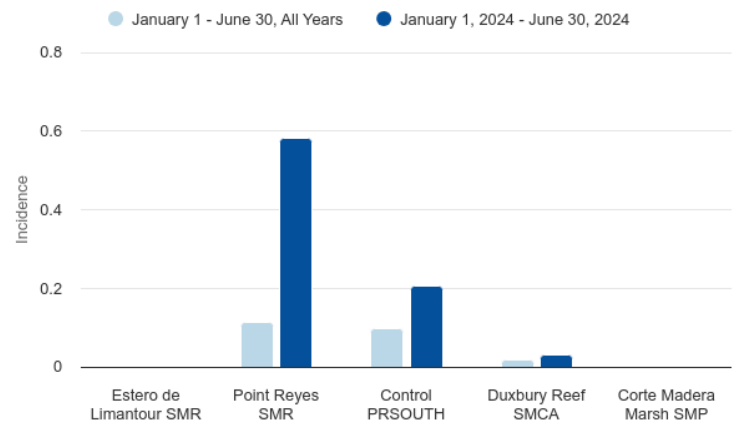
On-Shore, Consumptive



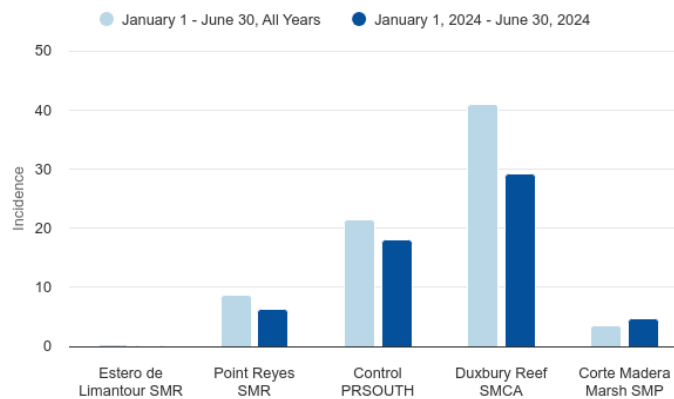
Off-Shore, Non-Consumptive



Off-Shore, Consumptive



All Activity



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

ACTIVITY INCIDENCE BY MPA

MPA	On-Shore			
	Non-Consumptive		Consumptive	
	January 1 June 30 All Years	January 1, 2024 through June 30, 2024	January 1 June 30 All Years	January 1, 2024 through June 30, 2024
Estero de Limantour SMR	0.3	0.1	0.0	0.0
Point Reyes SMR	8.0	5.3	0.0	0.0
Control PRSOUTH	20.6	17.1	0.5	0.7
Duxbury Reef SMCA	39.3	27.0	1.5	2.1
Corte Madera Marsh SMP	3.3	3.5	0.0	0.0
All MPAs Combined	11.6	9.8	0.3	0.6

MPA	Off-Shore			
	Non-Consumptive		Consumptive	
	January 1 June 30 All Years	January 1, 2024 through June 30, 2024	January 1 June 30 All Years	January 1, 2024 through June 30, 2024
Estero de Limantour SMR	0.0	0.0	0.0	0.0
Point Reyes SMR	0.5	0.3	0.1	0.6
Control PRSOUTH	0.3	0.0	0.1	0.2
Duxbury Reef SMCA	0.0	0.0	0.0	0.0
Corte Madera Marsh SMP	0.3	1.1	0.0	0.0
All MPAs Combined	0.2	0.3	0.0	0.1

MPA	Total Combined	
	January 1 June 30 All Years	January 1, 2024 through June 30, 2024
Estero de Limantour SMR	0.3	0.1
Point Reyes SMR	8.6	6.3
Control PRSOUTH	21.5	18.0
Duxbury Reef SMCA	40.9	29.2
Corte Madera Marsh SMP	3.6	4.6
All MPAs Combined	12.1	10.7

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.

BREAKDOWN BY MPA

- Point Reyes State Marine Reserve (Point Reyes SMR), Estero de Limantour State Marine Reserve (Estero de Limantour SMR), and Limantour Beach Control (Control PRSouth) are accessed through the Point Reyes National Seashore at Limantour Beach and Drakes Beach.
- Duxbury Reef State Marine Conservation Area (Duxbury SMCA) is accessed through Marin County Open Space at Agate Beach Park.
- Corte Madera Marsh State Marine Park (Corte Madera Marsh SMP) is accessed through the city of Corte Madera at Corte Madera Ecological Reserve.

Data collection in the winter of 2024 at Drakes Beach was limited due to beach closure and access restrictions where we survey at Point Reyes SMR and Estero de Limantour. The table below summarizes the access closures and limitations by MPA and dates of impact during 2024.

MPA Name	2023 Closures
Point Reyes SMR	Drakes Beach closed January 1 – March 31 due to elephant seal pupping.
Estero de Limantour SMR	
Control PRSouth	No closure
Duxbury Reef SMCA	No closure
Corte Madera Marsh SMP	No closure

- Estero de Limantour State Marine Reserve (Estero de Limantour SMR):**
This MPA is observed from two survey transects within Point Reyes National Seashore and accessed from either 1) Limantour Beach and walking north-west, or 2) Drakes Beach and walking east. This MPA does not allow any on-shore or offshore consumptive uses.

Volunteers conducted 13 surveys during this period in this remote MPA and recorded a use rate of less than 1 activity per mile surveyed: 0.1 total use count per survey mile. This represents a noticeable decrease from 0.3 activities per mile for the same period in 2023.

Similar to 2023, 100% of the 3 counts in 2024 in this MPA were non-consumptive. 100% of observations in 2024 were on-shore, and 0% were offshore, which differs significantly from observations from this period in 2023 (88% of observations were on-shore non-consumptive and 12% were off-shore non-consumptive). However, this can be partially attributed to a much smaller data sample size than that of 2023. Non-consumptive observations in this MPA included on-shore beach recreation, tidepooling and wildlife viewing, and offshore surfing.

Dogs are restricted from this MPA as it is critical habitat for the Western Snowy Plover and the seasonal presence of marine mammals. Similar to 2023, of the 13 surveys that volunteers conducted zero (0) animals on- or off-leash were recorded. In total, there were no violations recorded in Estero de Limantour in 2024.

b. Point Reyes State Marine Reserve (Point Reyes SMR)

This MPA is observed from two survey transects within the Point Reyes National Seashore and accessed from either 1) Limantour Beach and walking northwest, or 2) Drakes Beach. Beach access at Drakes Beach was closed from January 1 through March 31, 2024, due to elephant seal pupping. This MPA does not allow any on-shore or offshore consumptive uses.

From January through June 2024, volunteers conducted 13 surveys of this MPA (compared to 58 surveys during this period in 2023). Surveys at this MPA recorded a use rate of 6.3 activities per mile surveyed. This marks an increase of 47% compared to the 2023 rate of 4.3 activities per mile. During 2024, 85% of the observations in the MPA were on-shore, non-consumptive (sandy beach recreation [57%], wildlife viewing [26%], and animals on-leash (2%). Offshore non-consumptive uses (other boating and offshore recreation) totaled 6% of observations, while offshore consumptive uses (commercial and recreational fishing) contributed to 9% of observations.

Dogs are restricted from beach access at Drakes Beach (sandy beach access to this MPA) and the north-west portion of Limantour Beach as it is critical habitat for the Western Snowy Plover and the seasonal presence of marine

mammals. There was 1 observation of an on-leash dog recorded. In total, there were 2 observations of potential MPA violations observed in 2024.

Volunteers accessing this MPA from Drakes Beach typically find significant quantities of plastic marine debris that currents deposit there. The debris consists of a mix of small plastic particles, nurdles, fishing gear, single-use foodware and plastic packaging, ropes, tires, shotgun shells, and occasionally, hazardous medical waste (i.e. needles).

c. Limantour Beach (Control PRSOUTH)

This transect is observed within the Point Reyes National Seashore and accessed at Limantour Beach. This area borders an MPA but is not itself within an MPA, therefore consumptive uses – like fishing from shore or offshore – are allowable within the appropriate season and with licenses.

Volunteers conducted 11 surveys in this MPA control site during the first half of 2024, with a use rate of 18.0 activities per mile surveyed. This represents a 38% decrease compared to 2023's rate of 29.0 during this same period. This use rate is also less than the "all years" use rate of 21.5. 95% of the observations in Control PRSouth were on-shore, non-consumptive uses (86% sandy beach recreation, 6% animals on leash, 2% animals off leash, 2% wildlife viewing). On-shore consumptive observations (consisting of hook-and-line fishing) constituted 4% of the total while off-shore consumptive observations (commercial fishing boats) made up 1% of the total.

Leashed dogs are allowed to access the southern portion of Limantour Beach. Dogs are restricted from the north-west portion of the beach as it is critical habitat for the Western Snowy Plover and the seasonal presence of marine mammals. Volunteers recorded 32 animal observations – 24 on-leash and 8 off-leash. In total, there were no violations recorded in this transect in 2024.

d. Duxbury Reef State Marine Conservation Area (Duxbury SMCA)

This MPA is observed from within Marin County Parks and Open Space and Point Reyes National Seashore and accessed at Agate Beach, managed by Marin County Parks and Open Space. This MPA allows hook and line fishing from shore and abalone harvest with appropriate open season and licenses.

From January 1st through June 30th, 2024, 30 surveys were conducted. This

is less than half the number of surveys conducted in 2023 during this period (75 surveys). Volunteers recorded observing 963 activities with a use rate of 29.2 activities per mile surveyed; a 55% increase from 2023's use rate of 18.8, more than 2022's rate of 21.7, but less than 2021's high use rate of 77.5. 2020's use rate during this period was 27.0, while 2019's was 30.0 and 2018's was 14.0. Duxbury Reef generally experiences the highest use rate of all the MPAs monitored by Marin MPA Watch in yearly data.

93% of the mid-year observations were onshore, non-consumptive uses. Non-consumptive tidepooling represented 64% (612) of observations, sandy beach recreation (175) made up 18% of observations, and rocky beach recreation totaled 7% (64).

Onshore consumptive activities during the first half of 2024 totaled 7% of observations compared with 4% in 2023 and 2% in 2022. Onshore consumptive activities included 38 (4%) observations of hand collection of biota and 32 (3%) observations of shore-based hook-and-line fishing, while 2023 saw 43 (3%) observations of hand collection of biota and 11 (1%) observations of shore-based hook-and-line fishing. There was also one observation of consumptive offshore recreational fishing by boat documented in 2024.

The number of potential violations counted by volunteers was 68 in January-June 2024. This is a much greater incidence of violations than any other MPA survey site, with 2 potential violations observed across all other survey sites combined.

Leashed dogs are allowed on Agate Beach and Duxbury Reef. From the 30 surveys conducted, volunteers recorded 24 dog observations on-leash and 9 off-leash.

Duxbury Reef SMCA continues to have a high use compared to other MPAs surveyed by Marin MPA Watch, accounting for 60% of all activities (throughout all years) in Marin MPA Watch locations in one of the smallest survey areas. Duxbury Reef is a sensitive intertidal habitat where human impacts (trampling and collecting) may have long-term negative impacts on habitat and species. The Duxbury Docent program was launched in January 2022 in response to the MPA Watch data showing high use and potential violations. A total of 25 volunteers have been trained from 2022-2024 over periods of 5+ days by local experts to

educate visitors on rocky intertidal marine ecology, MPAs, and tidepool stewardship practices.

Volunteer docents have noted that when engaging with individuals who are collecting biota, they observed that most collection was not for consumption and that most people appreciated learning about the impacts of such collection and replaced the organisms.

e. Corte Madera Marsh State Marine Park (Corte Madera Marsh SMP)

This MPA is observed within the city limits of Corte Madera and accessed by the network of public trails at Corte Madera Ecological Reserve. This area is a State Marine Park and as such consumptive uses, like recreational hook and line fishing are allowable within the appropriate season and licenses.

Volunteers conducted 33 surveys and recorded a use rate of 4.6 activities per mile surveyed, a marginal increase compared to 2023's rate of 4.5. 76% of the activities were on-shore, non-consumptive, mostly including recreation (62%), biking (8%), and animals on-leash (4%). Offshore, nonconsumptive activities accounted for the remaining 24% of observations, with activities denoted as "other boating" comprising 21% (most of these observations were the Golden Gate Commuter Ferry), with the remaining 3% of observations being windsurfing.

Leashed dogs are allowed on the walking paths, but not in the wetland or marsh. Of the 33 surveys conducted, volunteers recorded 6 dog observations, with all of them being on-leash. No observations of dogs in the wetland were reported.

POTENTIAL VIOLATIONS

The rate of consumptive activities observed in all Marin MPA Watch sites was relatively high in the first half of 2024 (96 observations, 6% of the total). In January-June 2023, the rate of consumptive activities was 2%, or 64 observations. In both 2022 and 2021, the rate was 1%, and in all previous years of the same period (Jan-June) consumptive activities were slightly over 3% on average. Almost all consumptive observations come from Duxbury Reef, mostly consisting of on-shore hook and line fishing (32 observed instances), and hand collection of biota (38 instances).

Recurring issues with the illegal take and disturbance of tidepool organisms in Duxbury Reef SMCA is an ongoing problem during low tides. Evidence suggests consumptive

activity rates may be higher than reflected in the MPA Watch data, including shift reports from EAC's Duxbury Docent program. In addition to MPA Watch surveys, Docents report observations of "take" observed during their docent shifts. Most observations consist of picking up organisms and collecting for observation (e.g. by curious visitors including children) and not for harvest. Their engagement with visitors exhibiting such behavior is for the most part successful; with knowledge of the MPA regulations and sensitivity of marine life, visitors tend to cease collection, and return the marine life to the tidepool.

With growing outreach to educate the community through social media posts and other online platforms and direct engagement including tabling at the trailhead, we are working to inform visitors about tidepool stewardship practices before and during their visit. We continue to communicate with Marin County Parks and Open Space, Point Reyes National Seashore, California Department of Fish and Wildlife, and the California Fish and Game Commission to inform these agencies about poaching activities and the need for increased enforcement presence and improved signage to help inform visitors.

NEXT STEPS

Marin MPA Watch continues to collect data in MPAs that are accessed from Marin County with a goal of two surveys per month, per MPA. During our training season in 2024, Marin MPA Watch trained 17 new volunteers. We also still have one training scheduled for July 27th. We did not train any new Duxbury docents this year, but current docents remain active and also conduct MPA Watch surveys. In addition, we hope to train another high school class this fall, and we hope to implement additional high school outreach to increase our volunteer base.

Public access to Drakes Beach was limited for a short time during the winter of this year and will likely occur each year as elephant seals continue to use Drakes Beach for pupping. We continue to have the fewest active volunteers at Drakes Beach, but we plan to continue recruitment outreach into the fall.

Marin MPA Watch intends to collaborate with the California Department of Fish and Wildlife to distribute MPA Watch reports to regional managers and other stakeholders to improve outreach about MPA Watch and contribute to the management and enforcement of MPAs. MPA Watch continues to expand its network of partner organizations to enhance the scale and scope of MPA monitoring across California.

Each year, MPA Watch makes our human use data available on their website to make it accessible to partners, resource agencies, municipalities, and other interested parties.

One of the hopes of MPA Watch is that volunteers and community members help spread knowledge and awareness of MPAs to the communities that surround them, inspiring marine stewardship in our communities.

ADDITIONAL INFORMATION

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.

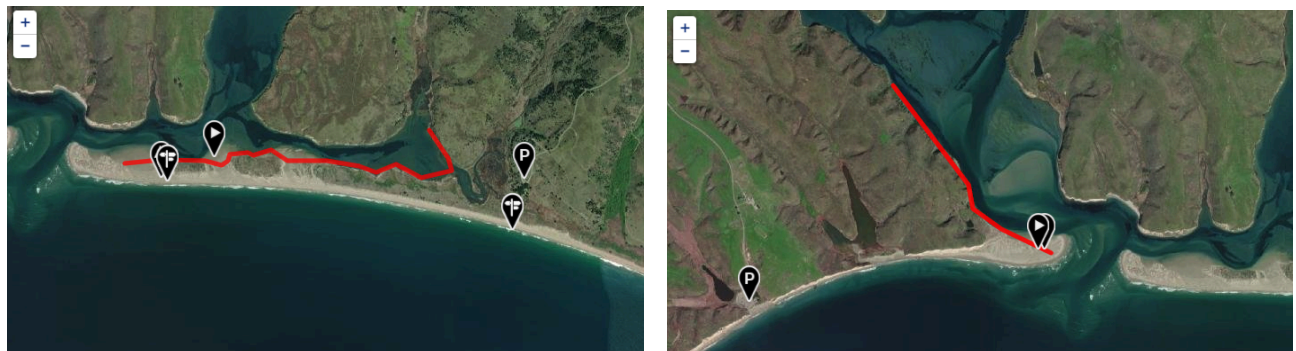
For additional information regarding MPAs and regulations specific to the various classifications of MPAs please visit wildlife.ca.gov/MPAs. If you see an activity that violates MPA regulations, please call CalTip to report the violation at (888)-334-2258.

The Marin MPA Watch program is a partnership of the Environmental Action Committee of West Marin (EAC), California Academy of Science, and Point Reyes National Seashore. The program is managed by EAC. For more information / to become involved with the program, please visit eacmarin.org/mpa-watch.

4. MAPS

*Note: Red lines imply the observation edges (Estero de Limantour, Point Reyes SMR, and Corte Madera Marsh) and for others, walking pathways for the transects (Point Reyes SMR, Limantour Beach, Duxbury Reef) and Corte Madera Marsh.

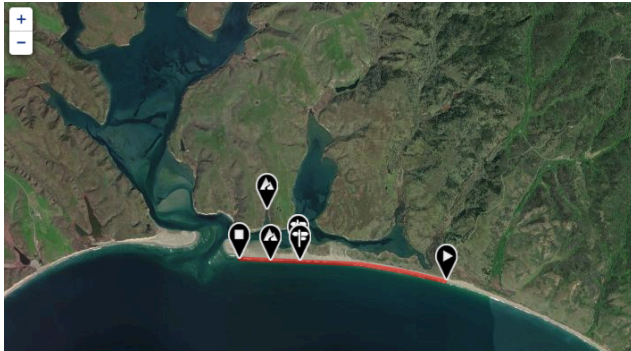
Estero de Limantour State Marine Reserve (Estero de Limantour SMR):



Point Reyes State Marine Reserve (Point Reyes SMR)



Limantour Beach (Control PRSOUTH)



Duxbury Reef State Marine Conservation Area (Duxbury SMCA)



Corte Madera Marsh State Marine Park (Corte Madera Marsh SMP)

