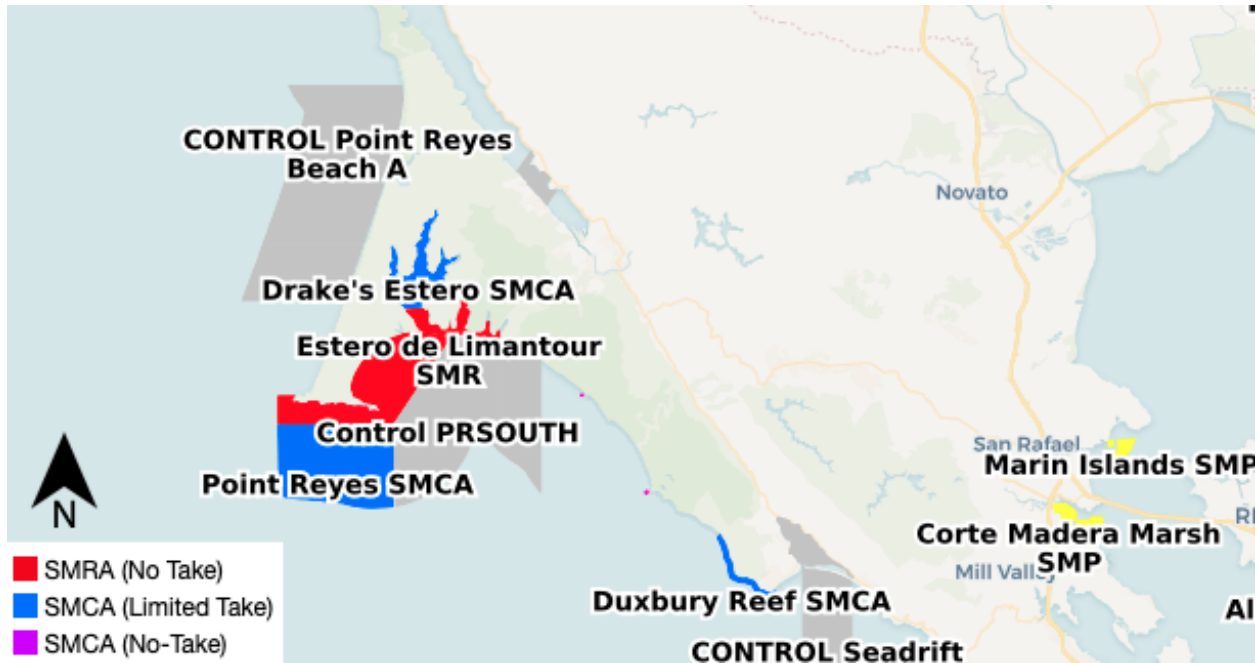




**Marine Protected Area (MPA) Watch  
Regional Report**  
Marin County  
January 1, 2021 – June 30, 2021



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 allows us insight on 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.

The Marin MPA Watch program was established in 2013 as a collaboration between the Environmental Action Committee of West Marin, Point Reyes National Seashore, and the California Academy of Sciences. The Marin MPA Watch program monitors human activities adjacent to and within the Point Reyes State Marine Reserve, Point Reyes State Marine Conservation Area, Point Reyes Special Closure, Estero de Limantour State Marine Reserve, Drakes Estero State Marine Conservation Area, Duxbury Reef State Marine Conservation Area, and the Corte Madera Marsh.



## 1. Executive Summary

This report includes MPA Watch data from January 1 – June 30, 2021<sup>1</sup>. In this period, 79 surveys were conducted by 17 volunteers who observed 1,866 activities over 89 survey miles.

The data is collected by trained on-shore observers and is organized into categories and tables that highlight on-shore and off-shore consumptive and non-consumptive uses<sup>2</sup> at MPAs located in Marin County.

- 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 Open Space.
- Corte Madera Marsh State Marine Park (Corte Madera Marsh SMP) is accessed through the city of Corte Madera.

Data collection in 2021 was limited in part due to COVID-19 restrictions, including restrictions on volunteers to conduct surveys alone, or only with individuals from the same household, and the inability to conduct trainings for new volunteers until June. In addition, access to Drakes Beach was closed for much of this period for road rehabilitation and habitat restoration construction activities by the Point Reyes National Seashore.

### a. Monitoring Site Data Summaries<sup>3</sup>:

#### i. Estero de Limantour State Marine Reserve (Estero de Limantour SMR):

This MPA recorded a use rate of less than 1 activity per mile surveyed.

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<sup>1</sup> Graphs and tables include full year comparisons of data in “all years” with this mid-term period.

<sup>2</sup> 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.

<sup>3</sup> Monitoring Site Data Summaries are documented for at-a-glance review of data notes for each MPA included in this report. To view comprehensive breakdowns by use and activity data, see *Section 6. Breakdown of MPA.*

This is similar to the prior year rate. No hand collection of biota or dogs were observed. 100% of the observations in the MPA were on-shore, non-consumptive.

ii. **Point Reyes State Marine Reserve (Point Reyes SMR):**

This MPA recorded a use rate of 9.6 activities per miles surveyed. This was a decrease of 16.5% compared to the prior year rate. 95% of the observations in the MPA were mostly on-shore (91%) and offshore (4%) non-consumptive. There were no observations of dogs on Drakes Beach, but fewer surveys were conducted this period because of the beach closure.

iii. **Limantour Beach (Control PRSouth):**

This MPA recorded a use rate of 27.2 activities per miles surveyed. Although this is a 2% decrease compared to the prior year rate of 27.8, 2020 showed a 59% increase from 2019 which indicates a sustained, elevated activity rate. 97% of the observations in the MPA this period were on-shore non-consumptive. Dogs off leash continue to be an issue, volunteers recorded 50% of dogs on leash and 50% of dogs off leash.

iv. **Duxbury State Marine Conservation Area (Duxbury SMCA):**

This MPA recorded a use rate of 77.5 activities per miles surveyed. This is an increase of 47% compared to the prior year of 2020. A consistent increase in use rate at Duxbury Reef has been documented over the years: 2018 (15.5), 2019 (29.4), 2020 (52.8), 2021 (77.5). In 2021, 9% of the observations in the MPA were on-shore consumptive activities. 55 incidents of hand collection of biota in the intertidal were observed in this reporting period. One observation (less than 1% of all activities) included off-shore consumptive uses (boat fishing in the MPA) but was not reported to Fish and Wildlife. Dogs off leash continue to be an issue, 49% of dogs off leash and 51% of dogs on leash.

***Duxbury Reef SMR has the highest use count of all MPAs surveyed by Marin MPA Watch, accounting for 59% of all activities 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 to habitat and species.***

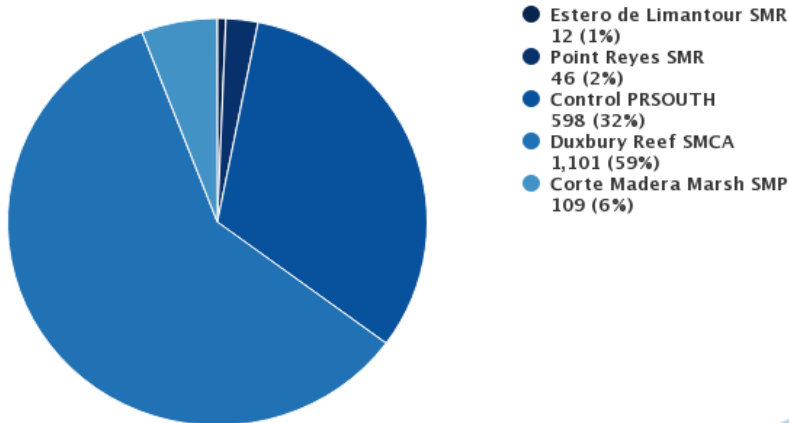
v. **Corte Madera State Marine Park (Corte Madera Marsh SMP):**

This State Marine Park recorded a use rate of 23.2 activities per miles surveyed. This is a 673% increase compared to the prior year which had only 3 activities per mile. Nearly 100% of the activities were non-consumptive (98% on-shore and 2% offshore).

**2. Overview of Human Use of MPAs January 1 – June 3rd, 2021<sup>4</sup>**

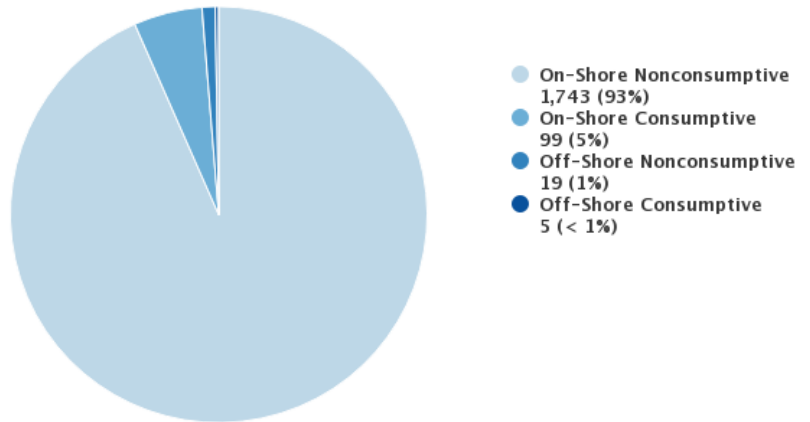
Top 5 MPAs by All Activity

January 1, 2021 - June 30, 2021  
1,866 total activity events



All MPAs Combined

January 1, 2021 - June 30, 2021  
1,866 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, S diving, kayaking, boat fishing, etc.

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

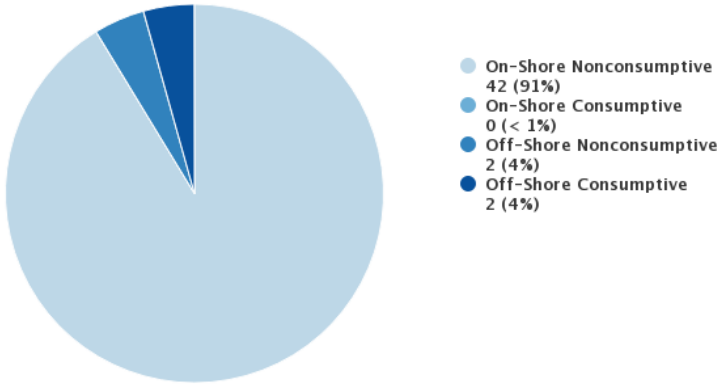
**Non-Consumptive** - An activity in which a natural resource is not collected.

<sup>4</sup> Duxbury Reef SMR has the highest activity count (59%) 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 to habitat and species.

### 3. Activity by MPA<sup>5</sup>

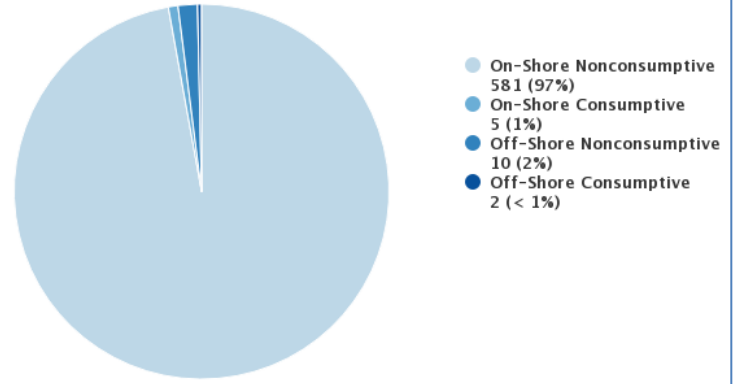
#### Point Reyes SMR

January 1, 2021 – June 30, 2021  
46 activity events



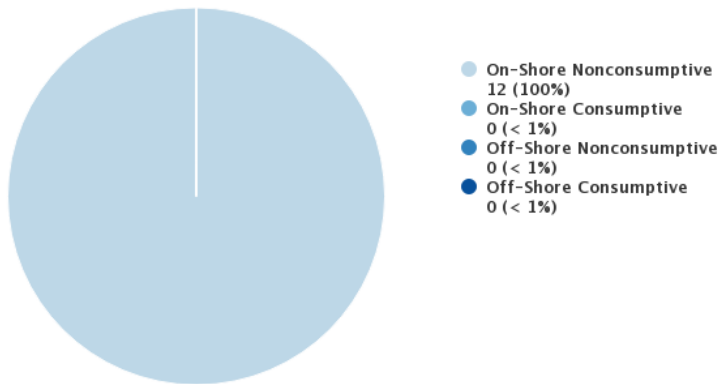
#### Control PRSOUTH

January 1, 2021 – June 30, 2021  
598 activity events



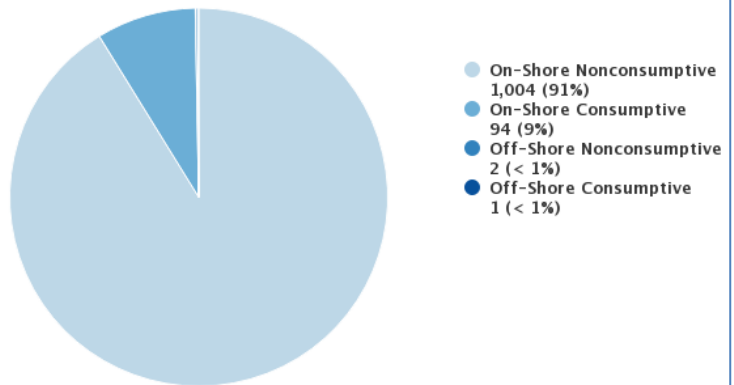
#### Estero de Limantour SMR

January 1, 2021 – June 30, 2021  
12 activity events



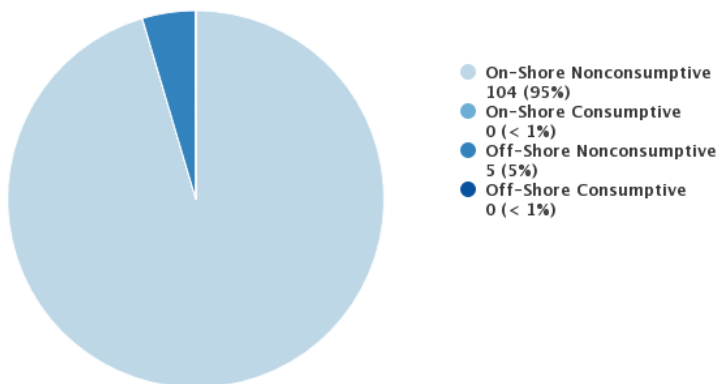
#### Duxbury Reef SMCA

January 1, 2021 – June 30, 2021  
1,101 activity events



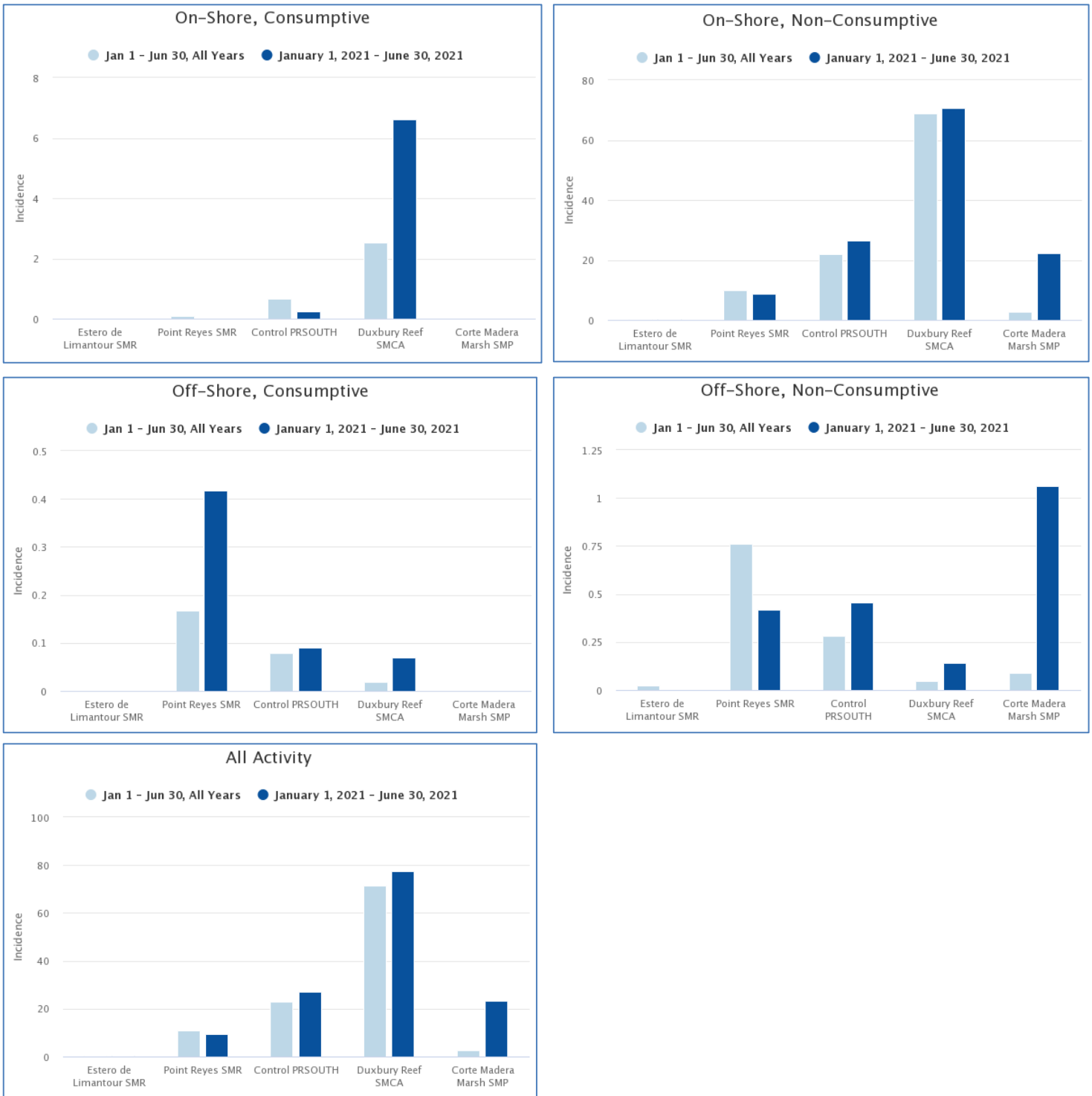
#### Corte Madera Marsh SMP

January 1, 2021 – June 30, 2021  
109 activity events



<sup>5</sup> Observation count of activities (onshore / offshore) and type (consumptive / non-consumptive) in each survey area.

#### 4. Activity Incidence<sup>6</sup> by MPA: All Years<sup>7</sup> and Current Year



<sup>6</sup> The charts display incidence values for each MPA monitored by MPA Watch in Marin County. Incidence is calculated as the number of activities recorded divided by the total survey-miles.

<sup>7</sup> Activity Incidence “All Years” data includes 2016 through June 2021 survey data.

## 5. Activity Incidence<sup>8</sup> Tables<sup>9</sup> by MPA

| MPA                     | On-Shore                     |  |                              |  |     |
|-------------------------|------------------------------|--|------------------------------|--|-----|
|                         | Non-Consumptive              |  |                              | Consumptive                            |     |
|                         | Jan 1<br>Jun 30<br>All Years | Jan 1, 2021<br>through<br>Jun 30, 2021 | Jan 1<br>Jun 30<br>All Years | Jan 1, 2021<br>through<br>Jun 30, 2021 |     |
| Estero de Limantour SMR |                              | 0.4                                    | 0.3                          | 0.0                                    | 0.0 |
| Point Reyes SMR         |                              | 10.0                                   | 8.8                          | 0.1                                    | 0.0 |
| Control PRSOUTH         |                              | 22.0                                   | 26.4                         | 0.6                                    | 0.2 |
| Duxbury Reef SMCA       |                              | 69.0                                   | 70.7                         | 2.5                                    | 6.6 |
| Corte Madera Marsh SMP  |                              | 2.6                                    | 22.1                         | 0.0                                    | 0.0 |
| All MPAs Combined       |                              | 15.0                                   | 19.7                         | 0.5                                    | 1.1 |

| MPA                     | Off-Shore                    |  |                              |  |     |
|-------------------------|------------------------------|--|------------------------------|--|-----|
|                         | Non-Consumptive              |  |                              | Consumptive                            |     |
|                         | Jan 1<br>Jun 30<br>All Years | Jan 1, 2021<br>through<br>Jun 30, 2021 | Jan 1<br>Jun 30<br>All Years | Jan 1, 2021<br>through<br>Jun 30, 2021 |     |
| Estero de Limantour SMR |                              | 0.0                                    | 0.0                          | 0.0                                    | 0.0 |
| Point Reyes SMR         |                              | 0.8                                    | 0.4                          | 0.2                                    | 0.4 |
| Control PRSOUTH         |                              | 0.3                                    | 0.5                          | 0.1                                    | 0.1 |
| Duxbury Reef SMCA       |                              | 0.0                                    | 0.1                          | 0.0                                    | 0.1 |
| Corte Madera Marsh SMP  |                              | 0.1                                    | 1.1                          | 0.0                                    | 0.0 |
| All MPAs Combined       |                              | 0.2                                    | 0.2                          | 0.0                                    | 0.1 |

| MPA                    | Total<br>Combined            |  |
|------------------------|------------------------------|--|
|                        | Jan 1<br>Jun 30<br>All Years | Jan 1, 2021<br>through<br>Jun 30, 2021 |
|                        | Estero de Limantour SMR      | 0.5                                    |
| Point Reyes SMR        | 11.0                         | 9.6                                    |
| Control PRSOUTH        | 23.0                         | 27.2                                   |
| Duxbury Reef SMCA      | 71.6                         | 77.5                                   |
| Corte Madera Marsh SMP | 2.7                          | 23.2                                   |
| All MPAs Combined      | 15.7                         | 21.1                                   |

<sup>8</sup> 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 MPA's 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 MPA's 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.

<sup>9</sup> The tables display incidence values for each MPA monitored by MPA Watch in Marin County. Incidence is calculated as the number of activities recorded divided by the total survey-miles.

## 6. Breakdown by MPA

This report includes MPA Watch data from January 1 – June 30, 2021<sup>10</sup>. The data is collected by trained on-shore observers and is organized into categories and tables that highlight on-shore and off-shore consumptive and non-consumptive uses at MPAs located in Marin County.

- 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 Open Space.
- Corte Madera Marsh State Marine Park (Corte Madera Marsh SMP) is accessed through the city of Corte Madera.

Data collection in 2021 was limited due to COVID-19 including an inability to train new volunteers in 2020, restrictions on volunteers to conduct surveys alone or only with individuals from the same household, and road closure and access restrictions. The below table summarizes the access closures and limitations by MPA and dates of impact.

| MPA Name                | 2021 Closures  |
|-------------------------|--|
| Point Reyes SMR         | Drakes Beach Road closed January 19 - February 2, 2021.  |
| Estero de Limantour SMR | Drakes Beach access beyond parking lot closed February 1 – March 20.<br>Drakes Beach Road closed May 3 to August 31, 2021. |
| Control PRSouth         | No closure   |
| Duxbury Reef SMCA       | No closure   |
| Corte Madera Marsh SMP  | No closure   |

<sup>10</sup> Graphs and tables include full year comparisons of data in “all years” with this mid-term period.



- a. 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.

This MPA recorded a use rate of less than 1 activity per miles surveyed (0.3 total use count per mile).

100% of the observations in the MPA were on-shore non-consumptive. Non-consumptive observations in this MPA included non-consumptive on-shore beach recreation.

Dogs are restricted from this MPA due to the presence of marine mammals and its role as a critical habitat for Western Snowy Plovers. Volunteers conducted 11 surveys and recorded zero (0) dog observations.

- 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 north west, or 2) at Drakes Beach. In addition to access restrictions due to COVID-19 and the Woodward Wildfire, access at Drakes Beach was restricted in January 2020 due to elephant seal presence. This MPA does not allow any on-shore or offshore consumptive uses.

This MPA recorded a use rate of 9.6 activities per miles surveyed. This was a decrease of 16.5% compared to the prior year rate.

95% of the observations in the MPA were mostly on-shore (91%) and offshore (4%) non-consumptive activities including boating and beach recreation.

Dogs are restricted from MPA beach access at Drakes Beach and at the north-west portion of Limantour Beach due to the presence of marine mammals and critical habitat for the Western Snowy Plover. In 2021, volunteers conducted 9 surveys and recorded zero (0) dog observations in the MPA.

Volunteers accessing this MPA from Drakes Beach typically find large quantities of plastic marine debris that is a mix of small plastic particles,

nurdles, fishing gear, single-use foodware and plastic packaging, ropes, tires, shotgun shells, and hazardous medical waste (i.e. needles).

**c. Limantour Beach (Control PRSOUTH)**

This MPA is observed within the Point Reyes National Seashore and accessed at Limantour Beach. This area borders an MPA, therefore consumptive uses, like fishing from shore or offshore is allowable within the appropriate season and licenses.

This MPA recorded a use rate of 27.2 activities per miles surveyed. Although this is a 2% decrease compared to 2020's rate of 27.8, 2020 showed a 59% increase from 2019 which indicates a sustained, elevated activity rate.

97% of the observations in the MPA were on-shore non-consumptive activities, such as beach recreation, dogs, horses, and surfing. Consumptive activities included offshore boat fishing and onshore hook and line fishing.

The remaining 1% of activities included onshore and offshore consumptive activities (1 trap fishing, 2 unknown boat fishing, and hook and line fishing from shore).

Leashed dogs are allowed to access the southern portion of Limantour Beach. Dogs are restricted from the north-west portion of the beach due to the presence of marine mammals and critical habitat for the Western Snowy Plover. Volunteers conducted 10 surveys and recorded 22 dog observations (11 or 50% on leash and 11 or 50% off-leash) in this Control site. This is a decrease from 2020 that recorded 25 dog observations (65% on leash and 35% off leash).

**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.

This MPA recorded a use rate of 77.5 activities per miles surveyed. This is an increase of 47% compared to the prior year of 2020. A consistent increase in use rate at Duxbury Reef has been documented over the years: 2021 (77.5), 2020 (52.8), 2019 (29.4), 2018 (15.5).

**e.**

9% of the observations in the MPA were on-shore consumptive, which is an

18% decrease from 2020. 55 incidents of hand collection of biota in the intertidal were observed in this reporting period. One observation (less than 1% of all activities) included an off-shore consumptive use (boat fishing in the MPA) but was not reported to Fish and Wildlife. Tire tracks from a bike were observed on the sandy beach.

91% of the observations in the MPA include on-shore non-consumptive activities including beach recreation and tidepooling.

Volunteers noted that they interacted with individuals who were collecting and observed that most collecting was not for consumption and most replaced species after removing. One incident of collecting for consumption was observed. After volunteer interaction, the visitors returned them as best as they could but had damaged urchin sheltering holes, and a violation was reported. One offshore consumptive activity was observed within the MPA but was not reported to California Fish and Wildlife as potential violations.

There were 38 hook and line fishing and one spear fishing, permitted activities, observed.

Leashed dogs are allowed on Agate Beach and Duxbury Reef. Volunteers conducted 31 surveys and recorded 82 dog observations (42 or 51% on leash and 40 or 49% off-leash). This is an increase in the number of dogs per survey: 2.6 dogs per survey in 2021 vs. 1.1 dogs per survey in 2020 when 98 surveys were conducted and recorded 109 dog observations (33 or 30% on leash and 76 or 70% off-leash).

***Duxbury Reef SMR has the highest use count of all MPAs surveyed by Marin MPA Watch, accounting for 59% of all activities 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 to habitat and species.***

**f. Corte Madera Marsh State Marine Park (Corte Madera Marsh SMP)**

This MPA is observed within the city limits of Corte Madera and access by the network of public trails. This area is a State Marine Park and consumptive uses, like hook and line fishing is allowable within the appropriate season and licenses.

This MPA recorded a use rate of 23.2 activities per miles surveyed. This is a

673% increase compared to the prior year. Nearly 100% of the activities were non-consumptive (98% on-shore and 2% offshore).

98% on-shore activities included recreation, biking and wildlife watching. 2% of offshore activities included windsurfing. Three boat observations included the passenger ferry.

Leashed dogs are allowed on the walking paths, but not in the wetland or marsh. Volunteers conducted 18 surveys and recorded 23 dog observations (20 or 87% on leash and 3 or 13% off-leash. This is a 21% decrease in dog observations but a 40% increase from 2020 in percent dogs on leash. when 16 surveys were conducted and recorded 29 dog observations (18 or 62% on leash and 11 or 38% off-leash).

## **7. Potential Violations**

The rate of consumptive activities observed in all MPAs (except Duxbury Reef SMCA - 9% and Point Reyes SMR - 4%) remains low, accounting for less than 1% of all observations recorded. Anecdotal evidence suggests rates may be higher than reflected in the data, but this was not observed during the surveys.

Recurring issues with the illegal take and disturbance of tidepool organisms in Duxbury Reef SMCA is an ongoing problem during low tides, with elevated rates as a consequence of previous stay-at-home orders due to the pandemic and social media posts encouraging foraging without providing adequate information about MPA species protections. Marin MPA Watch is working Marin County Parks, 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 patrol. Data provided by Marin MPA Watch has also demonstrated the need for increased visitor education about MPAs and reef ecology through the development of a volunteer docent program at Duxbury Reef.

## **8. 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. Our surveys have been limited in 2021 due to the effects on volunteer participation from pandemic and public access to Drakes Beach.

Marin MPA Watch is working with California Academy of Science Rocky Shore Naturalists, community members in the village of Bolinas, and Marin County Parks and

Open Space to implement a community docent program to address the high rate of usage at Duxbury Reef and the current lack of resources to provide visitor education. A report of the Marin MPA Watch findings was finalized and presented to Marin County Parks in April 2021. A formal partnership is in the process of being created to implement the docent program with training beginning in the fall of 2021 and implementation of the program in winter 2021. This program will improve community partnerships and ensure compliance with MPA regulations.

MPA Watch intends to collaborate with the California Department of Fish and Wildlife to distribute MPA Watch reports to regional managers in order to improve the management and enforcement of MPAs. MPA Watch is also looking to expand its network of partner organizations to enhance the scale and scope of MPA monitoring across California.

MPA Watch will be making our human use data available on our 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 populations.

## **9. 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](http://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](http://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](http://eacmarin.org/mpa-watch).