

SeaLife Stewards Final Report 2017

SeaLife Stewards completed its second season with 30 kayak and land-based volunteers! Of the volunteers for the 2017 season, 16 were returning volunteers and 14 were newly recruited. The main goal of the program is to reduce human-caused disturbance to otters, harbor seals, sea lions, and seabirds while increasing public awareness of marine wildlife and respectful viewing. The volunteers were on the water and land for a total of 42 days, engaging visitors with information about marine wildlife, and encouraging them to observe from a safe distance. SeaLife Stewards welcomed 2,761 visitors, a 160% increase from the 1,065 visitors reached in 2016. They also collected data on human-caused wildlife disturbances observing a disturbance rate of 0.24 disturbances per hour on the water. SeaLife Stewards made 152 contacts to prevent an imminent disturbance of marine wildlife on the water. Additional benefits of the program were keeping paddlers safe, being eyes and ears on the water for Harbor Patrol, reaching 1,524 visitors on land in Morro Bay during Sea Otter Awareness Week, and continuing relationships with Partners in Protection around the bay and beyond. The SeaLife Stewards are making significant strides towards the long-range goal of creating shared norms for the local community and visitors to Morro Bay of no-impact wildlife viewing and shared goals with Partners in Protection throughout Morro Bay.



New recruits take the plunge! Volunteers complete the swim test at SeaLife Stewards training 2017.

Successes including Objectives Met in the Second Season:

1. Retained 16 volunteers from the 2016 season. Trained and launched 14 safe and knowledgeable new volunteers, including college students, who were on the water and land for 42 days on weekends during summer 2017.
2. Educated 1,161 visitors on the water and 1,600 visitors on land about marine wildlife and safe interactions (2,761 total). Additionally, in partnership with other volunteer groups, SeaLife Stewards educated 1,524 visitors on land during Sea Otter Awareness Week.
3. Captured data for a second year through citizen science, which will be used to compare the disturbance rate and the number of people contacted from year to year.
4. Continued working as Partners in Protection with the local on-the-water-businesses and agencies including Morro Bay National Estuary Program, Morro Bay Harbor Department, United States Coast Guard, and the CA Department of Fish and Wildlife.



SeaLife Stewards class of 2017 and planning team celebrate the completion of training!



New recruits complete water safety training at Coleman Beach during the 2017 SeaLife Stewards training.

Challenges:

The SeaLife Stewards program encountered the following challenges in 2017:

1. During parts of the season, we had difficulty filling all shifts. We hope to overcome this issue in the future by retaining and recruiting more volunteers.
2. A small percentage of the on-the-water visitors would not comply even after SeaLife Stewards explained the reasons to stay back or to not disturb.
3. The distribution of visitors in the bay seemed less predictable than the first year. Stewards launching from the Harbor Department location were often needed both near Target Rock, and the sea lion dock. In the future we will offer better coverage at both locations.
4. The small sand spit that protrudes on the point across from Target Rock is a favorite roosting spot for Brown Pelicans in late summer. It is also a favorite place for SUPs, kayaks, canoes, and other boats to haul-out, causing disturbance. A future goal will be to reach more water recreationists before they haul-out on the sand spit, to inform them of the importance of seabird roosting sites.

SeaLife Stewards 2016- 2017 Data and Discussion:

	2016	2017
Number of Days on the Water/Land	42	42
Total Staff and Volunteer Hours on the Water	393.4	324.74
Total Staff and Volunteer Hours on Land	20	121.25
Water Hours + Land Hours + set up/clean up time	455.4	531.67
Volunteer Training Hours	294	291
Total SLS Hours	749.4	822.67
Planning Team Hours	1750	770

Table 1. The data table above shows the number of outreach days and hours contributed by volunteers and staff for 2016 and 2017. Many categories had no significant change from 2016 to 2017. One exception is that hours of land outreach increased greatly from 2016, which is a reflection of the land program expansion. Planning team hours decreased in 2017, as expected, since the 2016 pilot season was labor intensive to start.

	2016	2017
Number of People Contacted	1065	2761
Total Number of Disturbances	62	77
Average Disturbance Rate (Water Shifts Only)	0.15	0.20

Table 2. The number of people contacted increased from 2016 to 2017, both on water and on land. Of the 1,065 people contacted in 2016, 996 were reached through water outreach and 69 were reached on land. Of the 2,761 people contacted in 2017, 1,161 were reached through water and 1,600 were from land. This data does not include contacts from Sea Otter Awareness Week.

The disturbance rate was calculated for each shift on the water, and the average was calculated for each season. The average rate for 2016 was 0.15 disturbances per hour, and the average for 2017 was 0.20 disturbances per hour. Statistical analysis revealed that, although these numbers differ numerically, there is no significant difference in the disturbance rate from 2016 to 2017 (Two sample t-test: unequal variances, $p > 0.05$).

Special Event: Sea Otter Awareness Week	2016	2017
Total Staff and Volunteer Hours during SOAW	60	114
Number of People Contacted during SOAW	842	1524

Table 3. SeaLife Stewards staff and volunteers contributed 114 hours to Sea Otter Awareness Week in 2017. SeaLife Stewards worked with staff and volunteers from other programs to reach the 1,524 people contacted during this event.



Volunteers from SeaLife Stewards and other community groups talk to visitors at Morro Rock during Sea Otter Awareness Week.

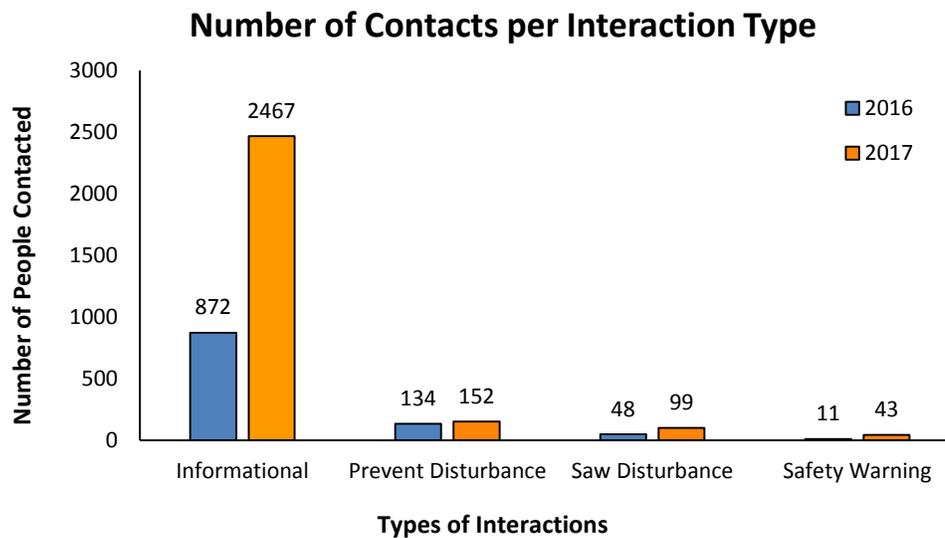


Figure 1. The graph above shows the number of people contacted per interaction type. For both years, the majority of interactions by far were informational. The 160% increase of informational interactions in 2017 is mostly due to the expansion of our land based efforts. This data does not include contacts from Sea Otter Awareness Week.



A SeaLife Steward gives “thumbs up” while enjoying her kayak shift at the north end of the bay.

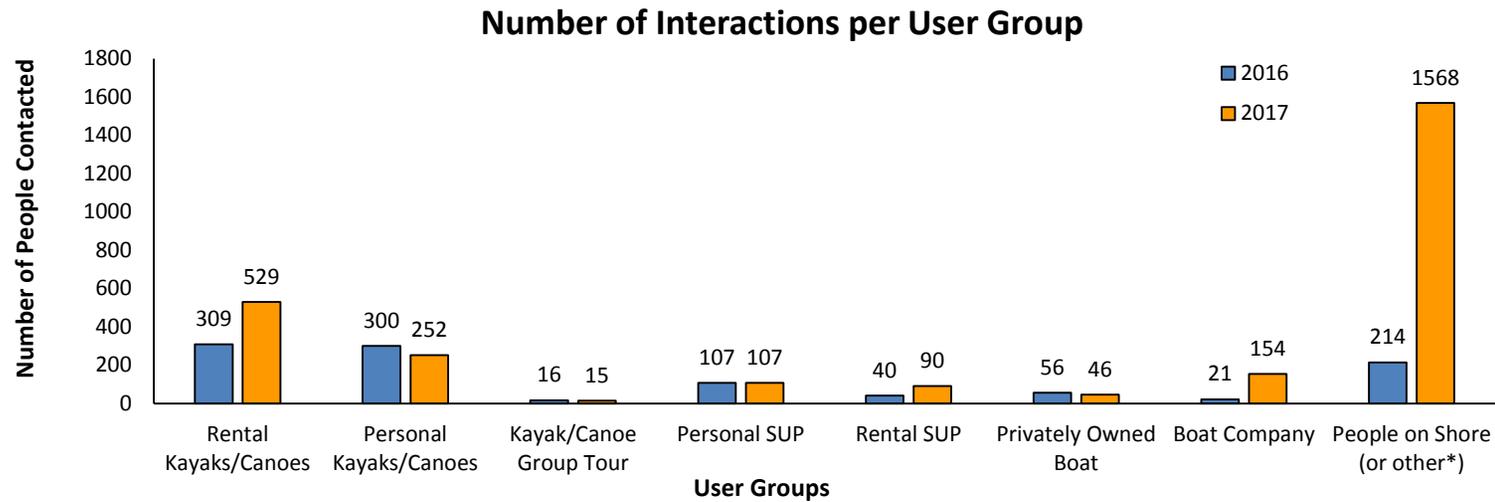


Figure 2. The graph above shows the number of interactions (people contacted) in each user group for 2016 and 2017. The greatest difference between years was an increase in the number of people contacted on shore, due to expansion of land based outreach.

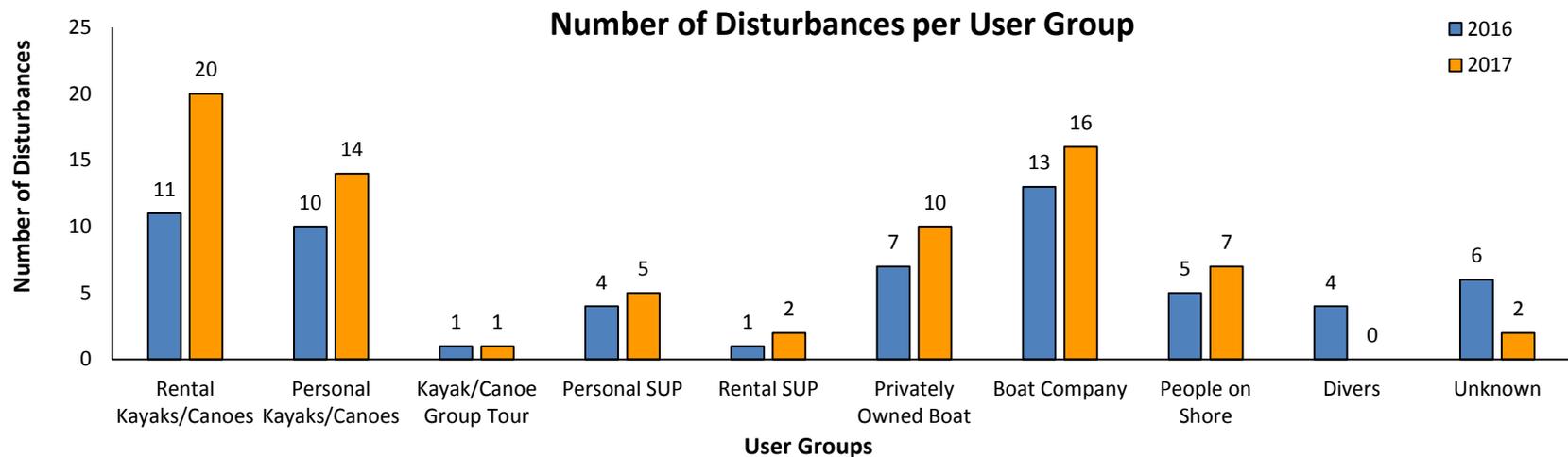


Figure 3. This graph shows the number of disturbances recorded for each user group in 2016 and 2017. A single disturbance involves one or more animals, and can be any of the three disturbance types (head raise, flee, or flush).

Figure 2 and 3 cont. Data collected on interaction type is fairly accurate, since each interaction recorded is an actual person SeaLife Stewards talked to. Disturbance data is more challenging to collect. Disturbances are recorded whether or not SeaLife Stewards were able to make contact with the people who caused the disturbance, so volunteers sometimes need to make an educated guess about which user group was responsible (ex. Rental SUP versus Personal SUP). Additionally, disturbances can be missed if volunteers are busy interacting with people, or if visibility is poor. SeaLife Stewards are not able to be everywhere 100% of the time, and we know that disturbances are frequently occurring at locations such as the otter raft by Target Rock and the Sea Lion Dock near the sandspit. This disturbance data represents a small portion of the human-caused disturbances on the bay.

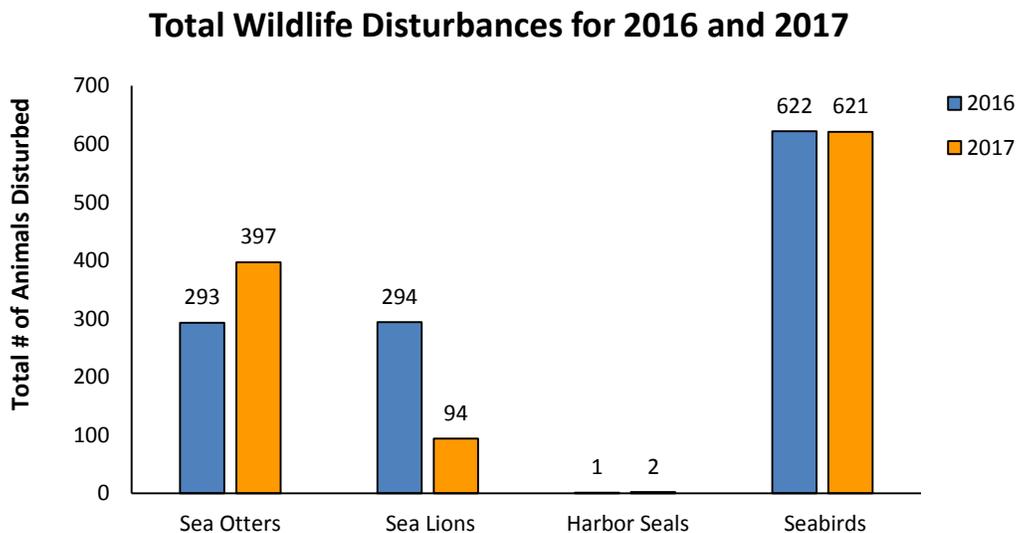


Figure 4. This graph shows the total number of individuals disturbed for all recorded wildlife disturbances in 2016 and 2017. Each disturbance recorded was one of three disturbance types (head raise, flee, flush) which will be broken down and discussed in Figure 5.

When comparing wildlife disturbances for the four different animal groups, it's important to consider the locations data was collected. The different animal groups tend to be found in certain areas of the bay, and some are more accessible to water recreationists than others. For example, SeaLife Stewards rarely paddle near the salt marsh and mud flats where the harbor seals haul out, so the frequency of disturbances to harbor seals in that area is unknown. Harbor seals are only seen occasionally in the areas frequented by SeaLife Stewards, which contributes to the low number of harbor seal disturbances recorded.

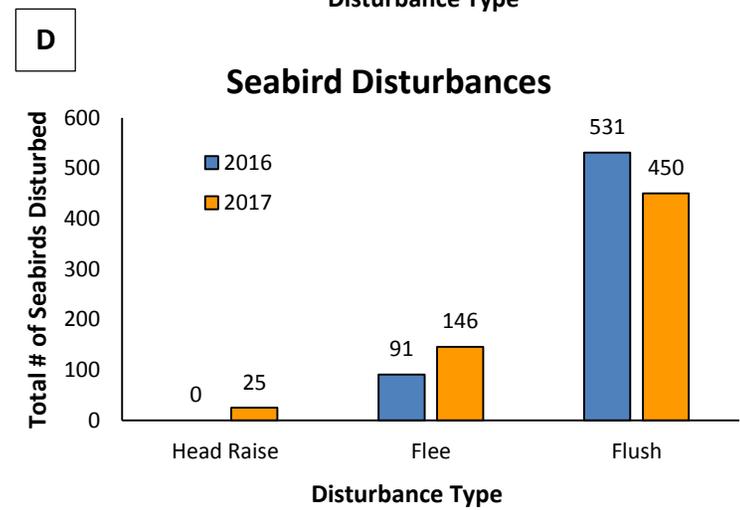
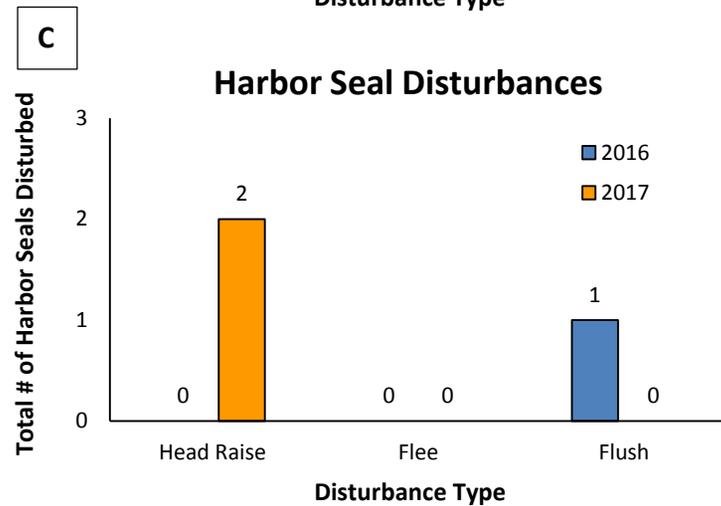
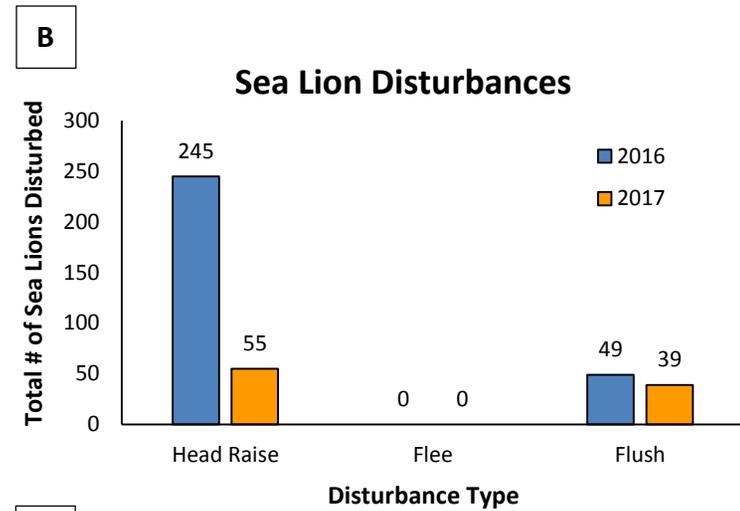
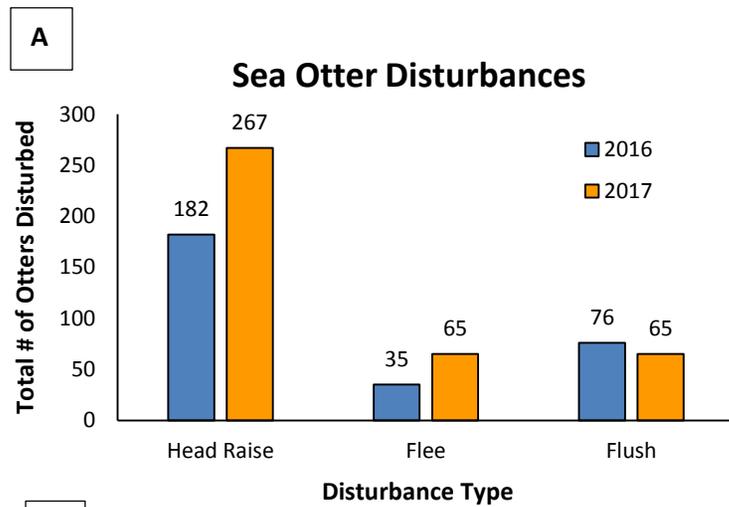


Figure 5 (A-D). Number of individuals recorded for each disturbance type (head raise, flee, flush) separated into four animal groups (otters, sea lions, harbor seals, seabirds) for 2016 and 2017. See next page for discussion of each graph.

Figure 5A. The number of otter disturbances recorded for each disturbance type. A head raise disturbance indicates an otter changed its behavior to pay attention to a threat. This was the most common type of otter disturbance recorded in 2016 and 2017. Flee indicates an otter swam away from a threat without diving, and flush indicates the otter dove in response to a threat. Otter disturbances have been recorded by Target Rock, the sea lion dock, the south t-pier, and other areas throughout the bay where individuals forage.

Figure 5B. The number of sea lion disturbances recorded for each disturbance type. Sea lions raise their heads for a variety of reasons (interacting with other sea lions, sunning), but a head raise disturbance indicates a sea lion raised its heads in response to a human threat. Flee indicates a sea lion in the water swam away from a threat without diving, while a flush indicates a sea lion dove in response to a threat. In both 2016 and 2017, no flee disturbances were recorded. Sea lions disturbed on a dock tend to exhibit a head raise and/or flush, and sea lions disturbed while swimming tend to flush (dive). Sea lion disturbances have been recorded on the sea lion dock, dredge equipment, and other areas sea lions haul out.

Figure 5C. The number of harbor seal disturbances recorded for each disturbance type. As mentioned in the description for Figure 4, SeaLife Stewards rarely paddle towards the salt marsh and mudflats where harbor seals haul out, and the disturbance rate for that area is unknown. In other parts of the bay, harbor seals are seen less frequently. Occasionally these curious marine mammals are seen watching and/or following unsuspecting paddlers. This behavior is not counted as a disturbance.

Figure 5D. The number of seabird/shorebird disturbances recorded for each disturbance type. A head raise disturbance indicates a seabird changed its behavior to pay attention to a threat. Flee indicates a seabird walked away from a threat on land, or swam away without diving. A flush indicates the seabird dove into water or flew away in response to a threat. Large seabird/shorebird disturbances have been documented on the sandspit with hundreds of birds being flushed at one time. Disturbances have also been recorded on docks, dredge equipment, and other areas throughout the bay.

Evaluation of Project Success:

The SeaLife Stewards program was a success as measured by the number of disturbance reductions, educational contacts made, 50% return rate of volunteers for year 2, and awareness in the community of the program and its goal. Though it is hard to measure, the enthusiasm of the SeaLife Stewards for continually improving the program, keeping the gear in excellent condition, willingness to take land-shifts when injuries from other life activities made kayaking impossible, and overall support and mentoring by year one volunteers for the new recruits stand out as the real measure of a successful volunteer program. These are just a handful of the stories that highlight the success of the program in 2017:

1. During the year two swim and kayak test in May 2017, veteran SeaLife Stewards came and cheered on the new volunteers. Two volunteers even brought hot chocolate for the group!
2. SeaLife Stewards helped to inform Harbor Patrol, the Marine Mammal Center, and CDFW about sick and injured wildlife in the bay. One of the many animals reported was a sea lion with an injury caused by a boat propeller.
3. SeaLife Stewards reported a boat entering the harbor that was emitting smoke. Harbor Patrol was able to quickly respond to the boat, assess the situation, and ensure the safety of its passengers.
4. SeaLife Stewards had a mid-season potluck appreciation event, where they could share their experiences and give feedback on the program. There was also a special end of season volunteer appreciation event, where the planning team and volunteers took a trip to the MBNMS Sanctuary Exploration Center!
5. SeaLife Stewards were invited to attend the release of Otto, a male sea otter who had been rehabilitated for domoic acid poisoning. SeaLife Stewards had the opportunity to talk to staff from CDFW and the Marine Mammal Center about his rehabilitation and monitoring.



Otto the otter returns home to Morro Bay after recovering from domoic acid poisoning.

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