

MPA WATCH: Los Angeles

Volunteer citizen scientists monitoring our coasts

Overview

MPA Watch is a citizen science monitoring program that trains volunteers to observe and collect data about coastal and marine resource use inside and outside marine protected areas (MPAs) using standardized protocols and categorizing observed human uses into a set of activities. Heal the Bay's MPA Watch volunteers collect data from both MPAs and outside MPAs, allowing for useful comparisons. Trained MPA Watch citizen scientists can produce accurate and reliable information to help better understand how the public uses coastal areas, and to inform management and monitoring of MPAs. In Los Angeles County, Heal the Bay manages MPA Watch volunteers that survey inside and outside MPAs in Malibu and Palos Verdes.



Heal the Bay trained over **85 volunteers** and **12 interns** who completed **554 surveys** over the first 17 months of the program.

Goals

The four goals of MPA Watch are:

1. To help determine how effective MPAs are at meeting their goal of enhancing recreational activities by tracking changes and trends over time.
2. To provide contextual information on human use for interpretation of biological monitoring data.
3. To inform MPA enforcement and management decisions regarding human activity inside MPAs.
4. To train MPA Watch volunteers as effective public educators regarding MPAs.

Methods

MPA Watch volunteers walk along California's beaches and bluffs surveying and recording all offshore and onshore coastal activities within and directly outside Los Angeles area MPAs. Volunteers are trained to recognize different types of activities, using binoculars to view activities offshore, and to record what they see on data sheets. Examples of activities that volunteers record include consumptive activities such as commercial lobster fishing and shore



fishing, and non-consumptive activities such as swimming, SCUBA diving, and wildlife watching. Volunteers are trained to use compasses to accurately begin and end their surveys, as well as to identify MPA boundaries. All data that is collected undergo rigorous quality assurance and quality control protocols by coordinating organizations before being accepted and shared.

MPA Watch volunteers have no enforcement authority and are trained to avoid contact with perceived violators; volunteers are trained to passively collect observational data. Since seeing a citizen scientist carrying a clipboard and binoculars can elicit curiosity, volunteers are equipped with general information about MPAs and how to become a volunteer.

Heal the Bay volunteers have completed **461 surveys** in **Malibu** MPAs and **93** in **Palos Verdes** MPAs.

MPA WATCH: Los Angeles

In the Classroom...



The first part of MPA Watch training is in the classroom and includes information on the MLPA, MPA regulations and locations, and how to identify consumptive and non-consumptive activities.

In the Field...

A new group of citizen scientists complete their field training at Point Dume, Malibu. During trainings, volunteers learn to identify 42 consumptive and non-consumptive activities, both onshore and offshore.



One of the consumptive ocean uses MPA Watch citizen scientists record include commercial lobster fishing. This boat is in an area adjacent to Point Vicente State Marine Conservation Area in Palos Verdes.

Some of the consumptive and non-consumptive ocean uses prevalent along a survey on Westward Beach (within Point Dume State Marine Reserve) include shore-based rod/reel fishing, kayaking, swimming, wading, and beach recreation.




For more information about MPA Watch, please contact Heal the Bay's Marine & Coastal Scientist, Dana Roeber Murray, at dmurray@healthebay.org

MPA Watch Data Report

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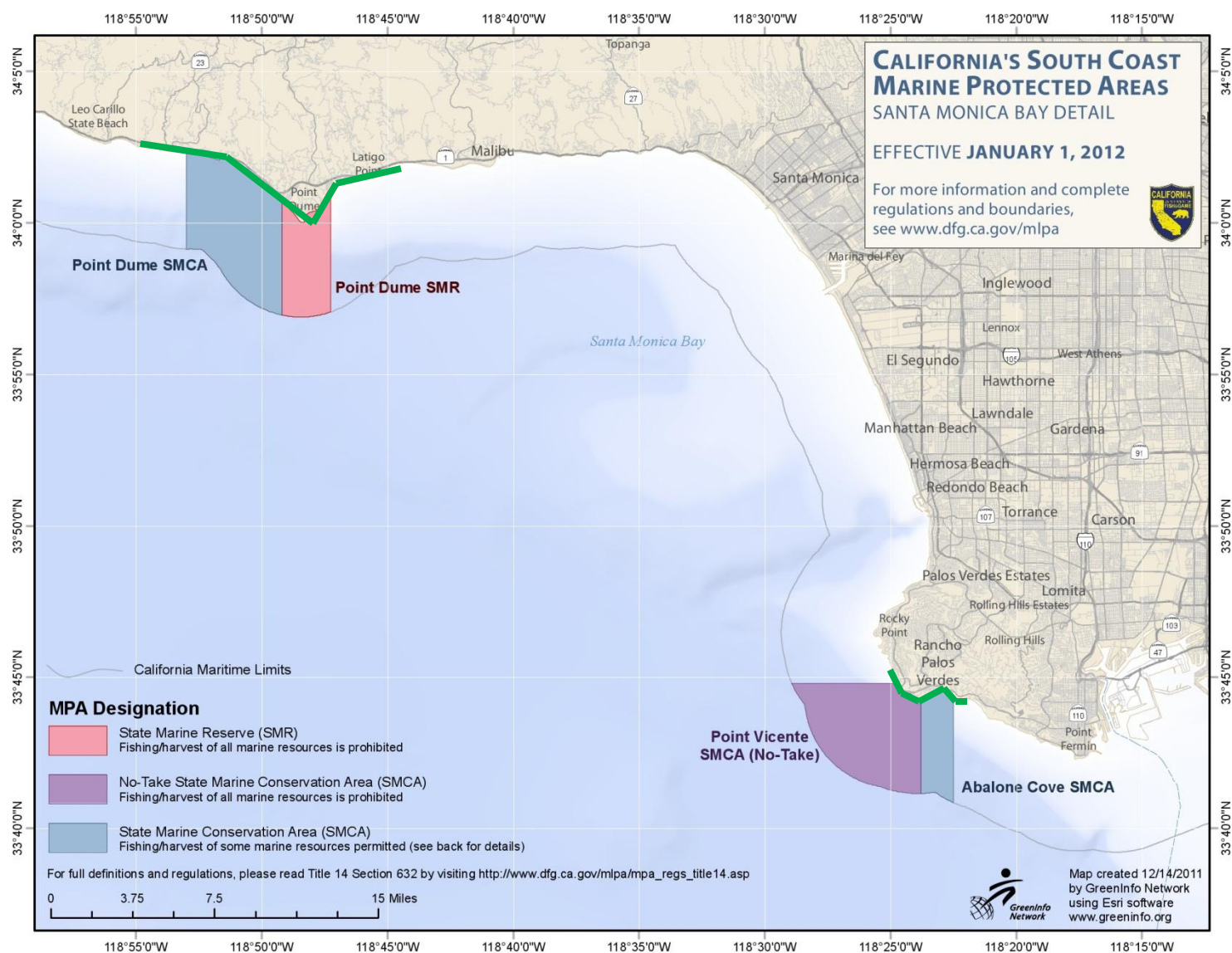
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Sample MPA Watch Data Sheet

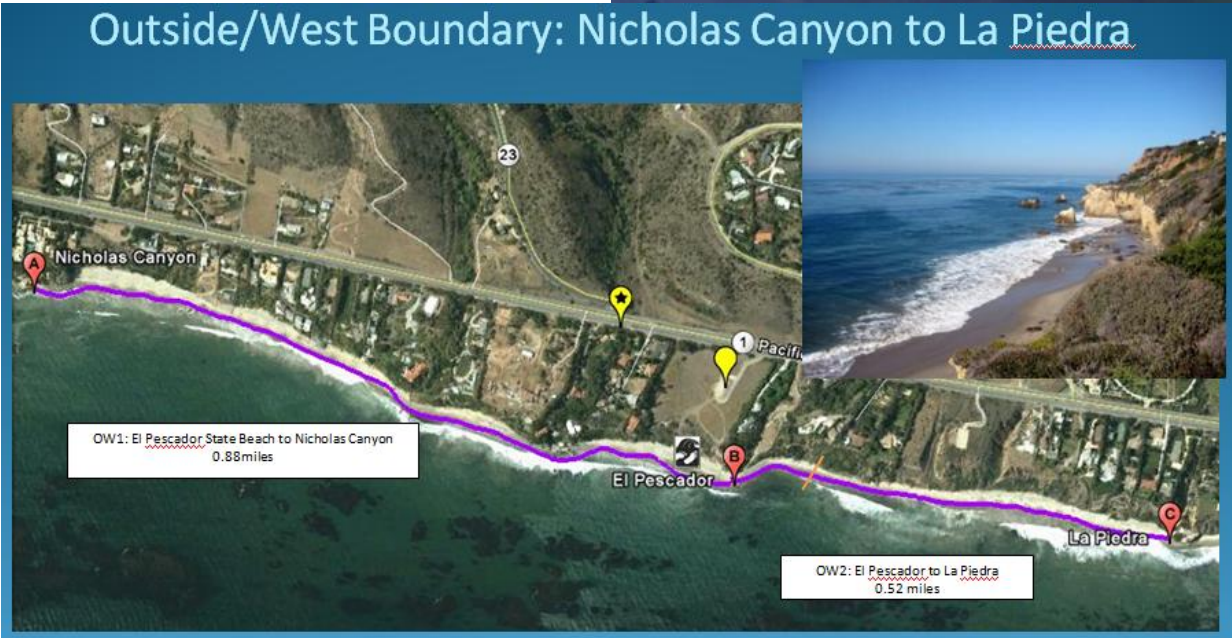
Heal the Bay's MPA Watch Data Sheet				
Date:				
Observer 1:		# Surveys Completed:		
Observer 2:		Estimated Temperature:		
Weather: Sunny Rainy Windy Cloudy Partly Cloudy		Tide Level: Low Medium High		
Activities: Onshore		Site Name:		Site Name:
Non-Consumptive		Start/End Time:		Start/End Time:
Beach Rec. (sunbathing, picnic, art, resting, games, skim boarding, etc.)				
Walking				
Running				
Tidepooling (NOT collecting)				
Rock Climbing				
Wildlife Viewing				
Driving on beach				
Domesticated Animals (dogs, horses)				
Research (NOT collecting)				
Media (filming, photo shoots)				
Consumptive		Actively fishing	NOT actively fishing	Actively fishing NOT actively fishing
Rod/Reel fishing				
Trap Fishing				
Cast Net Fishing				
Sand crab raking/hand collection				
Hand Collection (kelp, tidepool, mussels,)				
Non-biological Collection (rocks, shells, trash)				
Activities: Offshore				
Non-Consumptive				
Swimming/Wading				
Surfing/Boogie Boarding				
Stand-up Paddleboarding				
Kite Surfing/Wind Surfing				
SCUBA diving/Snorkel (in water/on beach)				
Research (NOT collecting)				
Kayak/Canoe/Dinghy				
Sailing				
Jet Skiing				
Private Power Boat (NOT fishing boat)				
Whale Watching Boat				
Dive boat (with dive flag up)				
Consumptive		Actively fishing	NOT actively fishing	Actively fishing NOT actively fishing
Snorkel/SCUBA diving (speargun, nets)				
Stand-up Paddleboarding Rod/Reel				
Stand-up Paddleboarding Speargun				
Kayak/Canoe/Dinghy with Rod/Reel				
Kayak/Canoe/Dinghy with Speargun				
Private Vessel with Rod/Reel				
Private Vessel with Hoop Nets				
Party/Charter Fishing Boat (5+ ppl.)				
Trolling Fishing Boat ("Wings")				
Lobster Fishing Boat (Traps & Crane)				
Purse-Seine Fishing Boat (Squid & Bait)				
Rod/Reel Commercial Fishing boat				
Urchin/Cucumber Diving Boat (hooks)				
Kelp Harvesting				
Research boat (collecting)				
Unknown Fishing Boat				
OTHER (specify activity)				
Comments:				

Maps of Study Areas

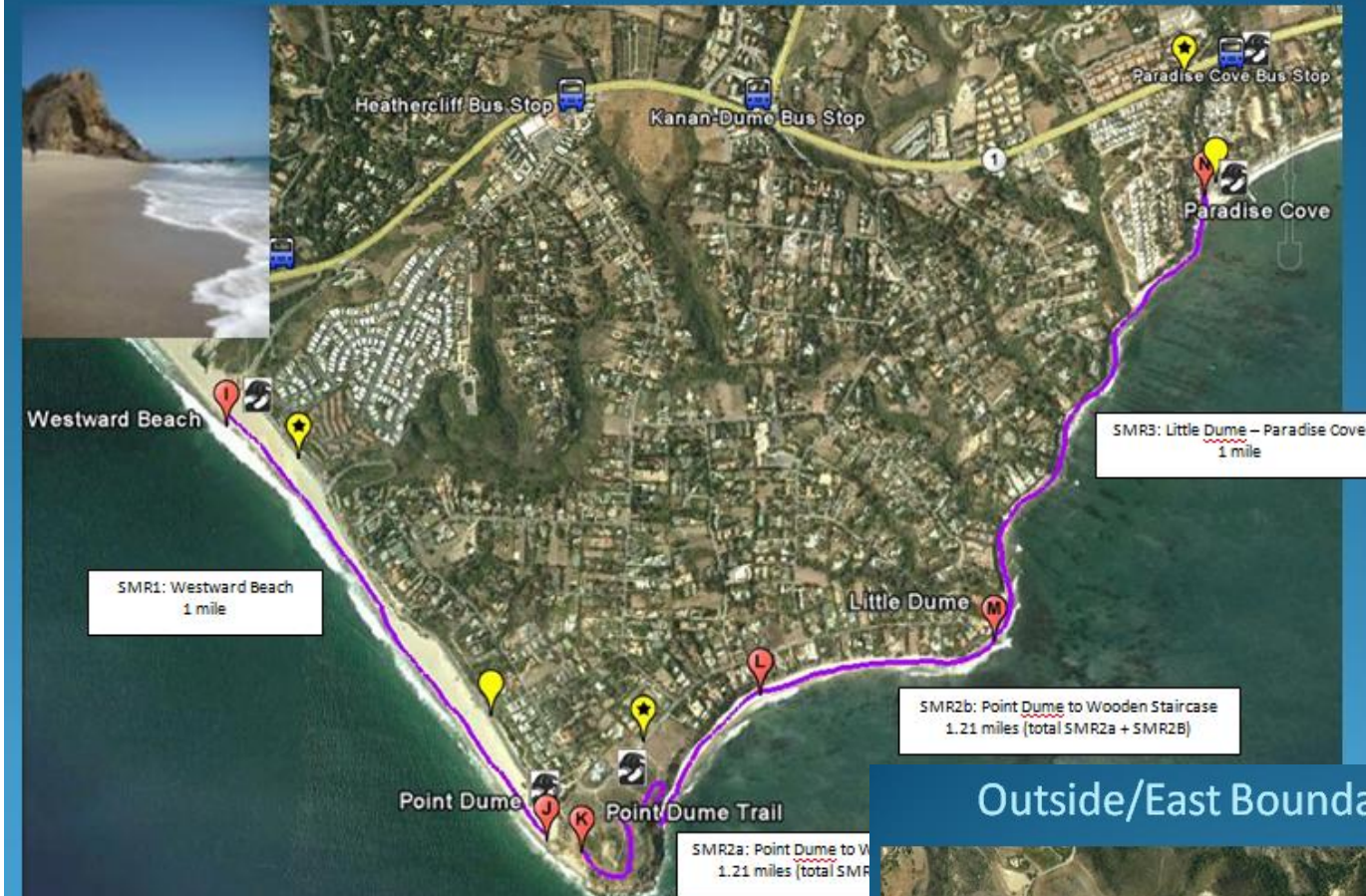
Our study area includes beaches and offshore areas from Nicholas Canyon to Latigo Beach in Malibu, and north of Point Vicente to Portuguese Point in Palos Verdes. The study area includes four marine protected areas (MPAs): Point Dume SMCA, Point Dume SMR, Point Vicente SMCA, and Abalone Cove SMCA and areas directly north and south of the MPAs. The green line on the map indicates the entire coast where we conduct surveys.



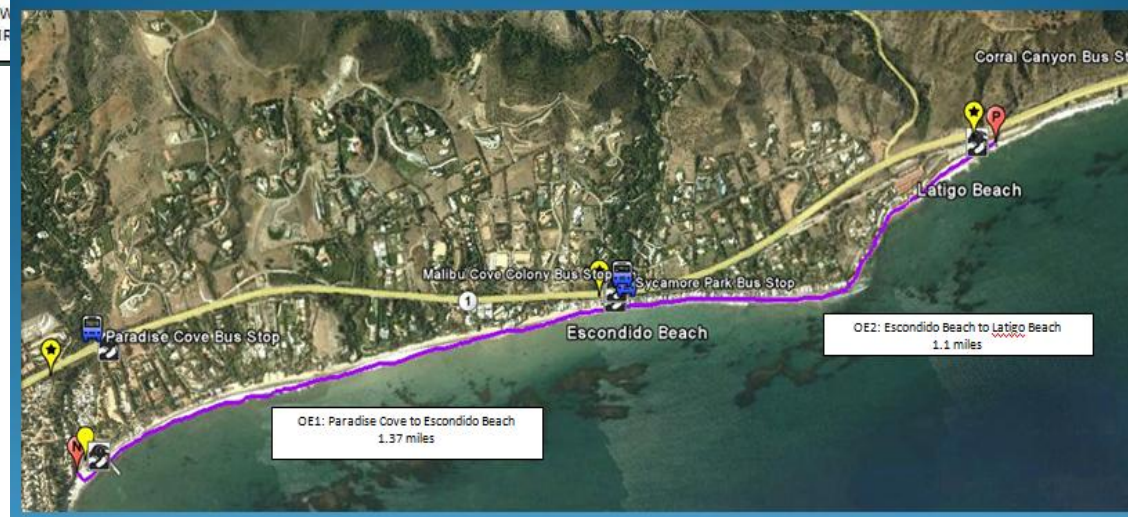
Detailed Survey Maps for Malibu



Point Dume State Marine Reserve

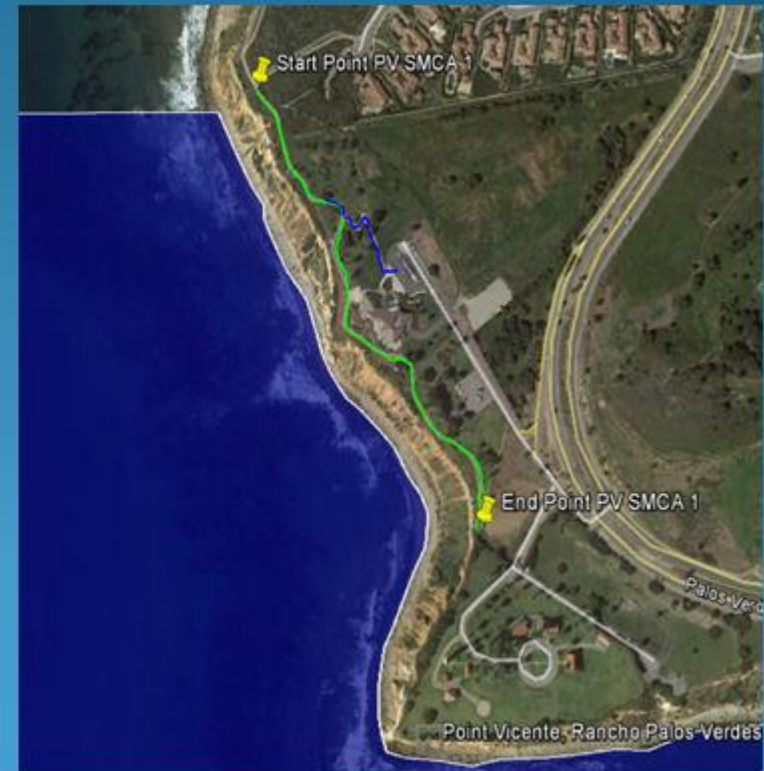


Outside/East Boundary: Latigo Beach to Paradise Cove

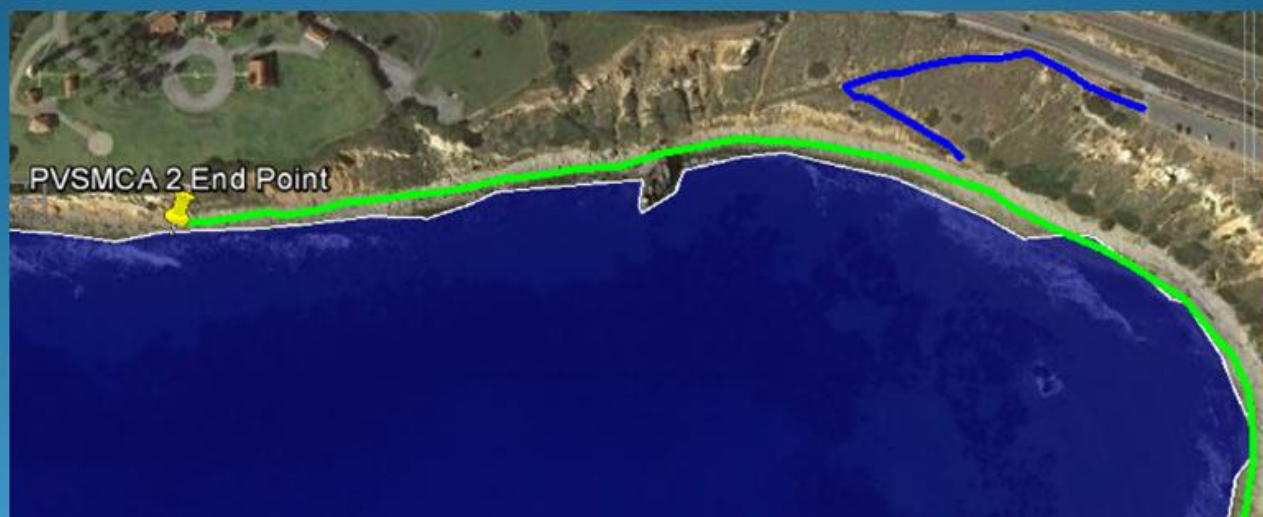


Detailed Maps of Palos Verdes

Palos Verdes Outside Boundary Site and Point Vicente SMCA 1 site



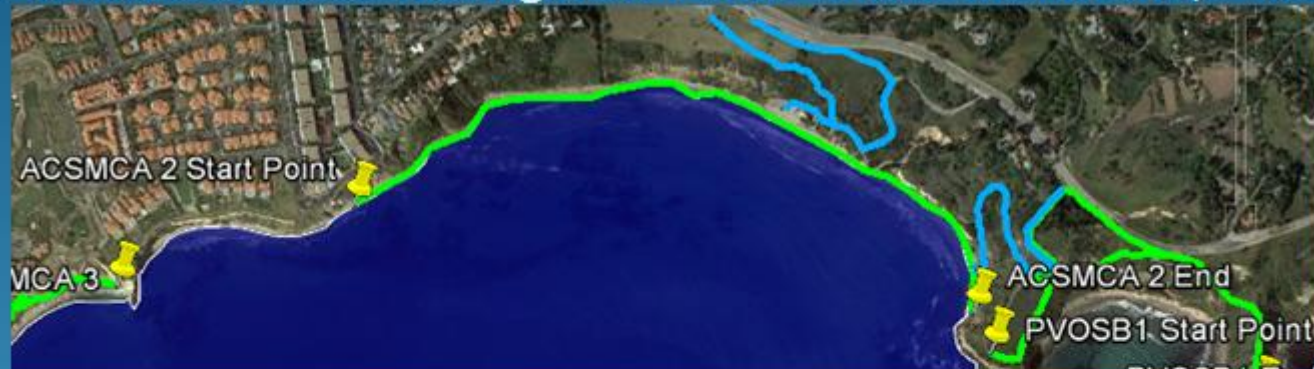
Pelican Cove & Pescadero Trail PVSMCA 2



Terranea Resort Trail North & South: PVSMCA 3, ACSMCA 1



Abalone Cove & Portuguese Point Trails: ACSMCA2, PVOS1

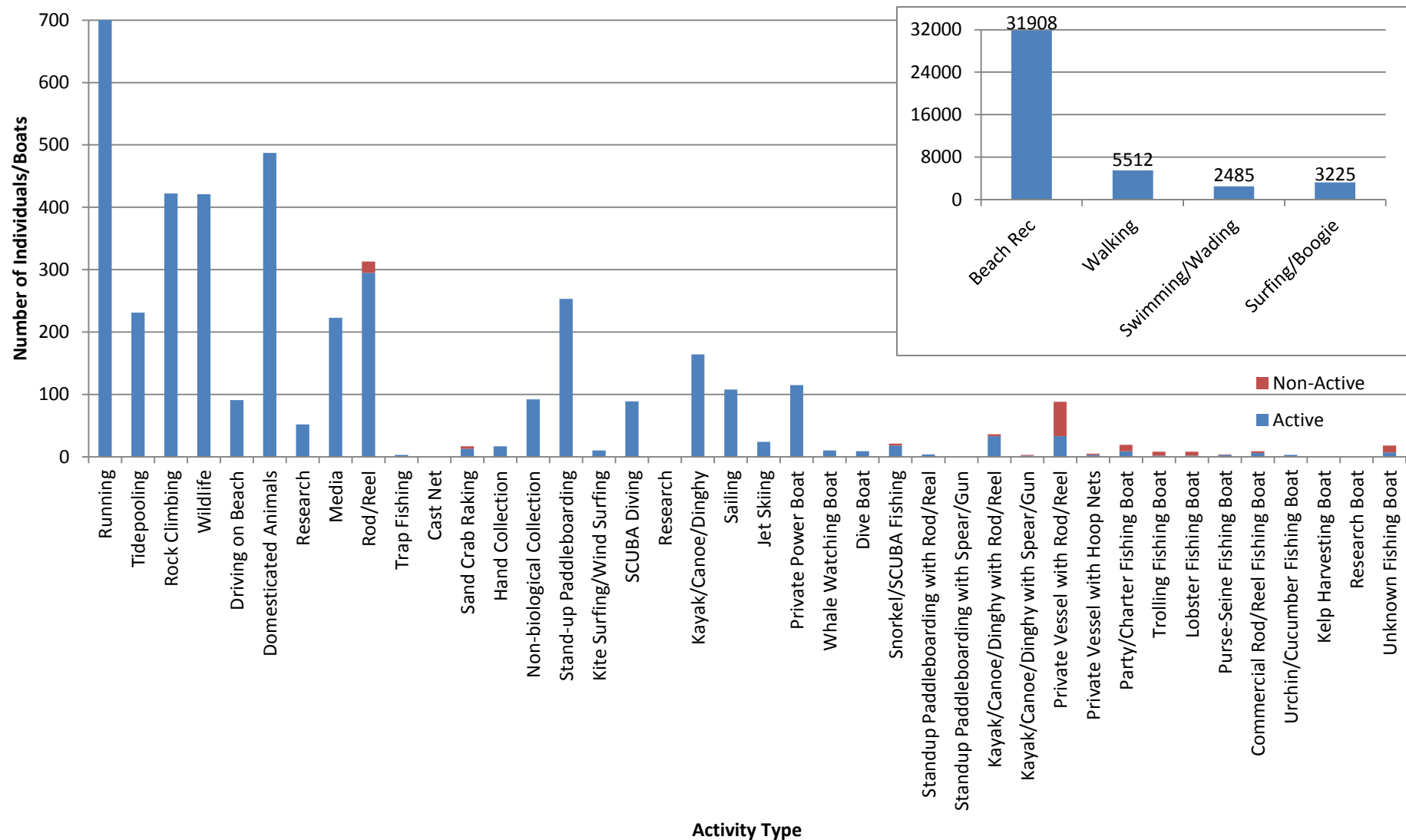


Highlights of Data Results

- Sample Size:
 - Total Surveys from March 2011 – July 2012 (Malibu and Palos Verdes): 554
 - Total Surveys after MPA implementation (Malibu and Palos Verdes): 335
 - Malibu Surveys from March 2011 – July 2012: 461
 - Malibu Surveys after MPA implementation: 242
 - Palos Verdes Surveys after MPA implementation: 93
- The most common coastal uses in the study area are non-consumptive activities. 99% of the coastal uses surveyed to date are non-consumptive recreational activities.
- The most popular coastal activities in both study areas are general beach recreation (31,908 individuals)¹, walking (5,512), surfing/boogie boarding (3,225), swimming/wading (2,485), running (702), rock climbing (422), and wildlife watching (421). This overall Los Angeles data is driven by results in Malibu, where 83% of all surveys have been completed.
- In both Malibu and Palos Verdes, active consumptive activities are present in the MPAs in 2012, the majority of which is shore-based rod/reel fishing (80+). Since rod/reel fishing is not allowed in these MPAs, this finding may merit the need for additional education and outreach and/or enforcement attention.
- In Malibu's MPAs, the data shows that there are fewer active consumptive activities occurring in MPAs in 2012 (9 per month) than there were in the areas pre-MPA establishment in 2011 (22 per month).
- Point Dume State Marine Reserve is where most of the illegal fishing activity occurs in Malibu, specifically along the Point Dume Headlands (shore-based fishing from rocks on the beach) and in Little Dume Cove. Although consumptive activities inside Point Dume SMR are less common than pre-MPAs, active consumptive activities are still present in 2012, the majority of which is rod/reel fishing from shore. The non-active consumptive activities, such as a private vessel with rod/reel in transit through an MPA, has increased in 2012 compared to 2011, possibly indicating the movement of fishing vessels from inside MPAs to outside.
- The most common coastal activities in the Palos Verdes study area, both inside and outside MPAs, are general beach recreation (475), walking (390), wildlife watching (89), shore-based rod/reel fishing (81), sailing (75), and tidepooling (57). The top three activities are non-consumptive, followed by shore-based rod/reel as the most popular consumptive activity.
- In Palos Verdes' MPAs, the most common consumptive activities were shore-based rod/reel (40) and private vessel rod/reel (12), both of which are illegal.
- Abalone Cove State Marine Conservation Area is where most of the illegal fishing activity occurs in Palos Verdes. Roughly 64% of shore-based rod reel activity occurred between the hours of 9AM and 12PM. The remaining 36% occurred between the hours of 12PM and 3PM.
- In Point Vicente SMCA (No Take), shore-based rod/reel (7) and spearfishing (4) were the most common active consumption activities. Approximately 57% of shore-based rod/reel incidences and 100% of spearfishing incidences occurred at the south end of Point Vicente, located in front of the Terranea Beach and Resort at an area called Seal Point. The remainder of the shore-based rod/reel incidences in Point Vicente SMCA are in Pelican Cove (formerly known as Pescadero Trail) on the large rocky outcrop on the beach.

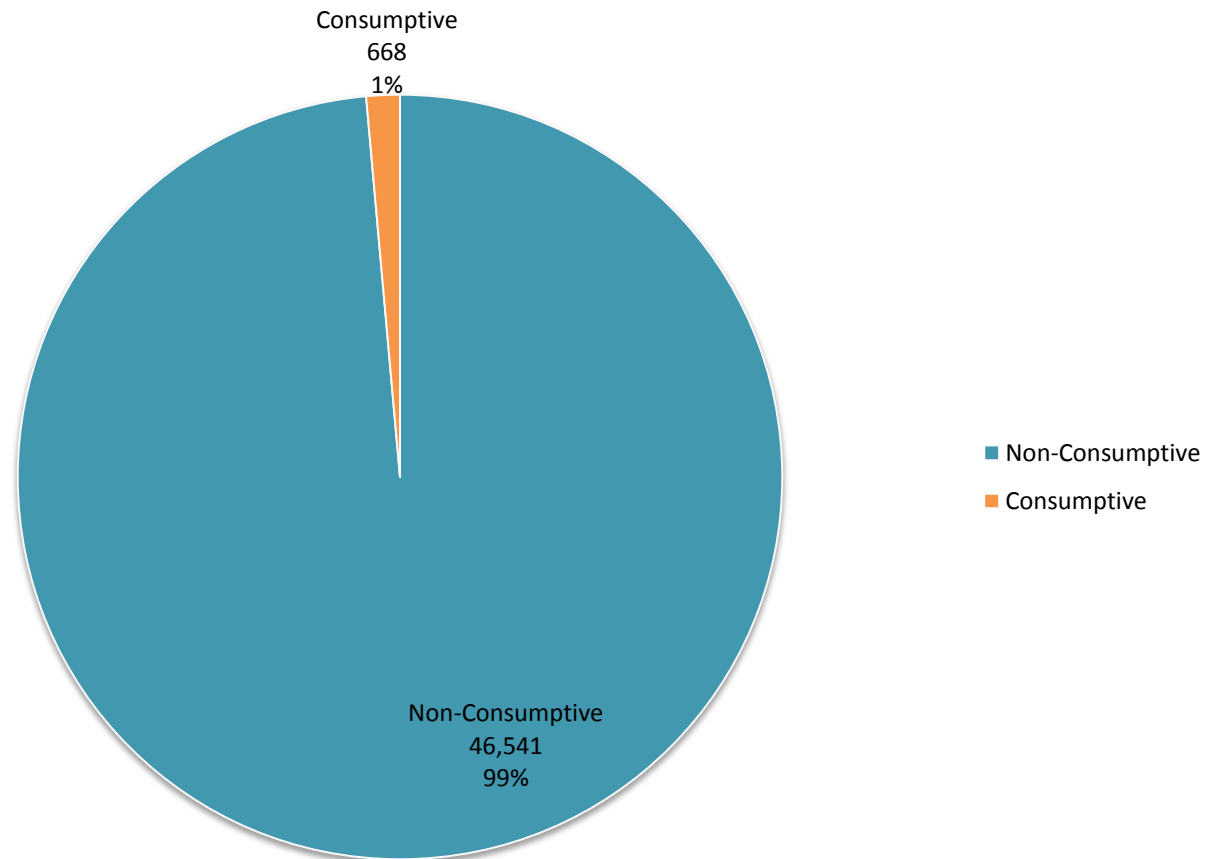
¹ All numbers presented in this document in parenthesis are the number of individuals or boats participating in a coastal activity.

Los Angeles Coast - Total Activities in Malibu & Palos Verdes March 2011 - July 2012



The most common coastal activities in the study area are general beach recreation (31,908), walking (5,512), surfing/boogie boarding (3,225), swimming/wading (2,485), running (702), rock climbing (422), and wildlife watching (421). This includes areas within and outside MPAs, both pre and post MPA establishment.

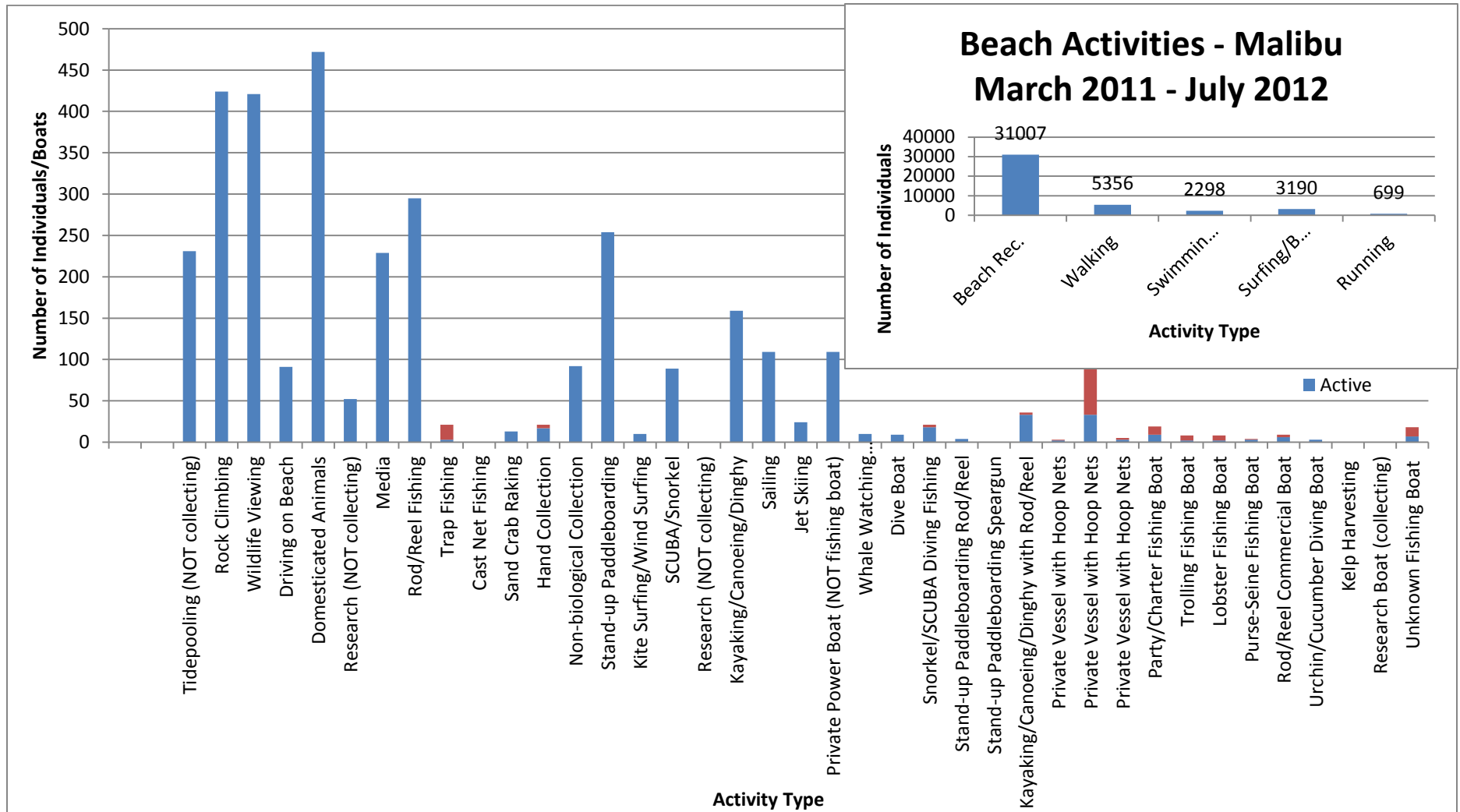
Los Angeles Coast - Consumptive VS Non-consumptive Activities March 2011 - July 2012



Combining the data from 554 surveys completed over the past 17 months (10 months pre-MPAs and 7 months post-MPAs), our data shows that 99% of the people going to beaches and the ocean to recreate in our study area are participating in non-consumptive recreational activities. The non-consumptive numbers in this graph include both active and inactive consumptive activities, biasing the consumptive activities as slightly higher. Our study area includes beaches from Nicholas Canyon to Latigo Beach in Malibu, and north of Point Vicente to Portuguese Point in Palos Verdes.

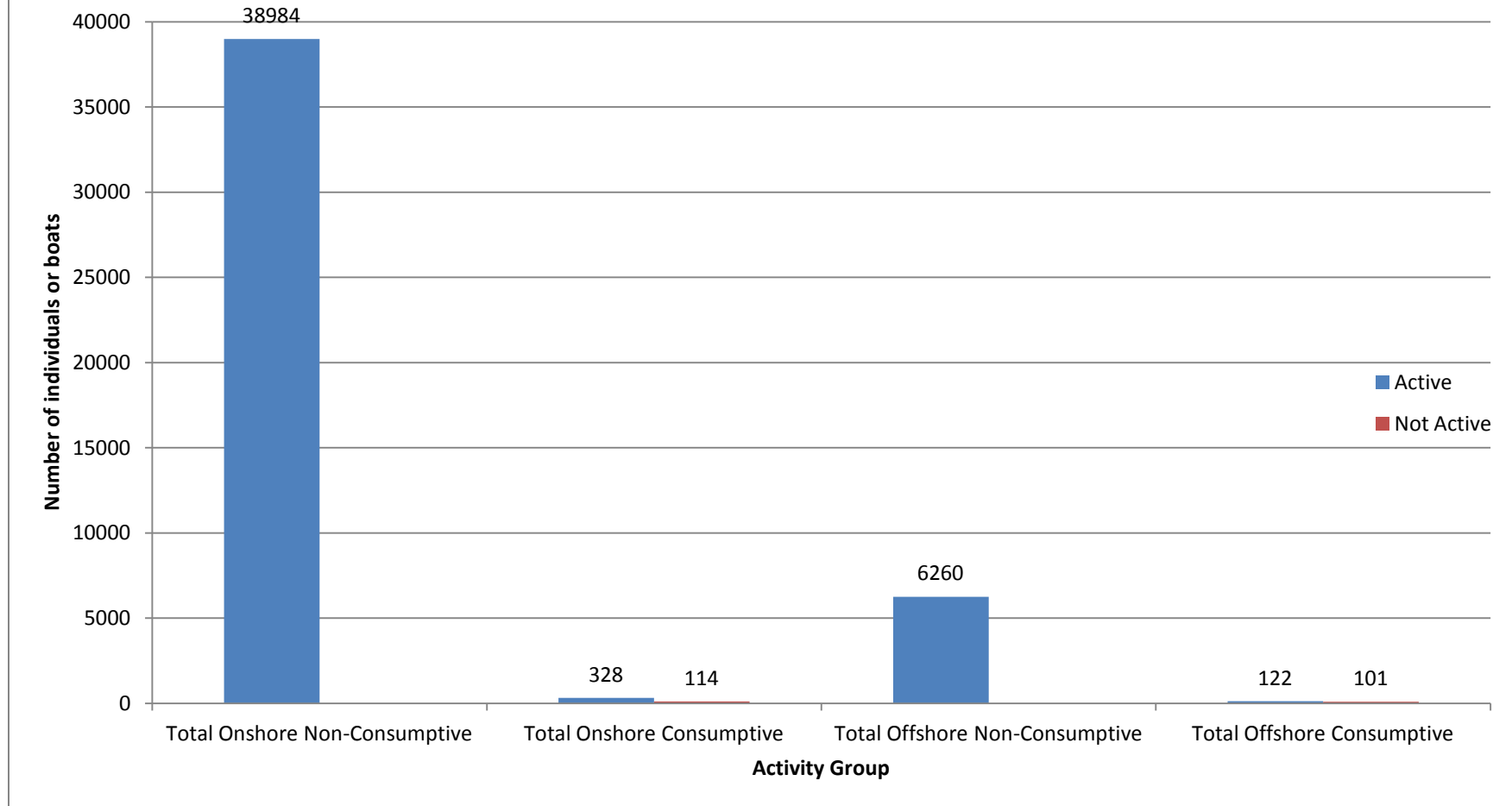
Malibu

Nicholas Canyon Beach to Latigo Beach (Includes Point Dume SMR and SMCA)



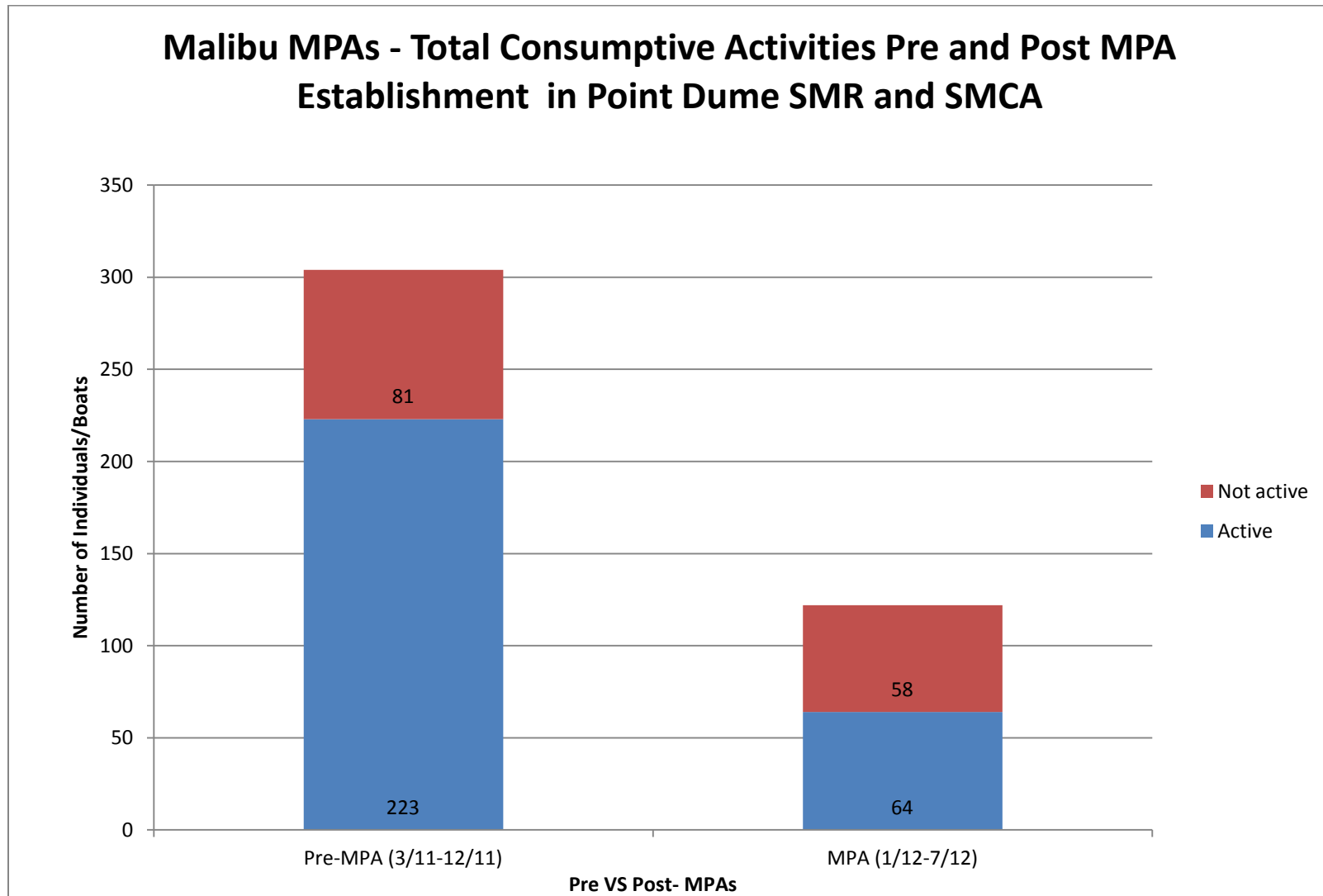
The most common coastal activities in the Malibu study area are beach recreation (31,007), walking (5,356), surfing/boogie boarding (3,190), swimming/wading (2,298), running (699), rock climbing (424), and wildlife watching (421). Rod/reel fishing from shore is the most common consumptive activity (295), and is 9th in overall frequency of non-consumptive and consumptives activities combined. These data include areas within and outside MPAs, both pre and post MPA establishment.

Malibu - Consumptive VS Non-consumptive Activities March 2011 - July 2012



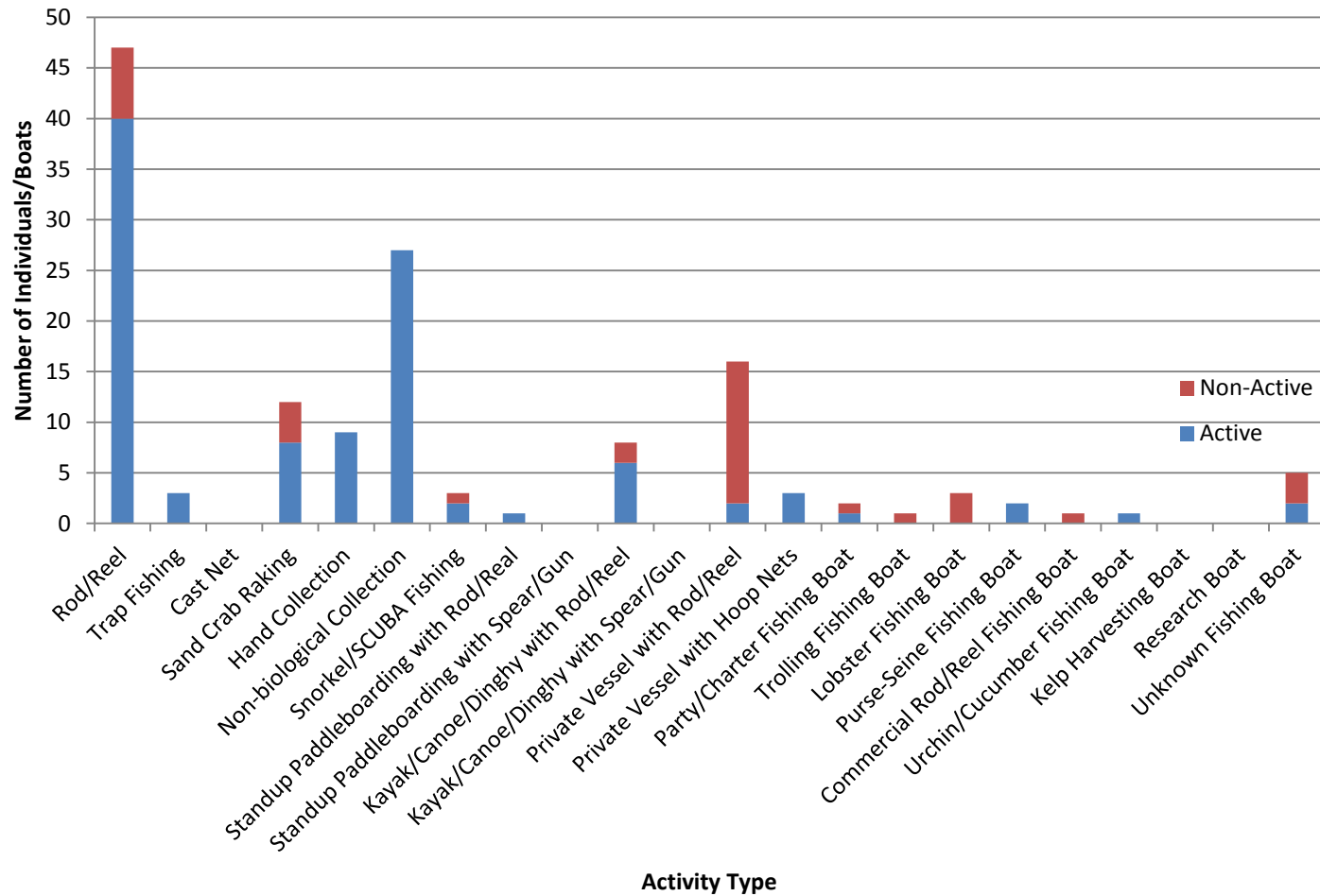
Non-consumptive activities (45,244) far outnumber the amount of consumptive activities (450 active, 215 not active) in Malibu. In addition, onshore activities are more popular than offshore. These data include areas within and outside MPAs, both pre and post MPA establishment.

Malibu MPAs - Total Consumptive Activities Pre and Post MPA Establishment in Point Dume SMR and SMCA



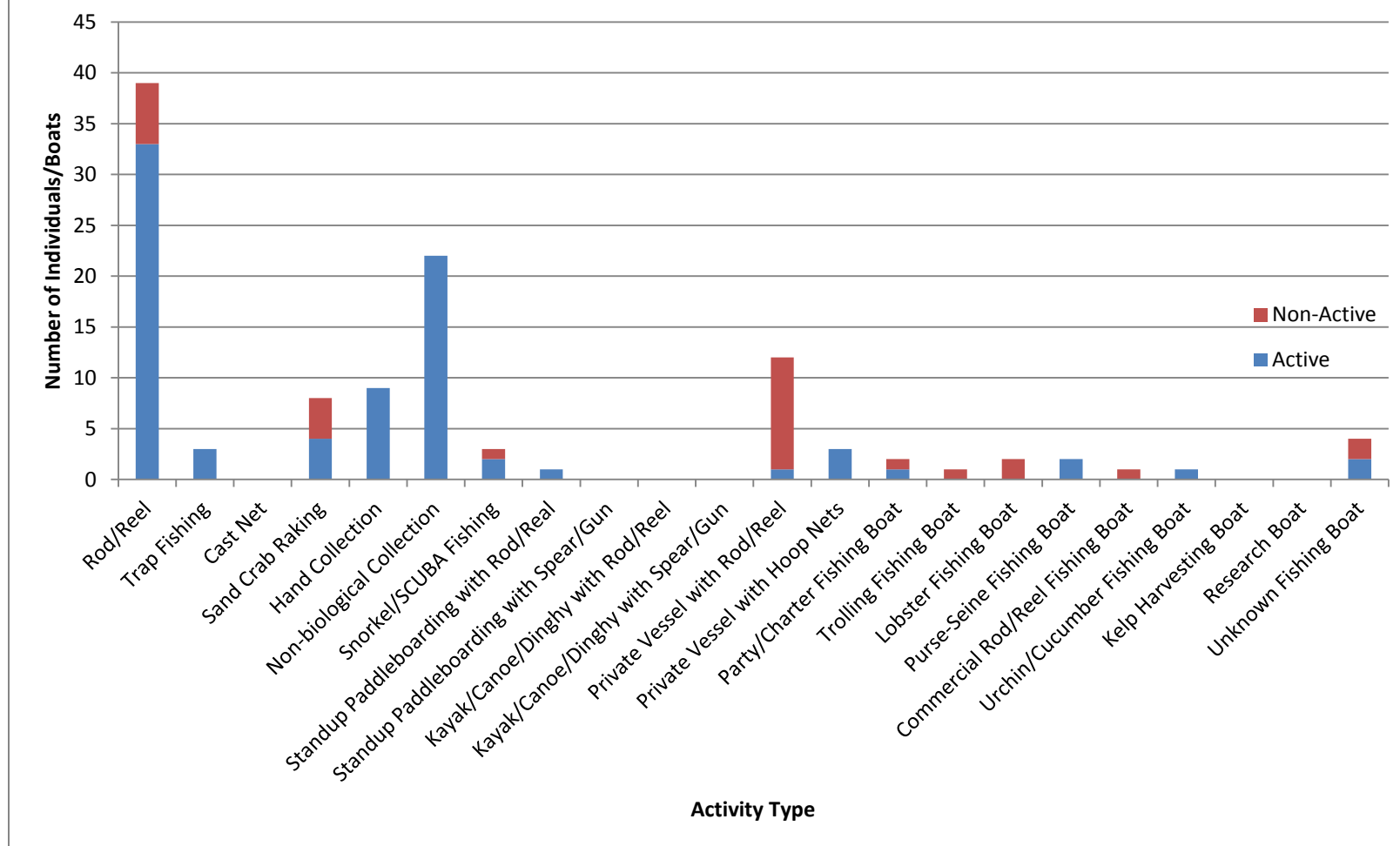
The pre-MPA period covers 10 months in 2011 (March-December). Our data post-MPAs covers 7 months in 2012 (January 1 – July 23, 2012). Although we are not comparing equivalent periods of time, when the data is conveyed in average activities per month, the data show that there are fewer active consumptive activities occurring in MPAs in 2012 (9 per month) than there were in the areas pre-MPA establishment in 2011 (22 per month), which is a 59% decrease per month in active consumptive activities. The majority of the active consumptive activities that occur post-MPA effectiveness are shore-based rod/reel fishing, which most frequently occur in the Point Dume State Marine Reserve. The non-active consumptive activities, such as a private vessel with rod/reel in transit through an MPA, have actually increased in 2012 compared to 2011 and make up a larger proportion of consumptive activity.

Malibu - All Consumptive Activities January 2012 - July 2012



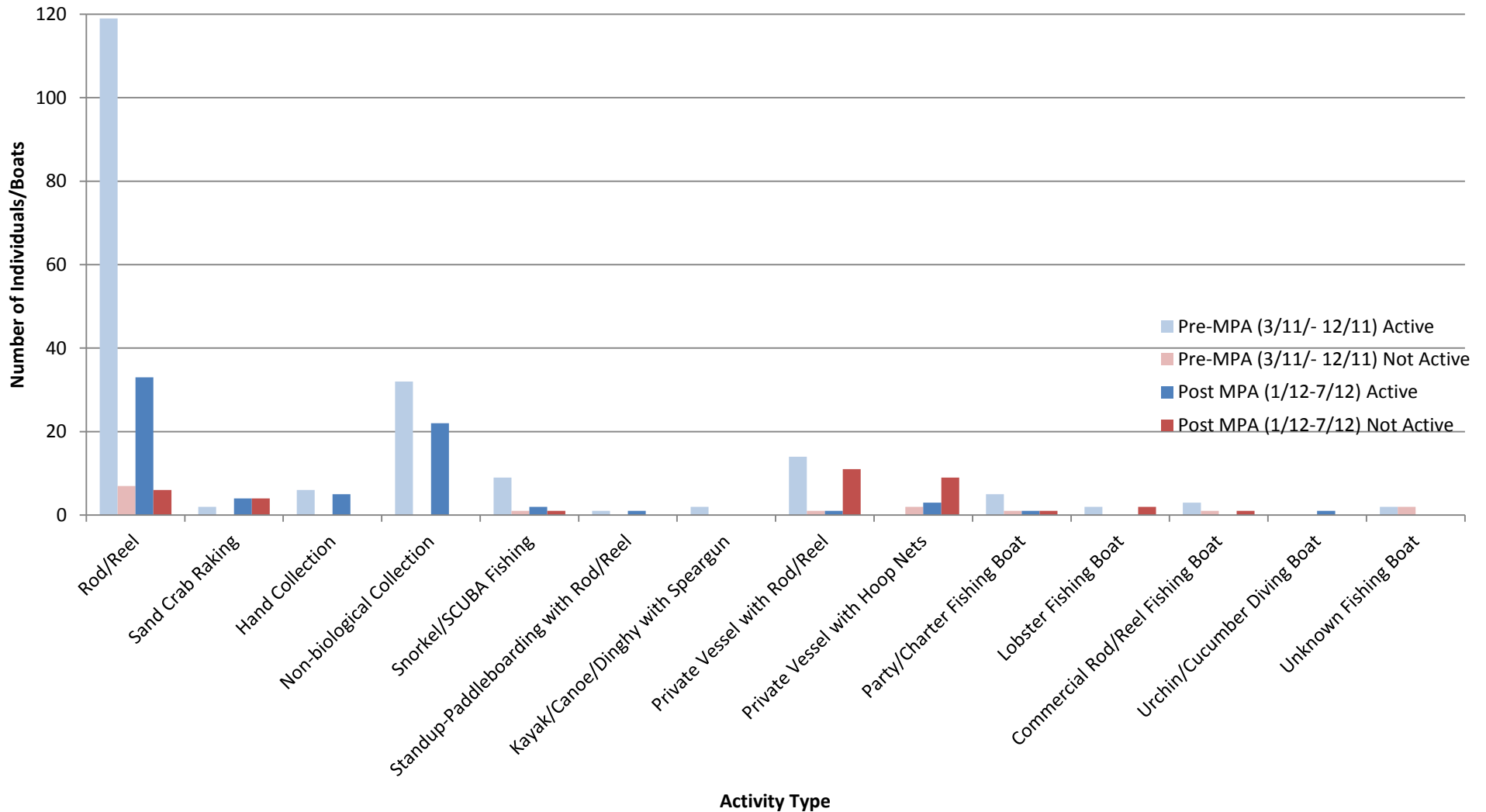
The most prevalent consumptive activity in Malibu is onshore rod/reel fishing (40), followed by non-biological collection- such as shell collecting (27), hand collection- such as taking species from tide pools (9), and catching sand crabs (8). The majority of rod/reef fishing incidences occurred in the Point Dume SMR; specifically, around the Point Dume headlands and Little Dume Cove, where no fishing is allowed.

Malibu - Total Consumptive Activities in Point Dume SMR January 2012 - July 2012



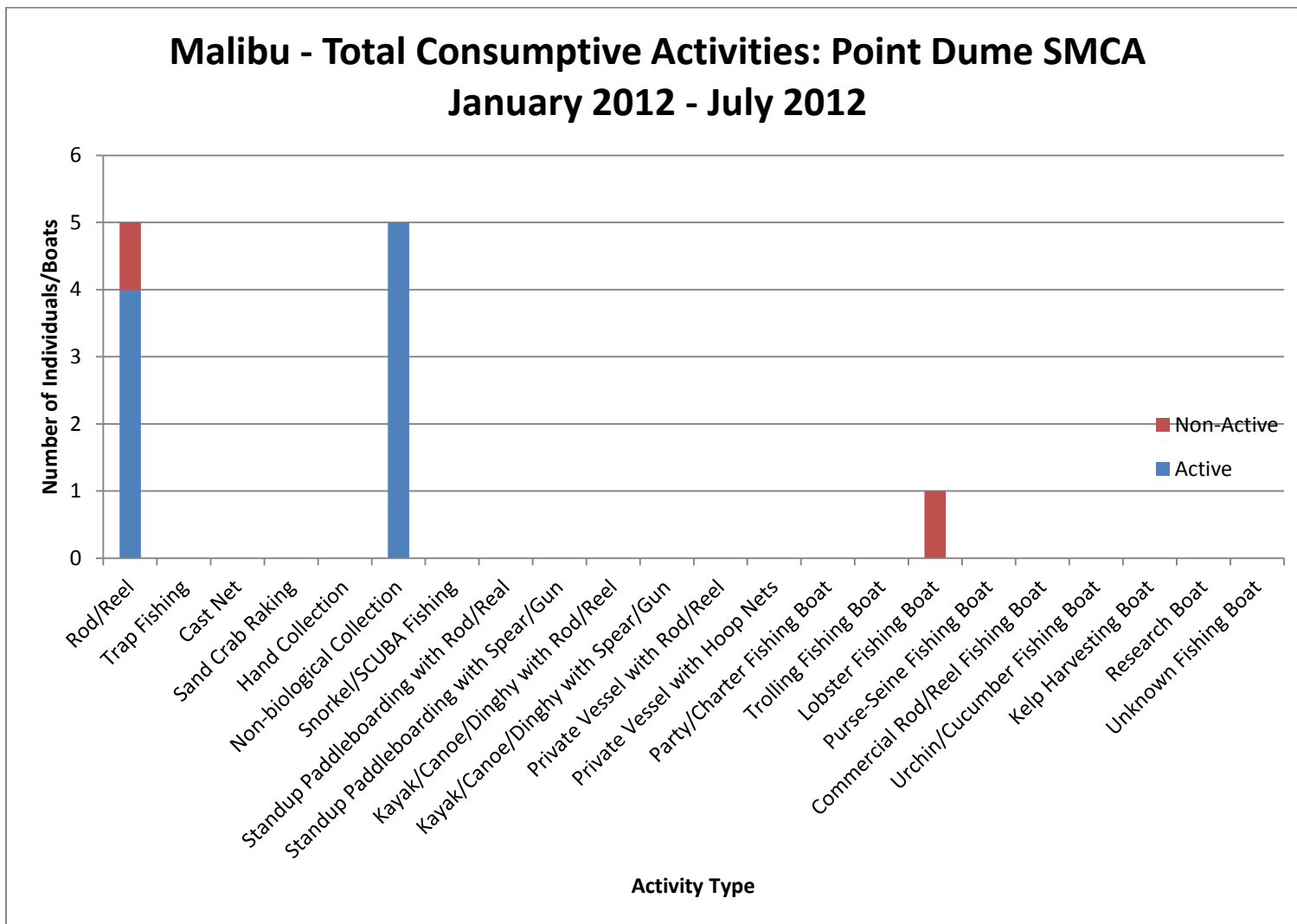
Consumptive activities in Point Dume State Marine Reserve are prohibited as of January 1, 2012. Therefore, active activities reflected in this graph that involve biological collection or harvest indicate non-compliance. The most prevalent consumptive activity in Point Dume State Marine Reserve in 2012 is onshore rod/reel fishing (33), followed by non-biological collection- such as shell collecting (22), hand collection- such as taking species from tide pools (9), and catching sand crabs (4). There have also been instances of illegal spearfishing activity (2), trap fishing (3), and some active fishing boats. Most of the illegal activity occurs around the Point Dume headlands and Little Dume Cove, where no fishing is allowed.

Malibu - Point Dume SMR Consumptive Activities Pre and Post MPAs



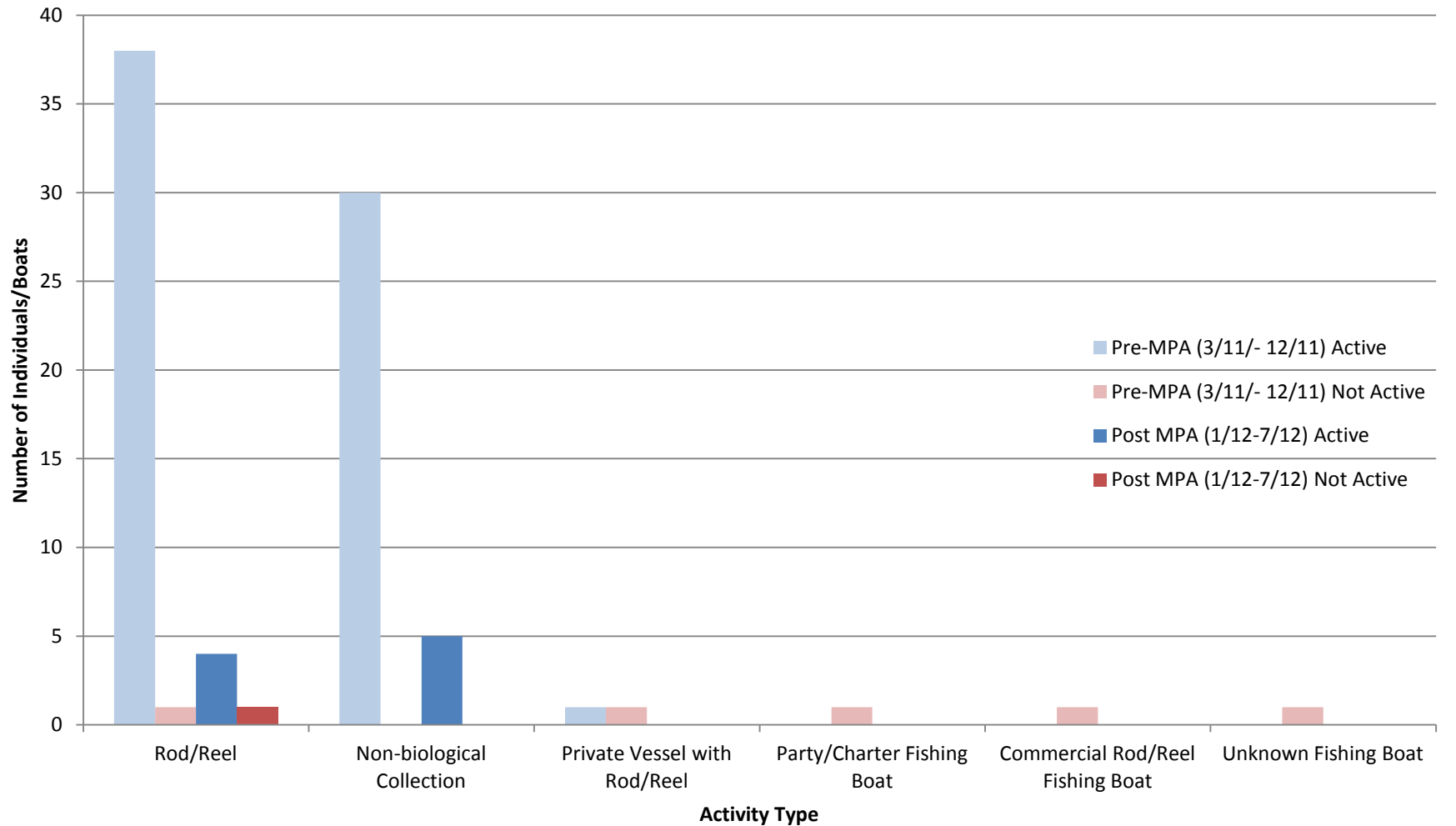
Although consumptive activities inside Point Dume SMR post-MPA effectiveness are much less common than pre-MPAs, active consumptive activities are still present in 2012, the majority of which is rod/reel fishing from shore. The non-active consumptive activities, such as a private vessel with rod/reel in transit through an MPA, has increased in 2012 compared to 2011, possibly indicating the movement of fishing vessels from inside MPAs to outside.

Malibu - Total Consumptive Activities: Point Dume SMCA January 2012 - July 2012



As of January 1, 2012, consumptive activities in Point Dume State Marine Conservation Area are limited to recreational spearfishing take of pelagic finfish (Pacific bonito and white seabass) and commercial take of coastal pelagic via round haul net, and swordfish by harpoon. None of these activities have been observed in Point Dume SMCA; therefore, active activities reflected in this graph that involve biological collection or harvest indicate non-compliance. The only consumptive activities we have observed during our surveys in Point Dume SMCA in 2012 are onshore rod/reel fishing (4), followed by non-biological collection- such as shell collecting (4).

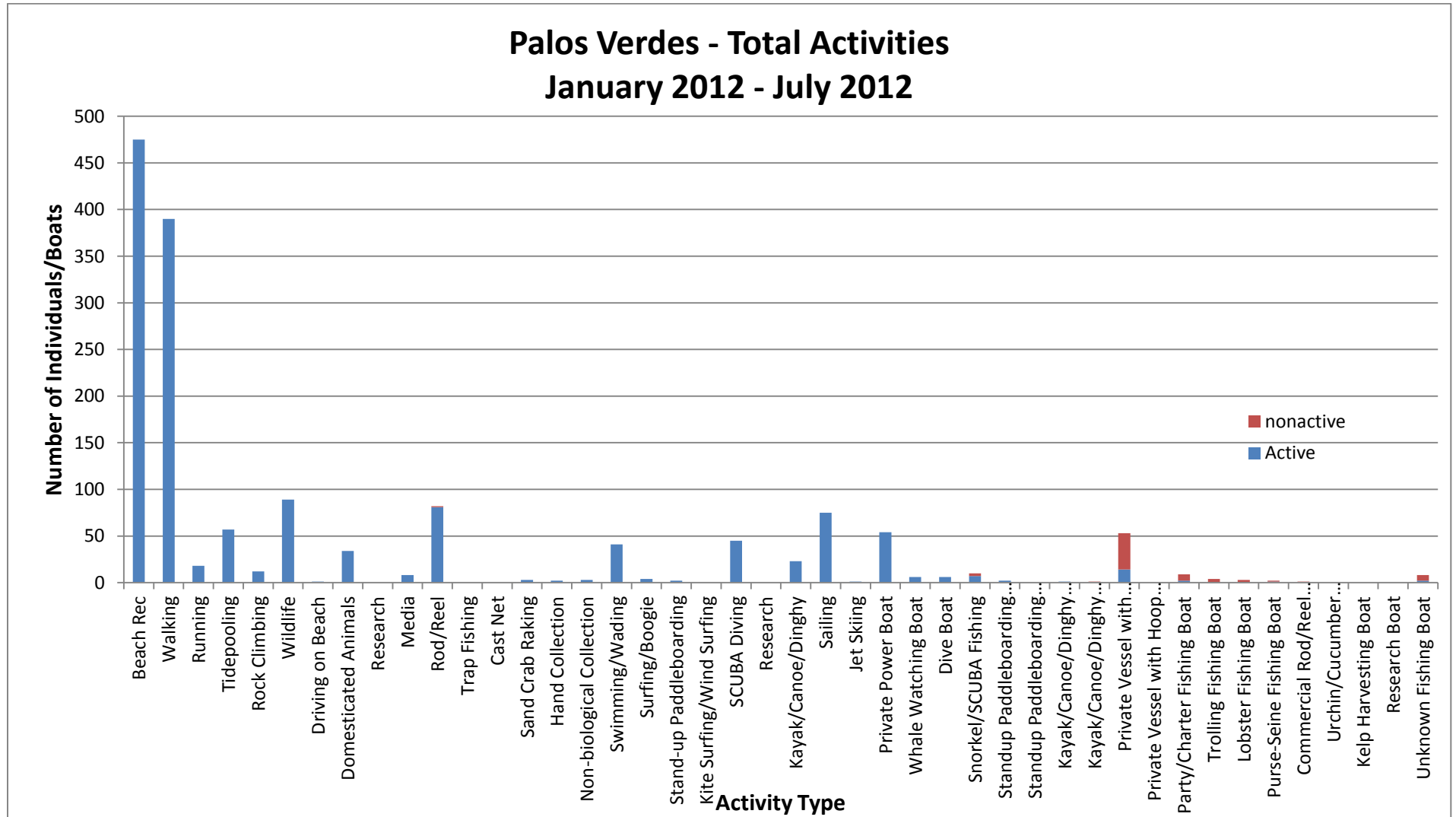
Malibu - Point Dume SMCA Consumptive Activities Pre and Post MPAs



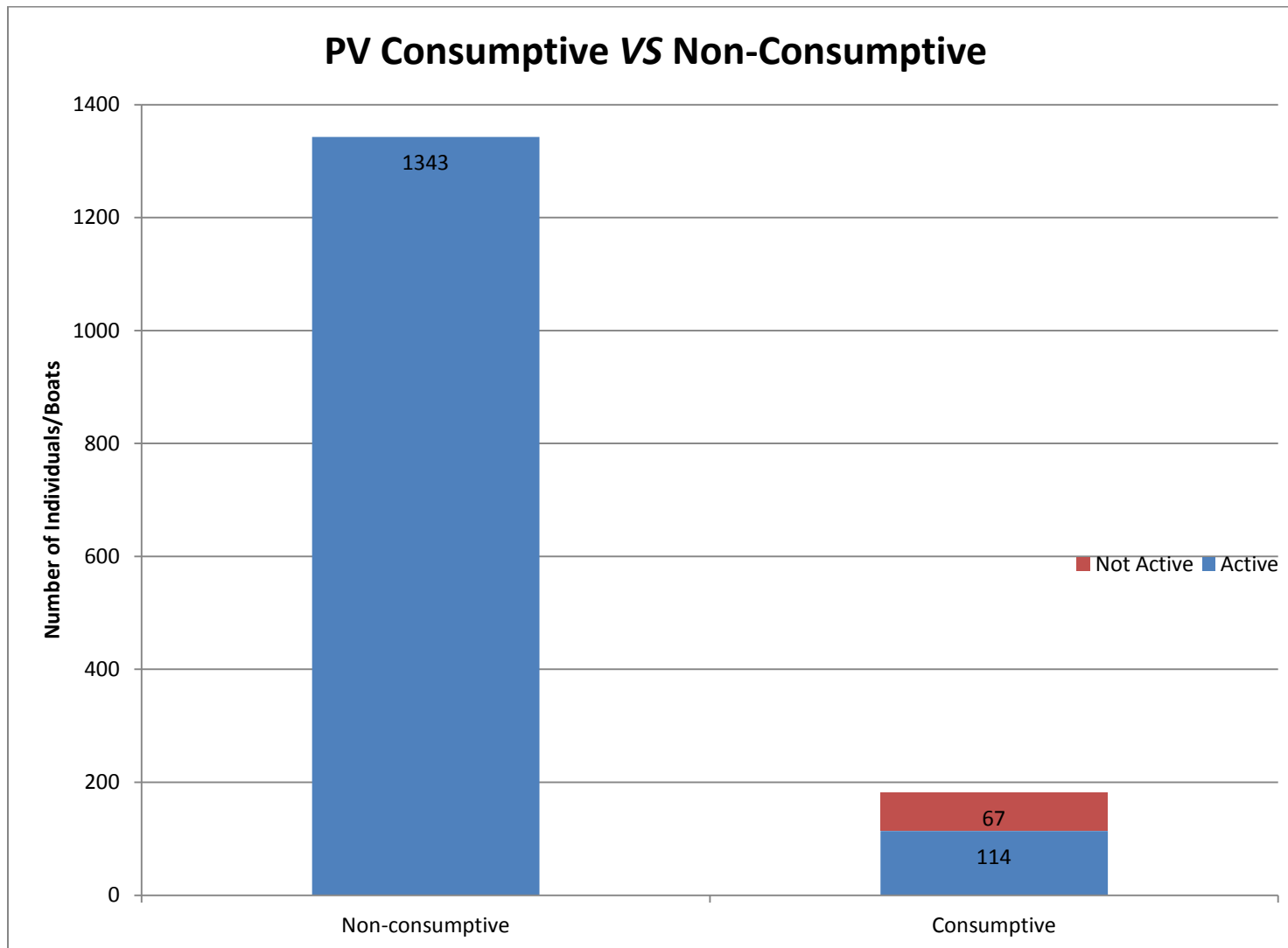
Although consumptive activities inside Point Dume SMCA are much less common than pre-MPAs, active consumptive activities are still present in 2012, but in very low abundance and solely comprised of rod/reel fishing from shore and non-biological collection.

Palos Verdes

North of Point Vicente to Portuguese Point (Includes Point Vicente SMCA and Abalone Cove SMCA)

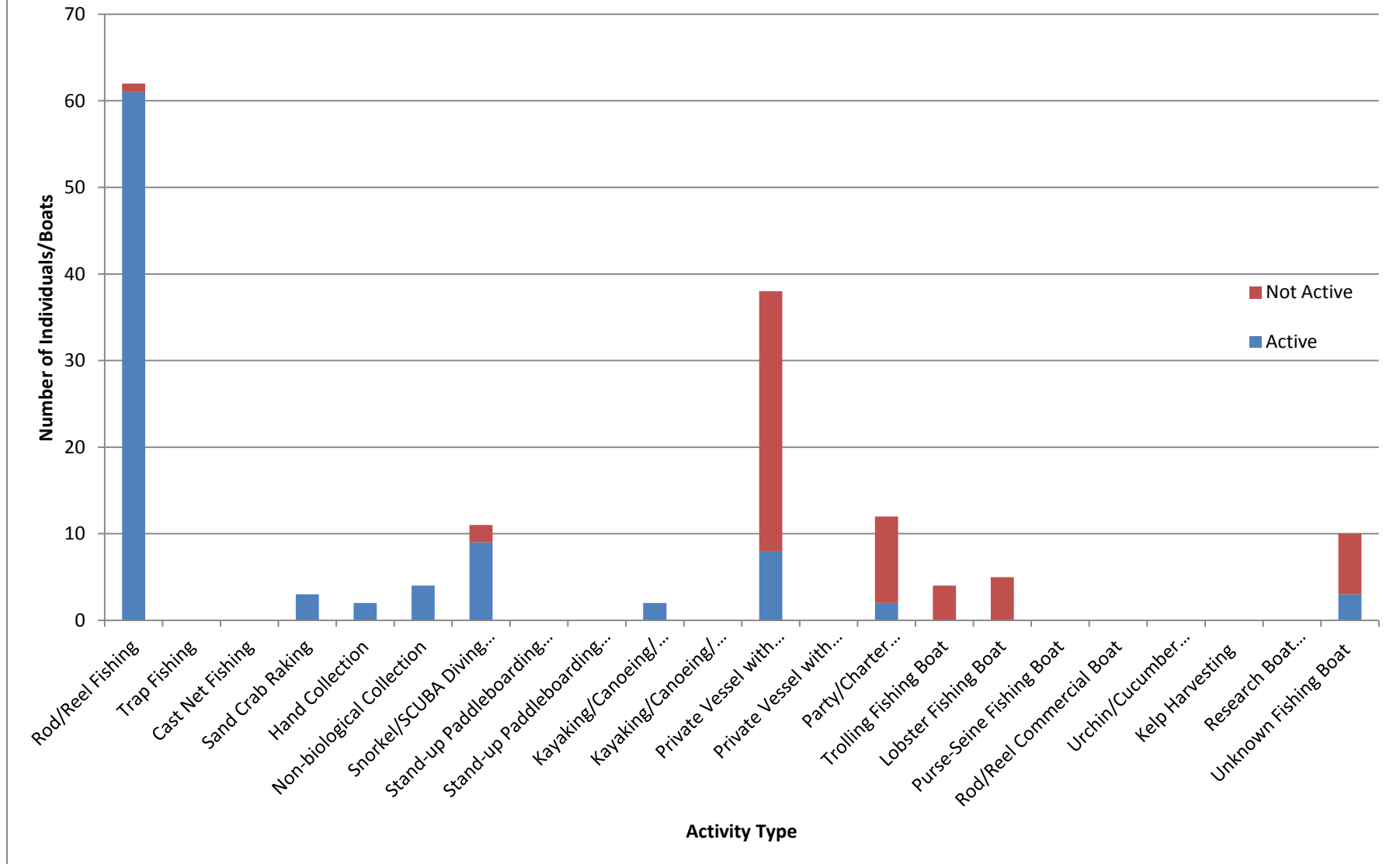


The most common coastal activities in the Palos Verdes study area are general beach recreation (475), walking (390), wildlife watching (89), shore-based rod/reel fishing (81), sailing (75), and tidepooling (57). The top three activities are non-consumptive, followed by shore-based rod/reel as the most popular consumptive activity. These data include areas within and outside MPAs, all post MPA establishment on January 1, 2012.



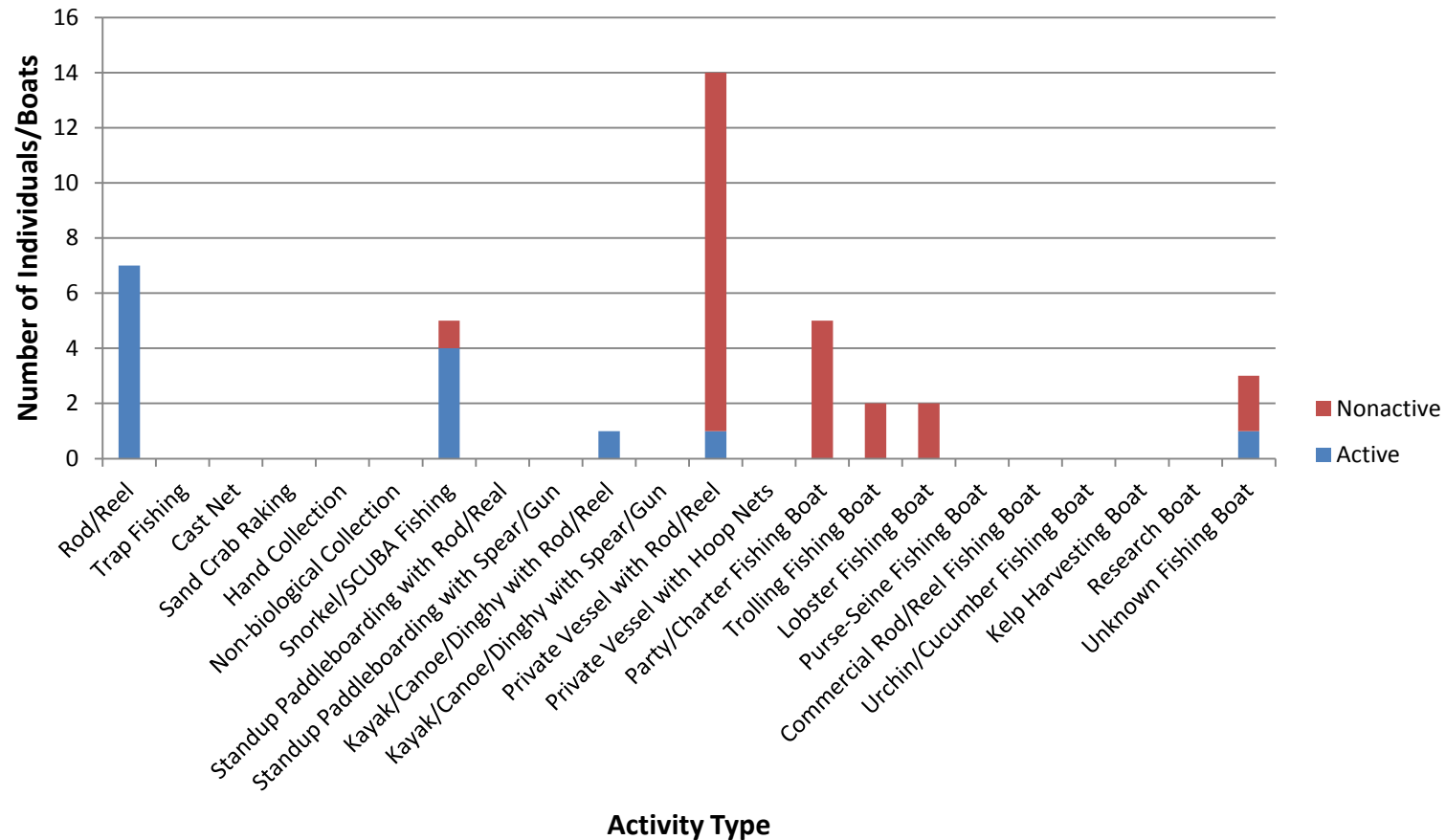
Non-consumptive activities (1,343) far outnumber the amount of consumptive activities (114 active, 67 not active) in Palos Verdes. These data include areas within and outside MPAs, both pre and post MPA establishment.

Palos Verdes - Total Consumptive Activities January 2012 - July 2012



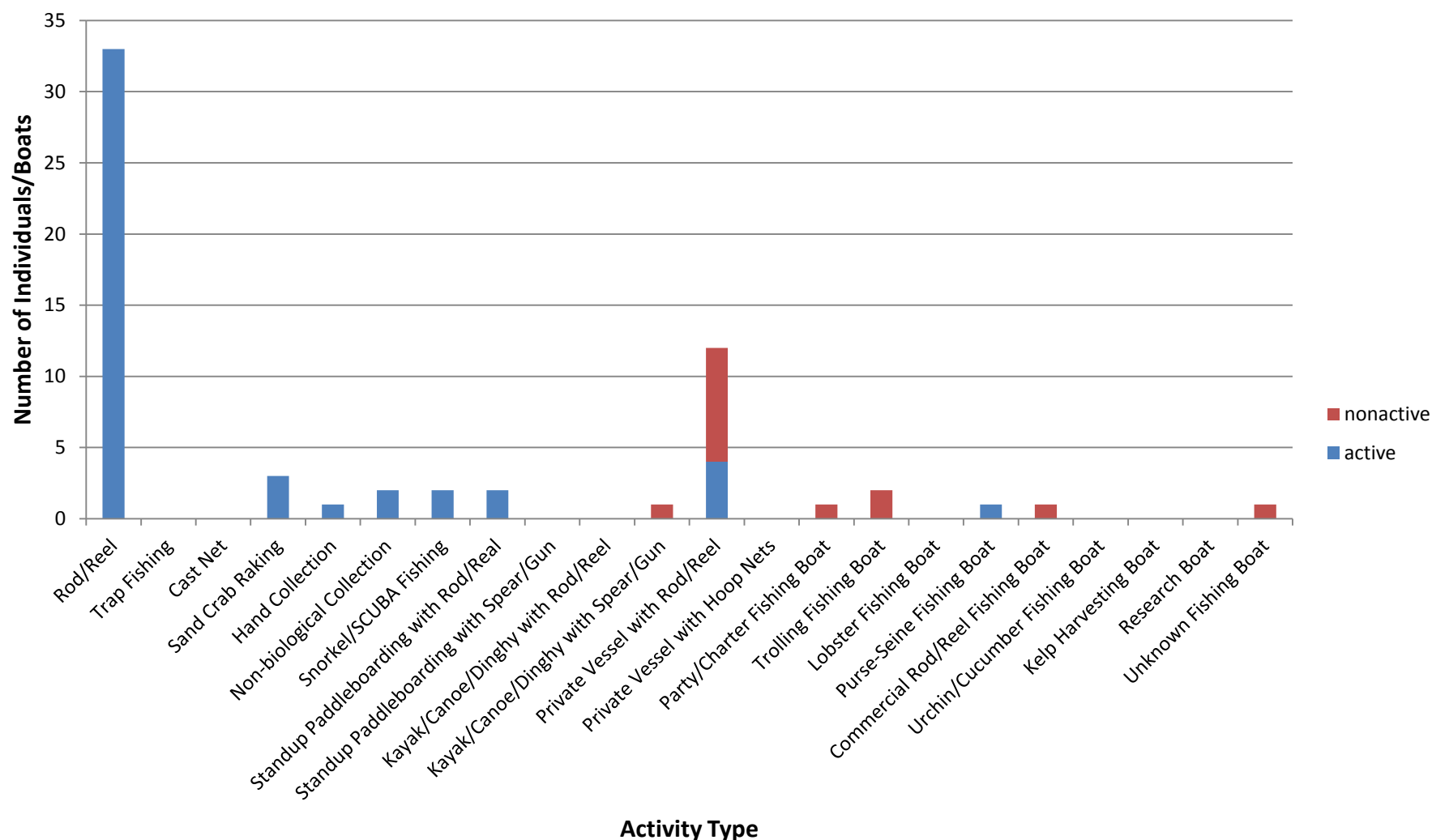
The most common active consumptive activities in the study area are shore-based rod/reel fishing (61), snorkel/SCUBA spear fishing (9), and private vessel with rod/reel (8). This graph includes both active and non- active incidences, and areas within and outside MPAs.

Palos Verdes - Consumptive Activities in Point Vicente SMCA January 2012-July 2012



In Point Vicente SMCA (No Take), the take of all marine resources is strictly prohibited. However, illegal activities are taking place: shore-based rod/reel (7) and spearfishing (4) were the most common active consumption activities. Approximately 57% of shore-based rod/reel incidences and 100% of spearfishing incidences occurred at the south end of Point Vicente, located in front of the Terranea Beach and Resort at an area called Seal Point. The remainder of the shore-based rod/reel incidences in Point Vicente SMCA are in Pelican Cove (formerly known as Pescadero Trail) on the large rocky outcrop on the beach. Although there were 14 accounts of rod/reel fishing in a private vessel, 13 of those incidences were sighted as non-active.

Palos Verdes - Consumptive Activities in Abalone Cove SMCA January 2012 - July 2012



The most common consumptive activities were shore-based rod/reel (33) and private vessel with rod/reel (12), both of which are illegal activities. Fishing was distributed relatively evenly amongst the two survey areas. However, approximately 64% of shore-based rod/reel activity occurred between the hours of 9AM and 12PM. The remaining 36% occurred between the hours of 12PM and 3PM.

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Heal the Bay

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