

**APPENDIX E**  
**RECREATION**

---

**An Analysis of the Recreational Benefits due to  
A Proposed Nourishment Project at Broad Beach, Malibu**

**Prepared by:**

**Dr. Philip G. King**

**September 22, 2013**

## Executive Summary

The purpose of this study is to provide an analysis of the change in recreational value created by a several alternate nourishment projects at Broad Beach (Malibu) California using 2005 conditions as a baseline. Although there are number of alternatives, many involve different configurations of hard structures that do not (according to the analysis provided by Moffatt and Nichol) alter beach width and hence recreational value. The analysis in this report was divided into four categories:

- No Project
- Proposed Nourishment Project
- Hard Structure Alternatives (1A, 1B, 2, 3A, 3B, 6A and 6B)
- Alternative 4 (Smaller, more frequent nourishment)
- Alternative 5 (Dune backed beach with no hard structure).

The study estimated the following recreational benefits compared to the 2005 baseline (No Project). **The proposed project generates \$189 million in public recreational benefits (with a PV of \$124 million @ 5% discount rate) over the twenty-year life of the project. Most of these benefits (> 90%) come from additional beach width at Zuma Beach as sand migrates over time, though there are significant benefits to Broad Beach alone.**

**Table E1: Net Benefits and Impacts of Projects (Compared to No Project Baseline)**

Summary Table	Alternatives 1A, 1B, 3A, 3B, 6A, 6B	Alternative 4	Alternative 5	Proposed Project
Total Recreational Value	\$ 17,133,957	\$ 9,795,032	\$ 17,530,528	\$ 189,480,601
<b>Total Recreational Value (PV)</b>	<b>\$ 12,144,931</b>	<b>\$ 7,366,662</b>	<b>\$ 12,428,050</b>	<b>\$ 124,237,016</b>
Total Spending	\$ 44,236,349	\$ 27,195,247	\$ 44,236,349	\$ 553,005,680
Total Spending (PV)	\$ 31,150,156	\$ 20,063,427	\$ 31,150,156	\$ 362,451,579
Sales Tax and TOT	\$ 3,169,773	\$ 1,941,830	\$ 3,169,773	\$ 39,762,167
Sales Tax and TOT (PV)	\$ 2,232,585	\$ 1,433,692	\$ 2,232,585	\$ 26,061,145

This study is based on site visits to Broad Beach and Zuma Beach, interviews with recreational users, and previous studies conducted by Dr. King and others. Moffatt and Nichol provided data on changes in beach width and other geomorphology.

## 1. PROJECT SUMMARY

The purpose of this study is to provide an analysis of the change in recreational value created by a several alternate nourishment projects at Broad Beach (Malibu) California. The projects analyzed in this report are as follows:

- No Project
- Proposed Nourishment Project
- Hard Structure Alternatives (1A, 1B, 2, 3A, 3B, 6A and 6B)
- Alternative 4 (Smaller, more frequent nourishment)
- Alternative 5 (Dune backed beach with no hard structure).

The proposed project has the following components:

- Retention of the 2010 revetment in its current location
- Retention of pre-2010 unpermitted development behind the 2010 revetment
- Burial of the 2010 revetment with 100,000 cy of sand to create new dune habitat
- Placement of 500,000 cubic yards for beach creation
- As-needed beach maintenance activities on at least a yearly basis and
- One renourishment event of up to 450,000 cy after 10 years.

The analysis Moffatt & Nichol provided all technical data for the project, in particular data on the beach width. This report also differs from my previous report because the baseline condition was changed to 2005. Beach width (and resulting attendance) was adjusted accordingly. Since Zuma Beach is directly adjacent to Broad Beach and will be influenced by the project, the analysis includes Zuma Beach.

The analysis considered the fact that nourishment involves beach closings during off-season weekdays as well as annual back-passing for up to three weeks, also during off-season weekdays. Ultimately, it was determined that these factors would have a very minimal impact on recreational value, especially given the possibility for substitution.

The analysis did take into account empirical data that dune-backed beaches are often preferred to beaches backed by hardened structures. The hard-structure alternatives were assumed to have similar recreational impacts—there is no significant literature which allows one to make distinctions.

This study is based on limited data. Improved attendance data, as well as refined modeling of effective recreational beach width and crowding would likely alter the estimates presented in this study.

The public benefits analyzed in this report are such benefits as understood in the field of economics and in the Lands Commission context. No opinion is expressed here regarding the general and special benefit of this project within the meaning of the GHAD assessment laws and

Proposition 218. Analysis of the special and general benefit arising from the beach replenishment project appears in the assessment engineer's report dated

## **SITE VISITS**

A site visit was conducted on Friday, June 29 and again on Saturday, June 30, 2012 to Broad Beach and Zuma Beach (Malibu). The purpose of the site visits was to estimate current use patterns and interview people with local expertise (e.g., lifeguards) on visitation patterns. Three counts per day were conducted at 10 am, 1pm and 4pm. The weather was fairly characteristic at both sites for this time of year. Temperatures peaked in the low-to-mid 70s with haze in the morning leading to clear and sunny skies by mid-day. Wind was calm in the morning, gaining strength in the early afternoon (10-15 mph).

## 2. BEACH CHARACTERISTICS

Beach widths/profiles at Broad Beach were adjusted to reflect 2005 conditions

### ACCESSIBILITY

Broad Beach can be accessed by car via Broad Beach Rd, which is a frontage road off of Highway One. There is unmarked street parking scattered across Broad Beach Rd. During the site visit there were no apparent parking capacity constraints. A majority of parked cars appeared to be related to construction work; in addition, a handful of cars (likely beach users) were parked adjacent the beach access points.

Primary beach access for Broad Beach comes from two pedestrian walkways that connect the frontage road to the beach. The first access point is approximately 3,000 ft. from the Highway One-Broad Beach Road Intersection. The second access point is approximately 1,250 ft. north of the first access way. While most users access the beach via one of these two walkways, homeowners on Broad Beach Rd. have their own private access and there are a small number of people that park on Highway One or in the fee parking lot at Zuma and walk to Broad Beach.



Figure 1. Parking on the frontage road to Broad Beach is adequate for additional beach users



**Figure 2. Broad Beach access at the second stairway can be impeded at high tide**

Zuma Beach can be accessed by public bus or car. A fee parking lot stretches across nearly the entire reach of beach. Street parking is also available on Highway One. Visitors tend to park on the street first, and then in the paid lot as a secondary option. There is parking for approximately 500 vehicles on HWY One and for another 2,000 vehicles in the fee lot.



**Figure 3. Zuma Beach parking on HWY One**

## AMENITIES

Broad Beach's amenities are very limited; trashcans are provided at the entrance of the two access pathways.

Zuma Beach provides the full array of amenities one would expect at a prime urban beach including lifeguard stations (15), restrooms and showers (6), snack shops (2), volleyball courts (15) and a boardwalk.



**Figure 4. Much of Zuma Beach abuts the fee parking lot and people lay their towel down away from the lot, effectively narrowing recreational beach width**

## RECREATION

The primary recreation observed at Broad Beach was for surfers, who recreate near the access points, and walkers. Most other users are sunbathers. Surfers and walkers are the primary users in the morning, and walkers and sunbathers represent the majority of mid-day users.

Zuma Beach provides a number of formal and informal recreational activities. Surfing is allowed across the entire reach of beach during the morning, but is restricted to the northern and southern end of the beach from approximately 12-5pm. There are approximately one dozen volleyball courts at the south end of the beach, with a handful of other courts scattered across

the remaining stretch of the beach. The beach also provides recreation for a number of waders, body surfers, and people throwing the Frisbee, football, etc.

Separating the parking lot from the beach is a boardwalk/pathway that hosts runners, walkers and beach cruisers. Approximately 20-25 percent of visitors were in the water (including surfers) at the time of the site visits. Interviews indicate that during the weekdays there are a number of children on the beach for sports camps and field trips, including a Monday-Friday child surf camp at the west end of beach that has on average 60-80 participants.



Figure 5. Zuma Beach is moderately crowded, with the density of people varying across the shoreline reach

#### ATTENDANCE

Lifeguards noted that attendance on Friday, June 29, 2012 and Saturday, June 30, 2012, represented an average summer day for that period of time. Lifeguards estimated that on busier weekend days, attendance is twice as high as on an average weekday, and that on a

holiday like July 4<sup>th</sup> attendance can be four to five times greater than an average summer weekday.

The official attendance count for Zuma Beach, provided by LA County, is approximately seven million visitors per year (Dwight et al. 2007). However, as with most official counts, these estimates are based on a methodology developed decades ago that cannot be verified. King and McGregor (2012) conclude that official beach counts in California are almost always too high, often by a factor of 5 or more. The counts conducted at this site visit, as well as an analysis of parking capacity indicates that the official estimate of 7 million visitors is not feasible. This number would represent nearly 20,000 visitors per day throughout the year.

Since almost all visitors come by vehicle, we can estimate carrying capacity fairly easily. At a person per-vehicle multiplier of 2 to 4 and a vehicle turnover of 1.5 to 2.5 (King and McGregor 2012), the approximate carrying capacity is 5 to 10 thousand visitors at a single point in time, and from 7.5 to 25 thousand visitors over a single day. The counts conducted during this visit account for seasonality, turnover, etc. (Banzhaf 1996; Wallmo 2003; King and McGregor 2012; Dwight et al. 2007) indicate that visitation is probably closer to 1.5 million.<sup>1</sup> However, given the limitations of one site visit, the analysis below assumes an annual attendance of 2 million.

We also divided Zuma Beach into three sub-reaches: East Zuma (0-4,000 ft. from Point Dume), Central Zuma (4,000-8,000 ft.), and West Zuma (8,000-12,000 ft. leading up to Broad Beach). Based on counts and interviews with lifeguards, we estimate that 25% of visitors recreate on West Zuma, where a majority of the benefits are expected.

Based on current counts and interviews with local visitors, we estimate that the current attendance at Broad Beach is approximately 10,000 visitors per year, though it should be added that this estimate is based on very limited data and information. However, it is clear that the almost complete lack of a high tide beach, limited amenities and limited access imply that Broad Beach receives few visitors per year.

Veteran Zuma Beach lifeguards commented that prior to the rocks being placed on Broad Beach it was much wider, attracting more visitors that it currently does. Yet, one wouldn't expect more than 150 or so visitors on a busy day – most being locals. Lifeguards attributed the small visitation numbers to limited access.

We also spoke to a number of Broad Beach users, including a local surf instructor who grew up in the area. It was noted that when the beach was wider attendance was more significant but that you would rarely see more than 100 plus people on a busy day. The relatively small number of visitors was related to the limited access points and the local nature of the beach, including a past history of homeowners hiring private security to drive all terrain vehicles on the

---

<sup>1</sup> See the appendix for further discussion on estimating beach attendance.

beach to patrol use. A few visitors also noted that they don't use the beach as often as they previously did, in part because of the guessing game with the tides that can swallow the beach and prevent safe access.

#### 4. ESTIMATING RECREATIONAL VALUE

My previous report (November 2012) develops the methodology used here in more detail. The same methodology was applied here, adjusted for 2005 project conditions. I have revised my prior estimates of the economic benefits/costs of several new proposed alternatives for Broad Beach. My methodology is similar to that in my previous memos with the following exceptions:

- The baseline for Broad Beach was altered as requested and the beach widths and baseline attendance have changed accordingly. Beach width estimates for Broad Beach and Zuma were provided by Moffatt and Nichol. As before, I divided Zuma into three reaches, West, Central and East.
- Alternative 5 does not include a hard structure. There is some (limited) evidence that beach visitors prefer beaches backed by dunes as opposed to revetments or seawalls. My analysis assumes that the recreational value of a dune-backed structure is approximately 15% higher than for a beach backed by a revetment or seawall.<sup>2</sup> The aesthetics of these structures may also play a role, particularly for seawalls.

Although there were a number of alternatives, the beach widths for alternatives 1A, 1B, 2, 3A, 3B, 6A and 6B were essentially the same.<sup>3</sup> Alternative 5 had similar beach widths but did not involve a hard structure, which increased economic benefits (see above). Finally, alternative 4, which involves more frequent smaller nourishment cycles, had different beach widths.

Tables 1 to 5 below present estimates of the total economic benefits and impacts of the project alternatives.

---

<sup>2</sup> The literature on this subject is small and somewhat inconclusive. The most detailed study is "An Economic Evaluation of Beach Erosion Management Alternatives," by Landry, Keeler and Kriesel (Marine Resource Economics, v. 18, pp. 105-127, 2003). They study alternatives on Tybee Island, Georgia and conclude that visitors prefer alternatives without hard structures (by approximately 25%). Phillips and Yvonne conducted a similar study in New Zealand (see: "When the Tide is High: Estimating the Welfare Impact of Coastal Erosion Management," New Zealand Agricultural and Resource Economics Society, 2011 Conference) and also found a preference against hard structures though the percentage was smaller. On the other hand, King and McGregor recently surveyed beach visitors in Santa Barbara and Ventura counties and found little evidence that hard structures influenced beach visitors preferences (see Surveying beach visitor Perceptions of Environmental Quality and Management in Santa Barbara County and Ventura County: A report on summary findings from a beach intercept survey" Prepared for: Beach Erosion Authority for Clean Oceans and Nourishment, Fall 2013).

<sup>3</sup> Alternative 1A was slightly different in year 10 and 20 (-6 ft as opposed to -8 ft). However the difference in economic benefits was on the order of 0.1%, which is well within any margin of error so 1A was grouped with 1B, 2, 3A, 3B, 6A and 6B.

**Table 1: Total Benefits of No Project Alternative**

<b>No Project Alternative</b>	<b>Broad Beach</b>	<b>Zuma West</b>	<b>Zuma Central</b>	<b>Zuma East</b>	<b>Total</b>
Total Recreational Value	\$ 1,095,719	\$129,682,547	\$ 333,671,835	\$ 81,443,061	\$ 545,893,162
Total Recreational Value (PV)	\$ 829,432	\$ 85,170,426	\$ 217,844,697	\$ 52,977,330	\$ 356,821,885
Total Spending	\$ 5,011,093	\$397,457,010	\$ 984,508,689	\$ 250,869,741	\$ 1,637,846,534
Total Spending (PV)	\$ 3,555,885	\$260,833,735	\$ 643,030,162	\$ 163,373,177	\$ 1,070,792,959
Sales Tax and TOT	\$ 350,728	\$ 28,581,952	\$ 70,798,047	\$ 18,040,560	\$ 117,771,288
Sales Tax and TOT (PV)	\$ 248,878	\$ 18,757,091	\$ 46,241,623	\$ 11,748,502	\$ 76,996,094

**Table 2: Total Benefits of Alternatives 1A, 1B, 3A, 3B, 6A, 6B**

<b>Alternatives 1A, 1B, 3A, 3B, 6A, 6B</b>	<b>Broad Beach</b>	<b>Zuma West</b>	<b>Zuma Central</b>	<b>Zuma East</b>	<b>Total</b>
Total Recreational Value	\$ 2,379,424	\$145,211,719	\$ 335,379,230	\$ 80,056,745	\$ 563,027,119
Total Recreational Value (PV)	\$ 1,698,713	\$ 95,628,162	\$ 219,318,032	\$ 52,321,908	\$ 368,966,816
Total Spending	\$ 10,919,476	\$435,181,377	\$ 988,541,531	\$ 247,440,499	\$ 1,682,082,883
Total Spending (PV)	\$ 7,452,109	\$286,228,307	\$ 646,510,834	\$ 161,751,865	\$ 1,101,943,115
Sales Tax and TOT	\$ 764,259	\$ 31,294,789	\$ 71,088,057	\$ 17,793,956	\$ 120,941,061
Sales Tax and TOT (PV)	\$ 521,576	\$ 20,583,267	\$ 46,491,926	\$ 11,631,910	\$ 79,228,678

**Table 3: Total Benefits of Alternative 4**

<b>Alternative 4</b>	<b>Broad Beach</b>	<b>Zuma West</b>	<b>Zuma Central</b>	<b>Zuma East</b>	<b>Total</b>
Total Recreational Value	\$ 2,705,979	\$141,671,040	\$ 331,651,990	\$ 79,659,186	\$ 555,688,194
Total Recreational Value (PV)	\$ 1,907,114	\$ 93,140,786	\$ 217,043,453	\$ 52,097,194	\$ 364,188,548
Total Spending	\$ 12,211,272	\$426,642,050	\$ 979,732,955	\$ 246,455,504	\$ 1,665,041,781
Total Spending (PV)	\$ 8,296,707	\$280,229,078	\$ 641,135,493	\$ 161,195,107	\$ 1,090,856,386
Sales Tax and TOT	\$ 854,672	\$ 30,680,708	\$ 70,454,614	\$ 17,723,123	\$ 119,713,118
Sales Tax and TOT (PV)	\$ 580,690	\$ 20,151,850	\$ 46,105,374	\$ 11,591,872	\$ 78,429,786

**Table 4: Total Benefits of Alternative 5**

<b>Net Benefits Alternative 5</b>	<b>Broad Beach</b>	<b>Zuma West</b>	<b>Zuma Central</b>	<b>Zuma East</b>	<b>Total</b>
Total Recreational Value	\$ 1,680,276	\$ 15,529,172	\$ 1,707,395	\$ (1,386,316)	\$ 17,530,528
<b>Total Recreational Value (PV)</b>	<b>\$ 1,152,400</b>	<b>\$ 10,457,736</b>	<b>\$ 1,473,336</b>	<b>\$ (655,422)</b>	<b>\$ 12,428,050</b>
Total Spending	\$ 5,908,383	\$ 37,724,367	\$ 4,032,842	\$ (3,429,242)	\$ 44,236,349
Total Spending (PV)	\$ 3,896,224	\$ 25,394,572	\$ 3,480,672	\$ (1,621,312)	\$ 31,150,156
Sales Tax and TOT	\$ 413,530	\$ 2,712,837	\$ 290,010	\$ (246,604)	\$ 3,169,773
Sales Tax and TOT (PV)	\$ 272,698	\$ 1,826,176	\$ 250,302	\$ (116,592)	\$ 2,232,585

**Table 5: Total Benefits of Proposed Project**

<b>Proposed Project</b>	<b>Broad Beach</b>	<b>Zuma West</b>	<b>Zuma Central</b>	<b>Zuma East</b>	<b>Total</b>
Total Recreational Value	\$ 2,123,047	\$ 317,994,143	\$ 335,199,828	\$ 80,056,745	\$ 735,373,763
Total Recreational Value (PV)	\$ 1,459,511	\$ 208,052,770	\$ 219,224,712	\$ 52,321,908	\$ 481,058,901
Total Spending	\$ 7,930,602	\$ 947,364,092	\$ 988,117,021	\$ 247,440,499	\$ 2,190,852,214
Total Spending (PV)	\$ 5,374,501	\$ 619,828,156	\$ 646,290,016	\$ 161,751,865	\$ 1,433,244,538
Sales Tax and TOT	\$ 555,066	\$ 68,126,903	\$ 71,057,530	\$ 17,793,956	\$ 157,533,455
Sales Tax and TOT (PV)	\$ 376,164	\$ 44,573,119	\$ 46,476,046	\$ 11,631,910	\$ 103,057,239

In order to make a proper comparison of alternatives, one typically examines the net benefits of each project compared to the baseline (no project). Tables 6 to 9 present the net benefits of each alternative. The most important estimate is the present value of net economic benefits at Broad Beach and for Broad Beach and Zuma (total). Note that some of the net benefits at Zuma East and Central are negative, reflecting a narrower beach (as one goes east) compared to the baseline.

**Table 6: Net Benefits of Alternatives 1A, 1B, 3A, 3B, 6A, 6B**

<b>Net Benefits Alternatives 1A, 1B, 3A, 3B, 6A, 6B</b>	<b>Broad Beach</b>	<b>Zuma West</b>	<b>Zuma Central</b>	<b>Zuma East</b>	<b>Total</b>
Total Recreational Value	\$ 1,283,706	\$ 15,529,172	\$ 1,707,395	\$ (1,386,316)	\$ 17,133,957
<b>Total Recreational Value (PV)</b>	<b>\$ 869,281</b>	<b>\$ 10,457,736</b>	<b>\$ 1,473,336</b>	<b>\$ (655,422)</b>	<b>\$ 12,144,931</b>
Total Spending	\$ 5,908,383	\$ 37,724,367	\$ 4,032,842	\$ (3,429,242)	\$ 44,236,349
Total Spending (PV)	\$ 3,896,224	\$ 25,394,572	\$ 3,480,672	\$ (1,621,312)	\$ 31,150,156
Sales Tax and TOT	\$ 413,530	\$ 2,712,837	\$ 290,010	\$ (246,604)	\$ 3,169,773
Sales Tax and TOT (PV)	\$ 272,698	\$ 1,826,176	\$ 250,302	\$ (116,592)	\$ 2,232,585

**Table 7: Net Benefits of Alternative 4**

<b>Net Benefits Alternative 4</b>	<b>Broad Beach</b>	<b>Zuma West</b>	<b>Zuma Central</b>	<b>Zuma East</b>	<b>Total</b>
Total Recreational Value	\$ 1,610,260	\$ 11,988,493	\$ (2,019,845)	\$ (1,783,875)	\$ 9,795,032
<b>Total Recreational Value (PV)</b>	<b>\$ 1,077,682</b>	<b>\$ 7,970,360</b>	<b>\$ (801,244)</b>	<b>\$ (880,135)</b>	<b>\$ 7,366,662</b>
Total Spending	\$ 7,200,178	\$ 29,185,040	\$ (4,775,734)	\$ (4,414,237)	\$ 27,195,247
Total Spending (PV)	\$ 4,740,823	\$ 19,395,343	\$ (1,894,669)	\$ (2,178,070)	\$ 20,063,427
Sales Tax and TOT	\$ 503,943	\$ 2,098,756	\$ (343,433)	\$ (317,437)	\$ 1,941,830
Sales Tax and TOT (PV)	\$ 331,812	\$ 1,394,759	\$ (136,250)	\$ (156,629)	\$ 1,433,692

**Table 8: Net Benefits of Alternative 5**

<b>Net Benefits Alternative 5</b>	<b>Broad Beach</b>	<b>Zuma West</b>	<b>Zuma Central</b>	<b>Zuma East</b>	<b>Total</b>
Total Recreational Value	\$ 1,680,276	\$ 15,529,172	\$ 1,707,395	\$ (1,386,316)	\$ 17,530,528
<b>Total Recreational Value (PV)</b>	<b>\$ 1,152,400</b>	<b>\$ 10,457,736</b>	<b>\$ 1,473,336</b>	<b>\$ (655,422)</b>	<b>\$ 12,428,050</b>
Total Spending	\$ 5,908,383	\$ 37,724,367	\$ 4,032,842	\$ (3,429,242)	\$ 44,236,349
Total Spending (PV)	\$ 3,896,224	\$ 25,394,572	\$ 3,480,672	\$ (1,621,312)	\$ 31,150,156
Sales Tax and TOT	\$ 413,530	\$ 2,712,837	\$ 290,010	\$ (246,604)	\$ 3,169,773
Sales Tax and TOT (PV)	\$ 272,698	\$ 1,826,176	\$ 250,302	\$ (116,592)	\$ 2,232,585

**Table 9: Net Benefits of Proposed Project**

<b>Net Benefits Proposed Project</b>	<b>Broad Beach</b>	<b>Zuma West</b>	<b>Zuma Central</b>	<b>Zuma East</b>	<b>Total</b>
Total Recreational Value	\$ 1,027,328	\$ 188,311,596	\$ 1,527,993	\$ (1,386,316)	\$ 189,480,601
Total Recreational Value (PV)	\$ 630,079	\$ 122,882,343	\$ 1,380,016	\$ (655,422)	<b>\$ 124,237,016</b>
Total Spending	\$ 2,919,508	\$ 549,907,082	\$ 3,608,332	\$ (3,429,242)	\$ 553,005,680
Total Spending (PV)	\$ 1,818,617	\$ 358,994,420	\$ 3,259,854	\$ (1,621,312)	\$ 362,451,579
Sales Tax and TOT	\$ 204,338	\$ 39,544,951	\$ 259,483	\$ (246,604)	\$ 39,762,167
Sales Tax and TOT (PV)	\$ 127,286	\$ 25,816,028	\$ 234,423	\$ (116,592)	\$ 26,061,145

Overall, the Proposed Project has the highest net benefits.

### 3. LIMITATIONS OF THE STUDY

This study is based on limited data. In particular, our estimate of attendance at Zuma Beach and our estimates of the distribution of this attendance across reaches is limited and changes in these estimates could significantly alter the estimates in this study. Our knowledge of Broad Beach attendance is also limited, but as this analysis shows, almost all of the recreational benefits will occur at Zuma Beach. Our estimates are also based on the erosion model created by Moffatt and Nichol, which they have said is conservative.

Our model for Zuma also uses the estimates of “dry beach” width at Zuma. However, the recreational beach width may be somewhat lower given that the beach abuts a parking lot and

50 feet are coned off. Reducing the effective recreational width would increase the benefits of these projects. We also have not adequately modeled the reduction in crowding (again due to limited time and data). Adding beach width (up to 300 ft.) not only adds recreational value because people prefer medium width beaches; it can also reduce crowding. Zuma beach is not as crowded as some other heavily recreated beaches such as Huntington Beach, but some reduction in crowding would likely also increase recreational benefits.

#### 4. REFERENCES

Banzhaf, S.H. (1996). Estimating Recreational Use Levels with Periodic Counts. Working Paper T-9602. Duke University, Triangle Economic Research.

California Coastal Commission. (1997). California Coastal Access Guide. Berkeley: University of California Press.

Chapman, D.J., Hanemann, M.W. (2001). Environmental damages in court: the American trader case. In: Heyes, Anthony (Ed.), *The Law and Economics of the Environment*. Edward Elgar, Massachusetts.

Dwight, R.H., Brinks, M.V., Sharavana Kumar, G., Semenza, J.C. (2007). Beach attendance and bathing rates for Southern California beaches. *Journal of Ocean and Coastal Management* 50 (10), 847e858.

Deacon, R., Kolstad, C. (2000). Valuing beach recreation lost in environmental accidents. *Journal of Water Resources Planning and Management* 126 (6), 374e381.

Hanemann, M.W., Pendleton, L., Mohn, C. (2001). Summary Report on Beach Activity by Wave: A Report on Data Collected from the Southern California Beach Valuation Project.

King, P.G. (1999). The fiscal impact of beaches in California. Public Research Institute, San Francisco University. Report Commissioned by California Department of Boating and Waterways.

King, P.G. (2001). Overcrowding and the Demand for Public Beaches in California. Prepared for the Department of Boating and Waterways, April 2001.

King, P.G., & Symes, D. (2004). Potential loss in GNP and GSP from a failure to maintain California's beaches. *Shore and Beach*, 72(1), 3-8.

King, P.G. (2005). The Economic and Fiscal Impact of Carlsbad's Beaches: A Survey and Estimate of Attendance. Prepared for the City of Carlsbad's Beach Preservation Committee.

King, P.G. (2006a). Estimating Beach Attendance and Calibrating the Beach Counters in the City of Encinitas. Prepared for the City of Encinitas

King, P.G. (2006b). The Economics of Regional Sediment Management in Ventura and Santa Barbara Counties: A Pilot Study. Prepared for the California Department of Boating and Waterways.

King, P.G., McGregor, A.R., Whittet, J. (2011). The economic costs of sea-level rise to California beach communities. Prepared for the California Department of Boating and Waterways.

King, P.G., & McGregor, A.R. (2012). Who's counting: An analysis of beach attendance estimates and methodologies in southern California. *Ocean and Coastal Management*, 58, 17-25.

King, P.G., & McGregor, A.R. (2013). Surveying beach visitor Perceptions of Environmental Quality and Management in Santa Barbara County and Ventura County: A report on summary findings from a beach intercept survey" Prepared for: Beach Erosion Authority for Clean Oceans and Nourishment.

Landry, C. E., Keeler, A.G., and Kreisel, W. (2003). An Economic Evaluation of Beach Erosion Management Alternatives. *Marine Resource Economics* 18: 105-127.

National Oceanographic and Atmospheric Administration, Southern California Beach Project, <http://marineeconomics.noaa.gov/SCbeaches/welcome.html>.

Nelsen, C., Pendleton, L., Vaughn, R. (2007). A socio-economic study of surfers at Trestle's beach. *Shore and Beach* 75 (4), 32e37.

Pendleton, L., P, King., Mohn, C., Webster, D.G., Vaughn, R., & Adams, A. (2011). Estimating the potential economic impacts of climate change on Southern California beaches. *Climatic Change*, 109(S1), 277-298.

Pendleton, L., Mohn, C., Vaughn, R.K., King, P., & Zoulas, J.G. (2012). Size matters: the economic value of beach erosion and nourishment in Southern California. *Contemporary Economic Policy*, 30(2), 223-237.

Phillips and Yvonne. (2011). "When the Tide is High: Estimating the Welfare Impact of Coastal Erosion Management," New Zealand Agricultural and Resource Economics Society, 2011 Conference.

Wallmo, K., 2003. Assessment of Techniques for Estimating Beach Attendance. Prepared for the Damage Assessment Center: National Oceanic and Atmospheric Administration.

# **BROAD BEACH RESTORATION PROJECT**

## **SURFING IMPACT ANALYSIS**

**Prepared for:**

**Broad Beach Geologic Hazard Abatement District**

**Prepared by:**



**moffatt & nichol**

**Moffatt & Nichol**

**3780 Kilroy Airport Way, Suite 600**

**Long Beach, CA 90806**

**November 2013**

# SURFING IMPACT ANALYSIS BROAD BEACH RESTORATION PROJECT

---

## Contents

1.0	INTRODUCTION .....	1
2.0	EXISTING SURFING CONDITIONS .....	3
2.1	Literature Review .....	3
2.1.1	Broad Beach .....	3
2.1.2	Zuma Beach.....	5
2.2	Site Observations.....	5
2.2.1	Quality of the Surf.....	7
2.2.2	Site Access.....	11
3.0	SURFING CONDITIONS AFTER THE PROPOSED BROAD BEACH PROJECT .....	12
4.0	CONCLUSIONS.....	15
5.0	REFERENCES .....	17

## Figures

Figure 1.	Surfing at Lechuza Point Pre-1995 .....	4
Figure 2.	Aerial Photograph of Surfers at Zuma on August 26, 2012 (Image source: Google Earth).....	6
Figure 3.	Aerial Photograph of Surfers at Zuma on December 24, 2004 (Image source: Google Earth).....	7
Figure 4.	Comparison of Beach Profiles at Zuma (406) and Broad Beach (410) on May 16, 2013 (Source: Coastal Frontiers Corporation 2013).....	8
Figure 5.	Locations of Beach Profiles at Zuma and Broad Beach (Circles are Profiles in Previous Figure).....	9
Figure 6.	Aerial Photograph of Zuma and Broad Beaches on April 26, 2011 (Source: Google Earth).....	10
Figure 7.	Bathymetry at Lechuza Point Showing Deep Spots (Image Source: Google Earth) .....	13
Figure 8.	Bathymetry at Lechuza Point Showing Hypothetical Filling of the Deep Spots With Sand (Image Source: Google Earth).....	13



# **SURFING IMPACT ANALYSIS**

## **BROAD BEACH RESTORATION PROJECT**

---

### **1.0 Introduction**

This qualitative surfing analysis for Broad Beach is based on comparing the proposed project with existing and historic site conditions, and identifying and assessing potential impacts (both positive and negative). Surf quality is somewhat subjective as it is contingent on personal preference regarding various wave types and human skill level. However, generally speaking, good wave quality is associated with ride length along the wave face and the ability to generate speed / perform maneuvers. Poor quality is correlated with short ride lengths or unridable conditions and, thus, the inability to generate speed / perform maneuvers.

In order for the reader to understand some of the terms used to describe surfing in this report, the following terms are defined:

- Close-out – Wave that does not peel, but rather dumps all along its length, preventing long rides.
- Point – Physical topographic/bathymetric protrusion into the coastal zone, e.g., a rocky river delta.
- Beach break – A sand-bottom surf break depending on shifting sand bars to provide variable bathymetry for generating ridable waves.
- Backwash – A return wave directed from the beach back to the sea that presents a bump on the surface throughout higher tides. Backwash can render surf unridable if its magnitude is great.
- Sand bar – Physical collection of sand on the seabed formed under natural processes of sand transport and deposition.

The popularity of a given surf site is generally a function of the quality of the surf and access to the site. The quality of the surf at a site dictates the draw of surfers. Site access conditions can also result in patterns of use; however, it does not independently determine the use of a surf break. A high quality surf spot with poor access (e.g. Black's Beach, Trestles) will retain high use. In contrast, a low to medium quality surf break with poor access may be surfed infrequently. When combined, these two factors lead to particular use patterns along the southern California coast.



## **SURFING IMPACT ANALYSIS BROAD BEACH RESTORATION PROJECT**

---

Broad Beach is adjacent to Zuma Beach to the west, and both sites provide a sharp contrast in surfing due to different site access conditions and surf quality. The intensity of site use for surfing can be reflected by the number of surfers in the water at a representative day and time. This brief analysis attempts to convey a basic understanding of surfing at Broad Beach, relative to Zuma Beach, to discern the value of the existing surfing resource as compared to possible future conditions.



# **SURFING IMPACT ANALYSIS**

## **BROAD BEACH RESTORATION PROJECT**

---

### **2.0 Existing Surfing Conditions**

According to observations by the engineer and review of historic aerial imagery, surfing at Broad Beach appears sparse to non-existent. Observations of surfing at Broad Beach over time have shown it to be presently limited to relatively small groups of beginners that use it as an opportunity to ride whitewater. Experienced or highly skilled surfers have yet to be observed at Broad Beach by M&N staff during site visits. Counts of the number of surfers at Broad Beach at any one time are less than five along the entire beach. Random informal observations have been made over several years, and through every season. A summary of literature sources and personal site observations are presented below.

#### **2.1 Literature Review**

A literature review and search of the web were performed to obtain information on existing surfing conditions at Broad Beach and Zuma Beach. The literature includes three books and the web search resulted in two websites. The books include:

- Surfing California, A Complete Guide to the California Coast by Bank Wright in 1985;
- The World Stormrider Guide: Volume One by Bruce Sutherland in 2001; and
- Surfline’s California Surf Guide by Sean Collins in 2005.

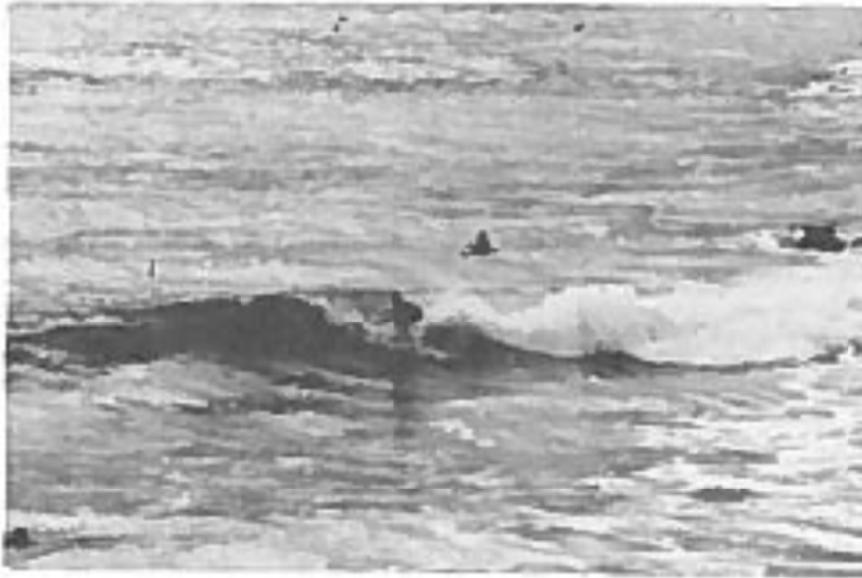
Each book addresses Broad Beach differently, while Zuma is treated similarly between them. Descriptions of each site from the literature are provided below.

##### **2.1.1 Broad Beach**

Wright (1985) describes Lechuza Point at Broad Beach as: “Giant Rock – A fast right. Peaks next to a large rock and peels toward shore. Ridable from 1-4 feet. Larger swells close out. Takes any swell but a south is best. Medium low tide preferred. Note: Although privately-owned, L.A. County had provided a path for public access. Caution: Stay below mean high tide line – property owners get uptight.” An image of Giant Rock (Lechuza Point) from Wright’s book is below as Figure 1.

**SURFING IMPACT ANALYSIS  
BROAD BEACH RESTORATION PROJECT**

---



Above: GIANT ROCK.

**Figure 1. Surfing at Lechuza Point Pre-1995  
(Source: Wright 1995)**

Sutherland (2001) indicates that the recognized surf spot at Broad Beach is at Lechuza Point, otherwise referred to as "Trancas Point" and also as "Giant Rock", depending on the source. Trancas Point is described as a "[R]ocky right point wave at the north end of Zumá Beach. Take-off beside a large rock. Gnarly shorebreak. Good with big swells, the more the better. Also works during big S swells, but the wave doesn't wrap as well."

Collins (2005) does not include Broad Beach and Lechuza Point as surf spots.

These descriptions refer to Lechuza Point at the western end of Broad Beach as the surf spot along Broad Beach, and do not mention the remaining portion of the beach. The fact that Sean Collins does not recognize Lechuza Point as a surf spot may suggest that the location may no longer function as a commonly-surfed area (consistent with personal observations). Although conjectural, it is possible that it was better quality decades ago when beach and nearshore conditions were different than today. More sand was in the littoral system in the past, and this may have actually improved the quality of the surf spot at Lechuza Point by providing a contiguous bathymetry connection from the Point to the beach. The existing variation in bathymetry caused by rocks typically result in shoaling and refraction of the wave that disrupt the peel of the wave. This contiguous, sandy condition is one that is observed in other sandy point breaks throughout the world (e.g., Sandspit – Ventura Harbor, Kirra Point – Australia, Barrá del la Cruz – Mexico).

## **SURFING IMPACT ANALYSIS**

### **BROAD BEACH RESTORATION PROJECT**

---

Popular and comprehensive surf websites were consulted regarding surf conditions at Broad Beach. The results of these references are provided below:

- “[surf-forecast.com](http://surf-forecast.com)” Lechuza Point is described as: “...an exposed point break. The best wind direction is from the north. Most of the surf here comes from groundswells and the ideal swell direction is from the west. Best around mid-tide. It's sometimes crowded here. Submerged rocks are a hazard.”
- “[wannasurf.com](http://wannasurf.com)” - Broad Beach is not included as a surfing location.

#### **2.1.2 Zuma Beach**

Wright (1985) describes Zuma Beach as: “Miles of uncrowded beach break. Shifty peaks...right and left. Ridable on any swell from 1-5 feet. Medium-high tide. Unridable during heavy surf. Conditions are usually perfect when offshores roar out of the mountain canyons. Then its [sic] steep and super hollow. Note: Shape is very unpredictable. Depends on the contour of the shifting sand bottom.”

Sutherland (2001) describes Zuma Beach as: “[W]ide sandy beach with various sandbar peaks that are hollow and always powerful. Goes off during Santa Ana winds, funneled by Trancas and Zuma Canyons, and a peaky SW swell. Holds up to a foot or two overhead. Wicked currents and rips. Use caution. A large pay parking lot borders the entire three mile stretch of beach. Its where all the valley people come for their beach parties. Think Disneyland by the sea.”

Collins (2005) describes Zuma Beach as follows: “The surf: This three-mile long beach serves up a punchy shorepound, with mostly lefts during summer. Great place for bodyboarding, but gets heavy with size and is absolutely nuts over 10 feet. Your best chance is to catch it on a crossed-up swell, stronger from the south, with Santa Ana Winds. At the very southern end of Zuma is a stretch called Westward or Drainpipes, one of the heaviest beachbreaks in Southern California.” Collins continues on to provide this warning: “Heavy shorepound, shallow sandbars...”

The website called “[wannasurf.com](http://wannasurf.com)” characterizes Zuma as being “normal” quality, suitable to all surfers, a manageable crowd, and surfable with moderate frequency ([http://www.wannasurf.com/spot/North\\_America/USA/California/SanDiegoCounty/index.htm](http://www.wannasurf.com/spot/North_America/USA/California/SanDiegoCounty/index.htm)).

#### **2.2 Site Observations**

Site observations since the project work began in 2009 indicate that surfing at Broad Beach and Lechuza Point is not common, with the exception of periodic beginners frolicking in the whitewater. The author carries a surfboard to all project visits and meetings in order to surf the site, and has yet to step foot in the water at Broad Beach.

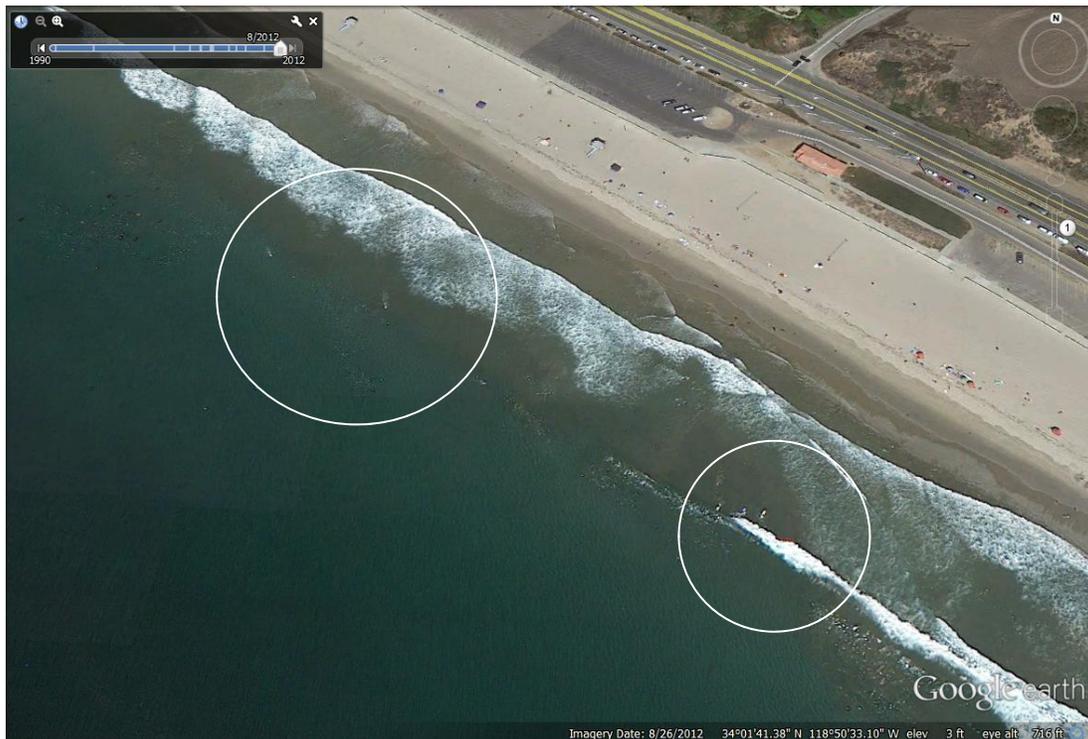


## **SURFING IMPACT ANALYSIS BROAD BEACH RESTORATION PROJECT**

---

The number of days of site observations is approximately 35 to 40. On approximately half of those visits, the author surfed at Zuma Beach because the surf was rideable, while it was not rideable at Broad Beach on those same days.

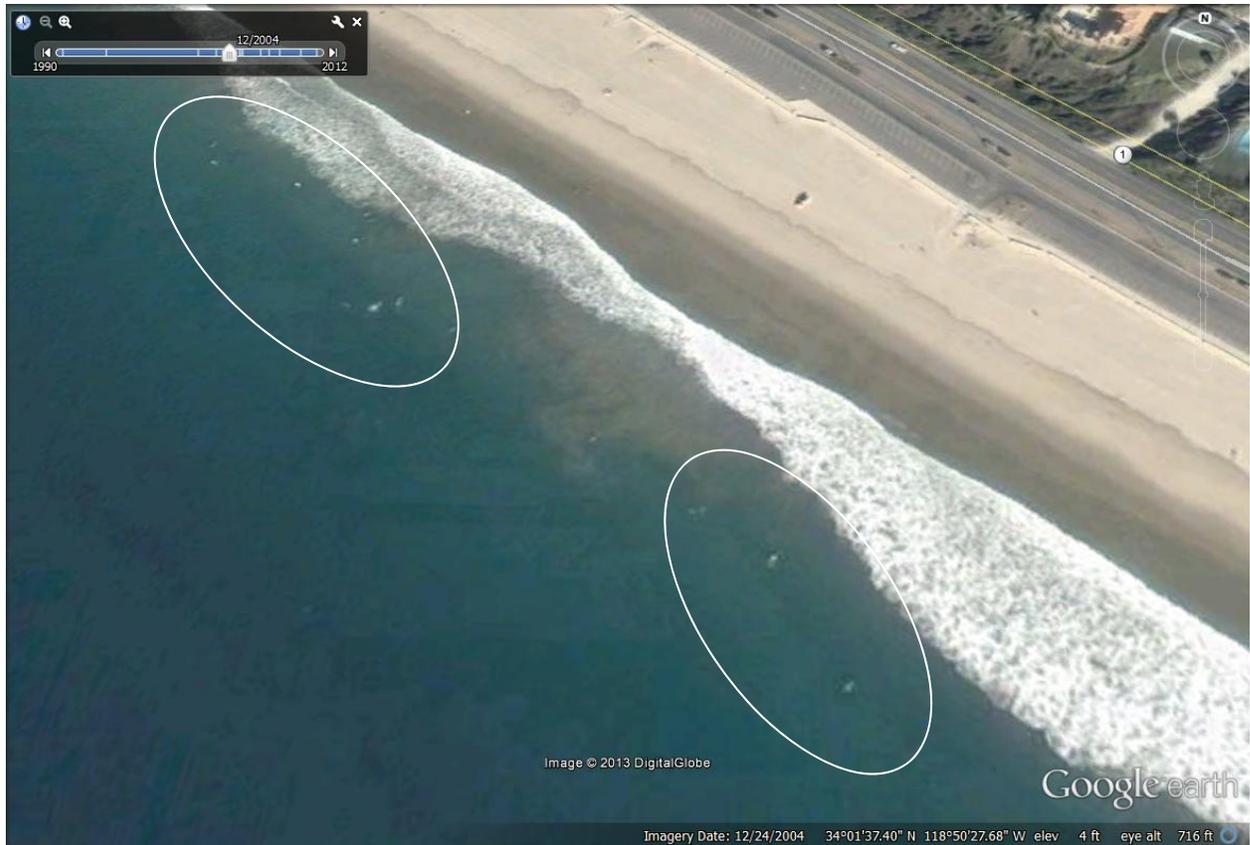
In contrast, site observations of surfing along Zuma Beach indicate that this beach is a fairly popular surf site and highly-used resource. On a typical weekend summer day, the number of surfers at Zuma in the morning can reach approximately fifty (50). On typical off-season weekend days, the number of surfers can still reach similar numbers if surfing conditions are good. Summer surfing is likely more crowded than winter surfing due to the number of school kids able to be present, and the warmer water. In addition, a surf school (Malibu Makos Surf Club) occupies the north end of Zuma throughout the summer, which adds significantly to the number of surfers at Zuma. The engineer's observations do not include the surfing school because it is an aberration in the crowd. However, it does show the usefulness of Zuma as a surfing resource by multiple user groups and levels of skill. Figure 2 and Figure 3 are aerial photographs of Zuma Beach from Google Earth, and show surfers in the water. Broad Beach has no surfers in the water in these same images.



**Figure 2. Aerial Photograph of Surfers at Zuma on August 26, 2012  
(Image source: Google Earth)**

# SURFING IMPACT ANALYSIS

## BROAD BEACH RESTORATION PROJECT



**Figure 3. Aerial Photograph of Surfers at Zuma on December 24, 2004  
(Image source: Google Earth)**

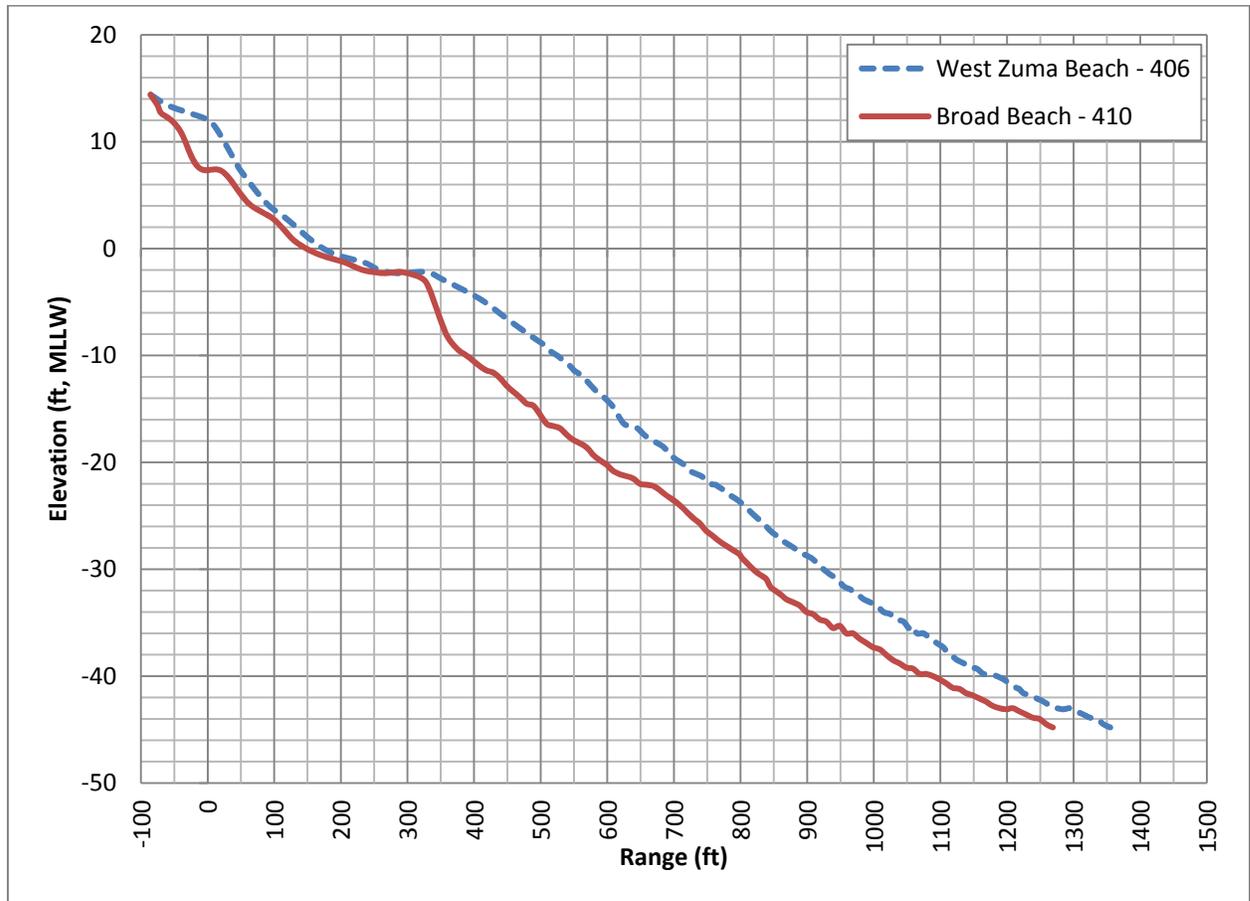
### 2.2.1 Quality of the Surf

Personal experience surfing in the vicinity of both Zuma and Broad Beach indicates that surfing exists along Zuma Beach all the way toward the northwest end near Trancas Creek. The conditions conducive to surfing along Zuma Beach do not extend farther northwest to Broad Beach. It appears that sand bars existing along Zuma are not present along Broad Beach. Sand bars provide for slightly varying bathymetry that causes waves to break in a pattern providing “shoulders” to ride to the right and/or left. Sufficient sand volume must exist in the beach profile to promote formation of sand bars and their variable bathymetry. This is confirmed by the description above of Zuma by Wright (1985) where he refers to conditions at Zuma generally as “...[D]epends on the contour of the shifting sand bottom.” While Zuma Beach apparently possesses sufficient sand in the beach profile for bar formation, apparently Broad Beach does not.

The amount, or volume, of sand along a particular beach is reflected in the beach profile. A beach profile with abundant sand will typically be higher, and the beach will be wider than sites with less sand in the profile. The beach profiles at Zuma and Broad Beach differ significantly, with Zuma exhibiting the higher profile with a significantly

## SURFING IMPACT ANALYSIS BROAD BEACH RESTORATION PROJECT

wider beach than Broad Beach. Typical profiles at Zuma and Broad Beach on the same date are shown in Figure 4. The locations of these profiles along the beach are shown in Figure 5 from CFC (2013) in white circles.



**Figure 4. Comparison of Beach Profiles at Zuma (406) and Broad Beach (410)  
on May 16, 2013  
(Source: Coastal Frontiers Corporation 2013)**

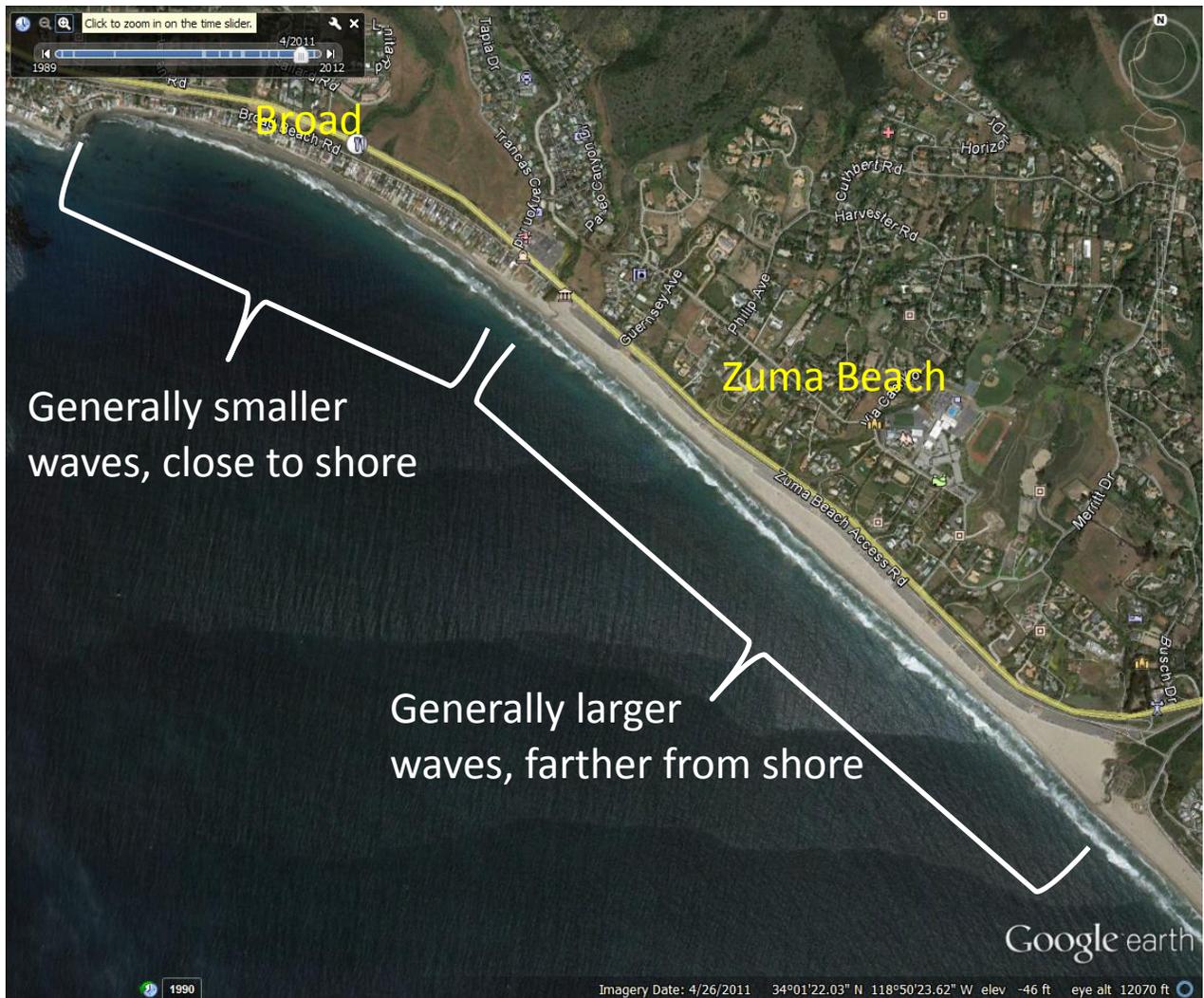
**SURFING IMPACT ANALYSIS  
BROAD BEACH RESTORATION PROJECT**



**Figure 5. Locations of Beach Profiles at Zuma and Broad Beach  
(Circles are Profiles in Previous Figure)  
(Source: Coastal Frontiers Corporation 2013)**

Aerial photographs can also show the presence of more sand on a beach compared to one with less sand. The aerial in Figure 6 shows a wider beach at Zuma than Broad Beach, and development of sand bars in an offshore linear pattern parallel to shore at Zuma with none along Broad Beach. Waves are also breaking farther from shore along Zuma than along Broad Beach in the image.

## SURFING IMPACT ANALYSIS BROAD BEACH RESTORATION PROJECT



**Figure 6. Aerial Photograph of Zuma and Broad Beaches on April 26, 2011  
(Source: Google Earth)**

The presence or absence of sand at a “beach break” type of surf spot leads to variable quality surf conditions between the sites. Zuma Beach possesses more sand than Broad Beach and benefits from the effects of a higher beach profile, wider beach, and more developed sand bars.

Lechuza Point has apparently diminished in surf quality over time as well. An interview with Tony Mark, a 40-year resident surfer at Broad Beach, indicates that historically the Point provided ridable surf more frequently than at the present (Tony Mark, Personal Communication 2013). While it was moderately reliable to provide ridable surf up to a decade ago, since that time the break seems to be less reliable. Sand tends to fill in the protected area shoreward of the Point in winter (counter-intuitively), buries small rocks, and creates a bathymetric condition conducive to producing ridable surf on northwest

## **SURFING IMPACT ANALYSIS**

### **BROAD BEACH RESTORATION PROJECT**

---

swells. The time period of this condition each year was historically from Thanksgiving to March, but now the timeframe is shorter and more rocks are exposed. The quality of the surf break is poorer without the sand influence. Mr. Mark surfed Point Lechuza twice in winter 2013, which is less often than in typical years.

#### **2.2.2 Site Access**

Site access is quite different at Broad Beach and Zuma Beach, and is more conducive to surfing at Zuma. As this condition will not change as a result of the proposed project, less discussion is provided about this factor. Zuma Beach benefits from ample public parking available along Pacific Coast Highway and in the L.A. County Zuma Beach parking lots. Surfers can see the surf from the highway and check it before going out. They can then take a direct and relatively short walk from their car to surf. Amenities such as a shower and restroom also exist at Zuma. These amenities can be an additional attraction for surfers. Broad Beach does not offer any of these amenities. Surfers at Broad Beach must also park on Broad Beach Road and walk from their cars to the beach (either from the east (Zuma) or from one of Broad Beach's two (2) vertical access points to see the surf, and no restrooms or showers are available.



**SURFING IMPACT ANALYSIS**  
**BROAD BEACH RESTORATION PROJECT**

---

### **3.0 Surfing Conditions After the Proposed Broad Beach Project**

The Broad Beach restoration project proposes to place 500,000 cubic yards of sand on the beach between Lechuza Point and Trancas Creek. As virtually no surfing occurs at Broad Beach now, the project should not decrease surfing quality or opportunities compared to existing conditions. Therefore, the project may either not affect surfing at all, or may improve it. As access will not significantly change, that factor is not discussed.

Sand placement along Broad Beach will increase the volume of sand in the beach profile. Increased sand volume at the beach should widen it, raise the profile, and make more sand available for sand bar formation. This fact should provide the *potential* for improved surfing as compared to existing conditions. Theoretically, increased sand volume throughout the surf zone should lead to more and larger sand bars forming at the placement site compared to the present condition. The surf zone should move farther offshore from the beach and become more like that along Zuma Beach, as compared to present Broad Beach. With waves breaking farther from shore and shoaling over more and larger sand bars than presently exist, the surf at Broad Beach may improve. If surfing improves while the existing public access remains unchanged, surfing conditions at Broad Beach could become very desirable to those seeking less crowded conditions. This situation may even draw surfers from Zuma to Broad Beach and spread the crowd out, thereby benefitting surfers at Zuma.

The only other potential change to surfing quality along Broad Beach could be a modification to waves at Lechuza Point. Presently, surfing does not occur regularly at Lechuza Point because the site may no longer possess the needed bathymetry to function as a point or reef break (or combined reef-point, e.g. Sequit and County Line). However, the possibility exists that sand from the project could either become deposited along the point to provide the needed bathymetric connection between the point and the beach to form a reef-point surf break. Alternatively, sand could be intentionally placed in the nearshore near the point to create a breaking wave off of Lechuza Point. This action may contravene desires to protect marine habitat, and would, therefore, need to be weighed carefully prior to any planning actions. Figure 7 shows existing bathymetry at Broad Beach. Lechuza Point appears as the western protrusion. Presently, the bathymetry shows gaps in the contours that signify deep spots along the path of the breaking wave and interruption of the surfer's ride. Filling in these deeper spots along the path of the breaking wave could result in continuation of the bathymetric contours toward the beach at an angle and a continuous rideable wave.



## SURFING IMPACT ANALYSIS BROAD BEACH RESTORATION PROJECT

Surfing at Lechuza Point may actually improve from the project. Figure 8 shows the hypothetical bathymetry modification of sand nourishment at Lechuza Point.

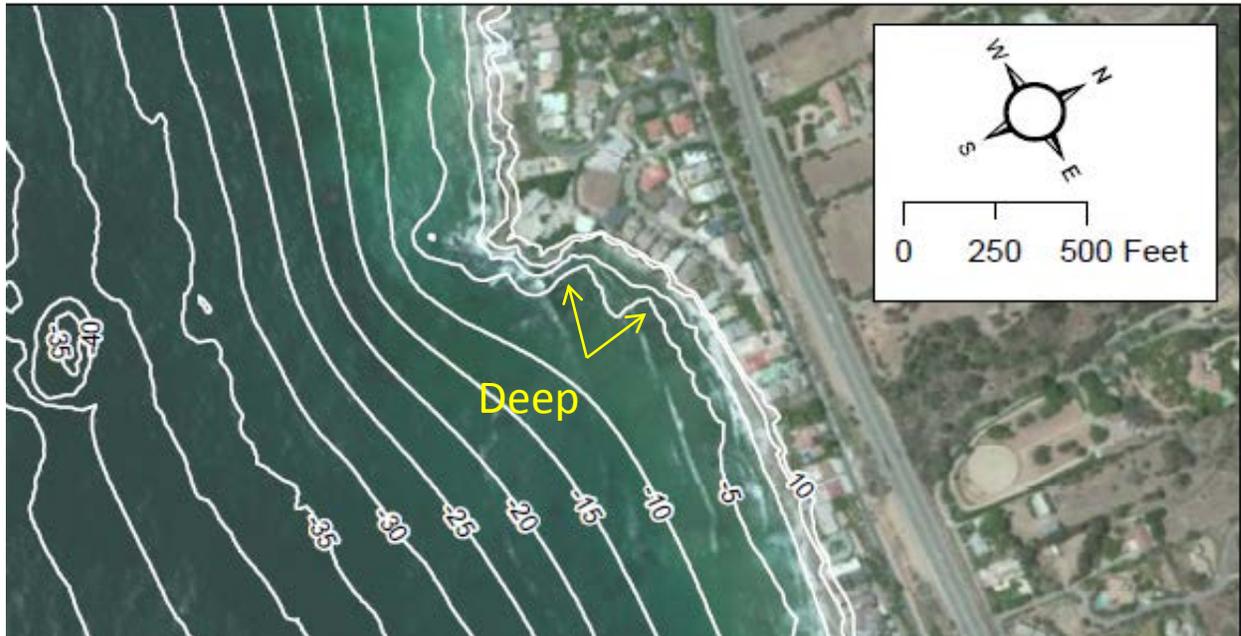


Figure 7. Bathymetry at Lechuza Point Showing Deep Spots  
(Image Source: Google Earth)

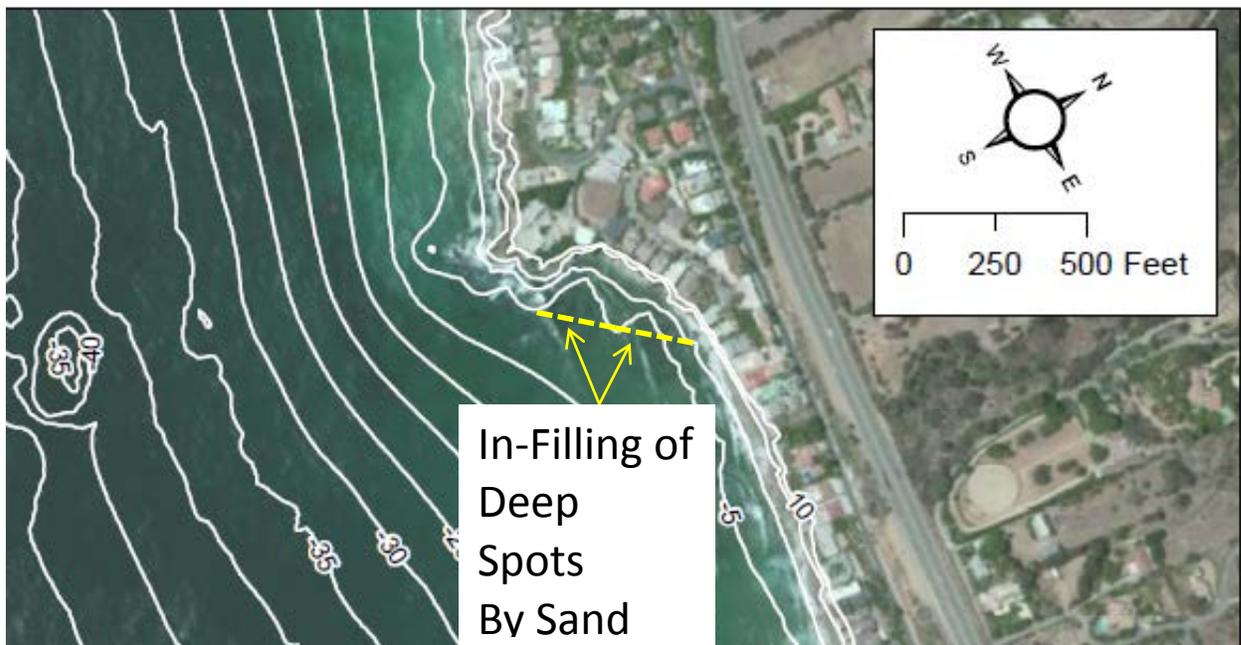


Figure 8. Bathymetry at Lechuza Point Showing Hypothetical Filling of the  
Deep Spots With Sand  
(Image Source: Google Earth)

## **SURFING IMPACT ANALYSIS**

### **BROAD BEACH RESTORATION PROJECT**

---

The Broad Beach project should not impact surfing and may be neutral to surfing. Depending on future conditions, placement of a large sand quantity along the beach may actually benefit surfing in the short and long-term at this location.

Zuma Beach is a fair surfing location that should remain fair after the project, depending on its separate and distinct conditions. Sand from Broad Beach will eventually disperse toward Zuma to supplement existing sand bars. This should improve surfing conditions at Zuma. Coarse sand from the project may steepen the beach profile temporarily along Zuma that may result in backwash at high tide. That condition should not persist long-term, however, and conditions along Zuma should revert to those before the project within a short timeframe.



## **SURFING IMPACT ANALYSIS**

### **BROAD BEACH RESTORATION PROJECT**

---

#### **4.0 Conclusions**

Surfing occurs commonly at Zuma Beach and much less frequently at Broad Beach. The majority of Broad Beach is not noted in the applicable literature as a surfing location; however, Lechuza Point is referred to as a surf spot in relatively older literature (pre-2002). Zuma is recognized as a surf spot in all relevant surfing literature. Site observations support these conclusions. Although the number of observations is limited to approximately 40 days total, surfing at Broad Beach and Lechuza Point has not been observed since the project work began in 2009, with the exception of periodic beginners frolicking in the whitewater. Surfers have been seen at Zuma on virtually every site visit, with few exceptions (during extremely bad weather conditions, i.e., high onshore winds).

Project effects can be expected to consist of an increase of sand volume within the littoral zone that could improve surfing at both Broad Beach and Zuma Beach. Specifically, the reach of Broad Beach between Lechuza Point and Trancas Creek is not currently recognized as a surf spot in the relevant literature, and observations confirm this point. Broad Beach may benefit from more onshore sand to form offshore bars, causing waves to peak and peel. Sand dispersion downcoast to Zuma should also add sand volume to Zuma's sand bars and at a minimum cause existing conditions to remain as is, or to potentially improve.

Lechuza Point is recognized as a surf spot in historic literature, but has not been surfed during site visits by the author or others. The cause of its reduced surfability is not known, but it is hypothesized that less sand in the littoral cell may have modified the bathymetry with relatively deeper bathymetric areas to decrease its wave quality. This site has the potential to be improved by sand infill of these deep spots with sand from nourishment if that were to occur. However, such infill must be weighed against potential habitat concerns.

The proposed Broad Beach restoration project should not adversely impact surfing at Broad Beach. Surfing at Broad Beach appears to be very infrequent and of poor quality. The project may actually benefit surfing at Broad Beach by adding sand to a “beach break” that relies on sand to form offshore bars that result in bathymetric variations and peaky surfing conditions. The project should also not cause adverse impacts to existing and future surfing at Zuma. Sand dispersion from the project may increase the volume of sand at offshore bars along Zuma and improve surfing conditions. The relatively coarse grain size of the nourishment sand may further benefit surfing at beach breaks like Broad Beach and Zuma. This is because coarser-grained material may form more



## **SURFING IMPACT ANALYSIS**

### **BROAD BEACH RESTORATION PROJECT**

---

exaggerated sand bars that are higher from the seabed and steeper-sided, thereby forming a more discernible variation in the site bathymetry.

Temporary impacts may occur by formation of a steeper beach slope along Broad Beach and Zuma after project construction as coarse sand disperses along the beach from the constructed beach profile. As the sand moves downcoast, the beach profile at the placement site and downcoast beaches will equilibrate toward and eventually revert to pre-project conditions. Long-term conditions should not be affected by backwash from project sand.

Lechuza Point is an opportunity to improve conditions for surfing. If project sand infills some of the apparent deep spots downcoast of the Point, then surfing conditions may improve.



**SURFING IMPACT ANALYSIS**  
**BROAD BEACH RESTORATION PROJECT**

---

## 5.0 References

Coastal Frontiers Corporation. 2013. Broad Beach Fall 2012 Beach Profile Survey. March 29, 2013.

Mark, Tony. 2013. Personal Communication with Chris Webb on September 12, 2013.

Sutherland, Bruce. 2001. The World Stormrider Guide: Volume One. Wilderness Press.

Wright, Bank. 1985. Surfing California, A complete guide to the California Coast. Mountain & Sea Publishing.

[URL http://www.surf-forecast.com/breaks/Trancas-Point.](http://www.surf-forecast.com/breaks/Trancas-Point)

URL [http://www.wannasurf.com/spot/North\\_America/USA/California/SanDiegoCounty/index.htm](http://www.wannasurf.com/spot/North_America/USA/California/SanDiegoCounty/index.htm).



# BROAD BEACH VISITOR USE SURVEY

June 2012

## SURVEY OBJECTIVES

The California State Lands Commission (CSLC) is developing an Analysis of Impacts to Public Trust Resources and Values in relation to the proposed Broad Beach Restoration Project. Protection and expansion of public use of public trust resources within the Broad Beach Project area is a primary concern to the CSLC. Analysis of public use and recreation is provided in Section 3.5 Land Use, Recreation, and Public Access. An effort was made to identify and incorporate quantitative data on the amount and types of recreational uses presently and historically within the Project area. No studies or counts were identified, excluding the California Coast Online Survey: Southern California Module<sup>1</sup>, which provided estimates determined to be too conservative to reflect actual usage, given a comparison of known usage numbers at adjacent beaches and those estimated in the survey. Additionally, the types of recreation were not identified in the survey.

In addition to online research, AMEC engaged in personal communication with local sources familiar with Broad Beach and its recreational use. These sources include the Malibu Changer of Commerce, the Los Angeles Department of Harbors and Beaches, Zuma Beach Life Guards, local surf, dive and bait & tackle shop owners and employees. Anecdotal information received was incorporated, where relevant, into Section 3.5.

In an effort to gain further insight into the types of use and value of the Project area to public users, AMEC conducted an informal survey of beach users on June 16, 2012 in order to obtain a weekend snapshot of recreation occurring on Broad Beach and observe the interaction of visitor use between Broad Beach and Zuma Beach. The informal survey Methodology is described below.

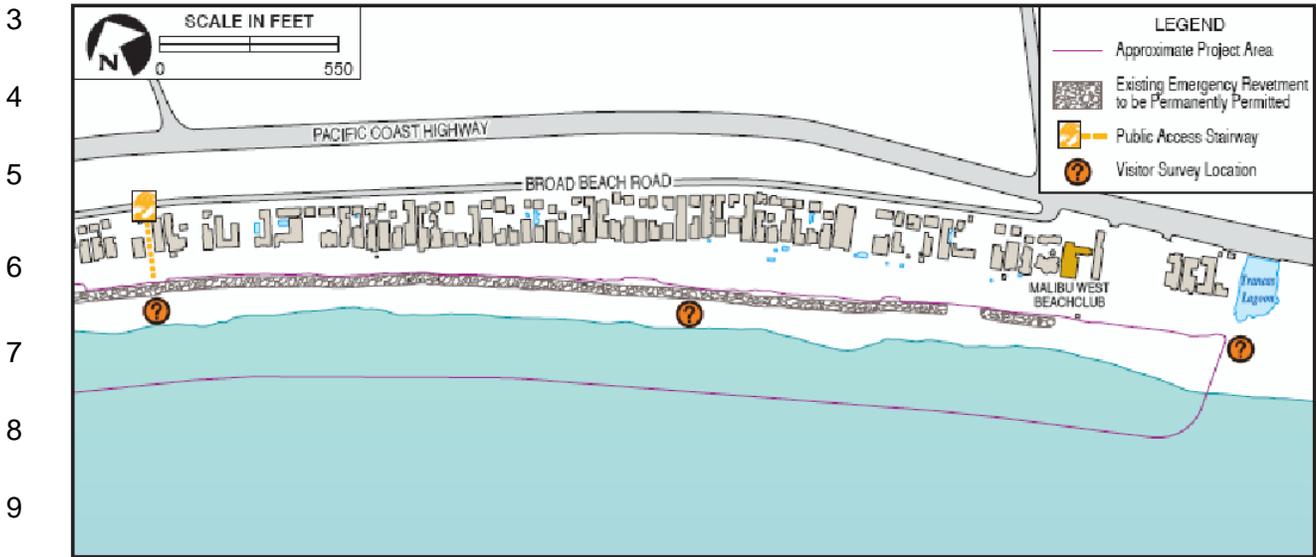
## METHODOLOGY

Broad Beach currently acts as a low-tide beach, as most or all sections of the beach are submerged up to existing houses or the revetment during mid- to high-tides. A summer, mid-day low-tide, weekend, with weather conducive to beach activity, was selected as the optimum time to capture recreational use within the Project area. During the survey, tides ranged from +2.8-feet, to a minimum of +2.2-foot low tide, then rose again to +3.0-feet. On Saturday, June 16, 2012, these conditions were present and AMEC utilized a team of three surveyors stationed at the three points along Broad Beach to capture and record public recreational use. The location of each survey point is provided in the Figure below. No surveyor was established at the western vertical public access point

---

<sup>1</sup> Santa Monica Bay Restoration Foundation. 2009. The California Coast Online Survey: Southern California Module Draft Report.

1 as the beach was extremely narrow or subject to wave run-up throughout the time of the  
2 survey.



10 Broad Beach Visitor Survey Locations

11 **APPENDIX  
E**

12 Each survey location was established as the tide was retreating (approximately 11:30  
13 a.m.) and maintained until the tide advanced to the point the beach was no longer  
14 passable (approximately 3:00 pm). The total duration of the survey lasted 3.5 hours.  
15 Survey locations were distinguished by a sign posted in the sand near the AMEC team  
16 member.

17 A questionnaire was utilized to obtain recreational use information (Exhibit A). During  
18 the survey, visitors were approached in a friendly manner and given a brief introduction  
19 to the project and purpose for the survey. They were then invited to take part in the  
20 survey and verbally answer questions provided on the survey form. Survey forms  
21 completed are provided below. Additionally, AMEC surveyors recorded recreational use  
22 observations and visitor comments and opinions, which are provided in Observations  
23 and Anecdotal Information below.

24

25

Date: \_\_\_\_\_

## Broad Beach Usage Survey

The California State Lands Commission (CSLC) is considering an application for beach nourishment at Broad Beach. The project as proposed would implement a shoreline protection plan along Broad Beach, for up to 20 years, consisting of: 1) beach nourishment; 2) dune restoration; and 3) issuance of permits for the existing rock revetment as a permanent structure. The revetment would be buried under the proposed newly created sand dunes. The proposed new beach and dunes would extend seaward of the existing (buried) revetment by up to 150 to 250 feet.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_

(c) LA County \_\_\_\_\_ (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** \_\_\_\_\_/month

**When do you usually visit?**

(a) Weekends \_\_\_\_\_ (b) Weekdays \_\_\_\_\_ (c) Both \_\_\_\_\_

**How long have you been visiting Broad Beach?** \_\_\_\_\_ yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours \_\_\_\_\_ (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there? (check all that apply)**

(a) Walking \_\_\_\_\_ (b) Running \_\_\_\_\_ (c) Beach Going \_\_\_\_\_

(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_

(g) Surfing \_\_\_\_\_ (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes \_\_\_\_\_ No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

1 **DESCRIPTION OF CONDITIONS**

Date: June 16, 2012      Water Temp: 61 °F      Swell: 1-2 ft      2  
Air Temperature: 64.4 – 66.9

Tide:	High	Low	High
Time:	8:19 am	12:42 pm	7:03 pm
Height:	+ 3.4	+2.2	+5.7

3  
4 The survey locations were established at approximately 11:30 a.m., when the tide had  
5 sufficiently retreated to permit access to the eastern portions of Broad Beach. Wind  
6 conditions were calm and the sky was overcast with a marine layer. The sun was not  
7 visible at the beginning of the survey; however, the ambient temperature was cool but  
8 comfortable 65 degrees Fahrenheit.

9 The marine layer began to burn off as the day progressed. The sun was out  
10 intermittently by 12:10 p.m., and by approximately 1:00 p.m. the marine layer burned off  
11 and the sky above Broad Beach was clear. As the marine layer burned off, a breeze  
12 began to pick up. This breeze continued and increased in strength throughout the day,  
13 with peak gusts of approximately 10 miles per hour.

14 Clouds became visible offshore as the tide began advancing at approximately 2:15 p.m.  
15 The low tide during the survey was a relatively high low tide so the period of time the  
16 beach was completely accessible was about 1 hour.

17 **SURVEY RESULTS**

18 Respondents

19 A total of 31 respondents participated in the survey. Of these respondents, 1 was a  
20 resident of Broad Beach, 2 were residents of the City of Malibu, 18 were from LA  
21 County, and 10 identified their residency as 'Other'. Locations identified as other  
22 include Australia and Spain; however, not all 'Other' locations were identified.

23 Activities

24 Results showed that the predominant use of Broad Beach was for walking with 70% of  
25 respondents identifying it as an activity they come to Broad Beach to enjoy. General  
26 beach going was cited as the second most popular activity with 51% of respondents  
27 identifying it as a type of use. Surfing was identified by 32% as an activity follow by  
28 running (25%), other (22%), dog walking (12%), and historic fishing (6%). Types of  
29 activities that were identified under "other" include yoga, wind surfing, boogie boarding,  
30 sea glass hunting, paddle boarding, tide pooling and wildlife viewing. These results can  
31 be seen in Table 1. 'Snapshot' of Beach Use within the Primary Project Area.

1 **Table 1. 'Snapshot' of Beach Use within the Primary Project Area**

2

Residency	Beach Use (Frequency)							
	Beach Going	Walking	Running	Dog Walking	Fishing (Historic)	Surfing	Scuba	Other
Broad Beach	1	1	1	--	--	1	--	--
City of Malibu <sup>1</sup>	1	2	2	1	--	1	--	--
LA County	9	11	2	3	2	7	--	7
Other	5	8	3	--	--	1	--	
TOTAL	16	22	8	4	2	10	0	7

1. Excludes residents of Broad Beach  
Source: AMEC 2012

3 **Frequency and Length of Visits**

4 Survey respondents indicated that they were most likely to visit on both weekend and  
5 weekdays (45%) or only on weekends (38%). 2 respondents indicated they usually visit  
6 on weekdays (6%), and 3 respondents did not provide information for this question. The  
7 length of visits were reported to last either 1-2 hours (48%) or over 2 hours (45%). No  
8 respondents reported visiting for less than 1 hour. 2 respondents did not provide  
9 information for this question. Completed survey forms are provided in Exhibit B.

10 **OBSERVATIONS AND ANECDOTAL INFORMATION**

11 **AMEC Team Observations**

12 Throughout the 3.5 hour survey period, AMEC made observations of recreational and  
13 public use of Broad Beach not captured on the survey sheets. These observations  
14 include 9 visitors who declined to provide any information for the survey, presences of  
15 chairs and recreational space on private property for resident recreation and observed  
16 use of chairs by one resident and dog.

17 At the time of the survey, Zuma Beach was being utilized by visitors. Quantitative data  
18 was not collected but it could be qualitatively described as 'a busy day at the beach'.  
19 Activities observed taking place on Zuma Beach include surfing, sun bathing, volley ball,  
20 hole digging, boogie boarding, seagull chasing, swimming, paddle-boarding and  
21 picnicking. The lifeguard boat was observed extending its path past the end of Zuma  
22 into Broad Beach, but not traveling the entire length of Broad Beach.

23 Prior to the tide dropping enough to allow access to Broad Beach runners and walkers  
24 were observed turning around at the point where the beach became impassable. It is  
25 anticipated that some users would have continued down the beach had lateral access  
26 been available.

1 Most visitors that accessed Broad Beach laterally did not appear to have planned their  
2 walk based on tide heights. If they happened to get to the revetment when there was  
3 enough beach to continue walking they often would continue down the beach, and if  
4 there was not room to continue walking, they would turn around.

5 There were a couple surf lessons that took place in the water off of Broad Beach and  
6 the participants all accessed the beach by walking up from Zuma Beach. It seemed as  
7 though Broad Beach may be a common place to give surf lesson since there are fewer  
8 people in the water than at Zuma Beach.

9 Water was present in Trancas Creek under the bridge; however, the creek did not  
10 extend out to connect with the ocean. There was approximately 180 feet of dry sand  
11 between the lagoon water and the ocean.

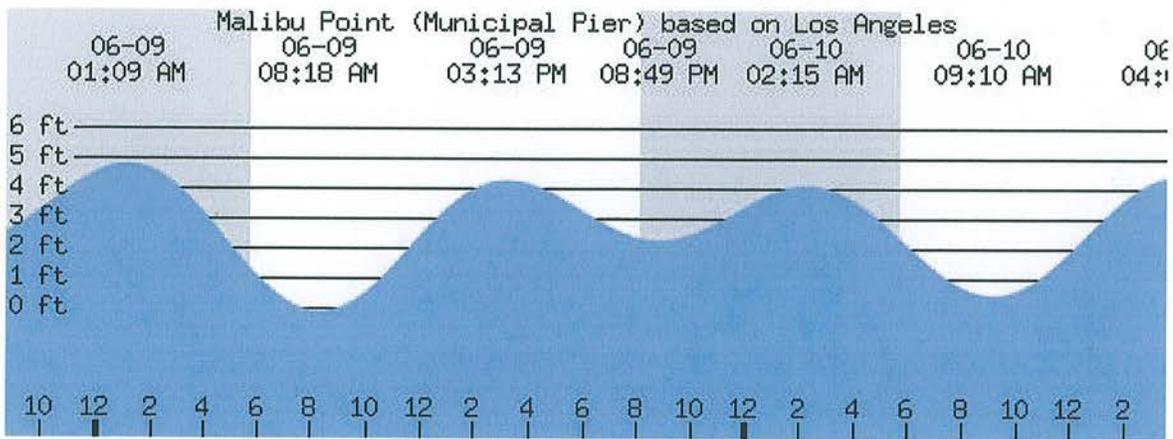
## 12 **Survey Respondents Comments**

13 Comments received by AMEC team members as notes on the survey or verbally during  
14 conversation and later noted include the following:

- 15 • Likes the idea of the project.
- 16 • Will be visiting Broad Beach more.
- 17 • “I believe in public access to all beaches and would hope that it will be possible  
18 for the public to enjoy Broad Beach after the revetment.”
- 19 • Thinks the project would be a great idea!
- 20 • Best beach know of around.
- 21 • “I grew up in the area... we look forward to more public beach! Bring in the sand  
22 now!!”
- 23 • “I work at the beach so for me it is a job”
- 24 • Has friends who are residents and thinks the project should be based on what  
25 the resident’s want.

26

# Surfline Tide Prediction For Malibu Point " 2012-6-9 00:00"



Tide		Water Temp	
Time		Level	
Time		Level	
Time		Level	
Weather			
Time	12:45	Description	Sunny, slight breeze
Time		Description	
Time		Description	
Swell			
Height		Direction	
Wet Beach			
Sandy		Rocky	
Dry Sand Beach Berms			
Location		Description	
Location		Description	
Location		Description	
Informal Stairways across revetment			
Number			
Shared walkways behind revetment			
Location		Length	
Location		Length	
Location		Length	
Trancas Creek			
Description			mallard, brown pelican, gull
Private Recreation (parties, Adirondack Chairs, etc.)			
			man + dog in chairs
Observed Recreation (surfing, sunning, jogging, dog walking, boating, etc.)			
Malibu West Beach Club			
Number of People			3 adults
Kids			
			in front of beach club (5)
Recreation at Zuma			
			paddle boarding
			swimming
			surfing

Date: 6/14 Time: 1:40 pm

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 ✓

**Residency:** (a) Broad Beach NO (b) City of Malibu (outside Broad Beach) \_\_\_\_\_

(c) LA County ✓ (d) Other: ✓

**On average, how many times per month do you visit Broad Beach?** \_\_\_\_\_/month  
*occasionally*

**When do you usually visit?**

(a) Weekends \_\_\_\_\_ (b) Weekdays ✓ (c) Both ✓

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) \_\_\_\_\_

**How long have you been visiting Broad Beach?** 4 yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours \_\_\_\_\_ (c) more than 2 hours ✓

**What kinds of activities do you enjoy there? (check all that apply)**

(a) Walking ✓ (b) Running \_\_\_\_\_ (c) Beach Going \_\_\_\_\_

(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_

(g) Surfing \_\_\_\_\_ (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes \_\_\_\_\_ No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): \_\_\_\_\_

\_\_\_\_\_  
*Thank you*  
\_\_\_\_\_  
*[Signature]*

Date: 6/14 Time: 1:00

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50  \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach  \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_

(c) LA County \_\_\_\_\_ (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** Whenever tide is down /month

**When do you usually visit?**

(a) Weekends \_\_\_\_\_ (b) Weekdays \_\_\_\_\_ (c) Both  \_\_\_\_\_

**Where do you usually park?**

(a) Broad Beach Road  \_\_\_\_\_ (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) \_\_\_\_\_

**How long have you been visiting Broad Beach?** \_\_\_\_\_ yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours \_\_\_\_\_ (c) more than 2 hours  \_\_\_\_\_ walk to the point and back

**What kinds of activities do you enjoy there? (check all that apply)**

(a) Walking  (b) Running  (c) Beach Going

(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_

(g) Surfing \_\_\_\_\_ (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes  No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): likes the idea of wild

\_\_\_\_\_  
\_\_\_\_\_

Date: 1:15 Time: 4/14

# Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

Age: (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 X \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

Residency: (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_

(c) LA County \_\_\_\_\_ (d) Other: Family \_\_\_\_\_

On average, how many times per month do you visit Broad Beach? 9 /month

When do you usually visit?

(a) Weekends \_\_\_\_\_ (b) Weekdays X \_\_\_\_\_ (c) Both \_\_\_\_\_

Where do you usually park?

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) my house \_\_\_\_\_

How long have you been visiting Broad Beach? 22 yrs

On average, how long do you spend there?

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours \_\_\_\_\_ (c) more than 2 hours X \_\_\_\_\_

What kinds of activities do you enjoy there? (check all that apply)

(a) Walking \_\_\_\_\_ (b) Running X \_\_\_\_\_ (c) Beach Going \_\_\_\_\_

(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_

(g) Surfing \_\_\_\_\_ (h) Other: Sea glass collection (OCN)

Is visiting Broad Beach an important recreational activity for you? Yes X No \_\_\_\_\_

Additional Comments (use back of paper, as needed): I would leave LA County, I would my Family!

Date: 4/14 Time: 12:40

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 X

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County X (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** rarely /month

**When do you usually visit?**

(a) Weekends \_\_\_\_\_ (b) Weekdays \_\_\_\_\_ (c) Both X

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) ON STREET

**How long have you been visiting Broad Beach?** 30 yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours \_\_\_\_\_ (c) more than 2 hours X

**What kinds of activities do you enjoy there? (check all that apply)**

(a) Walking ✓ (b) Running \_\_\_\_\_ (c) Beach Going ✓

(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_

(g) Surfing \_\_\_\_\_ (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes ✓ No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): \_\_\_\_\_

will be visiting broad beach more often now  
renewed

Date: 6/14 Time: 12:30

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 X  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) X  
(c) LA County \_\_\_\_\_ (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** 8 /month

**When do you usually visit?**

(a) Weekends \_\_\_\_\_ (b) Weekdays \_\_\_\_\_ (c) Both X

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) Malibu West Beach Club

**How long have you been visiting Broad Beach?** 15 yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours X (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there? (check all that apply)**

(a) Walking X (b) Running X (c) Beach Going X  
(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_  
(g) Surfing X (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes X No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): I believe in public access to all beaches and would hope that it will be possible for the public to enjoy Broad Beach after the revetment.

Date: 6/16 Time: 1:53

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County  (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** 1 /month

**When do you usually visit?**

(a) Weekends  (b) Weekdays \_\_\_\_\_ (c) Both \_\_\_\_\_

**Where do you usually park?**

(a) Broad Beach Road  (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) \_\_\_\_\_

**How long have you been visiting Broad Beach?** 4 yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours  (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there? (check all that apply)**

(a) Walking  (b) Running \_\_\_\_\_ (c) Beach Going   
(d) Dog walking  (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_  
(g) Surfing  (h) Other: paddleboard

**Is visiting Broad Beach an important recreational activity for you?** Yes  No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): thinks the project  
would be a great idea!

Tide		Water Temp	
Time	13:30 - sun out	Level	Up against revetment at some narrow
Time		Level	dry beach - passable in most areas
Time		Level	
Weather			
Time	12:30	Description	Sun out, breeze ✓
Time	2:15	Description	Sun out, cloudy offshore, tide coming back in,
Time		Description	
Swell			
Height	2 FT	Direction	Beach break
Western Beach			
Sandy		Rocky	
Dry Sand Beach Berms			
Location		Description	
Location		Description	
Location		Description	
Informal Stairways across revetment			
Number			
Shared walkways behind revetment			
Location		Length	
Location		Length	
Location		Length	
Trancas Creek			
Description			
Private Recreation (parties, Adirondack Chairs etc)			
Observed Recreation (surfing, sunning, jogging, dog walking, boating etc.)			
Surfing	(III)	hoogy board	(II)
Football	(I)		
Dog walking	(III)		
Paddle board	(I)		
Malibu West Beach Club			
Number of People			
Kids			
Recreation at Zuma			

'NO' Responses: III

Date: \_\_\_\_\_ Time: \_\_\_\_\_

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60  \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County  \_\_\_\_\_ (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** 3 /month

**When do you usually visit?**

(a) Weekends  (b) Weekdays \_\_\_\_\_ (c) Both \_\_\_\_\_

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) PCA

**How long have you been visiting Broad Beach?** 20 yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours  (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there? (check all that apply)**

(a) Walking \_\_\_\_\_ (b) Running \_\_\_\_\_ (c) Beach Going \_\_\_\_\_

(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_

(g) Surfing \_\_\_\_\_ (h) Other: Windsurfing

**Is visiting Broad Beach an important recreational activity for you?** Yes  No \_\_\_\_\_

**Additional Comments (use back of paper, as needed):** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50  \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County  (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** 3 /month

**When do you usually visit?**

(a) Weekends \_\_\_\_\_ (b) Weekdays \_\_\_\_\_ (c) Both

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) PCH

**How long have you been visiting Broad Beach?** \_\_\_\_\_ yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours  (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there?** (check all that apply)

(a) Walking \_\_\_\_\_ (b) Running \_\_\_\_\_ (c) Beach Going \_\_\_\_\_  
(d) Dog walking  (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_  
(g) Surfing \_\_\_\_\_ (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes  No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Date: 6/16 Time: 2:08

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40  (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County  (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** 3 /month

**When do you usually visit?**

(a) Weekends \_\_\_\_\_ (b) Weekdays \_\_\_\_\_ (c) Both

**Where do you usually park?**

(a) Broad Beach Road  (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) \_\_\_\_\_

**How long have you been visiting Broad Beach?** 5 yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours  (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there? (check all that apply)**

(a) Walking \_\_\_\_\_ (b) Running \_\_\_\_\_ (c) Beach Going \_\_\_\_\_

(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_

(g) Surfing \_\_\_\_\_ (h) Other: Swimming ; Coastal wildlife viewing Tidepools

**Is visiting Broad Beach an important recreational activity for you?** Yes  No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): Best beaches know  
of around ; half seal

Date: 6/16 Time: 1:50

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40   X   (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County   X   (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** \_\_\_\_\_ 2/yr /month

**When do you usually visit?**

(a) Weekends \_\_\_\_\_ (b) Weekdays \_\_\_\_\_ (c) Both   X  

**Where do you usually park?**

(a) Broad Beach Road   X   (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) \_\_\_\_\_

**How long have you been visiting Broad Beach?** 20 yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours   X   (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there?** (check all that apply)

(a) Walking \_\_\_\_\_ (b) Running \_\_\_\_\_ (c) Beach Going \_\_\_\_\_  
(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_  
(g) Surfing   X   (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes   X   No \_\_\_\_\_ 5/10

**Additional Comments** (use back of paper, as needed): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date: 6/16 Time: 1:20

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County  (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** 0 /month

**When do you usually visit?**

(a) Weekends  (b) Weekdays \_\_\_\_\_ (c) Both

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) Star bucks

**How long have you been visiting Broad Beach?** 0 yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours  (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there? (check all that apply)**

(a) Walking  (b) Running \_\_\_\_\_ (c) Beach Going \_\_\_\_\_

(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_

(g) Surfing \_\_\_\_\_ (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes  No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Date: 6/16 Time: 1:20

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_

(c) LA County \_\_\_\_\_ (d) Other: Australia

**On average, how many times per month do you visit Broad Beach?**  /month

**When do you usually visit?**

(a) Weekends  (b) Weekdays \_\_\_\_\_ (c) Both \_\_\_\_\_

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot \_\_\_\_\_

(c) Other (please specify) Starbucks

**How long have you been visiting Broad Beach?**  yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours  (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there? (check all that apply)**

(a) Walking  (b) Running \_\_\_\_\_ (c) Beach Going \_\_\_\_\_

(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_

(g) Surfing \_\_\_\_\_ (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes  No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Date: 6/16 Time: 11:15

# Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County \_\_\_\_\_ (d) Other: Malibu CA

**On average, how many times per month do you visit Broad Beach?** \_\_\_\_\_/month

**When do you usually visit?**

(a) Weekends  (b) Weekdays \_\_\_\_\_ (c) Both \_\_\_\_\_

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot   
(c) Other (please specify) \_\_\_\_\_

**How long have you been visiting Broad Beach?** 51 yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours \_\_\_\_\_ (c) more than 2 hours

**What kinds of activities do you enjoy there? (check all that apply)**

(a) Walking  (b) Running  (c) Beach Going \_\_\_\_\_

(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba

(g) Surfing  (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes  No \_\_\_\_\_

**Additional Comments (use back of paper, as needed):** I don't see

ANBA - WE LOOK FORWARD TO MAKING  
PUBLIC BEACH! PLEASE DON'T  
THE SAND NOW!

Date: 01/16/2012 Time: 1:10 PM

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

Age: (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40  (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

Residency: (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County  (d) Other: \_\_\_\_\_

On average, how many times per month do you visit Broad Beach? 0/month

When do you usually visit?

(a) Weekends \_\_\_\_\_ (b) Weekdays \_\_\_\_\_ (c) Both

Where do you usually park?

(a) Broad Beach Road  (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) \_\_\_\_\_

How long have you been visiting Broad Beach? 0 yrs

On average, how long do you spend there?

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours \_\_\_\_\_ (c) more than 2 hours

What kinds of activities do you enjoy there? (check all that apply)

(a) Walking \_\_\_\_\_ (b) Running \_\_\_\_\_ (c) Beach Going \_\_\_\_\_

(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_

(g) Surfing  (h) Other: \_\_\_\_\_

Is visiting Broad Beach an important recreational activity for you? Yes  No \_\_\_\_\_

Additional Comments (use back of paper, as needed): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Date: 6/16 Time: 1 PM

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40  (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_

(c) LA County  (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** 0 /month

**When do you usually visit?**

(a) Weekends  (b) Weekdays \_\_\_\_\_ (c) Both \_\_\_\_\_

**Where do you usually park?**

(a) Broad Beach Road  (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) \_\_\_\_\_

**How long have you been visiting Broad Beach?** 0 yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours \_\_\_\_\_ (c) more than 2 hours

**What kinds of activities do you enjoy there? (check all that apply)**

(a) Walking \_\_\_\_\_ (b) Running \_\_\_\_\_ (c) Beach Going \_\_\_\_\_

(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_

(g) Surfing  (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes  No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Date: 6/16 Time: 11:55 AM

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20  (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County \_\_\_\_\_ (d) Other: J \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** \_\_\_\_\_/month

**When do you usually visit?**

(a) Weekends \_\_\_\_\_ (b) Weekdays \_\_\_\_\_ (c) Both

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) \_\_\_\_\_

**How long have you been visiting Broad Beach?** \_\_\_\_\_ yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours \_\_\_\_\_ (c) more than 2 hours

**What kinds of activities do you enjoy there? (check all that apply)**

(a) Walking  (b) Running \_\_\_\_\_ (c) Beach Going

(d) Dog walking \_\_\_\_\_ (e) Fishing  (f) Scuba \_\_\_\_\_

(g) Surfing \_\_\_\_\_ (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes \_\_\_\_\_ No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Tide		Water Temp	
Time		Level	
Time		Level	
Time		Level	
Weather			
Time	morning	Description	calm marine layer 100 ft
Time	afternoon	Description	breezy marine layer burning off at west side
Time		Description	
Swell			
Height	1-2 ft	Direction	
Western Beach			
Sandy		Rocky	
Dry Sand Beach Berms			
Location	east end	Description	
Location		Description	
Location		Description	
Informal Stairways across revetment			
Number			
Shared walkways behind revetment			
Location		Length	
Location		Length	
Location		Length	
Trancas Creek			
Description	Water goes under bridge but not out to ocean 50m		
Private Recreation (parties, Adirondack Chairs etc)			
	lots of chairs dry sand		
Observed Recreation (surfing, sunning, jogging, dog walking, boating etc.)			
	surfing walking		
Malibu West Beach Club			
Number of People	N 20		
Kids			
	3 kids digging in sand		
Recreation at Zuma			
	surfing sun bathing hole digging		
	volley ball water standing sea gull chiding		
	hoopie boarding		

Date: 6/14 Time: 2:54

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County ✓ (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** 1 /month

**When do you usually visit?**

(a) Weekends \_\_\_\_\_ (b) Weekdays \_\_\_\_\_ (c) Both ✓

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) PCT

**How long have you been visiting Broad Beach?** 15 yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours ✓ (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there? (check all that apply)**

(a) Walking ✓ (b) Running ✓ (c) Beach Going ✓  
(d) Dog walking ✓ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_  
(g) Surfing \_\_\_\_\_ (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes ✓ No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Date: 4/16 Time: 12:30

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County \_\_\_\_\_ (d) Other: Venice

**On average, how many times per month do you visit Broad Beach?** 20 /month

**When do you usually visit?**

(a) Weekends \_\_\_\_\_ (b) Weekdays \_\_\_\_\_ (c) Both

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) Malibu West Parking Lot

**How long have you been visiting Broad Beach?** 6 yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours \_\_\_\_\_ (c) more than 2 hours

**What kinds of activities do you enjoy there? (check all that apply)**

(a) Walking  (b) Running \_\_\_\_\_ (c) Beach Going   
(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_  
(g) Surfing \_\_\_\_\_ (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes  No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed):

I work at the beach so for me it's a job

Date: 7/16 Time: 1 PM

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50  \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County \_\_\_\_\_ (d) Other:  \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** 20 /month

**When do you usually visit?**

(a) Weekends \_\_\_\_\_ (b) Weekdays \_\_\_\_\_ (c) Both  \_\_\_\_\_

**Where do you usually park?**

(a) Broad Beach Road  \_\_\_\_\_ (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) \_\_\_\_\_

**How long have you been visiting Broad Beach?** 9 yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours \_\_\_\_\_ (c) more than 2 hours  \_\_\_\_\_

**What kinds of activities do you enjoy there? (check all that apply)**

(a) Walking  (b) Running \_\_\_\_\_ (c) Beach Going

(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_

(g) Surfing \_\_\_\_\_ (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes  No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40  (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County  (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** \_\_\_\_\_/month

**When do you usually visit?**

(a) Weekends  (b) Weekdays \_\_\_\_\_ (c) Both \_\_\_\_\_

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot  \_\_\_\_\_  
(c) Other (please specify) \_\_\_\_\_

**How long have you been visiting Broad Beach?** \_\_\_\_\_ yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours \_\_\_\_\_ (c) more than 2 hours

**What kinds of activities do you enjoy there?** (check all that apply)

(a) Walking  (b) Running \_\_\_\_\_ (c) Beach Going   
(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_  
(g) Surfing \_\_\_\_\_ (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes \_\_\_\_\_ No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): \_\_\_\_\_

Didn't want to fill out survey Dad of  
3 yr old. Been here before but not in area

Date: \_\_\_\_\_ Time: 12:30

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 X  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County X (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** \_\_\_\_\_/month

**When do you usually visit?**

(a) Weekends \_\_\_\_\_ (b) Weekdays \_\_\_\_\_ (c) Both \_\_\_\_\_

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot A or PCH  
(c) Other (please specify) \_\_\_\_\_

**How long have you been visiting Broad Beach?** \_\_\_\_\_ yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours \_\_\_\_\_ (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there?** (check all that apply)

(a) Walking X (b) Running \_\_\_\_\_ (c) Beach Going \_\_\_\_\_  
(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_  
(g) Surfing \_\_\_\_\_ (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes \_\_\_\_\_ No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): Very against talking to me or taking survey

Date: \_\_\_\_\_ Time: 1:00

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40  (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County  (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** \_\_\_\_\_/month

**When do you usually visit?**

(a) Weekends \_\_\_\_\_ (b) Weekdays \_\_\_\_\_ (c) Both \_\_\_\_\_

**Where do you usually park?**

(a) Broad Beach Road  ? (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) walked down from BB

**How long have you been visiting Broad Beach?** \_\_\_\_\_ yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours \_\_\_\_\_ (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there?** (check all that apply)

(a) Walking  (b) Running \_\_\_\_\_ (c) Beach Going \_\_\_\_\_  
(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_  
(g) Surfing \_\_\_\_\_ (h) Other: glass hunting

**Is visiting Broad Beach an important recreational activity for you?** Yes \_\_\_\_\_ No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): \_\_\_\_\_

Turned around at Zuma & went back up on the phone & crying. Didn't want to talk to me

Date: \_\_\_\_\_ Time: 1:00

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 X  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County X (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** 2 /month

**When do you usually visit?**

(a) Weekends \_\_\_\_\_ (b) Weekdays \_\_\_\_\_ (c) Both X

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) PCM

**How long have you been visiting Broad Beach?** 5 yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours X (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there?** (check all that apply)

(a) Walking X (b) Running \_\_\_\_\_ (c) Beach Going X  
(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_  
(g) Surfing \_\_\_\_\_ (h) Other: YOGA

**Is visiting Broad Beach an important recreational activity for you?** Yes X No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Date: 5/16/12 Time: 1pm

## Broad Beach Usage Survey 2 people

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 X (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County \_\_\_\_\_ (d) Other: Long Beach

**On average, how many times per month do you visit Broad Beach?** 1 /month

**When do you usually visit?**

(a) Weekends X (b) Weekdays \_\_\_\_\_ (c) Both \_\_\_\_\_

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot X  
(c) Other (please specify) \_\_\_\_\_

**How long have you been visiting Broad Beach?** 3 yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours X (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there?** (check all that apply)

(a) Walking X (b) Running X (c) Beach Going X  
(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_  
(g) Surfing \_\_\_\_\_ (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes X No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2 residents

Date: \_\_\_\_\_ Time: 1:00

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20  (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach  (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County \_\_\_\_\_ (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** resident /month

**When do you usually visit?**

(a) Weekends \_\_\_\_\_ (b) Weekdays \_\_\_\_\_ (c) Both

**Where do you usually park?**

(a) Broad Beach Road  (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) \_\_\_\_\_

**How long have you been visiting Broad Beach?** \_\_\_\_\_ yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours \_\_\_\_\_ (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there?** (check all that apply)

(a) Walking \_\_\_\_\_ (b) Running \_\_\_\_\_ (c) Beach Going \_\_\_\_\_  
(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_  
(g) Surfing  (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes \_\_\_\_\_ No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): surfed for about  
an hour

4/10  
Date: 06/16/12 Time: 1:30

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County \_\_\_\_\_ (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** 15 /month

**When do you usually visit?**

(a) Weekends \_\_\_\_\_ (b) Weekdays  (c) Both \_\_\_\_\_

**Where do you usually park?**

(a) Broad Beach Road  (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) \_\_\_\_\_

**How long have you been visiting Broad Beach?** 3 yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours  (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there? (check all that apply)**

(a) Walking  (b) Running  (c) Beach Going \_\_\_\_\_  
(d) Dog walking  (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_  
(g) Surfing \_\_\_\_\_ (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes  No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date: \_\_\_\_\_ Time: 1:40

3 grown ups  
1 young child

# Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30  (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County  (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** 0 /month

**When do you usually visit?**

(a) Weekends  (b) Weekdays \_\_\_\_\_ (c) Both \_\_\_\_\_

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot   
(c) Other (please specify) \_\_\_\_\_

**How long have you been visiting Broad Beach?** 1 yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours \_\_\_\_\_ (c) more than 2 hours

**What kinds of activities do you enjoy there?** (check all that apply)

(a) Walking  (b) Running \_\_\_\_\_ (c) Beach Going \_\_\_\_\_  
(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_  
(g) Surfing  (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes \_\_\_\_\_ No

**Additional Comments** (use back of paper, as needed): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2 people

Date: 9/10/12 Time: 2:00

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30  (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County  (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** 1-yr /month

**When do you usually visit?**

(a) Weekends  (b) Weekdays \_\_\_\_\_ (c) Both \_\_\_\_\_

**Where do you usually park?**

(a) Broad Beach Road  (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) \_\_\_\_\_

**How long have you been visiting Broad Beach?** 2<sup>nd</sup> time yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours  (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there? (check all that apply)**

(a) Walking  (b) Running \_\_\_\_\_ (c) Beach Going

(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_

(g) Surfing \_\_\_\_\_ (h) Other: boogie boarding

**Is visiting Broad Beach an important recreational activity for you?** Yes  No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Date: \_\_\_\_\_ Time: 2:00

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 X

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County X (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** \_\_\_\_\_/month

**When do you usually visit?**

(a) Weekends \_\_\_\_\_ (b) Weekdays \_\_\_\_\_ (c) Both \_\_\_\_\_

**Where do you usually park?**

(a) Broad Beach Road X (b) Zuma Parking Lot X  
(c) Other (please specify) PCIT

**How long have you been visiting Broad Beach?** \_\_\_\_\_ yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours \_\_\_\_\_ (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there?** (check all that apply)

(a) Walking X (b) Running \_\_\_\_\_ (c) Beach Going X  
(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_  
(g) Surfing \_\_\_\_\_ (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes X No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): He had resident friends & thought it should be whatever they wanted

Date: 4/16 Time: \_\_\_\_\_

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County  (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** \_\_\_\_\_/month

**When do you usually visit?**

(a) Weekends  (b) Weekdays \_\_\_\_\_ (c) Both \_\_\_\_\_

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) PCH

**How long have you been visiting Broad Beach?** 10 yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours \_\_\_\_\_ (c) more than 2 hours

**What kinds of activities do you enjoy there? (check all that apply)**

(a) Walking \_\_\_\_\_ (b) Running \_\_\_\_\_ (c) Beach Going   
(d) Dog walking \_\_\_\_\_ (e) Fishing  (f) Scuba \_\_\_\_\_  
(g) Surfing \_\_\_\_\_ (h) Other: \$

**Is visiting Broad Beach an important recreational activity for you?** Yes  No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): 2 adults 2 kids

Date: \_\_\_\_\_ Time: 2:15

## Broad Beach Usage Survey

The State Lands Commission is considering an application from the Broad Beach Hazard Abatement District requesting a lease of state-owned land for a self-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60  (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County  (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** \_\_\_\_\_/month

**When do you usually visit?**

(a) Weekends  (b) Weekdays \_\_\_\_\_ (c) Both \_\_\_\_\_

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot   
(c) Other (please specify) \_\_\_\_\_

**How long have you been visiting Broad Beach?** 10 yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours  (c) more than 2 hours

**What kinds of activities do you enjoy there?** (check all that apply)

(a) Walking  (b) Running \_\_\_\_\_ (c) Beach Going   
(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_  
(g) Surfing  (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes  No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

2 adults

Date: \_\_\_\_\_ Time: \_\_\_\_\_

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60  (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County \_\_\_\_\_ (d) Other: Spain

**On average, how many times per month do you visit Broad Beach?** \_\_\_\_\_/month

**When do you usually visit?**

(a) Weekends \_\_\_\_\_ (b) Weekdays \_\_\_\_\_ (c) Both \_\_\_\_\_

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot  \_\_\_\_\_  
(c) Other (please specify) \_\_\_\_\_

**How long have you been visiting Broad Beach?** \_\_\_\_\_ yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours  (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there?** (check all that apply)

(a) Walking  (b) Running \_\_\_\_\_ (c) Beach Going \_\_\_\_\_  
(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_  
(g) Surfing \_\_\_\_\_ (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes \_\_\_\_\_ No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): visiting from  
Spain. first time here. walking up  
probably will never visit again

Date: \_\_\_\_\_ Time: 2:30

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30  (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County \_\_\_\_\_ (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** \_\_\_\_\_/month

**When do you usually visit?**

(a) Weekends \_\_\_\_\_ (b) Weekdays \_\_\_\_\_ (c) Both \_\_\_\_\_

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot  or PCH  
(c) Other (please specify) \_\_\_\_\_

**How long have you been visiting Broad Beach?** \_\_\_\_\_ yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours \_\_\_\_\_ (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there?** (check all that apply)

(a) Walking \_\_\_\_\_ (b) Running  (c) Beach Going \_\_\_\_\_

(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_

(g) Surfing \_\_\_\_\_ (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes \_\_\_\_\_ No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): can extra

fast by me

Date: \_\_\_\_\_ Time: 2:30

## Broad Beach Usage Survey

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50  \_\_\_\_\_  
(e) 51-60 \_\_\_\_\_ (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County  (d) Other: \_\_\_\_\_

**On average, how many times per month do you visit Broad Beach?** 3-4 /month

**When do you usually visit?**

(a) Weekends  (b) Weekdays \_\_\_\_\_ (c) Both

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot \_\_\_\_\_  
(c) Other (please specify) PCH

**How long have you been visiting Broad Beach?** 20 yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours  (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there? (check all that apply)**

(a) Walking \_\_\_\_\_ (b) Running \_\_\_\_\_ (c) Beach Going \_\_\_\_\_

(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_

(g) Surfing  (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes  No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): nice guy

Date: \_\_\_\_\_ Time: 12:15

## Broad Beach Usage Survey

2 kids that  
didn't speak  
english

The California State Lands Commission is considering an application from the Broad Beach Geologic Hazard Abatement District requesting a lease of state-owned land for a privately-funded shoreline protection project that proposes a buried rock revetment, beach nourishment, and dune restoration.

The CSLC is conducting this informal survey to better understand potential impacts / benefits of the project on current recreational use at Broad Beach.

**Age:** (a) Under 20 \_\_\_\_\_ (b) 21-30 \_\_\_\_\_ (c) 31-40 \_\_\_\_\_ (d) 41-50 \_\_\_\_\_  
(e) 51-60  (f) Over 60 \_\_\_\_\_

**Residency:** (a) Broad Beach \_\_\_\_\_ (b) City of Malibu (outside Broad Beach) \_\_\_\_\_  
(c) LA County \_\_\_\_\_ (d) Other: X out of county

**On average, how many times per month do you visit Broad Beach?** \_\_\_\_\_/month

**When do you usually visit?**

(a) Weekends \_\_\_\_\_ (b) Weekdays \_\_\_\_\_ (c) Both \_\_\_\_\_

**Where do you usually park?**

(a) Broad Beach Road \_\_\_\_\_ (b) Zuma Parking Lot  \_\_\_\_\_  
(c) Other (please specify) \_\_\_\_\_

**How long have you been visiting Broad Beach?** \_\_\_\_\_ yrs

**On average, how long do you spend there?**

(a) less than 1 hour \_\_\_\_\_ (b) 1-2 hours \_\_\_\_\_ (c) more than 2 hours \_\_\_\_\_

**What kinds of activities do you enjoy there?** (check all that apply)

(a) Walking  (b) Running \_\_\_\_\_ (c) Beach Going \_\_\_\_\_  
(d) Dog walking \_\_\_\_\_ (e) Fishing \_\_\_\_\_ (f) Scuba \_\_\_\_\_  
(g) Surfing \_\_\_\_\_ (h) Other: \_\_\_\_\_

**Is visiting Broad Beach an important recreational activity for you?** Yes \_\_\_\_\_ No \_\_\_\_\_

**Additional Comments** (use back of paper, as needed): \_\_\_\_\_

They indicated they just wanted to walk up and walk