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The Green Room: A Surfing-Conscious Approach to Coastal and Marine Management

*Scott Ball**

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Mr. Ball owes Poseidon a debt of gratitude.

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I.

INTRODUCTION

In recent history, mankind has recognized significant value in the earth's natural resources, and has made substantial progress in preserving these resources in the face of heightened exploitation and development. Endangered species and their habitats, geological wonders like Yosemite Valley, and pristine rivers and lakes have received the bulk of attention from this preservation movement; and due to the work of concerned admirers, many of the planet's most appreciated natural sites have remained relatively free from the post-industrial impact of human society.¹ One type of natural resource enjoyed by millions of people and similarly threatened by the activities of society has received relatively little attention, however. Surfing resources are finite in number, fragile, and not often considered when evaluating coastal development projects.²

High quality surfing resources are rare along the world's coastlines, and they provide healthy recreation for surfers and onlookers alike.³ Unfortunately, many surfing resources have been negatively impacted or destroyed as a result of inconsiderate human activity.⁴ The loss of a surfing resource impacts not only the surfers who frequent it, the surfing community as a whole, and local communities whose economies benefit from surfers visiting the area because of its surfing resources.⁵ Until recently, surfers were virtually helpless in

1. See generally STUART CHAPE ET AL., INT'L UNION FOR CONSERVATION OF NATURE & UNITED NATIONS ENV'T PROGRAM WORLD CONSERVATION MONITORING CTR., 2003 UNITED NATIONS LIST OF PROTECTED AREAS (2003), available at <https://archive.org/details/2003unitednation03chap> (listing and detailing many protected sites and methods of protection).

2. *About Us*, SAVE THE WAVES COAL., <http://www.savethewaves.org/about> (last visited June 27, 2015).

3. *Surfing Area Protection*, BEACHAPEDIA, http://www.beachapedia.org/Surfing_Area_Protection (last visited June 28, 2015).

4. *Id.*

5. See generally G. SCOTT WAGNER ET AL., A SOCIOECONOMIC AND RECREATIONAL PROFILE OF SURFERS IN THE UNITED STATES (2011), available at http://public.surfrider.org/files/surfrider_report_v13.pdf (presenting data on surfing demographics and contributions to local economies from surf-related activities).

combating negative impacts to these resources, but as the number of surfers has grown, groups like the Surfrider Foundation and Save the Waves Coalition have formed, organizing people and mobilizing resources for the preservation of surfing resources.⁶ This progress, however, is just a first step towards creating a coastal management policy that prioritizes preserving quality surf breaks.

This paper advocates for the preservation of surfing resources. First, section II explores the definition of a surfing resource. Next, section III explains why surfing resources are valuable to surfers and non-surfers alike. Section IV then covers what sorts of threats face the world's surfing resources and provides some brief examples of resources that have been lost. Finally, section V explores and evaluates different methods that advocates may employ to preserve the surfing resources still in existence. While the discussion of methods for preserving surfing resources includes international examples, its primary focus is on methods that could be effective in the United States, and California in particular.

II.

WHAT IS A SURFING RESOURCE?

One central aspect of surfing that is often misunderstood by non-surfers is that not every beach or coastal area is suitable for surfing, let alone ideal.⁷ Breaking waves vary greatly in their shape, speed, and intensity, and only certain combinations of these factors create waves that are surfable.⁸ Most of what determines these characteristics is the local bathymetry, or underwater topography, of the area.⁹ Other ingredients necessary to create surfing waves include swell height and

6. See *Surfrider Foundation*, SURFRIDER FOUND., <http://www.surfrider.org/> (last visited June 27, 2015); *Save the Waves Coalition*, SAVE THE WAVES COAL., <http://www.savethewaves.org/> (last visited June 27, 2015).

7. Shaw Mead & Kerry Black, *Predicting the Breaking Intensity of Surfing Waves*, 29 J. COASTAL RES ON SURFING (SPECIAL ISSUE) 103, 104 (2001), available at http://www.researchgate.net/publication/228605528_Predicting_the_breaking_intensity_of_surfing_waves.

8. *Id.*

9. *Id.* at 106.

period, wind speed and direction, and tide levels.¹⁰ Different regions of the earth vary with respect to the quality and consistency of these latter factors as they apply to surfing, but this paper assumes that on any stretch of coast exposed to the ocean, these necessary ingredients exist (although not at all times).¹¹ For the purposes of this paper, the focus will be on the conditions that create waves of appropriate shape, speed, and breaking intensity for surfing. Other research has worked to identify and quantify the factors that optimize these wave characteristics in greater detail,¹² but this paper only provides a brief overview.

A. *Peel Angle*

The peel angle of a breaking wave is the angle between the unbroken wave crest and the whitewater line of the broken portion of the wave. The peel angle is probably the most important characteristic for determining a wave's suitability for surfing.¹³ The peel angle of a breaking wave can be anywhere between zero and ninety degrees, with zero degrees being attributed to a wave that breaks all at once leaving no unbroken wave face for a surfer to ride.¹⁴ A ninety degree peel angle equates to a wave that hardly breaks at all as it propagates toward the beach and does not become steep enough to offer a powerful wave face for surfing; however, a wave with a ninety degree peel angle is still surfable.¹⁵ Neither of the extreme ends of the peel angle spectrum is ideal for surfing, so a location that can produce breaking waves in between these two extremes is

10. *Id.*

11. See Shaw Mead, Keynote Address at the Proceedings of the 3rd International Surfing Reef Symposium, at 2 (June 22-25, 2003), available at <http://www.obbsrg.com/Append1.pdf>.

12. See, e.g., L. Benedet et al., *Impacts of Coastal Engineering Projects on the Surfability of Sandy Beaches*, SHORE & BEACH, Fall 2007 (describing methodologies for coastal engineering projects that consider surfing resources and seek to mitigate negative impacts).

13. *Id.* at 3, 7.

14. Mead, *supra* note 11, at 3.

15. *Id.*

desirable.¹⁶

Smaller peel angles reflect faster breaking waves, and larger peel angles reflect slower breaking waves.¹⁷ Different surfers prefer different speeds of waves, and in general, more advanced surfers will prefer faster waves while beginners will prefer slower waves.¹⁸ One estimate of a preferred range of peel angles for advanced surfers is thirty to forty-five degrees, while the estimate for beginner preferences is in the sixty-degree to ninety-degree range.¹⁹ Further, the waves that are ideal for advanced surfers are more likely to be considered high quality waves than those that are ideal for beginners.²⁰ Thus, only a small range of possible breaking wave peel angles will create high-quality surfing waves.

B. *Breaking Intensity*

Another characteristic of breaking waves that is central to creating waves suitable for surfing is the breaking intensity of the wave, which is essentially a measure of the steepness of a wave as it breaks.²¹ Ideal surfing waves must be steep enough to offer the surfer enough power and potential energy to generate speed for performing maneuvers, but must also achieve this steepness in a manner that does not over-power the surfer.²² Researchers have identified four different categories of breaking waves, defined by their different breaking intensities (listed in increasing intensity): spilling waves, plunging waves, collapsing waves, and surging waves.²³ Spilling waves are the least steep as they break, the crest of the wave crumbles down without much force.²⁴ Plunging waves are much steeper, going beyond vertical as they break with the wave crest throwing out beyond the face

16. *Id.*

17. *Id.*

18. *Id.* at 8.

19. *Id.* at 7.

20. Mead, *supra* note 11, at 5.

21. *Id.* at 9.

22. *Id.*

23. Benedet et al., *supra* note 12, at 6.

24. *Id.*

of the wave, creating a hollow cylinder of water.²⁵ Collapsing waves are similar to plunging waves in that they go beyond vertical, but instead of gradually increasing in steepness before throwing out, collapsing waves tend to fold over on themselves at the same time that they begin to shoal up, breaking very powerfully as they unleash all of their energy very quickly.²⁶ Surging waves break onto the shore, essentially shoaling up at the edge of the shoreline and then rushing up the beach. Unlike the other three categories of waves, surging waves do not break far from shore or create white-water that makes its way to the beach²⁷

Of these four categories of waves, only spilling and plunging waves are suitable for the majority of the world's surfers.²⁸ Further, more advanced surfers prefer plunging waves to spilling waves because the increased steepness of plunging waves offers more power which then can be translated into speed.²⁹ Also, when the crest throws over the face of the wave, it offers advanced surfers the opportunity to position themselves inside the hollow part of the cylindrical wave, which is one of the most sought-after experiences in surfing.³⁰ Thus, within a broad range of wave-breaking characteristics, only a certain segment of this range is suitable for surfing, and an even smaller segment creates waves that are ideal for surfing.

C. *Holistic View*

The difficulty in finding good surfing waves is compounded when considering the fact that both peel angle and breaking intensity are characteristics of a single wave.³¹ Consequently, to create a quality wave for surfing, the wave must have both a suitable peel angle and a suitable breaking intensity.³² As a

25. *Id.*

26. *Id.*

27. *Id.*

28. Mead & Black, *supra* note 7, at 105.

29. *Id.*

30. *Id.*

31. Mead, *supra* note 11, at 3.

32. *Id.*

result it is relatively rare to find a location that produces a quality surfing wave.³³ It is important to keep in mind that the above explanation of factors creating a quality surf break is bare bones and neglects many smaller details that go into producing a quality surfing wave.³⁴ This explanation is merely meant to illustrate why not all stretches of coastline are considered to be surfing resources. Shaw Mead clearly explains this reality:

There are thousands of kilometres of coastline around the world that receive enough swell needed for surfing. However, there are only a limited number, a relative handful, of high-quality surfing breaks on these coasts, even less that are easily accessible to the majority of the world's surfing population. Take the Australian coast as an example, even though it boasts an incredible number of high-quality surfing breaks in comparison to many coastlines around the world, in total these breaks represent only a tiny fraction of the entire coast. Indeed surfing breaks that consistently produce world-class surfing conditions are rare.³⁵

Surfing resources are therefore uncommon natural occurrences. The result is that surfers congregate at the locations that produce quality surfing waves, competing with one another over a finite number of waves.³⁶ Having multiple locations with quality waves within an accessible area spreads out the crowd, enhancing the enjoyment for all surfers, who compete with fewer others and are therefore more likely to catch more quality waves.³⁷ The loss of a quality surfing wave therefore results in an increase in the number of surfers competing for waves at another break in the same area as the lost wave. Not only have surfers lost a surfing location, they also must now compete with a greater number of fellow surfers, making it more difficult for everyone to catch quality waves. This illustrates the severe negative impact that the loss of a surfing

33. *Id.* at 2.

34. B. E. SCARFE ET AL., SCRIPPS INST. OF OCEANOGRAPHY TECHNICAL REP., THE SCIENCE OF SURFING WAVES AND SURFING BREAKS – A REVIEW 2 (2003).

35. Mead, *supra* note 11, at 2.

36. *Id.*

37. *Id.* at 1-2.

resource has on surfers, which is one aspect contributing to the need to protect existing surfing locations.

III.

WHY SHOULD WE PROTECT SURFING RESOURCES?

Surfing resources are valuable to the people who use them, the communities in which they are located, and society as a whole. Surfing provides a valuable source of recreation, enhancing the lives of its participants. Surfing has had a noticeable impact on popular culture, as reflected in lingo, fashion, and the media.³⁸ This impact would not have occurred without places where people could go surfing. These same resources also benefit our economy by attracting surfers, who inject money into local economies, to the areas the resources inhabit.³⁹ As a result, the popularity of surfing has facilitated the creation of a multi-billion dollar industry.⁴⁰ This section examines the personal, cultural, and economic value surfing resources provide.

A. *Value to Surfers*

Surfing resources provide great value to the people who use them by facilitating those individuals' chosen recreational pursuit. Studies have identified positive impacts of outdoor recreational activities, including an increased life expectancy, reduced levels of depression, stress relief, and an overall improvement in quality of life.⁴¹ Surfing is an ideal recreational activity because it provides satisfaction to the surfer, requires

38. See Greg Heller, *Surf Culture*, SURFLINE, http://www.surflines.com/surfing-a-to-z/surf-culture-explained_916 (last visited June 27, 2015).

39. See WAGNER ET AL., *supra* note 5, at 2-3; Neil Lazarow et al., *Dropping In: A Case Study Approach to Understanding the Socioeconomic Impact of Recreational Surfing and Its Value to the Coastal Economy*, SHORE & BEACH, Fall 2007, at 21, 27.

40. See WAGNER ET AL., *supra* note 5, at 2.

41. See generally CAL. STATE PARKS, THE HEALTH AND SOCIAL BENEFITS OF RECREATION (2005), available at <http://www.parks.ca.gov/pages/795/files/benefits%20final%20online%20v6-1-05.pdf> (detailing the health and social benefits of recreation).

physical exertion, and requires interaction with the natural environment. For some, surfing is much more important than other hobbies, and some have even discussed surfing as a religion.⁴² As Kelly Slater, perhaps the most famous surfer of all time, explains, “surfing is my religion, if I have one . . . The barrel [the inside of a hollow breaking wave] is really the ultimate ride for any surfer. It’s the eye of the storm. Some guys say it’s like being in the womb.”⁴³ While the recognized benefits of outdoor recreation provide an objective measure for protecting surfing resources based on their value to surfers, anecdotal evidence, such as Slater’s opinion, illustrates the immense gratification the activity gives to individuals. The fact that people feel surfing enriches their lives is a strong reason to protect surfing resources, because without surfable waves, surfers could not surf.

B. *Cultural Value*

Surf culture has interested the Western world since the late 1950’s, when mainstream movies began to depict a lifestyle that few had previously noticed and even fewer had pursued.⁴⁴ As a result of movies such as 1959’s *Gidget* and 1966’s *Endless Summer*, the general population received an introduction to surfing that piqued interest in the activity and attracted swaths of people eager to participate.⁴⁵ In fact, the surfing population increased during this time period from a few thousand to an estimated half-million.⁴⁶ The popularity of music from Dick Dale, the Ventures, and the Beach Boys further influenced pop culture.⁴⁷ Surfing became known to much of the world, and

42. Benjamin Marcus, *Is Surfing a Religion? Part One*, THE INERTIA (May 22, 2012), <http://www.theinertia.com/surf/is-surfing-a-religion-part-one/>.

43. Nick Glass & Natasha Maguder, *Kelly Slater: ‘Surfing Is My Religion’*, CNN (June 6, 2013), <http://www.cnn.com/2013/05/29/sport/kelly-slater-surfing-waves/>.

44. See Heller, *supra* note 38.

45. *Id.*; Matt Warshaw, *Surfing: A History*, N.Y. TIMES BLOG (May 30, 2008, 5:45 PM), http://topics.blogs.nytimes.com/2008/05/30/surfing-a-history/?_php=true&_type=blogs&_r=0.

46. Warshaw, *supra* note 45.

47. *Id.*

people began enjoying what surf culture represented.

Some geographic regions, such as California, became affiliated with the mainstream understanding of surfing.⁴⁸ California's romanticized surfing lifestyle has infiltrated Western culture in multiple ways, including fashion, lingo, and behavior.⁴⁹ Surfing culture continues to have a big impact on society as a whole, as evidenced by the commercial success of the surfwear industry and widely-released modern films such as 2012's *Chasing Mavericks*.⁵⁰ Surfing's cultural impact could not have occurred without the activity of surfing itself, which requires the existence of surfing resources. Protecting these resources exhibits an appreciation for their associated cultural impacts.

C. *Economic Value*

Surfing is more than just a recreational activity. As a result of the increase in popularity of surf culture and surfing itself due to mainstream representation in major media, a multi-billion dollar industry has developed to provide surf-inspired clothing, surfing equipment, and surf travel.⁵¹ As discussed above, surfing resources possess great cultural value and are important to the people who use them, but it is not likely that these reasons alone will have much effect in convincing developers, lawmakers, and the non-surfing public that we should favor these resources over standard coastal development that provides housing and economic productivity. Fortunately, work has been done to measure surfing's economic impact, and the results may help provide those developers, lawmakers, and non-surfing members of the public with a perspective that understands the value of surfing resources to society.

It is difficult to quantify exactly how valuable surfing is to the economy, but it is clear that surfers have a significant economic

48. Heller, *supra* note 38.

49. *Id.*

50. See Warshaw, *supra* note 45; *Chasing Mavericks (2012)*, IMDB, <http://www.imdb.com/title/tt1629757/> (last visited June 27, 2015).

51. See Warshaw, *supra* note 45; Anthony Persaud, *Surf Tourism: A Sustainable Alternative*, THE INERTIA (May 1, 2012), <http://www.theinertia.com/environment/surf-tourism-a-sustainable-alternative>.

impact on the coastal areas they visit. In 2007, one estimate of the world's surfing population came in at between 18 and 50 million people. In addition, it was estimated that the surfing population was growing by 12 to 16 percent at that time.⁵² Although these estimates do not include data on how many days per year these surfers surf, or how many beach visit per year the average surfer makes, at the time of these estimates, over 2.5 million Australians and 3.5 million Americans were reported to surf on a regular basis.⁵³ One study did try to quantify how often surfers surfed, and found that in California in 2001, 1.1 million surfers went surfing 22.6 million times.⁵⁴ Surfers are dedicated to visiting coastal areas, will consume fuel to get there, and will consume food and drink once they arrive. It was estimated that in 2001, the average surfer visiting a popular surf break in Santa Cruz, California spent approximately \$122 per visit.⁵⁵ A different study estimated that surfers in the United States spend \$66 each time they go surfing.⁵⁶ These estimates are likely higher than the actual amount spent during each visit because they also include the cost of the surfer's equipment, a cost that is not incurred on every surfing visit. Even so, such estimates help illustrate that surfers inject money into local economies when they visit coastal areas to go surfing. This economic stimulation would disappear if the surfing resources drawing the surfers to the coastal areas were lost. For example, one surfing resource in Peru was saved from the construction of a marina that would have destroyed the resource when opponents of the marina highlighted that the economic value of the surfing resource to the local community was greater than that of the proposed marina.⁵⁷

Because the surf industry is big business, surfing's effect on the economy goes beyond what individual surfers spend each

52. Lazarow et al., *supra* note 39, at 24.

53. *Id.* at 21.

54. *Id.* at 25.

55. *Id.*

56. See WAGNER ET AL., *supra* note 5, at 1.

57. Alexander Haro, *Peru Passes Landmark New Wave Protection Law*, THE INERTIA (Jan. 17, 2014), <http://www.theinertia.com/environment/peru-passes-landmark-new-wave-protection-law/>.

time they go surfing.⁵⁸ The Surf Industry Manufacturer's Association, the trade association of surf industry product suppliers in the United States, valued the United States surf industry at \$7.48 billion in 2006, a 14.5 percent increase from just two years prior.⁵⁹ One of the largest surf wear companies in the world, Billabong, reported worldwide revenue of approximately \$1.12 billion in Australian dollars for the full year ending on June 30, 2014.⁶⁰ Billabong is a publicly owned corporation, traded on the Australian Securities Exchange.⁶¹ Billabong is not the only large corporation in surfing, but serves to illustrate the magnitude of the surf industry's economic effect.⁶²

The battle between Santa Cruz, California and Huntington Beach, California over the "Surf City USA" trademark, which was settled in 2008 with the trademark going to Huntington Beach, provides a clear example of the economic value that surfing brings to coastal communities.⁶³ While the exact economic value of surfing is difficult to quantify, these examples demonstrate its large economic impact. Surfing requires visiting coastal areas and, once there, surfers consume goods and services, stimulating local economies. In order to preserve this value, the surfing resources that draw surfers to these coastal communities must remain intact. With a global surfing population in the tens of millions of people, surfing undoubtedly affects and benefits more than just those getting into the water.

58. Lazarow et al., *supra* note 39, at 27.

59. *Id.*

60. BILLABONG INT'L LTD., BILLABONG INTERNATIONAL LIMITED RESULTS FOR THE FULL YEAR TO 30 JUNE 2014 (2014), *available at* <http://www.billabongbiz.com/phoenix.zhtml?c=154279&p=irol-reportsannual> (click on and download "Full Year 2014 Media Release" posted on Aug. 28, 2014). Using an average conversion rate of \$1AUD:\$0.76USD from June 27, 2015, this corresponds to approximately \$850 million in U.S. dollars. *See XE Currency Charts (AUD/USD)*, XE, <http://www.xe.com/currencycharts/?from=USD&to=AUD&view=1D> (last visited June 27, 2015).

61. *Corporate Overview*, BILLABONG, <http://www.billabongbiz.com/phoenix.zhtml?c=154279&p=irol-homeProfile> (last visited June 27, 2015).

62. Lazarow et al., *supra* note 39, at 27.

63. *Surf City USA Legal Battle Is Over*, SURFER TODAY (Jan. 23, 2008), <http://www.surfertoday.com/surfing/408-surf-city-usa-legal-battle-is-over>.

IV.

WHAT ARE THE MAJOR THREATS TO SURFING RESOURCES?

Surfing resources are vulnerable on multiple fronts.⁶⁴ The common denominator among all of the major threats to quality surf breaks is human activity.⁶⁵ Chad Nelson provides a thorough overview of the main threats to surfing:

Loss of beach access can limit opportunities to recreate in certain places. Ocean pollution can threaten the health of ocean users, kill coral reefs or result in beaches being closed. Modifications to the shoreline and alteration of coastal processes from seawalls, jetties and beach fill can change nearshore bathymetry and impact the quality surfing areas. Over development of our watersheds can impact water quality and limit sediment flow that provides sand and cobble that make up surf breaks and reefs.⁶⁶

This description shows that the threats to surfing resources are varied, complex, and multiple. It is important to remember that these threats are not mutually exclusive, and that multiple threats may exist at a single surfing resource.

An examination of instances where valuable surfing resources have been lost provides some useful context. The first example, in Dana Point, California, is perhaps the most well known among Californian surfers.⁶⁷ Today, Dana Point is best known for its multi-purpose harbor, which houses 2,500 boats and thirty shops within a 1.5 mile long man-made jetty.⁶⁸ The harbor and jetty are located at what was once one of California's early surfing centers, a surf break named Killer Dana.⁶⁹ Killer Dana

64. Chad Nelsen, *Protecting Ocean Recreation and Surfing*, SURFRIDER FOUND. (Mar. 20, 2013), <http://www.surfrider.org/coastal-blog/entry/protecting-ocean-recreation-and-surfing>.

65. *Id.*

66. *Id.*

67. See Greg Heller, *Killer Dana*, SURFLINE, http://www.surflines.com/surfing-a-to-z/killer-dana-history_844 (last visited June 27, 2015) [hereinafter *Killer Dana*].

68. See *Points of Interest*, CITY OF DANA POINT, <http://www.danapoint.org/index.aspx?page=142> (last updated May 6, 2010).

69. *Killer Dana*, *supra* note 67.

was known for its quality surfing waves, and for its ability to produce quality waves even during the biggest summer swell events when other spots were unable to translate the ocean's energy into good surfing waves.⁷⁰ Chris Ahrens illustrates the effect of the loss of Killer Dana on those who frequented the surf break:

It was like a sudden death that you couldn't talk about. I couldn't even look at it for probably 10 years, just the most painful thing you can imagine. It was a whole world, a whole history erased. I knew I'd never feel at home in Southern California again. If they can do that, they can do anything.⁷¹

Killer Dana is an example of the complete destruction of a high-quality surfing resource located in one of the most congested surf zones in the world by coastal development that disregarded its value.

Another example of a surfing resource destroyed by a man-made alteration to the coastline is located just up the coast from the skeleton of Killer Dana in Ventura, California, where in 1970 the state undertook a project to widen Highway 101.⁷² To avoid widening by extending the highway further inland on top of known oil fields, the project instead increased the highway's area by extending the coastline out further into the Pacific Ocean, placing large boulders on the beach and out into the near-shore surf zone.⁷³ Unfortunately for local surfers, this coastal extension resulted in boulders burying a popular surf break known as Stanley's Reef, now the site of the Southbound 101 Seacliff off-ramp.⁷⁴ Yvon Chouinard, founder of Patagonia, explains that Stanley's was not only valuable to surfers because of its easy accessibility from Highway 101 and the high quality wave that the reef produced, but was also unique in the Ventura area because it was protected from the springtime winds that would

70. *See id.*

71. *Id.*

72. *See Stanley's Reef Foundation*, STANLEY'S REEF FOUND., <http://www.stanleysreef.org/> (last visited June 27, 2015).

73. *Id.*

74. SURFER MAGAZINE, SURFER MAGAZINE'S GUIDE TO SOUTHERN CALIFORNIA SURF SPOTS 47 (2006).

ruin the quality of the waves breaking at other surf breaks in the area.⁷⁵ Stanley's was also unique to the area because it was exposed to the swells coming from the northern Pacific during winter, as well as the swells coming from the southern Pacific during summer, whereas many surf breaks in the area are only exposed to the winter swells.⁷⁶ Thus, Stanley's Reef offered surfers a highly accessible surf break that would consistently produce high quality surfing waves, the loss of which logically meant that surfers would have fewer opportunities to surf quality waves in the area. The loss of Stanley's Reef provides another clear example of coastal development moving forward without prioritizing the value of local surfing resources.

The histories of Killer Dana and Stanley's Reef highlight the threat to surfing resources posed by coastal development. As Chad Nelsen's overview explains, however, there are other less-obvious threats facing surfing resources.⁷⁷ Restricted coastal access to areas with surfing resources excludes people from using the resource, essentially having the same effect as if the resource did not exist at all.⁷⁸ An example of this can be seen at a stretch of coast known to surfers as The Ranch on the Gaviota Coast, in between Point Conception and Gaviota in California.⁷⁹ This stretch of coast is a thing of California surfing lore, and most California surfers are familiar with stories of world-class surf breaks littering the coast with no surfers around to compete with.⁸⁰ The reality is that this stretch of coast is indeed littered with world-class surf breaks, but access by automobile along the only road is restricted to property owners.⁸¹ Although some surfers have resorted to accessing this stretch of coast via boat or by taking advantage of the public trust doctrine⁸² and walking

75. See Patagonia, *Stanley's: A Lost Treasure*, YOUTUBE (May 03, 2010), <https://www.youtube.com/watch?v=Tgonf2meB1M>.

76. SURFER MAGAZINE, *supra* note 74, at 40, 47.

77. See *supra* notes 64-66 and accompanying text.

78. See Nelsen, *supra* note 64.

79. SURFER MAGAZINE, *supra* note 74, at 25.

80. *Id.*

81. *Id.* at 26-27.

82. The public trust doctrine ensures that each state in the United States holds its navigable waterways and submerged lands in trust for the benefit of

on the wet sand at low tide, for most Southern California surfers, these high quality surf breaks may as well be on another continent.⁸³ The story of The Ranch serves as another example of the means through which surfers can be denied the use of quality surfing resources.

Numerous other examples of surfing resources that have been damaged or destroyed exist, both in the United States and abroad,⁸⁴ but the aforementioned examples of surfing resources negatively impacted in locations close to the homes of the hordes of Southern Californian surfers show that these threats to surfing resources have a real possibility of negatively impacting the surfing community. If these resources still existed, surfers would have more locations to enjoy, and perhaps more people would be drawn to surfing. The threats to surfing resources are real, and although it may only take a day of construction to destroy a surfing resource forever, it often takes time measured on a geological scale for the earth's processes to create these resources.⁸⁵ Thus, we must work proactively to protect surfing resources from these threats; this is not something that retroactive action can effectively remedy.

V.

WHAT IT MEANS TO PROTECT SURFING RESOURCES

Protecting a specific surfing resource involves preventing human activity from impacting the manner in which the wave at that surfing resource breaks in a way that is detrimental to surfing that wave. This definition of protection does the most to safeguard the interests of surfers by allowing human activity that would enhance the quality of the wave breaking at a surfing resource. Taking a holistic view of protecting surfing resources in

the entire public. In California, the state holds all navigable waters up to the mean high tide line in trust for the public; so, as a rule of thumb, water from the wet sand seaward is held for everyone's use. *See infra* Part VI.D.

83. *Id.* at 28.

84. *See, e.g., Endangered Waves, SAVE THE WAVES COAL.*, <http://www.savethewaves.org/programs/endangered-waves/> (last visited June 27, 2015) [hereinafter *Endangered Waves*] (providing examples of endangered surf spots around the world in need of protection).

85. *See Haro, supra* note 57.

general, this definition would also allow for the creation of new surfing resources resulting from human activity. Thus, this approach embraces human activity like the Tweed River Entrance Sand Bypassing Project on the Gold Coast of Australia that pumped sand around the eastern edge of Snapper Rocks and created the surfing resource known as the Superbank, which is a world class and immensely popular surfing resource.⁸⁶ This definition of protection also accounts for the fact that natural processes can have negative impacts on surfing resources, such as the buildup of sand on a reef.⁸⁷

Although this approach to protecting surfing resources allows for human activity that enhances existing resources, such activities should be avoided when possible due to the unpredictability of the results.⁸⁸ Multiple attempts to create artificial surfing reefs have failed, and many of the artificially-created surfing resources that do exist are a fortunate by-product of another activity, such as the dredging of a river mouth to facilitate the navigation of ships, or the construction of a breakwater in order to create a harbor.⁸⁹ These examples illustrate the lack of a comprehensive understanding of how to affect surfing resources in a positive way and demonstrate that we should take a hands-off approach when managing existing surfing resources that have not already been negatively impacted by human activity. As for surfing resources that have already been negatively impacted by human activity, attempts to restore the surfing resource should be pursued so long as they are well-researched.⁹⁰ As we move into the future, the main focus

86. *History of Snapper Rocks*, SNAPPERROCKS.COM (2006), <http://www.snapperrocks.com/history.htm>.

87. Jeff Goertzen, *Pipeline 101*, ORANGE COUNTY REGISTER, Dec. 12, 2012, at Sports 8, available at <http://files.onset.freedom.com/ocregister/graphics/Pipeline101.pdf>.

88. Jim's Blog, *Do Artificial Surfing Reefs Work?*, SURFRIDER FOUND. (Dec. 03, 2009), <http://www.surfrider.org/jims-blog/entry/do-artificial-surfing-reefs-work-summary>.

89. *Id.*; *History of Snapper Rocks*, *supra* note 86; *Surfing Sandspit, Santa Barbara*, TRAVEL GROM, <http://www.travelgrom.com/surf-spots/santa-barbara/sandspit-harbor> (last visited June 28, 2015).

90. Sean Collins, *The Mechanics of Malibu: Analyzing SoCal's Most Iconic Surf Spot*, SURFLINE, at 13 (May 13, 2011), <http://www.surflines.com/surf>

of protecting surfing resources should be to avoid any activities that would require restoring a surfing resource; our foundation for protection should be to avoid any actions that effect existing surfing resources.⁹¹ Instead, we should plan any development or other activities in ways that allow the waves to break at a surfing resource in the manner that natural processes dictate.

VI.

METHODS FOR PRESERVING SURFING RESOURCES

With an understanding of what a surfing resource is, why these resources are limited, what threats they face, the effects of losing them, and what it means to protect them, this paper will now address the most important issue: how can we save surfing resources? The most direct answer is to pass and enforce laws that specifically protect surfing resources from harms resulting from human activity. This solution, if it were to ever be realized in the United States, would certainly take time to implement. Thus, other methods and strategies within the already existing political and legal frameworks are necessary to achieve this goal. Given that every surfing resource is surrounded by its own unique set of circumstances, it is likely that different strategies and combinations of strategies will be best suited for different surfing resources. The goal here is simply to identify possible strategies that may be effective generally, and to provide some examples of how these strategies have been effective in protecting surfing resources. This discussion focuses on methods for preservation in the United States, with a particular focus on California, but draws from international examples as well.

A. *Laws With the Purpose of Protecting Surfing Resources*

The most effective way to protect surfing resources would be to pass laws that have a primary purpose of protecting surfing

news/malibu-surf-mechanics_55498; Chad Nelsen, *West Is Best: Relocation of the Malibu Lagoon Inlet*, SURFRIDER FOUND. (May 18, 2012), <http://www.surfrider.org/coastal-blog/entry/west-is-best-relocation-of-the-malibu-lagoon-inlet>.

91. Jim's Blog, *supra* note 88.

resources. These laws should identify the surfing resources that exist in their jurisdiction and should include any area where surfers ride breaking waves in order to provide the greatest protection. Any activity that has the potential to affect an existing resource should be prohibited. These laws should also ensure that protected resources remain accessible to the public. At existing resources, the health of the surfing resource should take priority over other considerations, so that any habitat restoration or beach nourishment projects in the surrounding area would have to be carried out in a fashion that does not impact the surfing resource. This approach of valuing surfing above all other uses at a surfing resource would do the most to ensure the protection of these resources. This is not to say, however, that other uses and concerns, such as the health of a fragile habitat, should be ignored. Instead, these laws would work to require lawmakers to take a holistic approach to coastal management and adopt a perspective that places a high value on our limited surfing resources.

Internationally, there are already examples of governments providing legal protection to surfing resources. On December 8, 2013, Ollanta Humala, the President of Peru, signed into law the “Ley de Rompientes,” or the Law of the Breakers.⁹² The law protects every quality surfing resource on the Peruvian coastline from development, deeming these resources to be important pieces of natural heritage.⁹³ The surfing resources and their surrounding areas have been officially designated as “inalienable property of the state” in order to remain available for surfing.⁹⁴ Carlos Neuhaus, President of the Federation of Peruvian Surfing, explained the motivation behind the legislation:

92. Haro, *supra* note 57. The Spanish-language text of the legislation can be found at *Ley de Preservación de las Rompientes Apropriadas para la Práctica Deportiva (Ley No. 27280)*, JUSTIA PERÚ (June 6, 2000), <http://docs.peru.justia.com/federales/leyes/27280-jun-6-2000.pdf>.

93. Struan Gray, *Peruvian Waves Protected by Law*, MAGIC SEAWEED (Jan. 16, 2014), <http://magicseaweed.com/news/peruvian-waves-protected-by-law/5963/>.

94. *Id.*

[Surfing resources] take years, perhaps hundreds of thousands of years to form. . . . [W]e only want to have an effective legal mechanism to protect our waves. . . . It's very easy to damage a [surfing resource], it's almost impossible to reinstate or recuperate one.⁹⁵

Peru's effort in the area of surfing resource protection is groundbreaking, as Peru is the first country to officially recognize the value of its surfing resources by providing legal protection to all of its quality surfing resources.⁹⁶ The Law of the Breakers illustrates that legislation designed specifically to protect surfing resources is possible to draft and adopt. It shows that governments may be open to recognizing the value contained in their countries' surfing resources. We will have to wait and see how Peru implements its law and whether it is successful, but it will surely provide a lesson in how to go about protecting an entire coastline's surfing resources, and it may even serve as a model for future laws of this type in other nations.⁹⁷

Another example of legal protection of a surfing resource comes from Bells Beach, in Victoria, Australia. Bells was the world's first "Surfing Recreation Reserve," and has been protected as such since 1971.⁹⁸ This status is an official designation of the Victorian government, which works to preserve the surfing resource at Bells as well as the area's environmental and cultural resources.⁹⁹ Although the environment at Bells lends itself to multiple activities such as hiking and hang gliding, recreational surfing is clearly defined as the prioritized activity in the reserve.¹⁰⁰ The Victorian government explicitly recognizes the value of the surfing resource at Bells, and its continuing vision for the reserve

95. *Id.*

96. *Id.*

97. *Id.*

98. *Save Bells Beach (Endangered Wave)*, SURFRIDER FOUND. AUSTL, http://www.surfrider.org.au/save_bells_beach_endangered_wave (last visited June 28, 2015).

99. *Id.*

100. *Id.*

reflects this: “[t]he Vision for the reserve is to protect and enhance the natural values of the reserve as well as retain the social and cultural values associated with the use of the reserve for surfing and its broader contribution to surf culture.”¹⁰¹

The reserve was created as a direct result of the influence of surfing on the local community and the rich history of surfing at the site.¹⁰² The area of land in the reserve at Bells remains relatively undeveloped except for some public amenities, and the surfing resource at Bells remains world-class. The reserve status requires that the Surf Coast Shire Council maintain the area, as well as develop and maintain management plan activities for the future preservation of the reserve.¹⁰³ This legal acknowledgment of the value of the surfing resource at Bells has been effective in ensuring the safety of the resource since 1971, showing that this model is viable option for the preservation of other surfing resources.

Legal protection of surfing resources in California could incorporate elements from these two examples. Peru’s approach has the proper scope to protect all of the surfing resources on its coastline.¹⁰⁴ This scope is already in agreement with the public trust doctrine in California, discussed later in this paper, in that all ocean waters of the state are held in trust for the use of the public. Thus, the state would not need to take ownership of any new land to achieve this scope of protection.¹⁰⁵ Bells’ successful protection has been achieved through oversight and management of the resource by a local council, and thus provides a model for how the protection of specific resources can be

101. SURF COAST SHIRE, BELLS BEACH SURFING RECREATION RESERVE: COASTAL MANAGEMENT PLAN AND MASTERPLAN iii (2010), *available at* http://www.surfcoast.vic.gov.au/files/044953ac-4cf5-4cef-81d9-a2ec0110fa26/Draft_Bells_Beach_Surfing_Reserve_Coastal_Management_Plan_10Sept2010_Part_A.pdf.

102. Bridget Reedman, *Bells Beach Surfing Reserve*, COASTAL WATCH BLOG (Apr. 22, 2011), <http://www.coastalwatch.com/environment/8862/bells-beach-surfing-reserve>.

103. *Id.*

104. Gray, *supra* note 93.

105. CAL. STATE LANDS COMM’N, THE PUBLIC TRUST DOCTRINE 1-2, *available at* http://www.slc.ca.gov/About_The_CSLC/Public_Trust/Public_Trust_Doctrine.pdf.

carried out.¹⁰⁶ In California, regional councils could be established to study specific features like bathymetry and sediment flow at local surfing resources so that the councils can better recognize activities that would pose a threat to these resources. By passing a law that covers all of the surfing resources on the California coast, and using regional councils to oversee the protection of the resources in its region, California could succeed in protecting its surfing resources.

B. *Government-Owned Parks*

Governmental ownership and management of an area containing a surfing resource is a means for ensuring that the surfing resource will be free from future development, remaining in its natural state. Both state and national parks exist in the United States to preserve areas of important cultural and natural value. The National Park Service states as its primary responsibility, “[to ensure] that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them.”¹⁰⁷ Government-owned parks provide a high level of protection for the areas included in their systems, and surfing resources exist in an area that one might think of in connection with government owned parks: the coastline. In California, state parks already protect a number of surfing resources as an indirect effect of the deeding of approximately one-third of California’s scenic coastline into the state park system.¹⁰⁸

One example of the effectiveness of a government-owned park in preserving a surfing resource can be found in Southern California. El Capitan State Beach is located 17 miles west of Santa Barbara, California, and partially visible from Highway 101.¹⁰⁹ Part of the California state park system since 1953, El

106. Reedman, *supra* note 102.

107. NAT’L PARK SERV., MANAGEMENT POLICIES 2006, §1.4.4, at 11 (2006), available at <http://www.nps.gov/policy/MP2006.pdf>.

108. *About Us*, CAL. DEPT’ OF PARKS & RECREATION, http://www.parks.ca.gov/?page_id=91 (last visited June 28, 2015).

109. *El Capitán State Beach*, CAL. DEPT’ OF PARKS & RECREATION, http://www.parks.ca.gov/?page_id=601 (last visited June 28, 2015).

Capitan beach is home to a surfing resource which can be world-class when the conditions are right.¹¹⁰ El Capitan is located on the Gaviota Coast in California, which comprises only 15 percent of Southern California's coastline, but consists of 50 percent of Southern California's undeveloped coastline.¹¹¹ Due to the beauty of the area and its proximity to the population centers of Southern California, the Gaviota Coast is under serious threat of development.¹¹² Due to El Capitan's inclusion in the state park system, however, this legendary surfing resource will likely survive, even if much of the virgin coastline surrounding it does not.

Government-owned parks provide a viable path towards preservation for some surfing resources. Many surfing resources are located along beautiful stretches of coastline in areas that are suitable for more activities than just surfing, such as fishing, hiking, and sightseeing. Further, many surfing resources are cultural landmarks within their local communities, such as Surfrider Beach in Malibu, California.¹¹³ Surfing resources that possess these qualities are good candidates for designation as government-owned parks as a means to protect them from the threats of human activity.

C. *Marine Protected Areas*

Marine protected areas (MPAs) are areas of the ocean where human activities are restricted in varying degrees in order to protect marine life or habitat.¹¹⁴ Designed with the purpose of

110. CAL. DEP'T OF PARKS AND RECREATION, EL CAPITÁN STATE BEACH 2-3 (2009).

111. *Home*, GAVIOTA COAST CONSERVANCY, <http://www.gaviotacoastconservancy.org/> (last visited June 28, 2015).

112. *Frequently Asked Questions*, GAVIOTA COAST CONSERVANCY, <http://www.gaviotacoastconservancy.org/faqs#FAQ1> (last visited June 28, 2015).

113. *See* SAVE THE WAVES COAL., MALIBU WORLD SURFING RESERVE 5-7 (2010) [hereinafter MALIBU WORLD SURFING RESERVE], *available at* http://www.savethewaves.org/wp-content/uploads/STWbookMalibu_final1.pdf (providing an overview of the history of Surfrider beach and its place in surfing culture).

114. *Frequently Asked Questions (FAQs)*, CAL. DEP'T OF FISH & WILDLIFE, <https://www.dfg.ca.gov/marine/mpa/faqs.asp> (last visited June 28, 2015).

protecting aquatic species, at first glance MPAs are not a likely candidate for protecting surfing resources. However, reefs are commonly protected by MPAs as habitats, and some reefs create breaking waves that are desirable for surfing.¹¹⁵ As a result, protecting a reef that provides a valuable ecological habitat as an MPA results in a protection of the surfing resource sustained by the same reef.

One example of this type of preservation ensuring the protection of a surfing resource exists at the Tres Palmas Marine Reserve in Rincón, Puerto Rico. The reserve exists to preserve the Elkhorn coral reefs present at the site, which protect the local coastline from erosion, provide essential fish habitat, serve as an ideal site for snorkeling, and create a world-class surf break.¹¹⁶ What makes this reserve a unique example of surfing resource preservation is that the reserve exists specifically to protect the health of the reef, and the reef is the bathymetric feature directly responsible for the formation of the high-quality wave.¹¹⁷ Thus, protection of the reef is essentially protection of the surf break.

This method of surfing resource preservation could be effective at other sites where unique bathymetric features such as reefs are the source of both the surf break and valuable ecological resources. Protecting habitats that are also surfing resources is in line with the goals of California's Marine Life Protection Act (MLPA), which governs California's system of MPAs.¹¹⁸ Under the MLPA, all non-extractive uses such as swimming, boating, diving, and surfing are allowed in MPAs unless specifically prohibited.¹¹⁹ In fact, one stated goal of the MLPA is to improve

115. See Camilo Mora et al., *Coral Reefs and the Global Network of Marine Protected Areas*, 312 *SCIENCE* 1750, 1750 (2006); *Loss of Surfing Habitat*, SUSTAINABLESURF.ORG, <http://sustainableurf.org/eco-education/loss-of-surfing-habitat/> (last visited June 28, 2015).

116. CHAD E. NELSEN & LEON RICHTER, SURFRIDER FOUND., *SALVA TRES PALMAS: A COMMUNITY-DRIVEN EFFORT TO PROTECT COASTAL AND MARINE RESOURCES IN RINCÓN, PUERTO RICO 1* (2005), available at http://public.surfrider.org/files/TCS_tres_paper.pdf.

117. *Id.*

118. CAL. DEP'T OF FISH & WILDLIFE, *supra* note 114.

119. *Id.*

recreational opportunities within California's MPAs.¹²⁰ Multiple MPAs in California already include surfing resources within their boundaries, such as the Point Dume State Marine Reserve in Malibu and the Swami's State Marine Conservation Area in North San Diego County.¹²¹ These examples show that MPAs can be useful tools for protecting surfing resources that double as valuable ecological habitats. MPAs are not an ideal method for protecting surfing resources, however, because their purpose is to protect living marine resources.¹²² Thus, if surfing and ecological interests were to come into conflict in an MPA, the surfing resource would lose out. But, because surfing is a non-extractive activity, it is unlikely that this conflict would actually occur.¹²³

D. *The Public Trust Doctrine*

The public trust doctrine ensures that each state in the United States holds its navigable waterways and submerged lands in trust for the benefit of the entire public.¹²⁴ In California, the state holds all navigable waters up to the mean high tide line in trust for the public; so, as a rule of thumb, water from the wet sand seaward is held for everyone's use.¹²⁵ These public trust lands are available for use by the public for multiple purposes, including water-related commerce, navigation, fishing, bathing, swimming, boating, and general recreation.¹²⁶ The public trust doctrine works to ensure that the areas held in trust remain open to the use of the public. Furthermore, the public trust doctrine works not only to prevent private ownership of the land held in trust, but also to limit the authority the state has to exploit these areas:

120. *Id.*

121. *Southern California Marine Protected Areas*, CAL. DEPT OF FISH & WILDLIFE, https://www.dfg.ca.gov/marine/mpa/scmpas_list.asp (last visited June 28, 2015).

122. CAL. DEPT OF FISH & WILDLIFE, *supra* note 114.

123. *Id.*

124. CAL. STATE LANDS COMM'N, *supra* note 105, at 1-2.

125. *Id.* at 2.

126. *Id.* at 3.

The Legislature, acting within the confines of the common law public trust doctrine, is the ultimate administrator of the tidelands trust and often may be the ultimate arbiter of permissible uses of trust lands. All uses, including those specifically authorized by the Legislature, must take into account the overarching principle of the public trust doctrine that trust lands belong to the public and are to be used to promote public rather than exclusively private purposes. The Legislature cannot commit trust lands irretrievably to private development because it would be abdicating the public trust.¹²⁷

It is clear that the public trust doctrine is a powerful tool for preserving the navigable waters and submerged lands.

The public trust doctrine can be employed in multiple different ways to protect and preserve surfing resources in California. The doctrine already functions to maintain public access to coastal areas, as California's public trust doctrine permits the public to walk on the wet sand and protects public use of navigable waters for boating.¹²⁸ However, the obvious weakness in the doctrine's ability to ensure access to surfing resources is that the wet sand is submerged under water and not walkable except during lower tides. Thus, to take full advantage of the right to access the coast, one must own a boat or other aquatic vehicle, which is unattainable for large segments of the population due to the cost and maintenance required. Although limited in its effect as it currently exists in California, the public trust doctrine can work to combat the threat of lack of public access to surfing resources.

The public trust doctrine also may function in California to limit the threat of coastal development to surfing resources, since it requires that "all uses, including those specifically authorized by the Legislature, must take into account the overarching principle of the public trust doctrine that trust lands belong to the public and are to be used to promote public rather than exclusively private purposes."¹²⁹ Further, the California

127. *Id.* at 3-4.

128. *Id.* at 1-3; *see also supra* notes 78-83 and accompanying text.

129. *Id.* at 3.

Supreme Court declared in 1971 that one of the most important uses of the public trust doctrine is to preserve tidelands in their natural state.¹³⁰ However, the doctrine permits leasing of public trust lands for uses such as wharves, warehouses, ports, restaurants, hotels, shops, and parking areas.¹³¹ Thus, although the public trust doctrine may have provided a weapon for arguing for the preservation of Killer Dana, it would still have permitted the use of the public trust lands that Killer Dana occupied in order to construct Dana Point Harbor and all of its shops.¹³² While prohibiting development of the trust lands for strictly private uses, the public trust doctrine as it currently exists in California still allows the use of tidelands for the aforementioned public uses. Thus, it only functions to provide one layer of protection from the threat of coastal development to surfing resources.

So far, this discussion has focused on the public trust doctrine as it currently exists in California. The doctrine has not always had the same scope as it does now, and in other states the scope is different.¹³³ For example, in Hawaii the public is guaranteed access to lands below the highest point that the waves may reach on high tide during the largest swells, which often is the first vegetation line and thus can include entire dry-sand beaches.¹³⁴ New Jersey is particularly aggressive in recognizing the public's right to access coastal areas, granting the public the right to travel across and recreate on any dry-sand area between the ocean's edge and the nearest public road.¹³⁵ The doctrine has evolved over time as state common law. Accordingly, it is always subject to new interpretations and can potentially adapt to address new issues.¹³⁶ In order to provide greater protection for surfing resources, the doctrine could be expanded in California to

130. See *Marks v. Whitney*, 6 Cal. 3d 251, 259-60 (1971).

131. CAL. STATE LANDS COMM'N, *supra* note 105, at 5.

132. See *supra* notes 67-71 and accompanying text.

133. See *Marks*, *supra* note 130, 6 Cal. 3d at 258-59; HAW. REV. STAT. § 115-5 (2013).

134. HAW. REV. STAT. § 115-5.

135. Richard M. Frank, *The Public Trust Doctrine: Assessing Its Recent Past & Charting Its Future*, 45 U.C. DAVIS L. REV. 665, 674 (2012).

136. CAL. STATE LANDS COMM'N, *supra* note 105, at 3.

hold in trust all dry sand beaches, permit the public's use of any lands needed in order to access a surfing resource, prioritize surfing over other types of activities, and prohibit the leasing of lands containing or existing near any surfing resource for uses such as wharves, warehouses, ports, restaurants, hotels, shops, and parking areas.

Convincing arguments for these expansions in scope can be made in California by appealing to the large number of people who participate in surfing, estimated at 1.1 million in 2001.¹³⁷ The great number of people who are attracted to these resources shows a large public interest in using them, and prioritizing the protection of these resources would fit with the doctrine's purpose of protecting public uses.¹³⁸ Just as the doctrine has evolved into its current scope in California, arguments can be made to extend the doctrine's reach further with the priority of protecting surfing resources in mind. If accepted by the courts, these arguments could make the public trust doctrine a very powerful tool for protecting surfing resources.

E. *Official Recognition of Surfing Resources*

Official recognition of a surfing resource is a public declaration of the value of the resource. This type of recognition falls short of a legal declaration, and has no legal enforceability. It may come in the form of a plaque, a designation by a local government, a sign reading "Welcome to Malibu, Home of World Famous Surfrider Beach!"¹³⁹ or a more formal recognition such as a World Heritage Site.¹⁴⁰ Although these means of recognition

137. Lazarow et. al., *supra* note 39, at 25.

138. See, e.g., CAL. STATE LANDS COMM'N, *supra* note 105, at 3 (stating that "[i]n more recent years, however, the California Supreme Court has said that the public trust embraces the right of the public to use the navigable waters of the state for bathing, swimming, boating, and general recreational purposes.").

139. The sign greeting people as they enter Malibu actually reads, "Malibu: 27 Miles of Scenic Beauty." See *Malibu Greeting Sign*, FOURSQUARE, <https://foursquare.com/v/malibu-welcome-sign/4c9d0f7103133704d22f5bd5> (last visited June 28, 2015).

140. Jim's Blog, *What Does it Mean to Protect a Wave?*, SURFRIDER FOUND. (July 9, 2012), <http://www.surfrider.org/jims-blog/entry/what-does-it-mean-to-protect-a-wave2>.

carry no legal weight, they express a public appreciation for the value of the surfing resources they recognize, generate a sense of local pride with regard to the surfing resource, and may create strong political pressure to preserve the surfing resource.¹⁴¹ After all, it is much less likely that a community would permit activity that would destroy a resource if that community has come to identify itself with the resource.

One type of recognition that is already established worldwide and could be applied to surfing resources is that of the United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage site. According to their website, “The United Nations Educational, Scientific and Cultural Organization (UNESCO) seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity.”¹⁴² To qualify, a site must meet at least one of ten criteria that encompass both cultural and natural values.¹⁴³

Surfing resources could qualify under a number of different criteria, depending on the specific surfing resource at issue. For example, a surfing resource currently under threat of damage¹⁴⁴ could qualify under UNESCO criteria as “an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change.”¹⁴⁵ Alternatively, a surfing resource that is central to the culture and history of surfing, but not currently under any major threat of damage, such as Surfrider beach in Malibu, California,¹⁴⁶

141. *Id.*

142. *World Heritage*, UNITED NATIONS EDUCATIONAL, SCIENTIFIC & CULTURAL ORG., <http://whc.unesco.org/en/about/> (last visited June 28, 2015).

143. See *The Criteria for Selection*, UNITED NATIONS EDUCATIONAL, SCIENTIFIC & CULTURAL ORG., <http://whc.unesco.org/en/criteria/> (last visited June 28, 2015) [hereinafter *The Criteria for Selection*].

144. For a list of surfing resources currently facing serious threats, see *Endangered Waves*, *supra* note 84.

145. *The Criteria for Selection*, *supra* note 143.

146. For an overview of the history of Surfrider beach and its place in surfing culture, see MALIBU WORLD SURFING RESERVE, *supra* note 113, at 5-7.

could qualify under UNESCO criteria as a site “bear[ing] a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared.”¹⁴⁷ Due to their coastal locations, which are places often visited for their natural beauty, and as the product of complex geological forces, a large number of surfing resources could qualify under UNESCO criteria as a site “contain[ing] superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance.”¹⁴⁸

These examples provide a brief overview of what is required to receive World Heritage site recognition, and to show that many of the world’s surfing resources could likely qualify. Although the designation as a World Heritage site does not carry any legal obligation to preserve a site, the recognition of a site is a pledge to the international community to preserve the site.¹⁴⁹ In existence since 1972 and recognized worldwide, the World Heritage designation is a powerful tool for preserving sites, and could possibly be applied to the preservation of surfing resources.¹⁵⁰

Recently, a recognition scheme was created specifically to identify valuable surfing resources, and multiple sites have been declared World Surfing Reserves.¹⁵¹ World Surfing Reserves, a program of Save the Waves, is an attempt to bring World Heritage-type recognition and preservation efforts to the world’s best surfing resources.¹⁵² The mission statement of World Surfing Reserves reflects this goal:

World Surfing Reserves proactively identifies, designates and preserves outstanding waves, surf zones and their surrounding environments around the world. The program serves as a global model for preserving wave breaks and their surrounding areas by

147. *The Criteria for Selection*, *supra* note 143.

148. *Id.*

149. *The World Heritage Convention*, UNITED NATIONS EDUCATIONAL, SCIENTIFIC & CULTURAL ORG., <http://whc.unesco.org/en/convention/> (last visited June 28, 2015).

150. *Id.*

151. *See About World Surfing Reserves*, SAVE THE WAVES COAL., <http://www.savethewaves.org/programs/world-surfing-reserves/about/> (last visited June 28, 2015) [hereinafter *About World Surfing Reserves*].

152. *Id.*

recognizing and protecting the positive environmental, cultural, economic and community attributes of surfing areas.¹⁵³

Although the designation of a site as a World Surfing Reserve carries no legal obligation to preserve the site, the program is designed to ensure preservation of its dedicated sites through the efforts of local communities.¹⁵⁴ In order to be deemed a World Surfing Reserve, there must be strong support for the preservation of the surfing resource from the local community.¹⁵⁵ The recognition of a site as a World Surfing Reserve calls the public's attention to the value of the surfing resource and provides a symbol for people to rally behind. Active and dedicated locals are the gatekeepers to the resource, and work to manage the reserve.¹⁵⁶ This structure of locals taking the lead in preservation is built into the World Surfing Reserve program.¹⁵⁷ After a site becomes a dedicated World Surfing Reserve, the local community and Save the Waves develop a Local Stewardship Plan and create a Local Stewardship Council to oversee implementation of the preservation plan.¹⁵⁸ As the names imply, the reserve's local community takes the lead in preserving the resource, with the support of Save the Waves Coalition.¹⁵⁹ Save the Waves also stays involved in ensuring the reserve's preservation through ongoing management and evaluation efforts.¹⁶⁰

Giving surfing resources a well-known official recognition is a large step toward preserving those recognized resources. It creates awareness and fosters pride in the value of the recognized surfing resource, creating political energy favoring preservation. These official recognitions have the obvious weakness, however, of carrying no legal authority or

153. *Id.*

154. *See World Surfing Reserves: The Process*, Save the Waves Coal., <http://www.savethewaves.org/programs/world-surfing-reserves/the-process/> (last visited June 28, 2015).

155. *See id.*

156. *About World Surfing Reserves*, *supra* note 151.

157. *See id.*

158. *See id.*

159. *See id.*

160. *Id.*

enforceability. They rely on the will of the local communities to ensure that the resource is preserved, but provide these communities with no real weapons to deploy in order to do so. The World Surfing Reserve program may prove to be useful in raising awareness of the importance of preserving surfing resources, which could be a step toward achieving legally enforceable preservation measures. Although certainly a step in the right direction, the dedication of a surfing resource as a World Surfing Reserve by itself is unlikely to have a large impact on the preservation of the resource, because the surfing resources that have received dedication so far are some of the most well-known surfing resources in the world.¹⁶¹ As a result of their popularity, these websites already had a large base of supporters in the people who surfed them. In creating some official recognition for a surfing resource, perhaps enough noise will be raised to catch the ears of the non-surfing public and society's decision-makers.

F. *Public Education*

Educating the public in general, and specifically the people who live in areas where valuable surfing resources are located, about the value of surfing resources is a necessary step in the preservation process for every surfing resource. This essential education would explain what surfing resources are, why they are valuable, what types of threats they face, and the negative effects of losing them. Since many of the threats to surfing resources are primarily the result of human activities, these human actors must be educated about the effects of their activities if these negative effects are to be extinguished.¹⁶²

Conveying the value that surfers attribute to surfing resources out of their love of the activity is one aspect of this education, as it provides a background for why people care about preserving these resources. Even so, relying on the empathy of those who do not participate in the activity will probably be

161. *See Reserves*, SAVE THE WAVES COAL., <http://www.savethewaves.org/programs/world-surfing-reserves/reserves/> (last visited June 28, 2015).

162. *See* Nelsen, *supra* note 64.

ineffective. Thus, highlighting the economic impact of surfing and surfing resources discussed earlier should have more of an impact in the minds of people who view natural resources with a focus on their potential to produce.¹⁶³ Many of the battles over more mainstream environmental issues boil down to the value of the resource in its natural state versus the value of the resource if it is put to use and exploited—essentially, inherent value versus economic value. Quantifying the economic value of surfing resources provides a powerful complement to the inherent value argument for preservation, and it is this economic value that is most likely to resonate with the general public and our society's decision-makers. It is essential that the public become educated as to why surfing resources are worth preserving, because if society does not understand the value of surfing resources it will continue to act without regard for them.

This public outreach and education can be enacted in multiple ways. In order to raise general awareness of the issue, participants in an outreach program could station themselves at popular coastal sites and engage with members of the public visiting the site, explaining the value of surfing resources and passing out informational flyers. This could be done at any coastal site, whether it is the home of a surfing resource or not, because the goal is simply to open eyes to the issue. It would be most effective at sites where a popular surfing resource exists, however, because it would provide a concrete example of a valuable surfing resource at a location the target audience has visited. One interesting approach to general public outreach is that taken by the Surfrider Foundation Music Outreach Program, organized by the cooperative efforts of three different U.S. chapters of the Surfrider Foundation.¹⁶⁴ The Music Outreach Program consists of attending live concerts and setting up informational tables in order to promote Surfrider's mission to live music fans.¹⁶⁵

163. *See supra* Part III.C.

164. *See Surfrider Foundation Music Outreach Program*, SURFRIDER FOUND., <http://surfridermop.blogspot.com/> (last visited June 28, 2015).

165. *Id.*

When raising awareness for a specific surfing resource that is threatened, greater efforts could be mobilized. To raise funding, participants in a campaign could sell merchandise, put on events such as benefit concerts, and ask for donations while interacting with members of the public. The collected resources could be put towards informational efforts such as placing advertisements in local, regional, or national newspapers, or creating films for free public distribution describing the resource and the potential threat. A useful example comes from the Save Trestles campaign, headed by the Surfrider Foundation.¹⁶⁶ This campaign has used a combination of, among other things, social media, blogging, t-shirt and sticker sales, and production of informational films about their campaign to rally support for their cause.¹⁶⁷ The efforts of the Save Trestles campaign reached far, and media sources such as the Los Angeles Times picked up on the campaign.¹⁶⁸ The success of public outreach campaigns are limited by the availability of human and economic resources to put towards the effort, but they can work to familiarize the non-surfing public with the issue of protecting surfing resources.

G. *Other Mechanisms*

There are a number of other mechanisms through which surfing resources could be protected. In the interest of addressing in detail only those mechanisms that are best suited to the task of protecting surfing resources, the following mechanisms will receive only brief discussion. They are listed because the more tools for addressing this issue the better the chances of success; however the following mechanisms are either specialized such that they would only be relevant to a small number of surfing resources, or they are otherwise unlikely to be

166. The Save Trestles Campaign rallies to prevent the construction of the 241 toll road through San Onofre State Beach, which may have a negative effect on the world-class surf break Lower Trestles and other neighboring breaks, as well as the local environment. See *Save Trestles*, SURFRIDER FOUND., <http://savetrestles.surfrider.org/> (last visited June 28, 2015).

167. *Id.*

168. Pete Thomas, *Save Trestles: Here We Go Again*, L.A. TIMES OUTPOSTS (Sept. 18, 2008, 8:59 PM), <http://latimesblogs.latimes.com/outposts/2008/09/save-trestles-h.html>.

successful on a large scale. All of the following mechanisms could be used in certain situations, however, so it is important to bring some attention to them.

1. Eminent Domain

Governments could use eminent domain in a situation where access to a surfing resource is restricted due to surfers' inability to cross privately owned land. Eminent domain is a government's power to take private land and convert it for public use.¹⁶⁹ The government can take the offending private land and provide the landowner just compensation, but the Fifth Amendment of the United States Constitution requires that a taking of private land by the government be for a public use.¹⁷⁰ State constitutions may also contain a similar public use requirement.¹⁷¹ A strong argument exists that providing access to a surfing resource for recreation qualifies as a "public use" under these doctrines of eminent domain.¹⁷²

2. Land Trusts

A non-profit or public land trust could purchase an area surrounding a surfing resource in order to preserve it. This mechanism could be effective when a surfing resource is under threat from coastal development. The Land Trust Alliance, for instance, is a national conservation organization with the

169. *Eminent Domain*, LEGAL INFO. INST., http://www.law.cornell.edu/wex/eminent_domain (last visited June 28, 2015).

170. U.S. CONST. amend. V; *see also* DANIEL B. KELLY, JOHN M. OLIN CTR FOR LAW, ECON., AND BUS. FELLOWS, THE "PUBLIC USE" REQUIREMENT IN EMINENT DOMAIN LAW: A RATIONALE BASED ON SECRET PURCHASES AND PRIVATE INFLUENCE (2005), *available at* http://www.law.harvard.edu/programs/olin_center/fellows_papers/pdf/Kelly_5.pdf (exploring two factors that justify the public use requirement and the socially desirable outcome of being able to distinguish between public and private use).

171. *See, e.g.*, CAL. CONST. art. 1, § 19 subdiv. a ("Private property may be taken or damaged for a public use . . .").

172. *See, e.g.*, *Kelo v. City of New London*, 545 U.S. 469, 480, 483 (2005) ("Without exception, our cases have defined [the concept of public use] broadly, reflecting our longstanding policy of deference to legislative judgments in this field . . . [v]iewed as a whole, our jurisprudence has recognized that the needs of society have varied between different parts of the Nation, just as they have evolved over time in response to changed circumstances.").

primary purpose of effecting permanent conservation of natural resources.¹⁷³ A number of land trusts operate in coastal regions, and although they generally focus on preserving wetlands, buffers, and natural ecosystems, a surfing resource surrounded by coastal land containing these sorts of resources could have strong appeal to these types of trusts.¹⁷⁴ Alternatively, advocates could form a land trust with the specific purpose of preserving surfing resources.

3. Listing on the National Register of Historic Places

Section 106 of the National Historic Preservation Act of 1966 requires federal agencies to consider the effects of their actions on sites that are listed on or eligible for listing on the National Register of Historic Places.¹⁷⁵ If it is determined that an agency's actions will have an adverse effect on a qualifying site, the agency must seek ways to avoid, minimize, or mitigate the adverse effect.¹⁷⁶ A site may qualify for listing by meeting any one of four criteria, and certain surfing resources could arguably qualify under subsection (a), which covers sites "that are associated with events that have made a significant contribution to the broad patterns of our history," or subsection (b) which covers sites "that are associated with the lives of persons significant in our past."¹⁷⁷ The effectiveness of this mechanism is limited by its criteria, as only the highest-profile surfing resources could qualify.

4. Conditional Easements and Exactions

Government permitting entities could condition development permits on providing public easements to allow access to surfing

173. *See About Us*, LAND TRUST ALLIANCE, <http://www.landtrustalliance.org/about> (last visited June 28, 2015).

174. *Find a Land Trust*, LAND TRUST ALLIANCE, http://findalandtrust.org/states/california6/land_trusts (last visited July 21, 2015).

175. *Section 106 Regulations Summary*, ADVISORY COUNCIL ON HISTORIC PRESERVATION, <http://www.achp.gov/106summary.html> (last updated Apr. 18, 2013).

176. *Id.*

177. *National Register Evaluation Criteria*, ADVISORY COUNCIL ON HISTORIC PRESERVATION, <http://www.achp.gov/nrcriteria.html> (last visited June 28, 2015).

resources near the development, or impose an exaction to mitigate any negative effects to surfing resources that would result from a proposed development.¹⁷⁸ Unfortunately, an exaction would mean that a development would already cause a negative impact on a surfing resource, and thus any mitigation measure other than avoidance would be a reactive measure, which is not the ideal manner of protecting surfing resources. Nonetheless, a mitigating exaction is still better than allowing a development to negatively impact a surfing resource unchecked.

VII.

CONCLUSION

The world's remaining surfing resources are valuable to surfers and non-surfers alike, but they face substantial threats from human activities. Coastal development, pollution, and a lack of public access to the coast are among the most serious threats to these resources, and have already caused damage or destruction to many of the world's finite number of quality surf breaks.¹⁷⁹ These resources are worthy of protection due to the enjoyment they provide to those people who visit them, the impact that they have had upon our culture, and the economic value of surfing.¹⁸⁰

Protecting a surfing resource might require a strategy combining multiple tools. Different surfing resources will require different strategies adapted to their specific characteristics and the specific threats facing them.¹⁸¹ Gaining support for the preservation of any surf break will require education about the value of that surf break to the local environment, culture, and economy. While education is integral to mobilizing protection, further steps must be taken, such as officially recognizing a valuable surfing resource as a World Heritage Site or a World

178. ANTERO RIVASPLATA, STATE OF CAL. GOVERNOR'S OFFICE OF PLANNING AND RESEARCH, A PLANNER'S GUIDE TO FINANCING PUBLIC IMPROVEMENTS (1997), available at <http://worldcat.org/arcviewer/1/CAX/2008/05/15/000085437/viewer/file1.html>.

179. See Nelsen, *supra* note 64.

180. See *supra* Part III.

181. See *supra* Parts IV-V.

Surfing Reserve, enforcing the right of the public to access and use the surfing resource through the public trust doctrine, or creating a government-owned park or marine protected area that includes a surfing resource inside its boundaries.¹⁸² To best achieve protection, federal, state, and local governments should pass and enforce laws prohibiting any activity that would impact a surfing resource.¹⁸³ All of these preservation tools play a part in the effort to protect surfing resources, and hopefully they will be effective in preventing casualties like Killer Dana¹⁸⁴ and Stanley's Reef.¹⁸⁵

182. *See supra* Part VI.B-E.

183. *See supra* Part VI.A.

184. *See supra* notes 67-71 and accompanying text.

185. *See supra* notes 72-76 and accompanying text.