



A surfer rides a wave at Steamer Lane in Santa Cruz. A new study aims to determine the economic value of surfing to the area in hopes that protecting surf breaks becomes a priority of climate change resilience planning. Credit: Kevin Painchaud / Lookout Santa Cruz

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## The value of a wave: Can Santa Cruz surfing be saved from climate change?



by [Carly Kay](#)  
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## **Quick Take**

Climate change threatens the existence of more than 30 of Santa Cruz's most popular surf breaks. To protect waves before they disappear, Save the Waves Coalition, Black Surf Santa Cruz and Integral Consulting are assessing the economic value of the area's surf breaks and surfing culture with a new study that could make the case for prioritizing surfing in climate resilience planning.

Surfing is priceless. But as the places where waves consistently break in Santa Cruz County are threatened by climate change, a group of advocates is asking a difficult question: What is the economic value of a wave?

Nonprofit groups [Save the Waves Coalition](#) and [Black Surf Santa Cruz](#) are spearheading the most in-depth local analysis on record to determine the economic value of Santa Cruz's surf industry. Their research will help them better understand how to defend more than 30 of the area's most popular surf spots from climate vulnerabilities.

"We've never done a holistic picture of what surfing brings in terms of economic impact, from the surfers visiting here to coastal property values and travel costs," Save the Waves Senior Manager Trent Hodges said. "All that information is really important when we think about how to prioritize protecting our surf breaks."

The team is partnering with researchers from California State University Channel Islands and economists and climate scientists from environmental analysis and assessment group [Integral Consulting](#) to tackle the project in four ways: a survey, focus groups, economic

analysis and climate vulnerability assessments. The project is funded by a \$199,999 grant from the [Ocean Protection Council](#).

## **Following the money**

The study is examining something that was coined “[surfonomics](#)” by Surfrider Foundation CEO and founder Chad Nelsen 20 years ago. Nelsen fought to establish the Tres Palmas Marine Reserve in Puerto Rico, an area that now reaches 1,400 acres into the ocean and protects the elkhorn coral reef responsible for both great waves and rich biodiversity.

But when developers claimed the conservation effort would hurt business, Nelsen called on economist Linwood Pendleton to do a rapid economic analysis of the little seaside town.

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“When we were able to show that the economy is dependent on a healthy coastal and ocean environment, it was a game-changer for the campaign,” Nelsen said. “All of a sudden, the light bulb went on and all these people who were opposing us shifted gears.”



Professional surfer Shaun Burns hopes a new study of the economic value of Santa Cruz's world-class surf breaks will lead to permanent protection and priority in local policies. Kevin Painchaud / Lookout Santa Cruz

Tres Palmas was the first of many surfonomics studies to turn the tide on how policy makers view surf breaks. In 2007, a study of a San Clemente surf spot called Trestles influenced the [California Coastal Commission](#)'s decision to [block a toll road in San Onofre State Beach](#) that would have interrupted the sand movement that helps facilitate waves.

[Shaun Burns](#), a professional surfer in the World Surf League and [World Surfing Reserve](#) coordinator for Save the Waves Santa Cruz, said he hopes evaluating the economic value of surfing in Santa Cruz



will have a similar effect and grant surf breaks permanent protection and priority in local policies.

While most people agree places such as Pleasure Point and Cowell Beach play a significant role in the local economy, Burns found that surfers taking the organization's [survey](#) can only guess at how much surfing brings into Santa Cruz.

“Everyone always starts out with millions of dollars,” Burns said. “But the funny thing is, no one has that exact number.”



Shaun Burns of Save the Waves Santa Cruz. Kevin Painchaud / Lookout Santa Cruz

Integral Consulting economist Dave Anning is duck-diving into the complex world of economic models to find out.

While direct economic impact can be traced back to the amount of money flowing from a surfer's pocket into a pizza parlor, it's more difficult to put a price tag on other benefits.

"There's no lift-ticket price for swimming and surfing in the ocean," Nelsen said. "But there's a value to the waves at Steamer Lane even though it's free to access them."

Anning analyzes these more abstract economic values by looking at surfers' willingness to pay to enjoy a day at the beach. This information can be teased out from costs such as gas, parking and time spent traveling to reach Santa Cruz's world-class waves.

But the most direct approach follows the cash flow that rides the wake of a surf trip. An average visitor from San Jose might rent a place to stay, rent a surfboard, buy a wetsuit, eat out and grab a beer during a weekend visit.

"If we didn't have surfing in Santa Cruz we wouldn't have that economic impact in the community," Save the Waves' Hodges said.

**FROM 2022**

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# protection as one of only a dozen World Surfing Reserves

Anning is also expanding on a landmark [study](#) from Jason Scorse, an economist who was the first to study how surf breaks affect housing prices. In 2013, Scorse found that people who lived in Pleasure Point, Rio Del Mar and Seabright were generally willing to pay over \$100,000 more to live close to good waves. Anning plans to update this information across all 30 surf breaks.

Previously, he did a similar study in Australia to evaluate how much more money a person was willing to pay to live as close to the beach as possible.

“People have been willing to pay up to 40% more to be in the first row houses versus a theoretically identical house in the second row” next to the beach, Anning said. “There can be really large factors over a large property market with a lot of coastline.”

## **Opportunities that come with equity**

While many of these approaches to determine the value of a wave have been applied to other surf towns before, Black Surf Santa Cruz founder Bella Bonner is carving out a new dimension in surfonomics — the missed economic potential of a wave.



Black Surf Santa Cruz founder Bella Bonner. Credit: Kevin Painchaud / Lookout Santa Cruz

When she was first informed about the study, the idea of exploring the lost value to the local economy from people who aren't accessing the ocean piqued Bonner's curiosity.

"If all the barriers that Black Surf aims to combat didn't exist," Bonner said, "how much more would the value of that wave be?"

Surfing is tied to a long history of segregation and causes many beachgoers in Black, Indigenous and people of color (BIPOC) communities to feel unwelcome and unsafe in the water. Obstacles including redlining, lack of access to equipment and transportation,



racial discrimination, generational trauma and more have led to the exclusion of BIPOC communities from outdoor recreational spaces.

In a 2021 survey of Black residents living in Santa Cruz County, 44% reported experiencing microaggressions “often” or “very often” in the county that year, according to a [Black Health Matters Initiative report](#).

Black Surf Santa Cruz is working hard to break down these racial inequities to create safer environments and help get more BIPOC surfers into the water.

Bonner spearheads programs that emphasize joy and healing, establishing a surf culture that is more inclusive and promotes a sense of belonging for all. Black Surf Santa Cruz is breaking down barriers to the sport by providing free surf lessons and equipment, ocean education opportunities and community events.

## **OPINION FROM COMMUNITY VOICES**

***Santa Cruz surfers: We can do better at calling out racism in the water***

Now, Bonner hopes the coalition’s surfnomics project will showcase Black Surf Santa Cruz’s impact on the community. With the help of demographic information pulled from the survey, Anning can use

modeling tools to find out how much more a wave would be worth if surfing was inclusive.

“Surfonomics is the closest methodology I’ve seen to being able to find what the return on investment is for a program like Black Surf Santa Cruz,” Bonner said.

This will be the first time organizers know of BIPOC communities being centered in a surfonomics study.



A new study of the economic value of Santa Cruz’s surf breaks will include an examination of how much more the area could benefit if local surfing was more accessible to communities of color. Kevin Painchaud / Lookout Santa Cruz

“We’re trying to understand the socioeconomic barriers that have existed to surfing,” Hodges said. “We want to understand the marginalization that’s happened that hasn’t allowed other communities, particularly communities of color, to participate in the surfing economy.”

Bonner helped design the survey and is spearheading BIPOC focus groups to address the socioeconomic and cultural gaps in the research.

The focus groups will help researchers understand what factors influence how BIPOC communities choose and experience a surf break. The questions highlight concerns associated with safety, hostile or exclusive beachgoer behavior, and accessibility.

“For me, it’s always about continuing to bring up the cultural components of certain conversations like why a surf break might be safer for certain people,” Bonner said.

The survey now includes demographic questions and emphasizes more entry-level recreational activities such as boogie boarding and bodyboarding in addition to standing surfing, which has been traditionally prioritized by the white male voices that dominate the sport. This will allow analysts to track the data and demographics back to certain surf breaks, emphasizing the needs of BIPOC surfers.



Participants are all smiles as they enjoy the fourth annual Liberation Paddle Out hosted by Black Surf Santa Cruz on June 22, 2024.

Credit: [Sue-Jean Sung @suejayvision](#)

## **A rising sea leads to subpar surf**

Smaller, more approachable peaks like the ones found at Cowell Beach are essential to groups like Black Surf Santa Cruz that are working to increase inclusivity and accessibility in the ocean. But they might not be around forever.

How a wave breaks depends on many factors, including sand, tides and wind direction. But sea-level rise, erosion and stronger storms are threatening the surfability of Santa Cruz's most well-loved spots. Fallen cliffside boulders, huge movement of sand and higher tides can harm the quality of a wave.



To understand these impacts, seasoned surfer and Ph.D. coastal geomorphologist David Revell is conducting climate vulnerability assessments on each of the 30-plus surf breaks that fall within the 7-mile stretch that defines Santa Cruz's [World Surfing Reserve](#) — an area of surf ecosystems spanning from Natural Bridges State Beach to Opal Cliffs.



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Revell studies how the coast might change over time – a concept longtime surfers including Peter Mel, Shawn Dollar and Shane Desmond are familiar with.

They have surfed every inch of the Santa Cruz coastline for decades. After evaluating the tides, swell directions and other factors that favor each of the 31 breaks in the World Surfing Reserve, they found that most surf breaks work best at low tides.

Using surfers' input, Revell was able to run calculations that showed how many hours a day surf breaks would still work in a typical year. Right now, only 10 of the 31 surf spots break during the day for half of the year.

“With 2 feet of sea level rise, none of the surf spots work for more than half of the daylight hours,” Revell said. “And five surf spots that we currently have will be lost.”

**FROM 2022**

## **Soul shaper: Why does surfboard craftsman Ward Coffey do it all by hand? It's the only way he knows**

Revell is still testing various climate scenarios using wave modeling methods called wave transformation, which predict how surf breaks will fare in more extreme circumstances.

Though there is some uncertainty in projecting the impact of climate change, experts estimate that the state's average sea level could rise

between 2 and 3 feet between 2060 and 2120, according to a [report](#) by the Ocean Protection Council.

The changes coming in that 60-year range might seem far off, but Burns has already witnessed waves stop breaking in his lifetime.

He reminisced about boogie boarding with his friends in his childhood at a break called Finger Bowl just east of Mitchell's Cove along West Cliff Drive. The break played a pivotal role in introducing the professional surfer to an intoxicating feeling that only surfers know — riding completely enveloped by the hollow tube of a wave, a phenomenon known as getting barreled.



A walk through low tide in Pleasure Point. Credit: Kevin Painchaud / Lookout Santa Crus

“It was this perfect little wedge of a wave where you pull in and you’d get your first-ever visions of a barrel,” Burns said. “That wave doesn’t break anymore.”

As more breaks become at risk of joining Finger Bowl, the surfonomics survey attempts to understand how people might react when their favorite surf spot no longer exists.

“If we lose surf breaks in Santa Cruz, that leads to folks having to go somewhere else to surf,” Hodges said. “It may concentrate surfers in spots that aren’t as affected by changes and sea-level rise.”

The City of Santa Cruz is already working on [several projects](#) to address climate vulnerability along the coastline and is emphasizing recreation in its adaptation plans.

In partnership with the Farallones Strategies consulting group, the city drafted [a 50-year vision](#) for the coast along West Cliff Drive with the community.

The document acknowledges threats to surf break quality and accessibility. It mentions limiting hard-armoring techniques like building sea walls — which can alter surf breaks due to fewer sand deposits from natural erosion and backwash from waves bouncing back against the concrete structures.

The plan also hopes to explore natural-based solutions that slow the strength of incoming waves to simultaneously prevent erosion and keep more sand on the beaches.

But groups working on the surfonomics study are concerned that existing and proposed protections are not precise enough when it comes to surfing. In the 41-page document, surf breaks are explicitly mentioned only three times.

While the city is working to incorporate the needs of a wide range of stakeholders, Save the Waves hopes to urge policymakers to incorporate extra layers of conservation to safeguard surf ecosystems.

“Here in Santa Cruz there is nothing really that specifically addresses the protection of surf breaks in policy,” Hodges said. “That’s the gap we’re trying to fill with this project.”

## **Ripples beyond Santa Cruz shores**

Save the Waves, Black Surf Santa Cruz and Integral Consulting are still collecting all the data for the project, but are planning to start putting together their findings in March. They hope that this case study can reach beyond the shores of Santa Cruz and can be used as a tool to inform policymakers across every surf city in California.

“Hopefully this is just a start for every surf city to know how much surfing revenue is generated,” Burns said. “Once you get more and more people doing this study, you can get to almost a statewide amount. The value of that is huge.”

There is no shortage of difficulties when it comes to crafting coastal climate resilience plans. But Hodges is optimistic that the surf community will continue to drop in on policy discussions no matter how heavy the sets of challenges become.



“Some people will tell you surfing is their life,” Hodges said. “People absolutely love it and need it and will put aside their own priorities to protect the thing they love so much.”



Walking through the fog at the Jack's surf break in Pleasure Point.  
Credit: Kevin Painchaud / Lookout Santa Cruz