



# OCEAN HEROES

Singer-songwriter  
and conservationist  
**JACK JOHNSON** names our  
first-ever list of scientists,  
advocates, and deep-sea  
legends who tirelessly fight to  
protect our seas from peril.  
And who inspire us all

Jack Johnson, at  
home in Hawaii

MORGAN MAASSEN

### The ocean is my church;

it's everything for me. I'm a little bit of a fish, and when I tour I feel like a fish out of water. When I return to the ocean it's like a reset button. I feel like myself again. I'm home.

It's easy to think that the ocean is so vast it can take care of itself. But that's



really not the case anymore, as I've come to learn when I travel and talk with the experts you'll meet on these pages. When the expeditions are completed, or when we speak away from the

cameras, our conversation continues—and it's a conversation I hope you'll join.

Why now? Now is always a good time. But it's more than that: Our oceans need us. You can travel hundreds of miles from land into the bluest of deep blue waters and think all you see is beauty in every direction, without any trash in sight. Then you pull up the trawl skimming the ocean's surface to find it loaded with plastic beads. This is what we call "smog of the sea," which is also the name of a new documentary film I had a hand in making. These plastic particles endanger ecosystems and make their way up the food chain right back to us. Now add to this damage the threat of rising sea levels, toxic waste, whale strikes, and more.

I'll let our heroes educate you on these subjects, and what they may mean for you and your family in the future. Instead I'll quote Jean-Michel Cousteau: "We protect what we love." I'm pretty sure we all love our life-giving oceans. Let's work together to save them. Before it's too late.

—Jack Johnson

### CRUNCHING OCEAN PLASTIC'S GRIM NUMBERS

## Anna Cummins and Marcus Eriksen

Co-founders, The 5 Gyres Institute

Raise your hand if you believe there's an island of plastic trash the size of Texas floating somewhere in the Northern Pacific Ocean. Now put it down—because you'd be wrong. Husband-and-wife team Marcus Eriksen and Anna Cummins of 5 Gyres are sorry to bust this media myth, if only because our plastic reality is so, so much worse.

Eriksen, a researcher and author, has led 17 sea expeditions with collaborating scientists, sailing more than 50,000 miles through the planet's five major swirling ocean gyres—giant, circular surface currents—to measure plastic-waste levels. The dynamic of gyres is chilling: The currents work like shredders, drawing in and spitting out a constant flow of water bottles, straws, bags, and other plastic trash. Chopped into microplastics, the lighter particles blanket our oceans as a type of "smog," while what's not eaten by fish sinks deeper. Marine life at all sea levels regularly consumes these

toxic, oil-based fragments (which means that, eventually, so do we); further, creatures entangle themselves and choke on it.

The 5 Gyres team currently quantifies plastic ocean waste at 269,000 metric tons, or 5.25 trillion particles. "It may be impossible to clean what's already out there," says Cummins, the team's global strategy director. "The only way to save our oceans is to stop plastic waste now, at the source." Which means advocating for corporate responsibility in packaging, and adopting this updated mantra: Refuse. Reduce. Reuse. Recycle.

### TAKE ACTION ←

The 5 Gyres Institute helped push for the 2015 U.S. ban of plastic microbeads in skincare and cosmetics products. It now promotes a #foamfree campaign to educate the public about takeout coffee lids. Nearly all are made from polystyrene, which is almost never recycled, according to Cummins. Next time you order a latté, go topless; 5gyres.org.



FROM LEFT: MORGAN MAASSEN, KIZZY ONEAL; OPPOSITE: ETHAN LEVITAS



## BUILDING SMARTER SHORELINES

### Kate Orff

Founder, SCAPE

An architect who saves coastlines? Meet urban designer Kate Orff, the visionary behind New York City's SCAPE studio. Orff and her team tackle a not-so-far-off future of rising sea levels while working to integrate regenerative marine life with human-built sea walls, waterfronts, and other infrastructure. One example is SCAPE's award-winning "Living Breakwaters" project in Staten Island, New York, which buffers neighborhoods from wave damage and erosion while protecting the biodiversity of juvenile fish and oyster beds.

"Landscape architecture needs to continue to expand its purview to include underwater and tidal landscapes," Orff says. Why? Consider hurricanes Katrina, Irene, Sandy, Harvey, and Irma, which battered the East Coast, the Caribbean, and the Southeast and Gulf coasts. The storms drowned cities and towns, upended habitats, and left harrowing images of mass human suffering in their wakes. Rapidly warming ocean waters promise more of the same.

"The entire world is a designed landscape at this point," she continues. "So design plays a role. I advocate for an integrative approach with a science-informed perspective, but one that translates into action on the ground and on the physical urban landscape. We need to change the design of our coastlines—not just because of sea-level rise, but also for the extreme weather and array of stressors our current landscapes simply can't adapt to."

#### TAKE ACTION ←

Every oyster shell that ends up in a landfill could be returned to local waters to help reef-restoration efforts, rebuild marine habitats, and make coasts more resilient. Pressure local restaurants and governments to collect and recycle oyster shells, and follow groups like the Billion Oyster Project and the Oyster Recovery Partnership for updates and inspiration; [scapestudio.com](http://scapestudio.com).



## TAKE ACTION ◀

De Vos cites ship strikes in busy shipping lanes and net entanglements as top threats to whales in the northern Indian Ocean. Policy change on these issues occurs at the international level. De Vos says she hopes “to get everyone on the planet to talk about the ocean at least once a day. That’s when we’re going to see change,” [ashadevos.com](http://ashadevos.com).

## DEFENDING THE WAYS OF LEVIATHANS

### Asha de Vos

Founder, Sri Lankan Blue Whale Project

“Whales are ecosystem engineers. Take them away and the system can fall apart,” says Asha de Vos, a marine biologist from Sri Lanka who charts the habits and movements of the sea’s great, near-mythic mammals. Her focus: the pygmy blue whale, the slightly smaller cousin of the world’s largest animal, the standard blue.

De Vos urges you to care about whales, too, even if you’re no lover of blubber and blowholes; their behaviors sustain life in far-reaching and surprising ways. For example, whales help produce more than half of all the oxygen on the planet.

Secondly, whale “poop”—a word that may prompt a giggle or two in the audience—is vitally important, de Vos says. When whales come to the surface to breathe, she explains, they release massive plumes of excrement that are rich in nutrients and that fertilize phytoplankton at the water’s surface. These tiny plants remove carbon dioxide from the atmosphere, produce oxygen through photosynthesis, and are the basis of every food chain in the marine environment.

Finally, when whales die, de Vos says, their bodies sink to the depths to provide food to many species. These carcasses also trap carbon dioxide on the ocean floor, helping to combat rising global temperatures from climate change.

“Every time you breathe, you need to say ‘thanks’ to a whale,” she adds. “Their survival enables us to survive.”

## CHASING DOWN THE CONTAMINATORS

### Hillary Hauser

Executive director, Heal the Ocean

It all began with her op-ed “Another Day at the Beach?,” published in the *Santa Barbara News-Press* back in 1998. Journalist/scuba diver/ocean activist Hillary Hauser wrote an impassioned plea to her fellow Californians about the plight of Rincon, a world-class surf spot that had closed due to unhealthy levels of bacteria in the water.

“We were told the ocean was too polluted to swim in,” Hauser says now, still sounding utterly baffled by the notion. Those who openly ignored the warnings—including some surfer pals—returned from the sea with infections, rashes, and nasty coughs. Hauser and her friends suspected it was septic waste, and were frustrated by a local regulatory board that, as she puts it, “didn’t regulate.”

Hauser went into action, founding Heal the Ocean with fellow environmentalists and raising \$36,000 for DNA testing to identify the source of the contamination. The results proved the culprit was human sewage and forced a revamped approach to wastewater.

Today, after nearly two decades of advocating for safe wastewater infrastructure and working with area plants to upgrade their systems to recycled water, seven miles of Santa Barbara coastline—and beyond—are free of septic systems. So grab your gear. Surf’s up!

## TAKE ACTION ◀

Heal the Ocean recommends using liquid detergents instead of powdered, ditching soft-water systems, and buying nonchemical cleaning products. Because wastewater plants are vital environmental tools, it’s important not to add toxins to the waste stream that the plants can’t process; [healtheocean.org](http://healtheocean.org).







## LEADING THE BAHAMAS' NEXT WAVE OF ACTIVISTS

### Kristal Ambrose

Founder, Bahamas Plastic Movement

In the Bahamas, “there’s a big disconnect between the people who live here and the ocean,” says environmental scientist and islander Kristal Ambrose. “There’s this fear. A large percentage of the population doesn’t know how to swim.” Her father, an avid swimmer, nipped that in the bud. “He’d tell my sister and me that he’d take us for ice cream—then head to the beach and throw us in.”

The tactic worked. Now a strong swimmer, Ambrose earned her divemaster certification and worked at the Atlantis Aquarium in Nassau, where she encountered a sea turtle that had developed an intestinal blockage from ingesting so much plastic trash in the water. She emerged a confirmed conservationist, and eventually joined The 5 Gyres Institute founder Marcus Eriksen to help fight plastic waste. “We’re in the middle of the ocean and we come across this huge net ball of plastic debris,” she says. “We snorkel under it to find all these fish caught, all dead. I thought, ‘Humans are nasty!’ But then I realized: I’m human, too. I’m part of the problem.”

Inspired, Ambrose launched The Bahamas Plastic Movement in 2014. Its projects include research, “plastic pollution camp” beach cleanups, and educational outreach to school the next generation of local environmentalists.

#### TAKE ACTION ◀

Ambrose runs a program called “Upcycled,” which asks students to think creatively about plastic waste. Apply the logic in your own world: Turn an already purchased plastic bottle into an edible herb garden, and repurpose everyday plastics into jewelry or decorative storage; [bahamasplasticmovement.org](http://bahamasplasticmovement.org).

GUTTER CREDIT

## PUTTING OCEANS FIRST

### Adrian Grenier

Co-founder, Lonely Whale Foundation + actor/producer/director

Adrian Grenier may be best known for playing Hollywood heartthrob Vincent Chase for eight seasons on HBO’s *Entourage*, but forget that character’s hedonism and devil-may-care attitude. Grenier cares deeply—especially about our oceans.

That’s why he co-founded the Lonely Whale Foundation in 2015 with the aim of inspiring a deep connection between people and the sea. “You can’t live on a healthy planet unless your neighbors are also living on a healthy planet,” says Grenier, who grew up in Manhattan. “We share this Earth. I realized the ocean was the most neglected, underserved aspect of the environment. It’s so different from our everyday experience that it’s easily overlooked.”

To put the ocean back at the center of the conversation, the foundation

generates awareness about a range of threats, including noise from seismic blasts that negatively affect whales, a rise in ocean acidification (an outcome of increased carbon dioxide in the atmosphere that can inhibit the healthy growth of fish and shellfish), the 8 to 12 million tons of new plastic waste that find their way to our waters each year, and the 706 million gallons of waste oil dumped annually into oceans worldwide. Not bad for a city kid who grew up in the concrete jungle.

#### TAKE ACTION ◀

Americans use 500 million plastic straws every day. Many find their way to the ocean from landfills, adding to the plastic-waste crisis. Drink without a straw, and follow [#stopsucking](https://www.instagram.com/stopsucking) for inspiration and action; [strawlessocean.org](http://strawlessocean.org).





## FEEDING A MOVEMENT

### Ed Kenney

*Sustainability advocate/chef*

You may know him as the affable chef and TV host of “Family Ingredients” who stirs a melting pot of seasonal flavors from his native Hawaii. “Food has the ability to bring people together and provoke social change,” Kenney says. “It intersects every circle of our lives, from family to transportation to economics.” Islanders herald Kenney as a leader in the farm-to-fork movement who prioritizes featuring seafood that can be locally sourced and sustainably harvested.

Devoted diners get in line—literally—to explore the inventive menus at the Oahu resident’s four restaurants: Kaimuki Superette, Town, and Mud Hen Water in Kaimuki; and Mahina & Sun’s in Waikiki. Kenney also garners praise from critics, including the James Beard Foundation, which named him a semifinalist for Best Chef: West every year from 2013 to 2016.

“I ask myself,” he says, “Where did this fish come from? Who caught it? Was it sustainably caught? Is it a species we should be eating it all?” Kenney admits that this thinking imposes certain limitations. “I used to have thousands of colors to choose from,” he says. “Now maybe I paint with half of them.” Yet the artistry of Ed Kenney’s eco-conscious food? Masterful.

#### TAKE ACTION ←

Adopt Kenney’s mantra: “Local first, organic whenever possible, with aloha always.” Protect our waters, support regional farmers, and buy seafood from sustainable fisheries; [familyingredients.com](http://familyingredients.com).





## HARNESSING THE POWER OF YOUTH

### Melati and Isabel Wijsen

Co-founders, *Bye Bye Plastic Bags*

Who runs the world? Girls! Meet the Bali-based Wijsen sisters, Melati and Isabel, who four years ago (at ages 12 and 10, respectively) decided to become global leaders after studying change makers like Nelson Mandela and Mahatma Gandhi.

“We looked around at our own beaches and all the plastic trash,” says Melati. “Many other countries and cities had already successfully banned plastic bags. We thought, ‘If they can do it, we can do it, too.’”

The girls formed the Bye Bye Plastic Bags all-kid crew, collected thousands of signatures at Bali’s biggest international airport, developed educational outreach for local schools, and conducted weekend beach cleanups. Inspired by Gandhi and under the guidance of a nutritionist (and their worried parents), they announced a modified hunger strike to shame the governor of Bali into meeting with them. After social media took notice, he buckled after two days, and made a public promise to phase out all plastic bags by 2018.

“We each have a role to play, no matter how small or big,” says Isabel. “It’s important to make that first step.”

#### TAKE ACTION

Some 240,000 single-use plastic bags are used every 10 seconds worldwide, contributing to 280 million tons of plastic waste annually. Get into the habit of bringing your own reusable totes to the grocery store. Yes, every single time; [byebyeplasticbags.org](http://byebyeplasticbags.org).

## KEEPING A FAMILY’S PROMISE TO THE SEA

### Jean-Michel Cousteau and Céline Cousteau

Ocean advocates/filmmakers/family

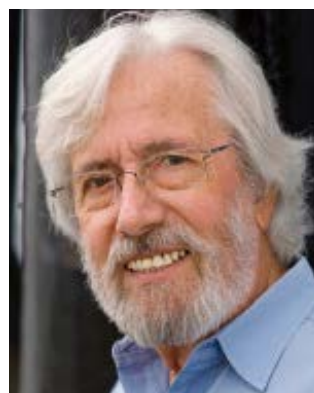
“He’s a salty dog,” says Céline Cousteau of her father, Jean-Michel, the ocean explorer, film producer, and son of legendary diver Jacques. “Put him on a boat and everything’s okay.”

Whether he and his Ocean Futures Society are advocating for the Paris Climate Agreement or penning an open letter to the prime minister of Japan about unethical treatment of whales, protecting our precious waters is a forever agenda. “I will never retire,” he jokes. Still, the Cousteaus are hopeful. Although our oceans cannot support the demand of a world population projected to leap from today’s 7.6 billion to 11.2 billion by 2100, new research shows promise for the development of wholly sustainable fish farming, even in poor and land-locked regions.

“Feeding hungry populations is our first order of business,” says Jean-Michel.

#### TAKE ACTION

Place phone calls to your senators and representatives. Let them know you support legislation to combat climate change and rising sea levels; [wondersofthesea3d.com](http://wondersofthesea3d.com).



Paired with that is what may be the Cousteau family’s greatest legacy: education. Which is why he and Céline, a documentary filmmaker and conservationist, teamed up with narrator Arnold Schwarzenegger to deliver the upcoming *Wonders of the Sea 3D*. The film is a literal deep dive into the underwater ecosystems between Fiji and the Bahamas, using new techniques to expose the ocean’s beauty as never before. “People protect what they love,” says Jean-Michel. “A little bit of urgency is good fuel,” Céline adds. When it comes to the oceans, they hope their film inspires both.

TAKE ACTION ←

Love the ocean like Nainoa Thompson actively does—as does every heroic advocate, scientist, and explorer on these pages. Pledge today to do your part to help save it.

CHARTING THE WAY FORWARD

**Nainoa Thompson**

*President, Polynesian Voyaging Society*

If Hawaiians have a real-life folk hero, it must be Nainoa Thompson. He's the wayfinding wonder who for 40 years has reintroduced the Polynesian art of ocean navigation, charting his course by the stars in traditional, double-hull canoes without modern tools.

In June 2017, Thompson and a team of crewmembers, including scientists and adventurers, returned to home port on Oahu, manning the legendary boat *Hōkūle'a* and its support vessels after an incredible three-year journey circumnavigating the globe. The mission of this epic excursion: to spread the message of *Mālama Honua*—to care for our Island Earth.

"We didn't know if we could do it," Thompson says of the dangerous sail across 40,000 nautical miles, which took six years of strategic planning, intense physical training, and a fully refurbished canoe to navigate everything from 70-foot-high waves to

the threat of Somali pirates. While modern technology was used for roughly half the voyage, its risks were still considerable. "But what is more dangerous," Thompson asks. "The hurricanes, the pirates, the mosquitoes, and the rogue waves? Or ... to keep the canoe tied to the dock because you're afraid to go?"

Thompson and 245 vetted sailors steered the *Hōkūle'a* in crews of 12 to 14 at a time, spreading *Mālama Honua* to more than 100,000 people in ports in the South Pacific, the Indian and Atlantic oceans, the Caribbean, Australia, Indonesia, South Africa, Brazil, the United States, and Canada.

Thompson, now back home, considers his island neighbor Jack Johnson and his fellow ocean heroes. "We're all on the same voyage to protect our oceans. We're in different professions," he says, "but we're going to the same place."