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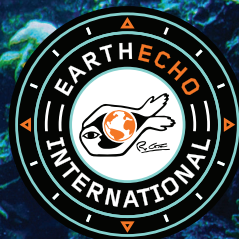
GOING BLUE

a TEEN GUIDE to
**SAVING
EARTH'S**
OCEAN, LAKES,
RIVERS & WETLANDS

SECOND EDITION



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GOING BLUE

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a TEEN GUIDE to SAVING EARTH'S
OCEAN, LAKES, RIVERS & WETLANDS

by **Cathryn Berger Kaye, M.A.**,
with **Philippe Cousteau**
& **EarthEcho International**

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PUBLISHING®



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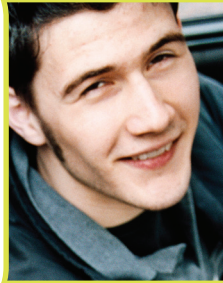
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What Teens Think About Saving Earth's Ocean, Lakes, Rivers & Wetlands

“People see the awesome power of the ocean and think it is indestructible. I believe that ocean life needs to be protected, and since oceans are all connected, our efforts have to be global to be successful.”—Ian, age 16



“For me, the ocean was all about going to the beach . . . until I found out about that mass of plastic floating in the Pacific. Where my trash goes matters. I can do something about this.”—Rhea, age 15

“We need to care about our environment now to help us survive on Earth. We need the oxygen from trees, the clean water, and the healthy air that we get from taking care of what we have.”—Evan, age 14



“If we use up all our natural resources, there will be no more and then the world will be in chaos. To start, kids can pick up garbage by the water and make signs and banners to warn people about what will happen if they throw garbage away carelessly.”—Nabil, age 14



“Think of all the things that live in our water—the animals, the plants, the bacteria, the bugs. They are all living creatures like us, so they deserve to live just as much as we do. Imagine you lived in the water and one day a giant dumped a bunch of oil in it, and everything around you dies, and then finally you die too. See what I’m talking about?”—Maddie, age 13

“The work we do today is important for future generations. We may not see much effect in our lifetime, but we know our children will.”

—Kiddest, age 17



A Call to Action from Philippe Cousteau

Philippe Cousteau is the founder of EarthEcho International, the leading nonprofit organization dedicated to building a global youth movement to restore and protect our ocean planet. He is the grandson of the legendary ocean explorer Jacques Cousteau and the son of Philippe Cousteau Sr. In this interview he explains why now is the time—more than ever—to become an environmental champion.



My grandfather's first adventures into the world at large were considerably different than the ones we embark on today. He was one of the first people to explore the ocean—his was a true journey of discovery. Few, if any, had seen the wonders of the deep captured on film. Jacques Cousteau and his crew were the first to capture those images and share them with the wider world. Imagine all the creatures we have grown up with and take for granted—from coral reefs to polar bears, Nemo the clownfish, and even SpongeBob SquarePants. All were total mysteries to the world.

My father, Philippe Cousteau Sr., who joined my grandfather on his expeditions and in his films, passed away in an airplane accident six months before I was born. Growing up with tales of their adventures, I heard stories of how they took their first underwater breaths and descended to the spectacular reefs of the Mediterranean and the Red Sea in the 1940s and 1950s. But I was also told of their devastation at seeing what happened to those very same reefs, now mere shadows of what they once were, due to climate change and pollution. Indeed, I spent many hours of my own youth diving off the coast of France and I can no longer stand to go back. I find the desolate underwater landscape so terrible. It can break your heart when you see the beauty captured by my grandfather and father on film and know that today that beauty is virtually gone.

As part of the third Cousteau generation, I recognize that while my grandfather's generation was focused on exploration, and my father's

“My role is to help build a generation of participation in restoring our ocean and waterways.”

on conservation, my role is to help build a generation of participation in restoring our ocean and waterways. Of course, I am proud to have the Cousteau name. But I’m not a Cousteau only because of my name. The Cousteau spirit of conservation and care for the environment was taught to me. It lives on through me because of my actions, not my birth certificate. I know that what I do is what matters, and thus the legacy I carry is one that we can all be part of through our actions.

Daily, I consider the choices I make and the influence I can have by sharing information and ideas with others. Of the many concerns facing our environment, the excessive output of carbon into the atmosphere is, without question, the most troubling. Carbon is the leading cause of climate change. This current global crisis is changing our oceans—the primary drivers of climate.

As Earth’s climate changes, the domino effects are being felt around the world. For example, extreme weather, drought, plummeting biodiversity, and a continued dependence on fossil fuels are causing many of the defining conflicts of the twenty-first century and are already leading to mass migration of people. All of those are being driven by the world’s changing weather patterns, which are brought about by changing currents and rising ocean temperatures and sea levels—all of which are caused by climate change. That is a bit of a simplification, but you get the idea: everything is connected to everything else on this planet, and the ocean is the key to it all.

But climate change isn’t the only problem caused by carbon. The excessive output of carbon into the atmosphere is also responsible for another very scary problem that has nothing to do with climate change: ocean acidification. Ocean acidification occurs when the ocean absorbs excess carbon in the atmosphere. The carbon absorption causes ocean water to become more acidic. In turn, this means that ocean creatures that build shells—such as coral, shellfish, mollusks, and pteropods (small free-swimming snails that form the basis of many ocean food webs)—are unable to build shells and survive. If this continues, it could cause the collapse of many ocean ecosystems

“Everything is connected to everything else on this planet, and the ocean is the key to it all.”

and have disastrous effects on the planet. Imagine: more than a billion people currently rely on fish for their primary source of protein. If fisheries collapse because the fish have no basic food source, those people would starve and many would go to war to feed themselves. That is just one example; others are just as serious.

If this seems pretty depressing, remember: *there is hope*. The key to helping these creatures survive is to give them the healthiest, safest environments in which to live. We know that nature, and particularly the ocean, has an incredible ability to renew itself if we help it along and give it a chance. For example, coral reefs in a pristine environment are much more likely to adapt to rising water temperatures than those already stressed from pollution and overfishing. That is good news, and it means that we must double our efforts to protect and restore our environment.

Some of the most effective solutions involve replacing the exploitation of natural resources with alternatives that protect our environment and have mutual benefits. For example, in Florida during the 1990s, gill net fishing (a very destructive form of fishing) was banned along the coast. Instead of putting the gill net fishers out of work, scientists devised a way for them to raise clams in baskets along the shore. This simple form of aquaculture was even more lucrative than gill net fishing and it protected the environment. In a short period of time, Florida went from being last in clam production in the United States to being first.

Other effective solutions focus on restoring important coastal and marine habitats like mangrove swamps (see page 48), since mangrove forests can absorb up to five times more carbon than terrestrial forests. Seagrass and kelp forests have similar benefits. This begs us to move beyond the idea of sustainability and embrace an ethos of restoration. We need to work in harmony with the ocean to restore important ecosystems if we hope to have any chance of stopping the climate crisis from becoming truly catastrophic.

“We need to work in harmony with the ocean to restore important ecosystems if we hope to have any chance of stopping the climate crisis from becoming truly catastrophic.”

We have an opportunity to change our world. The last fifty years have seen the greatest amount of destruction on this planet in history,

and it is the next fifty years—*our* fifty years—that will decide its fate. This means demanding that our politicians take these problems seriously by expressing a willingness to make changes in our own lives. Ask yourself: “Do I really need a bigger house or a bigger car?” A comfortable life is what we all aspire to; that is human nature. However, a comfortable life could be defined by living in gracious and sustainable harmony with the planet. You have an exciting opportunity to consider what choices you will make and what distinct steps you will take to be part of both a local and a global solution.

You probably hear people tell you all the time that you can make a difference. But the truth is this: You already make a difference. *Everything you do makes a difference.* Every single one of your actions has consequences. What do you want to be the results of the actions you take every single day? Look around at the world you live in—this time with “supervision”—to see deeper into the impact of each choice. What can you be doing?

“You probably hear people tell you all the time that you can make a difference. But the truth is this: *Everything you do makes a difference.* What do you want to be the results of the actions you take every single day?”

Start with simple things, like bringing reusable bags when you shop; finding an area in your community to clean up, protect, or restore; being “water smart” at every opportunity; and encouraging the adults in your life to vote for politicians who care about your future. Endless reports prove the number one reason adults change their behavior is because of the influence of their children . . . you have *power!*

I grew up sitting with my grandfather and listening to his life’s stories, hearing the urgency in his voice, being inspired by the passion my own father had for working toward a better future. Their voices influenced me in becoming the person I am today. You could call it a family legacy, or just good teaching. Regardless, I am a firm believer that if we are to build the sustainable future we all dream of, we must do it together. Each of us—*all* of us—making a positive difference; that is a legacy we can all share.



Philippe Cousteau

What Do You Know?

1. “Water has no beginning, end, or middle.”
What does this statement mean?
2. What fraction of the earth is covered by water?
3. Which of the following does the ocean provide: oxygen, rain, food, or oil?
4. What percentage of the ocean has been explored: 5%, 25%, 50%, or 85%?
5. Which of your everyday activities affect the ocean?

Have you thought about our ocean and **waterways** lately? Perhaps you’ve seen headlines about polluted lakes and rivers, toxic drinking water, unequal access to clean water, droughts, waterborne illnesses, rising sea levels, or coral reef damage. These days more ocean species are considered endangered than ever, and human overfishing threatens to starve dolphins, sharks, and seabirds. In 2022, the world’s ocean temperatures were the warmest ever recorded, following a three-year trend. New lakes and rivers are being added to endangered lists yearly. In many places, drought has dried up food crops and safe drinking water is difficult to find.

The term **waterways** (as used in this book) includes all bodies of water on Earth apart from the ocean— from ground springs to streams, brooks, creeks, ponds, marshes, wetlands, lakes, rivers, canals, bays, lagoons, ice fields, and seas.

We have depended upon our waters since the dawn of life on this planet. They feed us, quench our thirst, help us travel and transport goods, provide medicine, create energy, and let us swim, surf, sail, and dream. However, these same waters are changing in ways that threaten our way of life now and for future generations. Our ocean and waterways are hurting. With increasing acidification in the ocean, glaciers melting at the poles, and trash accumulating everywhere, what we have taken for granted for too long needs to be addressed. And fast.

“We all have to take responsibility for the direction we are going. In our schools we need, from the earliest times, to get across the concept that we are connected to nature and that we are trying to find a space to sustain ourselves.”

—Sylvia Earle, *oceanographer*

The good news is that we can do something. We can step in, learn about the issues that are all interconnected—just like our waterways—and create plans for action. We can talk with others; find out what is already being done in our communities, regions, and nations; and join in. We can come up with brand-new ideas to meet the water needs we see around us every day.

You’ve probably heard the phrase “going green,” which means pitching in to help the environment—our forests, fields, land, and air. This remains essential. What this book proposes is to add another color to the mix by going *blue* and helping to conserve and protect our planet’s water. What can you do to go blue?

Starting Now

However you found this book or it found you, these pages will help you discover ways to address community and global problems. Whatever you choose to do to help our ocean and waterways—whether it’s organizing a water usage awareness campaign, cleaning a local creek, monitoring the water quality in a neighborhood pond, eating more locally grown food, growing seagrass in the classroom to plant in a local estuary, or lobbying your city council to install fishing line receptacles at a local beach—the time to start is *now*.

Did You Get the Right Answers?

Here are the answers to the questions on page 6:

1. Our ocean and waterways are all interconnected and flow without beginning, middle, or end.
2. A full three-fourths of the earth is covered by water, making ours truly a “water planet.”
3. The ocean provides all four of these things: oxygen, rain, food, and oil.
4. Only 5 percent of the ocean has been explored by humans, which leaves plenty for you to do!
5. And every single one of your daily activities affects our ocean and waterways—from the electronics you use, to the clothes you put on, to the foods you eat. By reading on, you will find out exactly how these choices and others reach to the furthest depths of the ocean.

What’s Inside?

This book is filled with curious questions, eye-opening facts, useful information, inspiring quotes, amazing photos, extraordinary stories, and plenty of examples of what teens just like you are doing to keep this planet of ours healthy. All this information is divided into five stages: *Investigation*, *Preparation*, *Action*, *Reflection*, and *Demonstration*. (Each stage is explained in detail starting on page 10.) You’ll also notice four repeating sections throughout the book. The *Teens in Action* sections tell stories of real teens across the world who have made or are making significant contributions. The *Your Turn* boxes help you relate the topics discussed to your own life and give you ideas for getting involved. The *Time for Reflection* boxes ask questions that encourage you to pause, think, and look at the larger picture of what you are doing. And the *EarthEcho* boxes suggest tips for how to transform the information and ideas that you read here into simple day-to-day actions that benefit the planet.



How to Read This Book

There is no one “right” way to read this book. You might decide to plunge in and read it straight through, from beginning to end. Or you can pick and choose sections that interest you at a given time, or that relate to something you’re interested in or already doing.



To help navigate whichever route you choose, each of the five stages is introduced with an example of what an actual group of teens did at that stage in their own going blue journey (see *The Story of Tar Creek, Parts #1–5*, beginning on page 18), and each ends with a box briefly summarizing its contents.

Beware that once you dive in, there may be no returning to the surface. You may realize it’s time to change the tide and reclaim your water planet. You may feel compelled to join in the challenge to investigate, explore, brainstorm, plan, and get involved to improve your world. You may find yourself a changed person. You may even find yourself turning a little . . . **blue**.

Tips for Using this Book

- You are holding a written guide, but you will find other guides around you—adults you meet who know about our waters, or friends, family, and community members who are eager to help. People across the globe are getting involved every day. Ask them questions. Learn what they have to share.
- Use a journal to keep track of your thoughts and observations as you read.
- Stay informed about current news involving our ocean and waterways, including issues of climate change and global warming, as well as restoration efforts.
- Visit the many websites listed in this book to find additional information and resources.
- Involve others in your journey—friends, family, neighbors, a class, or a youth group. Learn, think, laugh, and work together to get the job done.
- Let your creativity inspire you to be an agent of change. Planet Earth needs **you**.

