

# Wanna Be a Marine Biologist? Here's How

NewsWatch

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The author photographs a bowriding bottlenose dolphin. Credit: Maddalena Bearzi

By **Maddalena Bearzi**

“Oh my God! You study dolphins... How cool...!”

I can't begin to say how many times I've heard this. It seems what I do is something many people dream about. The adventurous, romantic life of a marine biologist, out in the elements, investigating the lives of these magnificent creatures in the freedom of the vast ocean...

I am fortunate indeed, and I wouldn't exchange my life and career for anything. But people don't often realize what goes into the job. For every hour I log at sea, there are probably at least five to spend in the lab back on land. The work is as long and hard as it's rewarding, both on and off the water, but the many hours passed hunched over a desk as the clock ticks late into the night, analyzing, writing, correcting, rewriting, are where the less committed tend to weed themselves out of the vocation... (Excerpted from my book [Dolphin Confidential: Confessions of a Field Biologist](#))

The number of emails, phone calls, and Facebook messages I receive has diminished a little in the last years, but they continue to come with regularity. They are not only from students; they are from people in all walks of life interested in finding out how to become marine biologists. After spending over two decades with volunteers and researchers both in the field and the lab, I believe that many don't really know what it takes to get into and to stay in this field.

Here is my token of advice for the aspiring marine biologists out there. These are only my opinions, and of course, nothing is written in stone, but perhaps interested parties may be able to adapt some of these steps and suggestions to fit their own lives and circumstances.

## **First Steps**

The first key question one should ask oneself is “what am I really interested in?” Here is where it gets confusing because when people question me about becoming a marine biologist they usually picture a field marine researcher, maybe because that is my specialty.

Marine biology, in a nutshell, is the study of marine organisms, their behaviors, and interactions with the environment. It includes many different sub-disciplines and, consequently, an array of potential career directions. Would you like to be a microbiologist, an aquarist, a behavioral ecologist, a system analyst, a geneticist, a professor, or perhaps some combination of these? There are many roads to choose from and many organizations that hire marine biologists, so having a fairly precise idea of what you would like to do is an important first step in the right direction.



The author looks for dolphins and birds from the bow of a research ship. Photo courtesy of Maddalena Bearzi



The next step is to ask yourself what really fascinates you about the ocean. Are you passionate about biodiversity on coral reefs or algal blooms? Is the structure of soft-bottom communities what inspires you or the feeding behavior of critically endangered blue whales? Try to construct a “big picture” of what captivates you then narrow down your focus to explore something that is feasible, either in the lab or the field.

But don't lose sight of your big picture. Not getting roped into a “specialization” has the advantage of keeping you flexible and more responsive to a challenging and changing job market. Your first topic of choice may, later on, morph into your real career, but that's not always the case and may not necessarily be the best road to take.

It's important to concentrate attention on unanswered questions more than on a specific species. It's also a good idea to be practical in your choice of a subject by giving some thought to where and how you plan to accomplish your studies. It's imperative, whatever your topic of choice, that you are passionate about it because it is passion that will help you accomplish what you set out to do, even if it takes pushing your limits.

Whatever you choose to study, you should keep conservation in mind given the current range of environmental issues facing our oceans and their inhabitants. What will the cetologist engaged in studying the migration of right whales do if these leviathans disappear within his or her lifetime?

### Next Steps

Read, write and get experience. It's unlikely you can read all there is to know in this discipline but try to know as much as you can. Do your homework, peruse the Internet in search of information (not blogs only), read books and, if you can't afford to buy them, go to the library.

Study how scientific papers are written because this will likely be the output of your studies in the future. Seek advice and help in the academic world or through research institutions. Learn how to communicate science! Being a great communicator will help you advance faster and further in a marine biology career, and may help you reach out to the general public about marine conservation issues if the need arises.

Solid practical experience in your field—or a field related to it—is certainly key to becoming a marine biologist. Being involved with different projects,

working on diverse hypotheses and learning about different species and processes also helps keep an open mind while gaining experience beyond your selected subject.

Volunteer opportunities are offered everywhere today and are easily found, thanks to the Internet. If you work well and are adaptable, if you're willing to commit, if you are enthusiastic, you might slip from being a volunteer into acting as a real researcher. You may even find the opportunity to write a collaborative peer-reviewed paper, something that will help you when entering graduate school.

When choosing a volunteer position in your field, inquire to see who are the experts in that specific discipline. Try to work under the wings of these professionals and ask questions, get feedback and suggestions on how to improve your skills; this will help you get the right kind of experience.

Traditional academic education is important and going to graduate school, first a Master's program and then a Ph.D., is certainly the way to go, especially if your goal is remain in academia. As a start, take all the science courses available to you in high school and as an undergraduate. Preparatory courses in basic biology, zoology, chemistry, physics, and mathematics are essential, but other courses such as ichthyology, conservation, and oceanography are also quite valuable, as well as those related to your specific field. Then there's the study of statistics; this is something you must know and be good at and no, you can't get around it.

School, however, won't teach you everything you need to know to gain knowledge and expertise in your chosen field. You need to look outside the box and find other ways to learn and acquire practical skills. Attending conferences and workshops in your discipline, visiting universities, museums, and research institutions, meeting experts in your subject area (who could become your advisors later on) and asking questions, being part of email list serves in your topic of interest are just some of the things to pursue.



The author in the field. Photo courtesy of Maddalena Bearzi

### One Step Further...

Distinguish yourself as an independent thinker. Many people want to become marine biologists and that makes this a highly competitive discipline. A lot of people start toward a career in marine biology but end up working in completely different fields and almost everyone is struggling to find a job in today's tough market. If you have chosen to be a marine biologist it is likely you haven't done it for the money—as there isn't much in it anyway—so you need to be creative and flexible. Look for something that your field is in need of, something that your peers are not offering. Learn practical skills like scuba diving, boat handling, GIS techniques, and statistical analyses that just a few know. Push yourselves to work better than everyone else.

The desire to study dolphins in the wild is probably not enough to take you out to sea among these amazing creatures or set you apart from the masses. It's passion, enthusiasm, and learning what's necessary to make you stand above the crowd that will help you attain your goals.

*Maddalena Bearzi has a Ph.D. in biology and has studied the ecology and conservation of marine mammals and other species for over twenty-five years. Maddalena is co-founder and president of the [Ocean Conservation Society](#) and coauthor of [Beautiful Minds: The Parallel Lives of Great Apes and Dolphins](#) (Harvard University Press, 2008). Her most recent book is called [Dolphin Confidential: Confessions of a Field Biologist](#) (Chicago University Press, 2012).*

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