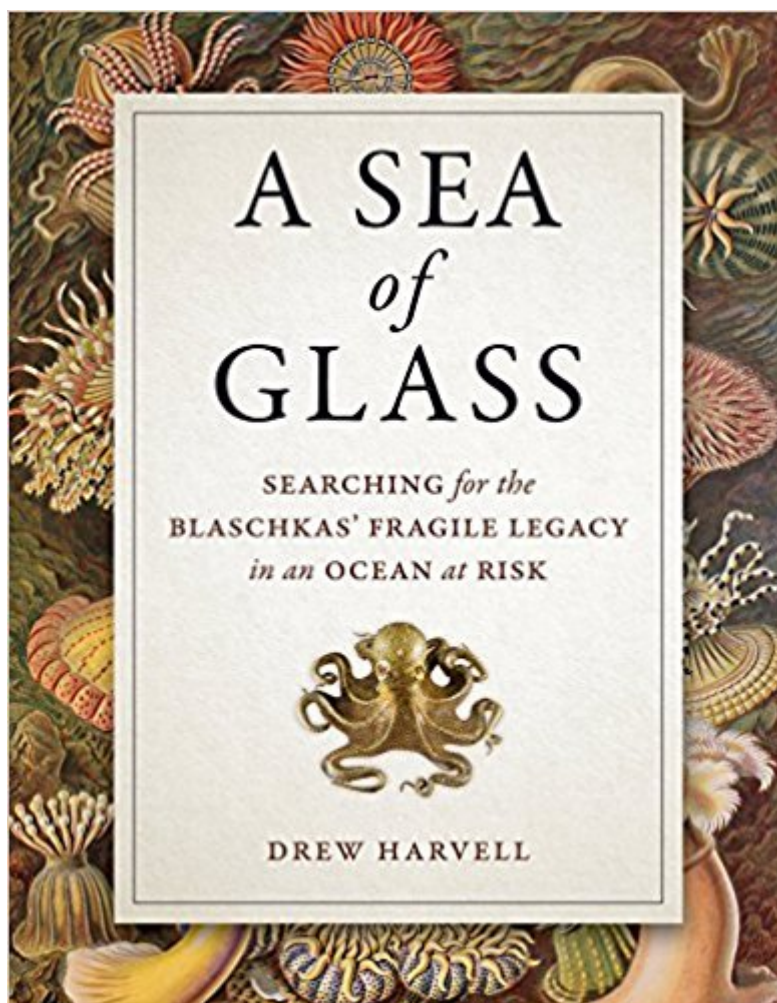


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# A Sea Of Glass: Searching For The Blaschkas' Fragile Legacy In An Ocean At Risk (Organisms And Environments)



## Synopsis

"The author makes an eloquent plea for marine biodiversity conservation." —Library Journal  
"Harvell seems to channel the devotion that motivated the Blaschkas." —The Guardian  
A Winner of the 2016 National Outdoor Book Award, Environment Category  
It started with a glass octopus. Dusty, broken, and all but forgotten, it caught Drew Harvell's eye. Fashioned in intricate detail by the father-son glassmaking team of Leopold and Rudolf Blaschka, the octopus belonged to a menagerie of unusual marine creatures that had been packed away for decades in a storage unit. More than 150 years earlier, the Blaschkas had been captivated by marine invertebrates and spun their likenesses into glass, documenting the life of oceans untouched by climate change and human impacts. Inspired by the Blaschkas' uncanny replicas, Harvell set out in search of their living counterparts. In *A Sea of Glass*, she recounts this journey of a lifetime, taking readers along as she dives beneath the ocean's surface to a rarely seen world, revealing the surprising and unusual biology of some of the most ancient animals on the tree of life. On the way, we glimpse a century of change in our ocean ecosystems and learn which of the living matches for the Blaschkas' creations are, indeed, as fragile as glass. Drew Harvell and the Blaschka menagerie are the subjects of the documentary *Fragile Legacy*, which won the Best Short Film award at the 2015 Blue Ocean Film Festival & Conservation Summit. Learn more about the film and check out the trailer [here](#).

## Book Information

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## Customer Reviews

"The author makes an eloquent plea for marine biodiversity conservation." (Library Journal 2016-05-15)"Harvell's encounters with rarer creatures of the deep are as exciting for the reader as they were for her, but the takeaway from A Sea of Glass is an SOS call for a change in human behavior." (Hakai Magazine 2016-05-12)"Stunning photos . . . contextualize the dramatic taxonomic and ecological shifts in ocean life over the past 150 years." (Nature 2016-06-01)"Harvell seems to channel the devotion that motivated the Blaschkas." (The Guardian 2016-06-12)"A wonderful example of the intertwining of science and art where each expression of the wonders of the human mind sparks another." (The Explorers Journal 2016-07-01)"Curator and marine ecologist Harvell recounts her quest to find the living versions of the creatures and the scientific insights the 150-year-old glass replicas still provide." - The Best "Art Meets Science" Books of 2016 (Smithsonian.com 2016-12-02)"Both the Blaschka collection and Harvell's work certainly stand the test of time as a testimony to the beauty and magnificence of the oceans' majesty and wonder." (CHOICE 2017-02-01)"Beautifully written, multifaceted book . . . opens the doors of marine ecology to new audiences at a critical time." (Resurgence & Ecologist Magazine 2017-03-01)"You will want this book and then you will want to give it to one and all for a delightful and stimulating introduction to our wonderful ocean creatures." (The Quarterly Review of Biology 2017-03-01)

"An engaging travel adventure that blends art, science, and natural history. A Sea of Glass documents Drew Harvell's quest to document the conservation status of some of the ocean's most charismatic marine invertebrates, from sea slugs to octopuses. Inspired by her discovery of a lost collection of handblown glass animals, Harvell dives the world's oceans to determine how their living counterparts are faring in today's beleaguered marine ecosystems. Beautifully illustrated, A Sea of Glass is both a call to action and a loving ode to our oceans." • Ted Danson, actor, activist, and founding member of Oceana "This book is significant not just for its scholarship on a fragile ecosystem but also for its celebration of the symbiotic relationship between art and science." • Dale Chihuly, American glass sculptor and founder of the Pilchuck Glass School "A Sea of Glass weaves two amazing substances, water and glass, into a living tapestry of history, with mesmerizing stories that combine science, art, and the lives of people who, like the author, were fascinated with the menagerie of small, rarely seen sea creatures that shape the nature of the ocean and, therefore, of life on Earth. Many of these animals have sharply declined in recent decades, but knowing of their existence may inspire caring and protection for them and the living sea they • and

we need to survive. Sylvia Earle, a National Geographic Society Explorer-in-Residence, former chief scientist for the National Oceanic and Atmospheric Administration, and founder of Mission Blue. "Drew Harvell's new book spans the fertile yet rarely visited boundary between science and art. Part history, part exploration, and part cautionary tale, *A Sea of Glass* transforms the fascinating story of the Blaschkas' glass sea creatures into an elegant metaphor for the fate of our oceans. The result is a visual feast and a splendid read. Thor Hanson, author of *Feathers* and *The Triumph of Seeds* "A *Sea of Glass* is a superb story inspired by the unparalleled artistic creations of two talented Bohemian glassmakers who provided a time capsule of marine life 150 years ago that now serves as a baseline for the author, a marine biologist, to reflect on the fragility and resiliency of life in the ocean. A delightful merger of art, science, and travel adventure that entertains, enlightens, and inspires. Jane Lubchenco, U.S. Science Envoy for the Ocean and first woman to be appointed administrator for the National Oceanic and Atmospheric Administration

I love this book, which is both informative and fun to read.

To say that biologists can learn about modern sea life from glass models made 140 years ago is to credit both worlds: the close observations of the contemporary scientist and the extraordinary skill of the late nineteenth century Dresden glassmakers Leopold and Rudolf Blaschka. In her book, *A Sea of Glass; Searching for the Blaschkas' Fragile Legacy in an Ocean at Risk*, Drew Harvell, Professor of Ecology and Evolutionary Biology at Cornell University, has succeeded in bringing their glass models to life, searching to find their living counterparts. Each is a metaphor for the other. She sees the glass models as time capsules. Her favorite, the glass model of the common octopus, was carefully restored recently from many small pieces while its living counterpart also lives tenuously today, in its natural habitat. Thus this beautifully written, absorbing, purposeful and eye-opening book presents a time warp: late 19th century glass models and contemporary real specimens, studied on dives by the author in Indonesia, Italy, Hawaii, and the San Juan Islands, Washington State, as well as the low tide flats of Creek Farm, near Portsmouth, New Hampshire. The author begins with a history of these Czech glassblowers, telling how Leopold's 1853 sea voyage and his observations of jellyfish in the Atlantic, including the Portuguese Man of War, led to a fascination with invertebrate sea animals. This book restores to public view the importance of these invertebrate models which until now have been less

well known than the Blaschkas' glass flowers, notably those in the collection at Harvard University. With this book, the invertebrate sea creatures retake center stage, both for their art and for their contributions to the study of nature or, as the author puts it, the tree of life. The Blaschkas at first made their models from illustrations in books written by mid-century naturalists, but soon turned to making watercolors from living examples that had been shipped from sea stations across Europe to their Dresden studio, where they were kept alive in seawater tanks. Dr. Harvell points out the impossibility of working from deceased invertebrates because, once these boneless creatures die, their bodies almost disappear. Each chapter focuses on one group of invertebrates: anemones and corals, jellyfish, worms, sea slugs, octopus and squid, and sea stars. The book features color plates comparing the glass models with photos of the living invertebrates, many of them taken by the author. The images allow the reader to appreciate both life and glass, neither of which we can easily see first-hand. The book reflects Dr. Harvell's experiences and observations in her career as a marine biologist on the faculty of Cornell University, whose president in 1885 had acquired the collection of 569 glass models for undergraduates to study. The models were moved later to storage when students were able to study living models. But the glass examples are so accurate that they do have a scientific use today: Dr. Harvell has been able to study and learn about characteristics of the living animals from the glass models. And her enthusiasms on discovering matches for the glass models comes through in her descriptions; she delights the reader with phrases like her comment that the Blaschka tubeworm models deserve "the prize for transforming the normal into the extraordinary." Dr. Harvell writes about more than the glass models. She is interested in the survival and distribution of the invertebrates that the Blaschkas made drawings and models of, and their survival when faced with overfishing, ocean warming, and ocean acidification. Her dramatic descriptions of her own dives are beautifully written as she located the modern matches for the Blaschkas' models. At the same time, by focusing on different categories of the invertebrates, she can make observations about their survival or their loss, notably in the case of coral reefs and sea stars. She concludes that "we still have within our reach the fragile legacy of the Blaschkas." This beautifully written and illustrated book combines history, art, and the scientific, and belongs in school and university libraries, as well as public libraries and those of aquariums and other collections that focus on life in the sea and its fragile legacy. Some of the glass models, with the original watercolors by the Blaschkas, can be seen at the Corning Museum of Glass until January 8, 2017, where they are on exhibition accompanied by videos made by David Brown during dives to search for the living creatures. The

exhibition is exquisitely installed and deserves to be seen at other museums.

Drew Harvell's *A Sea of Glass: Searching for the Blaschkas' Fragile Legacy in an Ocean at Risk* is a braided work of non-fiction whose three strands focus on the creation of a 19th Century collection of exquisitely crafted glass replicas of marine invertebrates, the biology of the creatures themselves, and Harvell's attempt through a series of dives to learn how these creatures, so plentiful at the time of their reproduction in glass, are doing in a world grown mostly more inimical to their existence thanks to overfishing, pollution, and most especially global warming. The Blaschkas, a father and son glassmaking team, ended up creating almost 800 of the finely detailed replicas as teaching tools for universities (they were actually more famous for their glass flowers, many of which were displayed in royal gardens). Their dedication and artistic ability can be traced through their letters and journals, through the painstaking notes they took, through the watercolors they created before attempting the same creature in glass, and through the incredible detail of the sculptures, of which experts at the Corning Museum of Glass declared that they could think of no peers, living or dead, who could have achieved the same fine work. Harvell is an excellent guide to the naturalist account of how these creatures live—what they eat and how, how they reproduce, their place in the environmental food web, etc. All of it, explained in precise, clear language is utterly fascinating, even when she describes what she acknowledges are often thought of as the more "dull" creatures, the worms. Meanwhile, her attempt to evaluate these creatures' vitality in their current existence is highly personal and emotional. Sometimes that emotion is fear or suspense, as she places herself in shark-ridden waters, does a risky night dive, or drops into ocean currents strong enough to rip divers away from their companions and their boats. Often the emotion shared is joyful exuberance as she shares with us her marveling at the gorgeous colors or the ingenuous aspects of a creature's biology. But too often the primary emotion is despair, as time and again she relates how marine animals are faltering in today's environments, driven to the edge (or over the edge) of extinction thanks to changing climate or to an overly zealous fishing industry that doesn't so much overfish these creatures themselves but disrupts their food web so much that the creatures cannot adapt fast enough. A more personal despair arises as well when, in her quest to find a particular type of octopus, she sees several killed for her by a well-meaning but not-fully-understanding local. We mourn with her the creatures' deaths and her part in it. My only complaint about the book is that Harvell's prose

doesn't quite rise to the level of her passion or to the visual richness of the creatures or the glass sculptures. As noted above, she's always lucid when discussing the science, and she conveys the emotional aspects just as clearly as the technical ones. But I found myself wishing at times for a richness or vibrancy of language and lyricism one finds in some well-known naturalist writers such as Diane Ackerman, Wendell Berry, or Scott Russell Sanders. Finally, one cannot leave off discussing Harvell's book without making note of the many lavish, gorgeous photographs and reprints of the Blaschkas' sculptures and watercolors, as well as of the living creatures, captured in their underwater environment by her partner David Brown (the two collaborated as well on a short documentary film on this same topic). For those wishing to go beyond the photographs, the sculptures themselves can be seen at the Corning Glass Museum, Cornell, and Harvard, and in addition to its regular holdings, the Glass Museum has a larger temporary exhibit of them until January 2017. Both the sculptures and this book are highly recommended.

This book is a unique blend of art and science. I loved reading about the master glassmakers, the Blaschkas, while learning about the fascinating ecology of marine invertebrates! The vignettes are enchanting and cover a wide diversity of invertebrates, from the familiar to the exotic. The clear writing makes the science accessible and compelling for a variety of audiences. I would definitely recommend it to scientists and non-scientists alike!

The books I read usually fall into one of two categories: first, non-fiction that introduces me to new ideas and challenges me to think critically about the world; or second, fiction that sweeps me away from the world of the ordinary to that of the extraordinary. I've found few books that inhabit both categories-- that expose the extraordinary nature of our own world. A Sea of Glass does this elegantly and compellingly, bridging art, science, adventure, and history for a riveting tale of the biome we know least about: the ocean. Harvell's book brims with her unique insights on ocean life and how it is changing, offering hope in a discipline that can often lack it. I eagerly share this book with my friends and family because of how deeply touching it is, and how important a read it is as we strive toward environmental solutions.

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