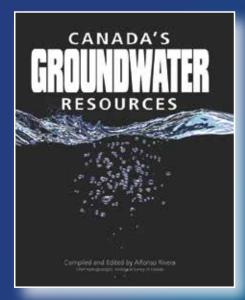
Why Water Matters



Canada's Groundwater Resources

Compiled and edited by Alfonso Rivera

Groundwater is essential for life in arid and semiarid regions. It is also important in humid regions, and is one of the fundamental requirements for maintenance of natural landscapes and aquatic ecosystems. Many of Canada's most sensitive ecosystems are dependent on groundwater. Yet, groundwater remains a relatively unknown resource, one which is difficult for the Canadian public and for decision makers to recognize and/or understand. Most fresh water—other than that frozen in glaciers—is found underground. In fact, all of Earth's water found in lakes and rivers (surface water) accounts for only a tiny fraction of the world's available freshwater resources (less than one percent). Ninety-nine percent of the Earth's freshwater supply is groundwater found in aquifers. These numbers are for the world as a total entity. Here in Canada, we do not know the ratio between available surface freshwater resource (all rivers and lakes), and groundwater in aquifers, although we believe there is more groundwater than surface water, as with the rest of the world. Should this hypothesis be confirmed, the consequences would be enormous, making groundwater a strategic resource in coping with climate change, droughts, and pollution.

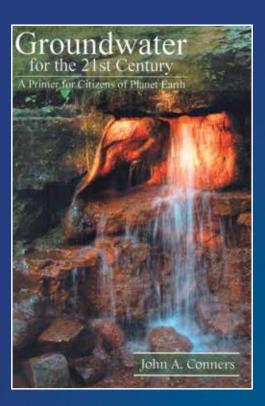


"A MUST-READ AND
REFERENCE FOR
HYDROGEOLOGY
STUDENTS, TEACHERS AND
PRACTITIONERS."

—BOB LEECH,
SENIOR SCIENTIST, AECOM







Groundwater for the 21st Century: A Primer for Citizens of Planet Earth

John A. Conners

Groundwater for the 21st Century is the most comprehensive overview available combining groundwater science and groundwater use by humans, and it has been organized and written specifically for use by a wide range of readers of all ages, places, interests, and nationalities who might wish or need to be informed and literate about freshwater issues. This book provides much material with which to inform readers about the nature of water, its distribution, and its uses and abuses by humans. From this, readers will be better prepared to evaluate their own actions and those of their neighbors, communities, and the hierarchy of decision makers that lead, guide, influence, and otherwise shape the present and future world.

ISBN 978-1-93577-810-3 6 x 9 • 649 pages Hardcover • \$53.95 CDN



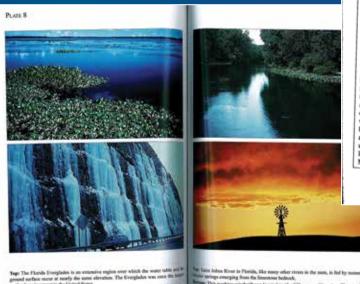
Figure 12.5. Map of areas in the US subsiding due to groundwater extraction

San Joaquin Valley, The Central Valley of California (Section 8.8.4) contains some of the most extensive recent land subsidence, by volume, in the world. More than 13,500 km² of land in the southern part the San Joaquin Valley has subsided more than 0.3 meters (1 feot), largely a result of the lowering of the water table due to groundwater pumping and the resultant compaction of clays. Figure 12.6A illustrates an impressive demonstration of 52 years (1925-1977) of subsidence in the Valley.

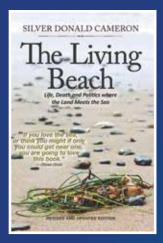
ence in the Valley.

Meakee City, Five handred years ago, a lake occupied the basin where the capital of Mexico now sits. Soon the Spaniards began draining the waters for settlements and agriculture. In recent decades population growth has been explosive and today some 22 million people occupy Mexico City and its environs. About 75% of their water now comes from ground-water which is being withdrawn three times faster than it can be replenished. Most runoff rapidly flows from the area through artificial channels and tunnels. The removal of water from the underlying softiments has caused consolidation of the clays, leading to subsidence of 9 meters (30 feet) or more in parts of Mexico City. Irregularities in underlying softiment result in

473



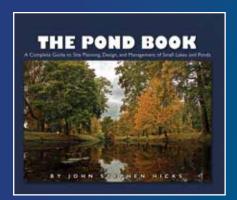
wa hare is fines fleezing proched groundwater energing f at slong linerouse H1 near McAdon, Penneylvania.



The Living Beach: Life, Death and Politics where the Land Meets the Sea Written by Silver Donald Cameron

Silver Donald Cameron uses a study of the elements of the beach to build a case for the beach as an integrated, living entity in its own right, and a model for the unity of all things on Earth. More than a tour of the eastern and western shores of North America, Cameron's book leads his readers to an awakening of the processes of life around us. The author begins with the science of waves and sand, and gradu¬ally reveals the inter-relatedness of all the habitues of the beach. The final destination is an understanding of how all living things are woven together in the fabric of life and what that means for "the stew¬ards of the Earth".

ISBN 978-0-88995-509-7 6 x 9 • 280 pages Trade Paper • \$22.95 CDN



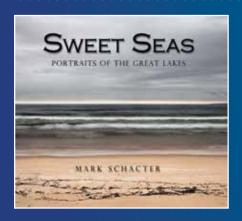
The Pond Book:

A Complete Guide to Site Planning, Design and Management of Small Lakes and Ponds

Written by John Stephen Hicks

The Pond Book explores the wide variety of pond ecosystems available, and their function; topographic and soil requirements, design and construction techniques, wildlife management, fish species and their cultivation, local bylaws affecting pond maintenance, algae and plant control, parasite problems, chemical and physical parameters of water sources, and water control / erosion devices.

ISBN 978-1-55455-160-6 8.5 x 10 • 207 pages Trade Paper • \$34.95



Sweet Seas: Portraits of the Great Lakes

Text & photographs by Mark Schacter

When the first European explorers saw The Great Lakes they called them les mers douces — the sweet seas. They had never before encountered anything comparable. For the First Nations the Great Lakes have long been places of wonder and mystical power. And today the Lakes still have an ability to fascinate. Acclaimed photographer Mark Schacter travels the Great Lakes system to produce a personal portrait of the lakes and their surrounding towns, cities, ports, industrial zones and landscapes.

ISBN 978-1-92708-302-4 9 x 10 • 204 pages Trade Paper • \$39.95 CDN

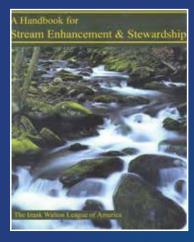


Pitcher Plants of the Americas

Written by Stewart McPherson

Pitcher Plants of the Americas is up-to-date, comprehensive, focused, well illustrated, and visually beautiful. It is technically written, yet is accessible to specialist and non-specialist audiences and will be a valued source of information, reference book, and spectacular overview of the group that will appeal to botanists, naturalists, ecologists, biogeographers, resource managers, conservationists, horticulturists, and gardeners-among others!

ISBN 978-0-93992-374-8 6x 9 328 pages Trade Paper • \$53.95 CDN



A Handbook for Stream Enhancement & Stewardship

The Izaak Walton League of America

A Handbook for Stream Enhancement and Stewardship is a basic resource intended to help individuals, groups, organizations, companies, communities, and governments plan and carry out environmentally sound, cost-effective stream corridor assessment, enhancement, and stewardship programs. Using the watershed as the basic unit of reference, the Handbook provides ideas and information with which readers can assess and document local stream conditions, learn about and evaluate methods of enhancement, devise and implement enhancement plans, and then maintain the stream and stream corridor in its enhanced state of better health and balance. This resource does provide a solid foundation by which volunteers may become informed observers, advocates, and organizers of stream enhancement programs and participants in their implementation.

ISBN 978-0-93992-398-4 8.5 x 11 • 178 pages Trade Paper • \$53.95 CDN

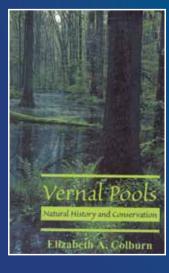


A Guide to Common Freshwater Invertebrates of North America

Written by J. Reese Voshell, Jr. • llustrated by Amy Bartlett Wright

Popular interest in the observation and study of freshwater invertebrates is increasing. A Guide to Common Freshwater Invertebrates of North America meets the needs of this growing audience of teachers, amateur naturalists, environmentalists, anglers, and others interested in aquatic biology by providing substantive information in non-technical language for about 100 of the most common groups of invertebrates found in the inland waters of North America.

ISBN 978-0-93992-387-8 5.25 x 8 • 456 pages Trade Paper • \$52.95 CDN



Vernal Pools: A Natural History and Conservation

Written by Elizabeth A. Colburn

Vernal Pools is the first book-length synthesis of the natural history, ecology, and conservation of the seasonally wet pools that occur throughout the formerly glaciated region of eastern North America-essentially the Great Lakes Basin, New England, and adjacent areas of Canada and the United States. The book presents detailed information about the ecology of vernal pools systems, and discusses important research, conservation, and policy needs for pools to be better understood, protected, and managed. The lengthy bibliography will be an indispensable asset to any reader, beginner or advanced, interested in locating sources of information about vernal pools.

ISBN 978-0-93992-392-2 (HC) • 978-0-93992-391-5 (PB) 6.25 x 9.25 • 426 pages \$60.95 CDN (HC) \$46.95 (PB)

Books for Kids



The Spirit of the Sea

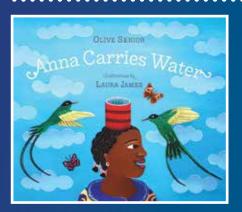
Written by Rebecca Hainnu • Illustrated by Hwei Lim

This beautifully illustrated picture book tells the story of the spirit of the sea, often known as Nuliajuq, Sedna, Takannaaluk, and many other Inuktitut names.

Once a young woman who refused to marry, the lies and deception of a traitorous bird—and her own father's cowardice—lead Nuliajuq to a life of solitude at the bottom of the ocean as the powerful, and at times vengeful, spirit of the sea.

ISBN 978-1-927095-75-1 8.75 x 8.75 • 32 pages

Hardcover; full-colour illustrations throughout • \$16.95 CDN



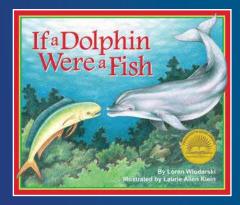
Anna Carries Water

Written by Olive Senior • Illustrated by Laura James

Anna fetches water from the spring every day, but she can't carry it on her head like her older brothers and sisters. In this charming and poetic family story set in Jamaica, Commonwealth Prize-winning author Olive Senior shows young readers the power of determination, as Anna achieves her goal and overcomes her fear.

ISBN 978-1-896580-60-9 10.25 x 11.50 • 40 pages

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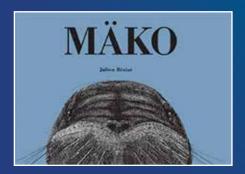


If a Dolphin Were a Fish

Written by Loran Wlodarski • Illustrated by Laurie Allen Klein

If a Dolphin Were a Fish is the clever story of a dolphin who imagines that she is a fish, a turtle, a bird, an octopus, or even a shark or manatee. She (and the readers) learn just how special she really is and how special each of her other sea animal friends are too. The Creative Minds section has teaching trivia, crafts and games related to dolphins and some of her sea-creature friends.

ISBN 978-0-97688-232-9 (HC) • 978-1-60718-861-2 (PB) 8.5 x 10 • 32 pages Full-colour throughout \$21.95 CDN (HC) \$13.95 CDN (PB)



Mako

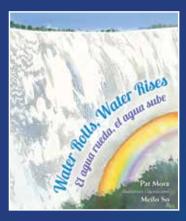
Julien Béziat

Mako loves to make ice sculptures. Every day, the walrus observes the seabed and then reproduces it on the surface, carving into the ice with his big teeth. Thanks to him, all the inhabitants of the North Pole know where to find their food, just below his sculptures. But one night, CRRRAC! The ice shatters into pieces and floats away. No more sculptures and no more fish. All the inhabitants turn to Mōko, pleading for him to make more fish. The walrus works all day and all night carving a giant whale... that's filled with enough fish for everyone!

ISBN 978-1-55455-275-7

11.5 x 8.5 • 36 pages

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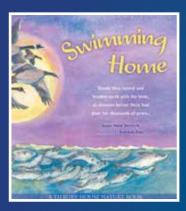


Water Rolls, Water Rises/ El agua rueda, el agua sube

Written by Pat Mora Illustrated by Meilo So

Here is a poetic ode to the beauty of the natural world as expressed by the movement and moods of water on Earth. With every evocative verse in English and Spanish, we visit one of fourteen different water landscapes and cultural areas around the world, each stunningly illustrated with a breathtaking view of a place of natural beauty and conveying a sense of the drama, joy, power, serenity, grandeur, or peacefulness of water. From the Grand Canal of Venice to Qutang Gorge in China, from the Sahara in Morocco to the Andes of Chile, we learn about the world through the lens of water, our most precious, life-giving resource.

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Swimming Home

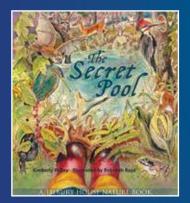
Written by Susan Hand Shetterly • Illustrated by Rebekah Raye

In *Swimming Home*, by Susan Shetterly, the story follows a school of fish (river herring, or alewives) on a journey of hundreds of miles, escaping porpoises, seals, eagles, and herons.

Swimming Home is also the moving story of a boy and his father who see the fish stopped just short of their goal by a new road, and transport them across the last hundred feet.

ISBN: 978-0-88448-354-0 9 x 10 • 32 pages

Hardcover; full-colour throughout • \$22.95 CDN

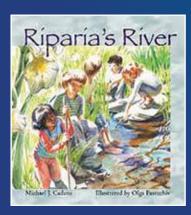


The Secret Pool

Written by Kimberley Ridley • Illustrated by Rebekah Raye

You might walk right by a vernal pool and not notice it. Often mistaken for mere puddles in the woods, vernal pools are the source of life for many interesting creatures. If you look carefully, you can find them—and be amazed! These secret pools form every year when low places on the forest floor fill up with rain and melted snow. They soon become home to hatching wood frogs, spotted salamanders, and fairy shrimp. Even in late summer and fall, when many vernal pools have shrunk to mud holes, creatures such as turtles and snakes rely on them for shelter and food. The Secret Pool introduces young readers to the wonders right underfoot as the voice of a vernal pool shares its secrets through the seasons, and sidebars provide fun facts on its inhabitants and the crucial role these small, often overlooked wetlands play in maintaining a healthy environment.

ISBN 978-0-88448-339-7 9 x 10 • 32 pages Hardcover; full-colour throughout • \$22.95 CDN



Riparia's River

Written by Michael J. Caduto • llustrated by Olga Pastuchiv

In *Riparia's River*, by Michael Caduto, when Gretchen, Jason, Mark, and Daphne find their favorite swimming hole filled with green slime, they are horrified. A mysterious, almost magical naturalist named Riparia helps the children understand why the water became polluted-and together they figure out what they can do to bring clean water back to the river they all love. This lively story about non-point source pollution is filled with both information and action. Realistic, lush illustrations by Olga Pastuchiv illuminate the children's passion for their river and the ecosystem it supports.

ISBN: 978-0-88448-327-4

32 pages

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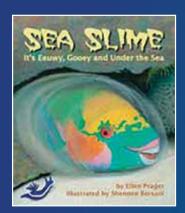


Marine Mammals

Introducing infants to the names of various Arctic animals and Inuit cultural items. Text appears in English, Inuktitut syllabics, and Roman orthography, meaning that even non-Inuktitut speakers can sound out the Inuktitut words contained in these books.

Marine Mammals feature full-colour photographs of a variety of Arctic species.

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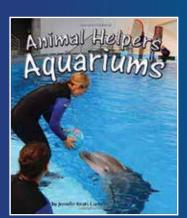


Sea Slime: It's Eeuwy, Gooey and Under the Sea

Written by Ellen Prager • Illustrated by Shennen Bersani

Snails and sea slugs use Sea Slime. But, did you know that coral and clownfish need slime too? Marine scientist Ellen Prager takes us deep into the sea to introduce us to fascinating and bizarre animals that use slime to capture their food, protect themselves from harm, or even move from place to place in their underwater environment.

ISBN 978-1-62855-219-5 10 x 8.5 • 32 pages Trade Paper; full-colour throughout • \$13.95 CDN

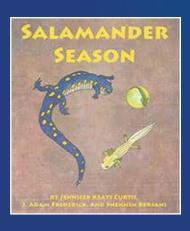


Animal Helpers: Aquariums

Written by Jennifer Keats Curtis

Where else could you stay dry while visiting aquatic animals from around the world? Only in an aquarium can you visit and learn about all these different local and exotic animals. Aquarium staff care for and teach about these animals, as well as work to conserve and protect threatened and endangered species. Follow this behind-the-scenes photographic journal as it leads you into the wondrous world of aquariums and the animal helpers who work there.

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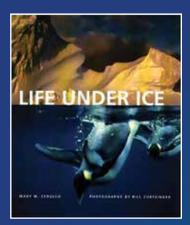


Salamander Season

Written by Jennifer Keats Curtis & J. Adam Frederick • Illustrated by Shennen Bersani

One cold, rainy, spring night, a young girl and her scientist father participate in "Salamander Night" to follow hundreds of spotted salamanders as they venture into a vernal pool to mate and lay eggs. Together, the father-child team studies the salamanders through their complete amphibian metamorphosis, culminating in the adult salamanders' disappearance into the woods in late summer. In easy-to-understand text, the girl relates the tale through her illustrated, photographic journal.

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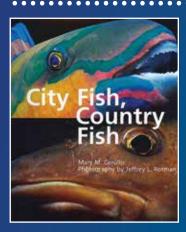


Life Under Ice

Written by Mary M. Cerullo • Photographs by Bill Curtsinger

In *Life Under Ice*, Marine photographer Bill Curtsinger has returned to Antarctica a number of times to photograph the animals and plants that survive in the icy, ice-capped waters at the end of the earth. Mary Cerullo shares his story with us, telling what's it like to start a diving trip by cutting a hole in ice eight to ten feet thick, then diving into the chilly depths with the light shining through your entry hole the only beacon to your escape route. Bill's amazing photographs and his curiosity about the world combine to show us a strange and wonderful part of our earth. This is inquiry-based science, up close—and often under ice. A glossary and resource list at the end of the book continue the learning, and an excellent curriculum guide on Antarctica is available online from the American Museum of Natural History.

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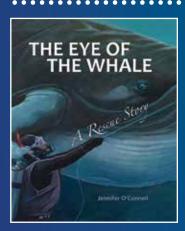


City Fish, Country Fish

Written by Mary M. Cerullo • Photographs by Jeffrey L. Rotman

In City Fish, Country Fish, by Mary Cerullo, we discover that how like some people live in the country, close to the land, where they enjoy peace and quiet, others live in high-rise apartments in the city and love the hustle and bustle of crowds and nonstop activity, both day and night. In many ways fish are very similar. In the ocean there are places that have some of the characteristics of the country or of the city. We'll compare how the fishes that live in tropical seas (the city) and those that swim through cold oceans (the country) meet the challenges and opportunities of their own ecosystems. We will examine how color, shape, and size, as well as behaviors and adaptations, help them survive in their particular habitat. We'll explore characteristics that make them different, as well as things that make them the same.

ISBN 978-0-88448-323-6 9 x 10 • 32 pages Hardcover; full-colour throughout • \$22.95 CDN



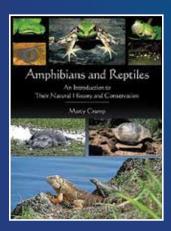
The Eye of the Whale: A Rescue Story

Written and illustrated by Jennifer O'Connell

In *The Eye of the Whale*, by author/illustrator Jennifer O'Connell, on a cool December morning near San Francisco, a distress call was radioed to shore by a local fisherman. He had discovered a humpback whale tangled in hundreds of yards of crab-trap lines, struggling to stay afloat. A team of volunteers answered the call, and four divers risked their lives to rescue the enormous animal. It was the first successful whale disentanglement performed off the West Coast of the United States and prompted a rare and remarkable demonstration of animal behavior. This celebrated story, beautifully depicted in Jennifer O'Connell's mesmerizing paintings, will make you wonder about animal emotions and the unique connections we can have with other animals, even whales.

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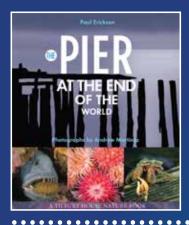
Hardcover; full-colour throughout • \$22.95 CDN



Amphibians and Reptiles: An Introduction to Their Natural History and Conservation Marty Crump

Amphibians and Reptiles--An Introduction to Their Natural History and Conservation is targeted for children from fifth to eighth grade (and older) readers, and to those who have an interest in amphibians and reptiles. Teachers will find considerable information relevant to science standards for grades 5 through 8. This book is unique because it also includes information on conservation.

ISBN 978-1-93577-820-2 7 x 9 • 250 pages Trade Paper • \$40.95 CDN

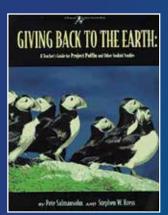


Pier At the End of the World

Written by Paul Erickson • Photographs by Andrew Martinez

A lyrically written story that follows a day in the life of the denizens lurking in the cold, tide-swept waters beneath a remote pier on the shore of a northern sea. Vivid photos of a wolf fish munching a sea urchin, a hermit crab switching shells, a sea slug arming itself with stinging cells stolen from an anemone, a 35-pound lobster guarding his domain, and other exotic creatures take us from dawn to darkness. Colorful panoramic paintings show us the bigger picture, including the eyes of nighttime predators and the creatures who are missing the following morning.

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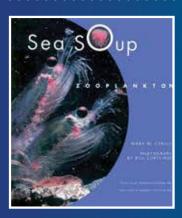
Giving Back to the Earth:

A Teacher's Guide to Project Puffin and Seabird Studies Around the World

Written by Pete Salmansohn & Stephen W. Kress • Illustrated by Lucy Gagliardo

Here are more than 40 creative, hands-on activities: art projects, role-playing, wildlife observations, science demonstrations, running games, and more. The guide is organized into seven major themes, including seabird adaptations, the marine ecosystem, human impact on the environment, people making a difference for wildlife, and more. Includes annotated bibliographies and Internet resources.

ISBN 978-088448-172-0 80 pages



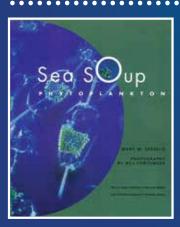
Sea Soup: Zooplankton

Written by Mary M. Cerullo • Photographs by Bill Curtsinger

A teaspoon of sea water can hold a soupy serving of a million zooplankton! These tiny animals often look like weird life forms from outer space or larger animals such as jellyfish.

In this newest volume, Mary Cerullos text answers intriguing questions about these tiny animals that have shaped our world, while Bill Curtsingers extraordinary photomicroscopy serves up tantalizing images of this sea soup. Many of the photos for these books were taken at Maines Bigelow Laboratory for Ocean Science and the Darling Marine Center, using an Axiophot 2 research microscope donated by Carl Zeiss, Inc. This book has an accompanying teacher's guide: *Sea Soup Teachers Guide: Discovering the Watery World of Phytoplankton and Zooplankton*.

ISBN 978-0-88448-219-2 9 x 10 • 40 pages Hardcover• \$22.95



Sea Soup: Phytoplankton

Written by Mary M. Cerullo • Photographs by Bill Curtsinger

A teaspoon of sea water can hold a soupy serving of a million phytoplankton! These tiny floating plants come in thousands of amazing variations. Invisible to the naked eye, phytoplankton are the source of our atmosphere, our climate, our ocean food chain, much of our oil supply, and more. They're also food for zooplankton, tiny animals that often look like weird life forms from outer space.

In this volume, Mary Cerullos text answers intriguing questions about these tiny drifters that have shaped our world, while Bill Curtsingers extraordinary photomicroscopy serves up tantalizing images of this sea soup. Many of the photos for this book were taken at Maines Bigelow Laboratory for Ocean Science and the Darling Marine Center, using an Axiophot 2 research microscope donated by Carl Zeiss, Inc. This book has an accompanying teacher's guide: Sea Soup Teachers Guide: Discovering the Watery World of Phytoplankton and Zooplankton

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