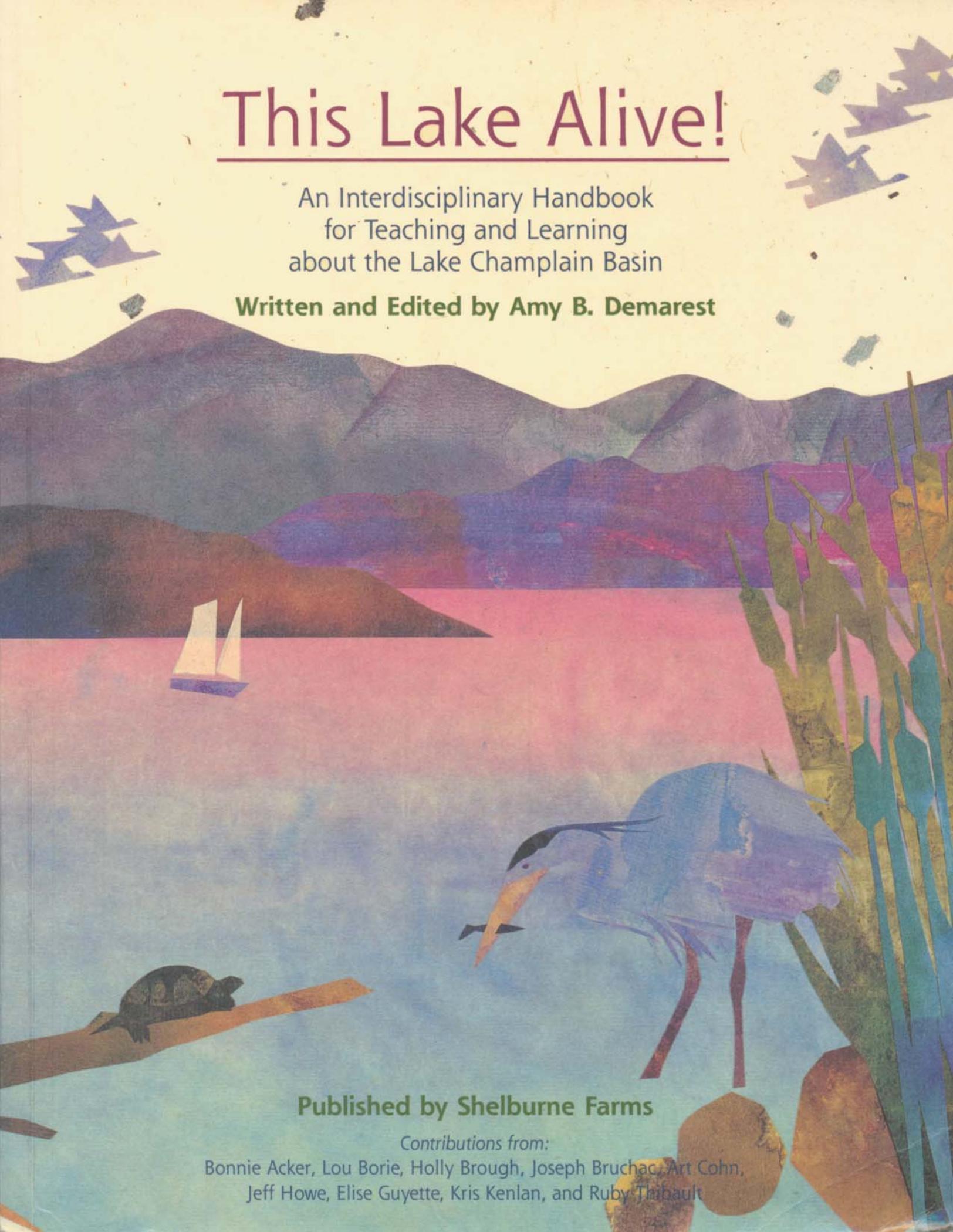


# This Lake Alive!



An Interdisciplinary Handbook  
for Teaching and Learning  
about the Lake Champlain Basin

**Written and Edited by Amy B. Demarest**

**Published by Shelburne Farms**

*Contributions from:*

Bonnie Acker, Lou Borie, Holly Brough, Joseph Bruchac, Art Cohn,  
Jeff Howe, Elise Guyette, Kris Kenlan, and Ruby Thibault

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for Teaching and Learning  
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## **An Interdisciplinary Handbook for Teaching and Learning about the Lake Champlain Basin**

Written and Edited by Amy B. Demarest

With illustrations by Bonnie Acker and Holly Brough  
Photographs by Lou Borie

Published by Shelburne Farms, Shelburne, Vermont

Printed with funding from the U.S. Environmental Protection Agency  
through the Lake Champlain Basin Program (grant #001840-01-0).

Work for this book was supported in part by a grant from the Christa McAuliffe Foundation.





*The Stewardship Institute of*  
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Printed in Burlington, Vermont in the United States of America by Queen City Printers, Inc.  
*Printed on recycled paper.*

*Bonnie Acker's cover illustration is a cut-paper collage created from both Japanese paper hand-dyed with watercolors,  
and handmade paper from Langdell Paperworks in Topsham, Vermont. The inside illustrations were cut from  
black paper originally used to protect new offset printing plates enroute to printing houses.*

# Table of Contents

Foreword.....i  
 How to Use This Book .....v  
 Why Teach Kids About Lake Champlain.....vii



## GETTING WET.....1

### Activities

1. Get the Picture ..... 13  
 2. Treasure Hunt ..... 14  
 3. Ten Excellent Facts ..... 16  
 4. Mystery Box ..... 17



*Myth: Ojibozo Creation Myth as told by Joseph Bruchac..... 19*

## THE GEOLOGIC HISTORY of the LAKE CHAMPLAIN BASIN..... 21

*Essay by Jeff Howe ..... 25*

### Activities ..... 37

1. The Rock Connection ..... 41  
 2. Rock Talk..... 42  
 3. Classifying Rocks..... 44  
 4. Rock Mystery ..... 45  
 5. Characteristics of Rocks and Minerals..... 46  
 6. Walk the Big Walk..... 48  
 7. **Rubies Pearls:** Fossil Print..... 49  
 8. Geology You Can Eat..... 50

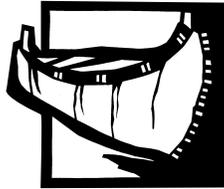


## THE GEOGRAPHY of the LAKE CHAMPLAIN BASIN..... 53

*Essay .....55*

### Activities .....63

1. Making a Map of Lake Champlain..... 67  
 2. Regions of the Lake..... 70  
 3. Reading a Map..... 74  
 4. Comparing Lakes..... 75



## THE HISTORY of the LAKE CHAMPLAIN BASIN..... 77

*Essay*..... 81

*Activities* ..... 113

### **Native Americans**

1. "The Hunt" ..... 117

2. The Lesson of the Legend..... 120

3. Trust and Trade..... 123

### **European Settlement: 1609-1705**

4. Powder Horns..... 127

5. Expressing Your Point of View ..... 129

6. Sequencing a Story ..... 131

### **American Revolution: 1775-1783**

7. Mount Independence..... 137

8. Hero: Benedict Arnold ..... 143

### **The War of 1812**

9. Comparing Wars..... 147

10. The Black Snake..... 148

11. Political Cartoons..... 150

### **Commercial Period: 1814-1890**

12. The Burning of the Phoenix ..... 153

13. The Ticonderoga ..... 158

14. Animals We Love ..... 162

15. Beacons of the Future..... 165

### **Modern Times: 1900-present**

16. Who Owns History?..... 169

17. Design a Tourist Brochure..... 172

18. To Ski or Not to Ski—That is the Question!..... 173



## IT'S ABOUT TIME ..... 175

### *Activities*

1. Timelines ..... 179

2. Just Imagine..... 180

3. Time Flies ..... 180

4. Getting the Big Picture ..... 181

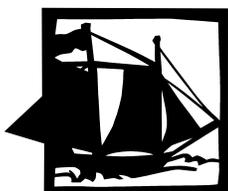
5. Hands-On Learning ..... 183

6. A Stitch in Time ..... 184

7. "Last Sailing of the Ti" ..... 186

8. Writing..... 188

9. Trip Around Lake Champlain ..... 191



**NAUTICAL ARCHEOLOGY  
in the LAKE CHAMPLAIN BASIN** ..... 197

*Essay by Art Cohn* ..... 201

*Activities* ..... 211

1. Float a Boat..... 215
2. As Time Floats By ..... 217
3. Lake Champlain Boat Model ..... 218
4. Phoenix III: Reading Interpretation ..... 222
5. Zebra Mussels Be Gone! ..... 226



**LANGUAGE ARTS** ..... 229

*Activities*

**Grammar and Spelling**

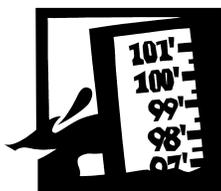
1. A Capital Idea! ..... 233
2. A String of Words ..... 234
3. Spelling ..... 235

**Writing**

4. Writing Journals..... 237
5. Writing Legends ..... 240
6. Writing Tall Tales..... 241
7. Aqua News—All the News That’s Fit to Float ..... 242
8. Traditional Glossary..... 244
9. Glossary (3-D)..... 245
10. Know Your ABC’s ..... 246
11. Crossword Puzzle ..... 247

**Reading**

12. Notes on Reading ..... 249
13. Wood is the Word ..... 252
14. Compare and Contrast..... 253
15. **Rubies Pearls:** Shades of the Past..... 254
16. Reading Aloud ..... 255
17. **Rubies Pearls:** Leaf Monster Drawings ..... 255
18. Learn All About It ..... 256



**MATH** by *Kris Kenlan*..... 259

*Activities*

1. Count the Boats! ..... 261
2. Let’s Dive!..... 263
3. Lake-Level Learning ..... 265
4. River Jigsaw ..... 266
5. Gigantic Geography ..... 268
6. Ferry Tales..... 270
7. Do the Data!..... 270



**FIELD TRIPS** ..... 273

1. Pre-Visit Learning Activities ..... 277

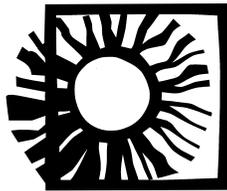
2. On-Site Learning ..... 278

3. Post-Visit Assessment ..... 279

4. ABD's Favorite Field Trips ..... 281

5. Karen Murdoch's Favorite Field Trips ..... 292

6. Colleen Carter's Favorite Field Trips ..... 294



**RESEARCH and INQUIRY  
(and ACTION!)** ..... 295

1. Setting Clear Expectations ..... 301

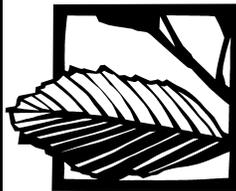
2. Choosing a Topic ..... 303

3. Investigating Sources ..... 306

4. Using People as Sources ..... 309

5. Keeping in Touch ..... 312

6. Finding Out About Current Research ..... 316



**ASSESSMENT** ..... 321

1. Methods of Assessment ..... 327

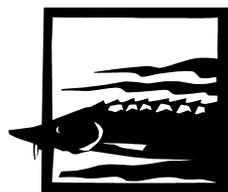
2. Formal Assessment ..... 328

3. Informal Assessment ..... 330

4. Assessing Writing ..... 335

5. Assessing Environmental Education ..... 338

6. End Note from a Lake Lover ..... 340



*Myth: Gluskabi and the Game Animals as told by Joseph Bruchac*  
..... 343

**THE LIVING TREASURES  
of the LAKE CHAMPLAIN BASIN** ..... 345

*Essay* ..... 349

*Activities* ..... 391

1. Food Sources Calendar ..... 395

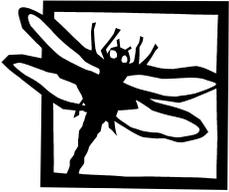
2. Food Chain Game ..... 397

3. What Can You Do? ..... 398

4. Lake Champlain Yellow Perch Problem ..... 401

5. Zebra Mussel Information ..... 403

6. **Rubies Pearls:** Fish Prints ..... 405



*Myth: Koluscap and the Water Monster as told by Joseph Bruchac*  
 ..... 407

**THE ECOLOGY  
 of the LAKE CHAMPLAIN BASIN** ..... 409  
*Essay*.....413

*Activities*..... 447

**Water as a Universal**

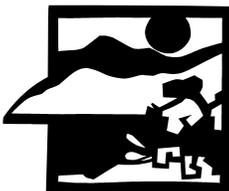
- 1. Poetic Possibilities ..... 451
- 2. Water Diary ..... 453
- 3. The Drop Goes On! ..... 455
- 4. Believe It or Not ..... 456
- 5. Rising to the Top ..... 457
- 6. Sink or Float..... 458

**Water Naturally**

- 7. Where Are You in the Watershed?..... 461
- 8. Layering Activity ..... 462
- 9. Junk in a Jar ..... 462
- 10. Exploring Wetlands ..... 463
- 11. Preconceptions about Wetlands ..... 464
- 12. Guided Imagery..... 465
- 13. Wetlands Metaphor ..... 465
- 14. The Visit ..... 467
- 15. Winding Down ..... 468
- 16. Mudpoem..... 469
- 17. **Rubies Pearls: Silhouettes**..... 472

**Human Impact**

- 18. Observing Water Creatures..... 475
- 19. Go With the Flow ..... 477
- 20. A Question of Development ..... 478
- 21. Basin Bumpers..... 479
- 22. Soil on the Run..... 480



**DRYING OFF**..... 483

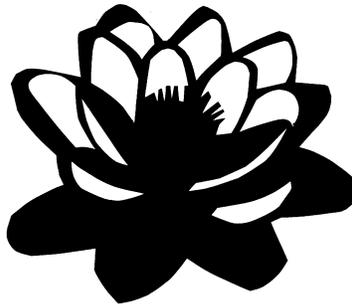
**Bibliography**..... 493

**Graphic Credits**..... 500

**People Who Are Part of This Lake Alive!** ..... 501



*This book is dedicated to all of us  
who are learning to teach what we love,  
so that those whom we teach  
may learn to protect the things  
in this world that are worth loving.*



*And to Mim Kucij  
1944-1995  
Who knew all about  
loving and teaching.*



# Foreword

I can honestly say that teaching and learning about Lake Champlain has been the single most exciting experience of my professional life.

In the summer of 1986, Barrett Smith, a teammate at Milton Jr. High and I took a writing course at the University of Vermont (UVM). We were asked to design an interdisciplinary unit to teach that fall; I still remember kicking around for a topic. One of us started talking about the lake and I remember a little something about an underwater vessel had trickled into what I now call my “pre-lake consciousness.” Our first talks were about ice-fishing and tall tales, Abenaki legends and birch bark canoes. What we ended up designing that summer is still the framework for much of what I teach ten years later.

For me, learning about the lake quickly grew into an obsession and anyone who came to visit that summer was dragged on the ferry, to Ausable Chasm, or to the Shelburne Museum. I began to think about creating some sort of resource for teachers—so as I learned I gathered materials.

Carol Livingston, a seventh- and eighth-grade teacher at Camel’s Hump Middle School, caught the “bug” when I presented a workshop at Chris Stevenson’s Middle Grades Institute in 1987 and we have been lake collaborators ever since. We took a course on board the *Homer W. Dixon*, a double-masted schooner that is no longer sailing on the lake. Our “professors” on the boat were Mary Woodruff, Merritt Carpenter, Monty Fischer and Art Cohn. Summer jaunts and explorations fueled our curricula, which we have taught separately but collaborated on often. For this project she has been coach, friend, advisor and colleague.

Many people have taught different aspects of the lake study. Maureen Saunders, a Chapter One aide in 1987, team taught a class with me that researched jobs on the S.S. *Ticonderoga*. Our class performed skits on the boat and reenacted the crew’s duties. This was one of my first experiences with a learning integrated field trip, an element that is now a significant part of this curriculum. When I moved to a fifth-grade classroom at School Street School, Bill Ladabouche and I teamed; he contributed many activities, including the creation of “All the News That’s Fit to Float.”



author on board the *Homer W. Dixon*



*Tim Titus*

I have had the privilege of working with two superb professionals in the Museum world, Gareth Livermore at the Shelburne Museum, and Tim Titus, formerly at the Crown Point Historic Site. Gareth and I coined the P.O.P. philosophy (see *Field Trips*). Tim has been a constant source of support, information and kindness. He has also served on the Editorial Board.

When I started teaching science to fifth graders, I took a course with Tom Hudspeth, professor of environmental education at UVM. The most important lesson I learned from him, while knee-deep in a wetland myself, was that the best way to teach about wetlands is to muck about in them as much as possible. I have tried to do that with my fifth graders.

Chris Stevenson and Judy Carr, two middle-level educators, have inspired the creation and growth of interdisciplinary studies all over this region. Each one, in his and her own way, gave me the strength and encouragement to create curricula that meant something to kids who grow up in the Champlain Valley.

In 1993, I began a working draft of a handbook on Lake Champlain. The one model I had in mind was the National Wildlife Federation's NatureScope series that I had used so often as a humanities teacher learning to teach the sciences. They were useful because they gave the teacher information as well as clearly designed activities. Although the book grew in scope and magnitude, that has remained the purpose of this work. I have tried to design each chapter for the teacher who might not be trained in a particular discipline.

I attended the Lake Champlain Leadership Institute as participant and instructor in the summers of 1993, 1994 and 1995. These exciting exchanges between leading experts in the basin and teachers from New York, Vermont and Quebec fueled my dedication to this project.

In 1994, I received a fellowship from the Christa McAuliffe Foundation to work full-time on this book. It was a wonderful time of research, writing and intellectual exchange so critical to my profession and so seldom available. Much of the writing of the book was completed during this time.

In many ways this book became a "conversation" between the significant people knowledgeable about certain areas and other teachers and educators who knew what was important for kids to learn. So many people participated in so many ways to this conversation.

Anyone who teaches Lake Champlain studies must pause every now and then and ask herself where we'd be without the tireless and extraordinary work of Art Cohn, diver, historian, and director of the Lake Champlain Maritime Museum. Art wrote the *Nautical Archeology* chapter for this book and contributed an essay, "The History of Lake Champlain," which served as the basis for the history essay I wrote for this book.

Art Cohn, Jeff Howe and Kris Kenlan wrote chapters; for these I served as editor. Judy Elson and I constructed the *Ecology* and *Living Treasures* chapters together with input from advisors. For some chapters, such as *History*, I began with someone else's work and built a much larger piece. Other chapters I wrote. Credits appear in the introduction to each chapter.

The Editorial Board read two versions of THIS LAKE ALIVE! in working draft form. Their comments and suggestions were invaluable. Members of the Editorial Board were Jeanne Brink, Colleen Carter, Mary Dupont, Judy Elson, Elise Guyette, Sue Hardin, Carol Livingston, Karen Murdock, Tim Titus and Jill Vickers.

In addition, many people with different areas of expertise read parts of this book. Many thanks to Michael Bouman, Sue Boyer, Barry Doolan, Laura Eaton, Laurie Eddy, Tom Hudspeth, Don Jarrett, Madeleine Little, Fred Magdoff, David Rider, Bill Romond, Mark Scott, Nick Staats and Pat Straughan.

Finally, many people contributed short articles, interviews or activities to this book. They are: Nancy Bazilchuk, Lou Borie, Joseph Bruchac, Colleen Carter, Lori Fisher, Elise Guyette, Sue Hardin, Dale Henry, Mark LaBar, Fred Magdoff, Karen Murdock, Deb Parrella, Joan Robinson, Nick Staats, Ruby Thibault, Mary Watzin and Don Wickman.

Suzi Wizowaty worked as copy editor for this book midway before she became full-time program director at Vermont Council on the Humanities. Her sparkling intelligence and ability to understand the true purpose of THIS LAKE ALIVE! meant so much to the integrity of this project.

I have been fortunate to have the partnership of Shelburne Farms and the many good people who work there. Judy Elson served as production manager, writer, advisor and source of much information and goodwill. Elizabeth Nelson, with her incredible sense of design, orchestrated the melding of a complex text, artistic illustrations, diagrams, photos and graphics and miracu-



*Art Cohn*

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*Vermont Division for His-  
toric Preservation*

*Vermont Historical Society*

*Mary Watzin*

lously made it all beautiful. Holly Brough, *aka the fairy godmother of our story*, came to this project at the very end but saved us all. She has an eagle eye as well as sound judgment and spent countless hours bringing order to these pages. Holly also contributed the scientific illustrations for this book.

Lou Borie provided the majority of non-historical photographs that appear in these pages. His photographs and sensitivity to the text reflect his lifelong commitment to preserving the natural treasures of this region.

We have all delighted in working with Bonnie Acker, whose illustrations brought a new energy that sailed us to the finish line. We had all waited so long for the time to “bring in Bonnie” that when the day finally came it was better than Christmas. I feel honored to have her work appear on these pages.

Mary Dupont, my teammate at School Street School, served on the Editorial Board and survived teaching with me while I was finishing this book. Her dedication to kids and to her profession serves as a daily inspiration to me.

My husband, Fred Magdoff, read countless drafts of this manuscript, spent hours cajoling the Macintosh, wrote a short article on soils and always listened. Without his incredible store of patience, friendship, encouragement and support, I couldn't have imagined the completion of this project.

Last, and most importantly, I wish to thank the students of Milton, Vermont, with whom I have had the pleasure of studying their wonderful lake.



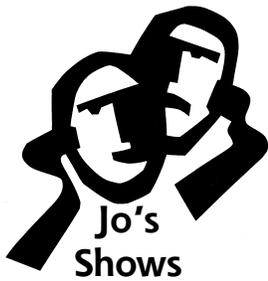
# How to Use This Book

Everything in this book is submitted to you with the understanding that it will evolve and be embellished—and that’s the point! We’re all so good at what we do and every part of this book will undergo a multitude of permutations when you start to tailor it to fit you and your classroom. A resource as rich and varied as the Lake Champlain Basin means that your program will change as you engage your students in real, meaningful learning; because the lake IS alive!

This is not a curriculum; it is an opportunity to create curriculum. One reader likened THIS LAKE ALIVE! to a kitchen cupboard, not a recipe book. Many things will determine what pieces you use. You could choose to teach Lake Champlain solely as a math and science study with only a dollop of the humanities. It could be approached only as a course in geography or as “straight history.” The possibilities are endless.

The chapters of this book are designed to help you create an interdisciplinary study of the Lake Champlain Basin. *Geology, Geography, History, Nautical Archeology, Living Treasures* and *Ecology* contain informational essays written for the teacher and student. These essays provide information that we deemed necessary to explore specific disciplines and they may be copied for classroom use. We struggled with the need to provide the teacher with necessary information and still maintain a reading level suited for students. We feel that with guidance, students can use these essays in the classroom. Chapters also contain short highlights of important topics in a format that will let you mix pieces from different chapters.

Activities are presented with the middle level learner in mind but can be adjusted to any age—including adults. They are designed to let you choose from a variety of learning modes. Because space became an issue as THIS LAKE ALIVE! grew in size (and they say there isn’t such a thing as a Lake Champlain monster), we designed a “mini” handout. A “mini” gives suggestions for a handout, but since teachers often revise handouts to suit their needs, we didn’t give our version a complete page. When we thought it important, we did present the ideas on a full page.



*You will see this graphic next to Jo's Shows.*

When I thought it was helpful to do so, I gave a very detailed description of how to proceed. For example, in the “Getting Started” section of *Getting Wet*, I even wrote down what to say! This was done to impart flavor rather than specifications. Usually, it reflects a tried-and-true practice that I have used because it continues to fit my students. Other suggestions for activities are explained very briefly in the column as “Other Ideas.”

The *History* and *Ecology* chapters are the two anchors of this book. They are larger because they seem to serve as foundations for all the other pieces. In each chapter we provided key resources for the teacher. The bibliography in the back of the book contains complete information on these key resources and on other books and organizations mentioned in THIS LAKE ALIVE! Keep in mind that this listing is not comprehensive but what we thought would be most helpful.

Ruby Thibault, the art teacher at School Street School, designed activities for you to use in your classroom. Although many of us are reluctant to undertake art projects in the classroom, the art activities in this book, titled “Rubies Pearls,” are designed for you to easily add a colorful dimension to your study.

Joan Robinson, the education director at the Flynn Theatre, reviewed and wrote drama activities for THIS LAKE ALIVE! Joan teaches creative drama at St. Michaels College and designed “Jo’s Shows” to help students creatively interpret the many dimensions of the Lake Champlain Basin.

One problem that I don’t think ever got fully resolved is the “Vermont-o-centrism” of this work. I live on that side of the lake, as do many of the consultants for THIS LAKE ALIVE! Although we are thinking more and more as a basin of people who share this land and water, many of our learning patterns and institutions are still tied to one state. My apologies to my neighbors in New York and Quebec for any omissions this caused.

If you have already been learning about the Lake Champlain Basin with children, I hope this book will fuel further work. If you have not been, you are about to start on a glorious adventure. Studying this land and water where we live is a truly wonderful experience—so open the cupboard and begin! Have a wonderful time!

# Why Teach Kids About Lake Champlain

As expressed in the letter from Robbie, stewardship is probably the single most important inspiration for teaching about Lake Champlain. What happened to me, in a large way over ten years, happens to each child who studies the lake, who learns about its past, who contemplates its future. As they learn to love the lake, they want to protect it. That, really, is what this book is all about.

What are the hooks that will make a child growing up in New York, in Quebec or Vermont feel connected to this lake? There are many. Making a connection between a child and his or her past, between a child and this incredible natural resource, is the fire that fuels our work.

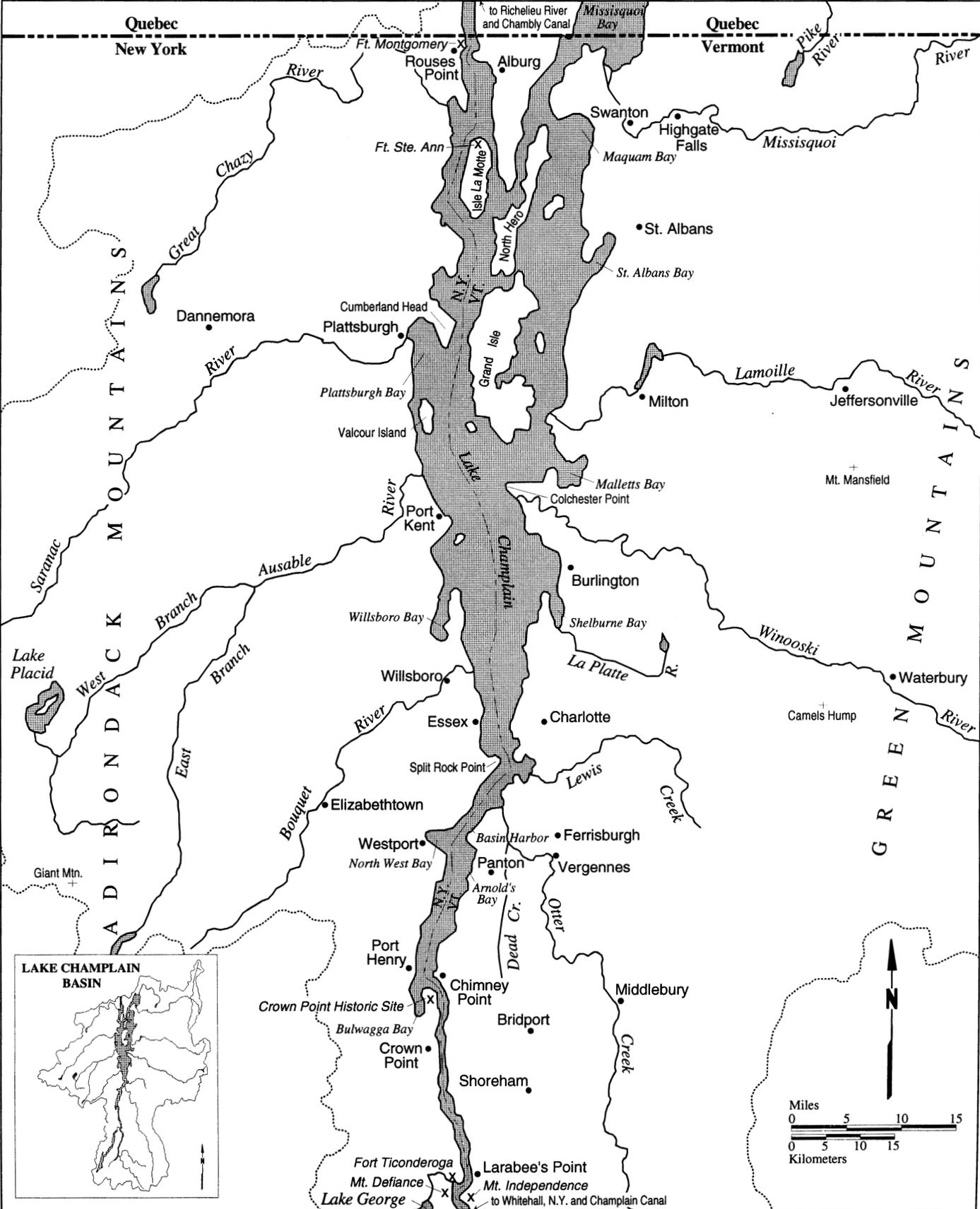
But a sound interdisciplinary study is also about other things. It is about what Chris Stevenson refers to as “rigor.” It is learning the geography of your region—what a drainage basin is and what are its implications. It’s about capitalizing proper nouns such as Crown Point, Benedict Arnold and Ojibozo. It’s about learning to distinguish historical periods and discern what a person’s life may have been like in the 1500s, canoeing up Otter Creek to fish and hunt for the winter’s food, compared to the life of a person living in the 1800s in the busy seaport of Burlington and who perhaps worked on a steamboat. It’s about learning to think clearly and critically and being able to express yourself orally and in writing, whether about applying lampricide in Lake Champlain’s tributaries or drafting legislation on future marina development on the lake. It is about all these things, and, of course, more—but that’s why I needed to write this book!

*Dear Mr. Illick,  
I am very interested in the history and future of Lake Champlain.  
I love to fish and go swimming in the lake.  
I wish Governor Dean and the State Senate could change the way Vermonters look at the lake. They should decrease the pollution, even though it isn't as much as California.  
I love the lake. If people loved it as much as I do, the lake wouldn't have all the pollution.*

*Robbie Hamilton, Grade 5  
School Street School, Milton, Vermont*

*Letter written to Mr. Rowland Illick, retired professor of geography, after a guest presentation of the Lake Champlain Committee’s slide show, “The Ecology of Lake Champlain.”*

# The Lake Champlain Basin



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