



Nijii Films presents the first film about ocean acidification:

# a sea change

IMAGINE  
A WORLD  
WITHOUT  FISH

**A film by Barbara Ettinger**

**USA, 2009, 86 minutes, Color**

## **PRESS NOTES**

**Educational Distributor**

**North America**

Bullfrog Films

John Haskins-Abrahall

P.O. Box 149

Oley, PA 19547

Tel: 610/779-8226

Fax: 610/370-1978

[john@bullfrogfilms.com](mailto:john@bullfrogfilms.com)

**Sales Agent**

**International**

Films Transit

Jan Rofekamp

Diana Holtzberg

252 Gouin Boulevard E.

Montreal, Quebec,

Canada H3L 1A8

Tel: (514) 844 3358

Fax: (514) 844 7298

[jan@filmstransit.com](mailto:jan@filmstransit.com)

[diana@filmstransit.com](mailto:diana@filmstransit.com)

**Media Contact**

**DC/NY/National**

The 2050 Group

Adam J. Segal

1101 Pennsylvania Ave.

Suite 700

Washington, DC 20004

Tel: (202) 756-2252

Cell: (202) 422-4673

Fax: (202) 330-5115

[adam@the2050group.com](mailto:adam@the2050group.com)

**NOTABLE EVENTS - FALL 2009**

**NEW YORK CITY THEATRICAL PREMIERE**

**Sunday, September 13, 2009 at 4:00 PM**

**American Museum of Natural History  
In the majestic and exquisitely restored 944-seat LeFrak Theater  
Central Park West at 79th Street  
New York, NY**



**U.S. NATIONAL TELEVISION BROADCAST DEBUT**

**Saturday, September 26, 2009 at 8:00 PM**



**NOTABLE UPCOMING THEATRICAL PREMIERE**

**October 20, 2009**

**"Global Watch Documentary Film Festival: Crisis, Culture & Human Rights"  
Jacob Burns Center  
Pleasantville, NY**



## SYNOPSIS

*A Sea Change* follows the journey of retired history teacher Sven Huseby on his quest to discover what is happening to the world's oceans. After reading Elizabeth Kolbert's article "The Darkening Sea" in *The New Yorker*, Sven becomes obsessed with the rising acidity of the oceans and what this "sea change" bodes for mankind. His quest takes him to Alaska, California, Washington, and Norway as he uncovers a worldwide crisis that most people are unaware of. Speaking with oceanographers, marine biologists, climatologists, artists and policy experts, Sven discovers that global warming is only half the story of the environmental catastrophe that awaits us. Excess carbon dioxide is dissolving in our oceans, changing seawater chemistry. The increasing acidity of the water makes it difficult for tiny creatures at the bottom of the food web – such as the pteropods in the films – to form their shells. The effects could work their way up to the fish one billion people depend upon for their source of protein.

*A Sea Change* is also a touching portrait of Sven's relationship with his grandchild Elias. As Sven keeps a correspondence with the little boy, he mulls over the world that he is leaving for future generations. A disturbing and essential companion piece to *An Inconvenient Truth*, *A Sea Change* brings home the indisputable fact that our lifestyle is changing the earth, despite our rhetoric or wishful thinking.

*A Sea Change* is the first documentary about ocean acidification, directed by Barbara Ettinger and co-produced by Sven Huseby of Nijjii Films. While emphasizing new scientific information, the feature-length film is also a beautiful paen to the ocean world and an intimate story of a Norwegian-American family whose heritage is bound up with the sea.

## FILM SUMMARY

**Imagine a world without fish.** A powerful new documentary on climate change and the oceans proposes just that. The film, *A Sea Change* is the first documentary about ocean acidification, the underbelly of climate change, a little-known but potentially devastating threat to ocean life.

**The Film's Genesis & Story Line.** Sven Huseby, descendant of Norwegian fishmongers and life-long environmentalist, had never imagined the oceans were endangered by greenhouse gas until he read a *New Yorker* article on ocean acidification. That article, "The Darkening Sea" (Nov. 20, 2006, p. 66) changed his life. He discovered that the effects of climate change are not limited to global warming: they extend to the sea, where water chemistry is being changed by excess carbon dioxide, creating a profound threat to the food chain, starting with the tiny creatures at its bottom.

The next step? Huseby and his partner and wife, the award-winning director Barbara Ettinger, decided to create a feature-length documentary about ocean acidification. The film was completed after two years of production, thousands of miles of travel, and hundreds of hours of editing. The odyssey begins with a meeting with Elizabeth Kolbert, author of the article in *The New Yorker* that catalyzed the film, and ends with a series of meetings with charismatic entrepreneurs whose daring innovations may help turn the tide on changing ocean chemistry. The meat of the film is engaging conversations with scientists whose research is in the forefront of the race to understand ocean acidification.

Sven's travels are interwoven with a tapestry of wilderness on land and beneath the ocean's surface, making visible what is so often invisible. Followed by the camera of cinematographer Claudia Raschke-Robinson (*Mad Hot Ballroom*, *My Architect*), Sven travels to fishing villages in Alaska, conferences and laboratories, and to ancestral sites from the Copper River Delta to the barren glacial beaches of Svalbard, Norway. Raschke-Robinson's lens shifts between stately, panoramic shots of scenic beauty to intimate, handheld verite in human interactions.

Huseby is the means by which the audience encounters the problem of ocean acidification and begins to understand the issue and its possible solutions. Driving his voyage is his concern for his five-year-old grandson Elias and what environmental legacy he will inherit. The film's spine and comic relief are the charming, intimate conversations and games between Huseby and Elias.

**Many Voices & Experts Weigh In.** The tone of the film is unavoidably dark at times. When he is asked at a conference of leading oceanographers "Are we screwed?" Dr. Edward L. Miles from the University of Washington says, "Yes, to a considerable extent." Kolbert herself mourns that she is leaving her son a degraded world. Yet there is hope, and Huseby, the documentary's protagonist, finds it where he can, among the scientists, entrepreneurs, and visionaries, and in his moments with Elias.

**Audiences.** *A Sea Change* has played to sell-out crowds at major film festivals in Washington, DC, San Francisco, Seattle in 2009. The filmmakers hope its message about ocean acidification will reach millions of people and leading policy-makers across the globe ahead of the UN Climate Change conference in Copenhagen in December.

## SELECT FILM QUOTES / SOUNDBYTES

“There are massive unrecognized changes of geologic scale taking place in the ocean. Ocean chemistry is being altered on a scale not seen for millions of years. And we don’t know what the consequences will be.”

- **Dr. Edward L. Miles, Virginia & Prentice Bloedel Professor of Marine & Public Affairs, University of Washington**

“Are we screwed? Yeah, to a considerable extent. A world of 500 PPM is a world of enormous environmental destruction. We ought to recognize that and say it. And we cannot stop there. That is not an acceptable final threshold. But can we do any better than that now? I don’t know. If there are ways of dealing with it, the knowledge will come from you.”

- **Dr. Edward L. Miles, Virginia & Prentice Bloedel Professor of Marine & Public Affairs, University of Washington**

“The vast majority of scientists think we’re already past the point whereby we should be concerned, we should worry. I think we’ve gone past there point whereby we can avoid losing significant species.”

- **Professor Lloyd Peck, British Antarctic Survey**

“We’re playing poker. If we lose the poker we could have a lot of problems for civilization.”

- **Professor Lloyd Peck, British Antarctic Survey**

“I opened an issue of The New Yorker and read an article by Elizabeth Kolbert called The Darkening Sea about this phenomenon I never heard of called ocean acidification. I knew that modern technology had made it easier for the oceans to be over fished. What I didn’t know was that so much of the carbon dioxide was falling into the ocean and creating a horrible problem.”

- **Sven Huseby**

“I have become somewhat obsessed with ocean acidification.”

- **Sven Huseby**

“The more I learn the more frightened I’ve become about what this all means.”

- **Sven Huseby**

“We put the equivalent of 118 billion VW Bugs’ worth of CO2 into the ocean for the last 200 years and 43% of that has happened just in the last 20 years and it’s growing exponentially. You as we start to project out to the future it really gets scary.”

- **Dr. Chris Sabine, oceanographer, Natl. Oceanic and Atmospheric Administration**

“I think we’re a very visual creature and so what’s below the surface of the water in a sense becomes invisible, and so we’re not connected to it. What we can’t see we pollute because we actually don’t even see it as existing.”

- **Maya Lin, artist and architect**

“Right now the science is there, if the political will is not there yet we’re going to keep on them until they recognize that this really is an issue that needs to be addressed.”

- **Miyoko Sakashita, attorney, Center for Biological Diversity's Oceans Program**

## PRAISE FOR THE FILM

"This film is both a love letter to the planet and an urgent plea to its citizens."

- **Justin Berton, San Francisco Chronicle, excerpt from review, 4/17/09**

"The story that "A Sea Change" tells is urgent, unsettling and desperately in need of understanding and action."

- **Ann Hornaday, The Washington Post, excerpt from review, 3/12/09**

"Gripping."

- **Mark Yuasa, Seattle Times, excerpt from article, 5/30/09**

"A Sea Change sounds an alarm."

- **Wendy Rieger, WRC-TV, NBC4, 3/13/09**

"Ocean acidification is a significant part of the climate change story. *A Sea Change* does a unique and excellent job of conveying this complex scientific issue to the public."

- **Dr. Richard W. Spinrad, NOAA Assistant Administrator for Oceanic and Atmospheric Research**

"*A Sea Change* could not be more timely. I believe acidification of our oceans is actually a greater threat to our survival than is temperature or sea level rise, the conventional 'global warming' threats. Acidification is confusing and difficult to even imagine for most people—we need your film."

- **Rob Moir, PhD., Executive Director, Ocean River Institute**

"*A Sea Change* offers a searching, emotionally powerful look at ocean acidification. This problem is sometimes called the "evil twin" of climate change, and many of us regard it as an existential threat to the future of fishing. The story is full of heart, scientifically accurate, and lyrical. It also offers good reason for hope, which is indispensable in the face of such a huge challenge."

- **Brad Warren, Sustainable Fisheries Partnership**

"*A Sea Change* follows ex-history teacher, activist and grandfather Sven Huseby as he travels to visit various scientists to learn more about the impacts of ocean acidification and tries to find ways to explain the problem to his 5-year-old grandson, Elias. I completely fell in love with Sven and the extraordinarily bright Elias. The people in the film are very real and approachable and the ocean footage is stunning. Optimistic, with a whole section of solutions at the end. Broad appeal for all ages."

- **Dr. Cat Dorey, Sustainable Seafood Advisor, Greenpeace International**

"Like Sven and many others in *A Sea Change*, once I learned about the problem of ocean acidification I have been able to think of little else. The dire message of ocean acidification is beautifully conveyed in the film and does a wonderful job of highlighting the duty of us all to become educated and called to action."

- **Jess Reese, The Climate Project Presenter**

## THE FILMMAKERS & CREW

**BARBARA ETTINGER**  
Director / Co-Producer

Director Barbara Ettinger's first film *Martha and Ethel* screened at Sundance and was distributed theatrically by Sony Pictures Classics. She and her husband Sven Huseby co-founded Nijii Films, through which they produced *Two Square Miles*, aired nationally on PBS's Independent Lens in 2006 and 2007. *Two Square Miles* is a documentary about the conflicts that unfold as a proposed coal-fired cement plant threatens to reshape the small town of Hudson, NY. *A Sea Change* is their second project.

**SVEN HUSEBY**  
Co-Producer

Sven Huseby, co-producer of Nijii Films, is a retired independent school head who worked as a teacher and administrator at The Putney School for 30 years. He remains involved with non-profits to build organizational capacity and to plan for the long term.

**CLAUDIA RASCHKE-ROBINSON**  
Director of Photography

Claudia Raschke-Robinson's experience includes *Mad Hot Ballroom*, *Shoot Down*, and *Frame of Mind*.

**TOBY SHIMIN**  
Editor

Toby Shimin has edited numerous films, including *Everything's Cool*, *A Leap of Faith*, *Martha and Ethel*, and *Out of the Past*.

## FILMMAKER STATEMENT

### **A Sea Change Informs Us of the Dangers of Waiting Too Long**

**By Barbara Ettinger, Director, *A Sea Change***

In November 2006 my husband Sven and I read a piece in *The New Yorker* that changed our lives. In the article, "The Darkening Sea", journalist Elizabeth Kolbert reported in detail on ocean acidification, which she called the "flip side of global warming." We were shocked to learn that this rapidly rising acidity, the little known consequence of CO<sub>2</sub> combining with sea water, has the potential to extinguish life in the seas.

Our desire to do something about the threat posed by ocean acidification led us on a most unusual global journey, one we hope will bring this issue to the public and to policy-makers who have the power to affect change. Making an engaging and effective documentary on this subject was a challenging undertaking but one we knew had to be completed. The result, *A Sea Change*, draws the audience into this story, which uncovers the immediate and ongoing effects of CO<sub>2</sub> on our global oceans.

How bad is ocean acidification? Ocean acidification is the phenomena of ocean water becoming more acidic as a result of the absorption of increasing amounts of CO<sub>2</sub> from the atmosphere. The combustion of fossil fuels in power plants, for transportation and a range of other human activities currently puts 22 million tons per day of CO<sub>2</sub> into the atmosphere, and thirty percent of this CO<sub>2</sub> is absorbed by the oceans and combines with water to form carbonic acid.

Carbonic acid in the oceans is particularly corrosive - in fact destructive - to marine organisms that have shells made from calcium carbonate. To date, ocean scientists have been able to measure the corrosive effects of ocean acidification on calcifying zooplankton species. These organisms are at the base of the ocean's food web. As a result, the food supply of many fish species consumed by people is being directly threatened.

Since CO<sub>2</sub> emissions are changing the oceans, and the planet, so rapidly, I continue to ask myself and people around the country: What will it take to convince people that there is urgency, that we are in fact in a state of emergency?

In the same way that *The New Yorker* article shocked us into action, our primary goal is to use the film and the continually emerging scientific information to build awareness of ocean acidification in this country. And we want to contribute to the U.S. moving towards a leadership role at the COP 15 UN Climate Change Conference in Copenhagen in December 2009.

As the Director, I wanted to introduce the concept of ocean acidification in a way that touches across generations on a personal level, while learning through the voices and actions of scientists. *A Sea Change* reveals this story through the voice of a Norwegian grandfather (Sven, my husband) who is concerned that his American grandson (Elias) will never know the seas as he did as a child. Through Sven's growing relationship with his six year-old grandson, ocean acidification becomes an issue that touches cultural and personal





chords. Sven's odyssey is driven by his childhood memories as well as his lifetime concern for the environment.

Just as the film heightens the audience's concern for our oceans and our planet, it also inspires with optimism. Efforts to reduce CO2 emissions are getting underway worldwide. In A Sea Change, we meet people in the U.S. who are already poised to take advantage of the next economic boom that is predicted in alternative energy systems. We recognize that China and India are rapidly becoming world leaders in alternative energy markets. China, with a top down economy, is in a position to act quickly once they see that there is more money to be made in moving in the direction of clean energy technologies. In the last third of the film we show signs of change and provide possibilities for a better energy future.

My hope for A Sea Change is to serve as a catalyst for immediate change as it entertains and informs the audience about the dangers of waiting too long and failing to move beyond fossil fuel and "business as usual".

## FEATURED INTERVIEWS IN THE FILM

Interviews included:

- Dr. Richard Feely, NOAA and University of Washington
- Dr. Edward I. Miles, University of Washington
- Dr. Jeff Short, NOAA, Juneau, AK
- Dr. Ricki Ott, Cordova, AK
- Dr. Ken Caldeira, Carnegie Institute of Global Ecology, Stanford University
- Dr. Richard Bellerby, Bjerknes Centre for Climate Research, Bergen, Norway
- Dr. Victoria Fabry, California State College, San Marcos, CA
- Dr. Jan-Gunnar Winther, Norwegian Polar Institute, Tromsø, Norway
- Elizabeth Kolbert, Writer, *The New Yorker*
- Miyoko Sakashita, environmental lawyer with the Center for Biological Diversity, San Francisco, CA
- Deborah Williams, President, Alaska Conservation Solutions and former Special Assistant to the U.S. Secretary of the Interior
- Andrew Beebe, President, Energy Innovations
- Borea Schau-Larsen, hotelier and owner of Solstrand Hotel in Os, Norway
- Maya Lin, artist and architect.



POPULAR PHOTOS



*Sven Huseby and grandson Elias at aquarium in California*



*Sven Huseby and grandson Elias on beach in California*

To receive high-resolution images for use in media coverage please contact Adam J. Segal at (202) 422-4673 or [adam@the2050group.com](mailto:adam@the2050group.com)



## CREDITS

### Pre-Credit Roll

*Directed by*  
Barbara Ettinger

*Grandfather*  
Sven Huseby

*Grandson*  
Elias

*Produced by*  
Barbara Ettinger, Sven Huseby, Susan Cohn Rockefeller

*Edited by*  
Toby Shimin

*Cinematography by*  
Claudia Raschke-Robinson

*Associate Producer*  
Ben Kalina

### A SEA CHANGE: END CREDIT ROLL

*Sound Recording*  
Tammy Douglas, Ben Kalina

*Additional Sound*  
Kelly Watt, Jim Anderson

*Production Photography*  
Daniel de la Calle

*Additional Camera*  
Josh Aronson, Barbara Ettinger, Ben Kalina, Jim Watt

*Additional Editors*  
George O'Donnell, Pola Rappaport

*Assistant Editors*  
Judd Blaise, Maud Streep, Ben Kalina, Martin Burga, Beth Poague

*Sound Design*  
Pam DeMetruis

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*Sound Editor*

Ahmad Shirazi, MPSE

*Re-recording Mixer*

Martin Czembor

*Title Design*

Eli Noyes, Alligator Planet

*Colorist*

Mike Nuget

*Motion Graphics*

Jeremy Presner

*Web and Graphic Design*

Sam Pratt

Cameron Hickey

*Technical Services*

Joy Reed

*Production Intern*

Christopher Northrop

*Archival Research*

Florence Holdeman

*Outreach Coordinator*

Angela Alston

*Outreach Consultant*

Gwen Alston

**THANK YOU TO ON-CAMERA PARTICIPANTS**

Andrew Beebe

Eystein Borgen

Melody Clark

C.G. Deshpande

Victoria J. Fabry

Michal Forland

Bendik Eithun Halgunset

Elizabeth Kolbert

Maya Lin

Susan Loyola

Taddeo Mathews

Jens Nejtgaard

Riki Ott

Andrea Praeger

Chelsea Rothchild

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Christopher L. Sabine  
Dr. Rolf Seljelid  
Kyle Short  
S.M. Singh  
Thomas Van Dyck  
Deborah Williams  
Richard Bellerby  
Ken Caldeira  
Madeleine Crockett-Fabry Sukhisant Dhindsa  
Richard A. Feely  
Michael Goguen  
Kaia Huseby  
Zeben Kopchak  
Matthew Lorentzen  
Andrew Mathews  
Edward L. Miles  
Hans Nesheim  
Lloyd S. Peck  
Rasik Ravindra  
Ketch Ryan  
Miyoko Sakashita  
Jeffrey W. Short  
S. Shivaji  
Dhruv Sin Singh  
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SEATTLE

Ben Bish  
Matt Feely  
John M. Guinotte  
Mark Lundsten  
David R. Montgomery  
Olav Nossun  
Kelsey Otteni  
Kjerstin Rye  
Jason Scott  
Nicolas Eckhardt  
Andrea Garland  
Jo Lefebvre  
Lars Mattheisen  
Christian Nossun  
Cristin Osterhout  
Christy Parry  
Linnea Rye  
Erling Skaar

ALASKA

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J. Jeffrey Bailey  
Erik Van Cleve  
Laura L. Fleming  
Sue Laird  
Martha Levensaler  
Muriel M. Morse  
Karl Oman  
Jev Shelton  
Kate Troll  
Marcus Welker  
Dorothy Childers  
Anna Davidson  
Shelly Grant  
Ryan Langston  
Drew Lindow  
Gail Nowicki  
Chris Rose  
Al Tingley  
Mary Walker  
Verner Wilson

SVALBARD

Jorun Karin Egge  
Aud Larsen  
Craig Neill  
Ruth-Anne Sandaa  
Evy Foss Skjoldal  
Tron Frede Thingstad  
Runar Thurhaug  
Birte Topper

MAINLAND NORWAY

Knut Olav Amas  
Marion Bruggemann  
Peter Helland-Hansen  
Ivar Huseby  
Sverre Huseby  
Stine H. Gundersen  
Geir Madsen  
Ronnie Ottem  
Borrea Schau-Larsen  
Cecilie Suul Moller  
Atle Andersson  
Gro Folkan  
Monica Houland  
Sidsel Huseby  
Tale N. Grohn  
Asbjorn Jensen  
Svein D. Mathiesen  
Frank Roesler

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Falko Schube  
Jan-Gunnar Winther  
CALIFORNIA  
Carrie Armel  
Adam C. Bad Wound  
James P. Barry  
Robyn Beavers  
Peter Brewer  
Dan Reicher  
Richard Walker  
Dan Whaley

NEW YORK  
Chip Giller

VANCOUVER, B.C.  
Daniel Pauly

WASHINGTON, D.C.  
Rep. John Hall

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Michael and Patti Schrom  
Dawn Watson  
David Black  
Lisa Borok  
Scott Doney  
Richard P. Ettinger  
Emily Jones  
Emily Kuper  
Christopher Mathews  
Michael O'Keefe  
Frank & Sophia Ortega  
Willie Reale  
Michael and Patti Schrom  
Dawn Watson

Cedar Tree Foundation  
Dyson Foundation  
Jewish Communal Fund



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Marisla Foundation  
Monterey Bay Aquarium  
Monterey Bay Aquarium Research Institute  
State of California Department of Parks and Recreation  
Thornberg Fund  
University of Washington  
Vetelsen Foundation  
Davada Foundation

**Featuring Music by Joel Goodman**

**Additional Music:**

“Dolphins”

Written and Performed by James Horner  
Published by Bob Yari Music, LLC  
Courtesy of Yari Music Group, LLC

“Kidnapping the Wrong Charlie”

Written and Performed by James Horner  
Published by Bob Yari Music, LLC  
Courtesy of Yari Music Group, LLC

“A Confluence of Families”

Written and Performed by James Horner  
Published by Bob Yari Music, LLC  
Courtesy of Yari Music Group, LLC

“Inexorable”

Written and Performed by David Byrne  
Published by Malu Music  
Courtesy of Thrill Jockey Records

“Facades”

Written and Performed by Philip Glass  
Courtesy of Duvvagen

“Stormy Weather Theme”

Written and Performed by  
Stephen Thomas Cavit  
Courtesy of AlrightOk Music, Inc.

“The End”

Written and Performed by James Horner  
Published by Bob Yari Music, LLC  
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“Ritual”

Written and Performed by Blixa Bargeld

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Published by Feibank Musikverlags GmbH,  
Hamburg  
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“Praise You, Monkey”  
Written and Performed by Stephen Katz  
Courtesy of Stephen Katz

“Bla Tonar fra Lom”  
Performed by Pernille Anker & Hans Brimi  
from Nordisk Sang - NA 031  
Courtesy of New Albion Records

“Opening”  
Written and Performed by Eef Barzelay  
Courtesy of EMI

“Looking Up”  
Written and Performed by Stephen Katz  
Courtesy of Stephen Katz

“Of the Forest”  
Written and Performed by James Horner  
Published by Horner Music in Motion  
Courtesy of New Line Productions, Inc.

“Harold”  
Written and Performed by Sarah Plant  
Courtesy of Sarah Plant Music

“Kor I Lunken”  
Written and Performed by Vasen  
Courtesy of NorthSide

“Closing”  
Written and Performed by Philip Glass  
Courtesy of Duvagen

“Melting Planet Theme”  
Written and Performed by  
Stephen Thomas Cavit  
Courtesy of AlrightOk Music, Inc.

“Bad Moon Rising”  
Written by John C. Fogerty  
Performed by Creedence Clearwater Revival  
Courtesy of Concord Music Group, Inc.

“Passacaglia”  
Written and Performed by Bear McCreary

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Courtesy of Universal Music Publishing Group

“Steppen”

Written and Performed by Vasen

Courtesy of NorthSide

“Untitled Guitar”

Written and Performed by

Stephen Thomas Cavit

Courtesy of AlrightOk Music, Inc.

“In the Upper Room”

Written and Performed by Philip Glass

Courtesy of Dunvagen

“Island”

Written and Performed by Philip Glass

Published by Dunvagen

Courtesy of Sony Masterworks

By arrangement with

Sony Music Entertainment

“Compassion in Exile”

Written and Performed by Philip Glass

Courtesy of Dunvagen

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Canadian Fishing Company

Courtesy of The New Yorker/Conde Nast Publications

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David Liittschwager/National Geographic Stock

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DoDo Jin Ming, “Free Element XXXIII” (2003)/Laurence Miller Gallery

Electric & Hydrogen Technologies & Systems Center

Google

Gretchen Hofmann

Kristine Smith Photography

Maya Lin

MicrolImages, Inc.

Map generated by the National Renewable Energy Laboratory for the

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Travel arrangements Joyce Grant, Edgewood Travel

A Collaboration with the GreenCode Project

The producers of A Sea Change attempted to reduce, as much as possible, the creation of carbon dioxide and unnecessary waste in the process of making this documentary.

**[www.aseachange.net](http://www.aseachange.net)**

A Nijji Films Production  
in partnership with Sailors for the Sea  
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