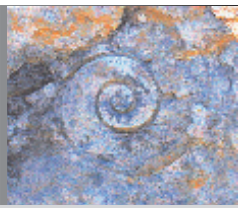


# News

## from the Isle La Motte Preservation Trust



Volume 2 Issue 1

Isle La Motte, Vermont

Winter 2006-2007

### Grand Opening of THE IRA AND THOMAS LA BOMBARD GOODSELL RIDGE PRESERVE

On a sunny Saturday afternoon on September 16th, 2006, a pasture filled with the fossil outcroppings of the ancient Chazy Reef on Isle La Motte was also filled with crowds of people. It was the Grand Opening of the Goodsell Ridge Preserve, an 81 acre geological and nature preserve acquired and protected through a partnership of the Isle La Motte Preservation Trust and the Lake Champlain Land Trust.

Geologists led tours over ancient reef mounds; groups of children and adults crawled on hands and knees to peer at the faint outlines of marine life which once inhabited the ancient Iapetus Ocean.

State Geologist, Larry Becker strolled about with former State Geologist, Charles Ratte. Charlotte Mehrtens, Head of the Geology Department at the University of Vermont, was ensconced on a rock mound talking about the food web of the ancient Chazy Reef. David Griffing, Geologist from Hartwick College in Oneonta, NY, lectured the crowd while supervising two undergraduates with surveying equipment who are mapping reef outcrops for a Senior Thesis.

A Hospitality Tent was managed by a committee headed by Marty Dale, with Mary Jane Tiedgen, Sandra Chappuis, and Debbie McMahan. Visitors enjoyed autumn flowers, pumpkins and cornstalks along with gourmet platters of harvest refreshments. A festive celebration cake was created by Chef Kevin Walton.

Betsy Howland, Vice President of the Isle La Motte Preservation Trust, presided over the brand new Nature Center House, a recently renovated 1880s farmhouse which will serve as a Visitor and Learning Center for the preserve. Exhibits in the "Ocean Room" told the story of the ancient ocean that covered the land 480 million years ago, about the earliest complex reef in earth history, about fossils and how they form.

At the end of the afternoon the crowd gathered around the trailhead where a bright green ribbon stretched across the path was waiting to be cut. In a brief ceremony of Dedication, Peter Espenshade, Executive Director of the Lake Champlain Land Trust thanked everyone who had made this great project possible.

Shirley and Tom LaBombard along with Richard Goodsell, just arrived for the occasion from Atlanta, Georgia, were introduced as representatives of families for which the preserve has been named. Indeed, many Goodsell's were present, celebrating the transformation of farmland owned by their ancestors in the 19th Century to a geological and nature preserve.

Ribbon cutters lined up and on the count of three, cut the ribbon into a great many green and shining pieces. A plaque presented by Tom LaBombard seemed to capture the spirit of the occasion and indeed of the entire project: "We create our tomorrows ... by what we dream today."



The new preserve sign designed by Landworks of Middlebury, VT. and funded by ILMPT's conservation partner, the Lake Champlain Land Trust.



Charles Ratte, former State Geologist; Charlotte Mehrtens, Head of Geology Dept., University of Vermont

Future scientists explore fossil formations



Ribbon Cutting at the Goodsell Ridge

## About the Isle La Motte Preservation Trust

The Isle La Motte Preservation Trust (ILMPT) is a non-profit organization founded in October of 1998. ILMPT supports efforts to conserve Isle La Motte natural resources including: wildlife habitat, wetlands, and other natural areas; significant geologic, archeological and historic sites; and agricultural land. ILMPT owns and manages two sites the Fisk Quarry Preserve and the Goodsell Ridge Preserve which protect critical areas of the Chazy Reef, known world wide as the oldest “complex” fossil reef in the world and promotes scientific and educational activities relating to the reef. In addition the Trust sponsors a Cultural Heritage Series which brings art, music, and other public events to Isle La Motte.

### Student Conservation Intern Spends 12 Weeks on the Goodsell Ridge Preserve

The Student Conservation Association is a nationwide organization through which young people provide service to national and state parks, forests, refuges and urban green spaces throughout the United States. ILMPT was honored to receive a grant from the Lake Champlain Basin Program which funded a CSA intern to live on the Goodsell Ridge Preserve throughout the summer of 2006.

Peter Sorrell, a freshman at Suny Morrisville, NY was selected from a list of 16 applicants to fill the role of intern. Peter and his dog, Peanut, stayed at the Nature Center House, Visitor and Learning Center which has two dormitory bedrooms in addition to the ILMPT office on the second floor. He and Peanut, spent their days exploring the preserve’s 81 acres, mapping out potential trails, identifying and photographing plants and animals, greeting visitors who came by daily though the preserve was not yet officially open, and learning enough of the reef history to give tours. He also developed an eagle eye for spotting fossils, subtle tracings in the rock which are easily overlooked. Here are some of his journal entries:

“Monday: I explored the farthest corner of the 81 acre plot. While there I discovered 4 more species of trees including White Oak, Eastern Hemlock, Gray Birch, and Yellow Birch. I also discovered what I believe to be 2 separate old growth trees. One was a White Oak that is approximately 3-4’ in diameter and the other is an American Basswood of roughly the same size.

“Saturday: We had a Volunteer Work Day. This day was an especially big success for me as I found a group of fossil specimens (cephalopods) while uncovering an outcropping near the Nature Center.”



Conservation Intern Peter Sorrell discovers a spectacular colony of fossil cephalopods

## For All Ages

The Chazy Reef on Isle La Motte, currently preserved in two protected locations, provides a springboard for earth science education. Students of all ages can come for tours and field trips led by ILMPT volunteers in the spring, summer and fall.



The Nature Center House



Fossil Displays



Alburgh Elementary School



Isle La Motte Elementary School



Jericho Elementary School



Hartwick College



Johnson State College



University of Vermont



Adult Education

### What are Cephalopods?

Cephalopods, one of the dwellers of the ancient Chazy Reef, are early ancestors of such creatures as the squid and the chambered nautilus. They were the predators of the ancient Ordovician seas, gliding through water, attacking other life forms with their tentacles and crushing them with their powerful beaks. They had long pointed shells and moved through a system of jet propulsion by squeezing a muscle and jetting water to move.



## Earth Science Education

The following is excerpted from an exhibit in the Nature Center House, a learning center on the Goodsell Ridge Preserve.

**Welcome to the Ocean Room .** Here you will learn about the geology of the Goodsell Ridge Preserve. Geology is the history of earth as recorded in rocks. The rocks on the Goodsell Ridge tell us many important stories about an important chapter in the history of life on earth. The rocks tell us that an ancient ocean once covered the land. They also tell us that about 480-450 million years ago a reef formed in that ocean.

**What is a reef?** A reef is a large limestone structure in the ocean created by animals with calcite skeletons or endoskeletons. Mounds of these skeletons build up over thousands of years. Reefs are important because they are the most biologically rich and diverse ecosystems in the world.

### Is the Chazy Reef really the oldest reef in the world?

The answer is no, but it is the earliest reef formed by and home to a biologically diverse and “complex” assortment of life forms.

**For a (very) short history of reefs** one must travel back in time to the beginnings of life. Earth was born about 4.6 billion years ago (bya for short). The first life forms...single celled bacteria... appeared around 4 bya. They are known as *prokaryotes*. About 3.7 bya another form of prokaryote bacteria showed up: these were single celled bacteria called *cyanobacteria*. They formed mats or mounds on the ocean floor called *stromatolites*. Stromatolites can be considered the very first reefs.

### For 2 billion years simple single celled bacteria ruled Earth.

And then something very important happened. A new kind of bacteria showed up called Eukariote. The DNA of this bacteria was in a protected packet (a nucleus) instead of loosely floating around the cell. Over the next 1.3 billion years or so, this new fangled invention (nucleus) allowed cells to become more complex and to develop into multicelled animals and plants. Fast forward to a mere **700 mya**. Cells had joined together creating multicellular animals which were now living in the oceans. These early soft bodied creatures may have been the ancestors of jellyfish and worms. But they did not have hard parts like bones, teeth, and exoskeletons. And being soft, when they died they didn't have hard parts like shells or bones with which reefs could be formed.

**By 560 mya**, some animals had developed hard parts like shells or exoskeletons. Lots of different creatures were developing and indeed, were eating each other. Were some creatures developing body armor for protection against their neighbors?

**By 480-450 mya** the oceans were crowded with all kinds of animals with hard parts. (There was no life on dry land yet.) When they died their exoskeletons piled up one upon the other making mounds or ...reefs. Thus the first great “complex” reef (now called the Chazy Reef) began to form. Its fossil remains can be found elsewhere but scientists say that the most complete fossil record of this ancient reef is on Isle La Motte.



Marine animals of the Chazy Reef as they may have looked 480 mya.

## “Paleozoic Vermont”

is the title of an article on the Chazy Reef on Isle La Motte in the January 2007 issue of **Smithsonian Magazine**. It was written by award winning science writer Dick Teresi who visited Isle La Motte in 2005. Later Teresi interviewed geologists on the scientific questions that studies of the fossil reef may answer.

For Dr. Mehrtens of the University of Vermont the questions include: “What did the world once look like? What was the ocean’s depth, temperature, and salinity?” Ken Tobin at Texas A&M International University calls the reef a ‘warehouse of knowledge’ for studying the seawater chemistry of half a billion years ago when carbon dioxide was 14 to 16 times more plentiful in the atmosphere than it is today and the earth was so warm that it was nearly free of ice.” The fossilized rock on Isle La Motte, says Tobin, may tell us what happens to Earth with elevated levels of carbon dioxide. For Teresi, however, “the most amazing thing about the Isle La Motte reef is the variety of creatures that lived in the shallow seas half a billion yrs ago, lending perspective to our self-absorption with the present.”

## Arts Support Science On Isle La Motte

For the past four years ILMPT has hosted concerts and art shows at the Fisk Farm on Isle La Motte. These picturesque events are pure Vermont - presenting the arts in a 150 year old barn with the added ambience of Lake Champlain in the background. They also serve to raise funds for the Isle La Motte Preservation Trust which now owns and manages over 100 acres of conserved land containing the fossil remains of the ancient Chazy Reef on Isle La Motte.

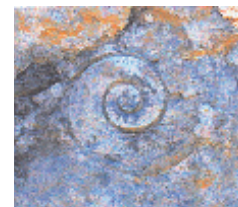
On Sunday afternoons, musical performances and art exhibits are presented in the old Horse and Carriage Barn and afternoon tea with delicious cakes and scones are available by Kevin and Martha Walton’s “Quarry Ridge Bakery Barn”. It’s all free except for the refreshments and the proceeds from those go to support the work of the Isle La Motte Preservation Trust. All are welcome including kids and cyclists, swimmers just out of the lake and gardeners just out of the garden.

ILMPT also hosts three evening classical concerts during the summer months supported in part by the Vermont Arts Council, the National Endowment for the Arts and area businesses.



Yi Chen Yeh, piano and Amelia Jakobsen rehearse the Elgar Cello Concerto for an evening performance at Fisk Farm. Both are winners of the McGill Concerto Competition. The art exhibit features works by watercolorist Lorraine Michaud.

**THE ISLE LA MOTTE PRESERVATION TRUST**  
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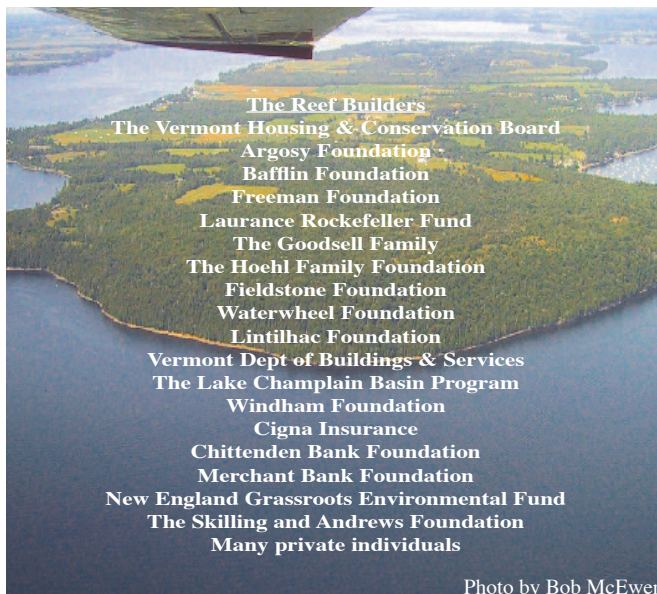
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Yes, I would like to make a tax deductible donation to the Isle La Motte Preservation Trust to support the work in education, science, conservation and community sustainability.

You may also give a gift of meaning and we will send a card to friends or family members in honor of special occasions.

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