

# JOGGINS FOSSIL INSTITUTE

## Annual Report 2014-2015



# MISSION STATEMENT

The aim of the Joggins Fossil Institute is to hold for the benefit and education of humanity a collection and a geographic site representative of the Carboniferous Period and ensure that the site and collection is conserved and safely studied and exhibited. The Joggins Fossil Cliffs provide engaging visitor experiences that inspire wonder and build an understanding of the natural world.

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## MESSAGE from the EXECUTIVE DIRECTOR

The Joggins Fossil Institute is a not for profit charitable organization that was established to protect, promote and present the Joggins Fossil Cliffs UNESCO World Heritage Site for current and future generations. The management of the Fossil Cliffs through a non-government organization is a unique and innovative model for managing protected areas and the Joggins Fossil Institute has been recognized globally and locally for their excellence. This management model ensures that the many benefits that arise from the management of this site are shared among the local and global community and are not allocated to individuals or corporations for profit. It is fitting that for a UNESCO World Heritage Site that the scope of interest and values for this outstanding place are shared universally.



Jenna Boon with Don Reid

Through the work of a small and dedicated number of staff and volunteers, the Joggins Fossil Institute has maintained exceptional services for visitors, scientists, students, children, and the general public at large. JFI has taken the opportunity to present the geological values of the cliffs in the context of a broader context of global biodiversity and climate change. The Institute continues to work locally and globally to provide the opportunity for people to reflect on the past to enable us to be better informed about our collective future. This annual report demonstrates that through partnering with many organizations and through the dedication of many volunteers and staff, the work of this small organization continues to extend in significance and reach and that benefits of the site are shared universally!

JENNA BOON

# BOARD OF DIRECTORS and MANAGEMENT TEAM

## Board of Directors

Don Trenholm	Chair
Mr. Rod Tyson (Sept. 2014)	Member at Large
Ms. Margo Glennie	Resident-Cumberland County
Mrs. Rhonda Kelly	Resident-Cumberland County
Ms. Heather Hoeg	Resident- Cumberland County, District 9
Mr. Rob Naylor	Ex-officio & non-voting, Department of Natural Resources, Government of the province of Nova Scotia
Mr. Mike McLellan	Ex-officio, Municipality of the County of Cumberland
Dr. Elisabeth Kusters	Scientific Background
Mr. Gary Tower	Member at Large
Vacant	Ex-officio & non-voting, Parks Canada, Government of Canada

## Management Team

Ms. Jenna Boon	Executive Director
Dr. Melissa Grey	Curator of Palaeontology
Ms. Lorna Terrio	Office Manager

## from FACEBOOK

“Beautiful! There is always treasure to be found at the Joggins Fossil Cliffs.”

— Kathryn Richards



★★★★★ from TRIP ADVISOR

“ My companion and I arrived here at low tide and spent one of the most enjoyable afternoons of our trip.... We first did the guided tour, and browsed the displays in the centre while waiting for the tour to begin. Our tour guide was excellent and able to answer all questions about the fossils.... We then hiked around because the cliffs themselves are quite beautiful, then looked at a bunch of fossils on the ground. You could even open up rocks like leaves within a book to see the various fossils inside. Of course, you cannot take anything with you, but I found the hunt to be enjoyable in itself. ”

— Visitor from Chapel Hill NC, July 2014

## THE NUMBERS

Number of Facebook fans	1,760
Number Twitter followers	311
Trip Advisor rating (Certificate of Excellence in 2014)	4.5 out of 5
Average number of website hits per day	5,583
Total number of website hits this year	1.9M
Number of people who paid admission	12,254
Estimated visitors to Joggins Fossil Cliffs UNESCO World Heritage Site	20,000
Highest weekly sales (Aug. 3 to 10, 2014 )	\$16,576
Number of learning hours on the World Heritage Site	8,270

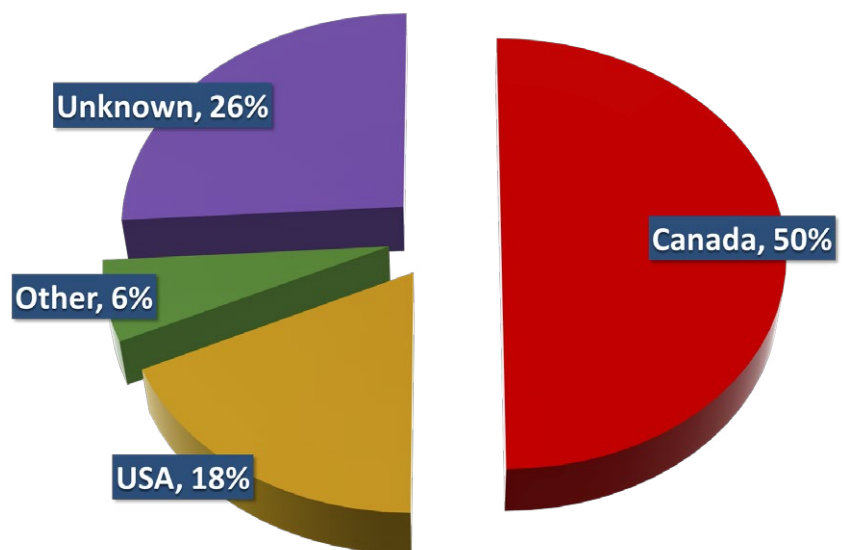


Figure 1. Visitor Country of Origin

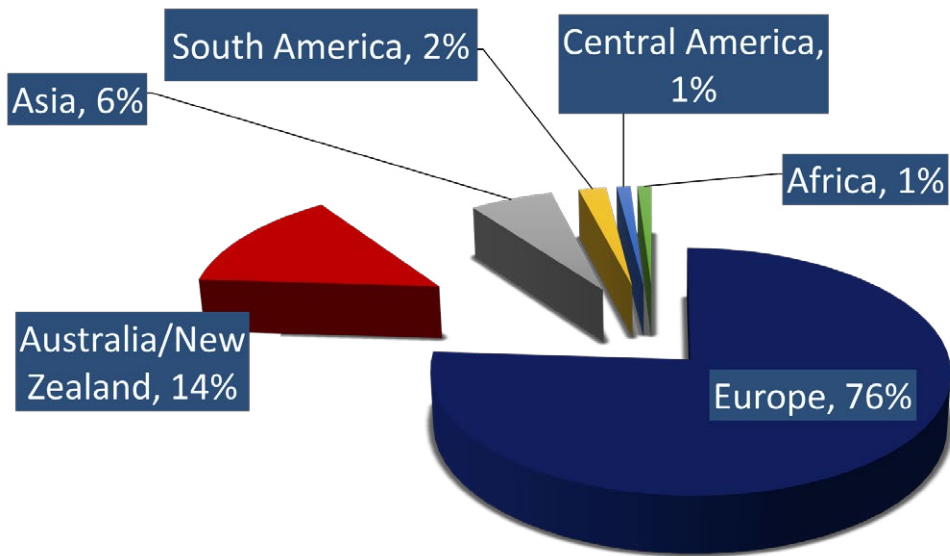


Figure 2. Visitor Origin — Other

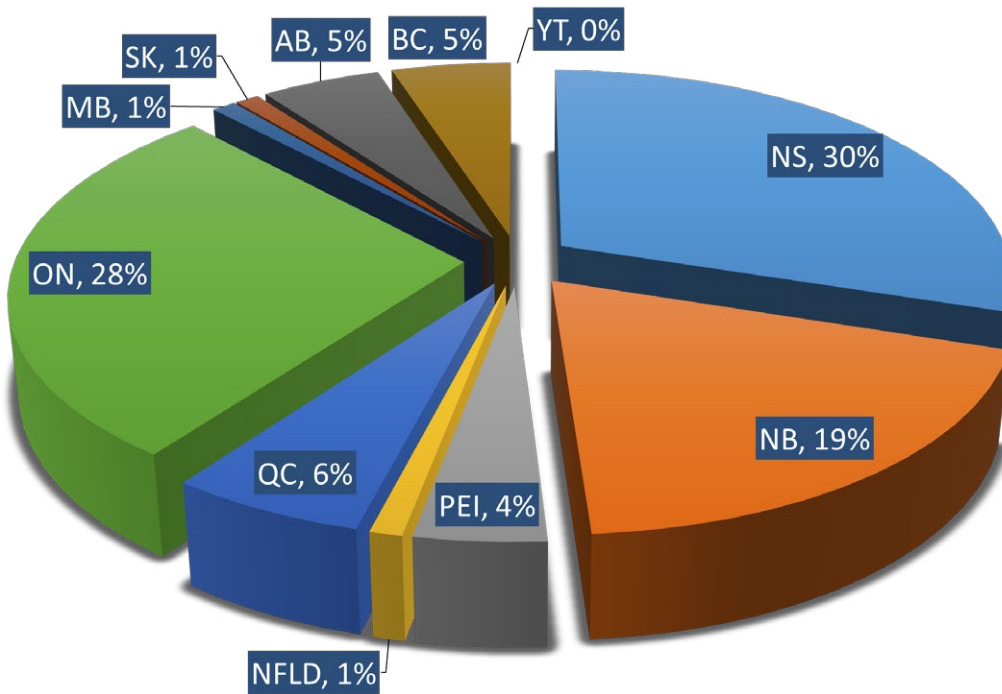


Figure 3. Canadian Visitor Province of Origin

## from an EDUCATOR

“ Melissa, You have NO idea how special that was for our students! We had three first grade teachers, our principal, counselor, and several other teachers in there and they all commented on how wonderful you were! You were so engaging and kept sixty first graders’ attention for 30 minutes! Several of them asked if you have been a teacher before? Thank you, thank you so much for taking your time to do that for our students!!! ”

— Staci Hansen (Grade 1 teacher, Hesston Middle School, Kansas)

## EDUCATION, EXHIBITS, and OUTREACH

The Joggins Fossil Institute recognises the need for the planning and management of both formal and informal learning opportunities. Everyone who visits the UNESCO World Heritage site is immersed in some form of education: from multi-generational family groups visiting the beach and discovering fossils, to planned visits by school groups who are seeking to accomplish specific learning outcomes. Outreach is also an important component of education at the Institute and allows us to reach an even broader audience.

### Education/Tour Groups

The Joggins Fossil Centre hosted 30 educational groups, totalling approximately 1,010 students/visitors. Group bookings are nearly split 50/50 between school groups and special interest/tour bus groups. Group/educational bookings earned nearly \$7,000. Student groups ranged from kindergarten to university-aged. Other groups that visited the site included tour groups from hosted by Maritime tour companies, life-long learners (primarily composed of retirees on a guided tour of the province), and scientific conference visits.

A typical group visits the Exhibition Gallery and the beach, and may also participate in a curriculum-oriented activity such as: CSI Joggins (Carboniferous Scene Investigation), Geological Timeline Exploration, or casting and molding of fossils.

### *March Break and Summer Day Camps*

The Joggins Fossil Institute offered day camps (twice weekly in July and August) for children on a weekly basis throughout the summer of 2014. These camps were popular and offered new learning opportunities for local children. David Quinn and Laura MacNeil, JFI Interpreters and day camp leaders, entertained the children with crafts, scavenger hunts, fossil explorations, games, planting and caring for the Learning Garden, a music workshop, and more. JFI offered its fifth year of March Break day camps. These included workshops such as: art lessons, crafts, photography lessons, a creative writing workshop, and an organic





★★★★★ **from TRIP ADVISOR**

“ Just out of season we called en spec to find that the Director - Jenna Boon - was willing to take our small group of 4 on a personal tour. Tide was low, weather sunny and beach fully accessible. Such an amazing place and beautifully described by Jenna. So thankful for her time, information and guidance, showing us all sorts of amazing fossils. 15 million years of history in such a short piece of coastline. Well worth the visit. Thank you. ”

— Lawrie Bell

gardening workshop. Local volunteers were integral in offering workshops and providing support. The Municipality of the County of Cumberland offered a grant of \$600 in support of the day camps.

### **Gallery and Exhibitions**

The Gallery hosted a small memorial exhibit in honour of recently deceased JFI Keeper of the Cliffs, Laing Ferguson. The exhibit included a small digital presentation with photographs and other memorabilia loaned to JFI from the Ferguson family.

A new, large exhibit (“Fossil Finders”) has been in the planning stages and funding was received from both the Canadian Geological Foundation and the Atlantic Geoscience Society by way of support. Goose Lane Editions, a company based in Fredericton, NB, was hired after JFI’s “call for proposals” to design and install the new exhibit for the season opening in April, 2015.

### **Outreach**

#### *Conferences and Meetings*

The Curator of Paleontology, along with the Curator of Geology for NS and the JFI’s Science Advisory Committee’s Chair, coordinated two special sessions at the Atlantic Geosciences Society’s (AGS) Colloquium in Wolfville, NS: “Research at the Joggins Fossil Cliffs: celebrating 5 years as a UNESCO World Heritage Site”; and “Palaeontology in Atlantic Canada”.

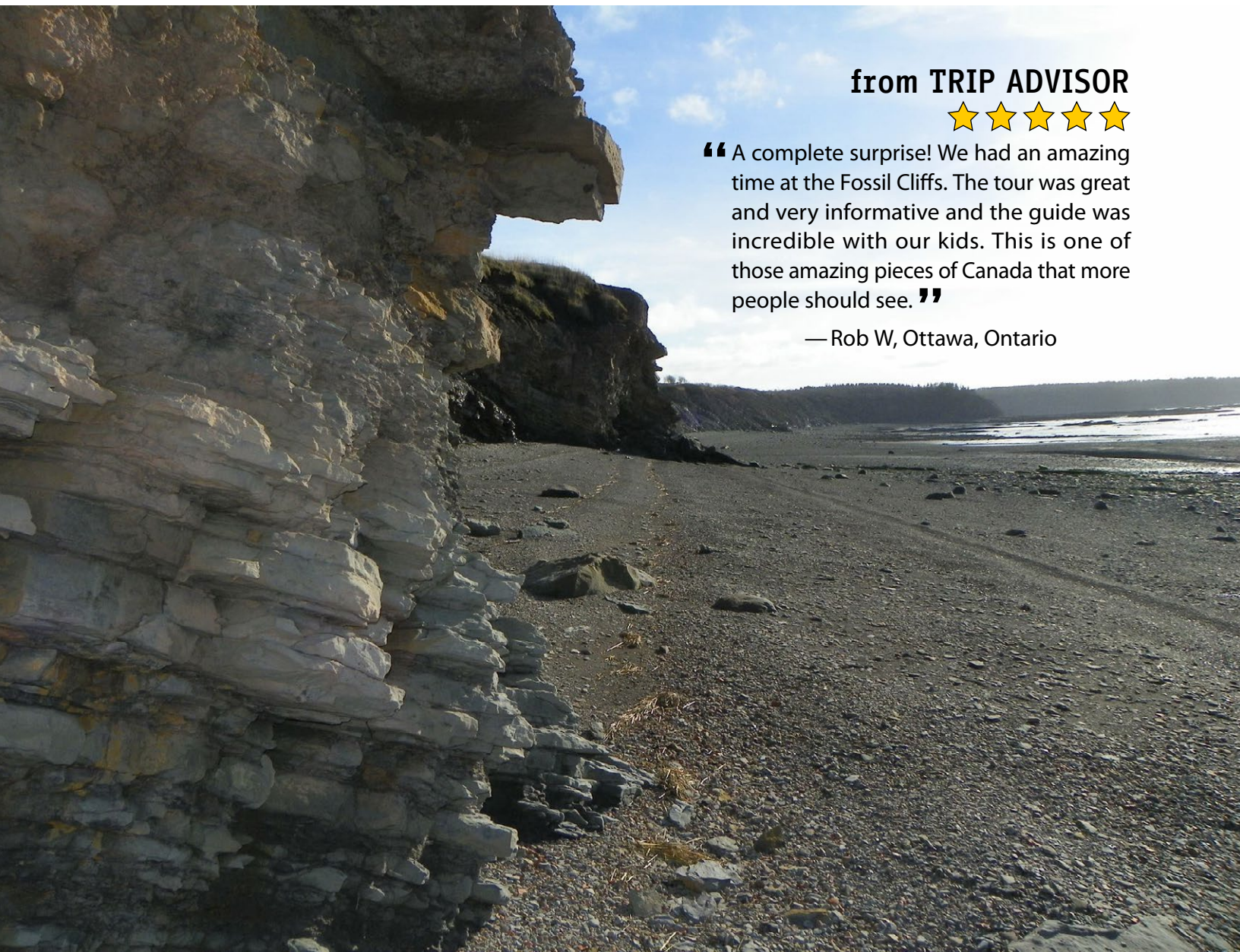
The Curator of Paleontology and the Curator of Geology for NS also coordinated a special session (and contributed a paper) at the 4<sup>th</sup> International Palaeontological Congress (Mendoza) entitled “Research and Management of Palaeontological UNESCO World Heritage Sites”. This conference was attended by over 1000 people from around the world and the session attracted speakers from five countries and 6 Palaeontological World Heritage Sites (as well as other hopefuls!). Dr. Patrick McKeever of UNESCO provided the keynote talk to open the session.

The Curator represented JFI at the Association Science Teachers’ conference as an exhibitor. AST is an annual conference that attracts over 500 teachers within Nova Scotia and is an excellent venue to promote the Cliffs and Centre.

The Executive Director participated in the annual World Heritage Panel of the International Union for the Conservation of Nature in Switzerland. The panel meets to review the state of conservation of existing World Heritage Sites and also provides advice to the World Heritage Committee on new nominations for potential inscription on the World Heritage List.

#### *Presentations and Talks*

The Joggins Fossil Institute delivered presentations to community, school, and professional groups, with attendees totalling approximately 300 people in 2014/15. The Institute's staff delivers talks when requested by groups at either the Joggins Fossil Centre or at other locations around the Maritime Provinces. A sampling of groups we delivered off-site talks to include: Probus Club of Truro; Rotary Club of Sackville (NB); and Mount Allison University Introductory Biology (first year) and Botany (second year) classes. A Skype presentation was also delivered to approximately 60 Grade 1 students at a school in Kansas.



**from TRIP ADVISOR**



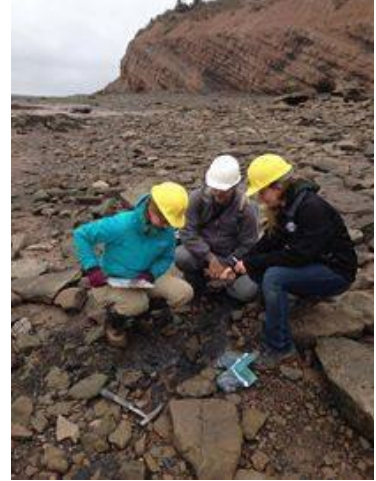
“A complete surprise! We had an amazing time at the Fossil Cliffs. The tour was great and very informative and the guide was incredible with our kids. This is one of those amazing pieces of Canada that more people should see.”

— Rob W, Ottawa, Ontario

## SCIENTIFIC RESEARCH and COLLECTIONS

### *Science Advisory Committee (SAC)*

The Joggins Fossil Institute's Science Advisory Committee (SAC) is an advisory body to the Executive Director on matters of research and other scientific matters related to the site and its management. The SAC currently consists of 10 volunteer members that come from two government departments (Department of Natural Resources and Department of Communities, Culture, and Heritage) and four Maritime universities (Acadia University, Dalhousie University,



Mount Allison University, and St. Mary's University). Members specialize in geology, palaeontology, biology, or environmental sciences. The Curator of Palaeontology is an *ex-officio* member of the SAC and, in conjunction with the Chair (currently Dr. Elisabeth Kesters), is responsible for organising meetings, taking and distributing minutes, and reporting to the Board on SAC recommendations. The SAC meets three times a year and submits an annual report to the Board summarizing the committee's work.

The SAC created a Research Associate Program to support ongoing research at the site — this program will soon be implemented at the JFI. The SAC also participated in an on-going project to outline research and funding priorities — the resulting document will help guide the Board in its fundraising efforts for the Institute.

### **Research**

Formal research collaborations remain established between JFI, Acadia University and Mount Allison University (the Curator of Palaeontology is an adjunct professor at both universities). Research with both Honour's and Master's students at Acadia University continues into 2015. Three papers on Joggins, co-authored by the Curator of Palaeontology, are in various stages of publication:

ZATON, M., GREY, M., VINN, O. 2014. Microconchid tubeworms (Class Tentaculita) from the Joggins Formation (Pennsylvanian), Nova Scotia, Canada. *Canadian Journal of Earth Sciences*. 51:669-676.

CARPENTER, D.K., FALCON-LANG H.J., BENTON, M.J. and GREY, M. in press. Early Pennsylvanian (Langsettian) fish assemblages from the Joggins Formation, Canada, and their implications for palaeoecology and palaeogeography. *Palaeontology*.

BUHLER, P. and GREY, M. *in review*. Xiphosuran burrowing traces at the Late Carboniferous Joggins Fossil Cliffs UNESCO World Heritage Site, Nova Scotia, Canada. *Ichnos*.

## Collections

Nine new specimens, collected under the Heritage Research Permit system, were added to the Nova Scotia Paleontological Collection for research and educational purposes. The total number of specimens in the Collection now numbers over 1700, with a Working Collection of approximately 60 specimens. The Working Collection is used for educational experiences and activities in the Gallery and off-site for outreach.

Taxonomic Category	# New Specimens in 2014	Total
Invertebrates	1	87
Paleobotany	3	707
Structural	0	19
Traces	4	541
Vertebrates	1	351
Unknown	-	27
<b>Total</b>	<b>9</b>	<b>1732</b>

The on-line database for the Collection held at the Joggins Fossil Centre is maintained by both JFI and the Nova Scotia Museum.



## EVENTS IN 2014-2015

<b>March Break</b>	From March 17 to 19, 2015, and despite a storm cancellation on Wednesday, 26 children in total attended activities. Activities included a scavenger hunt, a creative writing workshop and mask making.
<b>Centre Opening</b>	Our April 22, 2014 Open House celebrated a new gallery exhibit featuring the legacy of Dr. Laing Ferguson.
<b>Adopt-A-Highway Clean-up</b>	On the morning of May 12, 2014, JFI staff members were out in full force in the Maccan woods, collecting garbage and debris along a 5 km section of roadway. Over 60 bags of garbage and various other items were collected, including tires, car parts, and electronics. Together, we can help keep our planet clean!
<b>Mother's Day Brunch</b>	This event was attended by approximately 30 people and was enjoyed by all who came.
<b>Canada Day</b>	JFI staff, dressed in costume and driving a locally constructed buggy, participated in the Joggins Canada Day Parade.
<b>World Heritage Inscription</b>	This tour was led by our Executive Director and our Curator of Paleontology in celebration of our sixth anniversary of UNESCO World Heritage Site Inscription. The tour included an in-depth exploration of the World Heritage Site and the award-winning Joggins Fossil Centre. The tour started at the Joggins Fossil Centre and included a guided exploration of approximately 4 km of the UNESCO Site with lunch on the beach. Four visitors took advantage of this spectacular 4 hour experience.
<b>Kid's Camps</b>	Two of our Interpreters spent Tuesday and Thursday afternoons in July and August educating and entertaining local area children. Activities included organic gardening, speakers from a number of area organizations, games and tons of learning.
<b>Open House</b>	Over 100 people attended our Open House on September 23, 2014, to learn about the activities of Joggins Fossil Institute Board and Staff.
<b>Great Canadian Shoreline Cleanup</b>	Interpretative staff organized and participated in the October 15, 2014, event with the Grade 4 class from River Hebert Elementary School.

## Halloween Party

Mad Science entertained approximately 25 children on Saturday, October 25, 2015, from 1:00 to 3:00 p.m. Excess treat bags were donated to Maggie's Place in Amherst for distribution at their Halloween Event.

## Holiday Sale

Approximately 50 individuals attended this event on December 7, 2014, event from 11:00 a.m. to 2:00 p.m. with sales in the Gift Shop and Café reaching almost \$2,000.



## PARTNERSHIPS and SUPPORTERS

Atlantic Geoscience Society  
Bay of Fundy Ecosystem Partnership  
Canadian Geological Foundation  
Canadian National Geoparks Committee  
Cape Chignecto Provincial Park  
Clean Nova Scotia  
Central Nova Tourism Association  
Cumberland County Heritage Network  
Fundy Geological Museum  
Geological Association of Canada, Paleontology Division  
Government of Canada  
Government of Nova Scotia  
Gros Morne Institute of Sustainable Tourism  
International Union for Conservation of Nature World Heritage Panel  
Joggins Legion  
Municipality of the County of Cumberland  
Nova Scotia Community College  
River Hebert Gardening Club  
Super 8 Hotel

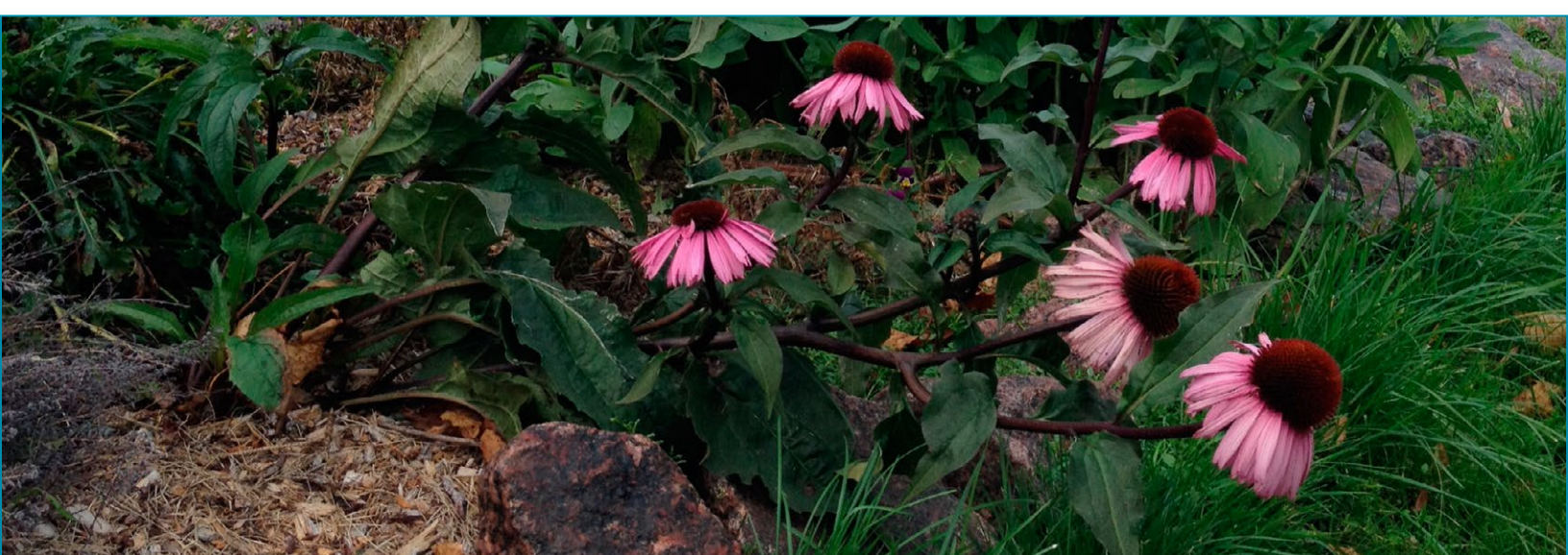
### Lifetime Keepers of the Cliffs

Lifetime Keepers of the Cliffs are those exceptional individuals who have made a significant contribution to the development and support of the Joggins Fossil Institute.

Mrs. Edna Boon  
Mr. Mark Boon

Dr. John Calder  
Dr. Laing Ferguson  
(1935-2013)

Mrs. Rhonda Kelly  
Mr. Don Reid



## VOLUNTEERS

We are pleased to have many dedicated volunteers. Below is a list of these individuals who enthusiastically donate their time to assist with activities, events and/or sit on our Board of Directors and various committees.

Louanne Berry	Kids' Camp Volunteer
Susan Beaton	Kids' Camp Volunteer
Edna Boon	Keeper of the Cliffs
Mark Boon	Keeper of the Cliffs
John Calder	Science Advisory Committee Member
Bill Crossman	Emergency Response Committee Member
Charlene Daborn	Kids' Camp Volunteer
Bryan Dyck	Kids' Camp Volunteer
Zoe Finkel	Science Advisory Committee Member
Martin Gibling	Science Advisory Committee Member
Laurie Glenn-Norris	Kids' Camp Volunteer
Margo Glennie	Board of Directors Member
Diana Hamilton	Science Advisory Committee Member
Jim Hannon	Emergency Response Committee Member
David Harris	Emergency Response Committee Member
Pam Harrison	Volunteer
Heather Hoeg	Board of Directors Member
Shannon Jones	Kids' Camp Volunteer
Rhonda Kelly	Board of Directors Member
Elisabeth Kusters	Science Advisory Committee Member
Andrew MacRae	Science Advisory Committee Member
Mike McLellan	Board of Directors Member
Laurie Melanson	Emergency Response Committee Member
Su Morin	Volunteer
Rob Naylor	Board of Directors Member
Joanne Porter	Kids' Camp Volunteer
Peir Pufahl	Science Advisory Committee Member
Don Reid	Keeper of the Cliffs
Deb Skilliter	Science Advisory Committee Member
Pat Thompson	Kids' Camp Volunteer
Mary Thompson	Kids' Camp Volunteer
Don Trenholme	Board of Directors Member

### Who We Supported in 2014

Adopt-a-Highway; Cross Border Challenge; Joggins Volunteer Fire Department; Not-Since Moses; River Hebert Co-op; River Hebert Curling Club; River Hebert High School; River Hebert Gardening Club; Nova Scotia Council on the Family; Nova Scotia Nature Trust; World Heritage Fund; King Edward Lodge; NSCC – Springhill; Holland College Tourism & Culinary Centre; Cumberland YMCA; Amherst Rotary Club; Sackville Rotary Club



## STATEMENT OF FINANCIAL ACTIVITY

	2014-2015	2013-2014	Difference
<b>REVENUE</b>			
Federal student funding	14,064	6,035	8,029
Provincial funding	258,239	254,165	4,074
Municipal funding	55,600	56,025	-425
Non-government funding	37,000	1,500	35,500
Earned Income	197,925	213,199	-15,274
<b>Total Revenue</b>	<b>562,828</b>	<b>530,924</b>	31,904
<b>EXPENSES</b>			
Advertising and promotion	8,227	5,478	2,749
Bad Debts	55,000		55,000
Insurance	7,070	5,650	1,420
Interest and bank charges	4,289	3,173	1,116
Memberships	75	377	-302
Miscellaneous	2,585	4,137	-1,552
Office	7,764	9,137	-1,373
Professional fees	5,500	5,688	-188
Project Expense (new exhibit)	36,819		36,819
Purchases (Gift Shop and Cafe)	33,015	46,018	-13,003
Repairs and maintenance	22,883	26,650	-3,767
Salaries and wages	310,929	360,895	-49,966
Supplies	422	2,623	-2,201
Telephone	8,337	9,563	-1,226
Training	2,644	2,963	-319
Travel	5,409	7,503	2,094
Utilities	37,014	36,187	827
<b>Total Expenses</b>	<b>547,982</b>	<b>526,042</b>	21,940
<b>Excess (deficiency) of revenue over expenses</b>	<b>14,826</b>	<b>4,882</b>	

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United Nations  
Educational, Scientific and  
Cultural Organization



The Joggins Fossil Cliffs  
inscribed on the World  
Heritage List in 2008