VERMONT BOTANICAL AND BIRD CLUB NEWSLETTER

JANUARY 2013

2013 Annual Meeting Announcement

The 118th Annual Meeting of the Vermont Botanical and Bird Club will be held at Ohana Family Camp on Lake Fairlee in Post Mills (Thetford), Vermont on Thursday, June 20 – Sunday, June 23, 2013.

We look forward to botanizing in the Upper Valley region of the Connecticut River which includes the Southern Vermont Piedmont natural community; and birding at special locations along the Connecticut River Birding Trail.

We will be staying in rustic cabins overlooking Lake Fairlee and meet at a century old Lodge that is owned and operated by the Aloha Foundation. See: www.OhanaCamp.org.

117th Annual Meeting, Saint Michael's College, Colchester, June 14 – 17, 2012

Vermont Botanical and Bird Club on the campus of Saint Michaels College, Saturday, June 16, 2012
Back Row standing L to R – Peter Hope, Travis Van Alstyne (Scholarship), Charlotte Bill (Treasurer), Eric Wood, Bill Arnold Sr., Bill (Tig) Arnold, Rose Paul, Anne Hill, Sarah Jane Hills.
Middle Row standing L to R – Bill Martin, Deborah Benjamin (President), Ann Burcroff, Annie Reed, Sara Hand, Louanne Nielsen, Lynne Arnold, Rosemary Bevan, Barbara Walling.
Front Row kneeling L – Connie Youngstrom (VP Plants); Front Row sitting L to R – Charlotte Hanna, Barbara Baker, Scott Bassage (Secretary), Virginia McLoughlin, Devin Latremore (Scholarship), Aerielle Matsangos (Scholarship), Avery Shawler (Scholarship), Roy Pilcher. photo by Peter Hope

EVENING PROGRAMS

THURSDAY, JUNE 14, 2012, 7:00 PM:

Grassland Birds in the Northeast: Ecology, Conservation, and Management, by Allan Strong, Associate Dean in the Rubenstein School of Environment and Natural Resources at the University of Vermont. Cheray Hall, Room 111

Allan Strong presented the research that he began in 2001 with Terri Donovan and Noah Perlut at UVM that has been carried out with the help of about 60 students over the years in the Champlain Valley to try to understand the effects of agricultural management on the population dynamics of two more common grassland bird species: Bobolink and Savannah Sparrow.

They identified two problems: 1. the loss of agricultural land through successional processes of forested landscape to farmland and back again over time; and 2. increased management intensity on remaining lands still in agriculture. From 1950 – 2000 there has been a decline of 70% in the number of farms; a 74% decrease in the acreage that is harvested for hay; and a 39% decline in the number of cows [USDA]. By interviewing farmers, they learned that 54% are cutting hay earlier in the year than 10 years ago and 47% are cutting more often in the same time period. Looking back 20 years, 64% are cutting earlier and 58% are cutting more often. And where information was available for 30 years ago, 72% were cutting earlier and 71% were cutting more often. Correspondingly, populations of several grassland bird species are declining, some, such as the Eastern Meadowlark (94% over 40 years) at alarming rates.

The two species of birds have very different ways in which to respond to nest disturbance by the cutting of hay early in their breeding seasons. Bobolinks winter very far south in southern and central South America, arrive on the breeding grounds in Vermont about May 1, initiate nesting around June 1, and fledge young beginning in late June. Savannah Sparrows winter in the continental U.S. As far south as the Carolina's, return to Vermont breeding grounds about April 15, initiate nesting around May 15, and fledge young beginning about June 15. Through banding individual birds and observing their movements it was learned that Bobolinks tend to disperse to another area if they experience a nesting failure due to haying equipment or the predation that occurs by gulls after the cover has been removed whereas Savannah Sparrows re-nest energetically as many as six times and within two days of a nesting failure right in the same field.

Of the four types of hayfield management practices – early cutting (with higher protein grass for dairy cows), middle cut (more volume but less protein for horses and cattle), pasture and grazing, and late cut or "gentleman" farming where hay is not needed to feed livestock – the early cutting followed closely by a second cutting (as little as 35 days later) has the greatest impact on birds and in some years prevents Bobolinks from fledging young.

In an attempt to develop management guidelines through the Grassland Bird Incentive Program that supports the successful nesting of birds while also compensating a farmer who qualifies, the downward trend of these bird populations might be mitigated or reversed. To qualify, a farmer must have 20 acres of land that is 50% - 75% in hay and that is square or circular in general shape. Then, if the first cut happens prior to May 31 and the second cut is delayed 65 days (14 days of grass regrowth plus 27 days for bird nest-building, egg-laying, incubating and nestling growth plus 14 days to mature enough to avoid a tractor), then the farmer is eligible for a $135/acre reimbursement for the calculated loss in hay quality by waiting.

Unfortunately, this useful program which had enrolled 900 acres so far in the Champlain Valley was cut from the federal Farm Bill, which itself rests in limbo before being taken up by Congress. [See Burlington Free Press – Sunday, June 9]

FRIDAY, JUNE 15, 2012, 7:00 PM:

Mapping Vermont: Stories of Science, People and Places, by Marjorie Gale, Bedrock Geologist with the Vermont Geological Survey. Cheray, 111.

There have been three published bedrock maps of Vermont – 1861, 1961, and the newly completed 2011 map of tonight's discussion. Each map describes Vermont's long geological history in greater complexity as scientific knowledge and understanding has evolved. The earliest map was begun in 1845 and was completed by Edward Hitchcock in 1861; it covered the entire state and described its history through 24 rock unit types. Their basic technique stemmed from Charles Lyell's Principles of Geology, 1830, which taught that the present is the key to the past; and that by looking at processes now one can learn about the past. As time progressed, several scientific steps helped to shape the making of the 1961 map under State Geologist, Charles Doll:

1893 – George Barrow's maps of metamorphic zones in Scotland

1928 – N.L. Bowen's Evolution of Igneous Rocks – minerals crystallize in a sequence

1953 – mid-Atlantic ridge from WWII sonar

The 1961 Bedrock Map added a stratigraphic correlation with the entire Northeast using 137 rock units on a topographic base.

Throughout the 1960's, the theory of plate tectonics gained predominance through mounting evidence and numerous new observations, such as: early orbital views of the Earth from space; geomagnetic anomalies parallel to mid-oceanic ridges; the World Seismic Network (to monitor nuclear weapons testing); and John T. Wilson's portrayal of continental plates moving on hot mantle and creating transform faults where plates collide. The 1970's marched along adding: space geodetic data confirming rates and directions of plate movements and new discoveries in volcanic rock geochemistry. It was time for a new geologic map of Vermont.

In 1984, a grand plan was drawn up under the senior author, Nicholas Ratcliffe; and with Rolfe Stanley, Marjorie Gale, Peter Thompson and G. J. Walsh plus an army of undergraduate and graduate students from UVM (northern Vermont) and the USGS (southern Vermont) over 30 years, a new map incorporating the current state of scientific knowledge took shape. Data was collected using the pace and compass method.

The 2011 map expands the number of rock unit types to 486, adds 51 new age dates and added several new interpretations to previously known rock types. The geology can now be represented as fault-bounded slices of rock – oceanic crust and mantle, volcanic island arcs – that are the result of several plate tectonic collisions. From examining the geochemistry of lithotectonic packages in thin slices under the microscope, in the rock itself and in the rock outcrops, geologists expanded their understanding of the metamorphic history of Vermont. Ten or more cross sections with projections down to 8 – 10 km and aerial continuations were drawn and help to give a three dimensional portrait of the present position of many tectonic environments and time periods. The discovery of the presence of conodont fossil teeth of an eel-like creature that lived 460 my ago in the heart of the Green mountains proved that the rocks were younger than previously thought. The world class Champlain Thrust Fault at Lone Rock Point is thought to have moved westward 35 – 50 miles which puts its root zone just east of present day Montpelier.

We all greatly appreciated the 30 years of hard work that Marjorie and her colleagues conducted and the final map which holds a “mountain” of information in a most beautiful form. The map is available from the Vermont Geological Survey website on paper and digitally: http://www.anr.state.vt.us/dec/geo/vgs.htm

Ratcliffe, N.M., Stanley, R.S, Gale, M.H., Thompson, P.J., and Walsh, G.J., 2011, Bedrock Geologic Map of Vermont: U.S. Geological Survey Scientific Investigations Map 3184

SATURDAY, JUNE 16, 2012, 7:00 PM:

Annual Business Meeting: Cheray Hall, Room 111

Secretary's Report:

a. Bulletin – Special thanks to Arthur V. Gilman for pulling together several excellent articles including one that he and Michael Rosenthal wrote about the discovery of two new moonworts. And the cover related nicely to the article by Bob Popp of the Vermont Natural Heritage Inventory on Tulip Tree. As an extra treat, a tall Tulip Tree was in full bloom on campus between the Chapel and RT 15.

130 copies were printed at Stowe XPRESS. This is the first year that a few color illustrations were included: total cost = $522.00 ($4.02 each).

b. Flora of Vermont – At the Annual Meeting in 2010, the Club voted to contribute $3000 to the Flora of Vermont by Arthur V. Gilman and to be published by the New York Botanical Garden. Debbie reported that the invoice for the amount was received in August, 2011 and put in the mail with a tracking code. It turned out that the letter and Hurricane Irene arrived at the same moment over Brookline – not to worry, it arrived safely.

Secretary Scott Bassage then read from the NYBG thank you letter: "On Behalf of the Science Division of The New York Botanical Garden, and NYBG Press, I would like to thank you for the Vermont Botanical and Bird Club's very generous gift of $3000 to support the publication of *New Flora of Vermont* . We are fortunate to be working with Art Gilman and we appreciate your support of the important project he ahs undertaken. *New Flora of Vermont* will be an outstanding book that will join existing NYBG Press titles about the New England region … Your donation helps NYBG Press contribute to conservation efforts and scientific inquiry by publishing this significant work that will be used by naturalists, conservationists, researchers, students, and policy makers." September 7, 2011. Scott then read from Arthur's progress report dated May 30, 2012 - "...the *New Flora of Vermont* may be published by Fall: 1)Bill Buck has sent it up for "copy-editing", essentially checking that every reference in the text has an item in "references", and this should take up to a month; 2) after that it goes to the typesetter for mocking up pages (proofs), which should be another 6 weeks – months; 3) once proofs are corrected, it can go to production, which he says is quite rapid. Bobbi Angell's color frontispiece will be included. The basic layout will be like other NYBG flora's with keys and treatments down to genus in one-column format, species entries in 2-column format."

Treasurer's Report:

Treasurer, Charlotte Bill, gave the Treasurer's Report. The balances in the three accounts are:

1) Certificate of Deposit, Merchant's Bank, Johnson, VT $10,890.88 on April 9, 2012
2) Green Century Equity Fund, Green Century Funds, Indianapolis, IN $11,874.09 (6/12/12) $2,000.00 withdrawn 10/06/11 transferred to checking account to cover donation to NYBG
3) Checking Account People's United Bank (formerly Chittenden Bank) $5,282.15 (6/12/12)

The 2012 Scholarship Appeal raised $720.00 for the Current Year/Rollover Fund; $100.00 was received in 2011 after the Meeting; $446.00 was expended at the 2011 Meeting for a balance of $1,437.29. The 2012 Scholarship Appeal raised $335.00; $25.00 was received in 2011 after the Meeting; $38.74 interest on the CD since the 2011 Meeting for a total of $11,439.96. Figures are as of 6/12/12. Thank you for your generosity.

The 2011 Annual Meeting had $6,179.45 in Expenses and $6,765.00 in Revenues for a positive balance of $585.55.

All present at the Business Meeting (23 people) thanked Charlotte and approved the Report.

Scholarship Report:

Debbie said that Scott did all the recruitments and handled the responses and acceptances making it possible for 5 students to join us this year. He said "This is my first year trying this and what a thrill. You guys are great, just absolutely great: Devin, Aerielle, Travis and Avery." Applause ! See Henry Potter Scholarship Students on pages 7-8.

Item continued from Secretary's Report 1.c.:

Scott Bassage made copies of the Club photo that was taken at the 2000 Meeting at Quimby Country by Charlotte Bill and gave one to each member. Everett said that the little 5-year old on his lap (daughter Hannah) just graduated from high school today. Scott said Graham Sorenson, also pictured, recently graduated from college and is a TNC summer intern mapping and removing invasive species in northeastern Vermont under a grant from National Fish & Wildlife Foundation. [See TNC Oak Log Winter 2012] He includes the photo in his resume portfolio. Thank you Scott.

Nominating Committee:

Chair Bill Arnold, Sr., read the slate of nominees:

President	Deborah Benjamin
Vice-President Plants	Everett Marshall
Vice-President Birds	Connie Youngstrom
Treasurer	Charlotte Bill
Secretary	Scott Bassage

Anne Burcroff moved and Roy Pilcher seconded that the slate of Officers be approved. The slate was unanimously approved.

Field Trip Reports – Birds, Plants:

Birds 2012:

Connie Youngstrom pointed out some of the highlights including the best look of the weekend – a Great-crested Flycatcher in sunlight on a branch with a clear view at Gilbrook Natural Area. See the complete bird list and highlights further in this Newsletter.

Plants 2012:

Everett Marshall began by comparing two new floras – *New Flora of New England* by Arthur Haines with updated names and plants listed by species; and *New Flora of Vermont* by Arthur Gilman with keys to families and genera and with excellent descriptions of species and their habitats in Vermont. Arthur's *New Flora of Vermont* "is really a work to look forward to".

He then asked each scholarship student present tonight to say what their favorite thing was about the meeting. Travis said that he really learned a lot about oaks – red, white, black, yellow and scarlet. Avery said that she enjoyed the ferns at the rock outcrop at Niquette Bay State Park. Aerielle enjoyed Lone Rock Point and saw some neat inchworms, slugs and snails. Devin was intrigued with walking fern and the whole group at the edge of Lake Champlain at Lone Rock Point as a bird flew overhead.

Everett said that he really likes woody plants and was glad to see highbush blueberry at Colchester Bog. He was impressed with the three flowers all in bloom on limestone at Lone Rock Point – long-leaved bluets, small skullcap, and sandworts. He was impressed with the huge pines at Gilbrook Natural Area. Peter Hope pointed out the large leaves on hillside blueberry at Camp Johnson. Also special was yellow oak at Niquette Bay State Park and hackberry along the Winooski River.

2013 Meeting:

Some places recommended are: Quimby Country, Vermont Technical College, Goddard College, Lyndon State College. Debbie said that Saint Michael's College was very good to work with.

Other Business:

a. Barbara Walling asked when the Vermont Breeding Bird Atlas would be ready. We will put a notice in the Newsletter when the book form is ready; the Vermont Center for Ecostudies has a lot of information with interesting summaries on their website.

b. Charlotte Bill recommended looking at and using eBird as a way to document bird sitings and learn from others.

c. Ann Burcroff said that the Fairbanks Museum has a database of certain indicator species to which people can add their sitings.

d. Eric Wood raised the idea of forming some type of online communication for Club members through perhaps Facebook.

Peter Hope moved and Lynne Arnold seconded that the meeting adjourn. The vote was All in Favor. The meeting adjourned at 8:15 PM.

Slides by Members Show:

Peter Hope set up microscopes at the beginning of the meeting with the spores of Braun's Holly Fern from plants on campus that had spores that were dehiscing. They look like brown spheres and then rupture open.

Roy Pilcher brought a collection of bird eggs that he collected in his pre-teens in South Africa – his boyhood home – over 70 years ago. He plans on donating them to the Birds of Vermont Museum as a general teaching aid. Roy continued showing pictures that he took with a simple digital camera of scenes in Vermont; and described how a simple pill bottle can be used to fit a camera to a field scope for digiscoping such as this Horned Grebe. One picture taken with a regular camera of Kent Pond in mist earned him a 1st Place Award in Appalachian Trail Magazine.

Eric Wood showed slides of wildflowers that he took on an annual wildflower pilgrimage that is offered each April near Bainbridge, in southern Ohio. Underlain with limestone, the land gives a variety and profusion of flowers is breathtaking. Yellow corydalis, blue-eyed Mary, delphiniums, Ohio River Bluffs, goldenseal, wood poppy, nodding trillium, bluebells in countless numbers, shooting star, white trout lily and false rue anemone. A search on the web found:
https://www.facebook.com/ArcofAppalachia
http://arcofappalachia.org/events/wildflower.html

Tig Arnold showed pictures from this year's meeting. At Colchester Bog, we saw sheep laurel, pitcher plants and thimbleberry. At Lone Rock Point, we enjoyed skullcap and long-leaved bluet. One picture taken at Camp Johnson had ½ the group looking left at birds and ½ the group looking to the right side of the running path at plants – the Club in action.

Devin Latremore showed pictures from her Facebook page, including: a painted turtle, and ant colony in a leaf, snake, fern, rock, stump, inchworm and the Champlain Thrust Fault.

Peter Hope enjoys his new digital camera: a bullfrog at South America Pond Rd., a great view of a moose from an ever quiet Prius; a green frog and the cooperative gray treefrog seen at Camp Johnson on scouting with toes spread like it was playing the piano. He captured a mature walking fern with an unusually long stem with a highly developed plantlet at Niquette Bay State Park. On Saturday AM before the field trips, he took a great Club group shot and one of the scholarship students.

Debbie Benjamin showed two short videos: one of a Barred Owl perched just 8' from the window the Winter before last while Debbie & Marty carefully set up tripod and camera inside and tried to make no noise – beautiful creature close-up acutely listening for the slightest sign of possible food; and one of a few bullfrog tadpoles sunning themselves on a rock in shallow water at the edge of Ritterbush Pond in Eden while the human visitors fished. Slides ended with a walk across campus on a mild Summer evening.

HENRY POTTER SCHOLARSHIP STUDENTS – 2012

We welcomed five great students this year. Here is a bit about them in their own words:

Three students attend Saint Michael's College and will be working on a prescribed burn plan with Professor Peter Hope and Valerie Banschbach at the Camp Johnson Sandplain Forest site.

1) Jennifer Labrenz, Saint Michael's College, Colchester: "I am just about to complete my junior year at Saint Michael's College with a major in Biology and a minor in Environmental Studies. Through my recent coursework in Community Ecology and an internship with the Interval Conservation Nursery, I have gained field work experience that has fueled my interest in animal behavior, environmental science and how the two subjects entwine. Through Community Ecology, I performed a mammal footprint analysis in a riparian zone of the Winooski River. Through my internship at the Intervale, I was awarded the opportunity to propagate and maintain native tree species of Vermont; I was involved in collecting local clippings from native hardwoods and harvesting trees planted and grown in the Interval Nursery. If awarded this scholarship, I hope to continue a hands-on learning experience on the science of nature and I hope to deepen my appreciation for the beauty of nature."

2) Devin Latremore, Saint Michael's College, Colchester: "I am currently a sophomore biology major at Saint Michael's College. In my introduction to Ecology and Evolution class my lab group and I researched the relative abundance of Julidae (millipedes) in three microhabitats in the cool burned section of the Camp Johnson Sandplain Forest. Not only did my lab group have great success, but it also sparked my interest in this area of research. I enjoyed performing the field work, gathering data, researching the topic, and analyzing past data to see how it all fit together. With my appreciation for science I am aware of the importance and the impact that conducting this research serves. It is for these reasons that I have a strong interest in attending this weekend filled with new perspectives, interesting observations, and a great way to form connections with people who have similar interests to me."

3) Aerielle Matsangos, Saint Michael's College, Colchester: "I am a freshman at Saint Michael's College and am majoring in biology. My first semester biology lab was one of the most interesting things along the lines of setting up traps in different sections of Camp Johnson and identifying invertebrates. I grew an appreciation for being outside and seeing what can be done outside instead of sitting in a room and just partaking in labs that way. Three other students and I will be documenting the plant and invertebrate communities in the largest remaining stand of sandplain forest in Vermont, which happens to be in Camp Johnson." Aerielle is also on the Saint Michael's Rescue Squad.

4) Avery Shawler, Middlebury College, Middlebury: "I am currently a junior majoring in Conservation Biology at Middlebury College. I have taken several courses at Middlebury that have allowed me to explore Vermont's flora and fauna. One course was called Vertebrate Natural History, and in that class we learned all the bird, mammal and fish species in Vermont. We also learned how to mist net, band bird birds, electro-fish and set out trap lines. In another course called Plant Community Ecology, I learned about the various plant communities in Vermont and their ecological processes. These classes furthered my interest in working in the field and so last fall I spent my semester abroad in Namibia with a field-intensive program called Round River Conservation Studies. Our project was to design a study that would improve wildlife monitoring in the communities so they could make more informed decisions on wildlife conservation. From that experience I learned the importance of knowledge of natural history in understanding how to protect the environment. This summer I

will be an intern for the Vermont Natural Heritage Program and working on natural community mapping."

5) Travis Van Alystyne, Sterling College, Craftsbury: "My interest in the environment, in particular with wildlife, started at a very young age. One benefit of growing up in a small town in southern Vermont was that it afforded me with ample opportunities to observe and explore nature. I remember many summers of watching deer in the fields at dusk with my dad, investigating the creatures that lived along the banks of the small stream that trickled by my childhood home, and tagging along as my dad set out on long walks in the woods. Without a doubt these early experiences helped my passion for the natural world. Between participating in volunteer conservation projects and attending lectures on wildlife, one of my favorite things to do is reconnect with my childhood need to explore and observe the natural world. For me, there is no better way to do this than to wake up early, get out into the woods with a pair of binoculars, and just observe wildlife going about its daily life. Studying a field guide is one thing, but to see wildlife directly with my own eyes and to hear it with my own ears is an entirely different experience. When this occurs something just clicks in my brain and I realize I've learned something new that I'll never forget." Travis is also an Internet Website Specialist at the Vermont Department of Education.

CLUB NOTE

The Club notes with regret the passing of longtime member, Marijean "Midge" Arnold of Ossining, New York on February 10, 2012. Many of us hold fond memories of her love of flowers and ferns and family over the past several years.

MEMBERS MEMORABLE MOMENTS

… The R2D2 robot of bird song ...
… I didn't have to say "Whoa" anymore ...
… He was worried about the frown of heaven ...
… The principal of original horizontality …
… They are the energizer sparrow …
… It's like a liquid desert …
… It makes the environment better for itself …
… If this was from the U.S., I'd be in jail …
… The layer cake description of fault history …
… A dyed in the wool born naturalist ...

FIELD TRIPS 2012

I. EAST/NORTH TRIP
Friday Leader: Brett Engstrom
Saturday Leader: Peter Hope

1. Camp Johnson, Colchester

Camp Johnson is home of the Vermont Air National Guard and sits upon one of the rarest natural community types in Vermont - the pine/oak/heath sandplain forest. Pitch pine growing in the Champlain Valley of Vermont are at the northern extreme of the species' natural range which extends from central Maine to northern Georgia. Marginal populations, such as those found in the Champlain Valley, are often genetically unique compared to more central populations and, therefore, may be valuable for future adaptation and evolution of the species, especially in times of predicted rapid climate change. Pitch pine in the northern extreme of the species range commonly compete best and are found on acidic, sandy, sterile soils in association with gray birch, red oak and black oak.

2. Sand Bar State Park, Milton

Sand Bar State Park is named for the natural sandbar between South Hero Island and the Vermont mainland. The sandbar is the result of the Lamoille River, over thousands of years, washing sediment downstream. We will have lunch here and do some birding.

3. Niquette Bay State Park, Colchester

The property, much of it farmed and pastured through the 1800's, is today predominately forested. Two long ridges with summits rising to over 400' elevation run parallel along either side of a flat, sandy terrace bisecting the property. This terrace, in turn, is bisected by a brook and associated ravine. This brook, over 1000's of years, has carried away sand and silt as the ravine was carved, depositing it into Lake Champlain and forming the sandy but shallow beach along the eastern half of the park's shoreline. We will explore a ledgey area for interesting ferns and walk the 0.6 mile gentle trail to the shore of Mallett's Bay.

II. WEST TRIP
Friday Leader: Everett Marshall
Saturday Leader: Annie Reed & Rose Paul

1.Colchester Bog, Colchester

Colchester Bog resides on a peninsula between two rapidly developing shoreline areas of Lake Champlain and is located just a few miles north of the city of Burlington. This 175 acre peatland serves as a haven for a great diversity of flora and faunal species which makes it a prime location for research and the simple enjoyment of nature. With the help of The Nature Conservancy, the University of Vermont acquired 180 acres in 1973 and has since managed the location as the Colchester Bog Natural Area.

2. Airport Park, Colchester

Popular town recreational area next to site 1 – a nice spot for lunch in the shade of some tall oaks.

3. Lone Rock Point/Champlain Thrust Fault, Burlington

The Champlain Thrust Fault, exposed in western Vermont, extends from Canada south to the Catskill Plateau in New York, a distance of approximately 199 miles. The thrust is a Middle Ordovician, east-dipping fault along which older Cambrian rocks have been placed on top of younger Ordovician rocks, with an estimated throw of 8,850 feet at Lone Rock Point.

We entered the Episcopal Diocese Rock Point Property and walked toward Lake Champlain. The shoreline gives great views of the thrust fault. The wooded bluffs and outcrops in the vicinity hold many interesting plants that love limey soils.

PLANT LIST 2012 (contributions by: Everett Marshall, Annie Reed, Peter Hope)

Key to locations:
1. Camp Johnson
2. Sand Bar State Park
3. Niquette Bay State Park
4. Colchester Bog
5. Airport Parkway
6. Lone Rock Point/Champlain Thrust Fault
7. Gilbrook Natural Area
8. Winooski River/Falls
9. SMC campus

Acer negundo	Box Elder	6
Acer pensylvanicum	Striped Maple	3
Acer rubrum	Red Maple	1, 4, 7
Acer saccharinum	Silver Maple	2, 3, 6 ,8
Acer saccharum	Sugar Maple	1
Acer spicatum	Mountain Maple	3
Acer x freemanii	Freeman's Maple	6
Achillea millefolium	Common Yarrow	1, 5, 6

Actaea pachypoda	White Baneberry	3, 6
Actaea rubra	Red Baneberry	3
Adiantum pedatum	Northern Maidenhair Fern	3, 6, 7
Agrimonia gryposepala	Common Agrimony	3
Alnus serrulata	Smooth Alder	3, 4
Alyssum alyssoides	Pale Alyssum	1
Ambrosia artemisiifolia	Common Ragweed	5
Amelanchier arborea	Downy Shadbush	1, 5
Amphicarpaea bracteata	American Hog-Peanut	6
Andromeda polifolia	Bog-Rosemary	4
Anemone acutiloba	Sharp-Lobed Hepatica	3, 6
Anemone americana	Blunt-Lobed Hepatica	6
Anemone virginiana	Tall Windflower	3, 6
Antennaria neglecta	Field Pussytoes	6
Apios americana	Common Ground-Nut	3
Apocynum androsaemifolium	Spreading Dogbane	1
Aquilegia canadensis	Red Columbine	3, 6
Aralia nudicaulis	Wild Sarsaparilla	1, 3, 5, 6
Arctostaphylos uva-ursi	Red Bearberry	5, 6
Arisaema triphyllum	Jack-In-The-Pulpit	3
Aronia melanocarpa	Black Chokeberry	5
Asarum canadense	Canada Wild Ginger	3, 6
Asplenium rhizophyllum	Walking Fern	3, 6
Asplenium ruta-muraria	Wall-Rue Spleenwort	6
Asplenium trichomanes	Maidenhair Spleenwort	3, 6, 7
Athyrium filix-femina	Northern Lady Fern	3
Berberis vulgaris	Common Barberry	6
Betula papyrifera	Paper Birch	1, 3, 5
Betula populifolia	Gray Birch	1, 4, 5
Bidens cernua	Nodding Beggar-Ticks	4
Boechera stricta	Canada Rockcress	6
Boehmeria cylindrica	Small-Spiked False Nettle	8
Brachyelytrum erectum	Southern Long-Awned Wood Grass	6
Calamagrostis stricta	Neglected Reed Grass	1
Campanula rotundifolia	Harebell	6
Cardamine concatenata	Cut-Leaved Toothwort	1
Carex appalachica	Appalachian Sedge	3
Carex arctata	Drooping Woodland Sedge	7
Carex canescens	Hoary Sedge	4
Carex digitalis	Slender Woodland Sedge	7
Carex eburnea	Bristle-Leaved Sedge	6
Carex hitchcockiana	Hitchcock's Sedge	3
Carex intumescens	Greater Bladder Sedge	3
Carex laxiflora	Broad Loose-Flowered Sedge	3, 6, 7

Carex pensylvanica	Pennsylvania Sedge	1, 3, 6
Carex platyphylla	Broad-Leaved Sedge	3, 6, 7
Carex rosea	Rosy Sedge	3, 6
Carex sprengelii	Long-Beaked Sedge	7
Carex stipata	Awl-Fruited Sedge	1
Carex tonsa	Shaved Sedge	5
Carpinus caroliniana	American Hornbeam	3
Carya cordiformis	Bitternut Hickory	3
Carya ovata	Shagbark Hickory	3
Caulophyllum thalictroides	Blue Cohosh	3, 6
Celtis occidentalis	Common Hackberry	8
Centaurea stoebe	Spotted Knapweed	1
Cerastium fontanum	Mouse-Ear Chickweed	3
Chimaphila maculata	Spotted Prince's-Pine	5
Cicuta bulbifera	Bulblet-Bearing Water-Hemlock	3
Cicuta maculata	Spotted Water-Hemlock	8
Comandra umbellata	Bastard-Toadflax	5
Comptonia peregrina	Sweet-Fern	1
Cornus alternifolia	Alternate-Leaved Dogwood	3
Cornus amomum	Silky Dogwood	6
Cornus racemosa	Gray Dogwood	6
Cornus rugosa	Round-Leaved Dogwood	6
Cystopteris bulbifera	Bulblet Fragile Fern	3, 6
Cystopteris tenuis	Mackay's Fragile Fern	3
Dactylis glomerata	Orchard Grass	1
Danthonia compressa	Flattened Oatgrass	1, 3
Danthonia spicata	Poverty Oatgrass	5
Decodon verticillatus	Swamp-Loosestrife	4
Dendrolycopodium sp.	Tree Clubmoss	5
Deparia acrostichoides	Silvery False Spleenwort	1
Dichanthelium acuminatum var. columbianum	Hairy Rosette-Panicgrass	1, 5
Dichanthelium depauperatum	Starved Rosette-Panicgrass	1
Diervilla lonicera	Bush-Honeysuckle	1
Dirca palustris	Eastern Leatherwood	3
Dryopteris marginalis	Marginal Wood Fern	3
Elymus repens	Creeping Wild-Rye	1
Epigaea repens	Trailing-Arbutus	1
Epipactis helleborine	Broad-Leaved Helleborine	3, 7
Equisetum arvense	Field Horsetail	3
Equisetum hyemale	Tall Scouring-Rush	3
Erigeron annuus	Annual Fleabane	1
Erythronium americanum	Amerian Trout-Lily	3
Euphorbia maculata	Spotted Sandmat	8

Eurybia divaricata	White Wood-Aster	3, 6
Eurybia macrophylla	Large-Leaved Wood-Aster	3, 6
Euthamia graminifolia	Common Grass-Leaved-Goldenrod	1
Fagus grandifolia	American Beech	1, 3
Festuca subverticillata	Nodding Fescue	6. 7
Fragaria vesca	Woodland Strawberry	1
Fragaria virginiana	Common Strawberry	6
Frangula alnus	Glossy Buckthorn	6
Fraxinus americana	White Ash	3, 6
Fraxinus pennsylvanica	Green Ash	3, 6, 8
Galium aparine	Scratch Bedstraw	3
Galium circaezans	Forest Licorice Bedstraw	6
Galium triflorum	Fragrant Bedstraw	3
Gaultheria procumbens	Eastern Spicy-Wintergreen	1
Gaylussacia baccata	Black Huckleberry	1, 5
Geranium robertianum	Mountain Crane's-Bill	3
Geum canadense	White Avens	3, 7
Geum fragarioides	Appalachian Barren-Strawberry	6
Geum fragarioides	Appalachian Barren-Strawberry	6a
Glechoma hederacea	Gill-Over-The-Ground	8
Glyceria striata	Fowl Manna Grass	3
Hamamelis virginiana	American Witch-Hazel	1, 3
Helianthus decapetalus	Thin-Leaved Sunflower	8
Helianthus strumosus	Pale-Leaved Sunflower	6
Hemerocallis fulva	Orange Day-Lily	3
Hieracium sp.	Hawkweed	5
Houstonia longifolia	Long-Leaved Bluet	6
Hudsonia ericoides	Beach Heather	5
Huperzia lucidula	Shining Firmoss	7
Hydrophyllum virginianum	Eastern Waterleaf	3
Ilex mucronata	Mountain Holly	4
Ilex verticillata	Common Winterberry	3, 4
Impatiens capensis	Spotted Touch-Me-Not	3
Ionactis linariifolia	Flax-Leaved Stiff-Aster	5
Isotria verticillata	Large Whorled Pogonia	1
Juncus tenuis	Path Rush	1
Juniperus virginiana	Red Cedar	6
Kalmia angustifolia	Sheep American-Laurel	1, 4
Kalmia polifolia	Bog American-Laurel	4
Kolkwitzia amabilis	Beauty Bush	6
Lactuca biennis	Tall Blue Lettuce	3
Laportea canadensis	Canada Wood-Nettle	8
Larix laricina	American Larch	4
Leonurus cardiaca	Motherwort	3

Lepidium campestre	Field Pepperweed	1
Liriodendron tulipifera	Tulip Tree	9
Lonicera dioica	Wild Honeysuckle	6
Lonicera morrowii	Morrow's Honeysuckle	1
Lonicera tatarica	Tatarian Honeysuckle	8
Luzula multiflora	Common Wood Rush	3
Lysimachia borealis	Starflower	1, 5
Lysimachia ciliata	Fringed Yellow-Loosestrife	8
Lysimachia quadrifolia	Whorled Yellow-Loosestrife	1
Maianthemum canadense	Canada-Mayflower	1, 3, 5
Maianthemum racemosum	False Solomon's-Seal	3, 6
Matteuccia struthiopteris	Ostrich Fern	3, 8
Medeola virginiana	Indian Cucumber Root	7
Melampyrum lineare	Cow-Wheat	1, 5
Micranthes virginiensis	Early Small-Flowered-Saxifrage	6
Minuartia michauxii	Michaux's Sandplant	6
Mitella diphylla	Two-Leaved Bishop's-Cap	3, 6
Myrica gale	Sweetgale	4
Nyssa sylvatica	Black Tupelo	4
Oenothera biennis	Common Evening-Primrose	3
Onoclea sensibilis	Sensitive Fern	1, 3, 7, 8
Oryzopsis asperifolia	White-Grained Rice Grass	3, 6
Osmorhiza claytonii	Bland Sweet-Cicely	6
Osmunda claytoniana	Interrupted Fern	3
Osmunda regalis	Royal Fern	4
Osmundastrum cinnamomeum	Cinnamon Fern	1, 4
Ostrya virginiana	Hop-Hornbeam	3
Persicaria virginiana	Jumpseed	8
Phalaris arundinacea	Reed Canary Grass	3
Phegopteris connectilis	Long Beech Fern	3
Phleum pratense	Common Timothy	1
Phryma leptostachya	American Lop-Seed	3
Picea rubens	Red Spruce	3
Pilea pumila	Canada Clearweed	7
Pilosella caespitosa	Yellow Hawkweed	1
Pinus resinosa	Red Pine	6
Pinus rigida	Pitch Pine	1, 4
Pinus strobus	Eastern White Pine	1, 3, 7
Piptatherum pungens	Short-Awned Mountain-Rice Grass	1
Piptatherum racemosum	Black-Seeded Mountain-Rice Grass	3, 6
Plantago major	Common Plantain	1
Plantago rugelii	Rugel's Plantain	6
Poa alsodes	Grove Blue Grass	3
Poa annua	Annual Blue Grass	3

Poa compressa	Flat-Stemmed Blue Grass	1, 3, 5, 6
Polygala senega	Seneca Milkwort	6
Polygonatum pubescens	Hairy Solomon's-Seal	1, 3
Polypodium virginianum	Rock Polypody	3, 6
Polystichum acrostichoides	Christmas Fern	3
Polystichum braunii	Braun's Holly Fern	9
Polytrichum sp.	Haircap Moss	5
Populus deltoides	Cottonwood	2, 8
Populus grandidentata	Big-Toothed Poplar	1
Populus tremuloides	Quaking Poplar	1, 3, 5
Potentilla simplex	Old-Field Cinquefoil	1, 5
Prunella vulgaris	Common Selfheal	3
Prunus serotina	Black Cherry	1, 3
Prunus virginiana	Choke Cherry	3, 5
Pteridium aquilinum	Bracken Fern	1, 3, 5, 7
Pyrola elliptica	Elliptic-Leaved Shinleaf	1, 3
Quercus alba	Eastern White Oak	1, 3, 7
Quercus coccinea	Scarlet Oak	5
Quercus muehlenbergii	Yellow Oak	3
Quercus rubra	Northern Red Oak	1, 2, 6, 7
Quercus velutina	Black Oak	1, 5, 7
Ranunculus abortivus	Kidney-Leaved Crowfoot	3, 6
Ranunculus recurvatus	Hooked Crowfoot	3, 6
Rhamnus cathartica	European Buckthorn	1, 6
Rhododendron canadense	Rhodora	4
Rhus typhina	Staghorn Sumac	1, 7
Ribes cynosbati	Eastern Prickly Gooseberry	3
Rosa virginiana	Virginia Rose	6
Rubus hispidus	Bristly Blackberry	3
Rubus idaeus	Red Raspberry	1
Rubus occidentalis	Black Raspberry	1
Rubus odoratus	Flowering Raspberry	6
Rudbeckia hirta	Black-Eyed Coneflower	1
Rumex acetosella	Sheep Dock	1, 5
Rumex britannica	Greater Water Dock	8
Salix alba	White Willow	8
Salix lucida	Shining Willow	3
Sambucus racemosa	Red Elderberry	3
Sanicula canadensis	Canada Sanicle	3, 7
Sanicula marilandica	Maryland Sanicle	6, 7
Sarracenia purpurea	Purple Pitcherplant	4
Schizachne purpurascens	False Melic Grass	3
Scutellaria parvula	Small Skullcap	6
Sisyrinchium angustifolium	Narrow-Leaved Blue-Eyed-Grass	6

Solidago arguta	Sharp-Leaved Goldenrod	6
Solidago caesia	Blue-Stem Goldenrod	6
Solidago flexicaulis	Ziz-Zag Goldenrod	1, 3
Solidago gigantea	Smooth Goldenrod	8
Solidago juncea	Early Goldenrod	1, 6
Solidago rugosa	Common Wrinkle-Leaved Goldenrod	1,8
Spergularia rubra	Red Sand-Spurry	1
Spiraea alba	White Meadowsweet	1, 4
Stachys hispida	Hispid Hedge-Nettle	8
Symphoricarpos albus	Common Snowberry	6
Taxus canadensis	American Yew	3, 6
Thalictrum dioicum	Early Meadow-Rue	3
Thalictrum pubescens	Tall Meadow-Rue	8
Thelypteris palustris	Marsh Fern	4
Thuja occidentalis	Northern White-Cedar	6, 7
Tiarella cordifolia	Foam-Flower	6
Tilia americana	American Linden	3
Toxicodendron radicans	Poison-Ivy	3, 6
Trifolium pratense	Red Clover	1
Trifolium repens	White Clover	1, 5
Trillium erectum	Red Wakerobin	3
Trillium grandiflorum	White Trillium	3, 6
Tsuga canadensis	Eastern Hemlock	6
Ulmus americana	American Elm	8
Ulmus rubra	Slippery Elm	8
Uvularia grandiflora	Large-Flowered Bellwort	3
Uvularia sessilifolia	Sessile-Leaved Bellwort	1, 6
Vaccinium angustifolium	Common Lowbush Blueberry	1
Vaccinium corymbosum	Highbush Blueberry	4
Vaccinium pallidum	Hillside Blueberry	1, 5
Veronica officinalis	Common Speedwell	6
Viburnum acerifolium	Maple-Leaved Viburnum	3
Vicia cracca	Bird Vetch	1
Viola canadensis	Canada White Violet	7
Vitis riparia	River Grape	3

Here are two recommended websites for plants and plant names in our region:
http://gobotany.newenglandwild.org/simple/

http://www.arthurhaines.com/tracheophyte_checklist_of_New_England.html
This year's Plant List uses names by Arthur Haines.

Vermont Botanical and Bird Club website: www.vtbb.org

BIRD NOTES and LIST – 2012

Gilbrook Nature Area, 6:30 am, under a bluebird sky, sunny and calm, was a thickly wooded area that offered up a nice list of birds including a Pine Warbler, close enough to offer a rare and careful look. Also notable - a Great Crested Flycatcher with its yellow belly sunlit against vivid green leaves.

Though we found no Grasshopper sparrows at Camp Johnson, some of us were treated to a nice look at a Brown Thrasher. While searching for Whorled Pogonia in the leaf litter, overhead a Scarlet Tanager, American Redstart, and a Black-throated Blue Warbler sang at the top of their lungs. Niquette Bay State Park offered a deep green, cool and relaxing walk through a densely forested limey woodland. The bird list included wood warblers, vireos, woodpeckers and a nice look at a Broad-winged Hawk just before the rain poured down.

The following early morning birdwalk was to Winooski Falls and weather did not disappoint. Once again the sky was clear and the air cool and calm . While we moaned and groaned about all the invasive plant species growing along the banks of the river, we managed to list several birds that included a Warbling Vireo, Red-eyed Vireo, Tufted Titmouse and another Great Crested Flycatcher – the latter species was everywhere.

While admiring the great variety of peatland shrub species from the boardwalk in Colchester bog, the ringing call notes of yet another Great Crested Flycatcher filled the warm air. Also singing was White-throated, Swamp, Chipping and Song Sparrows. Lastly, at Lone rock Point, we mainly heard and saw little. A Carolina Wren, House Wren, a Pine Warbler, Savannah Sparrow, and House Finches were just a few of them. CY

Double-crested Cormorant
American Bittern
Great Blue Heron
Green Heron
Turkey Vulture
Canada Goose
Wood Duck
American Black Duck
Mallard
Osprey
Cooper's Hawk
Broad-winged Hawk
Red-tailed Hawk
Merlin
Wild Turkey
Ring-billed Gull
Caspian Tern
Rock Pigeon
Mourning Dove
Chimney Swift
Red-bellied Woodpecker
Yellow-bellied Sapsucker
Downy Woodpecker
Hairy Woodpecker
Northern Flicker
Pileated Woodpecker
Eastern Wood-pewee
Eastern Phoebe
Great Crested Flycatcher
Eastern Kingbird
Warbling Vireo
Red-eyed Vireo
Blue Jay
American Crow
Common Raven
Tree Swallow
Cliff Swallow
Barn Swallow
Black-capped Chickadee
Tufted Titmouse
Red-breasted Nuthatch
White-breasted Nuthatch
Brown Creeper
Carolina Wren
House Wren
Veery
Hermit Thrush
American Robin
Grey Catbird
Brown Thrasher
European Starling
Cedar Waxwing
Nashville Warbler
Yellow Warbler
Chestnut-sided Warbler
Black-throated Blue Warbler
Black-throated Green Warbler
Blackburnian Warbler
Pine Warbler
American Redstart
Ovenbird
Common Yellowthroat
Scarlet Tanager
Chipping Sparrow
Field Sparrow
Savannah Sparrow
Song Sparrow
Swamp Sparrow
White-throated Sparrow
Northern Cardinal
Bobolink
Red-winged Blackbird
Common Grackle
Baltimore Oriole
House Finch
American Goldfinch
House Sparrow