NEWPORT FOREST ANNUAL REPORT

2011

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Thames Talbot Land Trust

Summary

This is our first annual report addressed to a general audience. A separate report will be filed with the Thames Talbot Land Trust (TTLT) in the usual format. The present document provides an informal summary of events on site over the past year, including reports on selected groups of plants and animals and a summary of general environmental conditions. The report is somewhat lengthy, owing to the extent of our activities. Indeed, we had to attach the bird report separately as an appendix to keep this document to a mere 14 pages. In future years, as long as we are able to continue our involvement with the property, we plan to issue further annual reports. Suggestions from TTLT board members, Stewards of Newport Forest, and general readers of our site visit Bulletins are all welcome in the hope that we can improve the quality of future reports.

In 2011 we made 62 site visits, including three overnight stays in a trailer kept on the property. We have continued the work we began in spring of the year 2000 when the property was first acquired from Eva Newport. Under terms of donation of the property to the Thames Talbot Land Trust (TTLT) in 2007, we have been allowed and (we like to think) encouraged, to continue the two major projects begun in 2000: an all-taxa biological inventory (ATBI) and a forest regeneration project. The TTLT has added other projects that we enthusiastically endorse, all aimed at habitat restoration and preservation. These projects include invasive species removal where practical and the preservation of open field nesting sites in the Upper Meadow. The TTLT also supplements our efforts to keep the modest two-kilometre system of trails open.

The observations of plants, animals and other groups occupies the lion's share of this report. We are strong believers in the principle of environmental monitoring as a way of assessing "ecosystem health" as it is coming to be known. Such monitoring involves keeping a close eye on as many populations as possible, even as the healing of previous disturbances proceeds: Newport Forest used to be a farm consisting of half forest and half cleared land. The latter was occasionally used for cropland but mainly as pasture. The forests were occasionally harvested for high-priced hardwoods.

The basic monitoring operation is the ATBI work. One couldn't know that a species has disappeared if one didn't know it was there in the first place.

1. Significant Events in 2011

Readers who are curious about any of the "events" listed here will find a more complete description in the Newport Forest web site by accessing the Bulletin of that date in the archives. (URL at the end of this report.) Flood events are listed in Section 3 below.

Jan 9	Trespassing: deer shot, butchered on property, trail cam stolen
Jan 23	Stewards Committee Meeting (2011) at Terry Keep's
Feb 14	Possum digging in snow on Lower Meadow
Apr 2	Work Day: volunteers remove thorn trees in Upper Meadow
Apr 2	Erin Carroll finds Blue-spotted Salamander in Blind Creek Forest
Apr 18	Bring in 45 saplings for planting (See below.)
Apr 39	Work Day: volunteers groom Thames River Trail
May 7	Bluebell Walk: Kee, Erin, Muriel & 12 Visitors
Jun 5	Green Frog migration discovered
Jun 15	Steve finds "honey tree" on bluffs; it falls over in October
Jun 23	New TTLT Director Suzanne McDonald Aziz inspects property
Jun 24	Black Bear* sighted 8 km away in direction of West Lorne
Jul 3	West Elgin Nature Club annual butterfly count (Skunk's Misery)
Jul 23	Darren & Kate sample Thames River with large seine net
Jun 29	We find ash tree infected by EAB in Riverside Forest
Aug 21	We explore Powerline Meadow and find spider heaven
Sep 5	Cougar* sighted 5 km away in corn field near Skunks Misery
Sep 10	Property tour for friends Doug Mitchell and Maria Gitta
Nov 23	Visit by three biologists, Greg Thorn, Zoe Lindo and Jennifer McDonald nets eight new species of fungi
Nov 23	Greg Thorn spots honeycombs on willow in Blind Creek Forest
Nov 26	Stewards Committee Meeting (2012) at Nina Hurdle's: scrap metal, steps on trails, decrepit fencing, stewards picnic
Dec 28	Darren Jacobs sights beaver on property.
Dec 31	We record the highest precipitation since property was first acquired

*close enough to generate a mild sense of anticipation, if not apprehension.

2. Observations of Selected Animal Groups and Plants

Site visit records refer primarily to species, rather than individuals. A given record might involve a single individual or many. The entry "Common Grackle

(GF)" in one of our records might refer to a single individual croaking about in the underbrush of the Gallery Forest or a flock of several hundred birds conversing excitedly in its branches. There are practical reasons for doing things this way and in cases where numbers matter, the original site visit record is always available online. (See end of report.)

In the tables below we list the number of observations for each species, not only for the year 2011, but 2010, as well. This provides a small window through which to sample population changes over a twelve-month period. It is hardly definitive, but contributes in a small way to the assessment of long term changes.

2.1 Mammals

The mammal section of our ATBI list contains 32 species exactly half of which were observed over the two-year period summarized below. Two trail cameras on site supplement these live observations with less obtrusive records of animal activity, both day and night. (See Section 2.5) Some mammals leave tracks and other signs that, if fresh, are recorded as an observation of that species. The notation for such records is *m:n*, where *m* is the number of visual sightings and *n* is the number of signs. This notation is employed only for the larger mammals, although it could also be applied to rabbits and squirrels.

The numbers in the table count species encounters for each year: Thus, over the year 2010 we saw a Meadow Vole once. In 2011 we saw one five times.

	2010	**2011**
Marsupiala		
Virginia Possum	0	3
Rodentia		
Meadow Vole	1	5
Meadow Jumping Mouse	2	0
White-footed Mouse*	4	1
Eastern Gray Squirrel	15	14
Red Squirrel	9	8
Southern Flying Squirrel	2	1
Striped Chipmunk	11	15
Muskrat	1	1
Canadian Beaver	0	1

Lagomorpha		
Eastern Cottontail	13	6
Arteriodactyla		
Virginia Deer	3:7	3:5
Carnivora		
Raccoon	9:5	13:5
feral/barn cat	2	1
Coyote (tracks and calls)	7	3

We will comment here only on the squirrel and Raccoon populations, with a nod in the direction of the Canadian Beaver.

Four species of squirrel, including the "ground squirrel" or Chipmunk have thrived on the enhanced food supply provided by several bird feeders on site, erected mainly to enhance our bird observations. As it turns out, they have also enhanced our squirrel observations. For example, there are only about three records of Red Squirrel sightings prior to 2009, when a member of the resident population in the Janik property to the west discovered our feeders. Since then, at least one family has taken up residence nearby, judging from the young that first appeared on the feeding trays in the late spring of 2010.

The Southern Flying Squirrel population may have suffered a recent decline at Newport Forest. Annual sightings from 2002 to 2006 climbed as follows: 1, 3, 4, 5, 7. They dropped in 2007 followed by a new pattern of low sighting numbers: 1, 2, 3, 2, 1. However, we may be reading too much into these figures, bearing in mind Harvey Newport's one-off remark on the creatures. "I've got more of those &$%#@ flying squirrels in my barn than you can shake a stick at." Harvey's barn is just about 200 metres from the east lot line of Newport Forest.

We have continued our questionable relationship with Raccoons from day one on site. We do our best to keep up with these animals on an individual basis, having learned how to recognize their faces. Who are the mothers? How many young did they have? What is the mortality rate of the young? Where do they live? The easiest question to answer is the last. During the spring and early summer months, there is almost always a mother Raccoon inhabiting the nursery box we set up in the old Black Maple that shades The Nook, a comfort zone near the trailer. This permits us to observe semi-wild family behaviour in and around the Nook area

during June and July. The mothers frequently move their families out of the nursery box sometime in June. Of course, we see Raccoons elsewhere on the property, especially in a giant Black Maple up on the Hogsback during winter months. In the early spring complete strangers may wander into the camp before sunset, gaunt and starved with mangy, straw-coloured coats. They stand and beg, utterly fearless, some possibly suffering from canine distemper.

* We only recently learned to distinguish Deer Mice from White-footed (a very similar species of *Peromyscus*). One of the 2010 records is of a Deer Mouse.

2.2 Herpetofauna

Anura		
American Toad	2	4
Wood Frog	4	3
Gray Tree Frog	1	5
Green Frog	2	4
Northern Leopard Frog	1	1
Western Chorus Frog	3	7
Spring Peeper	1	2
Urodela		
Blue-spotted Salamander	0	1
Reptlia		
Eastern Garter Snake	2	4
Brown Snake	0	1
Spiny Softshell Turtle	0	3

The species listed above are all fairly common throughout the area with the exception of the Spiny Softshell Turtle which is considered “threatened” under the Ontario Species At Risk assessment. On hot summer days in the early afternoon, we occasionally see one or more individuals sunning themselves on Mussel Beach, a hard clay shelf at the base of the bluffs. With the exception of 2001, 2002 and 2010, we have observed these animals consistently between one and three times a year, again with multiple individuals occurring. Two of the three sightings in 2011 involved multiple individuals

The two species of snake appearing above are endemic and common. We are

surprised not to have encountered any other species since the year 2000.

2.3 Birds

See APPENDIX A

2.4 Lepidoptera

We do not include separate counts for this group because we file Lepidoptera reports too infrequently to make counts meaningful. Instead, we list below only the species observed in 2011. Over the 12-year period of the ATBI project, we have recorded 51 species of Skippers and Butterflies, as well as 107 species of moths, most of the latter found in the jars of two malaise traps installed over the warm periods by entomologist Nina Zitani in 2005. Some of the new species of Lepidoptera have also come from the Annual Butterfly Count. Additional finds from this year's count appear following this list.

We have listed the species in family groups, with butterflies in the left hand column and skippers in the right hand column, followed by moths

Papilionidae
Black Swallowtail
Giant Swallowtail
Eastern Tiger Swallowtail

Pieridae
Cabbage White
Clouded Sulphur

Lycaenidae
Hairstreak sp.
Eastern Tailed Blue
Spring Azure

Nymphalidae
Tawny Emperor
Meadow Fritillary
Pearl Crescent
Northern Crescent

Hesperiidae
Silver-spotted Skipper
European Skipper

Pyralidae
European Corn Borer (moth)

Sphingidae
Hummingbird Moth

Bombycidae
Spotted Apatelodes

Arctiidae
Fall Webworm
Virgin Tiger Moth
Banded Tussock Moth
Hickory Tussock Moth

Question Mark
Eastern Comma
Mourning Cloak
Red Admiral
Common Buckeye
Red-spotted Purple
Viceroy

Satyridae
Inornate Ringlet
Common Wood Nymph

Danaidae
Monarch

Noctuidae
Clover Looper

Geometridae
Confused Eusarca Moth

Additional finds from this year's butterfly count include the Orange Sulphur, Summer Azure, Great Spangled Fritillary, Appalachian Brown (new species), Little Wood Satyr, Peck's Skipper, Delaware Skipper (new species), Little Glassy Wing, and the Dun Skipper.

2.5 Trail Camera Records

The trail cameras (usually two in operation at any time) have been invaluable as an additional window onto the wildlife at Newport Forest. They are unobtrusive and catch animals in a natural and unalarmed state. Because the cameras are on the job every day of the year, no data scaling is necessary, as in the bird report. (See the Appendix.) Here again, we show the results for the two most recent years. As with our personal observations, each photographic record may involve a single individual or more than one.

	2010	**2011**
Mammals		
Possum	0	1
Virginia Deer	7	13
Raccoon	7	7
feral (barn) cat	1	1
domestic dog	0	1
Coyote	3	1
Eastern Gray Squirrel	1	5

Eastern Cottontail	1	3
Birds		
Wild Turkey	2	6
Blue Jay	0	2
Gray Catbird	1	0
Northern Cardinal	2	0

We suspect that a salt block that we put out in front of one of the cameras early in 2011 may be responsible for the increased numbers of deer caught by the cameras this year. Appearances of Wild Turkeys are quite variable, frequently with more than one bird in the field of view. It's surprising how many bird species have been caught over the years. A favorite image shows a Gray Catbird perching on a metre-post that we use to measure passing animals. Another graces this report.

2.6 Plants

Was the increased moisture responsible for all the Green Dragons that seemed to spring up everywhere this year? This plant (*Arisaema dracontium*) is a member of the Arum family and is provincially a species of concern, having only restricted local abundances. The fun began with the discovery of a new specimen growing by the creek, then another beside the trail at Edgar's Elbow. This led us to explore the Blind Creek bed near the Elbow, where we discovered another 15 plants.

Garlic Mustard, a biennial plant and a perennial nuisance, may be in the process of coming to a kind of equilibrium on site. In some areas where we used to see it in large numbers, it seems to have shrunk. We have no figures to put on this assertion and perhaps we should do a quick patch survey in the coming warm seasons. In one case however, a recently developed new patch of Virginia Bluebells occupies a spot previously overrun with Garlic Mustard!

It wasn't apparent to us how much Bitternut Hickories contributed to the canopy of the Blind Creek Forest until the great Hickory Borer infestation of '05 - '06 decimated the population, the infected trees coming down with a succession of crashes that we monitored on site. Scaling the data with respect to the proportion of time spent on the property, we arrived at the figure of 25 hours per event, on average, at the peak loss rate. Depending on how long the phenomenon continued, that's quite a few trees, at least 100, in any case! The present canopy in that forest has gaps everywhere, some 20 to 30 metres across.

The advent of a new light regime in the Blind Creek Forest has altered the vegetative structure of the herbaceous layer profoundly. A secondary invasion of Wingstem has cloaked the open areas with that species, with a tripling of its local population. It strikes us as lugubrious that a provincially uncommon plant like Wingstem has been the one to benefit the most from altered light conditions. What we lose on the swings, we gain on the roundabouts.

Another benefit of the Hickory Borer infestation has been the many species of wood-digesting fungi to expand their operations. Although the new forest floor is littered with woody Bitternut corpses, new fungi have been sprouting everywhere on them and a few new species have been added to the ATBI list. It remains to be seen if the recently discovered presence of the Emerald Ash Borer on site will result in the same degree of devastation.

3. Precipitation and Water

As mentioned in a recent Bulletin, precipitation over the year reached 1243 mm, beating the next best level of 1227 mm (2008) and setting a new record for the property as a natural area. The impact of this level of moisture influenced virtually all biota on the site, with the most observable results being plants that were taller than usual and more of them. Have you ever seen a 1.5-metre Jewelweed? Plants produce fruit (including seeds) and this provided extra forage for virtually all animal groups, directly or indirectly. Fungi sprouted as never before, resulting in 19 new species observed. Because the vernal ponds began their season filled to capacity, staying that way well into spring, we had the longest amphibian breeding sessions ever, with frog and toad choruses lasting from February 14 until May 22, some 97 days and probably longer!

It also meant that we had to schedule extra trail maintenance sessions, as described in Section 5, below.

During 2011 we recorded seven different episodes of flooding on the Thames River and Fleming Creek: March 7 (4m); March 30 (5 m), April 7 (4 m), May 19 (2 m), October 23 (3 m), and December 1 (5 m). Moreover, because of the continuing high levels of precipitation, the Thames was in an almost constant state of high water (≥1 m). This made Mussel Beach inaccessible through most of the warm seasons. Higher levels in Fleming Creek also tended to discourage excursions into the Fleming Creek floodplain Forest which can only be accessed

by crossing the creek.

4. Projects

The two major projects ongoing at Newport Forest are the all-taxa biological inventory (ATBI) and the forest regeneration project, conducted mainly in the Regeneration Zone in the Lower Meadow.

4.1 ATBI

The hunt for new species always brings surprises to those engaged in ATBI work. The following discoveries in 2011 brought a mixed bag of delight and alarm.

Feb-Mar:	Local beavers construct a dam 200 metres upstream of the property.
Apr 2:	Erin Carroll finds a Blue-spotted Salamander along Blind Creek.
Aug 6:	Kee finds Black Pelecinid Wasp by Fleming Creek.
Nov 20:	Kee finds ciliate (hypotrich) in Blind Creek that stymies two experts.
Jun 29:	We discover what appears to be an Emerald Ash Borer foothold
Aug 21	Pat finds Star-bellied Orbweaver (spider) in Powerline Meadow
Dec 28	Darren Jacobs sights a beaver on river shore of property

The current total species count stands at 1772 species distributed among five kingdoms:

kingdom	**# species added**	**new total**
Plantae	8	472
Animalia	33	880
Protista	12	175
Fungi & Lichens	19	224
Eubacteria	12	21
Totals:	84	1772

4.2 Regeneration

The Regeneration Zone is a one-hectare block of land at the extreme end of the Lower Meadow. Abutting both the Blind Creek Forest and the Gallery Forest at the top of the creek bluffs, it links the two areas together and will ultimately

provide continuous cover between these two forested areas. Every year in the spring, as well as some years in the fall, we plant several dozen new saplings in the Regeneration Zone.

Last spring we purchased the following young trees in April, planting them in the Regeneration Zone within a week or two.

5	Bitternut Hickory
4	Shagbark Hickory
5	Swamp White Oak
10	Red Oak
10	White Oak
10	White Ash

In spite of this year's stellar precipitation record, part of the planting strategy calls for more drought-tolerant trees like hickory and oak, primary genera of the somewhat drier Oak-hickory Zone immediately southwest of the Beech-maple zone that we inhabit*. The Bitternuts listed above are also part of a strategy to replace some of the 100+ mature Bitternuts that were lost to the Hickory Borer in 2006-2008. Natural succession would dictate fewer Bitternuts, in any case.

In general, we have enjoyed relatively high survival rates and the Regeneration Zone is gradually taking on the appearance of a young forest, with several hundred young trees ranging in height from one to seven metres, depending in part on the year they were planted. In the past we have planted nearly 100 trees elsewhere throughout the property, many not surviving. The most visible success has been the American Beech plantings in the Blind Creek Forest. Virtually every young tree planted there has apparently taken.

In a future annual report we plan to include a list of species planted in the Regeneration Zone.

*In case of a long-term warming trend, we are heeding predictions of a drier Great Lakes Region.

4.3 Other Projects

Curious about the many ant mounds in the Lower Meadow, not to mention elsewhere on site, we decided to map their sizes and distribution within a limited

area such a one-hectare block. Indeed, the block occupied most of the area we currently call the Regeneration Zone (RZ). The block was divided into an oblique 6X6 grid system marked by surveyors flags. Each of the resulting 36 cells was then individually surveyed for mounds, their size and condition recorded and their position within the cell mapped. A report on the results of the survey was generated and distributed on June 24 last. Copies of this informal report are available from the authors on request.

In all, some 42 mounds were assessed and mapped within the study area. Although we do not know the precise species of mound ant involved, it appears to be within the *Formica exectoides* group, known generally as Allegheny Mound Ants. It strikes us that the mounds offer fertile ground for further study, including the "cooperative" role played by two species of grasses in "knitting" together the thatch deposited by the ants and their slaves in building the mounds.

A less formal, ongoing study is being made of erosion on the property, mainly along the river shoreline and on the two bluff systems -- river and creek. Starting in 2005, we installed a set of monitoring stakes on the Fleming Creek Bluffs, measuring them each April to assess mass movements downslope. This could be an important study, not only because bluffs erosion will eventually reach the farm track that gives access to the lower areas of the property, but because the same process threatens the Fleming Line road itself. By developing an average annual loss figure that tells us how fast the edge of the bluffs is moving inland, we can predict a time frame within which remedial action will be required.

5. (Regular) Maintenance

Because of the heavier than normal precipitation this year, trails tended to become overgrown more rapidly than usual and extra maintenance days were arranged. Trail work, which consists of cutting vegetation, scraping trail and replacing liner logs, was carried out on Jun 15, 19, Jul 10, Aug 18, and Sep18. For this kind of maintenance we employ additional help.

Some 200 stems of Autumn Olive were cut from the river bluffs area on Oct 15 by a work crew of four, two of them hired. In the process of looking for new stems to cut, we discovered two "grandmother" trees. One of these had a breast-height diameter of about 10 cm and the other, further upslope, is rather larger and will require an axe or chain saw for its removal. Presently, it keeps close company with the one mature Eastern Flowering Dogwood on site!

Acknowledgments

We thank the Thames Talbot Land Trust for its diligence in caring for the property, in particular we thank Property Manager Jane Bowles for organizing the work days on site, as well as other events. In this connection also, we thank the Newport Stewards for all their help over the year, especially Erin Carroll, Donald Craig, Darren Jacobs and Bruce Parker. A special thanks goes to Nina Hurdle who keeps an eye on the property and to Edgar Hurdle who mows the track every June to keep in driveable.

We are very grateful to the biologists and expert naturalists that have donated their time, either to the ATBI project or to annual records exemplified by this report. In 2011 we had site visits from biologists Greg Thorn and grad student Jennifer McDonald, Zoe Lindo (new faculty at UWO) and Jane Bowles (also an accomplished plant scientist). We also offer a belated thanks to Dave Martin and Linda Wladwarski who found two new birds for us in 2010.

We thank Steve Logan of Moraviantown. Steve has been an enthusiastic visitor as well as an invaluable help. Thanks also go to the volunteers who showed up for the TTLT Work Days.

The Newport Forest website will be found as a set of pages accessible through the main website of one of the authors:

http://www.csd.uwo.ca/!akd/

Click on “Newport Forest”