# Newport Forest

# Annual Report for 2012

Newport Forest is a 46 ha (115 acre) former river farm, now a closed* conservation property owned by the Thames Talbot Land Trust. Located between the Fleming Line and the Thames River approximately 3.4 km SSW of Wardsville Ontario in west Elgin Co., Ontario. (42º 37' 46" N 81º 46' 39") A description of the property at http://www.csd.uwo.ca/~akd/conservation/Newport.html also includes an archive of nearly 1000 site visit reports made since the property was purchased and named in April of 2000.

In 2007 the Dewdneys, initial owners of the property, donated it to the Thames Talbot Land Trust (TTLT). A Stewards' Committee oversees the property on behalf of the trust.

As a conservation property Newport Forest serves several purposes, including education and research. Among the ongoing activities reported are ecological monitoring and an all taxa biological inventory (ATBI) now nearing the 2000 species mark. Although ATBI projects normally cover much larger areas, the Newport Forest Project has wider taxonomic coverage, including protists and bacteria. The property also plays a key role as the nuclear property in a larger constellation of local forests known as the Skunk's Misery complex -- or just Skunk's Misery. The ultimate dream, as we understand it, is to protect the constellation as a whole.

Here we report on the main physical events and changes to the property, including weather, infrastructure, and erosion. We also include summary data on various groups such as plants, vertebrates and selected insects. This is our first detailed annual report and we welcome suggestions from readers for improvements.

Keewatin and Patricia Dewdney
London Ontario
January 12 2013

## 1. Site Visits

We made 66 site visits over the year 2012, including four overnight stays in the trailer for a total of 70 days on site. We averaged one visit every four days. Other visits to the property were made by Stewards Erin Carroll, Donald Craig, and Bruce Parker.

## 2. TTLT and Other Activities

| | |
|---|---|
| Apr 21 | TTLT Spring Work Day 17 volunteers |
| May 6 | Spring Wildflower Walk -- 32 participants led by Jane Bowles and Erin Carroll |
| Jul 01 | Annual Butterfly Count, four participants find 21 butterfly spp. |
| Jul 24 | Entomologist Dan Bickel visits site |
| Aug 31 | Bee Protocol started three weeks late due to late flowering |
| Oct 13 | TTLT Fall Work Day -- 10 volunteers |
| Sep 29 | Fungus Walk (Erin Carroll leader) has eight participants |
| Nov 11 | Canoe trip down Thames with Steve Logan to Moraviantown |
| Nov 22 | Stewards Meeting at Nina Hurdle's |
| Dec 27 | No Christmas Bird Count was conducted on site this year |

Tree Planting: none undertaken this year, although the Stewards Committee has approved a plan to plant along Fleming Line.

## 3. Physical Ecology

This category includes all observations of physical changes in the landscape, from precipitation to infrastructure.

### 3.1 Precipitation and groundwater

The following table shows total precipitation (rain & snow) in $H_2O$-equivalent amounts by year since (accurate) records were kept. All measurements are in millimetres.

| **Year** | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Amount** | 730 | 617 | 667 | 1020 | 674 | 1227 | 926 | 744 | 1243 | 704 |

The total precipitation for 2012 could be classified as "drought level" in

that several years in a row of such low levels would constitute a drought. Out of the last 10 years six have been drought level. We have no water table measurements to ascertain the effects of lower precipitation. The general rule however is that when the water table drops below the roots of a given plant, herbaceous or woody, the only saving factor will be capillary action. One sign of drying stress on forest trees is dying tops -- as we have in plenty. Another sign is decreased mobility and availability of a tree's "pharmaceutical" abilities. It can no longer defend itself as effectively against invasions, whether from fungi, bacteria or insects. The great Bitternut dieback of 2006-'07 was the direct result of a Hickory Borer infestation and the indirect result of drying stress. If it weren't for precipitation the years 2006, 2008, and 2011, Newport Forest would be in dire straits indeed.

### 3.2 River and stream flow

Fish migrations up Fleming Creek have been blocked by a beaver dam just upstream from Fleming Creek Forest and about 100 m off-property.

### 3.3 Cold months precipitation and snow cover

Since groundwater over a given year depends in part on snowfall in the previous winter, we record here the total days of snow cover from November 2011 through to the end of February 2012 (the "cold months"), along with total rain and snow converted to rain equivalent:

- cold months precipitation: 295 mm, most in December alone
- cold months snow cover:
  - first snowfall January 20, last on February 10 or 11.
  - property snow-free for all but five days (!)

### 3.4 Temperatures

Although temperatures are recorded at each visit, we have not done any long-term trend analysis. Suffice it to say that daily highs over the months of June and July were well into the 30s (ºC) on seven of the 13 visits made during this period.

### 3.5 Erosion and deposition

Erosion of the river bluffs is a continuing feature of the property. We ob-

served several small to medium hummocks slide down the bluffs to Mussel Beach, as well as further erosion of the beach itself. We have discontinued monitoring erosion along the Fleming Creek bluffs. However erosion along these bluffs is a worry to local residents as the edge of the bluffs is now just a metre or two away from Fleming Line.

Deposition continues on a large scale at the Sand Bar in the Riverside Forest on the downstream side of the point bar. The Sand Bar grows in increments contributed by massive (three to four metres above normal) floods.

### 3.6 Infrastructure

Steel bridge beams, which had been lying in Fleming Creek for several years, were finally pulled up the creek bluffs by Steve Logan's "come-along" in April, then hauled up to the gate by Edgar Hurdle's tractor in October. Steps on the river bluffs trail were rebuilt by Terry Keep, a Steward at the time. One yard of B-gravel was dumped at the "mudhole" (farm track), then spread during the Spring Work Day. Steve Logan painted the trailer in October. It is planned to remove the tree station in the Upper Meadow, although the 2000 gal. water tank may remain in place for the short term. We added two bluebird boxes along the road in the spring.

## 4. Biological Monitoring and Highlights

This section includes a summary of progress on the ATBI project, biological highlights, a discussion of changes in selected populations, and monitoring data for vertebrate animals.

### 4.1 All Taxa Biological Inventory (ATBI)

The ATBI project moved smartly ahead in 2012, with 159 new species being recorded. These are broken down by kingdom in the next table. Current totals per kingdom are listed in the left hand column.

| | 2000-2012 | 2012 (new) |
|---|---|---|
| Plantae | 481 | 4 |
| Animalia | 967 | 100 |
| Protista | 190 | 24 |
| Fungi & Lichens | 240 | 22 |
| Eubacteria | 22 | 0 |

| | | |
|---|---|---|
| Total species: | 1900 | 159 |

Five new vertebrate species were recorded in 2012, two birds (Hermit Thrush, Greater Yellowlegs) and three mammals (Red Fox, North American Beaver, Short-tailed Weasel). No new reptiles were observed. Among invertebrates, seven new Lepidoptera were found, five new moths and two new butterflies (Delaware Skipper and the Appalachian Brown). A concerted search of drift piles turned up seven new species of Land Snail. Although nearly 100 arthropods were recorded, the Eremnophila Wasps stands out as a dramatic sighting, as well as the Two-spotted Tree Cricket, the most northern record for this species at the time.

**4.2 Biological Events**

Two long-standing dead elms finally fell over, one in the Riverside Forest, the other in the Blind Creek Forest near the Lower Meadow

What appeared to be the scat of a large predator was found on the bank of Fleming Creek on May 27. The size, form and content of the scat most closely matched those of a Cougar.

Spiny Softshell Turtles were sighted basking on Mussel Beach just twice over the year, two individuals on May 22 and one on May 27.

Three new mammal species were recorded for the property during 2012: A Short-tailed Weasel, a Red Fox, and a North American Beaver. (Trailer mice disappeared shortly after the weasel sighting.)

A beaver took up residence beside the property, building a dam on Fleming Creek and cutting down three trees (*Populus* spp.) on the river bluffs.

A noisy and extensive fish-spawning episode was witnessed in the point bar rapids of the Thames on May 17. The species involved was probably a member of the Carp family.

In the early summer the Red Admiral population surged, with numerous sightings on every visit. In the late summer, the Painted Lady population went through an even larger explosion. Previously we has seen the latter species only rarely.

What doesn't happen is sometimes just as important as what does: The lack of moisture effectively canceled the spring frog chorus and reduced the mosquito population to near zero. More will be found on population changes in the next section.

### 4.3 Populations of Interest

Among the populations that *appear* to be increasing are:
- American Woodcock
- Giant Swallowtails
- Green Dragon (36 stems found along Blind Creek)
- North American Beaver (from 0 to at least 1)
- Red Admiral outbreak lasted from Apr 13 to Aug 06
- Painted Lady outbreak lasted from Jun 30 to Sep 11

Populations appearing to decline (even if temporarily) include
- Western Chorus Frogs had reduced presence owing to lack of water
- Possible Ruffed Grouse flushed, with none recorded for six years (av. 5)
- Spiny Softshell Turtle observations down slightly

See also Section 4.4 for more details on bird observations.

### 4.4 Monitoring of Vertebrates

The following animal statistics are compiled for vertebrates only and divided into four sections, visual observations, trail cam records, tracking records, and remains of dead animals. No fish were recorded this year. Among birds, only the larger ones are included, ranging from crows to herons in size. We note that bird day-lists were compiled on only 48 of the 66 site visits. Some 64 species of bird were observed over the year, two being new.

Observations on Site:

| | | |
|---|---|---|
| American Crow | 46 | |
| American Woodcock | 7 | (6 road-flushes in the Upper Meadow) |
| Bald Eagle | 9 | |
| Canada Goose | 30 | |
| Common Merganser | 1 | |
| Eastern Screech Owl | 4 | (no other owls recorded) |

| | | |
|---|---|---|
| Great Blue Heron | 13 | |
| Greater Yellowlegs | 1 | (new species) |
| Hooded Merganser | 1 | |
| Mallard | 1 | |
| Northern Harrier | 2 | |
| Pileated Woodpecker | 2 | |
| Red-tailed Hawk | 7 | |
| Ruffed Grouse | 1 | (possible, but uncertain) |
| Turkey Vulture | 19 | |
| Wild Turkey | 18 | |
| | | |
| American Toad | 5 | |
| Gray Tree Frog | 5 | (seen once, heard 4 times) |
| Green Frog | 1 | |
| Spring Peeper | 1 | |
| Western Chorus Frog | 1 | |
| Wood Frog | 1 | |
| | | |
| Spiny Softshell Turtle | 2 | |
| Brown Snake | 5 | |
| Eastern Garter | 6 | |
| | | |
| Eastern Chipmunk | 12 | (high number due to bird feeders) |
| Eastern Cottontail | 7 | |
| Eastern Gray Squirrel | 8 | |
| Muskrat | 3 | |
| N. American Beaver | 5 | |
| Red Squirrel | 1 | |
| Short-tailed Weasel | 1 | (new species) |
| Southern Flying Squirrel | 2 | |
| Striped Skunk | 1 | (forage-digs by trailer, visual outside fence) |
| Virginia Deer | 2 | |

Trail Cam records: (normally two in operation, occasionally three)
Multiple records per day are counted as one.

| | |
|---|---|
| Great Blue Heron | 1 |
| Pileated Woodpecker | 1 |
| Rose-breasted Grosbeak | 1 |
| Wild Turkey | 8 |

| | | |
|---|---|---|
| Coyote | 3 | |
| Eastern Cottontail | 18 | |
| Eastern Gray Squirrel | 40 | |
| Raccoon | 61 | |
| Red Fox | 1 | |
| Striped Chipmunk | 1 | |
| Virginia Deer | 39 | |
| Virginia Possum | 1 | |
| Wild Turkey | 11 | |

Tracks on Mussel Beach (three surveys during the year)

| | | |
|---|---|---|
| Canada Goose | 2 | |
| Coyote | 2 | |
| Great Blue Heron | 2 | |
| N. American Beaver | 1 | |
| Raccoon | 1 | |
| Striped Skunk (?) | 1 | |
| Shorebird | 1 | (possibly Killdeer or Spotted Sandpiper) |
| Virginia Deer | 2 | |
| Virginia Possum | 1 | |
| Wild Turkey | 1 | |

Predations/deaths:

| | | |
|---|---|---|
| Eastern Cottontail | 1 | Jan 31 |
| Raccoon | 2 | Apr 13, Dec 13 |
| Meadow Vole | 1 | Apr 25 |
| Channel Cat | 1 | Jul 15 |
| Virginia Deer | 1 | Dec 19 |

**4.5 Bird Notes**

In rank order, the most commonly observed birds are listed below:

Blue Jay 45; American Crow 44; Red-bellied Woodpecker 37; Common Flicker 36; White-breasted Nuthatch 34; Northern Cardinal 32; Black-capped Chickadee 31; Canada Goose 29; Mourning Dove 28; American Robin 27; Song Sparrow 26; Downy Woodpecker 24; Turkey Vulture 22; Great Blue Heron 21; Field Sparrow 20; Common Grackle 18; Eastern

Towhee 18; Tree Swallow 18; Wild Turkey 17; Common Yellowthroat 16; Brown-headed Cowbird 15; Rose-breasted Grosbeak 15; Dark-eyed Junco 12; Gray Catbird 10; Red-tailed Hawk 10

The following species were observed just once in 2012:

| | | |
|---|---|---|
| Brown Creeper | Bufflehead | Chipping Sparrow |
| Common Merganser | Eastern Phoebe | European Starling |
| Greater Yellowlegs | Hermit Thrush | Hooded Merganser |
| House Wren | Red-winged Blackbird | Scarlet Tanager |
| Tufted Titmouse | Ruby-throated Hummingbird | |
| Northern Rough-winged Swallow | | |

The following more-or-less endemic species were not seen at all in 2012

| | | |
|---|---|---|
| Black-billed Cuckoo | Bobolink | Cedar Waxwing |
| Eastern Meadowlark | Eastern Wood Peewee | Great Horned Owl |
| Hairy Woodpecker | Orchard Oriole | Ruffed Grouse |
| Savannah Sparrow | Solitary Sandpiper | Yellow-billed Cuckoo |

The usual cautions attend these data. A more abundant species may be seen less frequently than a less abundant one because of differences in habitat, habit, etc.

**5. Bee Protocol**

All pollinators visiting flowers in the Lower Meadow are counted according to a fixed protocol. This year's Honeybee count was down markedly since the last count, owing mainly to dry conditions.

| | | |
|---|---|---|
| 2009: 4,950 bees/ha | 2010: 7,450 bees/ha | 2011: no count |
| 2012: 2,410 bees/ha | | |

**IMAGES:**

Photography is perhaps the single most important tool in monitoring and species inventory work. This includes the trail cams which open a privileged window on the secret world of Newport Forest when humans are away. The following images illustrate these applications, not to mention glimpses of species interaction.

Bowl-and-doily web configuration might not have been noticed if it weren't for the early morning dew. The web is made by only one species of Spider, *Frontinella pyramitela*, one of nearly a hundred new species of arthropods recorded over the year. Sometimes even an out-of-focus image like this one is still useable.

There is not just one wasp clutching this caterpillar, but two, copulating as they do. This sighting gave us two new species for the price of one: The female *Eremnophila aureonucleata* will deposit an egg or two in the Unicorn Caterpillar, *Schizura unicornis*, paralyzing it with a sting that will preserve it long enough for the larvae to develop.

RACCOON FORENSICS


We mistook the prey in the Coyote's mouth for a baby Cottontail. It wasn't. Those are two ears of a Raccoon kit, not a little white tail.

The year's first record of kits coming out with their mothers is dated May 12. We had three mother raccoons visiting camp in 2012: "Amy" nested in the nursery box above the Nook, while "Betty" lived under the trailer and "Celia" lived elsewhere. From the beginning Amy had five kits, but the others had shown up with only two or three kits, unusually small litters -- unless ground dens exposed kits to predation, as above.

On the evening of June 25 all three mothers appeared with their kits, but behaved nervously, constantly looking around and frequently stopping to listen. On June 30 only two families showed up, while Betty's kits ran back and forth, plaintively calling for her. We never saw Betty again.

That night we heard the Coyotes singing over in Eva's Woods.