The Ottawa Field-Naturalists' Club
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Mr. Ron Campbell
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Dear Mr. Campbell

Regarding: Enerdu Generating Station Expansion and Redevelopment Project, Mississippi River. File #: OE8982-00

The Ottawa Field-Naturalists' Club is the oldest natural history club in Canada with about 800 members. Our objectives include promoting the appreciation, preservation, conservation and restoration of Canada's natural heritage. Out of concern, we offer the following comments and appendix regarding the proposed hydroelectric expansion project at Almonte.

Comment #1:

The environmental assessment area for this project is very small (according to maps, only approximately 200 by 200 m) and is only in the immediate vicinity of the the present Enerdu facility near the intersection of Main Street and the CP Rail Bridge at Almonte ON. Clearly, the limited scale environmental assessment is a tacit acknowledgement of proponents only being concerned with construction at the site itself, and therefore not being concerned with possible effects upstream or downstream.

This is plainly stated in section "5.8: Ecology" in the Final Enerdu Environmental Report (hereafter denoted as FEER, http://www.wesa.ca/downloads/english/Environmental_Report/OE8982-00_Enerdu_Environmental_Report.pdf):

"No areas of natural and scientific interest (ANSI) or provincially significant wetlands were identified within the project area; however, during the September 26, 2011 public meeting, a representative from the Mississippi Valley Field Naturalists identified the Appleton Wetland located 9 km upstream from the project site. It was determined that the wetland was beyond the geographic scope of this EA: operations at the Enerdu facility would not change as it would continue to adhere to the best management range outlined in the Mississippi River Water Management Plan (MRWMP). Also, the purpose of the Class EA for Waterpower Projects is to assess impacts that may occur as a result of the proposed project, and not issues associated with present conditions and operations. Issues associated with water levels and facility operations are therefore best addressed under a separate water

management planning process. "

It should be noted that the Appleton Wetland has ANSI designation. We accept the opinion of the Mississippi Valley Field Naturalists (MVFN) that the current Enerdu facility may be having negative effects on the Appleton ANSI by artificially raising water levels and therefore the expanded facility would at best fail to improve this problem. The MVFN has documented the decline of Red Maple swamp shoreline habitat at the Appleton ANSI and we believe that the cause of this dieback should be investigated BEFORE permission is given to expand the existing Enerdu facility at Almonte.

Comment #2:

Section 5.8.3 (Species at Risk) is vaguely written, either assuming too much of the reader or presuming too little of the writer.

a. Regarding Rapids Clubtail Dragonfly:

For example, the Rapids Clubtail Dragonfly is never described as being a dragonfly or any other specific life form, it is referred to only as the "Rapids Clubtail".
The following quote also warrants criticism (FEER, page 30; also Annex II, page 30):

"However, no specimens were observed during any of the site visits and therefore this species is considered absent."

Is this conclusion warranted? The Natural Heritage & Endangered Species Program page on the Rapids Clubtail Dragonfly (link below) states that this species is elusive and therefore it is questionable at best whether a lack of recent observations at Almonte indicate absence.
(http://www.mass.gov/dfwele/dfw/nhesp/species_info/nhfacts/gomphus_quadricolor.pdf):

"As with many species of Clubtails, population densities appear to be fairly low. However, this may be due to the elusiveness of the adults. Surveys focusing on the nymphs of the Rapids Clubtail, which are easier to find than the adults, should give a more accurate representation of the species status in Massachusetts."

This dragonfly, which presumably has been spotted previously in the rapidly flowing water below the dam at Almonte, should probably be looked for more carefully before proceeding. Nymphs in particular should be sought.

b. Regarding the Flooded Jellyskin:

This species is referred to as a plant several times in the FEER, which is misleading at best as it is a lichen. This lichen is sensitive to changing water levels and to the periodicity of their fluctuations (COSEWIC 2004) and should be looked for thoroughly at the Appleton ANSI before proceeding.

c. Regarding the American Eel:

Due to human interference, the population of American Eel has drastically declined since the 1980s. The plan to create a safe bypass for the American Eel at the Enerdu site is to be commended. Due care should be exercised to prevent the passage of invasive mussels (e.g. zebra mussels) through the dam. Zebra mussels are already abundant in Mississippi Lake, so the problem at Almonte is to prevent buildup of populations above the Almonte dams, and the resulting release of increased veliger larvae downstream.

d. Species not mentioned in the documentation:

If, as the MVFN believe, the Appleton ANSI area is being affected by artificially high water levels, then at the least the following two plant species should be looked for:

(i) **Butternut** (Juglans cinerea). This endangered tree species (Ontario (S3?), Quebec (S3)) is known to inhabit streamsides and coves. If individuals are present at Appleton ANSI, they could succumb due to raised water levels.

(ii) **Poison Sumac** (Toxicodendron vernix). This small tree is rare in Eastern Ontario (Ontario (S4), Quebec (S2)) and it is a wetland specialist. One population is known to exist nearby at Wolf Grove and therefore T. vernix should be searched for at Appleton ANSI.

(iii) **Other bottomland-preference trees undergoing population decline** due to alien disease or pest could be adversely affected by the artificially increased water level of the existing dam, regardless of the current (often out of date and therefore optimistic) conservation statuses. Obvious examples are the native **Elms** (Dutch Elm Disease, Elm Yellows) and **Ashes** (Emerald Ash Borer); species from both genera (especially the ashes) are currently experiencing drastic population declines:

(a) **Ashes**: Particularly Black Ash (Fraxinus nigra) which is a swamp specialist and to a lesser extent Red/Green Ash (Fraxinus pennsylvanica) which favours bottomlands, but currently has a very large population in a diversity of habitats. White Ash (F. americana) is a mesic forest tree unlikely to be affected by the Mississippi River water level.

(b) **Elms**: particularly the bottomland-favouring tree White Elm (Ulmus americana) and to a lesser extent Slippery Elm (U. rubra) and Rock Elm (U. thomasii) which also grow along streams, but with less regularity. Slippery and Rock Elms, however, have much lower populations than White Elm in Eastern Ontario and may in this regard be even more important to conserve, if present.

Comment #3:

Quoting from FEER Section 5.3: Climate:

" The area is characterized as having a humid continental climate with four distinct seasons. Summers are warm and humid; snow and ice dominate the winter season. Spring and fall are variable, prone to extremes in temperature and unpredictable changes. "

Disconcertingly, this prose was recognized as being directly lifted (gathered as chunks with either no or minor stylistic change, indicated in bold below) from the climate section of Ottawa's

English-language Wikipedia page:
http://en.wikipedia.org/wiki/Ottawa#Climate , February 1 2013 version:

" Ottawa has **a humid continental climate** (Köppen Dfb) **with four distinct seasons**.[59] The average July maximum temperature is 26.5 °C (80 °F). The average January minimum temperature is −15.3 °C (4.5 °F).
Summers are warm and humid in Ottawa. Daytime temperatures of 30 °C (86 °F) or higher are commonplace. Ottawa averages many days with humidex (combined temperature & humidity index) between 30 °C (86 °F) and 40 °C (104 °F) annually.
Snow and ice are dominant during the winter season. Ottawa receives about 235 centimetres (93 in) of snowfall annually. Days above freezing and nights below −20 °C (−4 °F) both occur in the winter.
Spring and fall are variable, prone to extremes in temperature and unpredictable swings in conditions. Hot days above 30 °C (86 °F) have occurred as early as March (as in 2012) or as late as October, although such events are unusual and brief.[60] "

Comment #4:

a. Table 3 of Annex II (http://www.wesa.ca/downloads/english/Environmental_Report/OE8982-Annex_II.pdf), is a list of plant species observed along North Shoreline. Why such a geographically limited list? Why not include the numerous other species nearby (more on this later).

Furthermore, it is disappointing to see several plants listed as being present with only cursory (genus, family) identification: specifically "Algae sp.", "Mosses", "Hypnum Family", "Thistle sp.", and "Bur-reed sp." As an example of the importance of species-level identification, the only Canadian plant considered to have become extinct since the arrival of Europeans is a moss: Macoun's Shining Moss (Neomacounia nitida) which was present near Belleville ON (not all that far from Almonte) before losing its habitat in the second half of the 19th century. Surveyors should make great effort to identify all species they encounter.

What about other, nearby plants? Cattails are acknowledged as being present on the south shore but for some reason do not appear in Table 3 of Annex II. A VERY quick search with Google *street view* by the present writer includes the following species/genera not mentioned in Table 3 of Annex II:

(a) Downstream of dam, from the Main Street Bridge: (i) **American Elm** just to the north of the Main Street Bridge on the east side, (ii) a **willow** (perhaps Crack Willow) close to the River Walk at the west side. A spruce is visible in the same general area.

(b) Upstream of dam, from the Queen Street Bridge: (i) toward the dam: Numerous **Willows** (probably Crack Willow) along the river, (ii) away from the dam: Numerous **soft maples** (probably both Red & Silver Maples, and/or hybrids of both) just a few feet from the riverbank, and (iii) toward the dam: just a few feet further from the bank is a medium-sized **oak** (probably Bur Oak) on the north shore. Another, declining one, appears in the background.

Comment #5: Invertebrates, amphibians, etc.

The conservation status of mussels is poor: >70% of mussel taxa are endangered, threatened, or species of concern in North America (Thorp & Rogers, Field Guide to Freshwater Invertebrates of North America. Academic Press, 2011.). The words "mussel", "frog", "salamander", "amphibian" and "invertebrate" do not appear in the FEER or Annex II documents. This is alarming; were these animals looked for during surveys or even considered? See the Appendix beginning on the following page for the dire relevance of this matter.

Sincerely,

Owen J. Clarkin

Chair, OFNC Conservation Committee

This letter, including the following Appendix, is electronically copied to Ms. Muriel Kim, OEL-Hydrosys (a division of BluMetric Environmental Inc.), 3108 Carp Road, PO Box 430, Carp, ON, Canada, K0A 1L0, 613-839-3053 x 261, mkim@wesa.ca

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Appendix:
Extracts of Observations by Frederick W. Schueler (of Bishops Mills Natural History Center) at and near the Almonte Dam site from 1996-2012.

Compiled by Owen J. Clarkin, with addition of Conservation Statuses (CS) of each species from NatureServe as of February 1, 2013. We list the CS for *both* Ontario and Quebec as Eastern Ontario is in close proximity to Western Quebec and, at a district scale, for some species the Quebec number could be at least as relevant as the Ontario one.
http://www.natureserve.org/explorer/servlet/NatureServe?searchName=genus+species , where the species-identifying names are inserted for *genus* and *species* in the link.

The following observations of Fred Schueler appear with his permission and were compiled at the Almonte dam site and adjacent environment. **Many** of these species were not found in the FEER or Annex II documents of the proponent and the conservation statuses are often not rosy. My (OJC) interpretation of these observations is that they indicate a declining health of the ecosystem adjacent to the dam site from 1996-2012.

Observations:
1. June 22 1996, below falls
a. Chaetura pelagica (Chimney Swift) (Bird). 7ca adult. CS: Ontario (S4B,S4N), Quebec (S2S3)
b. Chordeiles minor (Northern Nighthawk) (Bird). 1 adult. CS: Ontario (S4B), Quebec (S3)
c. Anguilla rostrata (American Eel). 1 adult, dead. CS: Ontario (S1?), Quebec (S3)
d. Ondatra zibethicus (Muskrat) (Mammal). common scat, seen. CS: Ontario (S5), Quebec (S5)
e. fringe of Typha (Cattail)
f. Necturus maculosus (Mudpuppy) (herp). 1 adult, dead. CS: Ontario (S4), Quebec (S4)
g. Goniobasis livescens (Great Lakes Horn Snail) (Mollusca). 11/dominant adult. CS: Ontario (S3S4), Quebec (SNR)
h. Viviparus georgianus (Banded Mystery Snail) (Mollusca). 3 juvenile. CS: Ontario (SNA)
i. Elliptio complanata (Eastern Elliptio) (Mollusca). abundant shell, dead, prey of predator. CS: Ontario (S5), Quebec (S4)
j. Pyganodon grandis (Common Floater) (Mollusca). CS: Ontario (S5), Quebec (S4)
k. Lampsilis cf ventricosa (Pocket-Book) (Mollusca). 3 shell, dead. CS: Ontario (SNR), Quebec (S3S4)
l. Lampsilis radiata (Eastern Lamp-Mussel) (Mollusca). 1 shell, dead, prey of predator. CS: Ontario (S4), Quebec (SNR)
m. Lasmigona costata (Fluted Shell) (Mollusca). 3 shell, dead, prey of predator. CS: Ontario (S5), Quebec (S3)

2. June 12 1997
below dams
a. Chelydra serpentina (Snapping Turtle) (herp). 1 adult, male, seen, under cover. CS: Ontario (S3), Quebec (S4)

b. beside river, Hesperis matronalis (Dame's Rocket) (Plant). common herb, in bloom, seen. Ontario (SNA), Quebec (SNA)
c. beside river, Rhamnus cathartica (Common Buckthorn) (Plant). dominant shrub, seen. dominant shrub under Salix & Populus deltoides. CS: R. cathartica is an invasive alien; P. deltoides is native with status Ontario (S5), Quebec (S4S5).
d. Eurycea bislineata (Two-Lined Salamander) (herp). 5/ca12 adult. CS: Ontario (S4), Quebec (S5)
e. Rana catesbeiana (Bull Frog) (herp). 1 adult, male, captured. CS: Ontario (S4), Quebec (S5)
f. Anguilla rostrata (American Eel) (fish). 1 adult, dead, specimen. CS: Ontario (S1?), Quebec (S3)
g. Rana clamitans (Green Frog) (herp). 1 adult, male. CS: Ontario (S5), Quebec (S5)
below falls
h. Rana catesbeiana (Bull Frog) (herp). 1 adult, seen. CS: Ontario (S4), Quebec (S5)
i. Elliptio complanata (Eastern Elliptio) (Mollusca). 21/29 shell, dead, Muskrat shell pile, specimen. CS: Ontario (S5), Quebec (S4)
j. Lampsilis cf ventricosa (Pocket-Book) (Mollusca). 12 shell, dead, Muskrat shell pile, specimen. CS: Ontario (SNR), Quebec (S3S4)
k. Pyganodon grandis (Common Floater) (Mollusca). 6 shell, dead, Muskrat shell pile, specimen. CS: Ontario (S5), Quebec (S4)
l. Alasmidonta marginata (Elktoe) (Mollusca). 2 shell, dead, Muskrat shell pile, specimen. CS: Ontario (S3), Quebec (S1)
m. Helisoma campanulatum (Bell-mouth Ramshorn) (Mollusca) few shell, dead, seen, drift. CS: Ontario (SNR), Quebec (SNR),
n. idea: ... visited the falls of the Mississippi beside the mill --- raises the question of migratory fish hosts for the Ubionids that are absent from the river above the dams. did fish ever asend these falls?

3. July 9 1998, below falls
a.Goniobasis livescens (Great Lakes Horn Snail) (Mollusca). abundant adult, seen. CS: Ontario (S3S4), Quebec (SNR)
b. Unionidae (Unionid Mussel) (Mollusca). shell, dead, Muskrat shell pile, specimen. as collected, old pile at foot of hardened shore. Water clear and warm. NO:Anguilla found dead!

4. June 12 1999
below falls
a. Goniobasis livescens (Great Lakes Horn Snail) (Mollusca). dominant adult, seen. CS: Ontario (S3S4), Quebec (SNR)
b. Viviparus georgianus (Banded Mystery Snail) (Mollusca). CS: Ontario (SNA)
c. Orconectes virilis (Northern Crayfish) (Crayfish). 2 adult, seen, under cover. CS: Ontario (S5), Quebec (S4),
d. Micropterus dolomieu (Smallmouth Bass) (fish). present juvenile, seen. CS: Ontario (S5), Quebec (S5)
e. Elliptio complanata (Eastern Elliptio) (Mollusca). 3/many shell, specimen. CS: Ontario (S5), Quebec (S4)

f. Leptodea ochracea (Delicate Mucket) (Mollusca). 2 shell, specimen. CS: Not ranked in Ontario or Quebec; global ranking is a very-worrying G3.
g. Rana catesbeiana (Bull Frog) (herp). index1 juvenile, heard. CS: Ontario (S4), Quebec (S5)
below dams
h. Orconectes propinquus () (Crayfish). 1 adult, seen, under cover. CS: Ontario (S5), Quebec (S4)
i. Rana clamitans (Green Frog) (herp). 1 adult, female, seen, under cover. CS: Ontario (S5), Quebec (S5)
j. Eurycea bislineata (Two-Lined Salamander) (herp). 3 adult, seen, under cover. CS: Ontario (S4), Quebec (S5)

5. June 6 2001
below falls
a. Goniobasis livescens (Great Lakes Horn Snail) (Mollusca). abundant adult, seen. ... Few Unionidae shells on bottom and only pieces of elliptio complanata seen. CS: of G. livescens is Ontario (S3S4), Quebec (SNR)
b. Acer saccharinum (Silver Maple) (Plant). abundant in fruit, seen. CS: Ontario (S5), Quebec (S4S5)
below dams
c. Eurycea bislineata (Two-Lined Salamander) (herp). 1 adult, seen, under cover. ... Confirming that the species persists here. CS: Ontario (S4), Quebec (S5)
d. Rana clamitans (Green Frog) (herp). 1 adult, female, seen. CS: Ontario (S5), Quebec (S5)
e. Rana catesbeiana (Bull Frog) (herp). 1 adult, seen. CS: Ontario (S4), Quebec (S5)

6. June 13 2004
below falls
a. Elliptio complanata (Eastern Elliptio) (Mollusca). common shell, seen, Muskrat shell pile. moderate shell piles at 30-50 cm depth. ... the first time in years that there's enough to assess diversity of other species among the Elliptio if they were collected. CS: Ontario (S5), Quebec (S4)

7. July 2 2005
below falls
a. Acer cf rubrum (Red Maple) (Plant). 1 tree, drive. sprouting topmost twig, ca 65 cm DBH Red/Silver hybrid(?). This tree was snapped off at stump-height, where it was rotten, across a channel of the river, presumeably in the wind before the downpour yesterday. CS: for Red Maple is Ontario (S5), Quebec (S5)

8. July 2 2006
below falls
a. ... water high & few Unionids to be seen. The Eurycea bislineata (Two-Lined Salamander) slope is perhaps eroded from its condition in past years ... CS: Ontario (S4), Quebec (S5)

9. September 17 2008
below dams
a. Eurycea bislineata (Two-Lined Salamander) habitat seems to be completely removed. By blasting for hydro-power installation. CS: Ontario (S4), Quebec (S5)

10. October 19 2008
below falls
a. Unionidae (Unionid Mussel) (Mollusca). shell, Muskrat shell pile, specimen. huge new Muskrat pile just at boatlaunch ramp. **With Zebra Mussels in the Mississippi system, those who care about its diverse Unionid fauna are on tenterhooks to see if the Zebras will explode and wipe out the Unionids, as they did in the Rideau at Anderewsville and elsewhere, 15 years after they were first observed there**.
b. ... [the falls are] dry, due to construction of the new hydro facility. When we got down to the water we found a huge pile of predator (=Muskrat) opened Unionid shells. There may have have been some of these shells here at my visit in July, but certainly the pile is new since 2007. The sample is only a small (7 L popcorn bag) portion of the pile, which is now mixed in with and covered by shed Acer saccharinum (Silver Maple) leaves. It includes one Alasmidonta undulata (Heavy-toothed Wedge Mussel), which is a new species for this site (CS: Ontario (S4), Quebec (S3)), though at 0.5% of the sample it's mere good luck that it's included. The last time there was a substantial number of shells here was 1999 (the 1999 sample included 2 Alasmidonta marginata (Elktoe) (CS: Ontario (S3), Quebec (S1)), which is fairly common downstream of Almonte).
c. There were no fresh or living Dreissena polymorpha (Zebra Mussel) shells, so another year has gone by without their having exploded in numbers, though I think such an explosion will be more likely in low-water than high-water years.
d. Elliptio complanata (Eastern Elliptio) (Mollusca). 200 shell, Muskrat shell pile, specimen. 192 pairs, 8 valves & fragments in 7 L sample. CS: Ontario (S5), Quebec (S4)
e. Lampsilis (Lamp-Mussel) (Mollusca). 6 shell, Muskrat shell pile, specimen. 5 pairs, 1 valve, largest 97.5 mm in 7 L sample of shells. Typical light inflated Mississippi shells.
f. Ligumia recta (Black Sand-Shell) (Mollusca). 3 shell, Muskrat shell pile, specimen. 3 pairs, largest 118 mm in 7 L sample of shells. CS: Ontario (S3), Quebec (S3)
g. Alasmidonta undulata (Heavy-toothed Wedge Mussel) (Mollusca). 1 shell, Muskrat shell pile, specimen. 53 mm pair in 7 L sample of shells. CS: Ontario (S4), Quebec (S3)
h. Pyganodon cf grandis (Common Floater) (Mollusca). 7 shell, Muskrat shell pile, specimen. 7 valves & fragments, largest 66.5 mm, in 7 L sample of shells. Sample includes a weathered cf Lasmigona shell. CS: Ontario (S5), Quebec (S4),
i. Dreissena polymorpha (Zebra Mussel) (Mollusca). 10ca shell, Muskrat shell pile, specimen. 17 valves, 2 pairs, largest 38.5 mm, in 7 L sample of shells. No attempt to match up valves, none were alive and none particualrly fresh. CS: Not applicable, invasive alien
j. Campeloma decisum (Brown Mystery Snail) (Mollusca). 1 shell, Muskrat shell pile, specimen. 25.5 mm, in 7 L sample of shells. CS: Ontario (S4), Quebec (SNR)

11. July 5 2009
below falls
a. Unionidae (Unionid Mussel) (Mollusca). abundant shell, prey of predator, Muskrat shell pile, specimen. WAYPT/Y 027, 7 litre sample of shells, many more in pile. This one big pile is where 90% or more of the fresh shells along the shore of the park are concentrated. The flow of water and character of the shore (lots more silt) is considerably changed by the construction of the new Hydro plant, which has drained the falls down to a cofferdam about 100 m E of here.
b. Elliptio complanata (Eastern Elliptio) (Mollusca). 186 shell, prey of predator, Muskrat shell pile, specimen. mostly small, 168 pairs, 18 valves, largest 85 mm. CS: Ontario (S5), Quebec (S4)
c. Lampsilis (Lamp-Mussel) (Mollusca). 11 shell, prey of predator, Muskrat shell pile, specimen. 8 pairs, 3 valves, largest 90 mm.
d. Ligumia recta (Black Sand-Shell) (Mollusca). 1 shell, prey of predator, Muskrat shell pile, specimen. 80 mm fresh pair. CS: Ontario (S3), Quebec (S3)
e. Alasmidonta undulata (Heavy-toothed Wedge Mussel) (Mollusca). 1 shell, prey of predator, Muskrat shell pile, specimen. 50 mm fresh pair. CS: Ontario (S4), Quebec (S3)
f. Lasmigona costata (Fluted Shell) (Mollusca). 1 shell, prey of predator, Muskrat shell pile, specimen. 2 pairs, 1 valve, largest 80 mm. CS: Ontario (S5), Quebec (S3)
g. Dreissena polymorpha (Zebra Mussel) (Mollusca). 1 shell, juvenile, under cover, Muskrat shell pile, specimen. 13 valves, mostly large & old, 9 little juvs, largest 35 mm. Many of the flat rocks have a fringe of little Zebras on their lower edges, and there were scattered juveniles on the Unionid shells. This is many more than seen last fall.
downstream of Main St Bridge
h. Lampsilis (Lamp-Mussel) (Mollusca). 4 shell, specimen. 3 pairs, 1 valve, largest 89 mm, non-random sample.
i. Alasmidonta undulata (Heavy-toothed Wedge Mussel) (Mollusca). 1 shell, specimen. 53 mm pair with Dreissena, non-random sample. CS: Ontario (S4), Quebec (S3)
j. Lasmigona costata (Fluted Shell) (Mollusca). 2 shell, specimen. 2 pairs, with Dreissena, lgr 94 mm, non-random sample. CS: Ontario (S5), Quebec (S3)
k. Dreissena polymorpha (Zebra Mussel) (Mollusca). 2 shell, specimen. little juvs on Unionid shells, largest 16 mm.
l. Orconectes virilis (Northern Crayfish) (Crayfish). 1 shell, specimen. 46.5 mm carapace on shore. CS: Ontario (S5), Quebec (S4),
m. Arion distinctus () (Mollusca). 2 adult, captured. 1 large & 1 small from highwater drifted sticks under Acer negundo. CS: A. distinctus is not ranked in Ontario or Quebec.
n. Goniobasis livescens (Great Lakes Horn Snail) (Mollusca). many shell, adult, specimen. on flat rocks & bottom, some leaving tracks in mud on rocks. CS: Ontario (S3S4), Quebec (SNR)
o. Sample includes some small Dreissena.
p. Orconectes propinquus () (Crayfish). 2 adult, under cover, seen. under flat rocks, 1 cf Form I seen clearly, another less clearly. I turned a lot of rocks, finding only these two Crayfish, and seeing no porches or other signs of Crayfish activity. It's very silty on top of and around the rocks, so it's hard to see the bottom after turning the rock. There's almost no current. many rocks fringed by small

Dreissena. CS: of O. propinquus is Ontario (S5), Quebec (S4)
q. -at Main St bridge- river diverted from falls for Hydro construction.

12. September 6 2009
Highway 29/Wolf Grove Road, W of Almonte
a. Deroceras reticulatum (CS: Ontario (SNA)) (Mollusca). 4 adult, under cover, seen. WAYPT/Y 033, under paper upholder. . . . along with a flat Beetle larva, a Harvestman, and 2 small (narrow) Cochlicopa. NO:Ceapea here - there's very little cover to turn.
b. Lithospermum officinale (Common Gromwell) (Plant). common herb, in fruit, seen. scattered among Solidago along parkinglot edge. CS: Ontario (SNA), Quebec (SNA)

13. July 11 2010
below falls
a. new hydro plant in operation, shore of park rebuilt. . . . since last year. This is our annual stop to check for predator-accumulated Unionid shells and for Dreissena.
b. It seems that all the former Eurycea bislineata (Two-Lined Salamander) habitat is gone, but we didn't go up to see if we could access the site.
c. Polygonum cuspidatum (Japanese Knotweed, invasive alien) (Plant). 1stand herb, seen. ca 10 x 3 m stand on crest of shore. The notes indicate "stand still in place, " after the disturbance of installing the Hydro plant, but the previous record of this stand doesn't seem to be in the database.
d. Elliptio complanata (Eastern Elliptio) (Mollusca). common shell, seen. scattered old shells in shallows, none fresh. This was a quick visit to see if there were predator-accumulated Unionid shells on the rebuilt shore, so there was no search to see what may have been alive, or coated with Dreissena.
e. Dreissena polymorpha (Zebra Mussel) (Mollusca). abundant shell, juvenile, under cover, seen. undisturbed rocks coated with 4-6 mm juvs, larger valves dead. . . . among the stones. The shore has been remade into a series of little bays, lined with crushed limestone, and points of limestone slab -- there's not so many Zebras on the new material, the coating is on the flat rocks that have been here for years.
f. Last July "Many of the flat rocks have a fringe of little Zebras on their lower edges, and there were scattered juveniles on the Unionid shells. This is many more than seen last fall. " -- but presently they're again much more abundant than previously noted.
g. Rana catesbeiana (Bull Frog) (herp). 1 juvenile, seen. ca 40 mm SVL, at edge of the water.
h. Rana clamitans (Green Frog) (herp). 1 adult, female, seen. ca 85 mm SVL F at edge of the water.
i. Atriplex () (Plant). 1 herb, specimen. sprawling single plant on new crushed limestone near shore.

14. May 1 2011
below falls
a. Mollusca () (Mollusca). shell, drift, specimen. drift well sorted but relatively few shells. Most of the flow is coming straight over the dam and falls, and this shore is the eddy is generated by what's gone through the turbines of the new hydro plant - a sparse drift line ca 15 cm above current water level

along usual shore. The Polygonum cuspidatum (Japanese Knotweed) stand is still present on the remade shore.
b. Rana catesbeiana (Bull Frog) (herp). 1 adult, seen. ca 12 cm SVL, jumped in from ca 30 cm above water level. The only Amphibian seen in searching shore for drift.
c. Castor canadensis (Beaver) (Mammal). present adult, food, seen. shrubs cut & chewed sticks along shore. CS: Ontario (S5), Quebec (S5)

15. June 16 2011
Almonte old town hall
a. Chaetura pelagica (Chimney Swift) (Bird). several adult, heard, seen.
Mississippi River Channel near Almonte Old Town Hall
b. Dreissena polymorpha (Zebra Mussel) (Mollusca). abundant adult, shell, seen. piles of huge shells seen from bridge & walkway. During break in Eastern Ontario Model Fores AGM; stupid to not have picked some up, but likely there was no access down concrete channel walls to the water.
c. Elliptio complanata (Eastern Elliptio) (Mollusca). many shell, seen. old shells seen from bridge & walkway.
d. Lampsilis radiata SUBSPECIES:siliquoidea (Fat Mucket) (Mollusca). many shell, seen. old shells seen from bridge & walkway.
e. Lasmigona costata (Fluted Shell) (Mollusca). 1 shell, seen. 1 old shell seen from bridge & walkway.

16. July 21 2011
below falls
a. Dreissena polymorpha (Zebra Mussel) (Mollusca). abundant adult, shell, seen, specimen. mats of small shells around rocks, these dead to 20 cm depth. The water here is zebra-mussel clear. Goniobasis livescens (Great Lakes Horn Snail) not conspicuous here now.
b. Elliptio complanata (Eastern Elliptio) (Mollusca). abundant shell, seen, specimen. no fresh shells. . . . add other species.

17. July 7 2012
Highway 44, 0.5 km SW Almonte, Mississippi River bridges.
a. HABITAT: grassy roadside bank near in-town park woods. Odocoileus virginianus (Whitetail Deer, CS: Ontario (S5), Quebec (S5)) (Mammal). 1 adult, seen, driveby. WAYPT/102, red pelage, grazing up on grassy bank S of road.

18. July 18 2012
Almonte, 0.4 km SE Mississippi R/Main St.
a. Aegopodium podagraria (Goutweed) (Plant, CS: Ontario (SNA), Prince Edward Island (SNA), Quebec (SNA)). 1stand herb, fruit/bloom, seen. WAYPT/122, 12 x 5 m patch between lawn & street. . . . under Acer negundo (Manitoba Maple) and spectacularly big Robinia - mostly green with a 1 x 0.2 m patch of variegated - long petioles are mostly bent over from the drought despite the recent rain, and there's a few "seed" heads that seem unfertized.