



Experimental Pilot Project Report

**2009 Lake Sturgeon
Spawning Population Assessment
At the Moon River of Eastern Georgian Bay**

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Eric McIntyre, Coordinator
Eastern Georgian Bay Stewardship Council



Introduction:

The lake sturgeon (*Acipenser fluvescens*) has recently been declared a “Threatened” species in accordance with the Ontario Species at Risk Act. Angling regulations have been modified through most of the Province of Ontario where they occur to prohibit harvesting. Catch and release angling is still permitted in most Fisheries Management Zones however.

There is considerable interest in this species amongst both government agencies and the general public. This interest relates to efforts to conserve aquatic ecosystem biodiversity and to maintain viable population levels of this unique and prehistoric species within Lakes Huron and Superior.

Notwithstanding the foregoing, the Ministry of Natural Resources has no standardized or systematic means of assessing lake sturgeon abundance. An ad-hoc protocol has been developed by the Upper Great Lakes Management Unit (UGLMU) that uses monofilament gill nets set along migration routes to spawning areas to capture spawning adults. Drift nets, set downstream of spawning areas, are also used to capture larval sturgeon after emergence. These methods require technically skilled staff and are demanding in terms of time, effort and equipment. They are generally unsuitable for volunteers to partake in other than in a supporting role. This has prompted the Eastern Georgian Bay Stewardship Council to consider other less demanding assessment methods that volunteers can partake in to help assess the status of lake sturgeon.

Within Georgian Bay waters and adjoining tributaries, occasional sightings of lake sturgeon continue to be reported to the Ministry of Natural Resources. Most commonly these sightings are of sturgeon congregating during spawning periods. Very rarely they may be reported as incidental sport catch or as dead fish observed along the shoreline.

The foregoing caused us to wonder if visual sightings of lake sturgeon during the spawning period might be a useful tool in assessing spawning population abundance. To help evaluate the efficacy of this method, we attempted to make a concerted effort to observe spawning lake sturgeon at Moon River Falls and immediately downstream during the spring of 2009.

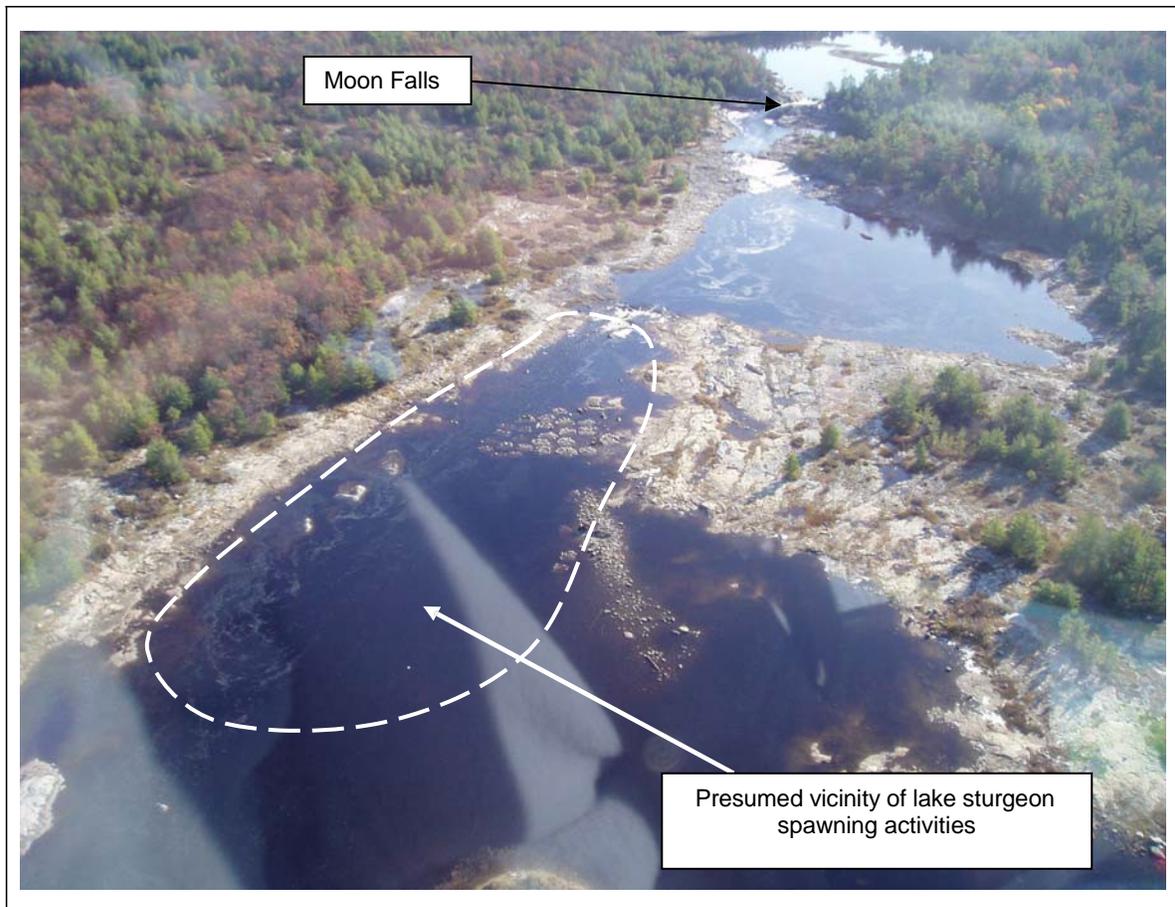
Methods:

During the lake sturgeon spawning period (early May to mid-June), we asked people venturing in the vicinity of Moon Falls to report to us any lake sturgeon they might observe. These included fishermen, sightseers and white-water kayakers.

We also intended to conduct several snorkelling expeditions in an attempt to increase sightings.

The Moon River Falls area of eastern Georgian Bay (Figure 1) was chosen for this experimental pilot project. This was due to its known history of sturgeon spawning in the vicinity and the relatively high incidence of people at Moon Falls during the sturgeon spawning period to report observations.

Figure 1. Moon Falls area of Eastern Georgian Bay showing presumed area of lake sturgeon spawning activity.



Results:

On or about April 25, one sturgeon was sighted by Glenda Clayton while white-water kayaking in the area.

On May 1, one sturgeon was sighted by Bill McRobb, owner of Moon River Cottages.

On May 22, Mr. McRobb reported that guests at his resort had observed an estimated 12 lake sturgeon in the vicinity of Moon Falls.

On May 26, the only occasion on which snorkelling equipment was used, two sturgeon were sighted by Mr. McRobb.

Discussion:

We are greatly encouraged that approximately 16 lake sturgeon were sighted at the Moon Falls in 2009. This encouragement stems from the fact that the population of spawning sturgeon may be considerably higher than what was previously thought, and that visually sighting sturgeon has potential to help assess spawning population abundance.

We feel that we probably could have increased the number of sightings if more effort had been made at snorkelling. The cool spring of 2009 precipitated cool water temperatures in the Moon River. Without specialized thermal protection (i.e. wet suit), the cool water temperatures were a significant deterrent to underwater investigation. This can easily be overcome by obtaining the appropriate thermal protective gear.

Another option is to expand the use of kayaks to spot sturgeon. These light-weight and highly manoeuvrable vessel – even in white-water, may prove to be very useful in this regard. Currently kayakers are in the vicinity during periods of high flow in late April and early May, but are otherwise absent for most of the spawning period.

We acknowledge that this method of lake sturgeon population assessment has a number of serious shortcomings:

1. It is very difficult to apply a consistent unit of effort (time searching) and consequently any indicity of abundance is rather subjective.
2. The likelihood of sighting a sturgeon is influenced by a multitude of factors that are uncontrolled (turbidity, lighting, weather, observer's capabilities,

- observer's location – from shore, boat, kayak or in-water). This further reduces the objectivity of any abundance index generated.
3. The method provides no objective biosampling data on sturgeon observed (length, weight, sex, condition)
 4. The method provides no information on sub-adult sturgeon that are not on the spawning beds.

Notwithstanding the foregoing, for a low-intensity, simple, volunteer-based assessment method – it does hold considerable potential. This method has been used for decades by many offices of the Ministry of Natural Resources to assess walleye spawning population abundance, and we believe it has similar utility for use with lake sturgeon.

It is the intention of the EGBSC to intensify and expand the use of this method at the Moon River in 2010. It is hoped this will be accomplished through additional kayaking and snorkelling observations.