

## EEPAC Review of the SLSR for the Byron Pit

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The opportunity to review the Byron Pit SLSR provided the working committee with a 'Big Picture' overview of the 'Study Lands' and 'Site Lands' designated for development. The report highlighted natural heritage features associated with the Byron Pit and listed the flora and fauna living and/or foraging in the B.P. habitat and adjacent areas. The Working Committee focused on the Natural Heritage Recommendations in section 11 of the document. This section was divided into the following categories.

- 11.1 Habitat of Endangered and Threatened Species
- 11.2 Significant Woodland
- 11.3 Significant Wildlife Habitat
- 11.4 Future Studies

### **The Working Committee supports every recommendation.**

However, there is concern for the large nesting colony of Bank Swallows (SAR - Threatened species). The recommendation was to consult with the Ministry of the Environment, Conservation and Parks (MECP) prior to any site alteration for the rehabilitation of the pit. Rehabilitation (backfilling) of the southern end of site has already begun. The colony, located on the southwest vertical cliff, is in the vicinity of this alteration. The birds have migrated but has the aggregate operator developed a strategy in accordance with the 'Best Management Practices' (BMPs) outlined by the MECP.

The Working Committee has provided a collection of facts and statements related to bank swallow behaviour, recovery and mitigation.

The sources used were:

1. Ontario Ministry of Natural Resources and Forestry. 2017. **Best Management Practices for the Protection, Creation and Maintenance of Barn Swallow Habitat in Ontario.** Queen's Printer for Ontario., 2017. 37pp
2. Ontario Ministry of Natural Resources and Forestry. 2016. **Recovery Strategy for the Bank Swallow (*Riparia riparia*) in Ontario. Prepared for the MNRF.** Peterborough, Ontario. 70pp

### Facts and Statements

#### Bird Behaviour

- Bank Swallows are aerial insectivorous birds, foraging in wetlands, open waters, riparian areas, grasslands, agricultural areas, shrublands, but not dense forest.
- Habitat needs include foraging habitat, nest sites and nocturnal roosting sites.
- New burrows are typically dug each year, average apparent survival is 33-35% for juveniles and 40-53% for adults, feed within 260m of the colony when nestlings present and 690m when next building.
- Average age 1.7- 3 years, surviving adults generally return to breeding sites, start arriving in April/May and depart late July, August and September.
- Bank swallows exhibit high site fidelity to nest sites but many nest sites are naturally ephemeral.
- Migration and dispersal – very little is known about Bank Swallows in Ontario.

#### Recovery

- Abundance data varies but population trends suggest a 4.8% annual decline in Ontario.
- Conflicting legislation leads to difficulties protecting bank swallow living in aggregate pits.(Aggregate Resources Act 1990, Endangered Species Act 2007)
- Recovery goal – maintain 330000 breeding individuals over the next 10 years and reduce the rate of decline.

- Recovery strategy – 1. Address knowledge gap. 2. Protect habitat. 3. Inventory and monitor.
- Nesting sites in Aggregate Pits – Natural erosion and human-related excavation of material refreshes the vertical profile and keeps the bank suitable for nesting. Stopping extraction and rehabilitating the site may halt refreshing. If not refreshed, the slope slumps and stabilizes within several years and the colony disappears.
- Critical approach to recovery – investigate feasibility of maintaining or creating nesting habitat as part of a final rehabilitation plan for aggregate pits and quarries.
- If creating a nest face that requires excavation for fill, consider digging in front of the wall such that a small wetland is created there.

#### Mitigation

- Pits and quarries are eligible for exemptions under the ESA regulation 242/08.
- Aggregate proponents that have entered into the Pits and Quarries provision of Ontario Regulation 242/08 require a Mitigation Plan, including annual reports on the effectiveness of Bank Swallow management practices. The Mitigation Plan must be retained for at least five years after the activity ends.
- Artificial structures – Two types of structures piloted in Ontario – 1. earthen embankment. 2. concrete structure with sand-filled burrow tubes. Both are still experimental. Studies show Bank Swallows prefer existing slopes.

#### Comments/questions regarding:

##### Surface water and Groundwater in Byron Pit.

1. Are we able to get the following study: “Feasibility Study for the Rehabilitation and After Use of The Byron Gravel Pits”, mentioned in the [following document from 1992](http://www.london.ca/business/Planning-Development/secondary-plans/Documents/South-East-Byron-Area-Study-1992.pdf). (Southeast Byron Area Study 1992)  
<http://www.london.ca/business/Planning-Development/secondary-plans/Documents/South-East-Byron-Area-Study-1992.pdf>
2. For the pond towards the north which will remain in all three of the conceptual site plans:
  - a. It is clear that there is no surface water outlet. Presumably, groundwater flows from the pond (242 m asl) towards the Thames River (230 m asl). A groundwater contour map would be helpful in understanding local hydrogeology.
  - b. Are there other examples of quarry/pit pond reuse for recreational and natural purposes? What challenges were encountered?
  - c. Is there a plan to reduce nutrient and chloride loading into the pond?
3. The 1992 document (link above) mentions an old landfill adjacent to North Road. Will the groundwater flow regime from the landfill site change as a result of pit reclamation? Could groundwater from the landfill impact natural resources in the reclaimed pit?

#### Other

1. Quote from the 1992 document: “MNR is to encourage the restoration of depleted pits to a condition suitable for an acceptable after use and compatible with adjacent land use.” Define suitable?
2. Is the objective, to ‘backfill’ the southern end of the pit to the original grade?
3. Did the aggregate operator inform the MNR or MECP of the bank swallow colony and formulate a mitigation plan? If so, where is the plan? EEPAC would appreciate the opportunity to review it along with researchers at the Advanced Facility for Avian Research.
4. Considering a mitigation plan would have to coordinate with the closure of the Byron Pit, how long will the ‘backfilling’ take?
5. Will there be any future aggregate extraction in the area?

**Thanks to Brendan Samuels for providing the following supporting documents.**

1. The only successful case study of successful artificial habitat development for bank swallows (from the UK)

[http://downloads.gigl.org.uk/website/artificial\\_bank\\_creation.pdf](http://downloads.gigl.org.uk/website/artificial_bank_creation.pdf)

2. Graduate thesis from Trent University about bank swallow habitat in aggregate pits

<http://digitalcollections.trentu.ca/objects/etd-553>

3. Recovery Strategy for Bank Swallows in Ontario

[https://files.ontario.ca/mnrf\\_bans\\_rs\\_final-accsbl.pdf](https://files.ontario.ca/mnrf_bans_rs_final-accsbl.pdf)