

## **905 Sarnia wetland relocation - what went well and didn't go well**

**Prepared by the EEPAC Wetlands Working Group, May, 2022 version**

*From page 8.1 of the Nov 2014 EIS prepared by Stantec: "Given the anthropogenic nature of the pond and surrounding agricultural land use, it is anticipated that the noted function can be replicated and improved upon via the proposed habitat compensation plan. The proposed habitat compensation plan results in a net benefit for the subject lands by providing opportunity for improved native species biodiversity and reducing risk of mortality to woodland breeding amphibians and terrestrial crayfish."*

**The question is, can we say this actually happened? And if not, what can be done to ensure future relocations achieve the hoped for objectives?**

### SIGNIFICANT DATES

JUNE 2014 EIS prepared by Stantec for proponent (Stantec, June 2014)

NOVEMBER 2014 revised EIS prepared following agency input (Stantec, Nov. 2014). No new field work took place.

NOV 2015 NEW POND BUILT

JULY 7-13 2016 TRANSFER

2017, 2018, **2020** MONITORING REPORTS

2020 FENCING COMPLETED, PATHWAY GRADING

2020 CONSTRUCTION DEBRIS MOVED TO BUFFER (CFZ)

2021 GRASS (not pollinator mix) SEEDING OF DISTURBED AREA

2022 PAVED PATHWAY NOT COMPLETE  
VEGETATION PLANTINGS NOT COMPLETE,  
POLLINATOR PLANT BUFFER NOT COMPLETE.

### **The good (with questions)**

The planted marsh plants (cattails and bulrushes) are spreading along the wetland edge.

It demonstrated that a small dug pond can be habitat for a variety of species including some in abundance.

There was time set aside for moving wildlife. However it was insufficient time given the unexpected abundance of biota. Subdivision construction time lines drove the timing of digging to transfer (8 mons). Was this sufficient time to create habitat for the biota from the original wetland?

A monitoring plan was developed and conducted for three years. This appears to be insufficient and a longer period, 1, 5, 10 years should be considered). It is also unclear what if anything found in the monitoring actually triggered any adaptive management as discussed on page 7.6 of Stantec, November 2014. For example, page 7.6 states that "Adaptive management may be triggered by insufficient water levels, vegetation cover and the presence of unacceptable non-native and invasive species." Nothing happened after the goldfish showed up.

The indicators of success indicated in Stantec's revised EIS (Nov 2014) page 7.4 listed the following as what the compensation plan was designed to do (however no detail was provided as to how to measure all criteria and what time frame would be needed to declare success):

- Provide pond habitat that is similar to the dug pond
- Provide enhanced riparian vegetation
- Connect the habitat to other nature features offsite (done, by placing replacement next to city owned Significant Woodland)
- Improve native species diversity

A landscape plan was prepared focussing on establishing "self-sustaining native vegetation assemblies." Page 7-4 also listed a variety of strategies to help establish self-sustaining native vegetation. Page 7-5 recommended "a monitoring and adaptive management plan to control vegetation establishment." However, it is unclear how much of the concept was implemented nor what the warranty period was.

Some of the findings of the Hyde Park Community Plan were referenced in the Scoped EIS but not relied upon.

A net effects table was included in the Nov. 2014 EIS. It is unclear if the positive effects (4 of 5 impacts) expected came to pass. Monitoring should be more closely tied to the expected outcomes and a net effects table prepared for the relocation, with less focus on reporting an inventory vs reporting on achievement of objectives.

The November 2014 EIS included "Habitat Compensation Design Drawings." As EEPAC never received any more detailed information directly, it is unable to comment on the actual habitat compensation plan prepared unless it is the three page concept plan at the end of this document. Whether or not that qualifies as a "compensation plan" is unclear. To date nothing has been planted around the wetland.

### **Additional areas for improvement**

The Scoped EIS (Stantec, June 2014) noted Terrestrial Crayfish chimneys but did not comment on possible abundance in the feature. In fact, Stantec concluded that because the feature was small and the limited number of chimneys, that it would not be SWH. The subsequent EIS (November 2014) focused on the SWH issue, rather than relocation. Therefore, either the SWH criteria are insufficient as a determinate of species richness (likely) or a different approach (sampling?) is required when terrestrial crayfish chimneys are observed.

Scoped EIS determined thru incidental observation that there was no overwintering turtle habitat and no natural turtle nesting habitat. Yet turtles were found in the pond. (BTW, the basking log that was installed is now gone). It appears after the monitoring period, no adaptive management was

contemplated. This should be remedied perhaps by putting a longer warranty period on a re-created wetland.

It would appear that the standard work done in an EIS is insufficient for identifying existing biota in an existing wetland or for creating a new feature.

It also appears that the Marsh Monitoring Protocol is also insufficient for this type of exercise as it only establishes whether or not the habitat meets the SWH criteria for amphibians and determines diversity of species of frogs. It does nothing to identify salamanders or newts or populations of any amphibian species.

No one thought to mention the need for signage such as “No dumping of goldfish” and why

Parks planning work was scheduled after the move which disrupted some of the naturalization work done in the relocation. Further disruption to come as the paved pathway must still be installed, 6 years after the wildlife transfer. Construction timelines determine the pace of the wetland relocation project. This is problematic.

The subdivision fencing was put up after the relocation. This resulted in some residents mowing into the buffer/CFZ.

A fish salvage operation should be assumed to be needed. Stantec Nov 2014 indicated “if fish are present..., a fish salvage may be required prior to dewatering or grading...” The question left unasked is when would fish be noted as present?

Microbial communities play an important role in nutrient recycling. Microbial decomposition is an important factor in creating wetland ecosystems where fauna and flora will establish. Monitoring microbial indicators in response to nutrient loading, pollutants and redox potential is beneficial for wetland ecosystem management. We recall that benthic soil was relocated to 905 Sarnia. If this could be confirmed and implemented in the future relocations that would be good. Also if microbial communities are introduced in re-created wetland their presence could be used to measure wetland health as well.

### **Other**

The location adjacent to a Significant Woodland – were there alternatives?

- Did it change the amount of light vs the original location?
- Should it have been outside the Woodland buffer?