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## CONCERNS OVER

## WASTEWATER TREATMENT PLANT

## PROPOSED ERIN

### QUICK FACTS

- **Brook Trout:** The Erin Wastewater Treatment Plant is likely to cause significant adverse environmental effects on Brook Trout and their coldwater habitat in the West Credit River.
  - Brook Trout are a sensitive coldwater species that do not tolerate water temperatures greater than 19°C – 20°C for long.
  - Brook Trout spawning habitat lies immediately downstream of the effluent discharge.
  - The West Credit River is a tributary of the Credit River, considered to be one of the last remaining self-sustaining native Brook Trout populations in southern Ontario.
- **Oxygen:** An uninhabitable oxygen depleted effluent plume could extend several hundred meters downstream into sensitive Brook Trout nursery habitat.
  - As effluent and stream temperatures increase, Brook Trout have less oxygen available in the stream, and their metabolic demand for oxygen increases.
- **Ammonia:** Effluent ammonia limits are not consistent with federal guidelines.
  - Unionized fraction of Total Ammonia Nitrogen is highly toxic to fish and aquatic life.
  - As water temperature and pH increases, so does toxicity of ammonia on Brook Trout.
- **Chloride:** Average predicted concentration of chloride at the point of discharge will be over four times the chronic guidelines and within 80% of the acute toxicity threshold of the CWQG.
- **Climate change:** The Environmental Study Report (ESR) failed to address the influence of a warming climate on rising stream, effluent, ground and groundwater temperatures, and its thermal effects on Brook Trout and their coldwater habitat.
  - A 10% reduction in stream flow was applied to account for climate change but failed to consider its influence on effluent and stream temperatures.
  - Stream temperature is crucial given its influence on oxygen depletion, ammonia toxicity, and its critical importance to Brook Trout survival.
- **Brook Trout Upper Temperature Limits Exceeded:** The Thermal Assessment made a startling assumption that West Credit Brook Trout have acclimatized to water temperatures of 24.3°C – that's 5°C warmer than their upper tolerance and not supported by any studies.
  - Brook Trout optimum growth temperatures are between 13 and 16°C, upper incipient lethal temperature is 25.3°C, and the 7-day maximum mean tolerance temperature is 22.3°C.
- **Effluent Temperature:** All Agency staff agreed that a maximum effluent temperature compliance limit and design objective should be included in the ESR. That didn't happen.
  - Why weren't effluent temperature limits and design objectives required in the ESR?
  - A window into the answer lies in a 2017 Ainley Group comment, "*There is no economically feasible means to adjust effluent temperature*". There was no more mention of effluent temperature limits and objectives in the ESR after that statement.
  - A key 2018 MNRF request for effluent temperature modelling was not included in the ESR.
- **Thermal Assessment:** Used to assess the potential effect of effluent temperature on stream temperature. The ESR used narrow and weak assumptions with only one year of data in a particularly cool year that didn't accurately reflect the annual variation in sewage plant effluent temperature.

- **Municipal Class EA:** The ESR failed to adequately follow the MCEA process for municipal sewage and water projects in multiple ways as set out in the [Briefing Notes](#).
  - Scope of ESR was deficient in consideration of such an expanded population growth on stormwater run-off, increased hard surfaces, reduced groundwater infiltration, heat island effects and non-point source waste loadings on the West Credit River.
  - Failed to adequately consider the cumulative effects of such expansive residential and associated commercial growth on Brook Trout and their coldwater habitat.
  
- **Transparency and Traceability:** The clear intent of the MCEA process is to provide a transparent and traceable ESR that clearly explains and includes all information demonstrating how the proponent reached all decisions and outcomes.
  - Several key documents were not included in the ESR and crucial decisions failed to provide a clear, transparent and traceable path detailing why.
  - Every agency mentioned a need for limits and objectives. Yet in the end there were no requirements for effluent temperature limits and objectives. Why?
  - Along with so many unanswered questions, a crucial 2018 MNRF letter requesting climate change be considered, modelled, simulated and mitigated was not included in the ESR. Why was this not addressed? The [Briefing Notes](#) provide more detail on the many gaps.
  
- **Growth Capacity Underestimated:** The ESR does not limit the number of people connecting to the Erin WWTP, it only limits the discharge to 7,172,200 L/d.
  - A 380 L/d per person sewage flow was used to estimate the plant could service a population of 18,873, but actual sewage flows will likely be lower. We estimate 290 L/d/ per person is more reasonable and includes an infiltration allowance of 90 L/d/ per person.
  - This means the plant could actually service a population equivalent of 24,731.
  - This would mean an 550% increase from the current population of 4,500.
  
- **Underestimated Groundwater Impacts:** A large increase in population will result in a significant increase in groundwater pumping. Consequently, the spring fed coldwater habitat of the West Credit is likely to experience a reduction in base stream flow. Not addressed in the ESR.
  - Additional groundwater demand of approximately 59 L/s will likely cause the same loss in groundwater springs that currently feed the West Credit River.
  - Stream flow volume is crucial to dilution of effluent released at approximately 82 L/s.
  
- **Inadequate Public Consultation:** The MCEA clearly sets out mandatory requirements for public notification and consultation, and the Town of Erin failed to meet those requirements.
  
- **Lack of Comprehensive Notification:** The ESR's List of Public Contacts did not include directly affected riparian landowners, interest groups or downstream residents.
  - Did not notify established local environmental organizations of the project proposal.
  - Downstream residents in the Town of Caledon were not notified directly and no notices were published in the two Caledon newspapers.
  
- **Lack of Notification and Consultation:** Mandatory notification and consultation with riparian landowners at and downstream of the effluent discharge pipe did not happen.
  - Two riparian landowners, one abutting the effluent discharge pipe, and one across the river from it were not notified or consulted.
  - Another property owner on the east side of the West Credit River and directly affected by the effluent plume was not notified or consulted.
  - An informal survey of a total of 14 riverfront landowners between 10<sup>th</sup> Line and Belfountain revealed a general dissatisfaction with the lack of awareness of the project.
  
- **Next Steps:** Pursuit of a review under the federal Impact Assessment Act.