

# UYSS Fact sheet

## Key stats

UYSS EA looked at options to service growth in East Gwillimbury (EG) and Newmarket to 2031. EA was completed in 2014, Ministry review completed in 2016. Outstanding due to issues with consultation re: Georgina Island FN.

Basic facts: the UYSS would add 40 million litres per day of sewage to the East Holland River, near Lake Simcoe. It is a reverse osmosis facility.

## History

East Gwillimbury has a large amount of un-serviced but approved growth, much of it dating back to the 1980s and 1990s before the current planning regime. These are currently subject to holding provisions that cannot be lifted until the area is serviced by water and sewage.

A small part of Holland Landing is serviced by the Holland Landing Lagoons, which are approximately 2 million litres per day and provide inadequate treatment (primary treatment – just settling ponds) before releasing into the Holland River.

To service the approved growth, and crucially to take the lagoons offline, the Region looked at several options and rejected Lake Simcoe servicing numerous times for environmental reasons. Instead, in around 2007 it got approval for an extension of the York Durham Sewer System (YDSS or “big pipe”) which is discharged at Duffins Creek in Ajax into Lake Ontario. This has been built and is now online. The long term plan was always to service Newmarket and East Gwillimbury with water from Lake Ontario and return that water to Lake Ontario. York Region had permission to do an intrabasin transfer for the movement of water from Lake Ontario to Northern York Region that would be returned to Lake Ontario through YDSS. This was “grandfathered” when intrabasin transfers were later banned and capped at 379,000 Lpd. The region later applied for and got a significant expansion of its permission to do intrabasin transfer in 2010 to 105 million litres per day.

Initially – up until 2011 the UYSS EA was consistent with the historical approach. An assessment of alternatives found that a Lake Simcoe option was not feasible or environmentally responsible and a YDSS option was to be further assessed. However also around this time there was opposition to the current Big pipe expansions at duffins creek in Ajax. That expansion is still waiting for approval and has been in limbo for many years. Ajax would agree to the expansion if ballasted flocculation is used, which removes SRP from sewage more effectively than other treatment options. The region has refused to do this.

As a result of this impasse, it seems that the Region and the Ministry had some closed-door discussions where they decided to aggressively pursue a Lake Simcoe option instead. The terms of reference of the UYSS EA was amended to require further exploration of this option. It was in these meetings that they came up with the lagoon replacement argument (explained in further detail below). Ministry and Region officials have repeatedly confirmed that from 2011 onward they never seriously considered a Lake Ontario option, even though that was what the UYSS EA reports had recommended up to that point.

The UYSS project turned all of this history on its head by arguing for Lake Simcoe servicing, and a lot of the arguments in the UYSS EA completely contradict all of the previous EAs, wastewater master plans and intrabasin transfer proposals. Now, (as of 2016) the Region claims it will service Northern York Region with Lake Simcoe groundwater and that it will return equal amounts to the Lake Simcoe watershed. On this basis, they claim a water balancing benefit, but the numbers in the various master plans, EA documents etc. do not add up.

## Phosphorus

UYSS design is for 0.02 mg/L (TP annual average) x 40 MLD = 292 Kg of TP per year.

For reference the Lake Simcoe Phosphorus Reduction Strategy (PRS) aimed for around 7000 kg/yr total from wastewater.

Current Holland landing Lagoons are 30-60 Kg/yr total. UYSS would add approx 250 kg of additional TP annually **IF the 0.02 mg/L design criteria is met.**

However, York Region won't agree to this limit in its permit, it wants 0.06 mg/L to 0.08 mg/L (Monthly average) only. They say this is for operational flexibility but have failed to explain why they need this given the plant design. This could triple or quadruple the amount of TP that is released to (x3) 876 kg /yr. or close to a Tonne. These amounts also exceed the PWQO objective of 0.03 mg/L. **There was no assessment of the impacts of these amounts as the EA only used 0.02 mg/L.**

It is fairly clear that the 0.02 mg/L effluent amount is ambitious and represents a best case scenario, and is likely unrealistic as an annual average. No plant in Canada has achieved this level. It is highly unlikely that a lower level could be achieved at any time of the year to make up for "operational" increases on a monthly basis. We feel that what is likely is that the plant will release 0.06 mg/L give or take. It therefore represents a significant increase in phosphorus of 876 kg/yr give or take.

## Emerging contaminants

The UYSS EA did not deal with pharmaceuticals, microplastics or personal care products at all. There has been resistance to addressing this issue. The Region falls back on the fact that there are no Ministry limits or objectives for these contaminants. Despite pressure from the First Nation, and a recommendation from its own consultants in the health impact assessment, the Region has refused to seriously address potential sub-lethal aquatic impacts on fish and aquatic life.

In the past, the Ministry has stated that it lacks the analytical capacity to study the long-term effects on aquatic ecosystems from chronic, low level exposure to mixtures of PCPPs. Current risk assessment procedures do not address the implications of impairment at environmentally relevant concentrations nor do they consider chronic data.

The EA of the proposed undertaking contained no effluent characterization to characterize PCPP and CECs that might make their way into the sewage. There was no detailed assessment of the effectiveness of the proposed technology for removing constituents expected to be found in the effluent. There was no ecological risk assessment of the cumulative effect of adding a considerable amount of additional effluent to Lake Simcoe through the UYSS to the existing effluent from other sewage treatment plants around the lake. Although the EA report claims the proposed technology will be as effective as others, there is no proposed monitoring regime to ensure that this is the case and the claims about levels are

not substantiated by technical studies or tests of the pilot plant. The Ministry has no plan for managing cumulative effects as sewage effluent continues to expand around the watershed. The Region conducted a further study in November 2018 which recommended further research on both health and sub-lethal aquatic impacts from emerging contaminants. No such study is planned.

### Other issues and policy issues

A variety of other issues are not addressed in the UYSS EA (see alleged benefits below).

#### Duty to consult

The decision to use a Lake Simcoe option was made in a closed-door meeting between the Region and the Ministry just as the LSPP came into place. Together they decided to proceed with a Lake Simcoe option and argue it was a replacement (see alleged benefits below). Prior to 2011, the First Nation was advised that a Lake Simcoe option was not on the table and would not be carried forward.

The First Nation cannot be adequately consulted by providing partial information on TP, emerging contaminants and other issues – as it is impossible to understand the impacts on their constitutionally protected fishing rights. Requests for adequate funding to peer review reports in the UYSS have been denied.

Beyond the technicalities of the project, the First Nation has a spiritual connection to Lake Simcoe and beliefs that require that the Lake must not be polluted, or it will be damaged as a living being. These also need to be considered.

#### Expansion

If approved the UYSS EA would allow the Region to expand the UYSS to even higher volumes potentially without any further EA, due to unlawful approval conditions that circumvent the EA Act. York Region has confirmed that they intend to further expand the UYSS. MOE previously agreed these had to be removed, but they have not been removed to-date. The scope of future expansion is unclear. Once the new plant is approved, it can be expanded in compliance with the LSPP.

#### Illegal water quality trading regime

The Lake Simcoe Protection Plan required a feasibility study into water quality trading. This study recommended a transparent process was essential to any water quality trading regime. In 2010 the Ministry determined it would not move forward with water quality trading and that there would be further stakeholder consultation before any water quality trading program would be put in place in Lake Simcoe under s.75 of the *Ontario Water Resources Act*. York Region is not prescribed as an area to which water quality trading applies pursuant to s.75(1.7)(a) nor is phosphorus prescribed for the purpose of 75(1.7)(b) of the Act. No such regulation has been prescribed and no consultation of this nature has occurred. Accordingly the Ministry approval of water quality trading in phosphorus by York Region with lower-tier municipalities is inappropriate and premature.

After growing impatient with this process, the LSRCA has also proceeded to pursue a water quality regime without any statutory authority to do so. The development approval regulation requires that development only be approved where pollution will not be affected by the development.

Whatever your views on water quality trading, it should only be done lawfully and through a public and transparent process – as was recommended back in 2010. The UYSS would undermine this by allowing water quality trading to happen in environmental compliance approvals on a case by case basis with no public consultation or accountability.

## Alleged benefits

### Offsetting

Offsetting – the UYSS justifies the 292 kg/yr of TP by proposing to offset estimated TP increases that are above the existing permit limit for the lagoons (124 kg/yr). Note that this is only a partial offset, because it does not take into account the fact that the lagoons usually only release 30 kg/yr. The total proposed offset is 504 kg/yr. They call this a 3:1 ratio – using the 168 kg yr ( $292 - 124 = 168$ ;  $168 \times 3 = 504$ ) The actual ratio is 1.7 if you take into account the entire 292 amount. **If you use the actual proposed permit limits, the offset is only a partial offset, with net increase in TP looking more like 350+ kg/yr.**

The increased ratio is supposed to address the fact that the efficacy of the offsets is uncertain. MNRF said it was “unproven” and that the utility of stormwater offsets to address increases in TP from the project was very uncertain. MNRF staff reviewing the EA said the aquatic impacts on the Holland river were unknown.

Initially, the offsets were supposed to be put into the Environmental Compliance Approval limits, which were to be limited to 124 kg/yr but York Region has now argued that only the 292 kg/yr has to be in there. This means there is no enforceability or accountability for the performance of the offsets. York Region will also not own or operate any of the offsets. None of the proposed conditions for the UYSS facility provide any contingency plan for addressing inadequate offset performance. In other words, once the facility is approved, we are stuck with it even if the offsets don't work.

There are two other problems with using stormwater offsetting:

First, it is unclear if the same type of phosphorus will be removed. Sewage contains higher levels of SRP than stormwater, so it is difficult to compare P that is removed from stormwater to P from sewage.

Second, the Lake Simcoe Protection Plan and PRS already require improvements to stormwater to meet the targets in the Plan. For example Policy 4.5-SA requires identifying stormwater retrofit opportunities in existing developments. Thus the offsets would be part of a program that was supposed to take place even if the UYSS is not built. These improvements should not be used to facilitate increases in TP elsewhere, if this approach is relied upon then the ability to meet the targets in the plan is even more in question. For example, the Lake Simcoe Region Conservation Authority predicted that there would be residual 4.6 T/yr of TP added as a result of growth in stormwater loads by 2031 after the best available phosphorus removal technology is applied. The target reduction for phosphorus from urban stormwater in the East Holland River subwatershed is already 7,415 kg/yr.

There is no proposed maintenance or monitoring program for the offsets. Ministry staff commented on the EA saying that the EA “does not elaborate on mechanisms for monitoring the actual performance of the proposed TP offsetting strategy....a specific monitoring program needs to be developed.”<sup>1</sup> Ministry

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<sup>1</sup> Edgar Tovilla to Lorna Zappone, January 15, 2015 at p 3.

staff called the TP offsetting “unproven” and suggested third party monitoring.<sup>2</sup> The Ministry ignored this and proposed to approve the EA anyway.

#### Decommissioning the lagoons

Since 1997 the Region has planned to decommission the lagoons and connect northern York Region to the big pipe. In 2007 the province approved the Holland Landing Queensville, Sharon Wastewater infrastructure Class EA, which permitted the extension of the YDSS (or big pipe) north of Newmarket. The stated rationale was that approved growth should not be serviced by a Lake Simcoe Discharge. This conclusion was confirmed again in the region’s wastewater master plan update in 2009. This EA also rationalized the existing intra-basin transfer between Lake Ontario and the Lake Simcoe watershed. A key rationale for the YDSS extension was to decommission the Holland Landing Lagoons. Since 2005 York Region has planned to keep YDSS capacity in reserve to decommission the Lagoons.

The YDSS extension is now built and is online.

In 2016 the York Region master plan changed its tune completely, and stated that the lagoons would be kept online until the UYSS was built. East Gwillimbury immediately protested this move, and asked that the lagoons be decommissioned using the reserve capacity in the YDSS. In response the Region stated:

“No new water resource recovery facility is permitted in Lake Simcoe watershed. Maintaining operation of the Lagoons is required prior to implementation of the Water Reclamation Centre in order that the Water Reclamation Centre is regarded as a “transfer” of permit, not a new facility.”<sup>3</sup>

In other words, York Region has decided to forego using reserve capacity in the YDSS in order to try to fit the UYSS into the definition of a replacement facility in the Lake Simcoe Protection Plan. This unreasonably keeps the lagoons online until the UYSS is built, causing environmental harm.

The Lake Simcoe Protection Plan prohibits new sewage treatment plants:

- 4.3-DP** No new *municipal sewage treatment plant* shall be established in the *Lake Simcoe watershed* unless:
- a. the new plant is intended **to replace an existing *municipal sewage treatment plant***; or
  - b. the new *sewage treatment plant* will provide sewage services to,
    - i. a *development* that is on *partial services*, or
    - ii. a *development* where one or more *subsurface sewage works* or *on-site sewage systems* are failing.

York Region argues that the UYSS “replaces” the lagoons but this argument is artificial as the lagoons were already replaced through an approved EA for built infrastructure.

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<sup>2</sup> Ibid at pp 4-5.

<sup>3</sup> <https://www.york.ca/wps/wcm/connect/yorkpublic/8b7b1a50-3bde-4272-84bc-0ed5e9baf48/jun+9+water.pdf?MOD=AJPERES> Attachment 4, #11, p.2 – comments from Town of East Gwillimbury on UYSS

In any event, the current lagoons are only 1.36 MLD in capacity while the UYSS would be 40 MLD. It is not plausibly a “replacement” of the lagoons given that it is an order of magnitude larger. It cannot even comply with the existing TP cap for the lagoons of 124 kg/yr. Ministry staff have backed away from claiming that the UYSS is compliant with this policy saying only that it “meets the purpose and intent” of the LSPP as a whole.

#### Will improve water quality in East Holland River

The UYSS would discharge into the East Holland. Currently the River is heavily impacted by TP. The summer peak is 0.2 mg/L the Provincial Water Quality Objective is 0.03 mg/L. Using the 0.02 mg/L figure, the EA argues that the water quality would be improved in some seasons. However if the actual effluent is 0.06 or 0.08 mg/L then it will be higher than the PWQO. This is contrary to the LSPP’s objective of achieving the PWQO.

There is no monitoring or adaptive management plan in the EA should water quality deteriorate as a result of the UYSS.

#### Water balancing

One of the alleged benefits of a Lake Simcoe option set out in the UYSS EA is that it would keep water within the Lake Simcoe Watershed, compared to a Lake Ontario outfall. However, the water balancing information is not contained in the UYSS EA. We have corresponded with the Region and the Ministry several times asking how this can be true given York Region’s well-documented plans to increase water servicing from Lake Ontario. After several years of such correspondence, no water balancing figures have been provided.

The UYSS EA, several master plans, and the Region’s intra-basin transfer approvals indicate that water servicing planned for Northern York Region is primarily from Lake Ontario, with limitations on groundwater and well capacity in the Lake Simcoe watershed. Any expansion of drinking water from Lake Simcoe would have to be subject to an EA (which has not occurred). **Without this information not only are there no clear water balancing benefits, but the UYSS could result in an intra-basin transfer from Lake Ontario to Lake Simcoe of up to 30 billion litres per year.**