

Aqua Bounty – Questions and comments for CLE response/information

Groundwater/water usage

- Please provide details on how the pumping of groundwater at the maximum rate for an intermittent and/or extended period of time could potentially affect groundwater in the area and what the area of impact could be.
 - The potential groundwater impact of the extraction will not affect the availability or quality of groundwater of nearby well owners. The groundwater extraction will create a drawdown cone around the well field; however, the pumped groundwater will be returned to the stream. The drawdown is largest immediately adjacent to the well field, getting smaller progressing out from the well field. At a distance of 300 m from the well field, the drawdown is almost immeasurable. The Groundwater Extraction Permit also requires water to be discharged 300 m upstream of the facility to maintain average natural baseflow in the stream. This will provide some groundwater recharge back to the impacted area. The closest domestic wells are located further than 300 m from the center of the well field, and therefore, the impact on the domestic wells is even more limited.

- We are concerned that pumping might occur for an extended period of time in the event of a RAS failure. We request that the pumping rates of the facility be made available to the public.
 - Permitted pumping rates are public information and are available online on the government website at:
(https://www.princeedwardisland.ca/sites/default/files/publications/highcapacitywell_extractionrate_summary.pdf.)
 - Actual pumping rates by a permit holder are often less than the maximum rate allowed under the permit. Current practice is that rates of water actually pumped at any given time by a permit holder are not available to the public for any Groundwater Extraction Permit holder. Should this change in the future, pumping rates for Aqua Bounty would be included.

- Can government confirm that GW quantity and quality will not be impacted? If not what is recourse in the event of an impact?
 - An assessment of groundwater impacts by Dept. experts, historical pumping by the previous facility owner, and the pump test conducted in 2016 indicate that the impact to the closest adjacent wells will be minor. Further away, impact to wells will be immeasurable. In either case, predicted impacts would not affect the operation or the availability of water from these wells. Groundwater quality is unaffected by extraction (i.e., pumping) and no degradation of groundwater quality is anticipated. Regulation is clear that in the event of an adverse effect, the holder of the extraction permit is liable.

- We have experienced impacts (dirt/sediment in our water) which we believe may have been related to GW usage by the golf course during a dry summer. What will be the impact of the additional GW usage on our GW resource?
 - Dirt/sediment in a well is not related to pumping in nearby wells, but to the characteristics of the well experiencing sediment problems. Therefore, no impacts are anticipated. Also, the current proposal is much less water use than the previous owner's water use. Thus, there will not be additional groundwater use.
- Will AB be obligated to pay for testing of residents wells for parameters chosen by the residents? Will AB be obligated to pay for drilling a new well(s) for a resident(s) in the event of water quality issues?
 - Aqua Bounty will not be required to pay for well testing as there are no impacts upon groundwater quality expected. Aqua Bounty would be required to address a problem with water quality for a resident should it be proven that they are responsible for the issues.
- If the RAS were to fail and equipment/replacement parts were not readily available, what will be the impact on nearby residential wells if a flow through system operates while the RAS is down?
 - No impact is expected as Aqua Bounty will have to stay within its permitted limits
- If the RAS is down for an extended period of time, is AB obligated to lose fish in order to prevent jeopardizing residents wells? Will they strictly adhere to their pumping rates in this instance?
 - Aqua Bounty will still have to stay within its permitted rates.
- Will AB be able to apply for an increase in water usage in the event of an RAS failure?
 - Any permit holder can always apply for an increase in water usage; however, this in no way suggests that permission for such an increase would be granted.
- With the current GW extraction permit, our calculations indicate that AB can draw 9 million litres of water per day over a month period and over 13,000,000 litres in a 24-hour period. Are these figures correct? Does the maximum pumping rate allowed apply to all 4 wells in total? How often will AB be allowed to pump at the maximum rate – once a week, month, year?
 - Yes, the figures are correct. The maximum allocation applies to all of the wells in total. Pumping is allowed at the maximum rate for 24 hours. This can be repeated only as long as they stay within the monthly permitted rate. Should they pump continuously at the maximum rate of 2,000 igpm, they would have to cease pumping after 21 days. They would not be able to resume pumping for an additional 9 days.

- Please provide supportive data that there will be no short or long-term impacts on residents' water quality.
 - Groundwater quality is affected by the introduction of contaminants and by the interaction with the bedrock of the aquifer. Groundwater withdrawal does not affect groundwater quality.
- Is AB required to self report or will there be unscheduled inspections by CLE? What are the consequences for exceeding the pumping rate?
 - As is typically required of Groundwater Extraction Permit holders, Aqua bounty will be required to report their water use to CLE. CLE has the authority to carry out unscheduled inspections. Exceeding their permitted pumping rate would result in the DCLE initiating compliance procedures.
- The project should be put on hold until the *Water Act* is in place. What regulations will water usage for the new facility fall under? If the *Water Act* was in place, what additional restrictions would be placed on AB? What regulations are in place to ensure groundwater protection?
 - It is not appropriate to stop all issuance of new Groundwater Permits and related development until the *Water Act* is passed. It is not known what additional restrictions might be placed on Aqua Bounty. These would be dependent upon any changes in groundwater protection policy and adoption of future regulations.
 - Currently, the Groundwater Extraction Permit held by Aqua Bounty is issued under the *Environmental Protection Act* Water Well Regulations and the Water Extraction Permitting Policy. These ensure that adjacent well owners are not affected and that water flow for aquatic life is maintained in Island streams.
- If the RAS fails and AB switches to groundwater, are the amounts on the 2016 permit grandfathered in or do they have to apply for a new permit since plans have changed substantially?
 - Aqua Bounty is required to comply with their Groundwater Extraction Permit conditions regardless of RAS status.
- Do the results of the pump test fail the provincial GW extraction policy and, if so, is this the reason for the requirement to pump upstream?
 - Yes, the results suggest that the rate of extraction reduces water flow up-stream of the wells to levels that fall below those required by Department policy. The introduction of water to the stream up-stream of the wells makes up for the water lost from the stream by pumping.
- Once the *Water Act* is in place, will there be an impact upon AB regarding water usage?
 - They would be expected to have to comply with any new regulations or policy, whatever they might be.

- Will there be limits on the frequency and duration of any switch to a groundwater flow through system?
 - No. It is not the switch to flow through that is the trigger for limits. Rather, it is the actual amount of water being withdrawn. Once sufficient amount of water is withdrawn (approximately 19 igpm), as required by their permit, Aqua Bounty must mitigate impact by pumping discharge upstream of their facility. Overall, regardless of the system being used, Aqua Bounty must stay within the limits of their Groundwater Extraction Permit.

- Please describe the controls that will be in place to ensure adequate water volume and quality for fish and humans?
 - All water use and effluent discharge will be metered and reported to the public.

- If contamination of Rollo Bay impacts on groundwater or odours become issues, what measures are in place to remedy these problems? What will be the province's response? It is not acceptable for individual property owners to be responsible - will the province be responsible or AB?
 - If there are unacceptable and unforeseen impacts any Approval or Permit can be modified or revoked. Alternatively, an Environmental Protection Order can be issued. Aqua Bounty will be responsible to address any unforeseen unacceptable impacts.