

January 21, 2021

File: 11-5231-01/21

Lina Azeez
Watershed Watch
#75, 210-128 West Hastings St.
Vancouver, BC V6B 1G8
Sent via email: lina@watershedwatch.ca

Dear Lina Azeez:

Re: Approval of Non-Fish Friendly Flood Infrastructure

Thank you for the letter prepared by Daniel Cheater at Ecojustice, dated December 3, 2020, outlining Watershed Watch's thoughts on pump replacement considerations for the Kennedy Road Pump Station in the City of Pitt Meadows (the City). Input from the community and other interested groups is always appreciated and your letter has been carefully considered by City staff and our environmental consultant on this project.

Based on the December 3, 2020 letter, we understand Watershed Watch's key opinions for the City to install fish-friendly pumps at the Kennedy Road Pump Station are:

1. Installing standard pumps could contravene the prohibition against harm to fish without prior permits or approvals, as outlined in s. 34(1) of the *Fisheries Act, RSC 1985 (Fisheries Act)*.
2. The prohibition of transporting invasive species outlined in the *Aquatic Invasive Species Regulations, SOR/2015-121 (Regulations)* should not be a focus since the surrounding waterbodies already host the same invasive species found within the City's drainage network.
3. The City's interpretation of the *Regulations* prohibiting transportation of invasive species was developed after staff voiced concerns about the high cost and cost overruns of installing fish-friendly pumps at the Pitt Polder Pump Station; therefore, budget and schedule are the primary reasons for the decision.
4. Installation of fish-friendly pumps for the Pitt Polder Pump Station is evidence that the same pumps can and should be used for other drainage areas within the City.

In response, we would like to first emphasize that the City and its staff are committed to responsibly protecting and managing our environment. Our Official Community Plan and our Strategic Plan outline several relevant policies and strategies that are used to guide decision

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making on all projects and initiatives across the City. Further, City staff and qualified consultants provide evidence-based and experience-based recommendations to Council. Therefore, the options for drainage pump replacement were carefully reviewed in relation to a wide variety of factors, including site-specific considerations, available data, relevant best practices, and the City's plans and policies. City staff spoke with Katzie First Nation staff on January 14, 2021 regarding this topic.

In response to the opinions outlined in the December 3, 2020 letter and summarised above:

1. Potential contravention of the *Fisheries Act*

City staff believe the proposed pump replacement plans satisfy the City's obligations under the *Fisheries Act* and other relevant Federal and Provincial statutes. City staff have discussed these statutes and various potential solutions with our environmental consultant, plus staff from the Department of Fisheries and Oceans (DFO) and the Ministry of Environment and Climate Change.

The available fish data for the drainage area served by the Kennedy Road Pump Station, and several of our other drainage areas, show a high density of invasive species, very low numbers of salmonid fish and no species-at-risk. For example and as outlined in the attached environmental memo, three salmonids were recorded during the spring 2011 fish sampling in the north Katzie Slough after 3000 hours of trapping. This is the only recorded evidence of salmonid presence in the north Katzie Slough in the past 15 years. Similarly, multi-season, multi-year fish trapping in Cranberry Slough, which also feeds into the Kennedy drainage area, has not found any salmonids at any time of year.

Surveys of water quality and habitat conditions in the drainage areas indicate the drainage watercourses are generally inhospitable to native fish species, while invasive species are able to breed and persist. In this context, the relative risk of harm or death for native fish species by using conventional pumps is low compared to the higher risk of transporting significant amounts of invasive species to areas outside the managed system using fish-friendly pumps.

Staff understand that replacement of the current pumps with like-for-like does not require authorizations or permits from senior government as it is considered maintenance of our protective flood management infrastructure. We recognize further improvements to the screening and associated infrastructure could further enhance fish protection and the City will consider changes, where evidence indicates it is appropriate.

The current Kennedy Pump Station has two rows of debris screens, which stops debris from entering the pumps and causing damage or failure. These screens **may** also deter fish from entering the area. To lower maintenance, improve efficiencies and minimize the chance of pump failures, the **City plans to upgrade the existing debris screens at the pump station. This scope is budgeted for 2022,** around the same time as the pump replacement. The **upgraded screens are designed to have smaller openings,** which would further help prevent fish from entering the pump area, mitigating harm from the conventional pumps. Once implemented, City staff will continue to review and monitor the performance of the screen-clearing system and identify if further modifications are necessary.

2. Surrounding waterbodies already host the same invasive species and interpretation of the Regulations

As outlined above, City staff understand there is an abundance of invasive fish in the City's various drainage watercourses. Operating fish friendly pumps in these drainage areas would, therefore, actively transport invasive species and potentially further impact native species in those rivers through increased predation, competition, and pathogens.

Further, the *Regulations* (including the more restrictive British Columbia *Wildlife Act – Controlled Alien Species Regulation*) do not offer an exemption for situations where the invasive species are already present. **Pumping live invasive species from the drainage watercourses into the Pitt, Fraser, or Alouette Rivers could adversely impact the ecology of these rivers and be construed as a contravention of the Federal and Provincial legislation.**

Transporting invasive species into surrounding rivers will remain a concern to the City until such time that invasive species can be effectively managed, habitat conditions in the drainage areas better support native species, and evidence demonstrates that the benefits outweigh the associated risks.

3. Timing of interpretation of the Regulations and concerns around costs of fish-friendly pumps

Many factors went into the decision for the pump replacement at the Pitt Polder Pump Station, similar to the options weighed for the Kennedy Pump Station. Federal and Provincial regulations, environmental impacts, capital and operating costs, past experiences, compatibility, proven technologies and more were taken into account.

The Pitt Polder Pump Station was a complete replacement of the pump station, all the electrical and mechanical components and significant dike upgrades that have **cost almost**

\$10M and more than four years to implement. For comparison, the Kennedy Pump Station project scope includes removal and replacement of the pumps themselves, as they are beyond their lifespan and the risk of failure continues to increase. As described earlier, the screens at the Kennedy Pump Station will be upgraded around the same time.

Aside from providing little benefit at this time, there is a substantial cost increase for fish-friendly pump systems (approximately \$1.2M versus \$600k for conventional pumps at the Kennedy Pump Station). The **City also learned quite a bit** through the Pitt Polder Project regarding the complexities of procuring and transporting the fish-friendly pumps from overseas and took on the risks of the pumps being deficient or damaged upon arrival to site.

Staff did consider the issue of transporting invasive species when evaluating the options for replacing the pumps in the Pitt Polder Pump Station. The environmental conditions in that drainage area are different from the Kennedy drainage area. The Pitt Polder drainage area is fed by natural mountain streams that provide higher quality water and flows, resulting in a higher potential for supporting native species and associated habitat.

In the end, fish-friendly pumps were supported for the Pitt Polder Pump Station because environmental review supported their use for the above reasons and their design requirements could be accommodated during reconstruction of the entire station. **Fortunately, grant funding was available to offset a portion of the City's costs.** While not insignificant to a small community like Pitt Meadows, the higher cost of fish-friendly pumps was not the over-riding consideration in decision-making, but was one of many factors taken into account.

4. Precedent of fish-friendly pumps at the Pitt Polder Pump Station

As discussed above, each drainage area in Pitt Meadows has different characteristics that affect the feasibility and potential for different infrastructure options. When reviewing options, staff take an evidence and experienced-based approach to evaluating those options on a case-by-case basis.

For example, water quality and fish sampling surveys have been conducted over the years have increased our understanding of the relative conditions of the City's streams, drainage watercourses, and sloughs. In the case of the Kennedy drainage area, there are large numbers of invasive fish with very little salmonid presence. Additionally, the habitat potential and the water quality is very poor, with low dissolved oxygen content and high temperatures in the summer and fall months. These findings are somewhat different than what was identified in the Pitt Polder drainage area. Having said that, ongoing monitoring and data

collection will help to evaluate the changing conditions in the internal watercourses over a long period.

Other Considerations

There are also other considerations for assessing the impacts and relative benefits of different options, including costs and public safety. Compared to standard pumps, fish-friendly pumps are significantly more expensive, require rebuilding portions of the accompanying pump station infrastructure, and require the City to stock a larger inventory of spare pumps and parts. By storing and maintaining a larger set of spare pumps and parts in order to be prepared for the possibility of equipment failures during a high flood event, as there are no known local suppliers for fish-friendly pumps and parts, fish-friendly pumps place a higher tax burden on the community. The technology's reliability and required maintenance are not well known and we are hoping to learn more from the recent Pitt Polder Pump Station project, to help build this understanding. Installing fish-friendly pumps at the Kennedy Road Pump Station seemed unreasonable given the environmental issues that would need to be addressed across those drainage areas before fish-friendly pumps would have a demonstrable ecological benefit and the higher associated costs and additional risks as discussed above.

Other solutions to provide fish with safe access between the City's drainage watercourses and external waterbodies are also possible (e.g., fish ladders). Most of these can be complementary to use of conventional pumps with appropriate screening and can be economically retro-fitted once a plan is in place to improve habitat quality and manage invasive species. In comparison with many of the other options, fish-friendly pumps appear to be best suited for watercourses that have continual flow and already have high quality habitat for native/salmonid species.

Please refer to the attached memo for more information around the environmental considerations.

As you are aware, the City has commissioned an Environmental Inventory and Management Strategy (EIMS), which should be finished in early 2021. The collected data, analysis, and recommendations from the EIMS and other environmental studies will be used to inform future environmental initiatives and investment by the City, Katzie First Nation, stakeholders, and partner organizations.

City staff are always open to receiving ideas for improving our environment and appreciate your input. Fish-friendly pumps are not the optimal solution for the Kennedy Road Pump Station. Instead, the City will continue to investigate and plan for alternative solutions that are feasible and achieve the same objectives of improving public safety, environmental quality, supporting native/salmonid species, and balancing the needs and goals of the community, Katzie First Nation, and our partners.

Sincerely,

Samantha Maki

Samantha Maki, P.Eng.
Director of Engineering & Operations

Encl: ISL Environmental Memo by David Neufeld dated January 6, 2021

cc: Pitt Meadows City Council
Chief Grace George, Katzie First Nation
Mark Roberts, CAO, City of Pitt Meadows
Anne Berry, Director of Planning and Development, City of Pitt Meadows
Randy Evans, Manager of Operations, City of Pitt Meadows
Colin O'Byrne, Project Manager of Community Development, City of Pitt Meadows
Kimberly Armour, Referrals Manager, Katzie First Nation
Department of Fisheries and Oceans
Daniel Cheater, Barrister & Solicitor, Ecojustice
Mike Pearson, Pearson Ecological



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January 6, 2021
Our Reference: 32429

City of Pitt Meadows
Engineering & Operations
12007 Harris Road,
Pitt Meadows, BC V3Y 2B5

Attention: Samantha Maki – Director of Engineering & Operations

Dear Madam:

Reference: Ecojustice Letter to the City of Pitt Meadows Regarding Fish-Friendly Pumps - Fish and Fish Habitat and Issues in Katzie Slough

1.0 Introduction

ISL Engineering and Land Services Ltd. (ISL) was requested to review a letter submitted by Ecojustice, on or about December 3, 2020, to the City of Pitt Meadows. The letter was entitled *Approval of Non-Fish Friendly Flood Infrastructure* and appeared to offer opinions on risks and appropriateness for installing fish friendly pumps at the Kennedy Pump Station. ISL was asked to provide a response given our long history with infrastructure, channel vegetation maintenance, studies, and environmental regulatory review processes we have undertaken in this managed drainage and in managed drainages elsewhere.

2.0 Qualifications of the Assessor

This letter was written by David Neufeld, R.PBio., P.Biol., B.Sc., Dipl. Tech. Mr. Neufeld has over 22 years' experience as an environmental consultant, and prior to his consulting career worked for Environment Canada (EC) – Contaminants Control Group and Fisheries and Oceans Canada (DFO) – Stock Assessment Group. During his work with EC he undertook investigations of the lower Fraser River identifying pollution risk from industry. His work with DFO involved coho intensive-extensive surveys as well as chinook salmon population surveys in the Harrison River.

Mr. Neufeld's consulting career commenced as a fisheries field biologist during the 1990's and he has expert level experience completing fish-stream identification and classification Coastal British Columbia through Vancouver Island, the mid-coast, including what is now known as the Great Bear Rainforest and Haida Gwaii. In addition, Mr. Neufeld has assessed thousands of stream reaches as part of 1, 20,000 Fish and Fish Habitat Inventory assignments and during 1, 5,000 Fish Stream Classification assignments. Mr. Neufeld has completed numerous Level 1 Fish Habitat Assessment Procedures in BC in advance of developing prescription and plans for fish habitat restoration projects, offsetting plans, and habitat compensation plans pursuant to the federal *Fisheries Act*, provincial *Water Sustainability Act*, *Species at Risk Act* and *Canadian Environmental Assessment Act*.

Mr. Neufeld has worked with generations of senior regulators and has worked with most Lower Mainland local governments. He is well aware of the varying conditions in each municipality with respect to habitat capabilities, practices, and decisions by senior regulators with regards to drainage management in those areas. The author has experience working in projects within Katzie Slough since 2005. He was also the

project biologist on the Area 4 Pump Station (Pitt Polder Pump Station) and has insight into the design and permitting environment related to that station.

3.0 Review Focus

ISL's review considered eight ecological, operational or environmental management issues pertinent to analyzing suitability of fish passage technology:

1. Invasive Species Presence, Abundance and Risk
2. Species Use with Katzie Slough and Subsidiary Cranberry Slough
3. Water Quality
4. Area 4 Pump Station
5. Federal Fisheries Act and Drainage Practices in the Lower Fraser
6. Pump Technology and Alternatives
7. Restoration Feasibility and Sequencing
8. Environment Restoration Planning

Consideration of these issues is considered to be important to discussions and decisions on appropriateness of fish friendly pumps at the Kennedy Pump station in Katzie Slough.

3.1 Invasive Species Presence, Abundance and Risk

Invasive species are present through many watercourses in the Lower Mainland. This fact is raised by Ecojustice as a reason that the City should not be concerned about moving invasive species from the managed condition inside the dikes, to the ambient environment outside of the dikes.

Equating presence of aquatic invasive in both the ambient and managed condition as equivalent condition and negating risk regarding these invasive species, is not appropriate as it fails to consider:

- invasive species population level risks;
- invasive species density dependent risks;
- aquatic invasive amphibians;
- invasive plant growth, distribution and management concerns; and,
- current drainage management that reduces the above-noted risks.

Further, the provincial Controlled Alien Species Regulation (CASR) identifies BC Waters as:

a ditch;

any of the following that may leak, drain or empty, directly or indirectly, into any part of a body of water, fish habitat, stream or ditch.

a storm drain, sewer or other artificial conduit;

The CASR also clearly prohibits:

Release into BC waters an aquatic invasive species individual, or

Allow an aquatic invasive species individual to be released, or to escape, into BC waters.

Release and escape are not defined in the Regulation or Act. Clearly watercourses reaches within the managed system are of a different characteristic than stream reaches outside of the managed system. As such, there is a reason for the City to be concerned about worsening conditions outside of their maintained system through inadvertent release or escape of controlled alien species and other aquatic invasive species.

Senior level legislation (*Wildlife Act*), supporting policy material, and fish sampling permits issued to the author (by the province) appear to take a less sanguine view of aquatic invasive species management and risk. These Acts, policies and permit requirements do not protect aquatic invasive and indeed when permits are issued there are requirements that upon capture of certain invasive species they are to be euthanized and not transported in any manner. It is difficult to reconcile the province's position on aquatic invasive management to the conclusions in the Ecojustice's letter. Clearly there is a management issue of concern for the province. It is understood that Fisheries and Oceans Canada (DFO) shares these concerns.

3.2 Species Use with Katzie Slough and Subsidiary Cranberry Slough

ISL has been working on various infrastructure, drainage management, invasive instream vegetation maintenance, flood protection, bridges, stormwater sampling, private development and peer review projects in south Katzie Slough and north Katzie Slough (Cranberry Slough) for 15 years. Through this work the author has collected fish sampling and water quality data the City has commissioned through ISL, and has also reviewed work by others.

Katzie Slough has been found to support a low abundance and diversity of native fish and an increasingly diverse population of invasive species, some of which (i.e. weather loach) are designated Controlled Alien Invasive Species. When found, salmonids are found in extremely low abundance and ISL has only sampled salmonids in the South Katzie Slough system (south of Meadowtown Mall) in the winter, spring and occasionally into early summer.

Multi-season and multi-year fish trapping effort in Cranberry Slough (a subsidiary drainage to Katzie Slough and north of Old Dewdney Trunk Road) has not captured salmonids at any time of the year. Recent, (May 2020) trapping in Cranberry Slough caught an extraordinary abundance of weather loach, along with less abundant brown bullhead, naturalized goldfish, pumpkinseed, and smallmouth bass. The native species that have been captured include three-spine stickleback, sculpin and northern pikeminnow, but these coarse fish are not known to be of a conservation concern.

Bullfrog neonates are commonly encountered.

The only record of salmonid presence in north Katzie Slough is from efforts by Scott Resource Services Inc. (SRS) in 2011. During their spring investigation SRS, sampled 3 coho salmon pre-smolts in the north Katzie Slough (west of Harris Road to the railway bridge south of Lougheed Highway). SRS utilized over 3000 trap hours to capture these 3 fish in that area.

3.3 Water Quality

The ability of salmonids to enter and rear in the managed sloughs is based on the floodbox/flapgate operational conditions. The ability of Katzie Slough and Cranberry Slough to support salmonid rearing is limited by poor water quality. Water quality deteriorates precipitously in the late spring as solar insolation increases, instream aquatic growth intensifies, and the Biological Oxygen Demand (BOD) associated with plant respiration and decay or plant materials intensifies.

Eurasian milfoils (*Myriophyllum spicatum*) and reed canary grass (*Phalaris arundinacea*) have long been established in Katzie Slough, and these invasive weeds and grasses have been associated with inordinate organic inputs to the slough. More recently the invasive plant Parrot's Feather (*Myriophyllum aquaticum*) has become established in Katzie Slough and the excess build-up of these species not only the ecology of the slough, but also the ability of the Pitt Meadows Drainage Operations crews to maintain the agricultural drainage and flow conveyance within this managed system.

Water quality is the ecological limiting factor in the sloughs. This poor water quality is clearly associated with problematic build-up of invasive plant material. The City has been trying to manage the drainage aspects of this excessive invasive plant material. The current non fish friendly pumps are not the ecological limiting factor. It is unclear to the author, given the well-known invasive plant management issues and associated water quality issues in the sloughs what the installation of fish friendly pumps would actually do to improve salmonid rearing conditions in the sloughs.

3.4 Area 4 Pump Station

Fish friendly pumps were installed at the Area 4 Pump Station. This decision is cited by Ecojustice as a precedent for using fish friendly pumps at the Kennedy Station. Area 4 and Katzie/Cranberry Sloughs appear to be superficially the same (i.e. diked, managed agricultural lands). The ecological circumstances that led to a decision to use fish friendly pumps at Area 4 are not the same as in Katzie Slough. In Area 4 ISL identified viable headwater stream and watercourse reaches that emanate from nearby hillsides. These watercourses and stream reaches had acceptable dissolved oxygen and temperature and represent potential refugia that salmonids could utilize for potential rearing throughout the year, and potential spawning in the spring and fall.

Katzie Slough does not have headwater streams with sufficient velocity or substrate to support salmonid spawning, and we have not found refugia habitat within Katzie Slough.

3.5 Federal Fisheries Act and Management Practice in the Lower Fraser

The Ecojustice letter suggests that non fish friendly pumps may be a violation of the Fisheries Act.

There are many factors that DFO considers when making decisions on whether a specific project or activity is of sufficient scale, scope and intensity to cause harmful alteration disruption or destruction of fish habitat (HADD) or Death of Fish. There are many dozens of agricultural /flood control pump stations operating in lowland agricultural and residential areas of the Lower Mainland. There are perhaps hundreds of flap gates and floodboxes in operation in the Lower Mainland. Relatively few of these are of an inherent fish friendly in design. The fish friendly pump stations the author is aware of are in stream-headed watersheds (not in managed sloughs lacking stream inputs).

Specific to pump station technology, it is the authors experience that DFO evaluates projects potential to cause HADD and Death of Fish in the context of:

- productive capacity of the fish habitat affected;
- necessity of agricultural drainage to support local food production by avoiding flooding;
- existing pump stations technology and history;
- practice in other drainage management areas in the Lower Mainland; and,
- benefit/feasibility of changing practice or project to meet fisheries management objectives.

The author is aware of recent engagement between pump station designers (not ISL), other Lower Mainland local governments and DFO. DFO has attended onsite meetings with the designers of other

pump station upgrades to discuss agricultural drainage condition and need to replace existing pumps. In these discussions DFO acknowledged that the habitat affected was not contributing significantly to the productive capacity of salmonid fisheries and indicated that they did not think replacement of the existing non-fish friendly pumps with fish friendly pumps would be required. They did not foresee that an Authorization per the Fisheries Act was going to be required.

3.6 Pump Technology and Alternatives

Fish-friendly pumps are but one approach that could be used to mitigate effects to fish and fish habitat were drainage operations if deemed by DFO to be causing a *Harmful Alteration Disruption or Destruction (HADD) or Death of Fish*. There are other technologies that can be constructed, independent of a fish friendly pump to prevent fish entrainment and other technologies to convey fish from the managed system to the natural system outside. The author is aware of four techniques or technologies in use in the Lower Mainland to mitigate effects to fish, that do not utilize a fish friendly pump. The author is also aware of other technologies in use in other jurisdictions, to prevent fish entrainment.

3.7 Restoration Sequencing

Watershed restoration principals are typically guided by sound applied science principles, as it is recognized that not all restorative initiatives have the same potential to achieve best outcomes for the aquatic, riparian or terrestrial resources targeted by the restorative initiatives. Initiating an effective watershed restoration project is usually based on:

- Necessity
 - *Are habitats so affected they warrant restoration treatment*
- Constructability and Accessibility
 - *Can the project be designed and built?*
- Economics
 - *Is the watershed restoration project economically viable*
- Cost-fish benefit analysis
 - *What would be the fish returns or demonstrable increase in productive capacity based on cost (is this a good use of restoration dollars?)*
- Feasibility
 - *Is the project worth doing?- A synthesis of all the factors outlined above.*

If an objective analysis of the factors above did suggest that restoration in a watershed would be feasible, then applied scientist typically begin designing prescriptions that repair the damage in a watershed starting in the headwaters and working downstream. This upstream to downstream restoration process is followed, because many upland areas have been badly managed through poor past landuse practice (i.e. logging without riparian reserves). These poor practices, have created landscape features that can contribute to fish habitat degradation downstream for decades after the landuse has ended. If restoration

'downstream' happens before the 'upstream' the upstream issues can undo or cancel out the effectiveness of restoration work we do in the downstream areas.

In a managed system like Katzie Slough, "working in the upstream" would be analogous to addressing the severe riparian vegetation deficit and water quality issues before working on "downstream" issues (i.e. such things as fish friendly pumps). At the present time and condition, it appears that it is unlikely that simply installing fish friendly pumps at the Kennedy Station would be effective in returning the system to some level of enhanced productive capacity. The ability to effect change in Katzie Slough is due to the lack of any natural headwaters, poor water quality, invasive plants, invasive aquatics, current land use (principally intensive agriculture), land ownership, and requisite conveyance management (channel vegetation maintenance). These are complex issues that affect viability and risk associated with undertaking restoration works within this managed drainage system. Complex situations require comprehensive plans and buy-in from all stake-holders, otherwise restoration initiatives will fail.

3.8 Environment Restoration Planning

The City has embarked on a significant planning initiative and is working with consultants who are developing recommendations for an Environmental Management Strategy (EMS). Within the planning framework of the EMS, there may be opportunities to layout long term visions for reaches in Katzie Slough. A long term plan that establishes an anticipated restoration condition (or vision) is a start towards implementing effective restoration treatments. Certainly prescriptions and plans need to be supported by comprehensive pre-restoration baseline data collection.

Upon establishment of a vision, and collection of good baseline data, it may be possible to identify at first some limited scale opportunities for restoration in Katzie Slough. The data that ISL and others have collected suggest that the best opportunities are present in south Katzie Slough (Reach 1, Reach 2) or Reach 3) drained by the Baynes Pump Station and not the north Katzie Slough drained by the Kennedy Pump Stations. Perhaps if success was found in a local part of the south Katzie Slough, this would be the basis for expanding restoration activities over many years to other areas of the slough that currently have no to little ability to support salmonids. In its present condition, fish friendly pump stations will do little to enhance the productive capacity of Katzie Slough, and the sequencing of replacing existing pumps with fish friendly pumps seems premature considering the ecological limiting factors that need to be addressed before the slough can contribute significantly to the productive capacity of the salmonid fishery resources.

4.0 Closure

I trust the information above provides a thorough review of background on ecological and operational conditions in Katzie Slough that are important considerations with respect to installation of fish friendly pumps.

Best Regards,

ISL ENGINEERING AND LAND SERVICES



David Neufeld, R.P.Bio., B.Sc., Dipl. Tech.
Environmental Lead