

Cowichan Watershed Board

Estuarine Health (Shellfish)

Draft Target Backgrounder for Discussion by CWB

Target Focus

- Estuarine Health
- *“We want to be able to eat shellfish from Cowichan Bay”*

Draft Target

- **Shellfish from designated areas in Cowichan Bay will be harvested for consumption by 2020**

CBWMP Goals Supported

- Goal 2 – Manage water supply to meet human needs
- Goal 3 – Ensure sufficient water is available to sustain aquatic ecosystems
- Goal 5 – Educate, engage, and empower citizens
- Goal 6 – Ensure clear, accountable responsive water management decision processes

Technical Considerations

- There are many serious impacts to shellfish that must be addressed in order to move towards human consumption opportunities. These include
 - Bacterial infection (fecal coliform)
 - Viral infections (Hepatitis)
 - Heavy Metal contamination
 - Natural toxins (Paralytic Shellfish poison)
- Very low levels of these substances can be harmful to human health
- Because of the seriousness of potential human health impacts, a precautionary approach must be taken
- Sources of contaminants are many and varied.
- Current sampling programs are limited by available funding and are focused on indentifying the need to expand current closures
- Depuration of shellfish can be effective in dealing with some contaminants

Regulatory Considerations

- Current regulatory frame work involves:
 - Environment Canada – monitors water quality
 - Canadian Food Inspection Agency – monitors bivalve contamination levels
 - Fisheries and Ocean Canada – manages harvest opportunities
- Current Canadian monitoring practices under scrutiny by US partners
 - Discussion of tightening parameters and increasing monitoring in order to maintain US markets
- Very conservative precautionary approach taken in order to address human health concerns (eg. Estuary closed for harvest in any watercourse with sewage treatment facility as there always exists possibility of a failure)

Impacting Factors

- Sewage treatment facilities (JUB and Lake Cowichan)
- Septic tanks
- Agricultural Practices
- Storm water management infrastructure and practices
- Industrial activity
- Vessel bilge pumping, septic management, fuel leaks, etc.
- Upstream spill events
- Wildlife (eg. Geese)

Potential Partners

- Cowichan Tribes
- CVRD
- North Cowichan
- Cowichan Estuary Management Board
- Ministry of Agriculture
- Ministry of Environment
- Environment Canada
- Canadian Food Inspection agency
- Fisheries and Oceans Canada
- Nature Conservancy Canada
- Ducks Unlimited
- Cowichan Community Land Trust
- Cowichan Agricultural Community
- Cowichan Valley Naturalists

Proposed Action Plan

1. Address TSS issues in the Cowichan River (see TSS Target).
2. Establish a Technical Working Group including some TAC members and experts from DFO, Environment Canada, BCMOE.
3. Generate a map of the Cowichan Bay with the closures – highlight places where it will be very challenging to open due to marinas or terminals etc.
4. Design a sampling program to identify potential areas that can be opened, determine seasonal differences and closure triggers.
5. Conduct microbiological, TSS and tissue sampling and then the following years do source tracking.
6. Review Liquid Waste Management Plan as per TSS and include rainwater management in the Plan.
7. Explore storm drain monitoring with the local governments in areas that affect the estuary.
8. Work with industry, business and Agricultural interests and Cowichan Tribes to ensure BMPs and all property owners with Septic tanks to ensure BMP.

Preliminary Cost Estimates

Cost identified below are largely for the period up to the summer of 2013. Long term costs estimates will depend on preliminary findings but are expected to be substantial.

- In kind staff contributions will be required in support of the Technical Working Group. It is anticipated the \$5000 in annual support will also be required.
- GIS support for database and mapping is expected to cost \$5,000 to \$10,000 initially.
- Initial microbiological analysis to the summer of 2013 is included in the CWB \$370,000 Gas Tax request. The responsible government agencies will be requested to fund tissue analyses (preliminary estimate \$30,000). An estimate for ongoing costs for sampling beyond the summer of 2013 will be based on initial findings
- The estimated cost of the Liquid Waste Management Plan Review is \$75,000 which would be borne by local governments.

- Major infrastructure refits (e.g. Storm water or sewage treatment) could require much larger one time investments and in some cases individual land owners will be required make expenditures or change practices so that they no longer contribute to shellfish contamination.

Bottom Line

- This is an ambitious “stretch target”. Achieving it will require significant changes to the status quo in the Cowichan Valley.
- Best case scenario might involve harvesting shellfish for depuration from certain designated areas only
- This target is a meaningful one to Cowichan Valley residents and has strong resonance with Cowichan Tribes members.
- The accomplishments associated with making progress towards achieving this target are worthwhile in and of themselves.
- There will be significant costs over a long period of time associated with this target. **In order to achieve the target a significant fund raising initiative will have to be executed.**