

Submitted by:
Michelle Nickerson

You ask us for the most critical habitat issues and I say anthropogenic climate destabilization. I worked as a research scientist for a small company who is contracted to do hydrological reports for the various Independent Power Producers (IPPs). I thought the potential to get our society thinking without our very problematic carbon addiction was going to come with the aid of these projects and I still do *(with a big astrix attached). They have to be community based and done responsibly. This is not the case right now.

I analyzed flow and temperature data and modeled the future flow of steams based on what future climate has been predicted for various scenarios of human behavior and society trends and their resulting carbon and other green house gas emissions. The hydro graphs will change dramatically and there is a significant difference between the fuel intensive and non intensive scenarios. Leading scientists talk of hotter and dryer summers with more of that rain coming in bigger storm events so there will be less water and hotter water in the creeks during summer spawning and more flood events that scour the creeks, which will decrease the amount of viable slow moving water habitat. Winds will be more erratic and the timing of the winds in the spring will affect the timing of the plankton blooms which will affect the amount of food available to the salmon migrating out to the ocean. Ocean temperatures will change dramatically and we may have seen the affects of this in the 2009. I'm curious to know how many of the sockeye coming back this year are 5 year olds who did not make it back to the river and spawning beds last year because of changes in their ocean feeding loops due to avoiding warmed ocean patches. Our watersheds will have to support growing number of people and we will have to make sure that we are doing everything we can to stave off the major catastrophes that are associated with fuel intensive societies and make sure that our water usage is efficient.

Kyoto must be followed. We have to kick the carbon habits. Gate way, the pipeline and tar sands bring jobs to a few and a big tax revenue in but we can no longer hold up a falter growth based economy with the destruction of the habitat and emission of green house gasses. Political groups can no longer try to make political gains with carbon polocies. Climate can not be a wedge issue. We need everyone working together on this one. We h ave to stop the name calling. We all have to come to the table. Both environmentalists and developers have to reach across the table.

Everything we do can affect the salmon. Decisions made on individual, corporate, municipal, provincial and federal levels all impact the natural environment that sustains us and the fish and bad decisions made at these various levels are the biggest threats to salmon habitat. Citizens must also participate in rallying for good decisions to be made. One of the most obvious examples of this is the fish farms. Why are salmon farms still on our wild salmon migration routes? Members of the provincial government tried to get the farms out 10 years ago and in talking to the former Provincial Fisheries minister "We were so close". There is world wide and local censure of these feed lots and we have

provincial and federal governments still willing to play Russian Roulette with our wild salmon stocks. Feed lots must be fallowed before the next spring's out migration.

- 1 You can not mix wild and feed lot animals. We have the very recent example of avian flu in Abbotsford chickens.
2. The oceans can not be used as a waste bin for any industry, including aquatic industries and especially those that have chemicals, antibiotics and neurotoxins in that waste.
3. Feed lots that produce 1 kg of meat for every 3-5 kg of feed is unsustainable and this shouldn't be acceptable. Why are fish that could be used to feed people being mulched up for feed lot fish that will feed fewer people? The same applies to growing and irrigating acres of land for consumption by cattle that have very poor feed to consumable goods ratio. The space for directly consumable crops and water must be conserved. We need to eat lower down on the food chain
4. The current voluntary disclosure practice and the current refusal of the farms to provide disease reports is irresponsible and unacceptable. We must know as much as we can of the conditions that affected the 2009 and then the 2010 runs so differently.

One also has to not that the feed is usually caught and brought in from depressed economic regions of the planet so the practice is socially irresponsible as well. Voluntary disclosure my foot.

Government decisions are following bad policies. The no net loss policy - dumb – we can't continue to think that we can destroy natural habitat and that what we create someplace else will be an adequate replacement
Professional reliance model – Dumb – not looking any further into environmental assessments once a company contracted and paid by the various developers. Neither of these policies protect wild salmon but instead places added pressures..

No one wants to talk hatcheries and information given to and about hatcheries is so poor. Like most areas concerning salmon, another critical problem we are having is that our public is poorly informed. For all that hatcheries are, it is where the good people are. People who love fish volunteer at hatcheries. When we are searching for reasons for collapse it is easy to put good and bad guy labels on and hatcheries are not coming up perfect solutions but the people running them are need to be allies in salmon protection. They are the ones that have hands on knowledge of the fish. Hatcheries have been where we teach our children about. It is where we tag and research more about salmon. The people at hatcheries need to be treated with respect and not scorn while we shift them to better practices and create better mechanisms of teaching and learning about salmon.

Habitat protection has to come first. We can't rely on hatcheries to boost the production of a run. It will take time for runs to come back but they will if the spawning beds, migratory routes and ocean feeding grounds are respected and taken care of.

How we are building our communities and transportation systems is having a great impact on salmon sustainability. The paving of our urban areas are greatly affecting the permeability of our watersheds. Impermeable surfaces do not let rain be absorbed into aquifers to be released slowly and cleansed but instead water runs over the surface and into storm drains and creeks with out being cleaned and in big volumes over shorter periods of time. There is a movement in Vancouver about daylighting streams that were paved over and yet with the Gateway project and South Fraser Perimeter Road we are paving over and culverting a number of streams on the south side of the lower Fraser.

Municipalities are building sports complexes and then struggling to upgrade the sewers. In municipality decisions, protecting the habitat, the rivers, creeks and lakes through which the migrate and spawn must come first. Construction companies must be responsible for not putting silt into the creeks downstream of them. Our current urban development is not conducive for salmonid survival.

We have been asked what things can be done to mitigate these and I believe this does not quite lead us to the right answer. We have to get to the route of the problem and fix it. We can no longer be so foolish into thinking that we can wreck impact after impact and thinking that subsequent actions after the fact will fix the problem.

My vision for sustainability of the Fraser sockeye and how citizens can participate in the recovery of Fraser Sockeye happened last night when members of the Lumby village and surrounding areas came together for an economic development meeting to discuss how the community would move forward. The mayor and the region rep sat amongst the round tables throughout the room. 80 people sat discussing at their table then presenting 3 questions.

1. What are the problems?
2. What would you do if money was not an issue (encouraging pie in the sky thinking)?
3. What are the practical solutions?

People spoke at this meeting of their visions of sustainability and gloriously salmon and protection of salmon habitat and developing strategies for a healthy economic community with salmon as one of their pillars were brought up consistently though out the evening. This community wants to be a salmon strong hold.

In the 60's Lumby boasted one of the highest national per capita incomes when the international lumber companies were still in town and resource extraction incomes were lucrative. Now they are one of the lowest with those resource extraction companies gone and leaving behind polluted industrial lands and no tax base to fund things like improving the flagged sewage treatment. For the meeting, two separate groups on their own separate initiatives have researched alternate options for the sewage treatment upgrades. A good friend spoke of vegetative sand beds that are currently cleansing sewage into drinking water in New York and could reclaim the industrial grounds. A pair of mothers made a great presentation on Living Machines which use things like snails and then green houses that grow crops that can be sold for income. Another community member had drawn out a vision of how to redesign the vacated industrial area which the Bessette creek loops around. The main features for the salmon included increasing the green zone

along the length of the creek. The community wants healthy and sustainable development and ways to increase their tax bases.

Lumby also has the Wilsey Dam located not too far outside its limits. The dam needs some upgrades and BC Hydro is thinking of decommissioning it. There are members of the community that would like to take control of that dam and of making sure the fish ladder for the salmon that was promised when the dam was built in 1929 is actually installed. The tremendous run this year had the sockeye in the Shuswap River trying to once again jump the falls to 50 kms of historic spawning grounds as they had in the days before the River was blasted to put in the dam.

The initiatives around salmon in Lumby are amazing for drawing the community into working for solutions to the challenges salmon face in the watershed. The community is thinking salmon. I spoke with one rancher who is working to get their ranch certified as salmon friendly. Last summer the 1st annual Wild Salmon Music Festival was held. There are plans in development to institute a Wild Salmon Queen and Ambassador Community development program. Community members are writing salmon songs and creating salmon art. The Lumby salmon trails and information booths have been built around the village and along the creek. The community is excited about being stream stalkers, going out to the creeks to watch for salmon and issues that might be in the creek. There have been talks of land conservancies created for properties with creeks running through them. If our communities know that the salmon are very much an integral part of the community, then we will make the first steps in having salmon coming to spawn up out creeks in bountiful and sustainable ways

There are people many people and initiatives out there that are working to care for salmon and these needs to be supported with voice and funds.