

**Next Meeting –
August 27, 2018,
7:00 pm, Lion's Hall**

Topic: Infrastructure Issues on Salt Spring

- Salt Spring infrastructure projects in the works and how they are funded.
 - - An integrated water system concept for Salt Spring.
 - - A water-based bus system (Ganges and/or Fulford to Sidney)
 - in conjunction with BC Transit and CRD.

Come lend your voice to this lively conversation!

Environment Working Group Report

Community Alliance

July 23, 2018

Lions Hall

Before the Environment Working Group, comprised of John Borst (Chair), Chris Dixon, Susan Hannon, Pierre Mineau, Tom Mitchell, Anne Parkinson, Maggie Squires, and Jean Wilkinson began its report, new participants were welcomed, guidelines were reviewed, and all were asked to spend a few minutes discussing an issue with a nearby stranger.

Rhonan Heitzmann, from the Affordable Housing Working Group, identified an upcoming talk hosted by Transitions Salt Spring by innovative affordable housing expert Dr. Avi Friedman (SS Public Library, July 31st, 7 pm). The housing group also announced that hometogether.ca, a group matching those wanting to host renters and those wanting to rent will soon be available on Salt Spring.

The Environment Working Group then began its report to investigate ways to safely and smartly adapt to climate change, preserving a healthy environmental future. As we are in the middle of fire season, topics for this evening revolved around increasing resilience to heat and drought by both humans and the natural habitat. Members of this group offered a number of recommendations, including implementing *FireSmart* techniques while maintaining and enhancing wildlife habitats as well as water catchment options. Additionally, initiatives to reduce the use of plastics on Salt Spring were reviewed.

Ann Parkinson began with an introduction. She spoke of the human-environment interface and the intrinsic value of our natural systems. She asked some questions:

- What does the historical state of Salt Spring tell us about our current situation?
- What sort of actions help improve our resilience to future climate change and extreme weather?
 - *Fire Smart* practices
 - Water Catchment/Grey Water Capture and Use
 - Reducing plastic waste

*New members and those interested in sitting in on Environment Working Group meetings are welcome!
Please contact John Borst.*

Climate Smart Salt Spring!

Historical Context for Weather and Climate Resilience

Looking back since the most recent glaciation period, we have traditional ecological knowledge through the First Nations. More recently, European records confirm the existence of extensive forest cover with old growth and large migratory bird and fish populations. Sea life was rich and diverse with sea otters inhabiting the Salish sea, which was home to large kelp beds, and even a Sea Cow! Air quality and temperature regimes were quite different to today, with the removal of forest playing a role.

Over time, the baseline of ‘normal’ weather and ecological health has shifted with changes in weather (or climate)¹. This gradual change has made it difficult for those who are relatively new settlers to the coast to observe climate change or environmental degradation. Krulwich Wonders, an National Public Radio broadcast has looked at fishing derbies in Florida over time. These derbies identify enormous winning fish catches (1958), followed by decade after decade of smaller and smaller prize winning fish.² The picture on the right shows prize winning catches in this same area less than thirty years later (mid-1980’s). The winners look pretty happy in both sets of pictures!



¹ See Shifting Baselines Blog!

² <https://www.npr.org/sections/krulwich/2014/02/05/257046530/big-fish-stories-getting-littler>.



Recognizing that things are changing, the Environment Working Group presentations focused on actions we can take locally to reduce such effects, such as increasing water catchment and fire safety. Presenters also encouraged looking to other communities to learn about their successes in restoration as well as increasing resilience to change. Tofino's efforts were used as an example for discussion by Salt Spring Islanders.

Current Actions for Climate Resilience

Climate-related actions fall under two types: adaptations aiming to increase local resilience to withstand the changes we are already experiencing and mitigating actions directed at reducing the magnitude or rate of long-term climate change.

***FireSmart* and Catchment**

Jean Wilkinson, Chris Dixon, and John Borst spoke about the promise of using *FireSmart* techniques to protect homes from fire and collecting rainwater and grey water to extend use of our precious water resources.

Water availability will continue to be an ongoing problem in the future due to less overall rain, higher average annual temperatures, less precipitation in summer months, and changes in winter rainfall. The impacts are already being seen on lakes and trees on Salt Spring as well as surrounding coastal areas. Resilience to these changes require reducing the risk of fires by *FireSmart* techniques (summarized in the boxes above and detailed in the Appendix) and both rainwater and grey water catchment.

Your Home

Use non-combustible materials for building, such as metal, (or asphalt) roofs, double-paned windows, tempered glass, fire-resistant decking and siding, enclosed eaves etc.

Make sure there is no combustible materials near your home.

Remove dry debris, wood piles, propane tanks, and needles from gutters. Use stone pathways rather than bark mulch,

Create a 10 m firebreak around your home by using short grasses, veggies and flowers, moss, xeriscapes, paths and patios.

Keep soil moist and vegetation healthy.

Encourage *FireSmart* trees, herbs and

Natural Environment

Plant fire-resistant trees and shrubs.

Instead of brush piles, create soil-covered berms of pruned branches and cuttings.

Create rock piles for natural habitats.

Clear lower branches and shrubs from beneath dead trees, but leave them for a natural habitat if they are 30 m or more from buildings.

Reduce water demand/pressure during sensitive periods (summer)

Practice rainwater containment.

Keep soil moist.

Plant and/or encourage larger stands of trees/shrubs.

Enhance the resilience of native forest stands and wetlands.

Create ponds for a wildlife habitat as well as an

Rainwater Catchment

While issues of feasibility and cost are not insignificant when it comes to rainwater capture, several creative ideas were presented to help with the initial set-up. Used or inexpensive swimming pools, garbage cans and other tanks to capture rainwater are available on the *Exchange* and other lists. In addition to providing irrigation during the dry summer months, water catchments may also be used to keep a cooler and greener (less flammable) area around your house.

The Fire Department offers *FireSmart* education as well as a variety of suggestions, including using watering devices that can run on gravity or other simple battery pump systems to keep a wet zone around your house.

Grey Water Use

Collecting grey water for summer use would provide an excellent resource for gardeners as well as employing *FireSmart* techniques around your property. It is important to **note that grey water can grow bacteria, and therefore requires specific use and handling to ensure it is safe!** Aeration to prevent anaerobic growth is important, as is recognizing any potential influence on septic field volume reductions.

Programs to provide resources for *FireSmart* techniques, including grey water capture and use of moist perimeter zones, have been supported by the Union of BC Municipalities³ and the CRD through incentives and grant programs. Our Fire Department offers numerous *FireSmart* training opportunities throughout the year. For more information, contact Mitchell Sherrin at the Ganges Fire Hall, 537-2531.

Plastics Reduction

Reducing plastic use, particularly single use plastics, is being actively pursued on by the Single Use Plastic Elimination and Recycling (SUPER) group. Their primary aim is to offer information about reducing the availability of single-use plastics and identify alternatives. To this end, the group is engaged in a number of actions, all of which are committed making positive progress while avoiding conflict. These include:

- Conduct local research.
- Identify alternatives (e.g., plant-based plastics.)
- Disseminate information by working with the *Driftwood* and the *Exchange* as well as hosting information events to engage and inform the community.
- Work from ‘Cradle to Grave’ on the issue of plastics.
- Approach local businesses regarding alternatives to single-use plastics.
- Examine the impacts on the environment of microfibers, plastic-based fleeces, and encourage the return to natural materials.
- Lobby local officials for changes (e.g., refillable bottles, regulating bags etc.)
- Encourage plastic-free sections in grocery stores.

³ <http://www.ubcm.ca/EN/index.html>

The group is also considering whether to encourage CRD to ban single use plastics regionally, similar to the City of Victoria's ban on plastic bags.

At the conclusion of the meeting, presenters promised to prepare a publication for the *Driftwood* and the *Exchange*. This has been completed (well done!) and is available in its entirety in the Appendix.

Appendix: 1 Publication as a Result of the Community Alliance Meeting

Facing Environmental Challenge

Does Salt Spring have a healthy environment today? What was the environment like in the past compared to now? What do we want our natural environment to look like in the future?

The answers to these questions are complex and are similarly being debated in many countries around the globe. The Environment Working Group (EWG), formed in January 2018 under the Community Alliance, has been reviewing available information specific to Salt Spring Island.

If you lived on Salt Spring hundreds of years ago, you would have been surrounded by more species, each in greater numbers. We know this from Traditional Ecological Knowledge (TEK), early European naturalists records from sailing voyages, and archeological discoveries. The forest cover was greater, with more old growth stands and populations of large mammals. Freshwater quality and volume supported enormous salmon runs. The marine shorelines were ringed with massive kelps beds in which lived sea otters and – much longer ago – the Steller's Sea Cow, a type of dugong.

Plants and animals today are smaller than when the first Europeans arrived. Renowned fisheries expert Daniel Pauley assembled a history of photographs of smiling winners of fishing derbies when groupers in Florida were bigger than the fishermen in the 1950s compared to today when the average catch is no more than a foot long. Each generation knows only the status quo of the present moment, and does not recognize long-term change, referred to as 'Shifting Baselines Syndrome'.

We know on one hand that environmental degradation is occurring to our detriment; yet on the other hand we are slow to change our habits that are the root-cause. We know that environmental degradation is occurring, yet we are slow to change habits that are the root-cause. When our collective and individual behaviour causes conditions around us deteriorate, the stress we experience may either inspire change or entrench our denial.

To understand the current state of the environment on Salt Spring Island, the EWG has gathered information from: Islands Trust (notably its excellent Official

Community Plan), past Climate Action reports (very thorough and in need of updating), the scientific literature, and other community comparisons (Tofino, Nelson, New Zealand). Governance is complex at all levels, for example: Federal (marine environment and harbours), Provincial (freshwater, air quality, transport), CRD (infrastructure, potable water), Islands Trust (land use and planning) and First Nations (ownership and reconciliation). The volunteer and NPO efforts on Salt Spring are tremendous (Salt Spring Island Conservancy, Transition Salt Spring, Island Pathways to name a few).

Today's choices always affect tomorrow's environment. In 50 years (2068), what will the environment of Salt Spring Island look like for today's children? How many trees, salmon and orcas? What arrangement of farms, protected areas, residential, and industrial lands will they live with? How many people and cars? Like the lobster placed in cold water but with the burner turned on, when will we feel the 'heat'? Or will there be a slow amnesic slide from rural to suburban to urban – with 3 bridges, high-rises, a large portion of the island paved over - the Staten Island of the Salish Sea? Extracting resources from fertile land until a desert state is reached appears to be the ultimate end point of many past civilizations.

Recognizing the complexity of the work ahead, the EWG has identified three areas where we can easily and immediately improve our relationship with the near environment - FireSmart property protection, water catchment and conservation and the reduction of single use plastics. Stay tuned for future articles on these and other topics.

Committee members: John Borst (Chair), Chris Dixon, Susan Hannon, Pierre Mineau, Tom Mitchell, Anne Parkinson, Maggie Squires, Jean Wilkinson.

<http://www.saltspringcommunityalliance.org>

<https://www.facebook.com/SaltSpringCommunityAlliance/>

Appendix 2: Documentation from Presenters

Ann Parkinson's Notes:

The Environment Working Group is pleased to present a progress report of the past six month (January 2018 – present)

The core members are (please wave):

John Borst – Chair

Chris Dixon, Jean Wilkinson, Tom Mitchell, recently joined – Maggie Squires

Absent tonight – Susan Hannon

Myself – AP – will give a brief intro, followed by updates from FireSmart and SUPER (plastics) groups

We have had great support –a community of friends/professionals, other working groups and many organizations around the island

We must have 100s of person hours of professional experience!

Human interaction with the environment are being analyzed around the world – won't dwell on Climate Change, only 1% Garry oak forest remaining, loss of species. This is a well read audience - Leap-ing with Naomi Klein, or Blue Dot-ting with David Suzuki.....much effort being put towards the future of the globe.

What can we on SS do to contribute to maintaining a healthy environment locally as well as doing our part for the larger world? Is the environment here to provide service to humans or does it have its own intrinsic value? (What say the Orca family, eagle family, First Nations?). Although scientific research is important, the modern human psyche is the biggest challenge.

Our meetings have been to define our mission/goals, to gather information on both the 'human built ' impacts (private properties and footprint) and 'natural' environment on Salt Spring :

- Linda Adams: explored OCP and bylaws
- Various organizations: Fire Department, Building Inspector
- Housing working group chair
- Attending Community Alliance Meetings
- Our own group meetings, readings and discussions

I will present a brief look at SSI - Past, Present, Future – not a lecture (quiz) – so you know in 8 min a preliminary scan of the environment on SSI thru eyes of EWG to pass onto the CA umbrella so all working groups keep enviro in mind when setting their vision.

Yesterday (all my troubles seemed so far away)

What is a healthy environment now? What was before in comparison to now?

Past – definitely more species before Europeans arrived (TEK First Nations, early European naturalists, archeology, Tara Martin working on book)

- Terrestrial: forest cover, large mammals, birds
- Freshwater: salmon, quality and volume
- Marine: sea otter, kelp, (a sea cow, kelp forest ecologist Jane Watson)
- Air: quality, temperature, rainfall, snow

Facts, scientific research are only a small part of the picture. Modern human psyche is the larger piece.

Shifting baselines: 60s, Pauley – fishing derby example, 10 yr old on Mt. Maxwell vs Susan Hannon (read section) - The Shifting Baselines Blog, "the cure for planetary amnesia

Cognitive dissonance – the state of having inconsistent thoughts, beliefs, or attitudes, especially as relating to behavioural decisions and attitude change. my example with 2x4s, Mexico, look at the clothes/cars, Costco.....life cycle of all our stuff.

Be The Change. Buy an EV?

Is Desertification the end point for all human pops – the Levant - history might tell us it's so.

Jean Wilkinson's Notes (with thanks to **Mitchell Sherrin**):

Fire-Smart Environmental Stewardship by Jean Wilkinson, with thanks to Mitchell Sherrin

The recent long dry summers are causing considerable stress to the forests on the Islands and increasing the risk of a wildfire. We all need to think carefully about how to protect the forest and our homes, while maintaining the area's natural beauty and important habitat values. This is one of the topics discussed in the Environmental Working Group's report at the recent Community Alliance meeting.

There are a number of well-researched strategies that will reduce the risk of losing a home to wildfire, starting with the materials used for the house itself. Metal, asphalt or clay roofs, double-paned windows of tempered glass, well-sealed doors, composite decking, brick, rammed earth and fibre-cement siding are fire-resistant. Keeping roofs, gutters, stairways and decks free of needles and debris prevents the possibility of embers igniting these. Closed-in eaves, screened vents and a spark arrester on the chimney also reduce the risk of damage and loss from fire. If there are outbuildings within 10 metres of the house, similar considerations apply to these.

The next key strategy is to focus on the ten metre radius around buildings and create a fire break to prevent fire from spreading to the forest from a house-fire, or from a forest fire to the home. In this zone it's recommended to avoid having woodpiles, propane tanks or burn barrels, and to separate wooden fences or boardwalks from the house with a metal gate or panel. Remove easily-combustible material such as dead trees and twigs, resinous shrubs, conifers, bark mulch, long grass etc. and landscape with non-combustible materials and fire resistant plants. For a list of these see www.firesmartcanada.ca/resourceslibrary/firesmart-guide-to-landscaping.

The yard doesn't need to be a moonscape, and it's quite possible to protect a property from fire while maintaining and enhancing habitat for wildlife. Deciduous trees, vegetable gardens, flower gardens, short grass, moss, compact shrubs, drought-resistant native plantings, xeriscapes, paths, and stone patios are all excellent choices for the area within 10m of the house. Soil moisture should be maintained to keep vegetation healthy and reduce fire risk, particularly in summer. Well-designed ponds create habitat for many creatures, and would enhance this fire-resistant zone and provide water to fight fire if necessary.

Attention can also be given to the zone between 10 and 30 metres from the house. Deciduous trees such as maple and willow are fire-resistant, and Douglas fir trees are less likely to ignite than cedar, juniper, yew or pine. Spacing conifers 3m apart is recommended, and it's important to consider whether shrubs growing right below trees would act as "ladder fuels". If so, trimming these and removing branches within 2 metres of the ground will help stop surface fires from moving up into trees, thereby protecting the trees as well as nearby buildings. While dead trees are more likely to burn, they greatly enhance bio-diversity. Therefore, with extra care to remove lower limbs and ensuring surrounding shrubs are fire-resistant species, a few Wildlife trees could be kept at the outer edges of this zone.

In shaded areas, some large logs lying directly on the ground can help retain moisture and provide habitat. However, dead branches and woody debris on the ground are potential fuels, especially if dried out by the sun, so reducing the number of these is helpful. Instead of creating brush piles, cover branches with soil to make much safer berms, and build rock piles to provide fire-resistant homes for wildlife. Invasive broom, gorse and holly are extremely flammable, and removing them will reduce the fire hazard while helping native plants, birds and insects thrive.

The Environmental Working Group outlined a number of other proposals to increase fire safety as well as island water supplies. Next week's article will provide more information and details about these.

John Borst's Notes:

Issues

- Climate change is real and is causing an increase to the number of weeks during the summer without rain, the amount of rain during the winter and the intensity of the storms on Salt Spring.
- More severe storms and heavy rainfalls may lead to local drainage issues, flooding, soil erosion, landslips etc.
- Salt Spring's principal lakes store water but are likely at capacity and unable to provide additional reserves.
- Increasing pressures on island water resources and long periods of limited rainfall due to climate change may lead to water tables falling locally and shortfalls in freshwater supply.
- The long drought summer period is causing considerable stress to the forests on the Island.
- Stress on the forests caused by lack of soil moisture increases the probability of a forest fire.
- The resources for fighting a large fire on the Island are already stretched to capacity.

- The increasing amount of rain falling on the Island in the winter is not currently being captured on a large scale.
- The obvious solution is to save the winter rains for use by residents, visitors, plants, animals, the natural ecosystem, and for fire risk reduction during the summer drought.

Infrastructure proposal:

- Metal roofs be promoted on new buildings and for roof replacement;
- Water catchment systems and cisterns are suggested on all new buildings and promoted for existing ones;
- Grey water systems be encouraged as part of a water use reduction and garden/forest watering plan. During the winter, grey water could go through the septic field or be stored in tanks for use during the summer.
- Aerobic systems or composting toilets be utilized to reduce the amount of water needed for the proper functioning of septic systems,
- Additional ponds and large cisterns be installed and managed by neighbours and the fire department.
- Information and suggestions for locally appropriate fire risk reduction strategies be provided to residents .

Rationale:

- Metal roofs on residential housing units will prevent roof fires from being started by embers.
- Metal roofs are also ideal to catch rainwater and guide it to a system of cisterns. The water in these cisterns could be used in a variety of ways depending on the treatment system installed. With no treatment it would simply be used to water gardens. If the water is properly treated, it could be available for household use.
- Treated water used for showers, washers, dishwashers and cooking could be directed into a grey water cistern.

The grey water could be used to water gardens and yards and keep adjoining forest soils moist. This prevents the trees from dying and keeps the ground cover moist and fire-resistant. Some grey water drip systems are installed below ground level. Some recover heat from the water and store it in tanks until it is needed during dry periods.

- Black water from toilets could be treated by a composting toilet or either an aerobic or anaerobic septic system.

- One of the most important findings in forest management research is that soil moisture is critical to stopping forest fire occurrence and spread. This is principally due to the fact that a low level of moisture in the ground leads to trees becoming stressed and dying, and therefore more vulnerable to fire.
- Current Firesmart Homeowner manuals do not directly address the importance of maintaining soil moisture, and some of the guidelines regarding clearing of trees and brush are not well-accepted by many Salt Spring residents.
- Local firefighter Mitchell Sherrin is working to promote various fire prevention practises, and is planning a brochure for islanders to include information and recommendations for the Coastal Douglas Fir ecosystem within a wildfire environment. It will encourage homeowners to consider FireSmart as a harm-reduction model and implement a few, some, or all of the concepts in the manual, based on their level of concern about wildfire.
- A key strategy to reduce the risk of a wildfire destroying homes is to focus on the ten meter radius around buildings. In this zone it is recommended to remove easily-combustible material such as dead trees and twigs, resinous shrubs, conifers, bark mulch, long grass, etc., and to landscape with non-combustible materials and fire resistant plants. Soil moisture should also be maintained, particularly during the summer. This acts as a fire break to keep fire from spreading to the forest from a house, and prevents forest fires from spreading to homes.
- Large cisterns and ponds located close to roads can be used by the fire department not only to fight large wildfires but also to fight house fires. Ponds also help keep soils moist and provide habitat for many species.
- In the Interior, experience has shown that placing sprinklers at each corner of the roof can often prevent a fire in the trees from spreading to a house. The sprinklers keep the roof as well as the area close to the house wet. Ponds and cisterns could provide the water needed for a sprinkler system if embers or flames threaten a home.

Summary:

- Water catchment in sufficient quantity will enable homes and businesses to prepare for water system shortages.
- Wildfire risk could be reduced by more implementation of fire prevention practises appropriate to the bio-region.
- Residents with homes having some version of the infrastructure suggested above could keep their surrounding grounds moister, have healthier vegetation, reduce the risk of fire and feel more secure if a wildfire occurs. This would also relieve the local water systems from some of the stresses created by our increasingly hot summers.
- Businesses that depend on the tourist trade – possibly the greatest user of water in the summer – could use a combination of water catchment and water from a central system.

- A large scale fire on Salt Spring during one of our summers would be catastrophic. Many residents would have to move off Island for months and possibly years while their homes are rebuilt, and some would not return. The replacement cost of our homes and businesses, our personal contents, and business inventories would be huge.
- The cost of a large wildfire to the natural values of the Island would be beyond calculation. Imagine large areas of the Island with smoldering black trees. The tourist industry on which the Island depends would be destroyed.
- Installation of cisterns throughout the island could provide emergency water supplies to fight fire. Creating more ponds and wetlands could provide additional water to fight fires, help maintain soil moisture and provide habitat

Problems and Solutions:

- Cost is obviously the largest barrier to implementation of the suggested infrastructure.
- Changes in legal requirements regarding water catchment and roofing materials will also be necessary. This could be achieved through regulations for Development Permit Areas and Local Trust land-use bylaws.
- It may be possible to get financial help from the Province to undertake this as an experiment for residential communities. It could be offered in the form of an incentive for planning or a deduction on taxes for installation.
- The CRD has offered a successful small rebate program in the past for water catchment. This program could be more widely advertised and a greater incentive given to those who implement an installation that reduces water usage from central water sources.
- Incentives could also be offered to projects that reduce fire risk and damage – from roof sprinklers, underground grey water systems to landscaping with fire-resistant plants and materials.
- Looking to the future of living with climate change, we on Salt Spring (and around the world) are going to have to make changes in our lives. Spending money now to mitigate water shortages and the growing potential for catastrophic fires makes enormous sense.

Work Ahead

- Footnote points
- Review with EWG
- Discuss with NSSWD, Trust planner, building inspector, fire department
- Amend to get endorsements
- Develop Presentation materials

- Present on July 21

Tom Mitchell's Notes:

The Salt Spring Plastic group came together several months ago as a offshoot of the Environment Working Group.

Goal - to educate ourselves and the Salt Spring community around the issue of Plastic use on Island, particularly Single Use Plastics

Mission - to reduce, replace and eliminate single use plastics on Salt Spring and ,where possible beyond.

Our members to date are, Michelle Mech, Anne Parkinson, Susan Hannon, Martin Adams and myself, with Peter Grant, manager of Salt Spring Recycle Depot as a advisor/consultant. One of our members Martin Adams came up with the acronym SUPER for Single Use Plastic Elimination and Recycling, that gave us a smile and some optimism which is sorely needed to address this monumental task. For me it is a pleasure to be part of a team of such qualified people.

We have held three meetings to try and determine where our energies could best be focused and came up with these . This is a unfolding process and may change as needed.

Objectives -

- 1--Conduct local research, what is the situation on SSI
- 2—Look into alternative source material, Plants instead of Petroleum.
- 3—Life Cycle Analysis of these alternatives.
- 4—Impact of micro fibers from laundering synthetic clothing.

Education

The *Driftwood* is on board regards weekly tips—information in the *Exchange*-- Website with information Hub-- on line media-Facebook page- show relevant films at the Library, e.g. Blue Planet 2 with speakers. Highlight books discussing the problem, e.g. Plastic Ocean.

Michelle Mech has already done presentations to schools using her recently released book -*Ocean Champions, A Journey into Seas of Plastic* —Our Group can encourage more presentations to Primary, Middle and High school students.The book is already owned by local schools. Her book *Ocean Champions* recently received a grant from a direct aid program in Australia to translate and produce 5,000 copies in Indonesia for distribution to schools in Indonesia.

Peter was a great resource in our research and brought us up to date on what is accepted at the Depot. The types of plastic material accepted locally has recently increased with the introduction of a Pilot Program which will be adopted by all BC Depots in 2019. Some of these items are crinkly potato chip bags, stand up drink pouches and net bags for produce.

He also outlined the various companies involved in the Plastic recycle stream and it was reassuring to learn that all Plastic manufacturing companies must take responsibility for their products from cradle to grave. At the moment this only applies to paper and packaging. These plans must be approved by The Minister of Transport and are administered by Recycle BC.

Hard Plastic, such as kids toys, watering cans etc, cannot be accepted and only residential material is allowed. Peter said that writing to the Government to encourage this addition would be one of the most helpful things we could do in regard to plastic debris.

We had a brief look at the take out cups situation on Island and approached 17 local businesses for their help. Everyone contacted was using cups of either biodegradable or plant based compostables which is great as they are not Plastic. These cups will eventually degrade in a landfill, although the process would occur much faster in a commercial facility. There is a Company called reFuse which collects kitchen scraps and cups for a charge, not sure which businesses use that service at this time. Some of the Brand names are Greenware, Greenstripe and Vegware.

Life Cycle Analysis

This application is crucial for land based production of Plant sourced alternatives to Petroleum as the impact on the land and use of water can be significant factors. Some of the Plant sources are—corn—sugar cane—trees—seaweed and algae, Agari made from agar, a experimental polymer sourced from red algae is interesting as the bottle is stable until you drink the contained water then it begins to bio degrade.

Micro Fibers

Recent studies have shown that these fibers are just about everywhere and pose a significant threat to all life forms as they bind pollutants such as flame retardants and pesticides. These toxic molecules are then ingested by plankton, eaten by fish and make their way up the food chain eventually to us.

ACTIONS

Individual—very short list, more to follow

Some recommendations regards micro fibres, which can release up to 25,000 microfibrils per wash.

Don't buy synthetic clothing, fleece and sweaters being particularly bad,—a single sweater can release as much as 10,000 fibres of micro plastic fibres-go back to wool and other natural clothing.

Launder your fleece clothing in a Guppy Friend—it will capture most of the loose fibres for safe disposal-and remember to use cold water.

Take out cups reduction,

Always try and bring your own mug and encourage retailers to promote that message.

Promote lobbying of Provincial Government to include hard Plastic in local recycling depots

Encourage the uptake of a wider range of recycling materials and capture locations at Centennial Park and the Saturday Market as only refundable cans and bottles are being recycled at the moment.

Approach local stores regards a section or aisle being designated plastic free.

This is being pioneered by Dutch supermarket chain Ekoplaza in one branch of their 74 chain of stores and offers up to 700 products plastic free. Biodegradable, Compostable and traditional materials like , glass metal and cardboard are used.

Some role models on SSI are Soap works and Lush who sell Shampoo Bars without the plastic bottle.

Assuming that we can provide feasible alternatives, approach stores, shops, restaurants ,etc to reduce their use of single use plastics.

Summing Up

The World is waking up to the threat of Plastics and is beginning to mobilize, Cities and municipalities are also joining the ban, unfortunately in some cases like the recent G7 Summit in Canada these proposed actions have no timeline or legal requirement, so broad based citizen groups and organizations will have to keep up the pressure.

This pressure will probably also be required to curb International Plastic Manufacturers who intend to ramp up production by 40% in the next few years.

I remember the 1967 film-- The Graduate where Dustin Hoffman is advised by a friend of his father that the future is in Plastics, how ironic that not too much later we are choking on the stuff.

Plastic is a amazing material and with proper planning and recycling it can be of use to our human society for years to come, although in the long term we simply need to get off the oil and use alternatives.

