



“The optimist proclaims that we live in the best of all possible worlds; and the pessimist fears this is true.”

James Branch Cabell

September 2013

SAGE meeting, September 5th at 7:00 p.m. at the Lethbridge Public Library.

OWC Watershed Science Tour on October 3rd, 8:30 a.m. to 4:30 p.m. Contact Leta at the OWC to register.

Great Canadian Shoreline Cleanup September 14th from 2 p.m. to 4 p.m. Contact Leta at the OWC to register.

Below Your Watershed Conference 2013 October 21 - 23, Medicine Hat

The End of Planned Obsolescence?

The concept of planned obsolescence involves the self-enriching practice advanced in 1932 by Bernard London that aims to create products that cease to become functional within a time period pre-determined by the corporation. The result has been an unimaginable waste of resources - metals, fossil fuels for plastic manufacture, and energy, as well as the additional harmful emissions discharged into the environment.

For example, it is estimated that 50 tonnes of e-waste alone is generated in the United States each year - the US discards 30 million computers each year, while Europe disposes over 100 million cell phones. Canadians dispose of 777 kg of waste per capita each year.

The SOP Movement (Sin Obsolescencia Programada or Without Planned Obsolescence) has been established in Spain by Benito Muros who has developed and commercialized an LED light bulb that is guaranteed to operate for 25 years.

The aim of the SOP Movement is to create ‘a peaceful mobilization of people for a change in consumerism towards a sustainable and logical economic model to manage our planet’s resources.’ Muros is encouraging other manufacturers to join the movement so as to increase pressure on distributors and retailers to market these products, as they remain significant corporate barriers to widespread acceptance of SOP products.

Sacred Spirit of Water

The Lethbridge District Labour Council recently hosted a premiere for the film Sacred Spirit of Water, written, directed and produced by Morningstar Mercredi - actor, writer, and social activist.

The documentary film traces the Idle No More movement against omnibus Bills C-45 and C-38, particularly the assault on water. Connected with this movement is the impact of water contamination from oil & gas exploitation on First Nation lands, and the emerging environmental concerns about hydraulic fracturing.

The 57- minute film can be viewed at: <http://sacredspiritofwater.com/>

AEN Petitions Unstoppable Spills

The Alberta Environmental Network (AEN) has requested that “the Alberta Energy Regulator (AER) conduct a public inquiry pursuant to section 17 of the *Responsible Energy Development Act* RSA 2000, c R-17.3 into the safe and environmentally responsible operation of steam-assisted gravity drainage (SAGD) and cyclic steam stimulation (CSS) operations in Alberta.”

It has been reported that there are a number of sites in the tar sands region where bitumen/water emulsion is leaking to the surface due to steam pres-

sure in the reservoir. These sites include Joslyn Creek SAGD thermal operation in 2006, Jackfish SAGD operation in 2010, and Primrose East CSS operation in 2009 which remains unresolved.

The method of SAGD and CSS extraction involves injecting high pressure steam into the bitumen-bearing zone which makes the bitumen less viscous allowing it to flow into recovery pipes. Because these zones are close to the surface (but too deep to extract by open-pit mining techniques), there is a greater

possibility of the steam and oil leaking through faults in the geologic formations. These leaks cannot be capped, so bitumen will leak as long as steam is injected for the extraction technique.

An anonymous whistleblower was reported to have said:

“Everybody (at the company and in government) is freaking out about this. We don’t understand what happened. Nobody really understands how to stop it from leaking, or if they do they haven’t put the measures into place.”

According to reports, as much as 26,000 barrels of bitumen emulsion and over 30 tonnes of oily vegetation and wildlife have been removed at the latest spill site.

It has been requested by the AEN that factual technical information identifying the cause of the releases be disseminated; that it be determined how to prevent future occurrences; and that it be demonstrated that measures are in place to prevent similar incidents from occurring in the future.

Lethbridge Storm Water Monitoring Revisited

(Cheryl Bradley)

Beginning in 2012, the Oldman Watershed Council's (OWC) Science Team undertook a three-year study of water quality in storm outfalls within the City of Lethbridge. Study results will be compared to those of a similar study in 2000-2002 by the Oldman River Basin Water Quality Initiative, precursor to OWC. The comparison will indicate if efforts by the OWC Urban Team and others to improve storm water quality in Lethbridge over the last decade have been successful and will help define key challenges that need to be addressed in future.

Nine storm drains in Lethbridge, representing a number of different types of urban land uses, were sampled from April through September in 2000-2002 and again in 2012 and 2013. Data from 2013 has yet to be analyzed. Sampling is also planned for 2014.

Fecal coliform bacteria were detected at all nine sites in 2000-2002 and also in 2012, often exceeding recognized surface water quality limits. High densities were detected in both studies in the same three storm drains, one draining a catchment area in north Lethbridge, one in south Lethbridge and another in west Lethbridge. High densities of bacteria are not necessarily associated with wet weather. Campylobacteria causing enteric disease in humans have been isolated from some of the 2012 samples.

Sources of the fecal contamination - humans, pets, livestock or wildlife - have yet to be determined.

Pesticides were encountered in the majority of stormwater samples in both studies, the most frequent being herbicides commonly applied to lawns - 2,4-D, mecoprop and dicamba. In both studies, the same storm drain in North Lethbridge had the highest number of detections. Bromacil, an herbicide typically used for industrial purposes, was also detected in both studies. Five insecticides detected in 2000-2002 were not found in 2012. More data and analyses are required to determine if there is a significant difference in detection of pesticides between the two studies.

Increase in nutrients such as nitrogen and phosphorous in water increases plant and algal growth and decreases water clarity. Total phosphorous concentrations in samples in both studies frequently exceeded recognized water quality guidelines, with the highest values often associated with higher flows. In both studies, the newest drains in the system had the lowest phosphorous. There does not appear to be a significant change in the frequency and level of total phosphorous between studies although more data and analyses are required. For total nitrogen, however, the frequency of samples exceeding recognized guidelines and maximum concentrations have notably decreased in 2012 compared to 2000-2002.

Within the last ten years there have been measures taken to reduce contamination of urban storm water, including banning the domestic use of weed and feed type products by the Alberta Government, changes in water rate structures by the City of Lethbridge to discourage over-watering of lawns, expansion of Yellow Fish Road to increase awareness, and profiling of gardens that demonstrate principles of xeriscaping through OWC's Prairie Urban Garden project.

Obviously there are still significant challenges ahead to more clearly define the sources of storm water contamination and to improve practices that affect storm water quality within Lethbridge.

References:

Derksen et al. 2013. 2012 Storm Water Project Microbiological, Pesticides and Nutrient Analysis. Oldman Watershed Council.

Saffran K.A. 2005. Oldman River Basin Water Quality Initiative Surface Water Quality Summary Report, April 1998 - March 2003.

Bull Trout Populations Recovered? Think Again!

(Courtesy of Lorne Fitch, P. Biol., written October 2012)

Some bull trout live long enough to remember a time nearly two decades ago when a growing weight of evidence showed this native fish was in trouble, throughout most of its range in Alberta. Not only had the distribution of bull trout shrunk substantially throughout most of the province's history, populations had winked out and more were winking out of existence.

A clarion call to action was sounded and a "Friends of the Bull Trout" group formed to focus attention on the plight of the species. Status reports throughout the range of bull trout confirmed suspicions, papers were written and conferences were held bringing a sense of collective angst and action to the issue. A slogan was coined, "No Black- Put it Back", to alert anglers about misidentification with brook trout and that bull trout were too scarce and too precious to catch and keep. Signs were posted advis-

ing people they were in "Bull Trout Country". The dedicated bunch also contrived to give the species some political support by encouraging the provincial government to make bull trout our provincial fish species.

A "Management and Recovery Plan" was written in 1994; in 1995 bull trout were protected from angler harvest. By 2002, almost a decade after the red lights started flashing, the slow wheels of government had deemed bull trout a "Species of Special Concern". Everyone retreated to their corners with anticipation amid the hopeful hype about a sense of stewardship for the future. In retrospect a cloak of naivety blanketed discussions and gave a sense the recovery strategy would work. It might have been evident, even then, that recovery possibilities were more faith based than grounded in evidence.

Painfully, with little budgetary support and perhaps a sense of clandestine operations (given the propensity of organizations to punish those that deliver bad news), fisheries biologists have been accumulating data on the status of bull trout populations to test the efficacy of recovery. The weight of data paints a dismal picture for bull trout and hardly one of recovery. This is found in a report released this year entitled "Bull Trout Conservation Management Plan 2012-2017". (<http://www.srd.alberta.ca/FishWildlife/SpeciesAtRisk/LegalDesignationOfSpeciesAtRisk/documents/BullTroutConservationManagementPlan2012-2017.pdf>).

This report summarizes the check up on the progress of recovery. The diagnosis is dire and the prescription provides faint hope for bull trout. Population trends indicate 61% of bull trout core areas (there

Interesting Links:

State of the Water Movement in British Columbia

<http://poliswaterproject.org/>

Protecting and Connecting Headwater Havens

<http://www.wscanada.org/>

Is Geoengineering a Silver Bullet for Climate Change? (Suzuki)

<http://www.desmogblog.com/2013/08/20/geoengineering-silver-bullet-climate-change>



Southern Alberta Group for the Environment (SAGE)

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are 51 in the province) show declines and 39% are stable or increasing. However, tucked into the tables and turgid narrative are a series of red lights flashing out signals to be interpreted and heeded. "Stable" populations are still below their historical levels and the word doesn't imply the population is healthy, only that there have been no changes in survey results over the short time of monitoring. Only three populations were shown to have increased in numbers over time. Redoing the math leads one to a conclusion 94% of the provincial bull trout population is in trouble.

As additional alarm, all of the core areas where the last of the bull trout swim are at risk; no core areas are free of risk. One population has winked out since the "recovery" efforts began. So a native trout species that once ranged in the Peace River to the delta, in the Athabasca watershed to the town of Athabasca, in the North Saskatchewan River below Edmonton, in the Red Deer River to nearly Drumheller, in the Bow River downstream of Calgary and in the Oldman River to Lethbridge now hangs on by a fin in the upper reaches of Alberta's watersheds.

Since 1995 bull trout have theoretically enjoyed some statutory safety from harvest by anglers. Sadly, at the same time, the watersheds in which they exist and upon which they rely have seen an ever increasing footprint of development and use. The solution to the slide of bull trout into history does not lie solely with anglers and fisheries biologists. Provincial fisheries managers have but one lever to

pull to aid bull trout. That lever, of zero harvest, has been pulled for 17 years. It hasn't worked- it never had a chance to work- given that an accompanying response in land use activities didn't happen. Anglers got cheated while the footprint of industrial and motorized recreational activities continued unabated.

A real recovery effort, honestly and diligently pursued requires the use of watershed disturbance thresholds that guide decisions about land use and are not exceeded. In many watersheds the limits have already been exceeded. There, for those degraded habitats, a recovery and restoration effort is urgently required. Of the few populations that show signs of recovery it is telling that most exist in protected areas like provincial parks. Though not part of the monitoring effort the real benchmarks to apply a recovery effort against are those robust, healthy populations that exist in watersheds without an industrial or motorized recreational footprint like Jasper National Park and Willmore Wilderness.

This report on conserving and managing bull trout speaks less about those aims and more to 17 years of masterful inactivity and benign neglect on the part of the provincial government and industry towards an imperiled species. Designating bull trout a "Species of Special Concern" seems to have had little impact on recovery and it might have worked as well to have called them a species of no particular concern. I'd like to think the recommendations of fisheries managers, especially on habitat and land use footprints will be given weight and provide a sense of urgency.

However, since release of the report I see no impetus, increased focus, enhanced concern or expression of a collective will to deal with the real, pervasive problems faced by bull trout. If most, not some, but most of a population of anything is at substantial risk it is time for action, not foot dragging. Otherwise, the methodical monitoring of a non-existent recovery effort will be nothing more than a cataloguing of a native species quickly disappearing from Alberta watersheds.

The thing about bull trout, perhaps the morbid fascination and the interest in them as an indicator, is that they show the spectrum of what's wrong in our headwaters. The fish, or more to the point the declines in fish, the disappearance of fish, tells us about the additive, synergistic combination of roads, logging, mining, culverts, motorized recreation, grazing, dams, diversions, poaching and climate change. Mostly what the trends in bull trout populations speak the loudest on is our collective, contrived reluctance to do anything about any of these artifacts of human use and greed, for the sake of a native son.

Lorne Fitch is a Professional Biologist, a retired Fish and Wildlife Biologist and an Adjunct Professor with the University of Calgary.

The Lorax

It was suggested that we find a different voice for this book review: that is, to leave behind the 'distraught environmentalist' and find, perhaps, the voice of another besieged group, the silent minority - yes, that barely understood class enclave known as the 'one percent'. We asked Bob LaBlaugh to critique one of the most dastardly tracts ever penned by a medical professional: *The Lorax* by Dr. Seuss.

Not everything the good doctor has written has been nonsense: he has given us memorable treatises like Hop on Pop, and one cannot forget the virtuous Mr. Grinch. But dear Dr. Seuss must have fallen into the granola bin when he wrote *The Lorax*.

The story begins with the Once-ler discovering an untapped resource on the unpopulated frontier. Suess pastorally drivels on about that time, "back in the days when the grass was still green, and the pond was still wet and the clouds were still clean, and the song of the Swomee-Swans rang out in space" and how the Once-ler came upon that glorious place. The Once-ler immediately recognized the potential of Truffula trees - all his life he'd been searching for trees such as these ... "The touch of their tufts was much softer than silk. And they had the sweet smell of fresh butterfly milk." An entrepreneur knows that idle land and resources are economically unprofitable and, therefore, wasteful. The Brown Bar-ba-loots must scoot.

The Once-ler goes into production, converting the tufts of the Truffula trees into Thneeds. He explains to the Lorax: "I am doing no harm. I'm being quite useful. This thing is a Thneed. A Thneed's a Fine-Something-That-All-People-Need! It's a shirt. It's a sock. It's a glove. It's a hat. But it has other uses. Yes, far beyond that. You can use it for carpets. For pillows! For sheets!

Or curtains! Or covers for bicycle seats!"

And the people indeed, needed a Thneed. So the Once-ler capitalized, beginning with the Super-Axe-Hacker, which "whacked off four Truffula trees at one smacker." And since business is business and business must grow, he had to grow bigger, so bigger he grew: he biggered his factory; he biggered his roads; he biggered his wagons, and biggered the loads; and best of all he biggered his money, which everyone needs.

Economic growth without government harassment about social and environmental distractions ... Utopia. But it is a utopia that would be ruined by that meddling Lorax. The Once-ler hired the whole Once-ler Family and put them to work, each one living in their own Lerkim. There was no unemployment, people were making ends meet with their wages, the land was being put to use - and what greater virtue is there than utility? The Once-ler was handsomely rewarded for his entrepreneurship, as it should be - do you want to discourage innovation by putting restrictions on progress? By allowing the government to take their money away from them? What will happen to the Once-ler family if they lose their jobs, their wages? Clearly the Lorax doesn't care about people. That crazy pants seems to love the Swomee-Swans and the Bar-ba-loots much more.

Oh, sure, the Once-ler made some smogulous smoke. So much that the poor Swomee-Swans couldn't sing a note. And, sure, he glumped the pond where the Humming-Fish hummed! For no more can they hum, as their gills are all gummed. But the planet is a big place, and it is resilient. When the Truffula trees are gone, the land can be reclaimed and nature can be rejuvenated - then the animals will return.

And when the last Truffula tree is cut down? The Lorax should not worry - Once-lers are resourceful. When the economic signal is evident, this resource will



be substituted by a more abundant resource. [Neoclassical economists](#) suggests that "a rise in price of a resource leads to a substitution of this resource with a more abundant resource." It will also encourage more exploration, capitalization to improve efficiency, and more research and innovation - things we call progress. But Dr. Seuss would have us live in poverty - he would have us live without Thneeds, that we clearly all need.

The Lorax is hysterical environmentalist propaganda designed to push a misanthropic, and anti-progress agenda. Dr. Seuss lambasts the Once-ler who should rather be extolled for creating jobs and driving the economy forward. The Lorax complains but doesn't offer solutions. Seuss forgets that humans are resourceful, and we can always invent our way out of problems. As for the environment - it is a resource. And as Lawrence Summer (while Chief Economist of the World Bank) has said, pollution should be emitted in the lowest cost environment: "From this point of view a given amount of health impairing pollution should be done in the country with the lowest cost, which will be the country with the lowest wages. I think the economic logic behind dumping a load of toxic waste in the lowest wage country is impeccable and we should face up to that." As we develop and progress, pollution will become more costly at which time it can be reduced - why waste money doing it now when it will be cheaper to do so in the future?

I will conclude with a quote from another champion of progress - Rex Tillerson, CEO of Exxon: "What good is it to save the planet if humanity suffers?"

Take *The Lorax* off of your children's book shelf today!

