



**"I know of very few people who are dreaming  
of a world for their grandchildren."**

**Kurt Vonnegut**

**April 1, 2014**

## The Power of "No"

**SAGE meeting** Thursday, April 3rd, 7:00 p.m. at Public Library, downtown.

**Conservation Caravan** open house at SAAG, April 15th 7p.m. to 9 p.m.

**FREE Self-Guided Xeriscaped Garden Tour**, Saturday, June 21st. Starts at Helen Schuler Centre.

City of Lethbridge yard-waste collection opening April 1st.

**4H Electronics Roundup**, April 5th at northside Sobeys 9 a.m. to 3 p.m.

**Build a Small-Scale Aquaponic Systems** Workshop, May 23-24, 2014. Aquaculture Center of Excellence (south end of Lethbridge College)

Jessica Ernst was recently invited by **No Drilling Lethbridge** to speak at the University of Lethbridge in support of community efforts to stop drilling within the city limits by Goldenkey Oil.

Jessica Ernst shared her story, describing how her water well was contaminated by drilling activity in the region. She has accumulated an impressive amount of information regarding oil & gas activities in the region and the impact it has had on both water quality and quantity. She now has to drive a 90 km round trip each week to get water.

Ernst has documented the spreading of drilling mud on frozen fields - with the associated concerns about soil contamination and particulates picked up

by the wind. Drilling fluids may have toxins and heavy metals which could affect agricultural land.

She discussed the disposal of fracking fluids and the relationship to earthquakes and groundwater contamination in other locations where oil & gas exploitation is intense.

But beyond the irreparable damage to her water aquifer, and the concerns over air emissions and soil contamination, the most pernicious aspect of her story is the response of the government, health authorities, and the energy regulator. She has been branded a 'terrorist', her Charter Rights have been trampled, and she has been intimidated by police, by the

government, and by the courts. It should concern us all that the institutions that are expected to protect the public interest begin to work for the corporate interest.

At her presentation, Jessica praised Lethbridge - its citizens, the press, and the municipal government - for saying "No" to urban drilling. She warned that the government and industry will try to divide the community through donations and 'compromise at the roundtable.' She commended Lethbridge for demonstrating the 'Power of No'.

For more detail on Jessica's efforts see her very detailed website at:

[www.ernstversusencana.ca](http://www.ernstversusencana.ca)

## Hey Hey My My

In a surprise decision today, Prime Minister Stephen Harper has decided to mothball bitumen extraction in Alberta.

"There are a number of reasons for my decision," Harper told reporters, "but mainly I was deeply affected by the passion of Neil Young." The PM went on to say, "Upon reflection, he was right - we do need to honour the treaties; we do need to be concerned about the health of our citizens and our environment; we do need to reduce our greenhouse gas emissions; and we do have to reframe our economy."

In conjunction with the decision about bitumen exploitation, Harper has withdrawn support for the Keystone and the Northern Gateway pipelines, which were to ship bitumen for refining.

RCMP and CSIS files on individuals and groups who have opposed these projects will change drawers, he promised: "from the 'Terrorist' cabinet to the 'Order of Canada' cabinet."

When asked if he and Neil Young will remain friends after the historic high-five at

an open pit near Ft. McMurray, the Prime Minister responded "Hey Hey My My".

Rumour has it that Neil has jammed with the PM on the

church organ he recently had installed at 24 Sussex Drive. In return, the PM introduced Neil to his favourite technology ... the comb.



# Flood: The Other 'F' Word?

(Courtesy of Lorne Fitch, P. Biol., written 2013)

Gordon Lightfoot, the icon of Canadian folk music, intones, "When the skies of November turn gloomy" as a warning to ships plying the waters of Lake Superior. In land locked and water short southern Alberta, Lightfoot's words don't have the same cachet, but recent storm events have begun to sensitize us.

The floods of 1995, 2002, 2005 and now 2013 have made us start to search the skies of May and June for signs of impending doom. Spring rain used to fill our prairie souls with joy; now the same rain, especially when it persists for days, fills us with a sense of dread.

With these recent experiences we've started to look at a flood as the other "F" word. Are we justified in thinking of this phenomenon in such harsh terms?

Is it possible to have more than one "flood of the century"? Given that we've seen four major events in 18

years, a term like "flood of the century" seems meaningless, more of a joke than a measurement to the next big event. What we need to understand about a 100-year return interval is not that a major flood will only happen once in that period, but rather there is a one percent chance of it happening in any year. So it is possible that we can experience recurring large floods, one after another.

Why are large floods occurring more frequently? Maybe we need to recognize that greater levels of uncertainty and extreme variability are the new normal for us.

Floods happen and they tend to recur in a predictable nature as the accumulated snow of winter meets the rising air temperature of spring. Water transforms from a solid state to a liquid one faster than the Earth can absorb it. That's especially evident when heavy rain accompanies or follows snowmelt. Surplus water swells thousands of tiny drainages and coa-

lesces in small streams. Those hundreds of small streams feed larger creeks and rivers, as gravity pulls water from higher elevations lower.

A crest of water rolls downstream, filling the channel and often spilling into adjoining low-lying areas. Most of these "floods" go by and we hardly notice, short of some brownish water that can thwart the efforts of anglers and possibly a mild taste of chlorine in the tap water.

What all floods have in common, the average and the not so average, is that measured over the year, they represent the time of greatest volume, highest speed and most energy. All of these features are important to consider when trying to understand flood dynamics.

Volume is the easiest one to observe; there is simply a lot more water. That water has to fit somewhere and when the volume exceeds the capacity of the channel (the area between the

## Interesting Links:

Globe Climate Legislation Study <http://www.globeinternational.org/studies/legislation/climate>

Deep Energy Retrofits <http://aceee.org/research-report/a1401>

Keystone Pipeline Will Impact Climate Change, State Department Reports (Scientific American, Jan. 2014).  
<http://blogs.scientificamerican.com/>

Energy East: A new report assesses pipeline's climate impact (Pembina Institute) <http://www.pembina.org/media-release/2520>

National Fish, Wildlife and Plants Climate Adaptation Strategy <http://www.wildlifeadaptationstrategy.gov/strategy.php>



**Southern Alberta Group for the Environment (SAGE)**

**A Leading Voice for a Healthy and Environmentally Sustainable Community.**

**Visit us at: <http://sage-environment.org/>**

**If you are interesting in getting involved, contact us at:**

**[sage-communications@sage-environment.org](mailto:sage-communications@sage-environment.org)**

banks) it climbs out of the restriction into the low lying area called the floodplain. It's a rather clever adaptation to periodic bursts of water and provides a river with a safety valve to temporarily store its excess water, outside of the channel.

Because rivers only use floodplains on infrequent occasions we tend to forget they exist and what role they provide. Like house insurance, we hope we will never need it, but without it we shoulder tremendous risk. It's worthwhile taking a little wind-shield tour after floodwaters have receded to remind ourselves of the outer boundaries of the floodplain. The accumulated flood flotsam and jetsam are the silent messages of the river, telling us where it needs to be after the gales of June come slashing.

Speed and energy are inextricably linked. Water is a heavy substance, a cubic meter of it weighing almost as much as a Toyota Corolla. If you've ever been "bombed" by some trickster with a pail of water, you have instant understanding of the shock of an innocuous liquid hitting with such power.

Unlike the pail of water, a river's volume keeps pounding away, and as the speed increases so does the power of that water. A mere doubling of the velocity of the water quadruples its ability to erode; that's a lot of aqueous Toyota Corollas with a lot more horsepower. When the energy of a flood comes rushing down the channel it can be alarming – pounding, grinding and carving away at the bank as it goes.

This is the point where the safety valve of the floodplain becomes apparent, slowing the water down as it escapes the channel. It also helps to have a floodplain bristling with natural infrastructure like trees and

shrubs, because they blunt the force of that rushing water: slower water, less energy.

The problem is that floodplains are such inviting places. They lure us with their flat nature, their pleasant umbrella of trees and proximity to water. The river doesn't use them much so why don't we develop them? To put this into perspective, Deerfoot Trail through Calgary has very little traffic on it at 2:00 am. But very little traffic doesn't mean it's a good place to pitch your tent. A periodically dry floodplain is no different.

When we forget how land and water function and interact, great consternation erupts from us when the river decides to reoccupy its land. Rivers become enemies, invaders; they need to be controlled, straightjacketed and made mindful of our developments. It's a wonder that in our pursuit of saving ourselves from rivers, we never seem to think long term about protecting rivers from ourselves.

We resort to engineering solutions, like channelization, berms, dikes, riprap and straightening, to keep the river off "our" land. Most of these "solutions" to mitigate flood effects are really just transferral devices that move the problems to downstream neighbours. Sometimes those solutions work, or they seem to for a while and then a larger flood tests them and finds the weak spots. To watch a river work in flood times — probing, pushing, attacking and out-flanking its man-made "solutions" — is an exercise in military maneuvering that most generals would envy.

There is an axiom, rarely heeded, that says in the tension between water and land, water always wins. **Water always wins!** A river holds a mortgage on the shore; it will foreclose in the fullness of time, irrespective of our

puny efforts to stall the debt with our engineering schemes for deferral.

It might be instructive to look at one of the longest running flood control and mitigation experiments in North America, an initiative of the world-renowned US Army Corps of Engineers for the Mississippi River and its tributaries. For almost 200 years they have engaged in an engineering contest with water. It has included humongous dams on the Missouri River, capable of holding several years worth of water, a massive set of levees paralleling the Mississippi River to prevent floodplains from being flooded, floodwalls (the "concrete solution"), spillways to periodically divert excess flows and "channel improvements" (read: "dredging").

In spite of this, recurring floods have routinely overtopped levees inundating farms, fields, towns and homes. In the spirit of full cost accounting, these control and mitigation solutions have probably dramatically increased financial losses, not reduced them, because people felt it was safe to build, develop, farm and live in the floodplain.

The US Army Corps has had to resort to blasting open levees, allowing flood waters to reoccupy the floodplain, to save downstream businesses and people. Now, in the fullness of time and experience the Corps says "Whenever possible the best way to manage floods is within a natural floodplain" ([Wall Street Journal, 9 May 2011](#)). Their strategy now includes allowing more flooding to occur and discouraging development on floodplains to reduce risk and economic losses. Imagine that!

Mark Twain apparently recognized this natural truth as early as 1883 when he wrote about the Mississippi:

"Ten thousand River Commissions, with the mines of the world at their back, cannot tame that lawless stream, cannot curb it or confine it, cannot say to it, Go here, or Go there, and make it obey... cannot bar its path with an obstruction which it will not tear down, dance over, and laugh at" (Life on the Mississippi, 1883).

This is cold (maybe wet) comfort to many who live on floodplains. Everyone can agree that floods, especially the big ones, can be frightening, devastating and the reactions to them emotionally charged. The reality is the threats and the losses are largely of our own making, notably regarding development in floodplains and routinely rebuilding to the same standards after floods recede, while ignoring our watershed-scale industrial impacts. It has led to a raging debate over flood mitigation and costs.

A partial solution might include thinking about not only the volume of water in a flood but also how fast it is delivered to your front door. Water from snowmelt and rainfall used to take longer to get downstream. A survey of our watershed will likely show that collectively we've cleared, cultivated, logged, built roads, paved over portions, removed the meanders of streams, blown the beaver dams and drained the wetlands of a great deal of the landscape upstream from us.

It's now a short and speedy run for water to find a basement near you. Flooding isn't simply a river issue; it is one of larger scale that occurs across the watershed. Many watersheds have lost the capacity to slow down, hold, absorb and store runoff. In effect, we've assisted gravity in the upper portion of the watershed with our land use footprint and re-

source extraction, then tried to fight gravity downstream with engineered structures. That's a losing proposition.

Our efforts might be better placed, working at a larger scale, with all of our watershed neighbours. What we cannot change, like the reality of an altered climate, we need at least to recognize, and learn to adapt to greater variability, especially in river flows. There is no "get out of floods free" card; they will still occur but we may be able to moderate their impacts on us.

Let's manage our watersheds by maintaining cover, allowing water to soak in and be stored in riparian areas and in the uplands, especially in our headwater forests. We can improve watershed management by restoring wetlands and letting floodplains do what nature designed them to do. If we recognize that roads, trails and land clearing (like logging, paving or cropping) speed up and deliver water faster to those downstream, we might start to reverse the extent of our footprint.

These are all things we have control over and we have the capacity to change how they contribute to flooding. In terms of full cost accounting, investment in better watershed management might net us a less costly, long term response to flood risk. It is a different way to look at flood mitigation. But, to paraphrase the man's prayer recited by members of Red Green's Possum Lodge — "We're watershed residents, we can change, if we have to, we guess." And just as Red Green knows that hard times in life bring valuable lessons, we should also remember the beneficial aspects of natural floods and stop referring to them as a bad word.

Oh, and let's not build anything else on the floodplain. If we continue to,

Gordon may be inclined to pen another classic, maybe called "The Wreck of the Alberta Landscape". It will be a hit when the skies of May and June turn gloomy.

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

**Note:**

**Lorne will be presenting on April 1st from 12 to 1 p.m. at the public library downtown: *Bats in Your Hair and other Wildlife Myths and Misconceptions***



## Wild Canada

A wide ranging four part series within David Suzuki's, **Nature of Things**. Thursday nights at 8:00 or online @ [www.cbc.ca/wildcanada](http://www.cbc.ca/wildcanada).

CBC steps up to the plate to do what the public broadcaster does best – tell us stories about ourselves. The newest series is a sure winner with luscious location shots of iconic Canadian landscapes, wildlife and our human relationships with it all.

Episode One, *The Eternal Frontier*, is an introduction to the sweeping narrative, taking in humpback whales on the east coast, the great bear rainforest on the west coast, prairie pronghorn antelope, garter snakes in central Canada and of course – polar bears in the northern boreal forest and further into the tundra. It all leaves the viewer thirsting for more in depth focus on all these marvelous sights – which is just the gambit an opening sequence is designed to perform.

The innovative aspect of this nature tale is the emphasis on humans as shapers of the landscape. Starting in the east with ochre graced Beothuk casting a skeptical eye on Cabot's boats in the Atlantic, we move to interior forests managed by Iroquois and Algonquin. Circa 1679, First Nations are applying fire to the landscape to shape vast grasslands that support a variety of vegetation to which many animal species are attracted. The iconic maples which so dominate landscapes we see today are revealed to result from cessation of fire and consequent abundance of maples at the expense of other species.

Episode Two, *The Wild West*, offers a superb example of human created landscapes to "farm" the ocean. Aerial photography and ethnographic interviews inform us of rock walls purposefully built along the coast to create artificial coves. As silts build up behind these walls, wildlife colonize the area allowing easy harvesting of clams, whelks and seaweed by humans – and

ravens. Members of the Heiltsuk Nation collected fertilized salmon eggs in moss lined cedar boxes and transported them to alternate free running rivers. Doing so helped populate other areas with salmon runs for many generations as salmon return to the stream in which they were hatched to lay their own eggs. Wolves, grizzlies and various bird species feasting on the hard working salmon give a glimpse into further complexity of what some have called the Salmon Forests of BC.

The series promises insight into how abundance and diversity in our world have been increased by intricate human and animal behaviours and conversely, how threatening such an intertwined web could devastate regions. The closing sequence in the first episode suggests the Eternal Frontier is now most contentiously the spectacular north and the challenges climate change presents to humans and other animals in that landscape. So tune in not just for the awesome visuals and fascinating animal behaviours, but also for some controversy.



Episode 1: The Eternal Frontier. Thursday 13 March, or online.  
Episode 2: The Wild West. Thursday 20 March, or online.  
Episode 3: The Heartland. Thursday 27 March, online after first showing on cable.  
Episode 4: Icy Edge. Thursday 3 April, online after first showing on cable.



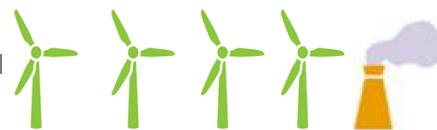
More information, interactive tools and behind the scenes glimpses into the challenges of photography is available on the website. There is also an app (because what kind of anything could possibly matter if we were unable to download an app for it?)

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A note for the techno intrigued:

"A truly massive endeavour, the *WILD CANADA* team shot close to 500 hours of footage with almost 20 different cameras to capture the images that comprise the four-part series. Most images were composed in 4K resolution on the same RED Epic cameras used to shoot *The Hobbit*. Some sequences were shot at 10,000 frames per second to capture exquisite detail in slow-motion.

Accompanying the series is the [WILD CANADA App for iPad, iPhone and iPod touch](#). Written by acclaimed author J.B. Mackinnon (*The Once and Future World* and *100 Mile Diet*), and produced by the CBC and Secret Location, the App is a visually stunning interactive "coffee table book", that features lush, high-impact HD video and photography from some of Canada's most remote locations, as well as 360° panoramas, immersive soundscapes, fly-throughs, interactive infographics, and a wealth of exclusive WILD CANADA material available nowhere else."



## The Logos of the Living World: Merleau-Ponty, Animals, and Language (2014)

In *The Logos of the Living World*, Louise Westling offers an interesting new integration of the philosophies of Maurice Merleau-Ponty and Hans Jonas with the emerging field of bio-semiology.

She first introduces the philosophy of Merleau-Ponty which "assumes the evolution of life forms and sees humans as interdependent members of the ecosystem. He argued that each human – like any other organism – exists in an embrace or intertwining with the surrounding environment." And she shares a quote from Merleau-Ponty: "This environment of brute existence and essence is not something mysterious - we never quit it, we have no other environment" (p.26). In support of this thesis, the author shares Lynn Margulis's recent assertion that "all beings alive today are equally evolved. All have survived over three thousand million years of evolution from common bacterial ancestors" (p.27).

Westling then explores the implications of Uexküll's notion of "the subjective environment or *Umwelt* that each species and individual creates in its reciprocal interaction with the world around it, as determined by its perceptual and motor abilities" (p.37). In short, the perspective is that human life, like all animal life, has evolved within its *Umwelt*, while also changing its *Umwelt* - a dialectic emphasizing the interrelationship between man and 'nature.'

Based on this foundation, Westling introduces the concept of biosemiotics which deals with: the emergence of semiosis in nature, coinciding with the emergence of living cells; plant and animal communication, as well as inner sign functions in the

immune and nervous systems; and the semiotics of cognition and language. The author cites Uexküll who suggests widespread communication throughout the natural world with his emphasis on 'meaning factors' that exist for living beings in the habitats surrounding them.

This all may seem weird, but what makes this book interesting is that once the philosophical foundations have been established, the author summarizes some of the fascinating advances in the biological sciences over the past decade that support the thesis that semiosis is the foundation of life. Scientists have found that the DNA structure is necessary but not sufficient for passing on all of the information needed for reproduction and evolution. The actual processes require a substantial amount of interaction and communication throughout the *Umwelt* (self-world or environment). In fact, many scientists suggest that it is the boundary (the cell wall or skin) that should be considered the orchestrator of reproduction and adaptation, rather than the DNA, as these boundaries carry and interpret information between outside and inside.

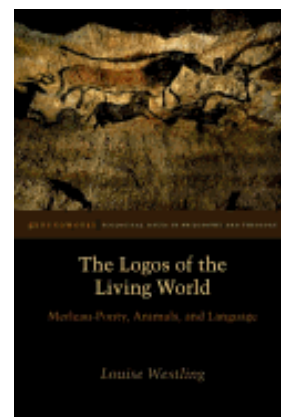
Scientists use the term 'digital codes' to represent the shared convention between the parts involved in making life. The codes may be 'analog' or 'digital', and Westling cites Canadian communication theorist Anthony Wilden who has pointed out the critical difference between analog and digital codes: "a digital code is 'outside' the sender and receiver and mediates their relationship; an analog code *is* the relationship which mediates them" (p.87). In other words, digital codes are like DNA and the analog code is the semiotic communica-

tion of life processes in the biosphere or *Umwelt*.

This perspective has led to Developmental Systems Theory (DST) in which Hoffmeyer (cited by Westling) suggests "the dichotomizing into organism and environment is severely challenged. In the traditional view, evolution is due to the exposure of individual variants to selective forces caused by an independently existing milieu. But according to DST, such variants (here, life cycles) are by necessity already deeply integrated into the environment, and thus the conception of differential success is no straightforward matter" (*Biosemiotics*, p.107).

In other words, from a biological perspective, there is no difference between the individual and its environment - there is a 'semiotic mutualism' to life. According to Hoffmeyer, "the whole point is that ecological diversity is *in itself* an important component in the semiotic freedom that makes nature so appealing to us. The homogenous forests, the gigantic monocultures, or the impoverished plots of land left by rain forest clearings are not only poor in species diversity, but are also – and for the same reason – poor in semiotic diversity" (p.332).

This is an argument for preserving nature, as it is ourselves. Human life, like all life, exists in a semiotic *Umwelt*. As Hoffmeyer says: "We must learn to *speak with nature* in its own language (p.354) - a language we appear to have forgotten.





**A leading voice for a healthy and  
environmentally sustainable community.**

**Box 383 Lethbridge AB T1J 3E9**

March 8, 2014

To: MGA Review Team (mga.review@gov.ab.ca)

From: Braum Barber  
Southern Alberta Group for the Environment (SAGE)

Re: **Review of the Municipal Government Act**

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The Southern Alberta Group for the Environment (SAGE) has been, for the past thirty years, an active voice for a healthy and environmentally sustainable community in Lethbridge. A review of the Municipal Government Act (MGA) is an important process that may provide opportunities to advance environmental sustainability and ecological integrity within our municipalities.

The current MGA provides some direction for water bodies 60(1), environmental reserve 664(1), and a vague statement that "A municipal development plan may address environmental matters within the municipality". The MGA also notes compliance to ALSA, as well as the NRCB, ERCB, AER, AEUB or AUC for resource extraction within a municipality. This is inadequate to ensure municipalities have the direction and tools to do their part in sustaining biodiversity and healthy ecosystems, including air and water quality in Alberta.

The overarching goal (through ALSA, the Land Use Framework, the South Saskatchewan Regional Plan, and the MGA) is to provide direction for managing cumulative effects on air, land and water. This can be accomplished by providing tools and resources to municipalities that promote land stewardship and reduce the urban footprint. The municipal development plan under the MGA has been augmented in recent years with an Integrated Community Sustainability Plan (ICSP), designed to encourage environmental aspects in municipal decision-making. Though the ICSP process lacked in oversight and adequate accountability for the Gas Tax funds, the concept was promising and earnestly supported by many municipalities including Lethbridge. Consideration of the goals of the ICSP process in the review of the MGA would be appropriate.



With respect to the cumulative effects of urban design on the health of the environment upon which we depend, more direction is required in the MGA. For example, the types of 'environmental matters' that each municipality must address in planning and development ought to be better articulated in the MGA: protecting the quality and quantity of ground water and surface water; protecting environmentally sensitive areas; reclaiming disturbed land to natural conditions; and promoting wildlife corridors and restoring biodiversity.

To accomplish these sustainability goals, the MGA might also provide greater direction on better managing surface (stormwater) runoff to rivers and lakes and reducing pollutants at the source, such as industrial wastes, household chemicals, as well as cosmetic lawn fertilizers, herbicides and pesticides. Stronger tools to protect riparian lands, wetlands, escarpments, and other environmentally sensitive areas are needed. Furthermore, the municipality should have more say in land use upstream and upwind, as agricultural and industrial activity may have a significant impact on contaminant levels that municipal infrastructure and health services must deal with. As a minimum, the virtually unrestricted access to municipal land for resource development must be rescinded: activities that may have profound cumulative effects on urban municipalities should be under the purview of the municipality.

To summarize, the MGA should be better aligned with ALSA, LUF, and the Water for Life strategy in an effort to promote environmental sustainability in the province. Integrating ICSPlans into the MGA would help standardize sustainability goals in the province, and foster greater commitment to their achievement. Finally, policy tools, resources, and incentives to municipalities committed to manage cumulative effects of human activity and address environmental limits would be important to consider in the review of the Municipal Government Act.

We appreciate the opportunity to share our thoughts and look forward to seeing them addressed in this review process.

cc.     Bridget Pastoor, MLA, Calgary East  
        Greg Weadick, MLA, Calgary West  
        Mayor Spearman, City of Lethbridge



City of Lethbridge

Digital Billboards

Municipal Planning Commission, Special Meeting, 2 pm, March 19, 2014

Presenter: Klaus Jericho, Lethbridge Astronomy Society

We are living in an age of innovation and its application through technology. Technologies are being created which are desirable and others not so desirable. Society has to make the choices. In the case of digital billboards this choice requires understanding of the new technology and its consequences. This understanding requires a detailed study of the complex issues. Most citizens do not have the inclination or the time to reach this understanding. The electronic billboards have significant social impacts. The far reaching consequences may not be considered by industry or business and are too complex for most citizens to consider.

This new light technology has become part of the City light application. Policy relating to electronic billboards must therefore be considered in a broad context. Recently the City has renewed its 45,000 street lights with Light Emitting Diode technology. This has provided unnecessary light intensity and more white light, with its undesirable blue night light component. This light pollution is removing the night sky from our world. It is also threatening the functioning of the Lethbridge Astronomy Society in its present location at Popson Park. The Lethbridge Astronomy Society therefore does not want any more light added to the city skies and is therefore opposed to any electronic billboards.

This billboard issue has more consequences than just light pollution. It is a cultural and aesthetic issue. Do we want a city where business and the advertising industry dominate over everything else? Do we want to drown in light and moving colorful distractions? Does the distracted driver's law apply? What about the impact on our sleep, metabolism, natural light-cycle and circadian clocks? What is the impact on disease such as breast cancer or obesity? What is the impact on vegetation and insects? Do we really need so much light on our streets to reduce accidents and crime? How much light is really needed for reading? Does energy conservation apply? Could we reduce our light consumption in our homes, learning institutions and businesses? Our light consumption is based on five coal burning power plants and its consequences to air pollution.

How can we weigh social challenges against environmental ones? We need a dialogue among users of this new billboard technology, environmental scientists, city planners, interested public and decision makers.

Considering the complexity of this artificial light issue, I recommend that the Municipal Planning Commission make use of the newly created Lethbridge Environment Unit and request a science based review of the Digital Billboard issue. The review of street lights will now have to wait until their replacement in 10 -20 years. This study of peer reviewed literature may require hiring of suitable expertise.

Klaus Jericho



**A leading voice for a healthy and environmentally sustainable community.**

**Box 383 Lethbridge AB T1J 3E9**

March 12, 2014

To: Planning & Development Services, City of Lethbridge

From: Braum Barber  
Southern Alberta Group for the Environment (SAGE)

Re: **Digital Billboards**

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The Southern Alberta Group for the Environment (SAGE) has been, for the past thirty years, an active voice for a healthy and environmentally sustainable community in Lethbridge. We believe that a review of the Land Use Bylaw 5700 regarding billboards (9.20) is required based on the current understanding of digital technologies as they have begun to proliferate in the City.

The review should consider the Municipal Development Plan / Integrated Community Sustainability Plan (MDP/ICSP) as a guideline for good, sustainable practices in Lethbridge. For example:

- 1) The planning document suggests the preservation and enhancement of public space by 'encouraging beatification of commercial corridors'. It would be difficult to argue that billboards enhance public space in general, and it would seem that digital versions are much less likely to be considered a source of beatification in public areas. Furthermore, bright flashing billboards do not encourage residential development adjacent to commercial corridors, which is a policy direction expressed in the MDP/ICSP.
- 2) The MDP/ICSP also suggests that social sustainability requires 'ensuring safe neighbourhoods and public space'. A related example given in the document is to develop programs that reduce automobile related collisions. This is, perhaps, the most pernicious aspect of the electronic billboard which can be a distraction to drivers and, as such, a threat to public safety.

- 3) From an environmental perspective, digital billboards represent a waste of energy. The MDP/ICSP suggests that the community pursue conservation and 'an energy strategy that reduces reliance on carbon based energy resources'. We should be concerned about emissions related to electricity use, particularly in light of overwhelming evidence that we must collectively begin to reduce our greenhouse gas emissions, not to mention other types of pollution emitted during the (largely coal-fired) generation of electricity in Alberta.
- 4) The MDP/ICSP has recommended that decisions recognize 'night sky principles' which discourages light pollution so that the night sky is visible within the city. Digital billboards, particularly as they tend to favour eye-catching colours and brightness, represent the antithesis of these principles.

SAGE recognizes that the negative impact of digital billboards may not have been anticipated by City administration or Council at the time when the first applications were being approved. And we appreciate the opportunity to provide feedback at this time on an issue for which the City of Lethbridge has, since their installation, established some experience. In summary, SAGE would encourage the improvement of Bylaw 5700 to better reflect community values about digital billboards, as represented by policy directions articulated in the MDP/ICSP.