



“Each generation bears the full burden of previous inaction but will derive no benefit from their own action.”

Stephen Gardiner

Facts vs. Feelings in the OHV Debate

May 2017

SAGE AGM, June 5th, Noon, Streetside Eatery. SAGE will be accepting membership fees for 2017 up to or at AGM.

Lethbridge Sustainable Living Association planning for Applefest (and other summertime activities). For more information visit their website at:

www.lethbridgesustainableliving.org

One Stick at a Time, showing May 3rd, 7:00 pm Helen Schuler Nature Centre.

Volunteer at Waterton Beaver Fence Removal and Compound Clean-up **May 3rd**; Spring Shoreline Clean-up May 6th; Plant Watch; and a four-pack of events **May 27th**. For more information contact: william.green@pc.gc.ca.

Lethbridge's State of the Environment

Environment Lethbridge has published the first *State of the Environment* report for Lethbridge. The report focuses on biodiversity, local food, water, air, waste, energy, and climate change as they relate to our city. One of the main goals of the effort was to collect locally relevant information and recommend locally measurable indicators that can be monitored over time. As a baseline, the current state of the environment can be compared to future goals. Policy decisions can be monitored for effectiveness in improving the environmental health of the City.

From the EL website:

Lethbridge's first State of the Environment report explores key indicators so that we can better understand our environment, the strengths we

have within our community and the weaknesses we face as we work towards becoming more sustainable. An indicator is a piece of evidence that tells us about the conditions around us. It gives us a way of seeing the “big picture” by looking at a small piece of the puzzle, or at several pieces together. An indicator reveals something of importance that is not otherwise immediately detectable. By looking at these indicators we are able to assess Lethbridge's strengths and areas where improvements are needed.

Read the report! It can be found on the Environment Lethbridge website.

environmentlethbridge.ca/soe/

It is human nature to reject evidence that doesn't support our opinions. Although we are all entitled to our opinions, it doesn't mean we get to select our own facts. However, the strategy employed by those unmoved by facts, the uncomfortable truths, follows a time-tested pattern: disparage the science; attack the scientists; make outrageous statements, including the invoking of conspiracy theory; and, manipulate and use only the information that seems to support your side.

Science serves everyone, but only if we choose to listen. Facts don't cease to exist because we won't accept them, or worse still, ignore them. Current voices in the Off Highway Vehicle group implore us to not look at the mudholes, at the braided trails, the rutted hillslopes, the sediment-laden streams and the trail density beyond science-based thresholds. No, look instead at this shiny new OHV bridge (but please ignore the OHV ford beside it). This bridge is what responsible OHV use is all about, not that other stuff.

Science doesn't give you the answer you want, it provides ...

... continued on page 3

Solar Installation Guide from Environment Lethbridge.

If you are interested in installing a solar photovoltaic array on your home, Environment Lethbridge has created a guide available at <http://environmentlethbridge.ca/solar/>

You may also be eligible for a solar power rebate from the Government of Alberta (<https://www.encyalberta.ca/solar>)

Sustainival is coming to Lethbridge - May 26 to May 28

Sustainival will feature exhilarating games, attractions and rides powered by renewable energy! This unique carnival provides an experiential public education platform that celebrates energy literacy, sustainability, and clean-technologies.

<https://sustainival.com/event/lethbridge/>

Action Plan for the Milk River and St. Mary River Drainage Basin in Canada

From the Executive Summary:

This action plan addresses two species found in the Milk River and St. Mary River drainage basins, Alberta, and follows a multi-species approach to protect and maintain self-sustaining populations of both species. [...] This action plan builds on the recovery strategies of the Rocky Mountain Sculpin (Eastslope populations) and the Western Silvery Minnow. In Alberta, the Rocky Mountain Sculpin (*Cottus* sp.) is found in the St. Mary River drainage and the Milk River drainage and the Western Silvery Minnow (*Hybognathus argyritis*) is found in the Milk River drainage. Both species are listed as Threatened under the federal Species at Risk Act.

The long-term recovery goal for both species is to protect and maintain self-sustaining populations within their current range in the Milk River system (for the Western Silvery Minnow and Rocky Mountain Sculpin) and in the St. Mary River system (for the Rocky Mountain Sculpin). This action plan addresses all the objectives in the recovery strategies for

the Rocky Mountain Sculpin (Eastslope populations) and the Western Silvery Minnow. Key objectives of both recovery strategies are to:

- 1) quantify and maintain current population levels of Rocky Mountain Sculpin (Eastslope populations) and Western Silvery Minnow within their current range in the St. Mary and Milk river watersheds (within the population's range of natural variation) as determined from standardized surveys,
- 2) increase knowledge of the taxonomy, life history, basic biology, and habitat requirements of the Rocky Mountain Sculpin (Eastslope populations) and Western Silvery Minnow, and,
- 3) increase our understanding of how human activities affect Rocky Mountain Sculpin and Western Silvery Minnow survival, so that potential threats to the species can be avoided, eliminated, or mitigated.

For the Rocky Mountain Sculpin (Eastslope population) and the Western Silvery Minnow, critical habitat was identified to the extent possible, using the best available information, in the species' recovery strategies. It is anticipated that the protection of the species' critical habitat from destruction will be accomplished through a SARA Critical Habitat Order made under Subsections 58(4) and (5), which will invoke the prohibition in Subsection 58(1) against the destruction of the identified critical habitat (Section 2.3).

Recovery measures that have been outlined in this document to implement the recovery strategies fall under four categories: Research, Monitoring, Management and Regulatory Actions, and Education and Outreach.

For more information, see www.sararegistry.ca

Interesting Links:

Watch on YouTube: "The Water Balance Equation - A documentary"

<https://www.youtube.com/watch?v=oxPgmAOgZMo>

Watch How Bees Teach Each Other to Solve Problems

New research with bumblebees hints at how knowledge can quickly spread through a population.

<http://news.nationalgeographic.com/2016/10/bees-learn-by-watching-each-other-bumblebees/>

7 must-see films at the 2017 Environmental Film Festival

From the hidden costs of our digital world to the frozen edges of civilization ...

<http://www.mnn.com/lifestyle/arts-culture/blogs/7-must-see-films-2017-environmental-film-festival>

EROI of different fuels and the implications for society - Energy Policy

http://ac.els-cdn.com/S0301421513003856/1-s2.0-S0301421513003856-main.pdf?_tid=19553cd4-2b99-11e7-875a-00000aab0f01&acdnat=1493332401_d379974f8294c329257f344cf955b199



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

Facts vs. Feelings in the OHV Debate (Continued)

the result the evidence indicates. Some can't or won't acknowledge their role in the damage OHV use causes in watersheds, to fish and wildlife populations and the impact on other users. They attempt to cloak, obfuscate, disguise and divert attention away from the reality of the situation. Don't let this chicanery fool you.

We can't measure everything, everywhere. The logistics would be prohibitive, so science uses inference. A light switch turned on in the Premier's office, in the office of the Opposition leader and in the homes of OHV users provides illumination, a successful outcome of science regardless of place. In the case of the last two places one might hope for enlightenment as well.

When studies indicate native cutthroat trout and bull trout (both threatened) are at risk with a trail density that exceeds 0.6 km/ km² it is reasonable to expect it will be true throughout the range of both species, including the Castle. When you measure erosion rates of 0.9 to 73 kg/m/year on OHV trails in a similar topographic region the probability of finding comparable results on OHV trails up and down the Eastern Slopes is high. Bet on it and you would win.

For the Castle this translates into roughly 64 million kilograms of sediment generated annually from 1823 km of roads and trails. That's the equivalent of about 4000 tandem dump truck loads of sediment. All roads and trails erode, those subject to motorized traffic erode more and many connect directly with streams. Reality about watershed damage can't be suspended, can't be ignored because your favorite recreational activity is challenged by facts.

Research related to linear disturbance (the length of roads/trails within an area) has enough replicates to indicate the theory about negative impacts to fish, wildlife and water quality is valid.

We need to know what the cumulative impact of all land use is, how much OHV damage can be tolerated, and whether we can accept these trade-offs. Only science will give us those parameters upon which reasonable decisions can be made. It does the OHV community little good to deny the very tool essential to making these key decisions for the source water of two out of every three Albertans.

Confirmation bias is the process of selecting the information that supports your opinions, while ignoring the rest. One of the slogans of the OHV group is "Engineered trails are responsible trails". Without getting into the realm of how a trail becomes responsible, or what "responsible" means to OHV users, this poses a question that only science can answer related to the effectiveness of designed and built OHV trails.

The Alberta Off-Highway Vehicle Association promotes "internationally recognized trail building best practices to mitigate environmental impacts." This begs the question- where are these trails? The current myriad of OHV trails in the Eastern Slopes exist on old seismic lines, logging roads, pipelines, powerlines and cross country tracks that were not built to last, not designed for the traffic they now receive and have virtually no maintenance done on them.

In this mythical place of which AOHVA speaks, where trails meet some "international" standard, do native trout swim in abundance? Do grizzlies, elk and other sensitive species again occupy the watersheds where OHVs operate on such trails? Do the streams run clear after rainstorms? Your belief system may support this, but where is the evidence? Evidence is how adults navigate the world, not fairy tales, not fiction.

"The truth is out there", as Mulder remarked in the X-Files. However the danger in embracing the science is that it will deprive OHV users of a utopian vision of their recreational activity. It will unequivocally lead to something more than the consolation of fiction. Although Yogi Berra wisely said "you can see a lot just by looking", it is equally true that if you don't want to see, don't look. That includes shunning the science that could inform of the damage done by OHV use and lead us to consensus on watershed protection. The science is out there, and not far away.

"Some people drink deeply from the river of knowledge, others only gargle", commented Woody Allen. This seems painfully true when reflecting on the position of many in the OHV community.

March, 2017

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

How Does Your House Rate for Heat Loss? Visit the Lethbridge Heat Map at <https://myheat.ca/lethbridge>



Atmosphere of Hope: Searching for solutions to the climate crisis (2015).



Tim Flannery authored *The Weather Makers* in 2006. The book, along with Al Gore's *An Inconvenient Truth* published later the same year, had a profound impact on the public understanding of climate science and the emerging climate crisis. The Kyoto Protocol was almost a decade old, and it appeared that governments would respond meaningfully to carbon emissions.

That was then. And then came Copenhagen and Cancun. Canada under the leadership of Stephen Harper withdrew from the protocol in 2011 right after Durban. Then there was Doha and Paris in 2015. *Atmosphere of Hope* is a remarkably, well, hopeful book given the amount of indifference that had flowed under the climate bridge since *The Weather Makers*.

The first part of the book summarizes the current understanding of the climate crisis with some acknowledgment of shortcomings in *The Weather Makers* - which has by and large stood the test of time. Tim Flannery also shares some of his hopes and disappointments during this period working in Australia to translate the science into government policy and his work with Richard Branson and his £25 million Virgin Earth Challenge to remove at least 1 gigatonne of carbon from the atmosphere (roughly equivalent to 3.7 gigatonnes of CO₂).

Flannery mocks the emerging excuse that Australia (and you will recognize it in the Canadian arguments, as well) produces less than 2% of global emissions and any reduction will hurt the economy. He says: "The truth is that 180 individual nations out of the world's 193 are each responsible for less than 2 percent of global emissions, ... Furthermore, there is no evidence that leading on climate change damag-

es the economy" (p.70). In other words, we all have to work at decimal points of our share of the global emissions.

Flannery also shares some recent studies on the health and economic aspects of climate change - particularly as it relates to coal burning electricity. Sorry for the long quote, but it is quite stunning:

"A 2008 Harvard Medical School study examined a wide range of costs resulting from coal use across the US economy. The annual public health burden in Appalachian communities (where much of the coal is mined) was estimated at US\$74.6 billion. The cost of fatalities among the public due to coal transport by rail was \$1.8 billion, and the health costs of air pollution from coal combustion were estimated at between \$65 billion and \$187.5 billion. Mercury impacts added between \$414.8 million and \$29.3 billion to the health bill. Subsidies to the coal industry cost between \$3.2 billion and \$5.4 billion, while the clean-up of abandoned mine lands added another \$8.8 billion annually.

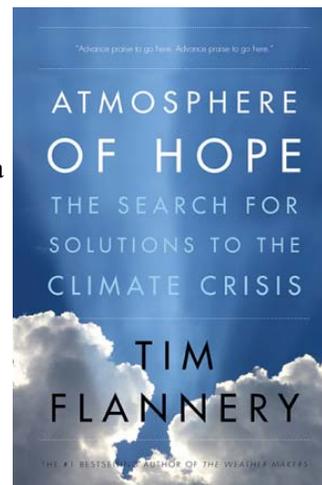
The costs of burning coal in terms of contributing to climate change (which are hard to estimate) was put at between US\$20.6 billion and \$205.8 billion per annum. The estimated total annual cost to the US economy of burning coal is thus between \$175 billion and \$523 billion. That equates to a cost of between 9c and 27c for every kilowatt-hour of electricity generated" (p.87).

In other words, there are a whole heap of 'externalities' in coal-fired electricity generation. Alberta's efforts to replace coal through efficiency gains, lower carbon gas generation, and renewable energy appears

economically rational given the costs of coal that don't find their way onto the utility statement.

The rest of *Atmosphere of Hope* addresses what Flannery calls the 'third way' of carbon sequestration. To meet the targets of the Paris emissions treaty and keep the earth's average temperature increase below 1.5°C roughly 18 gigatonnes of CO₂ must be removed from the atmosphere and safely sequestered each year along with the promised emission reductions. "Where might the third way take us by 2050? If we put aside seaweed farming, with its stupendous potential but great difficulties in realization, the following optimistic scenario is within the bounds of possibility. Forestry and soil carbon might together sequester a gigatonne of carbon per year, and biochar a similar amount. Direct air capture and silicate rocks might capture another gigatonne between them, and carbon-negative cement and carbon-negative plastics another gigatonne. That's four gigatonnes of carbon per year, or around 15 gigatonnes of CO₂ - just one quarter of current global emissions and still below the 18 gigatonnes that the combined US academics found we'd need to draw down to reduce CO₂ by one part per million per year" (p.175).

What this means is that if we throw everything at our disposal at reducing atmospheric carbon, and if it works, we will still fall short. Flannery's conclusion is that it is necessary to begin to reduce fossil emissions faster than planned. *Benediximus nobis* as they used to say in the old days - good luck to us all.



Dear Sir or Madam – Please be advised that, at the March 13th Municipal Planning Commission (MPC) meeting, **Cardston County approved the Police Lake Ranch and Retreat development application.** Outside of the usual development conditions, the only additional condition imposed was a 10 meter setback from all adjacent parcels of land. A copy of the Notice of Decision is attached.

We are obviously very disappointed with this decision.

The Boundary Creek Landowners Group will be appealing this decision through the local Subdivision and Development Appeal Board (SDAB).

I will advise you of the Appeal Hearing date as soon as I am aware, should you wish to submit a letter to, or make a presentation at, this Hearing.

Thank you very much.

Jackie Morris for Boundary Creek Landowners Group
403-653-2916



CARDSTON COUNTY

"Heart of the Southwest"

NOTICE OF DECISION

Form C

Application No. 002.17

NAME OF APPLICANT: 1934809 AB LTD..

In the matter of a development located at:

NE-1-1-27-W4

The development as specified in Application No. 002.17 for **Police Lake Ranch and Retreat** has been **APPROVED** subject to the following conditions:

- (a) That this development is located and carried out as indicated on the development application submitted February 10, 2017, and as updated at the March 13th, 2017 Municipal Planning Commission Meeting. Any changes to that plan shall require the written approval of the Development Officer.
- (b) There shall be no development within 131' feet from the middle of any municipal road allowance boundary, unless a development permit is obtained that specifically varies the required setback to permit the development.
- (c) That prior to any construction, building permits, along with any other safety code permits (electrical, plumbing, gas, heating & ventilation, and/or private sewage disposal) that are required in accordance to this application must be obtained from a licensed Alberta Municipal Affairs Safety Code Permitting Agency.
- (d) That a 10m setback from all adjacent parcels of land be maintained clear of all structures, recreational vehicles, trailers, debris, or any other appurtenances.
- (e) That any and all requirements, of any other provincial or federal regulatory or approving body or department, will be adhered to at the sole cost of the developer.

DATE OF MPC DECISION March 13th, 2017

YOU ARE FURTHER NOTIFIED that you may appeal this decision to the Subdivision and Development Appeal Board, as provided by the Land Use Bylaw, by serving written notice of appeal, stating the reasons, to the Subdivision and Development Appeal Board, C/o Municipal Administrator - CAO Murray Millward, Box 580, Cardston Alberta T0K 0K0 within fourteen (14) days of receiving this notification. The required fee of \$500.00 must accompany the appeal.

DATE: March 15th, 2017

SIGNED: _____

**Development Officer
Cardston County**

Do you have an interest in healthy forests?

We want you to join a conversation about forest management in Alberta

"Each person's view is a unique perspective on a larger reality. If I can look out through your view and you through mine, we will each see something we might not have seen alone."
- Peter Senge

Join the conversation

Tell your story and experiences with ecosystem-based management in Alberta – We want to move beyond the science and understand your experiences and perspectives.

This is not your typical workshop.

This event is not for spectators. Prepare to hear from others and share your perspective and experience. Through professionally-facilitated sessions, the Healthy Landscapes Program at fRI Research aims to openly explore the barriers and opportunities to applying ecosystem-based management in Alberta. **We want you to do be part of it.**

Who Should Attend?	Why Attend?	Locations and Dates	
Anyone who cares about how forest landscapes are managed in Alberta. <ul style="list-style-type: none">• Academics• ENGOS• Indigenous leaders• Industry• Private organizations• Retired practitioners• Senior government managers	<ul style="list-style-type: none">• Contribute perspectives and ideas to the discussion• Hear a range of views from diverse stakeholders• Network with peers and colleagues	Athabasca	May 30/17
		Grande Prairie	Sept. 12/17
		Calgary	Oct. 25/17
		Edmonton	Dec. 12/17
		We want to hear from you	
		Share your perspective on EBM and your experiences managing forest landscapes.	
		Click here to Register now	

Space is limited to 50 people per session. RSVP now and secure your spot!

Climate Vulnerability and Forest Management in the West

“One Stick at a Time”

Film Screening & Discussion



Wednesday May 3, 2017

At 7:00PM

Helen Schuler Nature Centre

Indian Battle Park, Lethbridge, AB

“One Stick at a Time” is a thoughtful, encouraging journey of restoration, profiling the efforts of the Methow Beaver Project in Washington State, to deal with and adapt to the effects of climate change. Dealing with the environmental changes around us can seem overwhelming, monumental even, but the film is a hopeful story of how we can change the roadmap forward, and do what we can to set the stage for living in a changing and changeable world. Kent Woodruff, the Project Manager for the Methow Beaver Project will lead the discussion into the film and be available to explore the opportunities for climate change adaptation using beavers as a restoration tool. This film and the discussion has relevance for us in Southern Alberta, as we understand our world will become warmer and drier

over time. We invite you to attend!

Kent Woodruff, a US Forest Service biologist from Winthrop, Washington, has been helping resource managers across the west engage in discussions about what we can do to soften the impacts of climate change. For more than 36 years Kent has been a biologist. Now he knows that all the resources we manage, from forests and rangelands, to streams and rivers, to roads and trails, to noxious weeds, to sensitive plants, to our important recreation areas are all facing additional stress from climate change that is increasing each year.

On **Wednesday May 3**, Kent will share a film about climate adaptation work that he is doing with beavers and the attempts of others in Washington to find some solutions to the impacts that continue to become more intense. Since 2014, with support from the Wildlife Conservations Society’s Climate Adaptation Fund and the Doris Duke Charitable Foundation, he worked with an independent filmmaker to show what biologists are doing in the valley where he lives. He wants to share the film as a climate change adaptation conversation starter.