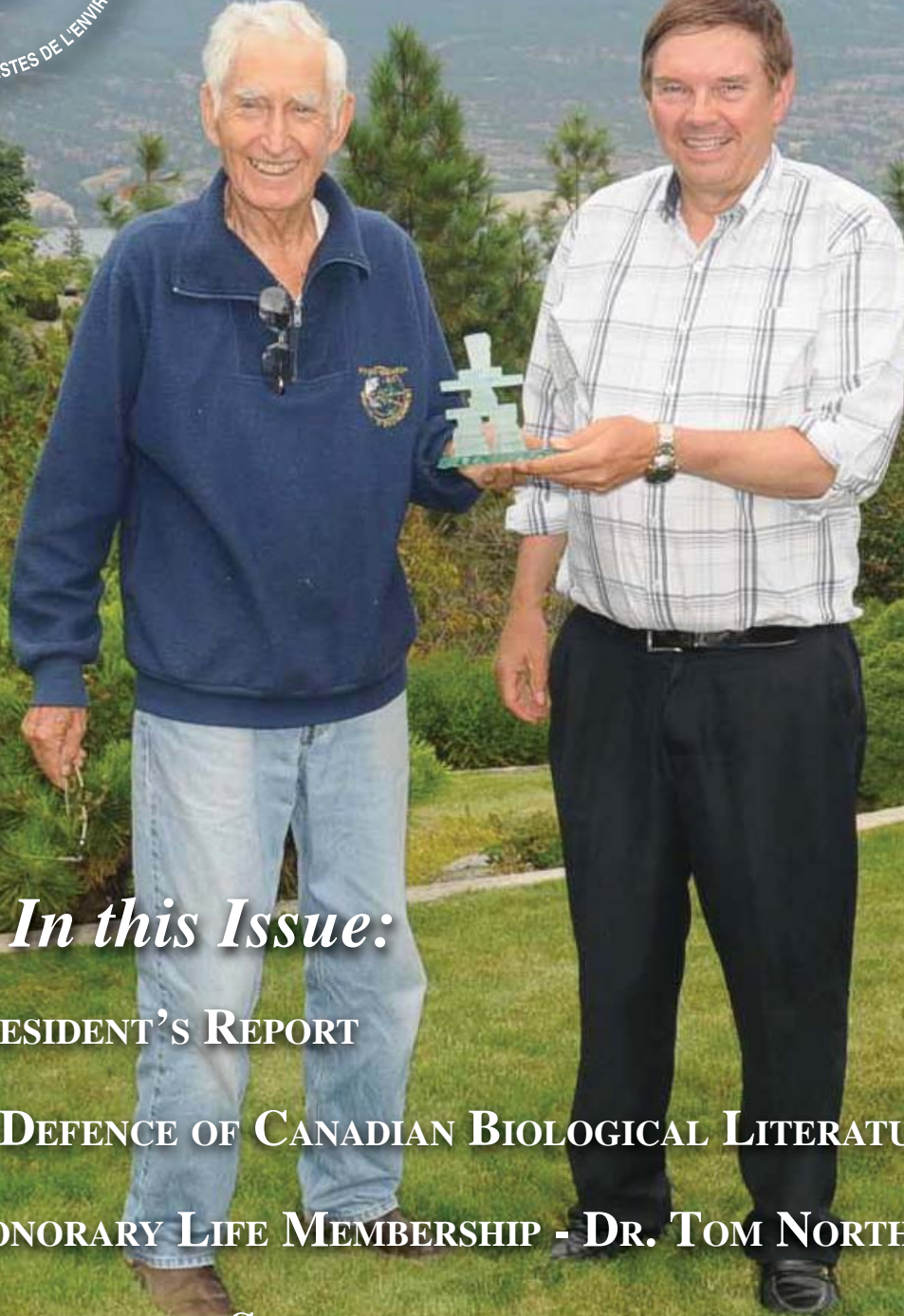




THE CANADIAN SOCIETY OF ENVIRONMENTAL BIOLOGISTS Newsletter / Bulletin



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CSEB Newsletter Bulletin SCBE

VOLUME 70, ISSUE 3, 2013

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Front Cover: Gary Ash presenting Dr. Tom Northcote with Honorary Life Membership plaque. August 2013.

Back Cover: Inscription on Inukshuk plaque given to Dr. Tom Northcote.

Photo Credits: Evelyn Ash

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CSEB NEWSLETTER 2013

Vol. 70, Number 3 Fall 2013

The Canadian Society of Environmental Biologists Newsletter is a quarterly publication. The Newsletter keeps members informed of the Society's activities and updates members on the current affairs and advances in the field of environmental biology. This publication draws together the widely diverse group of Canadian environmental biologists through a national exchange of ideas. Members are invited to contribute papers, photos or announcements that are of a national biological and environmental interest. Letters to the editor are welcome. This is a volunteer non-profit organization and we rely on your participation to make the newsletter a productive forum for ideas and discussion.

All business correspondence, changes of address, undeliverable copies and membership applications should be sent to: CSEB National Office, P.O. Box 962, Station F, Toronto, ON., M4Y 2N9. **Editorial correspondence:** Gary Ash, Editor, e-mail: gash@golder.com

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LE BULLETIN de la SCBE 2013

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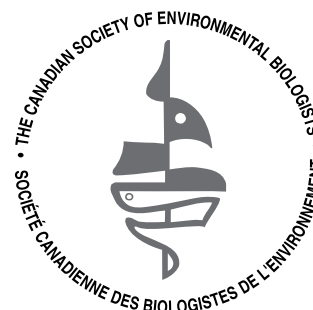
Le Bulletin de la SCBE est une publication trimestriel de la Société Canadienne des Biologistes de l'Environnement. Le Bulletin informe les membres des activités de la Société sur événements courant ainsi que les progrès qui font en sciences de l'environnement. Par un échange d'idées au niveau national, cette publication intéresse un groupe très diversifié d'environnementalistes Canadien. Les membres sont invités à contribuer des articles, photos (noir et blanc) ou des messages qui sont d'intérêt nationale en sciences biologiques et environnementales. Les lettres à l'éditeur sont bienvenues.

Tout la correspondance d'affaires, y compris les abonnements, les changements d'adresse, les exemplaires retournés et les formulaires: CSEB National Office, P.O.Box 962, Station F, Toronto, ON, M4Y 2N9. **Les lettres à l'éditeur:** Gary Ash, Editor, courriel: gash@golder.com

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The Canadian Society of Environmental Biologists**CSEB OBJECTIVES**

The Canadian Society of Environmental Biologists (CSEB) is a national non-profit organization. Its primary objectives are:

- to further the conservation of Canadian natural resources.
- to ensure the prudent management of these resources so as to minimize environmental effects.
- to maintain high professional standards in education, research and management related to natural resources and the environment.

OBJECTIFS de la SOCIÉTÉ

La Société Canadienne des Biologistes de l'Environnement (SCBE) est une organisation nationale sans but lucratif. Ses objectifs premiers sont:

- de conserver les ressources naturelles canadiennes.
- d'assurer l'aménagement rationnel de ces ressources tout en minimisant les effets sur l'environnement.
- de maintenir des normes professionnels élevés en enseignement, recherche, et aménagement en relation avec la notion de durabilité des ressources naturelles et de l'environnement, et cela pour le bénéfice de la communauté.

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PRESIDENT'S Report

Submitted by Robert Stedwill, CSEB President

The CSEB is made up of members across the country, many of whom volunteer their time to help the Society, whether it be writing for the quarterly newsletter, putting the newsletter together, writing articles for the newsletter, or administering and reaching out to members in the various CSEB regions across Canada.

Three individuals have stepped forward from Ontario and British Columbia, Derrick Moggy (Ontario) and Loys Maingon and Jim Armstrong of British Columbia respectively, to be regional directors. I welcome the three of them and hope that each respective region will ratify their positions as regional directors.

As biologists, we have a large country in which to practice, from the high Arctic to the lower Great Lakes, and from the Pacific coastal region to the most easterly shores of North America. Getting together to discuss common interests presents a challenge for us; for, depending on where the Annual General Meeting (AGM) is actually held, it may require some of us to travel great distances to attend. As we did last year, the 2013 AGM will be held online on December 2nd 2013 at 5 PM Eastern Standard Time, with three excellent technical presentations followed by the business meeting. This will be a web-based format, with members being able to dial in free of charge and see the presentations, and to be able to ask questions during a short Q&A following the presentations.

Although we are all scientists of the natural world, we do need to embrace technology to some extent in order to conduct our business of the association. Details of how to connect to the AGM, the agenda, and any other pertinent information will be posted on the Society's website.

Plans for the 2014 AGM are currently underway, and hopefully will be held in conjunction with a workshop on the west coast. As details are ironed out, we will post them on the website.

In the meantime, as winter descends upon us, I wish that all of your snowless field season requirements are behind you, or quickly wrapping up, and that the winter season field season plans are coming together. Some of us who no longer do field work, will continue to monitor developments in the regions and Ottawa in terms of legislation and regulations, or lack thereof, as they impact the Canadian environment.

Canadian Society of Environmental Biologists

Annual General Meeting 2nd December 2013.

Check CSEB website for details.

NATIONAL News

Government of Canada Indicates Intent to Protect the Greater Sage-Grouse

Submitted by Pat Stewart, CSEB Atlantic Director

The Greater Sage-Grouse is currently facing extirpation in the Canadian parts of its range, which extends in the Great Plains region of North America. The Canadian population, which occurs in southeastern Alberta and southwest Saskatchewan, has declined by nearly 98% since 1988, with less than 150 birds now remaining. In mid-September, the Federal Government indicated its intent to issue an Emergency Order is to impose obligatory restrictions designed to protect the Sage-Grouse and its habitat on provincial and federal crown lands in Alberta and Saskatchewan.

An Emergency Order under the *Species at Risk Act* (SARA) can be used when a species faces imminent threats to its survival, and current protection measures are deemed inadequate. An Emergency Order for Greater Sage-Grouse would protect the habitat necessary for the survival of the species. This would be the first time since the Act's inception that this mechanism is being invoked.

The federal government has indicated that some landowner activities on private land, and livestock grazing on provincial or federal crown lands, will not be restricted. Therefore all possible measures for protection will not be employed. "Our goal is to achieve the best protection for the Sage-Grouse, while minimizing impacts on landowners and agricultural producers", said Minister Leona Aglukkaq.

Source: adapted from Environment Canada press release dated 17 September 2013

Stand Up for Science

Submitted by Brian Free, CSEB Past President

On September 16, rallies were held across Canada to protest the lack of support science is receiving from the current federal government. Scientists, many sporting their trademark lab coats, gathered in several Canadian cities to explain the importance of basic science and the free exchange of scientific research. The federal government has shifted its research dollars to support only practical science with good potential for commercialization by Canadian industry. The pursuit of basic science to advance our knowledge about our world has been dropped from their agenda. Many federal scientists have been laid off and those that remain have been muzzled. They must consult with Government communications bureaucrats to see if they can share their scientific results with colleagues or the interested public. The federal government is no longer an "employer of choice" for young Canadian environmental scientists.

Mr. Harper's determination to cut costs is being applied heavily to federal science programs. Most of us are familiar with the axing of the Experimental Lakes Area in northwestern Ontario. Some hope remains that the Manitoba and Ontario governments may step in to rescue this important research facility. And let's not forget the many university field stations across Canada that have also suffered budget cutbacks. These field stations host undergraduate ecology students, where they learn the basic techniques of field biology. Professors conduct long-term research at these field stations with a steady stream of graduate students adding to the knowledge of the region's environment.

One important point to consider is that the budgets for these research facilities and other scientific programs that have been axed are a drop in the bucket in the context of overall government spending. The government could easily shave off some of the excesses in its other Cadillac programs without a noticeable change in the outcomes achieved. And yet their support for science is taking a disproportionate hit! They simply don't understand the importance of these scientific programs!



CSEB Past President, Brian Free, at the Edmonton rally for Stand Up for Science

CSEB has written to federal politicians expressing some of these concerns (see our Summer, 2012 newsletter). Make sure that your MP knows that federal support for basic science is important to you!

Honorary Life Membership - Dr. Tom Northcote

Submitted by Gary Ash, CSEB Membership Chair

At the 20 December 2012 Annual General Meeting of the Canadian Society of Environmental Biologists, Dr. Tom Northcote of Summerland BC was awarded an Honorary Life Membership for outstanding contribution to the Society.

On 28 August 2013, Gary Ash, CSEB membership chair and newsletter editor, stopped in to visit Tom and Heather Northcote and presented Tom with a plaque to celebrate his Honorary Life Membership in the Society (see cover photos and photo below).

Congratulations Tom, and thank-you for your many contributions to the Society over the years!



REGIONAL News

BRITISH COLUMBIA News

In Defense of Canadian "Biological Literature": A BC Literary Nobel Prize and Environmental Biology's BC Literary Connections

Submitted by Loys Maingon (MA, PhD, MSc, RPBio)

The Comox Valley is home to the second biggest estuary on B.C.'s West Coast, and as such it is -amongst its many other exceptional attributes - one of the most important bird areas in British Columbia. Historically this has made it a mecca for ornithologists, since its colonization in 1865.

Among the noted pioneer ornithologists who came from Manitoba to live here, one of the most important was Hamilton Mack Laing (1883 – 1982).¹ Mack Laing was one of the great "collectors" who worked for the Canadian National Museum and the Smithsonian. He wrote some 22 articles in scientific journals, 14 books and over 1,000 articles in the "nature" journals and magazines of his day. He was also a field teacher to a young Ian McTaggart Cowan. This makes his estate an important part of Canada's environmental history.

After 1950, Laing ceased to publish. When he died in 1982, Laing left a substantial estate with a second home he built in 1950 to the Town of Comox. The original heritage house ("Baybrook") where he did most of his writing was subsequently bought in 2010 by Comox and the Nature Trust of BC. In June of this year (2013), the Town decided to demolish Baybrook. From public statements made by the town administration, claiming that Laing had hardly lived



at Baybrook, it seems that neither the Town of Comox nor the Nature Trust of BC had any idea of the historical importance of the house, or for that matter of history – apart from the fact that the house sits on one of the biggest First Nation's forest middens in BC!

As history always points to the future, this same house is now of international interest, since Canada's recent Nobel prize winner, Alice Munro, spent 2 winters writing in Baybrook, before buying her own home in Comox! It is a simple lesson of losing the future by forgetting the past.

In other words, neither the biologists associated with the site assessment, nor local administrators, had a basic sense of Canadian or provincial history. Regrettably, this is not unique. While we seem to understand the importance of First Nations heritage – to the point of mis-appropriation – we seem to have little or no knowledge of Western history and heritage, and therefore, little respect for our own western culture. This comes at a cost to the effectiveness of our environmental work.

Among the most interesting articles in the CSEB newsletter have been a series written by Professor Tom Northcote on his experience of fisheries management in the Okanagan.² Apart from the specific account of the propensity to repeat mistakes and be constantly re-inventing the wheel in a succession of “Action Plans” from 1949 to 2010, instead of effectively addressing known problems, these articles are a testimony to the old adage: “They who do not learn from history, are doomed to repeat it.”

It is therefore fitting to note that one of the factors in the “miseducation” of North America is a general lack of historical and cultural perspective.³ While culture is increasingly recognized as a determining factor in the emergence and management of environmental problems⁴, cultural or literary studies are not a requirement for professional biologists, although much of their work will involve working in cultural and historical contexts.

One of the strange contradictions in the education of biologists is that while many budding environmental biologists are drawn into the field by their childhood discovery of nature writers, such as Farley Mowat’s *Never Cry Wolf*, their university education involves a repudiation of the literature that opened environmental biology to them. This repudiation is particularly interesting when one considers that the names of the many professors who ridicule environmental literature – and other “literary hacks” – are, and will continue to be, regularly consigned to the trash bin of history, whereas the cultural influence of Mowat will continue to guarantee his posterity in Canadian environmental history!

Understanding a writer like Mowat is important, not in order to understand wolf biology, but to understand the Canadian psyche and associated attitudes towards aboriginal rights, mammalian management and environmental consciousness, that shaped public attitudes and the ensuing legislation between 1950 and 2000. It is an essential part of the core of a good education: “*Know thyself*.”

Nature writing might be better called “literary biology.” While in the late nineteenth century and early twentieth, it was largely written by untrained naturalists, many of the authors after 1945 like Aldo Leopold are professional ecologists, geographers and biologists. They may not be dominant scientific figures, but they shape the national psyche. The value of literary biology does not lie principally in the descriptive approach to nature, but in the cultural relevance of that perception.

These authors belong to distinct cultural moments, the sum of which make us who we are today. Jack Miner may well seem obtuse to the contemporary reader, because he belongs to an inter-war cultural moment in which Canadian life and economy were dominated by agrarian values. These values largely disappeared from mainstream after 1945, with postwar industrialization and prosperity, but they remain ingrained in rural Canadian life, and are important to responding to today’s regional environmental challenges. Not to understand the vision of these writers is to



approach environmental problems without guidance from past experience, of what is genuinely “the Canadian experience,” as opposed to the North American urban experience.

Nature writing might seem like a trivial or quaint pursuit were the importance of “culture” not immediately evident to field biologists, if only after the completion of the requisite university degrees. Management of natural biological resources is not just an objective scientific problem. It is a multicultural challenge, which requires cultural sensitivity and perceptiveness.

North Americans, regrettably, have a universal reputation for cultural insensitivity, less so in Canada than in the United States, but still prevalent. In Canada, it has taken two to three decades since “*Calder vs. Regina*” to develop a minimal sensitivity to First Nations cultures with regard to the co-management of nature. While laudable, this comes at a price. While officially recognizing the difference of the other visible minority, we homogenize the actual cultural plurality of non-native social groups. Most biologists graduate with a good technical understanding of their field, but with a poor understanding of the Canadian cultural mosaic and its history.

Increasingly, scientists are recognizing that for all the data collection and analysis, environmental problems are primarily cultural problems. Indeed a problem as technically complex as climate change poses particular challenges because what “climate” means to different cultures varies extensively across the globe⁴. Technical solutions cannot be imposed, they must be integrated and adapted to cultural settings. It is, therefore, critical to have a basic cultural knowledge that comes with history.

While quantitative science creates an international bridge or medium for the interpretation of environmental phenomena, the responses we bring to these problems can only be effective if they fit the cultural context. It is increasingly important for Canadian biologists to re-acquaint themselves with all facets of the cultural past they work within.

- 1 Richard Mackie. 1985. *Hamilton Mack Laing: Hunter Naturalist*. Victoria: Sono-Nis Press.

Elizabeth Brooks. 2006. *The Pioneer Birdmen of Comox*. Comox: Beachwalker.

- 2 Dr. Tom Northcote 2012. Inland Water Studies and Research. CSEB Newsletter/Bulletin 69 (3): 12-27.

Dr. T.G. Northcote 2008. Okanagan Basin Studies: Problems, Plans, Actions. *Canadian Society of Environmental Biologists Newsletter/Bulletin* 65 (4): 11-19

- 3 Bloom, Allan. 1987. *The Closing of the American Mind*. New York: Simon & Schuster.

- 4 Mike Hulme. 2009. *Why We Disagree About Climate Change: Understanding Controversy, Inaction and Opportunity*. Cambridge: University Press.

Jerry Brotton. 2012. *A History of the World in Twelve Maps*. London: Allen and Penguin.

ALBERTA News

Woodland Caribou Boreal Population in Canada

Submitted by Joesph Hnatiuk, CSEB Regional Director

Woodland caribou (*Rangifer taranus caribou*) are classified as threatened in Alberta. In support of the national *Species at Risk Act*, a Recovery Plan for Woodland Caribou in Alberta was completed in 2004. The provincial plan was developed at a strategic level and it called for local implementation plans to be completed in 5 areas of the province.

In west central Alberta, one of the areas, woodland caribou are typically associated with large contiguous stands of mature (80 + years old) coniferous forest. On provincially administered lands, these types of landscapes have been changing through timber harvest, oil and gas development and fire suppression. The progressive alteration of the large contiguous coniferous forests to younger, more fragmented forests, and climate conditions, short and long term, are thought to have facilitated an increase in primary prey species other than woodland caribou (e.g., moose, elk and deer). In addition, populations of moose, elk and deer over the past 50 years have increased and are meeting management objectives for hunting. These changes have also resulted in higher densities of wolves adjacent to the caribou habitat resulting in more predation on caribou by the wolves. The continued decline in caribou numbers has resulted in the Alberta Government initiating the Alberta Caribou Action and Range Planning Project as part of the Government of Canada's Recovery Strategy.

In that regard, Joseph Hnatiuk, Canadian Society of Environmental Biologists (CSEB) Regional Director for Alberta, has been recently appointed as an alternate member to the Government of Alberta Caribou Action and Range Planning Little Smoky and A La Pêche Caribou Ranges Multi-Stakeholder Advisory Group. The Planning Project will prepare range plans for Alberta's caribou ranges and one action plan to meet the requirements of the Government of Canada's Recovery Strategy for the Woodland Caribou Boreal population in Canada. In Alberta, caribou conservation and recovery are also guided by the Alberta Woodland Caribou Recovery Plan (2005) and a Woodland Caribou Policy for Alberta (2011).

The mandate of the Advisory Group is to provide strategic advice to the Government of Alberta to inform key requirements related to caribou range planning efforts. Specifically, they will advise on the following:

- Template for Range Plans;
- Baseline information;
- Inventory and assessment of management tools and approaches;
- Planning and key elements for stakeholder workshops.;
- Management options in range plans.

Some guiding principles include the following:

- Range plans will recognize unique conditions where they occur;
- Range plans will be developed in a collaborative manner with First Nations and Metis organizations;
- Range plans will be developed through a variety of engagement mechanisms with key stakeholders;
- Range plans will use sound habitat and population metrics in the setting of priorities and be responsive to evolving caribou populations and landscape conditions;
- Development of range plans will examine a broad range of management tools and approaches, and
- Range plans are sub-regional plans that will be integrated and aligned with regional plans.

The project is expected to be completed in 2014.

Bounty Payments to Kill Predators in Alberta, Canada.

Submitted by Ludwig Carbyn, CSEB Member

The use of bounty payments was a very widespread wildlife management practice throughout North America in the 20th century. Over time, this practice has declined dramatically, and was largely eliminated in Canada by the early 1970s.

Since 2007, there has been a resurgence of the use of this practice in Alberta to help control wolves and to supplement trapper incomes. The reason for a renewed interest in bounty payments has several other root causes as well. One important reason has been to reduce depredation of livestock in specific areas where wolf, cattle / sheep ranges overlap. There is also a prevailing perception, by various interest groups, that wolf numbers are reducing the opportunities for recreational hunting. Most of the latter areas occur along the foothills of the province.

There are two separate incentive payments in place. The first is the use of public funds (municipal and county jurisdictions). These funds are intended to kill wolves in order to reduce /eliminate depredation of livestock. The second initiative involves private funding from foreign sources, from Alberta Fish and Game, and from local Trapper's Associations. All these efforts were intended to help increase ungulate populations in areas of high, to moderate, human hunting pressures on elk and other ungulates.

Local government incentives included the Municipal Districts of Big Lakes, Bonnyville, and the counties listed are Clear Hills, St. Paul, and Two Hills. These initiatives were of variable duration and extensiveness. Annual payouts varied, and they ranged from \$15 to \$500 per wolf. In some cases coyotes were also included in these programs. The annual payments ranged from \$17,000 to \$106,000 in various areas, although accurate figures are not always available.

Other bounty initiatives involve the use of local and foreign funding to reduce wolf predation pressures on ungulate populations along Alberta's foothills in the Sundre, Rocky Mountain, and Drayton

Valley areas. Funding for the latter programs originated from the Wyoming based Wild Sheep Foundation and was matched by local fish and wildlife groups. Administrative details are worked out by local chapters of the Trapper's Association and the Alberta Fish and Game Association. It appears that the amounts available for the Rocky Mountain and Sundre initiatives were set at about \$9,000 while funding to the Drayton Valley area was less and was funded by fish and wildlife groups. In several cases, the funding from The Sheep Foundation was increased, once original funding ran out, due to a larger number of wolves having been killed than was originally budgeted for.

In Alberta, the official trapping / hunting season on wolves is open from October to the end of March. Wolf fur prices in recent years have been about \$90 to \$150 per hide. Bounties set a higher incentive to kill wolves, resulting in rates of \$300 to \$500 per animal. This certainly made it more lucrative to kill wolves and became a way of subsidizing the harvesting of animals without necessarily utilizing the fur.

All programs in Alberta are spurious, and apparently, not based on any specific detailed research efforts. There are no scientifically based monitoring programs in place to evaluate the effectiveness in reducing livestock / wolf incidences nor are there programs that monitor increases in elk numbers within the areas in question.

According to official Government positions, these programs are in place without any violations of provincial game laws. The provincial Government has publicly stated that they are aware of these activities and that there is no evidence that the bounty systems pose a significant risk to provincial wolf populations. Considering that the wolf population has been estimated to be around 5,000 animals, there is evidence that indeed wolf numbers are not significantly impacted, province wide, by these programs, although local wolf populations may decline as a result of bounty payments. A much more important aspect deals with the status of carnivore conservation within the wildlife management framework.

Bounties rarely solve the problems for which they were intended. Bounty-based killing is usually at random, often not targeted specifically to where the problems exist, and they can be open to abuse and fraud.

Furthermore, it has been repeatedly shown that wolves have high reproductive rates. Therefore, random, low level killing of wolves is not likely to significantly increase ungulate numbers. There is no scientifically established case where bounty payments on wolves in North America has been effective in achieving the desired results.

The most effective method, to achieve ungulate increases, is to have sustained wolf culling programs that involve either aerial gunning or poison. This is being done in the Little Smoky Range at the present time. Also, there is discussion of this for northeastern Alberta to secure caribou populations in conjunction with increasing oil sands development. This is a management tool within the Alberta caribou policy; however, no implementation plan has been developed yet.

The International Union of Nature Conservation – IUCN – is a worldwide conservation organization committed to promoting good stewardship of nature and natural resources. In 1978, IUCN produced a WOLF MANIFESTO. This document was

again revised in 1982. The manifesto acknowledges that there are circumstances where wolf control by man is warranted, but that such actions should be taken under the following conditions:

1. Be temporary and only directed to specific problems areas for limited duration,
2. Be based on strict scientific determination of its need,
3. Be selective and specific to target animals, and
4. Use methods that are discriminatory and with minimal side effects to the ecosystem.

Given the nature and extent of the bounty payments that are currently in place in Alberta, it is recommended that the provincial Government demonstrate leadership in adhering to the best management practises in wildlife management standards according to North American and International standards. The activities currently in place are in direct violation of the IUCN manifesto of the management of wolves within the province of Alberta.

SASKATCHEWAN News

Saskatchewan Chapter – Fall 2013 Report

Submitted by Robert Stedwill, CSEB President

There has been very little activity with respect to the Chapter here in Saskatchewan. I have said this before, so it bears repeating, economic activity in Saskatchewan is so intense that the province is being transformed before our very eyes!

Gone are the days when Saskatchewanians were considered “hewers of wood and drawers of water”. The province’s population surpassed the 1 000 000 mark in July, the highest in its history, and continues to grow unabated. The unemployment rate leads the country at about 3.5%, with many jobs going unfilled, especially skilled labour pertaining to home construction and municipal infrastructure.

Being out of the provincial environmental loop, I rely on the province’s State of the Environment Report (SOE) for updates to how the environment is faring, and the 2013 SOE would indicate to me that as a province, we have come a long way since I first moved here. From my initial perspective, environmental protection just got in the way of progress! Sustainable living meant getting food on the table and a roof over your head.

In reading the latest report, Saskatchewan continues to do things right with respect to protecting the environment. For example, farmers in 2011 zero-tilled 70.1% in preparation for seeding, as opposed to only 60.2% in 2006. Between 2007 and 2011, 12,229 tonnes of electronic waste were recycled. In 2012, 87% of all beverage containers were recycled, and finally there was a 17% reduction in water consumption in 22 watersheds between 2007-2011.

Suffice to say, environment matters in Saskatchewan, and with the provincial economy performing as it is, it behooves all of us here to keep a vigilant eye out. Now if I could only find a volunteer to write up what he or she is doing in terms of their professional environmental work!

Questionable Claim

Reprinted from The StarPhoenix, September 20, 2013

Agriculture Minister Lyle Stewart has been telling the people of Saskatchewan that the provincial government cares about endangered species and will protect them.

He has assured everyone that the sale of the PFRA lands will not affect the protection of grassland birds. In fact, in January 2013, he was quoted in The Star-Phoenix saying that species at risk are protected by two pieces of provincial legislation and one federal law. He is wrong. Saskatchewan does not have stand-alone species at risk legislation.

However, he may have been right about the federal law. Environment Canada announced this week that it is invoking emergency measures to protect the sage grouse on federal and provincial Crown lands in Saskatchewan and Alberta. This makes me wonder.

If Saskatchewan is doing as good a job as Stewart has been telling us, then why does Environment Canada need to step in on provincial land? What is the Saskatchewan government doing? Why has the sage grouse declined 98 per cent since 1988 if Saskatchewan has two laws in place to protect species at risk? This is a big deal, Saskatchewan. This is the first time the federal government has ever used emergency protection for an endangered species. This sets legal precedent. Saskatchewan is one of only four provinces without stand-alone species at risk legislation. Alberta, British Columbia and Prince Edward Island are the other laggards.

Despite the minister's assurances, Saskatchewan is struggling to protect birds and other species. Saskatchewan residents pride themselves on being stewards of Canada's heartland. But of late, the interests of oil and gas, not to mention other industries such as potash, uranium and agriculture, have been boosting the economy at the cost of the ecosystem.

Now the federal government has to come to Saskatchewan and do what the province should have been doing all along - encourage and enforce stewardship of Canada's species at risk.

Andrea Olive Assistant Professor, Political Science & Geography University of Toronto.

MANITOBA News

Submitted by Bill Paton, CSEB Regional Director

Should Crude Oil Be Exported Through Churchill

In early August, the plans of Winnipeg-based Omnitrax to ship about 3.3 million gallons of light sweet crude oil per year through the port of Churchill were made public. The process was indicated to start with a trial run this October involving a 330,000 barrel capacity tanker ship. Omnitrax owns the Hudson Bay railway line with track from The Pas to Churchill. They also own and operate the port facility. The total plan is to load 10 of these tanker ships a year.

Major opposition to the plan has been expressed by the Canadian Wilderness Society Committee, fearing a train derailment and oil spill could have a devastating impact on the fragile northern ecosystem and the successful ecotourism industry. Much of the rail bed has been set up on permafrost and is often subject to delays and sometimes has to unload passengers onto buses as the train cannot proceed until rail line repairs. Figures from the Transportation Safety Board of Canada show there have been 63 accidents on the Hudson Bay rail line between 2003 and 2012. All but 10 were derailments. Opposition and concern about impacts on traditional hunting and fishing have now been raised by Grand Chief Irvin Sinclair, with the Keewatin Tribal Council.

The plan already has Transport Canada approval based on the 15 year experience of transporting 2.5 million barrels of diesel and gasoline without problems, the filing of a detailed oil-pollution emergency plan and permit and emergency plan revisions to include light crude shipments. The appointment of just resigned MP Merv Tweed (Brandon Souris) to be the new President of Omnitrax rail company has raised further concerns, as he was until last fall the Chair of Parliament's Transportation, Infrastructure and Communities Committee, which dealt directly with rail issues. The federal government has authority over the railway line.

Meantime, Manitoba Infrastructure and Transportation Minister Steve Ashton has reported that the Manitoba government had withdrawn its support for the Omnitrax plan because it is too risky to the environment and residents of the North.

Oil Production Continues to Raise Environmental Issues

For years, the Koch fertilizer plant in Brandon has been reported to be the largest greenhouse gas emitter in Manitoba. Now Manitoba's booming oil patch exceeds the top three producers in the province. New data released by the Manitoba government's petroleum branch indicate 813 kilotonnes of greenhouse gases were released by the industry. The emissions are from the flaring or venting of natural gas, which comes to the surface with the oil. This estimate indicates a 16% increase over 2012 as reported by the federal government.

Fracking continues to be a concern in rural areas. There are now well over 3600 active oil wells in the province and most of them use fracking. Recent US reports where scientists have reported methane and other gases present a significant risk of contaminating drinking water wells near natural gas drilling sites. A new study published in the Proceedings of the National Academy of Sciences found drinking water wells in northeastern Pennsylvania within a kilometre of high volume fracking showed methane concentrations six times greater than wells farther away.

Further information arising from the Lac-Mégantic disaster suggest very damaging effects on water and soil in the affected area. Very high concentrations of carcinogenic polycyclic aromatic hydrocarbons and arsenic were detected in analysis carried out for the Société Pour vaincre la Pollution.

Drinking Water Quality Issues Continue in Manitoba

In an earlier report, I outlined some serious water quality issues in the Brandon drinking water supply. This summer the spotlight has shifted to the City of Winnipeg and its three year old \$300 million state of the art water treatment plant. Winnipeggers had been promised much improved drinking water.

However, this summer, the City faced greater than 2000 complaints about coffee coloured water in most neighbourhoods.

The authorities initially reported to the media that the water was safe to drink and implicated part of the water distribution system, namely the old cast-iron pipes (about 24%), some of which date back to the early 1900s. The brown-coloured water was due to its iron and manganese content arising from sediment and pipe corrosion. However, this explanation did not help in those locations in the city that have either asbestos-concrete (~28%) or PVC pipes (~45%) (Sly et al. 1990).

On the evening of 12th September 2013, I was asked for my assessment of some measurements taken by the City and given to CBC Winnipeg. On reviewing the limited data provided to the media, the one parameter that was consistently above the Canadian drinking water guideline was the level of manganese (0.16 - 0.619 mg/L). The guideline (0.05 mg/L) was set by the U.S. EPA in 2004 assuming a life-time absorption of manganese from drinking water, considering other sources, principally our food supply. From an environmental health perspective, the adverse effects of manganese on human health depend on the route of exposure, the chemical species, and the age and the nutritional status of the consumers. Research since 2004 presents an increasing concern about manganese, especially for ongoing neurological development in the fetus, new-born, and children up to around 16 years old (Khan et al. 2012; Menezes-Filho et al. 2009; Rodriguez-Barranco et al. 2013; Zoni and Lucchini 2013). With the fetus and the new born, the blood brain barrier has not been established and with the young child, the baby foods and formulae (largely vegetable and fruits) are particularly high in manganese (Khan et al. 2012; Ljung and Vahter 2007; Rodriguez-Barranco et al. 2013; Zoni and Lucchini 2013). If the formula is reconstituted with manganese enriched water, the body load is increased further. Indeed, the World Health Organization has been encouraged to re-evaluate its 2011 measure to discontinue its drinking water guideline for manganese (Frisbie et al. 2012; Ljung and Vahter 2007). Researchers in Europe have called upon the European Economic Community to review the current drinking water standard for manganese.

The respiratory route for manganese absorption also has been an area of conflict in the literature (Kaiser 2003; Elsner and Spangler 2005). In 1990, Canada phased out leaded gasoline, which was replaced by the manganese-based compound MMT in gasoline. Since that time, there has been an ongoing debate as to the safe level in ambient air since exposure by inhalation bypasses most of the protective mechanisms that operate with ingested manganese. A rare consensus exists among car manufacturers, petroleum refiners and the public health agencies in favour of restricting the use of manganese compounds in fuels. But regulations remain mixed, largely because the manufacturer of MMT has, for years, contested proposed restrictions (ICCTICCT 2012). The suggestion that long

term showering in high manganese water may pose a significant risk for CNS neurotoxicity via olfactory uptake has been postulated based on animal investigations, human epidemiological studies, and governmental reports (Elsner et al. 2005).

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ATLANTIC News

Atlantic Regional News

Submitted by Pat Stewart, CSEB Atlantic Director

Summer is always a busy time for field biologists and this one is no exception. Work of Atlantic regional members involved in CSEB ramped up in September with our assistance with discussions and planning for the fall AGM. Although time constraints have limited our ability to organize a summer get-together, we're still considering coordinating an Atlantic Chapter meeting focused on local topics of interest to our members. If you're an Atlantic Region (Nova Scotia, New Brunswick, PEI and Newfoundland and Labrador) member with some good ideas and time to help, give us a shout (Pat Stewart and Karen March) and we'll be able to provide guidance, for either local or regional meetings.

Nova Scotia Struggles to Manage Mink Farming Impacts

Excerpted from CBC News, Stephen Puddicombe, and Ecology Action Centre, Halifax

Nova Scotia's largest agricultural export is in the middle of a significant boom, but people who live near mink farms say enough isn't been done to curb environmental issues.

According to Statistics Canada, there were 118 mink farms and 7 fox farms in Nova Scotia in 2011 (there were 68 mink farms and 18 fox farms in 2001). Nova Scotia is Canada's leading mink producing province, and here, mink is worth \$140 million a year. The growing demand is thanks largely to China and Russia. The province produces half of Canada's mink.

But people who live near mink farms say the success comes at too much of a cost. Mink farms are being blamed for polluting land, lakes and rivers. The farms produce about 50,000 tonnes of manure a year in southwest Nova Scotia. This, and the rapid expansion, has meant that treatment and management of the waste—and government regulation—haven't been able to keep up.

One of the key ingredients of mink wastes, is phosphate, which sometimes released in significant quantities, and is a major factor in eutrophying nutrient poor lakes and streams, which in Nova Scotia are the norm. In Digby County, people who live near Little Lake Doucette say manure and mink urine from one farm poured into their lake after heavy rain last year. They claim it turned their lake brown.

The Provincial government has been monitoring the industry and in January released fur industry regulations which are expected to help control the industry. But the regulations were greeted by a storm of public opposition.

A case in point is the Sierra Club. Gretchen Fitzgerald, Executive Director of the Sierra Club of Canada Atlantic Chapter notes that "this industry has been allowed to pollute our lakes and drinking water to the point of toxicity for over six years and these new regulations will do very little to stop it. Worse still, existing operations will be exempt from these regulations for 3 more years and they can obtain an additional 3 year extension from the requirements to construct closed style animal housing and liquid feces storage systems" adds Fitzgerald.

A Nova Scotia environmental organization, the Ecology Action Centre, indicates that "the government of Nova Scotia has known for many years that the poor practices of the mink industry have severely impacted otherwise pristine lakes and watercourses and they could have stopped this pollution with rules that are already in place. Instead they failed to enforce those rules, not to mention their oft-promoted Water Strategy that is supposedly working to ensure 'safe, secure water for consumption, recreation and livelihoods'" says Jocelyne Rankin, Water Coordinator at the Ecology Action Centre in Halifax. Do they expect us to believe that these new regulations will make any difference?"

In contrast to the stark criticism, many mink farm operators believe that the regulations will help control the industry. A spokesman for the Nova Scotia fur industry indicated that the new regulations are not trivial, and could push some small Nova Scotia mink farms

out of business. The new rules require mink operators to adopt environmental management plans and buildings that address the storage, treatment and disposal of manure, waste and carcasses.



Algae bloom in a Nova Scotia lake caused by mink farm waste.

Many of the province's newer and larger mink operations already have the required infrastructure in place and would only require an engineer's stamp of approval. But some smaller, low-tech Nova Scotia mink farms could find the new rules onerous.

"We anticipate that there may be a few (mink farmers) that will make that decision (to retire)," said Dan Mullen, president of the Nova Scotia Mink Breeders Association.

TERRITORIES News

Nunavut Regional Update Fall 2013

Submitted by Paula Smith, CSEB Regional Director

In the territory, the review continues for Baffinland's Mary River iron ore project on Baffin Island with the newly proposed Early Revenue Phase. This new project component would include shipping along the northern route during the ice-free season which wasn't previously included in their project description. Otherwise, not a lot has changed since the summer update with many projects still on the radar but still awaiting Environmental Impact Statements and being redefined through feasibility studies. A couple of non-mining projects are on the radar for the near future. One is the proposed Iqaluit Hydroelectric Project, which would offset the territories capital's reliance on diesel for power generation. Another interesting project is the Arctic fibre telecommunications cable that would run through Canadian waters, joining Europe to Asia and providing improved service in Canada's north.

After a cold summer in the territory (we've now had snow every month in 2013 (yes, including July and August), NASA reports on sea ice are showing that the annual minimum extent occurred on September 13 and that it has shrunk to 5.10 million square kilometres, which is larger than last year's smallest extent ever recorded by satellite.

This past summer saw the opening of the new harbor in Pangnirtung in mid-September. This infrastructure will support the development of the fishing industry, specifically turbot and Arctic char. As the north opens up, more vessel traffic is expected as well. The first arctic transit by a container ship occurred this past August with a freighter carrying coal from Vancouver to Finland. After this successful passage, and reduced summer sea ice, the northern shipping route may quickly become an option for sailings to save on time and fuel costs.

Another busy season approaches and I hope everybody's had a great summer.

NWT Regional Fall 2013 Update

Submitted by Anne Wilson, CSEB Regional Director

A Yellowknife friend commented that this year had the latest frost in memory – Oct. 3rd – they were still using lettuce from the garden. Another friend is still riding his motorcycle (albeit with a few layers of warm clothing) and that is unusual for October. This gives some credence to the 3 month temperature forecast that shows above-normal for most of the NWT and Nunavut, and much of central and all of eastern Canada. Anomaly or climate change? Either way, something to enjoy!

I did get my first hint of winter in mid-September, when visiting a site near Bathurst Inlet. The tundra had a dusting of snow, and a few centimetres of ice rimmed the lakes – reminding us that the cold and dark season really was on its way. For all the harshness of the climate, and scarcity of vegetation, we saw a range of wildlife that included birds (gulls, raptors, ptarmigan), a white wolf, musk oxen, several herds of caribou, a swimming grizzly bear, and of all things, a family of moose. The moose were closer to the ocean, which moderated warmer temperatures. They were taking advantage of the denser vegetation along a river (that is relative – meaning it might have been 3 feet high instead of 1 or 2!) and shelter afforded by the river bank's contours. I checked moose range maps, and did not find any that extended above the treeline so far!

Mining and other development news

Progress varies for a number of the NWT mining projects, with environmental assessment (EA) hurdles cleared for Fortune Minerals' NICO project, and Canadian Zinc Corp.'s Prairie

Creek Project, and now moving to the regulatory stage. Others are in federal approval limbo with their EA decision report on the Minister's desk (DeBeers Canada Inc. Gahcho Kue Diamond Project, Avalon Rare Metals, Giant Mine Remediation).

The Tyhee Yellowknife Gold Project EA has been shelved, and would need considerable work by the company on information submissions to re-initiate.

The Dominion Diamond Corp is looking at two new pipes in the Ekati Mine area, which may extend the mine life. These are at the preliminary screening stage, and may go to EA.

Considerable oil and gas activity is taking place in the Sahtu region, as well as offshore. The Beaufort Sea Exploration Joint Venture is moving to EA. Concurrently, the Mackenzie Valley Highway project is being proposed.

Full details for current environmental assessments are available on the Board's web site at <http://www.reviewboard.ca/registry/>.

Closing:

If you are doing work north of 60 that you would like to highlight in the newsletter, or running some seminars or other training opportunities, please let us know. The CSEB provides a valuable networking and communication forum, and a voice for biologists if there are any issues to be raised. There is also the option of instigating other CSEB activities – both of the fun and/or of the educational variety - with colleagues in the North. Please email your thoughts to anne.wilson@ec.gc.ca or paula.c.smith@ec.gc.ca.

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