



THE CANADIAN SOCIETY OF ENVIRONMENTAL BIOLOGISTS Newsletter / Bulletin

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CSEB Newsletter Bulletin SCBE

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Cover Photos:

Front Cover: A male goldfinch. Taken at the rim of the escarpment in Riding Mountain National May 11, 2012.

Back Cover: Bison in the bison compound at Lake Audy, RMNP during the field trip, May 11, 2012.

Photo Credits: Submitted by Robert Stedwill, CSEB President.

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•Term of Directorship

CSEB NEWSLETTER 2012

Vol. 69, Number 2 Summer 2012

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 2012

Vol. 69, Numéro 2 Été 2012

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.

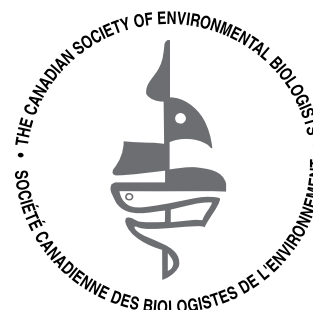
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The Canadian Society of Environmental Biologists



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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NATIONAL News

PRESIDENT'S Report

Thoughts From the President

Summer and everyone is busy. Certainly here in Saskatchewan, with the economic activity that has descended upon the province, most biologists and others involved in resource planning, EIA preparation and environmental monitoring, have had little time to engage in other pursuits. Perhaps the same holds true elsewhere in the country, but the activity here in Saskatchewan is unprecedented.

Speaking of unprecedented, Bill C-38 was certainly the subject of much discussion at the recent CSEB workshop in Brandon and Riding Mountain National Park. This omnibus bill has the potential to set environmental protection in Canada back a whole generation or two, at the expense of hard work over the past number of decades by not only CSEB members, but other like-minded individuals. As this bill and other federal budget cutbacks are implemented, the ramifications will be significant. Canada's ability to protect itself from environmental harm has been significantly impaired. The demise of the Experimental Lakes Area in northwestern Ontario will effectively stop our ability to seek out the answers to current and future environmental issues such as climate change, heavy metal uptake and nutrient recycling. Further reports suggest that specialized expert scientific technical teams dealing with atmospheric emissions and pesticide uptake in marine mammals, to name a few, are being dismantled! Gone will be our ability to even know when we need to clean up after ourselves, or change our lifestyle.

All of this in a country that heretofore had prided itself on its vast natural resources, its ability to protect those same resources, and a desire to convey that pride to the rest of the world. Our current federal government has indicated that Canada is open for business; it will not impede you if you come with our legislation and regulations, and will ensure that no public protest occurs! Exploit our resources and your money will flow! The environmental future is not bright for Canada.

I urge you all to engage your member of parliament, even though he or she may sit on the government side of the house, and share with them your concerns about the government's misguided attempts to improve the economy, at the expense of the environment.

Robert Stedwill
National President

CSEB Workshop

Recognizing The Value of our Canadian Parks –Ecozones: Conservation, Biodiversity and Research. Brandon, MB. May 10-12, 2012.

Submitted by Robert Stedwill and Bill Paton

Although the turnout was not the greatest, the quality of the material presented was high at the workshop held at the Royal Oak Inn and Suites in Brandon, Manitoba. The workshop looked at Recognizing the Value of our Canadian Parks – Ecozones: Conservation, Biodiversity and Research.



The Gorge Trail took the group about half way down the park escarpment, into a gorge, and then part way up. Machu Pichu here we come!

100 years of park development since the establishment of Banff National Park in Alberta.



Al Rogosin and Bill Paton take in the view off the escarpment in Riding Mountain National Park during the conference field trip.

Thursday evening was spent socializing in the third floor faculty lounge of the Brodie Science Building at Brandon University with colleagues, and discussing with the authors of three poster presentations: one on the preference of spawning pike in South Lake in Riding Mountain National Park (RMNP), a second on the distribution of slimy sculpin (*Cottus cognatus*) in Clear Lake, RMNP (both by Chris Malcolm), and lastly, a poster on the cause of eutrophication in Moon Lake, RMNP, presented by Annie Pickering.

On Friday presentations were made by Parks Canada on the newly proclaimed Wapusk National Park on the west coast of James Bay in northern Manitoba, as well as a report on The Occurrence of the Freshwater Jellyfish, *Craspedacusta sowerbyi* in Star Lake, Manitoba by Keegan Porter. Allison Krause Danielsen gave an enlightening presentation on the exurban land-use and landowner attitudes towards prairie skinks in southwestern Manitoba along with an enthusiastic presentation by Rod McGinn on Nineteen Years of Collaborative Research — The Clear Lake Basin Project 1994 – 2012: Brandon University and RMNP. This address looked at the collaborative collection of meteorological and baseline environmental data by both parties to address data heretofore unavailable, and useful in identifying problems areas within the park. This was followed by a presentation by Bill Paton on the development of public health standards for wet sand *Escherichia coli* at Rivers Provincial Beach and other public beaches. One might be inclined to keep children from digging in the sand following Bill's talk!



A free range buffalo herd is managed on the northwest section of Riding Mountain Park near Lake Audy.

Member of Parliament Bob Sopuck brought greetings on behalf of Federal Environment Minister Kent, and in so doing, relayed to the audience his transition of biologist to MP. An interesting journey to say the least, but one appreciated by all nonetheless. Following his delivery, Mr. Sopuck was quizzed on his perspective of the omnibus Bill C-38, and in particular, the changes to the *Fisheries Act*, the *Species at Risk Act*, and changes to the process by which projects are assessed under CEAA.



A hike on the field trip in RMNP.

The formal sessions in Brandon concluded with a presentation by Bill Paton on the impacts of agriculture on Manitoba parks and impacts of protected parks on agriculture. Bill Paton was thanked by Robert Stedwill, not only for his presentation but his overall organization and coordination of the whole workshop. Following these remarks, a number of attendees stayed behind to craft press releases concerning the workshop and a letter to Minister Ashfield addressing the CSEB's concern with respect to Bill C-38 currently before parliament.

Saturday morning's field trip to Wasagaming and RMNP saw participants hiking down and up the Gorge Creek Trail on the north escarpment accompanied by Al Rogosin, retired botany professor from Brandon University, who shared his wealth of wisdom and experience with us. Lunch and tick removal was held at Elkhorn Resort just outside the park, and was followed by a trip to Lake Audy to view the bison herd kept there.

Thanks again Bill for all your effort.



Retired professor Al Rogosin explaining die-off in spruce in RMNP, workshop field trip on May 11, 2012.

Press Releases and Letters



Canadian Society of Environmental Biologists

Manitoba, May 14, 2012

PRESS RELEASE Brandon

ENVIRONMENTAL SCIENTISTS MEET IN BRANDON
TO DISCUSS MANITOBA'S PARKS

The Canadian Society of Environmental Biologists (CSEB) concluded its national meeting in Brandon Friday (May 11th) after examining the importance of Manitoba's national and provincial parks.

The meeting focused on the Canadian Parks system, which celebrated its 125th anniversary in Canada last year. Riding Mountain National Park, founded in the 1930s, was the first National Park in Manitoba and one of the first in western Canada.

Attendees heard presentations on scientific research taking place in western Manitoba concerning management of ecosystems.

The meeting also considered effects on aquatic life and ecosystems of proposed changes to the federal *Fisheries Act* and the new *Canadian Environmental Assessment Act*. Robert Sopuck, MP for Dauphin — Swan River — Marquette, welcomed the CSEB to the area and answered questions about his experience in the House of Commons. Mr. Sopuck is a wildlife biologist, and offered those in attendance a unique perspective on his role in the House.

Provincial parks are a source of pride for many Manitobans. Shelley Penziwol, a researcher and writer with the Province spoke about her research into the history of Provincial parks here. Her guide "From Asessippi to Zed Lake: A guide to Manitoba's Provincial Parks" was published in 2011. Some of the smaller parks have an immense local importance and reflect a diversity of interests. The first Provincial Park in Manitoba was proclaimed in the early 1960s.

One of the scientific presentations at the meeting focused on a study of remote sensing by robot aircraft or drones — much like remote-controlled model airplanes — equipped with digital cameras to photograph and analyze the land in conservation areas. Dr. Dion Wiseman of Brandon University told the scientists' group that the technology, some of which was developed here, is being used by some farmers to map areas of farm fields to determine nutrient applications. Mr. Keegan Porter, a student at Brandon University, summarized his work on a unique freshwater jellyfish that was found in 2011 in Star Lake in Manitoba's Whiteshell Provincial Park. The species, which resembles a tiny umbrella the size of a twenty-five cent piece, is believed to have invaded from China in the late 1800s, but has been present in an innocuous form living on lake beds. Although the actual cause of the sudden appearance of the swimming stage is unknown, changing conditions in the lake are suspect.

Other presentations at the meeting dealt with a study of interactions of property owners with the Prairie Skink, a species of lizard-like reptile that lives in sandy areas in the Spruce Woods Provincial Forest and CFB Shilo military base and adjacent areas; studies of the water level changes and in Clear Lake in Riding Mountain Park; and a study of disease transmission from elk to cattle living outside the boundary of the Park.

The Canadian Society of Environmental Biologists is a national non-profit organization with members from across Canada and is one of Canada's largest non-governmental associations of biologists in natural resources and environmental sciences.

The overall objective of the Society is encourage the wise management of our natural resources based on sound ecological principles. The Society facilitates interaction among its members and the public, and thus tries to provide a balanced, informed view on environmental issues.

Through its various activities, the CSEB brings together persons with varied interests and backgrounds for the exchange of information and points of view.

For further information, contact: Robert Stedwill, rjstedwill@live.ca or Dr. William Paton, Brandon University, (204) 727-9783. Email: patonw@brandonu.ca.



**Canadian
Society
of
Environmental
Biologists**

Brandon, Manitoba, May 14, 2012

PRESS RELEASE

ENVIRONMENTAL SCIENTISTS MEETING IN BRANDON MANITOBA SENDS OPEN LETTER TO FEDERAL FISHERIES MINISTER ASHFIELD ON PROTECTION OF AQUATIC LIFE

The Canadian Society of Environmental Biologists (CSEB) concluded its national meeting in Brandon Friday (May 11th) after examining the importance of Manitoba's national and provincial parks. The meeting also considered effects on aquatic life and ecosystems of proposed changes to the federal *Fisheries Act* and the new *Canadian Environmental Assessment Act*.

The meeting focused on the Canadian Parks system, which celebrated its 125th anniversary in Canada last year. Riding Mountain National Park, founded in the 1930s, was the first National Park in Manitoba and one of the first in western Canada. Attendees heard presentations on scientific research taking place in western Manitoba concerning management of ecosystems.

As part of the meeting, however, the group discussed changes proposed for the *Fisheries Act* and the new *Canadian Environmental Assessment Act*, which are included in the current federal government bill to implement the budget, concluding that the changes would reduce the ability of the federal government to protect the environment.

In a letter sent to Federal Fisheries and Oceans Minister the Honourable Keith Ashfield, the CSEB suggested that the government's approach to the changes, which involves including them in a budget bill that will have little consultation and debate, will leave them open to future misinterpretation and abuse, at the expense of the environment. The group summarized its views in a letter addressed to Minister Ashfield.

According to the letter, Society President Robert Stedwill indicated "We are concerned as biologists that the changes proposed to the *Fisheries Act* — particularly the change that

will make the Act apply only where Canadians fish — will weaken the current ability of the Act to protect life in aquatic environments across Canada".

"As a Society of biologists who focus on studying, conserving and managing natural ecosystems, the only way to have good laws to protect the environment is to make them well-thought-out and based on the best scientific knowledge and consultation."

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**Canadian
Society
of
Environmental
Biologists**

May 14, 2012

Honourable Keith Ashfield
Minister of Fisheries and Oceans
House of Commons, Ottawa

Dear Minister,

The Canadian Society of Environmental Biologists is a national non-profit organization with members from across Canada and is one of Canada's largest non-governmental association of biologists in natural resources and environmental sciences. The overall objective of the

Society is to encourage the wise management of our natural resources based on sound ecological principles. The Society facilitates interaction among its members and the public, and thus tries to provide a balanced, informed view on environmental issues. Through its various activities, the CSEB brings together persons with varied interests and backgrounds for the exchange of information and points of view.

The Canadian Fisheries Act has been highly successful in protecting life in our rivers, lakes and streams. With its focus on the ecosystems and life in the water through protection of fish habitat, it has been one of the most important environmental laws Canadians have to protect aquatic life.

We are concerned as biologists that the changes proposed to the *Fisheries Act* — particularly the change that will make the Act apply only where Canadians fish — will weaken the current ability of the Act to protect life in aquatic environments across Canada.

Life in Canada's waters depends on the health of all our ecosystems, not only those that are found in areas where humans live and fish.

In addition, we feel the process by which the Act has been changed — which appears to be sudden and without consultation and will have little debate — will result in an Act which will not be as effective as the present Act in protecting life in our waters. As a Society of biologists who focus on studying, conserving and managing natural ecosystems, the only way to have good laws to protect the environment is to make them well-thought-out and based on the best scientific knowledge and consultation.

We are concerned that imperfect laws will be easily broken and therefore allow more harm to life in our waters, which is already facing threats all over the planet.

We hope you will withdraw amendments to the *Fisheries Act* from the current omnibus bill and present them in a normal and dedicated amendment process in which there is open and fair consultation on the changes you propose. Life in our waters is important and something on which all Canadians depend, and we feel it is important to produce the very best legislation possible.

Sincerely
Robert W. Stedwill, B.Sc.
President, Canadian Society of Environmental Biologists



**Canadian
Society
of
Environmental
Biologists**

June 26, 2012

The Right Honourable Stephen Harper, P.C., M.P.
Prime Minister of Canada
Prime Minister's Office
Ottawa, Ontario K1A 0A2

The Honourable Peter Kent, P.C.
Minister of Environment
House of Commons, Parliament Buildings
Ottawa, Ontario K1A 0A6

The Honourable Keith Ashfield, P.C.
Minister of Fisheries
House of Commons, Parliament Buildings
Ottawa, Ontario K1A 0A6

Re: *Proposed Closure of Experimental Lakes Area (ELA)*
Dear Ministers

The Canadian Society of Environmental Biologists is a national non-profit organization with members from across Canada and is one of Canada's largest non-governmental associations of biologists in natural resources and environmental sciences. The overall objective of the Society is to encourage the wise management of our natural resources based on sound ecological principles. The Society facilitates interaction among its members and the public, and thus tries to provide balanced, objective, and informed views on environmental issues. Through various activities, the CSEB brings together persons with varied interests and backgrounds for the exchange of information and points of view.

We are concerned as biologists that termination of the funding for research at the Experimental Lakes Area (ELA) in northwestern Ontario will greatly impact on Canada's ability to protect its environment and to deal with impacts of new stresses which we have yet to foresee.

Research conducted at the ELA has provided information which helped Canadian scientists to understand eutrophication, the harmful growth of algae in our lakes

in response to nutrients from sewage and fertilizers. The results led to improvements in detergents and sewage treatment which continue to keep our waters clean. One need only remember the mounds of algae which covered the shores of Lake Ontario in the 1960's, to see a change that resulted in part from knowledge obtained from research at the ELA. Ongoing problems such as the inputs of nutrients from agriculture which are leading to large algal blooms in some of our largest lakes such as Lake Winnipeg; impacts of hydroelectric reservoirs on the chemistry and nutrients of lakes, and the potential impact of widespread emerging technologies such as nanoparticles widely becoming used in commercial products on our waters, are best studied under the carefully monitored conditions provided by the ELA. Without such facilities, their impacts may never be understood and corrected.

Canada is well known for its research on the impacts of a wide range of human activities on freshwaters, and the Experimental Lakes Area provides an important platform. In addition, this "real world" laboratory is ideally suited for quality research relevant to northern latitudes, and from which Canada, being a northern country, can substantially benefit. Scientists in other northern countries look to Canadian research at the ELA for addressing problems in their countries. In turn, Canadians benefit from international sharing of information on how lakes respond to various stresses we humans place on the environment.

Disbanding Canadian scientific teams with technical expertise will not only curtail our ability to identify environmental pressures which face our lands, air and water now, but also will diminish our ability to respond quickly to these and other environmental stressors in the future.

The Canadian Society of Environmental Biologists urges you to seriously reconsider your proposed actions to eliminate ongoing funding for scientific programs at the Experimental Lakes Area, which has served Canadians and Canada's environment so well.

Sincerely
Robert J. Stedwill, B.Sc.
President, Canadian Society of Environmental Biologists

Open Letter from Canadian Scientists Regarding Closure of the Experimental Lakes Area

Dear Prime Minister Stephen Harper; Keith Ashfield, Minister of Fisheries and Oceans; Peter Kent, Minister of the Environment:

On May 17, 2012, we learned that Canada's Experimental Lakes Area (ELA), a world-renowned freshwater and fisheries research facility, will be terminated in March, 2013.

We are deeply concerned with this decision, as there is no comparable facility in the world. The ELA, located in Northwestern Ontario, consists of 58 small lakes and their watersheds set aside for research, a permanent field station and a dedicated research team. Since 1968, this facility has been a natural outdoor laboratory to study how fish populations and lake ecosystems respond to human and natural disturbances. ELA features unique, whole-ecosystem experiments and continuous long-term ecological monitoring.

The ELA is vital to Canadians: Its value lies in the irreplaceable capacity for Canadian scientists and their partners to conduct experiments on entire lake ecosystems, not just in test tubes in laboratories. Such large-scale, "real-life" studies are pivotal for answers to questions about water quality and fisheries. Smaller-scale experiments simply cannot provide reliable information for management decisions. In addition, because ELA has been operating for over four decades, it houses the longest continuous monitoring record for freshwater lakes in Canada. These data allow scientists to assess how global changes, such as climate warming, are affecting our lakes.

Research at ELA provides key information, unattainable elsewhere, for objective, evidence-based decision-making. ELA studies provide the knowledge and solutions to some of our most important environmental issues: algal blooms, mercury pollution, greenhouse gases, acid rain, flame retardants, nanoparticles and endocrine-disrupting chemicals. The pioneering, transformational research conducted at ELA has been instrumental in the development of environmental policy and legislation nationally and internationally, and has informed best management practices for commercial aquaculture and hydroelectric industries, among many others.

You have repeatedly noted that government should be "judged on its record." ELA has a stellar record and an international reputation. ELA and its dedicated team of scientists have placed Canada at the forefront of freshwater science worldwide. ELA scientists have been recipients of numerous prestigious national and international awards, and the scientific output from ELA has been impressive – more than 1,000 scientific articles, graduate theses and books. ELA is also a remarkable and unparalleled training ground for the next generation of Canadian scientists.

The closure of ELA is only one example of the many recent cuts to federal environmental programming. These cuts

seriously undermine our capacity to protect and manage Canada's freshwater and marine resources. Further, we are deeply disturbed about the proposed changes to the *Fisheries Act*, the *Navigable Waters Protection Act*, the *Species at Risk Act*, the *Coasting Trade Act*, the *Canadian Environmental Protection Act* and other related issues that are rolled into Omnibus Budget Bill C-38.

Water is essential for life. Clean water is crucial for the health of all Canadians, and lakes are part of our social, spiritual and economic well-being. Canadians need and deserve an internationally renowned freshwater and fisheries research facility. We strongly urge the government of Canada to reconsider the decision to close Canada's ELA, and recognize the importance of the ELA to the government's mandate to study, preserve and protect aquatic ecosystems.

John P. Smol holds the Canada Research Chair in Environmental Change, Department of Biology, Queen's University, Kingston.

David W. Schindler holds the Killam Memorial Chair in Ecology, Department of Biological Sciences, University of Alberta, Edmonton.

Peter J. Dillon is a professor in the Departments of Chemistry and Environmental Studies, Trent University, Peterborough, Ont.

Warwick F. Vincent is director of the Centre for Northern Studies at Laval University, Quebec.

Robert Hecky is McKnight Endowed Presidential Professor in Lake Ecology, University of Minnesota, Duluth.

Stephen R. Carpenter is director of the Center for Limnology, University of Wisconsin, Madison.

Gene E. Likens is the founding director and president emeritus of the Cary Institute of Ecosystem Studies, Millbrook, N.Y.

Brian Moss is president of the International Society for Limnology and Emeritus Holbrook Gaskell Professor of Botany, University of Liverpool.

The Coalition to Save ELA is a non-partisan group of scientists and citizens concerned about the future of Canada's Experimental Lakes Area.

For more information, go to the program's website at http://www.experimentallakesarea.ca/ELA_Website.html

REGIONAL News

BRITISH COLUMBIA News

Integrated Storm Water Management Plan

Submitted By Jim Armstrong, R.P. Bio., CSEB Regional Director

It is a pleasure for me to be asked to become the BC Director again. Over the past couple of years there have been many changes in British Columbia in regards to environmental management, including the development of regional integrated storm water management plans (ISMPs) that will require the municipalities of the Lower Mainland to work collaboratively to implement a uniform Plan that will protect stream health. The proposed framework for the Plan requires each municipality to develop an ISMP for each watershed, including sloped and low land streams and piped systems, using a weight of evidence approach (i.e., B-IBI, riparian integrity, stream flow) to measure stream health and a regional adaptive management framework that can be used by the municipality to meet regulatory requirements.

During 2013 each municipality will outline how they will conduct the stream health assessments using the regional ISMP Adaptive Management Plan and implement the plans in early 2014. In conjunction with the ISMPs, on-site rainwater management is being required as part of the overall ISMPs to ensure that each Plan can meet the BC water quality objectives.

The overall storm water management approach that is being undertaken should provide a long-term solution to the environmental concerns that have historically been raised regarding the environmental effects of storm water discharges to urban streams.

ALBERTA News

Hnatiuk Appointment to TWS 2011-2012 Retired Wildlife Professionals Committee

Joseph M. Hnatiuk, a grandfathered life-time certified professional wildlife biologist and a member of the Canadian Society of Environmental Biologists (CSEB) and The Wildlife Society (TWS) since the mid 1960s has agreed to serve TWS and the wildlife profession as a member of the 2011-2012 Retired Wildlife Professionals Committee (RWPC). The RWPC is specifically charged with the responsibilities to:

1. Maintain connection with retired members of TWS;
2. Be a source of mentors for younger TWS members and actively participate in the mentoring program; and
3. Help promote the planned giving programs of TWS

The Wildlife Society mission is to represent and serve the professional community of scientists, managers, educators, technicians, planners and others who work actively to study, manage and conserve wildlife and habitat world wide.

SASKATCHEWAN News

Submitted by Robert Stedwill, CSEB President

Members of the current active Saskatchewan Chapter executive met to discuss the current situation in the province and how to address the issue of dwindling membership, and how best to rectify it. Identifying a problem and solving it are two different creatures.

We suspect that the dwindling numbers are due to the fact that many of our previous active members have retired and have not been replaced, either through their employers or direct personal membership. This may be due in part to everyone simply being too busy to be involved because of the hyper-economic activity going on Saskatchewan; or, we have not communicated the benefits of the CSEB well enough to young biologists.

The Saskatchewan Chapter has a reasonably good bank account where monies could be spent recruiting new young members from the two universities in the Province. Communicating to these individuals would be enhanced with the development of the CD video currently in the works. Having it sooner rather than later would be helpful. As a last

thought and it was a point of discussion at the table, are we focusing our efforts too narrowly on just biologists?

Much of the work conducted by members of the CSEB covers a broad range of disciplines: biology certainly, but geography, limnology, chemistry, environmental planning and modeling, and computer modeling quickly come to mind. I think we need to reach out to others who may see benefit in membership within an organization of like-minded individuals whose concern for the environment is paramount.

MANITOBA News

Manitoba Receives National Award for Protected Areas

Submitted by Bill Paton, CSEB Manitoba Director

As reported at the CSEB conference in Brandon, the province continues to set aside protected areas in Manitoba and now has received the national 2012 Gold Leaf Award from the Canadian Council on Ecological Areas (CCEA).

Manitoba worked jointly with three conservation agencies to include some of their lands in the protected areas network. Conservation lands owned and managed by Ducks Unlimited Canada (DUC), the Nature Conservancy Canada (NCC) and Nature Manitoba are now included in the network.

Working together, the government and the agencies are ensuring these lands meet the province's standard of protection.

To date, a total of 10,200 hectares of private land forms part of the province's protected areas network. The habitats protected are essential to maintaining biodiversity in developed parts of Manitoba. They support many rare and at-risk species including species listed under Manitoba's *Endangered Species Act* and the federal *Species at Risk Act*.

The CCEA is a national, not-for-profit organization that works to help Canadians establish and manage a comprehensive network of protected areas.

In addition, the Manitoba Chapter of the Wildlife Society presented its 2012 Conservation Award to the province for outstanding work in the field of conservation.

More information at www.gov.mb.ca/conservation/pai/

ATLANTIC News

Submitted by Patrick Stewart, CSEB Atlantic Director

Atlantic Region has been moderately active in the past few months. Director Pat Stewart attended the national meeting in Brandon, and was involved in drafting letters on behalf of the Society to Fisheries and Oceans Minister Keith Ashfield. Early in June, CSEB membership chairman and newsletter editor Gary Ash dropped in for a meeting in Halifax and connected with some of the local members. One of the action items of the meeting was to organize a meeting of local members during the summer, hopefully in July.

Later in the month, in response to an initiative to protest the cutting of the Experimental Lakes Area (ELA), a research complex of lakes in northern Ontario, we drafted another letter to Prime Minister Harper and Ministers Ashfield (Fisheries and Oceans) and Kent (Environment). Imagine CSEB getting involved in all this political action! Our criticisms are well founded in the Society's mission statement of promoting the role of good science in decision making—the very antithesis of what the federal Conservative government is doing.

Two CSEB members, Alberta Director Joseph Hnatiuk together with Pat Stewart, also 'sat in' on conference calls with the deputy ministers of Environment and Fisheries and Oceans, to hear what the operational and regulatory fallout of the changes to the Acts is expected to be. We've been able to be in on these calls because CSEB has been participating in the Canadian Environmental Network (CEN). Our ability to participate in CEN is a great benefit of having a strong CSEB, and we can make an important contribution by providing our take on things [again, science-based and positive] in some of the national initiatives the group is undertaking.

Other than all this fooling around, summer will hopefully be a productive one for biologists in Atlantic Region and across Canada.

Peatland Fires Increasing Carbon Emissions

With a warming climate, various modelling scenarios predict that forest fires in North America will increase the area burned annually by almost twofold by end of the century, resulting in massive increases in carbon entering the atmosphere.

When forests burn, peatlands do too, increasing even more the amount of carbon entering the atmosphere, thus further

accelerating the effects of climate warming. Peatland fires are difficult to extinguish and have a tendency for long-term smouldering, which further adds to carbon emissions.

In addition to an increased frequency of fires, more fires will occur later in the season when water tables are lower. Climate change is also expected to increase the rate of permafrost thaw, which will also increase the risk and area affected by fires.

Boreal peatlands represent a vast store of carbon, composing 2-3% of the earth's land area, representing 25-30% of the boreal forest region, and close to 30% of the world's terrestrial carbon. While wildland fire has been extensively studied in the boreal ecosystem, less is known about the risk of boreal peatland fires.

Great Lakes Forestry Centre (GLFC) researchers are studying peatland fires as part of their efforts to measure and predict their effect on climate. Part of this work includes the establishment of baseline information on recent fire activity, which can be used with climate models to predict future fire intensity, frequency and impacts.

Based on sampling of peat cores, researchers have learned that peatlands typically burn less often (80 to 1100 years) than the boreal forest (50 – 500 years). In Indonesia, where peatlands are much less common than boreal forest, peatland fires in 1997 released the equivalent of 20-50% of global fossil fuel emissions.

Preliminary estimates of the effects of increased fire frequencies in the boreal peatlands indicate significantly increased emissions of carbon and other harmful materials such as mercury into the atmosphere. Releases of carbon will add to the effects of climate warming across the boreal region. Findings of the GLFC research are expected to help best allocate limited fire management resources and to improve policy outcomes.

Source: Great Lakes Forestry Centre

CSEB Promotional Video

MEMBERS - We Need YOU!

We need your input for the CSEB's promotional video! We need a headline picture (jpeg 300x200 pixels) of you working, and maybe even a video (in quick time format, in a 4x3 aspect ratio). Other pictures might be suitable as well, provided we can size them appropriately.

Will a prize be awarded for the best photo?
Submit and find out!

Please submit your entries to Robert Stedwill at rjstedwill@live.ca

TERRITORIES News

Nunavut Regional Update

Submitted by Paula Smith, CSEB Territories Director

Greetings from your Territories Directors!

Mining News

The Nunavut Impact Review Board will be holding final hearings for the Mary River Project (Baffinland, iron ore) in Pond Inlet, Igloolik and Iqaluit in July. The Kiggavik Project (AREVA; uranium) draft EIS is currently in review with the Nunavut Impact Review Board and community consultation meetings occurred in June in the Kivalliq Region. Related to this project, due to the uranium aspect, the Government of Nunavut has developed a uranium policy, which has been met with mixed reviews from various interest groups and stakeholders. The policy is available at: www.uranium.gov.nu.ca.

Other project updates include the Meliadine Project (Agnico-Eagle, gold) which continues with the proposal for an all-weather road between the project site and Rankin Inlet. The Back River Project (Sabina Gold & Silver, gold) has completed the project's Preliminary Economic Assessment as well as the Project Description. They are anticipating that the EA process will commence shortly and will be completing community meetings throughout the Kitikmeot in June. Finally, the Izok Project (MMG, zinc) recently completed community information meetings throughout the Kitikmeot Region as well as held a Resource Development Advisory Group meeting in Iqaluit in April. Despite the activity with these projects, the Doris North Gold Mine (Hope Bay Mining, gold) continues to be in Care and Maintenance mode with no re-opening activity currently planned.

Concerns over mineral exploration in the Qamanirjuaq caribou calving grounds are being raised by the Beverly and Qamanirjuaq Caribou Management Board (BQCMB). The BQCMB is frustrated that activities are being permitted in the calving grounds and are discouraged that protection isn't occurring. They are hoping for legislation to protect under a new land use planning act. The draft Nunavut Planning and *Project Assessment Act* (NUPPAA) is still under development.

Other Resource News

In more development news, with multiple seismic studies being proposed in the Baffin Bay-Davis Strait region, presentations are going to occur in the communities of Pangnirtung, Qikiqtarjuaq, Clyde River, Pond Inlet, and Iqaluit in June. The presentations will be led by TGS-NOPEC Geophysical, one of the companies proposing these projects. Projects were originally proposed for last summer but were postponed for various reasons, including the need for public

consultation, as indicated by the Qikiqtani Inuit Association to the National Energy Board, the regulator for these projects. The Baffin Fisheries Coalition, the Arctic Fisheries Alliance and the community of Clyde River submitted a petition to the NEB against the seismic surveys. This is an interesting area of development to watch, especially considering activity in Greenland waters.

Environment News

The trade restrictions on narwhal tusks have been lifted in most of the territory except for the community of Grise Fiord. The trade ban, put in place in 2010 by Fisheries and Oceans Canada (DFO) and which affected 17 Nunavut communities, was challenged by Nunavut Tunngavik Incorporated. Grise Fiord continues to have restrictions on trade due to a lack of scientific information on the populations in the area surrounding the community. Based on DFO information, the Nunavut narwhal population is approximately 86,000 of which about 700 are harvested annually.

The Government of Nunavut's Department of Environment, with the support of Natural Resources Canada's Regional Adaptation Collaborative Program, has launched a climate change website, www.climatechangenunavut.ca. The website provides information to Nunavummiut about climate change as well provides data, research tools, and news on climate change occurring across the territory.

The International Polar Year 2012: From Knowledge to Action conference was held in Montreal in April with the more than 2,500 scientists and research from more than 40 countries in attendance. The conference was a great success drawing international attention to the Polar Regions and bringing together a broad range of people involved in polar research, including indigenous peoples. For more information on the conference, and link to a multitude of polar-related sites and documents, visit their website: www.ipy2012montreal.ca.

NWT Regional Update

Submitted by Anne Wilson, CSEB Territories Director

As we approach the summer solstice, it is definitely a time to be outside whether working on a monitoring program or puttering in the yard. I miss the 20 hours of direct sunlight (and 4 hours of twilight) that Yellowknife enjoys, but have to admit I have not missed the bugs! The lion's share of my focus is on projects located north of 60, so it is nice to keep connected with the activity and the people working on environmental protection in the North.

Activity is not slowing down in the NWT! There are currently three operating diamond mines and one tungsten mine, two gold mines in closure and reclamation, and several new mines on the radar: two gold projects, one mixed precious/metal mine, one rare earth elements mine, and one diamond project. Energy sector exploration continues, including fracking proposals. In some respects, the NWT seems smaller and more accessible, in spite of the vast distances.

In the NWT, there are two tracks for EAs: Environmental Impact Review (EIR), which is comparable to a panel process under CEAA, and Environmental Assessment, in which the Mackenzie Valley Environmental Impact Review Board reviews any project that “might have a significant adverse impact on the environment or might be a cause of public concern”. The first-ever EIR is progressing for the Gahcho Kue diamond project.

Mining News:

The four proposed mining developments in the NWT are at various stages of the environmental assessment (EA) processes.

- The Fortune Minerals Copper Ltd. NICO proposed cobalt-gold-bismuth-copper mine project environmental assessment has proceeded through to submission of technical reports by intervenors, with hearings scheduled for Aug. 27-Aug. 31st. The project is located about 50 km NNE of Whati, in the Tlicho territory, so the hearings will include sessions in Whati, Behchoki, and Yellowknife.
- The Avalon Rare Metals Inc. Thor Lake Rare Earth Element Project involves a proposed mine located on the north side of Great Slave Lake, with processing to be done at a hydrometallurgical facility sited at the old Pine Point Mine. The process has proceeded through the Information Request stage (two rounds) and technical sessions will be held August 14-17, 2012.
- The Tyhee Yellowknife Gold Project review is still in the “Information Request” (IR) stage. The proponent has submitted responses to the questions posed by the Mackenzie Environmental Impact Review Board, and reviewers submitted their IRs to the proponent in early June. The project details seem to be continually changing, with predictions not necessarily keeping up, so this is a difficult file.
- The Giant Mine Remediation Project technical reports are due from intervenors by July 11, 2012, and public hearings will follow, probably in fall. The project includes the containment of 237,000 tonnes of arsenic trioxide dust currently stored underground, generated over six decades of mine production. Site work is being conducted on an “emergency” basis during the EA process, as stabilization and safety concerns must be addressed for some of the components.
- The DeBeers Canada Inc. Gahcho Kue Diamond Project EIR is progressing. Technical sessions were held May 22-25 to deal with water issues raised in the first round of information requests. A second round of IRs is underway. This review is tentatively scheduled to run through 2012, with hearings in Dec. 2012 and a decision in July of 2013.

- On the EA horizon, Seabridge Gold has conducted further drilling and resource estimates for the Courageous Lake gold project. The project’s first Preliminary Feasibility Study was released in June 2012 and appears to report a favorable economic situation. This supports the submission of permit applications.

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

Regulatory stage projects:

- The Board’s Report of Environmental Assessment for the Prairie Creek Mine Project, which found that the project would not have any significant adverse environmental effects, was signed off by the Aboriginal Affairs and Northern Development Canada (AANDC) minister and is proceeding to the regulatory stage for water licencing. This will involve another venue of hearings, and it will be interesting to hear the responses from concerned First Nations and ENGOs.
- The Ekati Diamond Mine water licence is up for renewal, with application materials available on the Wek’eezhii Land and Water Board web site. <http://www.mvlwb.ca/WLWB/Registry.aspx>.

Closing:

I would love to hear from others doing work north of 60! If you are doing work 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 informational variety - with colleagues in the north. Please email your thoughts to anne.wilson@ec.gc.ca or paula.c.smith@ec.gc.ca.

Canada’s North Poised to Cash in on Mining Boom

By Chantal Mack, Postmedia News March, 15, 2012

Canada’s North is poised to lead the country in economic growth over the next two years as a boom in mining projects takes hold, a new report predicts.

The economies of the three territories are expected to grow by more than seven per cent in both 2012 and 2013, says the Conference Board of Canada’s Territorial Outlook-Winter 2012, released Wednesday. That easily surpasses the expected Canadian average of 2.1 per cent this year.

The demand for metals and non-metal resources is expected to remain high, regardless of the challenges facing the global

economy, said to Marie-Christine Bernard, associate director of forecasting and analysis for the Conference Board.

"The territories are well positioned to satisfy this demand," which is expected to keep prices elevated over the next few years, she said.

"That will encourage more exploration activity, more mine developments," said Bernard. "This is very positive because when there's construction and development of mines, it means there's a lot of jobs being created, then we see incomes go up and consumer demand goes up so the territories are going to be in a very good position."

Bernard said the immediate concern for northern mining industry development isn't finding a market, but rather finding workers capable of propelling these projects forward.

The economies of the Yukon and Nunavut had a strong year in 2011 and are expected to continue to improve.

The report says both are entering a period of sustained mining development, citing several large projects that have been proposed for the current decade. The Northwest Territories has yet to reach a point of sustained mining development as older mines are closing and are to be replaced by newer projects.

Real GDP for the Yukon is expected to grow by 2.9 per cent this year. That follows an estimated gain of 8.6 per cent in 2011. There will be a strong demand for workers in the Yukon, the report says.

Nunavut's economy grew by 6.8 per cent in 2011 and the territorial economy is forecast to grow by 16 per cent in 2012. Employment there is expected to surge by 6.4 per cent annually over the next three years.

The Northwest Territories' economy is expected to grow by 5.9 per cent this year.

Diamond mining, by far the territory's largest industry, is expected to benefit from global demand that continues to surpass supply, the report said.

When doing the territorial forecast, the statuses of several projects were taken into account, such as the announcement of the projects, their stage of development, and whether or not there is a feasibility study.

"Then we evaluated each one of them and included the ones that we felt could likely go ahead in the next decade or so and included them in our forecast," explained Bernard.

The board also looked at other factors, such as how much the projects would produce once the development period was over.

Major projects and development costs for future mining operations

Yukon:

- Copper North's Carmacks project - \$150 million
- Victoria Gold's Eagle project - \$280 million
- North American Tungsten's Mactung project - \$400 million
- Selwyn Resources Selwyn project - \$800 million

Northwest Territories:

- Avalon's Nechalacho project - \$900 million
- DeBeer's Gahcho Kue project - \$650 million
- Fortune Minerals' NICO project - \$215 million
- Rio Tinto's Diavik mine expansion - \$250 million
- Government of NWT's Deh Cho bridge (in progress) - \$192 million

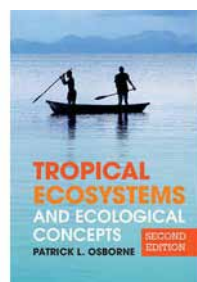
Nunavut:

- Agnico-Eagle's Meliadine project - \$300 million
- Baffinland's Mary River project, which is owned 70 percent by ArcelorMittal and 30 per cent by Iron Ore Holdings LP - \$4 billion

Source: The Conference Board of Canada

BOOK FOR Review

CSEB receives books for review from Cambridge University Press, one of the leading science publishers. We're currently interested in finding professional biologists or graduate students who are willing to provide short (500 word) reviews. You get to keep the book if you provide a review. Here are several current titles that are available. If you're interested in reviewing any of these titles, please contact Pat Stewart, CSEB Director, at enviroco@ns.sympatico.ca.



Tropical Ecosystems and Ecological Concepts. 2nd Edition

By Patrick L. Osborne, University of Missouri, St Louis. \$65.95 CDN,

Tropical habitats cover over one third of the Earth's terrestrial surface and harbor much of its biodiversity, with many areas rich in endemic species. However, these ecosystems are under significant and growing threat from issues such as deforestation, land degradation and ocean acidification. This introductory textbook provides a comprehensive guide to the major tropical biomes. It is unique in its balanced coverage of both aquatic and terrestrial systems and in its international scope. Each chapter is built around a particular tropical ecosystem, with descriptive case studies providing a framework around which ecological concepts and applied ecological topics are presented. This second edition has been thoroughly updated to reflect recent advances in the field and includes a greater focus on the impact of global climate change. The text is supported throughout by boxes containing supplementary material and is illustrated with over 200 clear, simple line diagrams, maps and photographs.

OTHER BOOKS AVAILABLE For Review

P.W. Price, R.F. Denno, M.D. Eunanks, D.L. Finke, I. Kaplan. 2011. *Insect Ecology Behavior, Populations and Communities*. Cambridge University Press. Hard/Paperback.

Melanie J. Hatcher, Alison M. Dunn. 2011. *Parasites in Ecological Communities From Interactions to Ecosystems*. Cambridge University Press. Hard/Paperback.

Trevor Hodgkinson, Michael Jones, Stephen Waldren, John Parnell. 2011. *Climate Change, Ecology and Systematics*. Cambridge University Press. Hardback.

Julian Reynolds, Catherine Souty-Grosset. 2011. *Management of Freshwater Biodiversity Crayfish as Bioindicators*. Cambridge University Press. Hardback.

Lawrence R. Walker, Peter Bellingham. *Island Environments in a Changing World*. 2011. Cambridge University Press. Hard/Paperback.

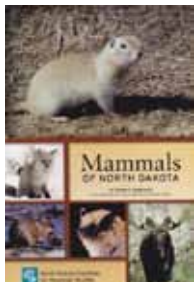
Göran I. Agren, Folke O. Anderson. *Terrestrial Ecosystem Ecology Principles and Applications*. 2012. Cambridge University Press. Hard/Paperback.

Örjan Bodin, Christina Prell. 2011. *Social Networks and Natural Resource Management Uncovering the Social Fabric of Environmental Governance*. 2011. Cambridge University Press. Hard/Paperback.

Helene Marsh, Thomas J. O'Shea, John E. Reynolds III. 2012. *Ecology and Conservation of the Sirenia Dugongs and Manatees*. Cambridge University Press. Hard/Paperback.

Roland W. Scholz. 2011. *Environmental Literacy in Science and Society From Knowledge to Decisions*. Cambridge University Press. Hard/paperback.

BOOK Review



Mammals of North Dakota.

By: Robert Seabloom, 2011.
With contributions by John Hoganson and William Jensen. \$73.57 CDN

North Dakota Institute for Regional Studies, North Dakota State University.
www.ndsu.edu/ahss/ndirs.

The Mammals of North Dakota (ND) was a nine-year project that began when the United States Geological Services (USGS) Northern Prairie Wildlife Center in Jamestown asked Robert Seabloom to do a series of species accounts in North Dakota mammals as a resource for various agencies/institutions needing to do environmental planning, impact assessments, and teaching as well as a general current reference source. Once that was done Dr. Seabloom was encouraged to do the book. The outcome was the Mammals of North Dakota.

The book is the first comprehensive publication on the mammalian fauna of the state since Vernon Bailey's early "Biological Survey of North Dakota" published in 1926. The book is intended for teachers, students, professional biologists, industry and all those that need accurate science based information regarding mammals especially found in North Dakota.

The book offers detailed accounts of each of the state's 86 mammal species that include common, scientific and known Native American names and sections on species description, distribution, habitat, ecology, behavior, reproduction, status, conservation and selected references. The important introductory chapters deal with the mammalian biogeography of the state, the mammalian paleofauna of North Dakota (John Hoganson), and the principal habitats of North Dakota (Bill Jensen). Additional chapters deal with investigating mammals and taxonomic keys for species identification.

About the authors

Robert Seabloom is a Professor Emeritus of Biology at the University of North Dakota. (UND). During his 35 year career he taught Mammalogy, Vertebrate Natural History and other wildlife related courses. Currently Robert is a member the American Society of Mammalogists, The Wildlife Society, Great Plains Nature Science Society and other conservation organizations.

John W. Hoganson is the State Paleontologist of ND with the ND Geological Survey. He is also the curator of the State Fossil Collection at the Heritage Center in Bismarck. He has a Doctorate degree in Geology from UND.

William F. Jensen received his Ph.D. in Wildlife Biology from UND. He is currently big game biologist in Bismarck with the ND Game and Fish Department.

Prepared by Joseph Hnatiuk, Alberta/Acting Saskatchewan Regional Director

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