



THE CANADIAN SOCIETY OF ENVIRONMENTAL BIOLOGISTS Newsletter / Bulletin

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CSEB Newsletter Bulletin SCBE

VOLUME 69, ISSUE 1, 2012

CSEB Website <http://www.cseb-scbe.org>

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•Term of Directorship

CSEB NEWSLETTER 2012

Vol. 69, Number 1 Spring 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 1 Printemps 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.

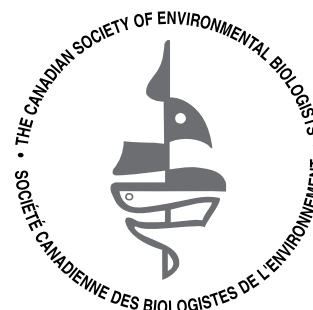
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The Canadian Society of Environmental Biologists



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

Here it is spring, or just shy of it, but it has felt like spring here in Regina since last fall. There has been little snow and so few cold days, one has to believe that something has disrupted the normal seasonal patterns. I recall David Phillips of Environment Canada saying last fall that this winter would be significantly cooler and have higher amounts of snowfall due to La Niña. Neither of which happened. Is this a harbinger of things to come? The disruptions to biological systems can only begin to be understood, if climate change due to the hypothesis of global warming is to be accepted.

During the course of my work both nationally and internationally, receding glaciers for example will significantly alter the manner in which prairie hydroelectric power facilities are operated, or whether such facilities are built at all. This may cause other less desirable forms of generation to be utilized, thereby impacting the environment we serve to protect and understand.

I am not about to enter into debate of the global warming hypothesis, but it is certainly a segue into the next paragraph.

Come to the CSEB's conference May 10-12 and join other CSEB members and invited speakers to share your views of what may be happening, and more importantly, the impacts on your world, your area of expertise, your work, and perhaps your previously held views on climate change. The conference is an opportunity to gather and debate the issues which influence our lives and work. It may also be an opportunity to debate what our provincial and federal governments are doing, or not, on this issue.

Hope to see you there.

Robert Stedwill
National President

REGIONAL News

BRITISH COLUMBIA News

Land Transfer Completes Skaha Bluffs Provincial Park

BC Ministry of Environment News Release March 31, 2012

PENTICTON – A world-class rock-climbing destination and provincial park soon will be bigger, thanks to a land transfer to BC Parks from the Nature Conservancy of Canada (NCC) and TLC, The Land Conservancy of British Columbia, Environment Minister Terry Lake announced today.

The 308 hectare private property adjacent to Skaha Bluffs was purchased in 2008 for a total of \$5.25 million. B.C.'s Ministry of Environment provided \$1.25 million, NCC, with support from the Government of Canada, through the Natural Areas Conservation Program, provided \$2.3 million and TLC raised \$1.7 million.

Today's agreement allows the land to be added to Skaha Bluffs Provincial Park and managed for its important conservation and recreation values. The lands contain coniferous forest, riparian areas, rugged terrain and some shrub-steppe grasslands. This habitat also helps support up to 15 species-at-risk, including bighorn sheep.

B.C. has one of the largest parks and protected areas systems in North America. There are 1,000 provincial parks, recreation areas, conservancies, ecological reserves and protected areas covering approximately 14 per cent of the provincial land base more than 13 million hectares.

TLC is a non-profit land trust that engages people in protecting and caring for B.C.'s natural areas, historic sites, farms and ranches, and places of community and recreational importance.

NCC is the nation's leading not-for-profit private land conservation organization, working to protect important natural areas and the species they sustain. Since 1962, NCC and its partners have helped to protect one million acres in B.C.

For more information:

BC Parks: www.bcparks.ca

TLC: www.conservancy.ca

Nature Conservancy of Canada: www.natureconservancy.ca

Site C Clean Energy Project - Joint Agreement Issued

BC Ministry of Environment and Government of Canada
News release Feb. 13, 2012.

A Joint Federal-Provincial agreement has been signed for the co-operative environmental assessment, including a review by a joint panel, of the Site C Clean Energy Project in British Columbia.

The final agreement specifies the process for conducting the review, outlines the joint review panel terms of reference and identifies the timelines associated with key steps of the co-operative process.

Following a 30 day public consultation period held in October 2011, comments received by the Canadian Environmental Assessment Agency and the B.C. Environmental Assessment Office were considered, and the agreement was finalized.

To view the final agreement or to obtain more information on this project, consult the Canadian Environmental Assessment Registry at <http://www.ceaa.gc.ca/default.asp?lang=En&n=D75FB358-1> reference number 11-05-63919 or the B.C. Environmental Assessment Office web site at: www.eao.gov.bc.ca

Next Steps:

The next steps in the review process include public consultation on the draft guidelines for the environmental impact statement (EIS) to be held in the spring of 2012. The guidelines provide direction to the proponent and identify the information that will be required in the EIS.

Background:

BC Hydro and Power Authority proposes to construct and operate a dam and 1,100 megawatt hydroelectric generating station on the Peace River in northeastern B.C. The proposed project would be the third in a series of dams on the B.C. portion of the Peace River. The project components are an earthfill dam 1,050 metres long and 60 metres high, an 1,100 megawatt generating station and associated structures, an 83 km long reservoir, realignment of four sections of Highway 29 and two 77 km transmission lines along an existing transmission line right-of-way connecting Site C to the existing provincial power grid.

The Canadian Environmental Assessment Agency administers the federal environmental assessment process, which identifies the environmental effects of proposed projects and measures to address those effects in support of sustainable development.

The British Columbia Environmental Assessment Office manages the provincial environmental assessment process, which examines major projects for potential environmental, economic, social, heritage and health effects that may occur during the lifecycle of a project and identifies strategies to prevent or reduce potential adverse effects.



British Columbia's Revelstoke Dam.

<http://www.thecanadianencyclopedia.com/articles/bc-hydro>

Tumbler Ridge Wind Energy Project Approved

BC Ministry of Environment News Release March 29, 2012

VICTORIA – Finavera Wind Energy Inc. has received an environmental assessment (EA) Certificate for the proposed Tumbler Ridge Wind Energy Project located within the District of Tumbler Ridge municipal boundary in northeast B.C.

Finavera Wind Energy Inc. is a publicly traded wind energy development company.

Environment Minister Terry Lake and Energy and Mines Minister Rich Coleman made the decision to grant the EA Certificate after considering the review led by B.C.'s Environmental Assessment Office (EAO).

The proposed \$125 million project will be located eight kilometres southwest of the townsite of Tumbler Ridge. Once completed, the project will produce up to 49.6 megawatts of wind energy, enough to provide energy for up to 18,000 homes.

BC Hydro awarded Finavera Wind Energy Inc. an Electricity Purchasing Agreement (EPA) in March 2010. Under the conditions of the EPA, the project's Commercial Operational Date (electricity delivery date to the BC Hydro grid) is November 2012.

The project will include up to 33 wind turbine generators, approximately 19 kilometres of new access and connector roads, the use of and upgrades to existing roads, underground and above-ground electrical collector cables connecting the wind turbine generators and 100 metres of new transmission line connecting to the BC Hydro electrical transmission system.

The EAO assessment report concluded that the project is not expected to result in any significant adverse effects, based on the mitigation measures and conditions of the EA Certificate.

The provincial EA Certificate contains design features, mitigation measures and 104 conditions that form legally binding requirements that Finavera Wind Energy Inc. must adhere to throughout various stages of the project.

Key requirements include:

- Implementation of a Monitoring and Adaptive Management Plan for Birds and Bats (MAMP), approved by EAO, including establishing a Technical Advisory Committee with First Nation representation to oversee the implementation of the MAMP.
- Implementation of Environmental Management Plans and Environmental Protection Plans to be reviewed by First Nations, and approved by EAO, prior to construction. Environmental management plans include conducting specific pre-construction surveys and establishing buffers and mitigation measures should sensitive ecosystems and/or habitats be encountered.
- Implementation of a third-party agreement reached between the proponent and a guide outfitter to mitigate potential effects from the project on the guide outfitter.
- Continuing to work with other tenure holders in the proposed project area to minimize potential resource conflicts.
- Submission of reports to EAO, at specified intervals (annually, prior to construction, operation, decommissioning, and once decommissioning is complete), indicating the status of compliance with the conditions of the EA Certificate.

Consistent with EAO's enhanced compliance and enforcement program, EAO will co-ordinate compliance management efforts to ensure that EAO is independently satisfied that certificate conditions are met.

Based on the information provided to date by Finavera Wind Energy Inc., the project did not require a federal environmental assessment under the *Canadian Environmental Assessment Act*.

Local and provincial taxes generated over the 25 year lifespan of the project will be approximately \$78 million including taxes, rent, royalties, leases, licences and tenure fees. The 10 month project construction period is expected to generate 75 person years of direct employment, the equivalent of 120 full-time and part-time jobs.

The operational phase of the project is expected to create 188 person years of full-time direct employment, which is equivalent to seven to eight permanent full-time jobs. During operations, the project will produce zero net greenhouse gas emissions.

The Saulteau First Nations, West Moberly First Nations, Doig River First Nation, Halfway River First Nation and the McLeod Lake Indian Band participated in the environmental assessment and the proponent was directed to consult with these First Nations. The Province is satisfied that the Crown's

duties to consult and accommodate First Nations' interests have been discharged as they relate to the decision to grant the EA Certificate.

Before the project can proceed, Finavera Wind Energy Inc. must still obtain the necessary provincial licences, leases and other approvals.

More information on the EA Certificate can be found at: www.eao.gov.bc.ca

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Ministry of Environment

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ALBERTA News

Submitted by Gary Ash, CSEB Newsletter Editor. 03/13/2012

With Alberta politicians on the campaign trail, things are fairly quiet on the environmental front. Alberta Premier Alison Redford dropped the election writ March 26th for an election on April 23, 2012. It looks like it will be an interesting election campaign, with the Alberta Wildrose Party currently leading in the polls ahead of the Alberta Progressive Conservative party, which has been in power since 1971.

Here are a few recent news releases relating to environmental issues in Alberta:

Experts Begin Work on Designing Improved Provincial Environmental Monitoring System: *Group will focus on governance and funding issues*

From Government of Alberta News Release March 13, 2012

Edmonton... The Government of Alberta has named a group of experts to provide detailed advice on establishing a province-wide comprehensive environmental monitoring system.

"Our goal is to build a world-class, science-based monitoring system," said Diana McQueen, Minister of Environment and Water. "This team of scientific, regulatory and academic experts will review governance and funding options and provide recommendations to the government so that we continue making progress."

The working group will focus on developing an implementation plan based on previous recommendations from the Alberta Environmental Monitoring Panel: establishing a system with appropriate transparency and scientific oversight to carry out environmental monitoring, evaluation, and reporting functions; and providing a dedicated, stable revenue stream to fund monitoring, evaluation, and reporting activities across the province.

"Although the Alberta government set aside \$11 million in Budget 2012 for monitoring, the estimated cost for a cumulative effects monitoring system is significantly higher," added McQueen. "The working group will consider what structures need to be in place to ensure a dedicated revenue stream and they will look at the number of organizations that currently play a role in environmental monitoring and consider the best ways to integrate and further this work."

Leading the six-member working group is Howard Tennant, the former president and vice-chancellor of the University of Lethbridge. Tennant was also a co-chair of the Alberta Environmental Monitoring Panel, which provided 20 recommendations to government in July 2011 on building a world-class monitoring system.

"I'm pleased to say we are taking solid steps towards the implementation of a new environmental monitoring system for the province," said Howard Tennant, chair of the working group. "This next step is to ensure the system has proper governance and sustainable funding in place."

The working group will also identify the roles of the various parties in the system, including government agencies, current monitoring partners, stakeholders, and First Nations.

The working group will report back to government by June 30.

Working group details:

The working group will provide expert advice regarding those recommendations provided by the Alberta Environmental Monitoring Panel which require significant policy shifts by government. The group will provide advice and recommendations to better understand the implications of these policy shifts.

Dr. Howard Tennant (chair)

- Former University of Lethbridge president and vice-chancellor. Serves on several public and private sector boards including three terms on the governing board of the National Research Council. Served as co-chair on the Alberta Environmental Monitoring Panel.

Hal Kvisle

- More than 30 years of demonstrated leadership experience. Former president and CEO of TransCanada Corporation. Board member of the Bank of Montreal, Talisman Energy and ARC Resources. Serves as chair of the Nature Conservancy of Canada. Served as co-chair on the Alberta Environmental Monitoring Panel.

Neil McCrank, QC

- Experienced negotiator and lawyer. A senior Alberta Government official for over 20 years (Deputy Minister of Justice and Chairman of the Alberta Energy and Utilities Board). Currently counsel with Borden Ladner Gervais LLP.

Dr. Gregory Taylor

- Dean, Faculty of Science, University of Alberta. Professor, Department of Biological Sciences. Research focuses on understanding the mechanisms plants use to tolerate abiotic stresses in the soil environment, such as metal toxicity and nutrient deficiency.

Dr. Ron Wallace

- Widely-published Emerald-Award winning aquatic ecologist with 35 years experience in oil sands-related environmental and aboriginal issues. Retired in 2005 as CEO of an international manufacturer. International consulting experience includes World Bank assignments for major development projects in Russia and Venezuela. Former Board Member of Wildlife Habitat Canada. Former Executive Director to the Northwest Territories Water Board.

Ernie Hui

- The Deputy Minister of Alberta Environment and Water. Since 1989, served in a number of different and progressive roles within Alberta Environment and Water. Extensively involved in water allocation issues and in managing the development of the *Water Act*.

Fish and Wildlife Officers Bust Illegal Fish Trafficking Ring: *Operation lasting three and a half years concludes with charges laid*

From Government of Alberta News Release March 7th, 2012

Edmonton... Twenty-seven individuals from Pigeon Lake, Wetaskiwin, Camrose, Rimbey and Edmonton have been charged with 72 counts under the *Fisheries (Alberta) Act*. Charges include the unlawful sale and purchase of walleye and whitefish.

Court dates have been set for May. The maximum penalty for illegally killing, buying or selling fish under the *Fisheries (Alberta) Act* is a \$100,000 fine and one year in jail.

Fish and Wildlife Enforcement launched the three-and-a-half-year investigation in 2008 after officers in Wetaskiwin received confidential information about illegal buying and selling of fish in the Pigeon Lake area.

The individuals accused are not associated with the legal commercial fishing industry. The charges allege the accused formed an underground network of illegal buyers and sellers to avoid detection by authorities. This type of illegal activity poses a serious threat to Alberta's fish populations and harms the legitimate commercial fishing industry.



Anyone with information that would assist in solving any fish or wildlife crime in Alberta is asked to contact a local Alberta government Fish and Wildlife Enforcement office or call the toll-free Report A Poacher line at 1-800-642-3800. The Report A Poacher line is open 24 hours. Anyone who provides information can remain anonymous and could qualify for a reward.

SASKATCHEWAN News

Submitted by Robert Stedwill, CSEB President

After what has been an unusually warm winter, and little snow, summer in Saskatchewan will be perhaps an unknown entity as well. Aside from the weather, Saskatchewan is also undergoing significant regulatory reform in the form of a new “Environmental Code”. Much of this is due in part to the streamlining of the approval process of projects exploiting the province’s resources and supporting infrastructure.

This “code”, a new results-based model, is said to enhance environmental protection, while encouraging innovation. Back in the 1970’s, Saskatchewan’s regulatory regime and development, which I was involved in helping to formulate, as an employee of industry, was focused on point source pollution and unregulated resource harvest. At that time I thought we were pretty innovative, industry working with government regulators to address issues that were germane to both bodies, but also protecting our respective interests and responsibilities.

From what I understand, the new model represents a significant shift away from prescriptive legislation and regulations to a focus on holding proponents accountable for achieving desired environmental outcomes. The Saskatchewan Environmental Code will be a legally binding, enforceable set of requirements to be followed by anyone conducting activities regulated by any of the acts that reference the code. It will provide directions and guidelines for projects, allowing operators in many situations to proceed in an environmentally friendly manner without unnecessary permits from the Ministry of Environment.

This is not necessarily a bad thing, because, as I recall during the course of my career working in the industrial arena in Saskatchewan, there were frustrating times when roadblocks seemed to arise around every legislative corner. What concerns me, however, is the perceived need to hasten the approval process, much like the apparent reduction in approval times at the federal level, whereby project approval times should be no more than 24 months. Undergoing an approval process in the course of 24 months minimizes the time needed for public review, and sober second thought on what may or may not be impacted by a project development. Expedited approvals for the sake of the economy and jobs, in my view, is near-sighted, and does not augur well for the long-term health of the environment.

Speaking of public review, the public review of the draft Environmental Code concluded on March 16, and I hope that some of you had an opportunity to input your opinions, and concerns if any.

The draft code contains a collection of legally-binding requirements to be followed by anyone conducting activities regulated by *The Environmental Management and Protection Act*, 2010 (EMPA 2010), *The Forest Resources Management Act* (FRMA) and *The Management and Reduction of Greenhouse Gases Act* (MRGGA). These three acts and the recently revised *The Environmental Assessment Act* are the initial building blocks for the results-based regulatory framework for environmental management and protection in Saskatchewan. Many requirements stipulated in these acts and their associated regulations have been incorporated into the draft code. As such, many of the existing acts and regulations will either be repealed or amended. The code is a living document and will be reviewed, added on to and revised as needed. Work on additional chapters has already begun for linear activities, works in or near water, and hazardous and dangerous goods storage.

Time will tell, whether the new “code” attains the goals intended. I have worked with some of the members of the Code Development Committee and the Content Committees, and respect their judgment and experience as they pertain to the code’s development. Saskatchewan has always been a leader in innovative initiatives, and I wish the Environmental Code great success when it is proclaimed.

How You Can Help the CSEB

- **Contribute to the quarterly newsletter and/or website.** Give us an article on something you are interested in
- **Write a short paragraph about what you have been doing, articles or reports you have written**
- **Provide us with points of views on issues.** Your Executive is always interested in learning what issues concern you
- **Write a book review for the newsletter**
- **Become a Chapter Chair, or offer to join the Board of Directors**
- **Promote CSEB - put up a poster, distribute membership forms - download from our website**
- **Set up a Chapter - contact any Director for help**
- **Organize a CSEB event - contact any Director for help**
- **Attend the annual conference and maybe present a paper on your work.**

MANITOBA News

Rotting Fish, a Nightmare

Submitted by Bill Paton, CSEB Manitoba Director and Annie Pickering, senior high school student.

Seventeen thousand pounds of fish rotted in a shipping container after Manitoba Conservation seized them from commercial fishers this summer – but that's just a drop in the bucket compared to what they're forced to waste every day.

Commercial fisherman Frank Kenyon says that every day he works on the lake he has to let 200-300 pounds of undesirable fish rot and make their way into Lake Manitoba.

Those fish are not only traditionally considered unpalatable for commercial sale – they're also nutrient loading Manitoba's lakes.

Kenyon sells to Freshwater Fish Marketing Corporation, which has a mandate under a federal act to buy all the fish caught in Ontario, Manitoba, Saskatchewan, Alberta, the Northwest Territories or Nunavut, and market it for re-sale.

He's paid for the pickerel but says the rates for what he calls "rough fish" carp in particular, are so low that fishers lose one to two cents per kilogram after paying for shipping.

But when he puts a gill net into the lake, it catches every fish of a particular size – two-pound fish, for example – and with the proliferation of invasive carp that can mean pulling 1,000 fish to catch a single pickerel.

Source: Manitoba Eco-Net Journal 22(1) January/February 2012

Carp the death of Manitoba lakes?

Some of the negative effects carp – an invasive species native to Europe – have on Manitoba's lakes:

- Release phosphorous locked up in sediments and other aquatic fauna.
- Reduce insect populations through predation, loss of habitat.
- Feed on walleye (pickerel) eggs, crowd walleye out of their habitat.
- Stir-up substrate, which destroys habitat, kills aquatic plants, makes water unsuitable for swimming or drinking.

Source: Manitoba Eco-Net Journal 22(1) January/February 2012

Protecting Manitoba Elk from Chronic Wasting Disease

Manitoba Conservation officials used a plane and helicopter surveillance over part of western Manitoba to find and remove up to nine escaped farm elk from Saskatchewan that could threaten to spread Chronic Wasting Disease (CWD) to Manitoba's wild elk, Conservation Minister Gord Mackintosh announced on the 12th of March, 2012.

"Our diligence in monitoring and responding to the threat of chronic wasting disease has prevented it from spreading to Manitoba so far," Mackintosh said. "We've seen the devastating effect the disease has had on wildlife in neighboring jurisdictions and this latest action is essential to keep our elk healthy."

CWD is a fatal disease affecting the central nervous system of deer and elk. In the early 1980s, it was detected in free-ranging elk in northeast Colorado and southeast Wyoming. It has since been found in farmed-elk herds in Saskatchewan, Alberta, Colorado, Wyoming, Montana, South Dakota, Minnesota, Wisconsin and other jurisdictions. Many elk farms have had to destroy entire herds because of CWD.

When Manitoba Conservation staff was first notified of the escaped elk, they began ground efforts to locate the animals, which have identifiable ear tags and have been seen in the area of Thunder Hill, west of Swan River, and in the Birtle – St-Lazare area. They are now escalating the search by using aerial surveillance. Once the elk from Saskatchewan are located within or near the Manitoba border, they will be culled by Manitoba Conservation staff and tested for the disease.

While CWD has become a serious problem in Saskatchewan and Alberta, to date no confirmed cases have been found in Manitoba, Mackintosh said, adding if CWD ever became established in Manitoba's elk population, the impacts would be extremely serious. There is currently no evidence to show that CWD can affect humans, however the World Health Organization recommends against consuming all products from infected animals.

Source: Province of Manitoba News Release, 12 March, 2012

Merging Departments

The Premier announced that the conservation and water stewardship departments will merge. These departments were separated from the old Environment Department under the Doer Government. Concerns about Lake Winnipeg a few years ago led the Manitoba government to separate out Water Issues into a separate new ministry. The joining of the two Departments was publicly announced with no clear rationale as to why. It is noted that two other brand new ministries were created in this latest Cabinet shuffle. The new Minister is Gord Mackintosh who has held a variety of portfolios in NDP governments in Manitoba.

Source: Province of Manitoba News Release

More Climate Change Data

A spring-like heat wave is melting what remains of winter across southern Manitoba, breaking even more weather records on Sunday, 18 March 2012.

It was 20 °C in Winnipeg as of 1 p.m. CT on Sunday, well above Environment Canada's previous record high for this day 8.8 °C that was set in 2000.

In Brandon, the previous record for warmest temperature on this day was 8.9 °C, set in 1959. It was 15 °C in the Wheat City early Sunday afternoon, according to Environment Canada.

A similar record was broken in Portage la Prairie, Man., where the previous record high was 10.2 °C in 1991. It was 15 °C on Sunday afternoon, with the mercury expected to reach 23 °C.

It was a little cooler in Dauphin, Man., at 8 °C as of 1 p.m., but it's still above the previous record high of -6.9 °C that was set last year.

Source: CBC News

Moose Population Still Too Low

Recent aerial surveys in west-central Manitoba show the moose population in the Porcupine and Duck mountain regions remains low but stable. Manitoba Conservation and Water Stewardship announced March 1, 2012, moose hunting was cancelled in the Porcupine and Duck mountain regions, Game Hunting Area (GHA) 13 and 13A, May 26, 2011 after aerial surveys showed sharp population declines.

Manitoba Conservation and Water Stewardship also put a partial closure in place January 20, 2012 on moose hunting in parts of GHA 26, which stretches from Lake Winnipeg to the Manitoba-Ontario border between the Winnipeg and Wanipigow rivers. Moose populations have declined by almost 50 per cent in this part of the province since 2006. Moose hunting closure areas apply to both licensed hunting and treaty and Aboriginal rights-based hunters.

Source: Manitoba Wildlands, March 2012

QUEBEC News

Ever wonder how hydro production compares to other energy production in terms of GHG emissions? Here is a response by Quebec Hydro listing how their hydro system compares to other forms of energy:

Response to Conservation Law Foundation. Québec Hydropower: Long-Term Climate Benefits

A study prepared for the Conservation Law Foundation by Synapse Energy Economics, Inc., a private consulting firm, confirms that large-scale hydropower emits far less greenhouse gas emissions than fossil fuels.

Unfortunately, however, by claiming that reservoir hydro emission ranges are likely higher than those for at least some other renewable options, Synapse's analysis contains a basic flaw by attempting to cherry-pick data from a recent study on emissions from the Eastmain-1 reservoir in Québec.

Synapse incorrectly assumes that emissions from the Eastmain-1 reservoir would average 158,000 tons of CO₂ equivalent per year on a long-term basis over a period of 100 years. This figure is in fact the amount of emissions per TWh generated, but only referring to energy generated by the Eastmain-1 generating station.

For 93 of the 100 years in question, beginning in 2012, water from the Eastmain-1 reservoir will also run turbines at the Eastmain-1-A generating station, bringing total annual energy output up to 6.7 TWh. The corresponding GHG emissions would thus be approximately 54 tons CO₂ equivalent per GWh.

Moreover, GHG emissions vary among generating station depending, among other factors, on the size of the reservoir and the energy generated. It is therefore inaccurate to extrapolate the findings related to a single generating station and apply these values to an entire hydropower production fleet. The GHG emissions from the energy generated by Hydro-Québec's entire production fleet, composed of 60 generating stations of which more than two-thirds are run-of-the-river installations, average 10-20 tonnes of CO₂ equivalent per GWh.

The facts on hydropower emissions, using a life-cycle analysis approach over a period of 100 years, are actually quite simple. Québec hydropower emissions are:

- similar to those from wind power
- only a quarter of those from photovoltaic solar facilities
- 40 times less than those from a gas-fired power plant
- about 100 times less than those from a coal-fired plant.

In addition to improving air quality – hydropower generation produces none of the pollutants responsible for acid rain and smog – exporting this clean, reliable source of electricity avoided the emission of 41 million metric tons of greenhouse gases in North America between 2008 and 2010. That's roughly equal to the annual emissions from about 10 million vehicles.

The major environmental challenge facing North America is to replace coal to generate power and oil used in transportation. By supplying neighboring markets, notably in New England, with renewable, competitively priced and reliable energy, Hydro-Québec contributes to the fight against climate change and air pollution.

Alain Tremblay, M.Sc., Ph.D.
Environment Advisor
Hydro-Québec Production

ATLANTIC News

Submitted by Pat Stewart, CSEB Atlantic Director

The Atlantic Region of CSEB has been involved in executive activities (two of our local members are on the executive and board), principally planning for the conference/workshop in Manitoba for next month, handling membership renewals, and providing material for the newsletter. On other fronts, the environment here in Atlantic Canada keeps chugging along, amid human onslaughts of various kinds, a slow almost imperceptible deterioration.

Like the rest of Canada, wind farms are springing up everywhere, even to the consternation of Anne Murray, whose summer cottage happens to be located near a proposed site. Wind farms are a double-edged sword, but truly they show our lack of ability at the governmental level to plan for where these facilities are located, and to balance development with other parts of the natural world—Nova Scotia is currently thought to have developed a 'glut' of them. These massive 'toothpicks' on the horizon which can be seen literally for tens of kilometres, will continue to show up in some of our most scenic and pristine places (where the environment and the biological world still has a chance and which tourists cherish and come from miles around to see). We need the electricity, but clearly we should plan where it is produced and limit the extent to which it is developed, and clearly we are unable.

Urban sprawl is cleaning out large areas of forest and wetland around Halifax/Dartmouth and proposed highway corridors (routes to the rapidly urbanizing coastal areas along the shores of some of the bays on the Atlantic coast 10-20 km from town) are fragmenting some of the last wilderness around the metro area. The route to Peggy's Cove is built up [although someone wisely restricted development on the 'barrens' landscape which characterizes the shore there], paved with expensive homes and marinas, a far cry from the scenic landscape you would have seen if you visited the area 'back in the day'.

And clear-cutting. Don't get me going. The present Nova Scotia government has recently ignored the recommendations of a hard-working panel on our forest resources—which included limits on clear-cutting—putting them on hold indefinitely, to allow two of the major forestry companies to continue their current practices. There are virtually no environmental controls on logging, and no one except the forest industry believes these activities will be viable with a long-term view. And on and on.

CSEB's objectives and the knowledge and talent of members in the Atlantic Region are providing at least some sanity in the process. And I hope you won't put your heads in the sand and give up. Hopefully the expression 'Every little bit helps' isn't just a saying.

Grey Seals a Factor in Cod Recovery on East Coast

Submitted by Pat Stewart, CSEB Atlantic Director

An assessment of the role of a burgeoning grey seal population in the Atlantic off Nova Scotia in affecting cod populations there,

recently found that predation by seals has played an important part in stifling the stocks' recovery.

Dr. Mike Sinclair and Bob O'Boyle, fisheries researchers with the Department of Fisheries and Oceans, Bedford Institute of Oceanography in Dartmouth, re-examined the possible involvement of seals in the return of stocks off Nova Scotia, which has usually been discounted in discussions of seal management, particularly when culls of the species are proposed to benefit the fish stocks.

The cod were so badly overfished by the commercial fishery that the stocks collapsed in most areas, particularly on the Grand Banks off Newfoundland, in the early 1990s. As a result, a moratorium on the fishery in most areas, instituted in 1992—and in Nova Scotia in 1993—kept fishing boats ashore and changed the whole way of life of many coastal communities.

However despite the moratorium, cod stocks haven't recovered. The leading hypothesis for the failure of the stocks to bounce back has been that ecosystem had undergone a major shift to favour other types of fish species. Cooling temperatures in the waters off Newfoundland and Nova Scotia [the water is cooler in the face of global warming because the arctic ice is melting] have also been put forward to explain the shift. Fishermen however have pointed the finger at seals, which are known to eat fish and damage gear in coastal areas.

Fisheries scientists usually discounted seals in the collapse of the fishery, but a rapidly growing population of grey seals on the Scotian Shelf—the shallow waters of Nova Scotia—could be a factor in the stock recovery. Abundance of the species here has shot up from 70,000 in the 1970s to 300,000+ today. Adult males can reach 360 kg and females 250 kg and consume sizeable quantities of fish, which are their main prey item. Grey seals move widely on the shelf and in the Gulf of St. Lawrence, concentrating in several areas in early winter to pup—especially on Sable Island about 180 km off the Nova Scotia coast, where there is a major breeding colony.

Sinclair and O'Boyle reviewed data on food consumption of the seals and population data and concluded the large seal populations were having a tangible effect on the cod. "What we are saying is given the size of the seal population, which we know is very large, you are not going to get a recovery," said O'Boyle. The study appears in the current edition of *Fisheries Research* (O'Boyle and Sinclair, 2012).

Last year, Keith Ashfield, federal Minister of Fisheries and Oceans, announced a proposed cull that would reduce the herd by 70% over five years, with 70,000 seals to be killed in the first year, in an effort to help the cod stocks replenish. One study produced by the Canadian Science Advisory Secretariat suggested an experimental cull of 70 per cent of grey seals in the southern Gulf of St. Lawrence to determine whether cod stocks would recover. The report, released last year, acknowledged that more research is needed. It also concluded that a cull on Sable Island of 50,000 animals over five years would have little impact on the cod.

Sources: J. Brean, The National Post; and CBC Atlantic Region Website. Citation: O'Boyle, R. and M. Sinclair. 2012. Seal-cod interactions on the Eastern Scotian Shelf: Reconsideration of modelling assumptions. *Fisheries Research* 115: 1-13 (March 2012).

Old Elms Sourced for Dutch Elm Resistance

A healthy century old American elm on the campus of the University of Guelph could hold the key to reviving the species that has been decimated by Dutch elm disease (DED). This tree is an example of a small population of mature trees that have resisted the ravages of DED. A study published in the *Canadian Journal of Forest Research* (Shukla et al. 2012) examines using shoot buds from the tree to develop an in vitro conservation system for American elm trees.

"Elm trees naturally live to be several hundred years old. As such, many of the mature elm trees that remain were present prior to the first DED epidemic," says Praveen Saxena, one of the authors of the study. "The trees that have survived initial and subsequent epidemics potentially represent an invaluable source of disease resistance for future plantings and breeding programs."

Shoot tips and dormant buds were collected from a mature tree that was planted on the University of Guelph campus between 1903 and 1915. These tips and buds were used as the starting material to produce genetic clones of the parent trees. The culture system described in the study has been used successfully to establish a repository representing 17 mature American elms from Ontario. This will facilitate future conservation efforts for the American elm and may provide a framework for conservation of other endangered woody plant species.

The American elm was once a mainstay in the urban landscape before Dutch Elm Disease began to kill the trees. Since its introduction to North America in 1930, Canada in 1945, the disease has devastated the American elm population, killing 80%-95% of the trees.

The study "In vitro conservation of American elm (*Ulmus americana*): potential role of auxin metabolism in sustained plant proliferation" is published in the April issue of CJFR.

Shukla, M.R., Jones, A.M.P., Sullivan, J.A., Liu, C., Gosling, S. Saxena, P.K. 2012. In vitro conservation of American elm (*Ulmus americana*): potential role of auxin metabolism in sustained plant proliferation. *Canadian Journal of Forest Research*, 42(4): 686-697.

Abusing Our Rivers and Ponds

By R. John Gibson. Published as a letter to the Editor, The Telegram, St. John's on January 16, 2012

We congratulate ourselves that fishing is free in the province, in that other than having to have a salmon licence to fish salmon rivers, no waters can be barred or charged for if anyone wants to fish a particular water during the open season for angling. This is a very different situation from Europe, for example, where it can be very expensive to fish a trout stream. However, this does have its downside. Because angling is not revenue generating, functionaries put less value on rivers and ponds.

River Dumping

For example, the St. John's city rivers and ponds provide better trout fishing than most trout waters worldwide. However, despite regulations to the contrary, our city rivers are being degraded by illegal channelization, improper construction of storm sewers, and ignoring buffer strip regulations without penalty.

Although you would have to pay to fish, similar waters in Europe are conserved and enhanced. Here, the city rivers are regarded simply as useful drainage systems. Only "hard" engineering expertise is used, and no scientific ecological expertise is employed.

Although pristine lake ecosystems worldwide are becoming rare, and therefore more valuable, in Canada they are perceived as less valuable, possibly again because they are freely open to all residents and lakes here are abundant.

We are lucky in that we have more pristine lakes than other countries.

However, federal and provincial bureaucrats appear to have the impression that all lakes are the same and therefore many are dispensable, without recognition that unique ecosystems have developed in isolated systems.

Waste Areas

For example, despite our excellent *Fisheries Act*, which stipulates that no lake can be destroyed by dumping toxic wastes, the federal government, aided by provincial governments, allows mining companies to privatize lakes for their own use, and worse, to destroy them in perpetuity as toxic waste dumps.

The *Fisheries Act* is perverted by simply changing the designation of a lake from a living ecosystem to a "tailings impoundment area," even though up to the moment of being destroyed, it is still a lake.

Thereby, very wealthy mining companies, at our expense, find it cheaper to use a lake for their wastes rather than building an impoundment area as they are required to do in other developed countries (and in Quebec).

Ostensibly, compensatory fish habitat must be made for destroying a lake. These "compensations" cannot compensate for unique ecosystems, are totally inadequate and, in fact, are merely public relation strategies.

In developing countries, bending of the environmental regulations is called "corruption." Here, it is called "political lobbying." It is important that the general public are aware that all natural lakes are valuable, and are aware of being cheated.

Environmental groups who are attempting to conserve our natural heritage need support. Such a group is the Sandy Pond Alliance (www.sandypondalliance.org), which is taking the federal government to court to reverse the Schedule 2 of the *Metal Mining Effluent Regulations Act*, which allows unique ecosystems to be destroyed for dumping toxic wastes.

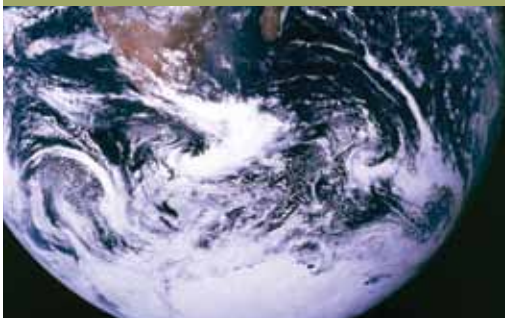
Canadian Society of Environmental Biologists



Recognizing the Value of our Canadian Parks – Ecozones: Conservation, Biodiversity and Research

Workshop

May 10th-12th, 2012 | Royal Oak Inn & Suites, Brandon, Manitoba



FULL: Members: \$120

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2 Day Conference, one lunch

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2 Day Conference

* Includes 2012 CSEB Membership Fee

Field Trip: \$25

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CALL FOR ORAL AND POSTER PRESENTATIONS

Workshop Sessions: Thursday, May 10th & Friday, May 11th, 2012

Local Field Trip: Saturday, May 12, 2012 - Riding Mountain National Park

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Conservation:

- Conservation of ecosystems
- Conservation of communities
- Conservation of species
- Conservation education
- Managing invading species
- Restoration of species, communities, ecosystems

Biodiversity:

- Biodiversity assessment
- Biodiversity protection
- Biodiversity change through human influence and time
- Biodiversity and climate change
- Biodiversity and ecosystem services

Parks and Protected Spaces Research:

- Value to research
- Air quality impacts research
- Water quantity and quality research
- Water and wastewater research
- Unique environmental research

CONTACT: Dr. Bill Paton (204) 727-9783 | patonw@brandonu.ca

Program & Registration: Go to www.cseb-scbe.org

TERRITORIES News

Nunavut Update

Submitted by Paula Smith, CSEB Territories Director

Unlike the rest of the country, winter continues to keep its hold on the north with seasonal temperatures still dropping into the -40Cs. At least the longer days are creeping back and the weather has been cooperating to see some spectacular northern lights this year.

For the Nunavut roundup—making national headlines, the Government of Nunavut has announced plans to complete a survey of the caribou herds of Baffin Island. This will be the first time these populations have been surveyed, providing much needed baseline information. The surveys have begun on the southern portion of the island with the northern surveys to be completed in 2013. In mining news, the review process continues for the Mary River iron ore project while the Kiggavik uranium project and Meliadine gold project are getting closer to having their draft environmental impact statements completed. Meanwhile, the Nunavut Mining Symposium is to be held in April in Iqaluit, an annual event that draws exploration companies, mining companies, regulators as well as other interested parties, to Nunavut's capital for this annual event.

And don't forget – the IPY 2012 *From Knowledge to Action* conference is to be held between 22-27 April in Montreal. See you there!

NWT Regional Update

Submitted by Anne Wilson, CSEB Territories Director

The Western Arctic experienced an extremely mild winter, and is on the threshold of spring's arrival. With the March 31st deadline for submission of annual and monitoring reports, the community of biologists working in the North can be divided into two camps: those who have finished writing, heaved a sigh of relief, and are now looking ahead to the 2012 field season, and those who are awaiting an avalanche of information to review! I have landed in the latter camp, and find there is never a shortage of interesting reading material. If predictions are correct, this will not be slowing down any time soon!!!

Mining news:

Progress is being made on the environmental assessments for the three proposed mining developments in the NWT.

- The Fortune Minerals Ltd. NICO proposed cobalt-gold-bismuth mine project environmental assessment has proceeded through the first round of Information Requests, and following technical

meetings held in Feb., is proceeding to a second round of IRs. The project is located about 50 km NNE of Whiti, in the Tlicho territory.

- The Avalon Rare Metals Inc. Thor Lake Rare Earth Element Project involves a 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. Deficiencies with Avalon's DAR submission have been addressed, and the process has proceeded through the Information Request stage. Avalon has provided responses to the various stakeholders' IRs, and it is anticipated that technical meetings will be held in early May.
- The Tyhee Yellowknife Gold Project review is in the "Information Request" (IR) stage, and the proponent has submitted responses to the questions posed by the Mackenzie Environmental Impact Review Board. Next steps will be for reviewers to submit their IRs to the proponent by mid-May.
- The Giant Mine Remediation Project will be going to public hearings in mid-May at the earliest. The project includes the containment of 237,000 tonnes of arsenic trioxide dust currently stored underground, generated over 6 decades of mine production.
- 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, appears to be proceeding to the regulatory stage – pending sign-off by the AANDC minister. When that comes, it will be interesting to hear the responses from concerned First Nations and ENGOs.
- The DeBeers Canada Inc. Gahcho Kue Diamond Project Board panel-level review is ongoing. Following receipt of all the additional information on the Environmental Impact Statement for conformity, it has moved forward to the IR stage, with responses to be issued March 31st. This review is tentatively scheduled to run through 2012, with hearings in Dec. 2012 and a decision in July of 2013.

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

On the EA horizon, we have the Courageous Lake gold project; the project's first Preliminary Feasibility Study is scheduled for release in June 2012 which is expected to report the project's first proven and probable reserves. Meanwhile, engineering and environmental work is underway in anticipation of permit applications.

On the regulatory front, information can be found at <http://www.mvlwb.ca/default.aspx> on various water licences and land use activities.

Closing:

Although I am now based in Edmonton (aka the “Gateway to the North”) 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 educational 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. Written 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 re-main 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 re-port 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, 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 per cent by ArcelorMittal and 30 per cent by Iron Ore Holdings LP - \$4 billion

Source: The Conference Board of Canada © Copyright (c) The Edmonton Journal

Celebrating the 50th Anniversary of Carson's Silent Spring

Submitted by Peter G. Wells

Faculty of Management (School for Resource and Environmental Studies and Marine Affairs Program) and International Ocean Institute, Dalhousie University, Halifax, NS. Email: oceans2@ns.sympatico.ca

Silent Spring, widely considered to be one of the most influential books of the 20th century, celebrates its 50th anniversary this year. It was penned by Rachel Carson, a former US Fish and Wildlife Service marine biologist then working independently due to the success of her other publications – *Under the Sea-Wind*, *The Sea Around Us*, and *The Edge of the Sea*. All of Carson's books are still in print. *Silent Spring*, initially featured in the New Yorker and published in September 1962, became an instant best seller; it describes the rampant use of pesticides and the ecological effects that they may have on wildlife and supporting food chains.

So why is the book still so famous and what influence has it had on individual lives and society as a whole? As you read this note, think about whether the book or Carson's other classics have had an impact on your personal life. For me, *Silent Spring* was required reading in my first ecology course at McGill (1966-67), and was read and reread. I found the book both informative and infuriating. It was well researched and was (and still is) a good introduction to environmental toxicology. It provided evidence of the harmful effects on wildlife and humans of many pesticides, and the wilful role of the chemical and agricultural industries in their over use and misuse, to the detriment of environmental quality. The book's messages (control toxic chemicals, understand their impacts on both humans and wildlife, protect ecosystems from the bioaccumulation of poisons) became the imperative to choose a career in marine environmental science.

At the time, Rachel Carson became an icon for many persons in the nascent environmental field; the 1960s and 1970s were a period when the motives and policies of governments and industries were publicly suspect and eco-activism was very strong. The book stimulated much discussion about pesticide use and the increased degradation of terrestrial and aquatic ecosystems from many causes. Carson faced considerable opposition from the chemical industry, but the work published in many languages formed part of the engine of "environmental revolution" in the 1960s and 1970s. Most importantly, discussions about the book and its implications within governments in North America and beyond led to new legislation and new institutions. Within a few years, there was the US Environmental Protection Agency (EPA), Environment Canada, new legislation (in Canada, a revised *Fisheries Act*, the *Ocean Dumping Control Act*, the *Contaminants Act*, and eventually the *Canadian Environmental Protection Act*), and internationally, Earth Day, the 1972 Stockholm Conference on the Human Environment, the United Nations Environmental Programme, and the United Nations Convention on Law of the Sea. As

well, new environmental and conservation groups started, such as Greenpeace and Friends of the Earth, or were strengthened due to increased public awareness about the value of healthy wildlife and ecosystems. These institutions and groups are mostly still operating, despite constant challenges of funding and politics.

Carson's legacy includes her books, groups formed to celebrate her, coastal lands protected in her name (e.g. such as the National Wildlife Refuge along the southern coast of Maine), and inspiration from her example. We are fortunate now to live in an era of millions of persons and thousands of groups working on behalf of the environment. Carson's legacy remains strong and deserves special recognition in this 50th anniversary year of her most famous work, *Silent Spring*. So if you can, read or revisit the book, reflect on the messages, gain strength from remembering Carson's commitment to the environment, and renew your personal commitment to whatever role you are playing in protecting and conserving nature in its fullest. Individually and together, we can continue to make a difference in this quest, as shown by a courageous lady writing an environmental classic many years ago.

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Rachel Carson

A Briefing on the United Nations Decade on Biological Diversity from the Canadian Environmental Network



Overview of the Decade

By Leslie Adams, Biodiversity Caucus Co-Chair

The United Nations Decade on Biological Diversity was approved by the United Nations General Assembly in December 2010. The Decade was a resolution brought forward and agreed to at the 2010 Conference of the Parties (2010 COP) to the Convention on Biological Diversity (CBD). The 2010 COP was a watershed moment with 47 legally binding documents and creation of the new Nagoya Protocol on Access and Benefit-Sharing of Biological Diversity. The Strategic Plan For Biodiversity, which includes the Aichi Targets (a set of 5 goals and 20 targets - below) was also agreed to.

The CBD, along with the United Nations Framework Convention on Climate Change and the Convention to Combat Desertification, are considered the Rio Conventions as they were formally introduced and opened for signing at the Earth Summit in 1992. All three are Multilateral Environmental Agreements (MEA). Canada was the first country (1993) to ratify the CBD, and it entered into force on December 29, 1993. Currently all countries, save for the Holy See, Andorra and the United States have ratified the CBD. The United States has signed but has not ratified it.

When the CBD uses the term biodiversity it is including, genetic, species (we are one of the species) and ecosystems and their services as being included as part of biodiversity. We all need to use and promote this understanding as biodiversity is more than plants and animals, it is the very underpinnings of all on Earth.

The CBD has three main objectives. They are:

1. The conservation of biological diversity.
2. The sustainable use of the components of biological diversity.
3. The fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

The CBD has two protocols, one on Bio-Safety (Cartagena) and Nagoya as mentioned above. Canada has not ratified either protocol. The CBD has COP meetings every two years with numerous themed intersessional meetings occurring between the COPs. Many of these meetings take place in Montreal as the Secretariat for the CBD is located in Montreal, and is the only MEA Secretariat located in Canada.

The Decade was motioned forward for decision to recognize the need to focus efforts and actions on the implementation of the CBD and the Strategic Plan, monitoring progress of the work

and engaging all people in the efforts. The Strategic Plan is an agreed to plan of action by all 192 countries.

The Vision is for "a world of Living in harmony with nature" where "By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people."

The mission is

"take effective and urgent action to halt the loss of biodiversity in order to ensure that by 2020 ecosystems are resilient and continue to provide essential services, thereby securing the planet's variety of life, and contributing to human well-being, and poverty eradication. To ensure this, pressures on biodiversity are reduced, ecosystems are restored, biological resources are sustainably used and benefits arising out of utilization of genetic resources are shared in a fair and equitable manner; adequate financial resources are provided, capacities are enhanced, biodiversity issues and values mainstreamed, appropriate policies are effectively implemented, and decision-making is based on sound science and the precautionary approach."

Aichi Biodiversity Targets

At the centre of the Strategic Plan is the Aichi Biodiversity Targets (synopsis below). The 20 targets are set within a framework of five goals, and are expected to be articulated within the National context by 2014. A suite of indicators will be introduced at the COP in India this fall. Draft indicators are available at <http://tinyurl.com/84d733c> Please see decision X/2 or <http://www.cbd.int/sp/> for complete text and more information.

Strategic Goal A: Mainstream Biodiversity

- Target 1: People are aware of biodiversity and what they can do to conserve it.
- Target 2: Biodiversity is integrated into the planning strategies and accounting of nations and local regions.
- Target 3: Socio-economic incentives, such as subsidies, are shifted from environmentally harmful areas to areas protecting biodiversity.
- Target 4: Governments, businesses and people have taken steps towards sustainable production within ecological limits.

Strategic Goal B: Reduce the Direct Pressure on Biodiversity and Promote Sustainable Use

- Target 5: Rate of loss of natural habitats is significantly reduced.
- Target 6: Aquatic ecosystems are managed sustainably.
- Target 7: Agriculture, aquaculture and forestry are managed sustainably.
- Target 8: Pollution is brought to ecologically safe limits.
- Target 9: Invasive alien species are controlled, managed and prevented.
- Target 10: Anthropogenic pressures on vital and vulnerable ecosystems are minimized. (2015)

Strategic Goal C: Ecosystems, Species and Genetic Diversity are Safe-Guarded

- Target 11: Aquatic ecosystems are managed and protected.
Target 12: Extinction of species is prevented, and the status of threatened species is improved and sustained.
Target 13: The genetic diversity of cultivated and domestic species is protected.

Strategic Goal D: Enhance the Benefits to all From Biodiversity and Ecosystem Services

- Target 14: Ecosystems that provide essential and valuable services are restored and safe-guarded.
Target 15: The contribution of biodiversity to carbon stocks is enhanced, to contribute to climate change mitigation.
Target 16: The "Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization" is operational (2015).

Strategic Goal E: Enhance Implementation Through Participatory Planning, knowledge Management and Capacity Building

- Target 17: Each party has a national strategy and action plan (2015).
Target 18: Indigenous and local knowledge in relation to biodiversity is respected and integrated.
Target 19: Science and technology related to biodiversity are improved and applied.
Target 20: Financial resources are mobilized to assist in implementation of the Strategic Plan.

Canadian Context

In considering the above within the Canadian context, Canada is working towards articulating the Aichi Targets in its updated National Biodiversity Strategy and Action Plan (NBSAP). It is important for all of us to work with the not only the Federal Government as it incorporates the Aichi Targets into our NBSAP but also the other three levels (Provincial and upper and lower tier municipal government) of government as the mainstreaming and understanding of the needs addressed in the Strategic plan MUST be underscored at all levels.

In Ontario, the Biodiversity Council of Ontario (BCO) has weaved through its Biodiversity Strategy and Action Plan (<http://tinyurl.com/7u2qhs4>), goals and targets form the CBD Strategic Plan. The Ministry of Natural Resources is in the process of responding to the BCO's work. The Environmental Commissioner of Ontario has also put forward a review of how to include the Strategic Plan into the work in Ontario (<http://tinyurl.com/6ubluou>). Both are good briefs on how the work from the International level can and should be reflected at the Provincial levels. At the local government level, work is underway as well. The local level engagement is extremely relevant as it is at this level that many of the impacts on biodiversity occur. Educated and engaged municipalities will mean a movement forward in mainstreaming biodiversity.

How You Can Promote Biodiversity

Consider how you can incorporate the work in the Decade, and the Strategic Plan in your professional and personal activities. Join the Caucus, follow us on Twitter and help foster an environment for the security and future of Biodiversity at home in Canada, and around the world.

The Canadian Environmental Network (RCEN) has been involved with the Convention on Biological Diversity for numerous years. In 2007, a working group was established and a Biodiversity Caucus was formed shortly thereafter. The RCEN Biodiversity Caucus focuses on both National and International work relative to Biodiversity. The caucus is committed to mainstreaming Biodiversity in Canada and bringing focus, understanding and engagement to and on the CBD. The RCEN BioDiversity Caucus is engaged and active in enabling all Canadians to become aware of the needs to uphold the three objectives of the CBD as mentioned above.

We are also actively engaged in Decade and are working to mainstream Biodiversity and developing and enabling communications, education, public awareness and action on the values of Biodiversity. The RCEN Biodiversity caucus, through the Friends of the CBD work we are championing, is about to become National partners with the Danish Board of Technology for the World Wide Views on biodiversity (<http://biodiversity.wvwviews.org/>) which will occur across the Earth on September 15, 2012. Please consider helping make this work successful and contact us about how to get involved. Together we can mainstream biodiversity.

RCEN <http://rcen.ca/caucus/biodiversity>

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.

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



BOOKS IN Print



Life with Birds: A Story of Mutual Exploitation

By Malcolm Smith.
Whittles Publishing, 2011.
ISBN 978-184995-028-2
£18.99

From the earliest days of human existence we have exploited birds. So writes Malcolm Smith, former Chief Scientist at the Countryside Council of Wales, and author of this little book. We are, perhaps, used to hearing of how we have made use of birds but it is refreshing to read this account, where the balance is maintained with numerous examples of how birds have learned, or evolved, to exploit us and our human landscapes and structures. Honeyguides have an ancient link with humans and some species of vulture do us a service by clearing away our corpses, for example. A refreshingly balanced look at the relationships between us and the birds around us.

Review by British Trust for Ornithology.

Birds are arguably the most tangible link most people have with wildlife. They are with us almost everywhere and almost every day. Malcolm Smith has done an incredible job in analysing and summarising the many ways in which birds and people interact with each other. We exploit them and they exploit us in many different ways. After reading this book I think that people have the best of it, but even so some birds do well out of us.

The book has chapters on the different types of relationships we have with birds: we feed and watch them, eat them and their eggs, put up with them as lodgers, use their feathers for arrows, clothing and warmth, engage them as messengers and companions, shoot them, display them and compete with them for food. That this is so all over the world is reflected in the book: the narrative ranges from the paddy fields of Asia to eider duck haunts on the coast of Iceland, and from the guano islands of Peru to the coal mines of South Wales. The chapter titles include 'A Sporting Chance', 'Domestic Bliss', 'Helping Each Other', 'City Slickers' and 'All Myth and Superstition'.

The author has amassed a treasure-trove of facts and figures: from the demise of the passenger pigeon (whose population may once have been 5 billion) to the fact that in 2008, 9 billion chickens were slaughtered for food in the USA; from the only recorded instance of a bird directly killing a person (in 1926 a cassowary dug its claws into the jugular of a man intent on killing it) to the fact that today no less than 4,000 species of birds are being illegally traded. In his Preface Malcolm Smith says

'... I've tried to use the most interesting, intriguing – as well as the most commonplace - Examples of birds and people getting along with each other, of us exploiting them and, equally, their exploitation of us for living space and an easy meal'.

In a style which moves easily between anecdote, statistic and historic or other truth he succeeds admirably in conveying the breadth and depth of all the things we do to and with birds.

There are one or two surprising omissions, perhaps inevitably so in such a work. In the Chapter entitled 'All Myth and Superstition' for example the word 'augury' never appears. Mainly, but not exclusively, applied to birds' behaviour in ancient Rome, auguries related to the likely success of a military campaign or the reign of an emperor. The word survives today when we talk of presidential and other inaugurations. Neither are bird strikes on airliners mentioned, surely a modern day danger of some significance?

Mention of these matters brings me to some criticisms of the book, none of which are likely to be down to the Author. Firstly, there is no index, an inconvenience for reviewer and reader alike. Secondly, the sub-editing is sloppy in places, with some material seeming to still be in draft. For example it is stated that '... fear of bird flu has spread amongst domesticated flocks' where 'fear of' should have been edited out. It is also said that house sparrows are native to Britain which I think is a doubtful assertion.

Nevertheless, as a complement to previous works on this subject (my favourite being Max Nicholson's 1951 publication *Birds and Men* in the New Naturalists series) this provides an up to date account of a story that will continue to develop. Whether you need to know that turkey first appeared as a Christmas dinner in 1585, that Paul Reuters used carrier pigeons before founding the famous news agency, or that the important link between vultures and the Parsis in India is in serious trouble, this is the book for you.

Read it, browse it, use it for reference (lack of index not withstanding) – it is packed with the curious and the thought-provoking. Its fascination itself mirrors the endless fascination that we have for birds.

Review by: Peter Shirley, Ecos Magazine.



Evolution of Plant-Pollinator Relationships.

By S. Patiny. 2012 Cambridge University Press, Hardcover, 504 p., \$127.95 CDN.

Sixty-five million years of evolution has created the complex and integrated system that operates between insects and plants and forms the pollinator-plant relationship. This book examines pollination from an evolutionary perspective, addressing co-speciation and co-evolution, illustrating the complexity of the relationships between plant and pollinator through the fossil record. Chapter topics include evolution of floral displays and signalling, pollination syndromes, and the building of pollination networks. Wide-ranging in its coverage, *Evolution of Plant-Pollinator Relationships* outlines current knowledge and complex emerging topics, demonstrating how advances in research methods are applied to pollination biology.



Statistics Explained. An Introductory Guide for Life Scientists

By S. McKillup, 2011 2nd Edition. Cambridge University Press, Soft Cover, \$45.95 CDN.

An understanding of statistics and experimental design is essential for life science studies, but many students lack a mathematical background and some even dread taking an introductory statistics course. Using a clear and reader-friendly approach, this book helps students understand how to choose, carry out, interpret and report the results of complex statistical analyses, as well as critically evaluate the design of experiments, and proceed to more advanced material. Designed to foster understanding, *Statistics Explained* takes a straightforward conceptual approach to demystify difficult concepts and encourage the unsure. The book also uses diagrams and a minimum of formulae and terminology, and provides examples using simple data sets throughout. End-of-chapter exercises allow self-testing, and handy diagnostic tables help students choose the right test and serve as a quick refresher tool for future efforts.

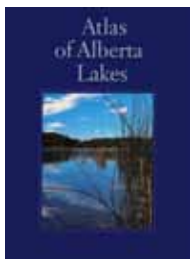


Bioinformatics for Biologists.

By P. Pevzner ed. 2011. Cambridge University Press, 392 p. Soft Cover, \$60.95 CDN.

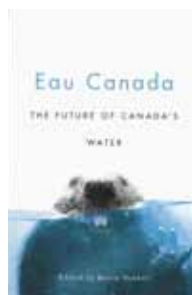
Students and researchers in the biological sciences increasingly face complex datasets that demand new and different approaches. This textbook, a collection of articles by renowned bioinformaticians, is designed to cover the ground from first principles of data to computational thinking. This book uses real biological examples, to introduce computational ideas, and explains concepts with a minimum of mathematical formalism. Self-contained chapters show how computational procedures are developed and applied to central topics such as genomics, the genetic basis of disease, and genome evolution.

The Atlas of Alberta Lakes



By P. Mitchell, E. Prepas. 1990. University of Alberta. \$60.00 CDN

The Atlas of Alberta Lakes, published in 1990 has become a web resource. In the process of converting this publication to an online resource, as much of the original atlas format as possible was preserved, while extra features have been added that allows the user to search the atlas easily. Although the contents of the online version have not been altered or modified from the original 1990 publication, updated or additional information on any of the lakes in this atlas can be obtained from Alberta Environment web site. This project is a cooperative effort between the University of Alberta's Department of Biological Sciences, Alberta Environment Environmental Partnerships & Education Branch, and The University of Alberta Press.



Eau Canada: The Future of Canada's Water.

By K.J. Bakker, 2007. UBC Press. Soft Cover, 242 p. \$18.66 CDN.

Canadians' relationship with water is rife with contradictions. We are fiercely protective of our water, yet hugely wasteful with it, using more water per capita than any nation in the world, except the United States. Images of pristine water are Canadian icons, yet we are one of the very few developed countries not to have legally enforceable water quality standards. Canadians are highly resistant to the notion of exporting water, yet Canada is one of the largest diverters in the world for hydropower.

As this introduction to *Eau Canada: The Future Of Canada's Water*, by Karen J. Bakker shows, as the sustainability of our natural resources is increasingly questioned, Canadians remain stubbornly convinced of the unassailability of our water. Mounting evidence suggests, however, that Canadian water is under threat. *Eau Canada* assembles the country's top water experts to discuss our most pressing water issues. Perspectives from a broad range of thinkers — geographers, environmental lawyers, former government officials, aquatic and political scientists, and economists — reflect the diversity of concerns in water management. Arguing that weak governance is at the heart of Canada's water problems, this timely book identifies our key failings, explores debates over jurisdiction, transboundary waters, exports, and privatization, and maps out solutions for protecting our most important resource

BOOKS 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.

Marsh, H. & T.J. O'Shea. 2012. *Ecology and Conservation of the Sirenia. Dugongs and Manatees*. Cambridge University Press.

Scholz, R.W. 2011. *Environmental Literacy in Science and Society*. From Knowledge to Decision. Cambridge University Press, Soft Cover.

Reynolds, J. and C. Souty-Grosset. 2011. *Management of Freshwater Biodiversity. Crayfish as Bio-indicators*. Cambridge University Press. Hard Cover.

Keely, J.E., W.J. Bond, R.A. Bradstock, J.G. Pauses & P.W. Rundel. 2011. *Fire in Mediterranean Ecosystems. Ecology, Evolution and Management*. Cambridge University Press, Hard Cover.

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