BIOS

Alberta Society of Professional Biologists • 2004 June

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SOPER AWARD 2004

The most prestigious honour of the Alberta Society of Professional Biologists, the J. Dewey Soper Award, was announced at our annual general meeting in Calgary on March 30. Dr. Ian G. Stirling, notable researcher of polar bears and northern ecology, is the ninth outstanding individual in the field of biology to be recognized by the ASPB.

Dr. Stirling has followed in the footsteps of Dr. Soper in many ways as an Arctic explorer and researcher. For many decades, Ian has conducted research on aquatic and terrestrial mammals and ecosystems. He is well respected internationally and has become a familiar figure with the public through extensive media coverage, particularly recently in connection with climate change research.

> "Ian G. Stirling, notable researcher of polar bears and northern ecology"

First and foremost, Ian has been a model and mentor for many university students and colleagues. He has directly supervised or co-supervised 20 students (M.Sc., Ph.D, and post-doctoral fellows), taught many students in courses, and trained many talented researchers who have worked with him on Canadian Wildlife Service projects.

Currently a Senior Research Scientist at Canadian Wildlife Service, Edmonton, he has worked for over three decades on polar bear ecology, particularly on the relationships between population parameters and distribution of bears and seals, in association with pack ice conditions. This long-term research upon a predator-prey complex with such a wide geographic range has become central to an understanding of some of the changes that have taken place with global warming. The Polar Bear Project has also been a key component of the co-management of this culturally important resource for the Inuvialuit.

Dr. Ian Stirling is a prolific author with over 200 scientific works and natural history articles to his credit. His publishing record also includes three books on bears, including one children's book that has been published in English, French and German. His publications have been mostly on polar species, both Arctic and Antarctic, in particular polar bears and seals, but he also published a number of articles on bird species, especially blue grouse and penguins. He has also served on the editorial boards of four scientific journals: South African Journal of Marine Science, Marine Mammal Science, Canadian Journal of Zoology, and Polar Record.

A member of a number of international and national scientific and government management boards, Dr. Stirling has

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BIOS is written for the enjoyment of the members of the Alberta Society of Professional Biologists and those interested in the field of professional biology. Articles or comments are welcomed and should be communicated to the ASPB Office. Editing and layout by Gavin More, 49 NORTH Creative Learning and Training.

WELCOME NEW MEMBERS

Regular Member:

Chad Croft, Katherine Enns, Adele Houston, Lori Neufeld, Shewin Shih

Membership Update

ASPB membership as of June 15, 2004: **Total 530**

Regular	446	Biologist in Training	47
Honorary	7	Temporary Withdrawn	15
Student	7	Public Member	1
Associated	7		

Dr. Robin Leech - Executive Director

Robin Leech started as ASPB Executive Director a year or two ago. For those who don't know Robin and his interest and unique expertise the following bio information will give you a brief overview of a very full professional career.

Robin Leech grew up in Vernon, BC, to the age of 10, when his family moved to California. His dad was a water beetle specialist, and worked at the California Academy of Sciences in San Francisco. So, Robin grew up knowing the scientific names of many insects.

In 1955, Robin entered UBC graduating in 1963. He started his MSc at the U of Alberta later the same year. He finished his MSc thesis on the spiders of Lake Hazen on northern Ellesmere Island in 1965, and went on to a PhD thesis on the taxonomy and zoogeography of the spider family Amaurobiidae for the Nearctic Region in 1966.

Over the years, he went on many expeditions to different parts of the world, including the Firth River, Yukon, Africa, northern BC and the southern Yukon, Antarctica, New Zealand, Falkland Islands, Vietnam, and Laos. His PhD thesis involved trips all over the western US and Mexico to the Guatamala border. A few years ago, he also made a year-long trip to Australia.

Robin did an NRC postdoc fellowship in Ottawa with Agriculture Canada which he finished in 1972. He then worked with Parks Canada doing bison diseases (TB, Brucellosis and Anthrax) in Wood Buffalo and Elk Island National Parks.

In late 1974, he started with the Research Secretariat of Alberta Environment, resigning in 1978 to work as a private consultant. This led to contract work with NAIT doing ecology, invertebrate zoology and entomology.

In 1978, NAIT took him on full time, and he taught hard core English and report writing, entomology and comparative vertebrate anatomy (cats, fish, birds, reptiles). Robin retired from NAIT in 2002 at the age of 65 and shortly after became our Executive Director.

Robin has two children, Katherine, 36, and Stuart, 34, both of whom live in Calgary. Through them, he has 3 grandsons, all under 5 years of age.

Workplaces that Work

Is your workplace welcoming to women employees? If it is, you've also created a workplace culture that is better for all employees and better for the bottom line. This guiding principle is explored in a new report, called Workplaces that Work: Creating a Workplace Culture that Attracts, Retains and Promotes Women.

The report notes that many employers today have a shortage of skilled workers. Hiring more women is one way to alleviate the problem. Although women are 46 percent of the labour force, they are severely underrepresented in many occupations. For example, in transportation, trades and construction, women are only seven percent of the workforce.

Businesses that can attract and retain women have many advantages, including:

- being seen as an employer of choice,
- having a larger number of people from which to select employees, allowing the organization to select the most qualified applicants,
- being able to successfully compete for financial resources due to increased investor confidence,
- effectively marketing to women as a consumer group,
- improved decision making capabilities due to a variety of perspectives,
- a low employee turnover rate, and
- high levels of employee satisfaction and participation.

Workplaces that Work highlights select businesses that have modified their work place environments to attract, retain and promote women with positive results. Along with business tips, Workplaces that Work includes a questionnaire to assess your business environment and identify areas of opportunity for change.

Workplaces that Work is a free publication produced by the Federal/Provincial/Territorial Ministers responsible for the Status of Women. This document is available at www.cd.gov.ab.ca by following these four links: Helping Albertans, Human Rights, Diversity and Equality, Women's Issues, and Workplaces that Work or by contacting the Alberta Human Rights and Citizenship Branch, southern regional office at (403) 297-6571 toll-free calls first dial 310-0000) or by fax at (403) 297-6567

Edmonton Science Fair Winners

Dave Ealey could not be present at the Edmonton Regional Science Fair this year, so Tony Mah and I did the judging for the ASPB Award. There were 120 entrants in Elementary Grades 4-6. We winnowed it to about 12, then 10, then 5. From these 5, we selected the winners and the runner up. The students are from Barrhead Elementary School in Barrhead.

During his questioning, Tony Mah found out that the winners are in Grade 3, not Grade 4. They were told that they would have to compete against Grade 4 students. They did and won two awards for their efforts.

Flanking me in the photo below, are Bradley Tomm (L) and Luke Miller (R) for their project, **HOW DO BEES MAKE HONEY?**

The Alberta Institute of Agrologists awarded their Elementary School Science prize to these same two boys, hence the reason each boy is holding 2 plaques.

Honorable Mention went to James Lee for his project, **BEHAVIOUR OF LEOPARD GECK**.

Robin Leech, P.Biol. Executive Director

Bios Bits

Internet Spoof Sucessful

The "government as good as it gets" award goes to the city of Aliso Viejo, California, for scheduling a city council vote meant to ban the use of any product by the city that is made with or contains water, believing water to be a dangerous and toxic substance.

Seems the esteemed members of the city government were panicked by some spoof Internet website [perhaps http://www.dhmo.org/facts.html) which calls for the banning of DHMO while listing all its dangers. The councillors were not aware that DHMO stands for Dihydrodgen Monoxide which is the scientific name for water.

Dangers listed at the site include:

- DHMO is a major component of acid rain.
- Found in biopsies of pre-cancerous tumors and lesions. [All cells contain water]
- Death due to accidental inhalation of DHMO [Drowning]
- Prolonged exposure to solid DHMO causes severe tissue damage. [Frostbite]
- Gaseous DHMO can cause severe burns. [Steam]
- Exposure decreases effectiveness of automobile brakes.
- Leads to corrosion and oxidation of many metals. [Rust]
- Contributes to soil erosion.
- Often associated with killer cyclones in the U.S. Midwest and elsewhere. [Severe weather]

http://abclocal.go.com/ktrk/news/bizarre/031504_APsn_chemical.html

Calgary's Water Supply Shrinking

The Rocky Mountain glaciers that feed Calgary's water system are shrinking so quickly that they will not be able to meet the city's demand for water in 30 years, Alberta's Environment Minister Lorne Taylor warns

"We know those glaciers are shrinking and we know what rate they are shrinking at," he told reporters at a news conference announcing $25-million for community water systems. Taylor said the funding announced on Wednesday will improve water quality by creating regional waters systems that involve piping water from larger centres to smaller communities.

"In 30 to 50 years, those glaciers may not be available to provide a significant portion of Calgary's water in the fall." Mr. Taylor said. "The situation calls for a long-term plan that probably will include water conservation and storage reservoirs.

The province is studying the recession rate of the five major glaciers that feed the Bow River, from which Calgary draws its water. During the late summer of very dry years, the glaciers - the Balfour, Vulture, Bow, Waputik and Bath - contribute 25 to 40 per cent of the river's flow.

New Democrat Brian Mason wants the province to take a tougher stance on requiring that municipalities have residential water meters installed to curb water waste noting that a large portion of older Calgary homes do not have meters and that residents can use as much water as they want for a flat charge.

Mary Griffiths of the Pembina Institute for Sustainable Development said that moving Calgary residents to water metering would be a good first step to conservation. Environmental groups, however, would not be in favour of damming rivers to create water reservoirs, she said. "Dams are traditionally very expensive, and they do have many environmental impacts," she said.

But Mr. Taylor said the province cannot afford to let spring run-off flow through to Saskatchewan without catching its 50-per-cent allotment. Alberta typically allows 75 per cent of the water flow to pass into Saskatchewan - far more than the agreed 50 per cent, he said.

Mr. Taylor conceded that Alberta does not know enough about the general state of its underground water supplies and that more study is needed. Many Albertans, particularly in the drought-stricken central part of the province, have criticized the oil industry's use of fresh water to extract oil from depleted wells. Mr. Taylor said the removal of water from the hydrological cycle for oil industry use or any industrial use "has to change, and it will change."

Source: Globe and Mail, April 22, 2004

EA Wildlife Guidelines

This Environment Canada series of EA guidelines identify, for proponents of projects, the types of information and analyses that Environment Canada would expect in the section of an Environmental Impact Statement (EIS) that deals with impacts on migratory birds under the Canadian Environmental Assessment Act (CEAA). The EA guidelines promote best practices for environmental assessments under the CEAA, or when Environment Canada is involved in an environmental assessment of another jurisdiction. It is also envisioned that its broader use will facilitate a more standardized approach across Canada to assessing environmental impacts on migratory birds. Three guides available include:

- Environmental assessment guideline for forest habitat of migratory birds
- Migratory birds environmental assessment guideline
- Wetlands environmental assessment guideline

The guidelines are available on line at http://www.cws-scf.ec.gc.ca/publica-

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tions/eval/mig/index_e.cfm or Canadian Wildlife Service, Environment Canada, Ottawa, Ontario, K1A 0H3

Wildlife EA Best Practices

The Canadian Wildlife Service, with input from Fisheries and Oceans Canada, Parks Canada and the Canadian Environmental Assessment Agency, has released an Environmental Assessment Best Practice Guide for Wildlife at Risk in Canada. One of Canada's strategies to protect biological diversity in Canada and for ensuring that development projects and activities live up to Canada's legal and public policy commitments to biodiversity conservation. The guide outlines a national approach on how to gather and assess information necessary for understanding the consequences of proposed actions on wildlife at risk.

The presence of wildlife at risk in environmental assessment is an important issue. It often signals that the project is planned in an area or habitat already threatened by human activity and there is a heightened potential for serious and irreversible consequences to wildlife.

The environmental assessment process permits the identification of potential conflicts with rare or imperiled species early in project planning when options for avoiding or minimizing environmental effects are open. Implementing best practice in environmental assessment can help proponents meet federal, provincial and territorial laws related to wildlife at risk.

The guide is targeted at proponents or persons preparing environmental assessments and outlines their general responsibilities. It is designed to promote more thorough, efficient and consistent gathering and assessment of information for wildlife at risk. The guide outlines six key steps of project planning and assessment including assessing environmental effects and mitigating adverse effects, determining the significance of residual effects, and followup to verify the validity of predictions and ensuring successful mitigation.

The guide includes an ecological approach to assessing project effects encompassing the whole range of wildlife and the maintenance of healthy habitats. The guide also advocates integrating project effects at the landscape, ecosystem, community and species levels and with established objectives, standards and guidelines for sustainability to most effectively contribute to the maintenance of biodiversity in Canada.

The 1st Edition released in February 2004, will be updated over time. To download the most uptodate pdf version visit http://www.cws-scf.ec.gc.ca

Arctic Climate Impact Study

Global warming is hitting the Arctic two to three times as fast as the rest of the globe, according to a dramatic Arctic Climate Impact Assessment study.

"There is dramatic climate change happening in the Arctic right now ... about two-to-three times the pace of the whole globe," said Robert Corell, chairman of the Arctic Climate Impact Assessment in an 1,800-page report.

The report, to be presented to a ministerial meeting of the Arctic Council in Iceland in November, is the result of a comprehensive four-year study by scientists from eight countries -- including Canada -- and six indigenous groups.

Concluding that a clear global warming trend is causing the Arctic to melt at an alarming rate, it confirms strange happenings that indigenous people in the Arctic have been observing for years.

The warming trend is destabilizing buildings on permafrost, threatening an oil pipeline across Alaska, and could make Hudson Bay uninhabitable for polar bears within just 20 years.

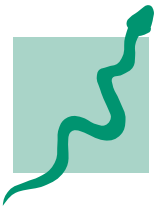
Inuit hunters in Nunavut report that polar ice gives way more easily, that there's a reduction in animal populations and that insects and birds not usually found in the region have started to appear.

Other Arctic residents report that snows melt earlier in the springtime, lakes and rivers freeze later in the autumn and that winters are warm and rainy.

In Alaska and northwestern Canada, the average winter temperature has increased by three to four degrees over the past 60 years, significantly above the global average of 0.6 degrees Celsius. The Greenland Ice Sheet broke all past records for total surface area melt in 2002.

Some Inuit hunters say the thinning of sea-ice is pushing marine mammals to near extinction, including polar bears, walrus and some species of seals.

Already, oil and gas exploration in the region is suffering. The number of days in which travel on the tundra is approved by the Alaska Department of Natural Resources has dropped by half from over 200 per year to about 100 in the past 30 years.



Corell predicts that half the current tundra area will disappear within the century, reducing the breeding area for migratory birds and grazing areas for polar land animals.

Reindeer populations depend on the availability of abundant tundra vegetation to forage for food and raise healthy calves, said Corell. As their population declines, along with moose and deer species, the health and livelihood of indigenous people who depend on them for food and trade are threatened.

An international team of 300 scientists, experts and elders from the indigenous people of the Arctic contributed to the study.

Source: Vancouver Sun, May 25, 2004

Soper Award cont'd

J. Dewey Soper Award

The J. Dewey Soper Award is given periodically to a Canadian biologist who has made significant contributions to the field of biology. It is awarded in memory of Dr. J. Dewey Soper, 1893-1982, who was highly regarded for his role in the development of biology in western and northern Canada.

J. Dewey Soper wrote the original Mammals of Alberta, served as Chief Migratory Bird Officer of western and northern Canada from 1934-1952, and undertook extensive natural history studies throughout Alberta as an Emeritus Professor of the University of Alberta.

been recognized for a number of honours. He has been elected a Fellow of the Arctic Institute, and awarded the William Rowan Distinguished Service Award by the Alberta Chapter of the Wildlife Society. In 2000, Ian was named an Officer, Order of Canada.

The Alberta Society of Professional Biologists is pleased to recognize the significant contributions of Dr. Ian G. Stirling to the field of biology. His example is an inspiration to Albertan biologists.

Previous recipients of the Soper Award have included the following: Dr. Stu Smith, Dr. Ian McTaggart-Cowan, Richard Fyfe, Dr. Valerius Geist, Dr. Stephen Herrero, Dr. Charley Bird, Dr. Geoffrey Holroyd, and Dr. Joseph S. Nelson.

Threats to Water

Clean, safe, secure and available water is essential to Canadians. Environment Canada recognizes the importance of strategically addressing water issues of concern. A new report, spearheaded by the National Water Research Institute (Threats to Water Availability In Canada Assessment Report Series #3) assesses and discusses the state of the art of science on key water quality issues. A companion report Threats to Sources of Drinking Water and Aquatic Ecosystem Health in Canada (www.nwri.ca/threats /intro-e.html) was released in 2002.

Freshwater is a natural resource, vital to the survival of all living things. Canada is perceived as having plenty of freshwater and Canadians are among the world's highest per capita users of water. However, much of the perception is based on our small population in relation to our land mass.

Water is highly valuable. Estimates of water's contribution to the Canadian economy range from $7.5 to $23 billion per year. In Canada, as in many other countries, freshwater resources are under noticeable pressure from growing domestic and industrial requirements. Climate variability, extreme climatic events, and the potential increased climate change threaten Canada's sources of freshwater.

Threats to Water Availability in Canada examines individual and collective threats posed to freshwater availability. It is based on a workshop held in Victoria in 2002 and synthesizes the knowledge of about 100 experts from academia, private sector and government. The report starts with a Perspective with highlights of key issues and is followed by fifteen chapters of detailed discussion of the threats, key issues, findings, information gaps and recommendations. These include many that appear almost nightly on the news such as water allocation, diversion and export, dams, droughts and floods through to municipal and manufacturing demands, land use practices involving agriculture, forestry, and mining followed by the effects of climate variability and change on wetlands, lakes and groundwater. Of particular relevance to Albertans are chapters on disappearing glaciers, the use of water by the petroleum industry, the uncertain future of peatlands and the effects of climate change. The final chapter attempts to integrate and discuss the cumulative threats to water availability.

Downloadable summaries and the full report are available at. http://www.nwri.ca/threats2full/intro-e.html

D. Alan Birdsall Scholarship 2004

Dear Mrs. Linda Birdsall

I am writing you to express my gratitude for the D. Alan Birdsall Scholarship. I am currently in my second year of a MSc. Program in the Department of Biological Sciences at the University of Alberta. I have enjoyed my post-graduate work immensely and my research to this point has been challenging to say the least.

What started out as a straightforward hybridization project (exotic brook trout genetic introgression into fragile bull trout populations) in southwest Alberta, quickly grew to its present form which can best be summed up as bull trout viability in the Rocky Mountains. During the planning and preparation phase of my first year several unique opportunities presented themselves which altered the course of my research. An oil company and a local fish farm (both located in my study area) were charged with several offences resulting in a judicial 'creative sentence'. This freed up some much needed financial support for those conducting research in the area and allowed me to add several unique facets to my project.

In response to these changes, I endeavoured to determine the habitat and feeding preferences of the fragile bull trout populations residing in three eastern slope rivers in Kananaskis country. Currently, I am tracking the large-scale movements of 30 bull trout, with 45 more to be added in the fall. My research team and I are also snorkeling selected river sections to determine smaller-scale habitat preferences, establish population estimates, and assess spawning success. A diet experiment is also being conducted whereby the feeding preferences of bull trout are being studied. In addition, I am still interested in the original hybrid research which is continuing this fall.

The extensive growth of my research program has resulted in the formation of a team of researchers (Alberta Sustainable Resource Development, the Alberta Conservation Association, and the City of Calgary) along with local interest groups including Trout Unlimited Canada. This has allowed for an increase in exposure and hence awareness towards some of the problems occurring in the study watersheds. Recent work has shown that poaching is much more prevalent than was previously thought as well as the need for greater regulation towards the use of off highway vehicles in these areas. To their credit, these agencies have helped my research become available to the general public through several news and magazine articles as well as a television feature on CBC Calgary. I have no doubt that this type of exposure is critical to the preservation of our natural areas.

These collaborative efforts have allowed me to gain new perspectives towards the application of scholastic findings in the 'real world'. Working closely with biologists from numerous agencies has also allowed me to more confidently define my future career path. I am currently in the middle of my last summer of research which will extend in the fall and will include some winter field work. I plan on completing my degree in the fall of 2005. Although I am looking forward to finalizing the experiments, I will no doubt miss spending the majority of my time on the fantastic rivers in Kananaskis (which literally means: where the rivers meet).

Your generous contribution toward research in the fisheries community is greatly appreciated.

Yours Sincerely

Ryan Popowich

Emerald Awards 2004

The Alberta Emerald Foundation
FOR ENVIRONMENTAL EXCELLENCE

The Alberta Foundation for Environmental Excellence was founded in the fall of 1991 to recognize the outstanding initiative and leadership Albertans are demonstrating in the face of many environmental challenges. The Emerald Awards celebrate these achievements.

Congratulations to the following ASPB members and Alberta biologists who received Emerald Awards during presentations on 9 June 2004 at the Winspear Centre in Edmonton.

Phil Lulman - Corporate or Institutional Leadership

Phil Lulman's contribution to the environment in his personal life and business responsibilities has been in the context of sustainable development; leading and collaborating for protection, conservation and restoration of nature and natural systems.

At a young age Phil developed a deep appreciation and understanding of the vital role nature plays in human existence. His Canadian experience, starting in 1968, has seen him engaged in numerous wilderness experiences particularly in the foothills and Rocky Mountains of Alberta. His working life started in the tar sands with baseline environmental studies. These were the core documents for environmental and archaeological impact assessments setting the stage for the Syncrude project.

His work later shifted to land reclamation and restoration at tar sands and coal mines in Alberta. For the past ten years, as a consultant, he has provided environmental, strategic and operating advisory services to electricity, coal, oil, gas, entertainment, retail businesses and governments.

As a volunteer with the Canadian Parks and Wilderness Society he is driven by the need to "keep the wild in Canada" and to have a positive influence for continuous improvement in stewardship of natural capital.

Cheryl Bradley, - Individual Commitment

Early in her career, Cheryl worked throughout the Province with Alberta Parks as a park resource analyst and planner conducting field surveys, literature searches, air photo interpretation and system planning.

Through her work and volunteer activities for the protection of nature, Albertans know more about how our rivers and riparian ecosystems work; how important native aspen parkland and grasslands are; the value of using native plants to repair damaged prairie ecosystems and what treasures Alberta has in "special places".

Cheryl has also helped us to understand what we can do to preserve endangered species; how rivers and water quality are affected by industrial agriculture and urban lawns and how people can work towards sustainable communities, rural and urban.

As an environmental consultant, Cheryl has conducted rare plant surveys, vegetation inventories and mapping, and environmental assessments for numerous clients. She has helped various interests work together to address environmental challenges as an organizer and participant in public consultation processes. She works and volunteers tirelessly for the protection of nature, but also takes time to enjoy Alberta's natural beauty.

Dr. J. Brad Stelfox - Research & Innovation

Brad's Alberta Landscape Cumulative Effects Simulator (ALCES) is a strategic management tool for identifying issues and mitigation strategies for cumulative effects of human land use practices.

Alberta's thriving economy has left a significant footprint on the Provincial landscape through the practices of forestry, the energy sector, agriculture, mining, and human settlements. This footprint has expressed itself as settlements, cutblocks, seismic lines, wellsites, pipelines, croplands, major road networks and mine sites. Collectively, these features are redefining Alberta's landscape and creating challenges in terms of sustainability of our environment.

ALCES now assists government, industry, the public and scientists with quantifying the current and future footprint in order to explore the consequences of these overlapping land uses, and seek mitigation solutions. Brad started work on ALCES in 1997, and the project continues to evolve in response to government and industrial needs while assisting stakeholders in identifying environmental issues and seeking environmental and economic solutions.

The Emerald Foundation can be reached at (780) 413-9629 in Edmonton or 1-800-219-8329 (toll-free elsewhere in Alberta).