BIOS

Alberta Society of Professional Biologists • December 2001 Volume 16 • Number 4

DAMS AND DEVELOPMENT

According to the World Commission on Dams (WCD) "*The global debate about large dams is at once overwhelmingly complex and fundamentally simple. It is complex because the issues are not confined to the design, construction and operation of dams themselves but embrace the range of social, environmental and political choices on which the human aspiration to development and improved well-being depend. … simple because behind the array of facts and figures, of economic statistics and engineering calculations, lie a number of basic and easily understood principles. If adhered to and routinely applied, these principles would not only go a long way towards responding to the controversy surrounding dams, but would markedly improve decision-making on water and energy resources, achieving better outcomes.*"

"The large dams debate is overwhelming complex and fundamentally simple."

Their report DAMS AND DEVELOPMENT: A New Framework for Decision-Making was prepared by 12 commissioners who were chosen to reflect the regional diversity and stakeholder perspectives of the public, private and civil society sectors. It includes more than two years of study and the input of hundreds of individual experts and affected people.

The WCD reviewed the development effectiveness of large dams and alternatives for water resources and energy development; and developed internationally acceptable criteria, guidelines and standards, where appropriate, for the planning, design, appraisal, construction, operation, monitoring and decommissioning of dams.

The primary conclusions of the report included:

· Dams have made an important and significant contribution to human development.

· In too many cases an often unnecessary price has been paid, especially in social and environmental terms.

· The unequal distribution of benefits calls into question the value of many dams in meeting water and energy development needs.

· The effectiveness of water and energy projects can be improved by eliminating unfavourable projects at an early stage.

The Commission states that 'the key decisions are not about dams as such, but about options for water and energy development". The imperative to supply growing populations and economies with water in a context of depleting groundwater resources, declining water quality and increasingly severe limits to surface water extraction has brought sustainable water resources management to the top of the global development agenda.

More than 45,000 large dams around

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In This Issue

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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: Garland Auvigne, Sylvia Chipman, Corey Stefura, Rick West, Glenda Fratton, Michael Muller, Silvie Forest

Biologist In Training: Tamara Hawkins, Melynda Johnson, Keith Walton

Membership Update

ASPB membership as of December 1, 2001: **Total 470**

Regular	373	Biologist in Training	35	Inactive	33
Student	15	Retired	5	Honorary	6
Scholarship	2	Public Member	1		

ASPB SEEKS AN EXECUTIVE DIRECTOR

The ASPB Board is seeking applications from individuals for a part time (2 days per week) contract Executive Director. The initial contract will be for 18 months, with a possibility for extention. The location of the position is undetermined. Interested candidates should send a letter and vitae to the ASPB Office in Edmonton.

Deliverables:

• program planning, direction, administration, evaluation, and resource allocation, in conjunction with the Boardm including:

- fund raising
- membership recruitment
- conference organization
- attendance at Board meetings

Other duties:

• setting monthly goals and providing monthly summaries of activities and evaluation of progress toward attaining goals

• liaison with related professional organizations, relevant government agencies, liaison with relevant non-government organizations (NGOs) and other contractors.

Reporting: the suitable candidate will receive direction from the Executive Committee and report directly to the President

Qualifications:

- possess either a P.Biol. designation or be eligible for one
- be familiar with the relationships of professional organizations to other NGOs, industry, government, and academia
- possess sound communication and organizational skills
- be familiar with computer applications to communication
- possess excellent human relations skills

Remuneration: The amount of the contract will be $25,000. Of this amount, $20,000 will be allocated for salary and $5,000 for expenses.

ASPB Board Nominations

The ASPB Nominations Committee is seeking nominations for the following Board Positions:

President Elect - One-year term - April 2002 to March 2003 (President 2003 to 2004)
Treasurer - Two-year term from April 2002 to March 2004.
Directors - Two positions - Two-year term from April 2002 to March 2004.

If you wish to run for one of the above positions, or know of an ASPB member who might be interested, please complete a nomination form. The form must contain the name of the nominee, the signature of the nominee indicating consent to stand for office, the signatures of three members of the ASPB, and a short biography of the nominee. Nominations must be received no later than the end of February, 2002.

Emerald Award Nominations

The Emerald Foundation is once again seeking those Alberta individuals, organizations and community groups that have demonstrated excellence in activities to protect, preserve, enhance and sustain our environment. Nominations are for the 11th Annual Emerald Awards. Nominations can be made in a variety of categories including small or large business, corporate or institutional leadership, research and innovation, individual commitment, not-for-profit association or community group, education and government institution. A new award is being introduced for 2002 - the Board of Governors Emerald Award for Climate Change will acknowledge the need to raise awareness about climate change issues and profile associated positive initiatives.

Nominations close on Thursday, 28 February; judging will occur during April and the 11th Annual Emerald Awards celebration will take place on Wednesday, 12 June 2002 at the Francis Winspear Centre for Music in Edmonton.

More information is available from the Emerald Awards website at www.emeraldawards.com

If You Know The Answer To These Questions, Contact Us…

Did you know Alberta's first Game Branch was established in 1906 under the Department of Agricultural Administration and the province's first Game Act was written in 1907? The Fish and Wildlife Historians Club is currently seeking information for a new book project to document the history of fish and wildlife management and conservation in Alberta between 1905 and 2005. So, if you're keen to learn a bit about the history of fish and wildlife management, try your hand at the rest of these questions:

Q. Who was the first wildlife biologist hired by the province?
Q. When was the first waterfowl survey conducted in Alberta and who conducted it?
Q. Who was the first fisheries biologist hired by the province? Who was the first Director of Fisheries?
Q. Who was the first salaried enforcement officer (volunteer game guardians had been enforcing game laws since 1906) and in what year was he hired? In what year did enforcement officers finally get uniforms?
Q. Who was the first female wildlife biologist hired and in what year was she hired?
Q. In what year did the Fish and Game Division become the Fish and Wildlife Division? Who was the first Director of this new division?
Q. Here is a tough one. Between 1906 and the present, how many different departments have held the responsibility for the fish and wildlife resource as it evolved from the Game Branch, to the Fish and Game Branch and finally to the Fish and Wildlife Division?
(Hint: I've already mentioned the Department of Agricultural Administration at the beginning of this article.)

If you know the answers to any of the above questions, or have a few "firsts" of your own you'd like to ask, please contact Petra Rowell at prowell@telusplanet.net or (780) 458-5560. Answers to these and other historical questions will appear in future articles. Stay tuned!

Bios Bits

The Council of the North American Commission for Environmental Cooperation (CEC), on 16 November, 2001 instructed the CEC Secretariat to prepare factual records for five submissions. In four of those cases, the Council limited the scope of the factual records, declining to follow the Secretariat's recommendations to approve broader reviews.

The submissions were Oldman River II (SEM-97-006), Aquanova (SEM-98-006), Migratory Birds (SEM-99-002), BC Mining (SEM-98-004) and BC Logging (SEM-00-004).

The North American submissions are cited below.

Oldman River II

The Oldman River II submission was filed on 4 October 1997 by Friends of the Oldman River. The Submitters contend that Canada is failing to effectively enforce the Canadian Environmental Assessment Act and sections 35, 37 and 40 of the Fisheries Act. The Submitters contend that, as a matter of Canada-wide policy, Canada improperly avoids subjecting projects to environmental assessments by issuing Letters of Advice to project proponents outlining measures that will avoid the need to obtain authorizations to harm fish habitat under section 35(2) of the Fisheries Act. Such authorizations ordinarily require an environmental assessment. The Submitters also contend that, throughout the country, Canada routinely fails to ensure compliance with or prosecute violations of the habitat protection provisions of the Fisheries Act. The Submitters described the Sunpine Forest Products Forest Access Road case as an example of Canada's failure to effectively enforce the two laws.

On 19 July 1999, in light of the submission and Canada's response, the Secretariat recommended that a factual record be prepared regarding the full scope of the submission. In May 2000, the Council deferred voting on the recommendation in light of a pending judicial proceeding involving the Sunpine case. On 16 November 2001, the Council voted unanimously to instruct the Secretariat to prepare a factual record only with respect to the Sunpine case.

Migratory Birds

The Migratory Birds submission was filed on 19 November 1999 by nine American, Mexican and Canadian environmental groups: the Alliance for the Wild Rockies, Center for International Environmental Law, Centro de Derecho Ambiental del Noreste de Mexico, Centro Mexicano de Derecho Ambiental, Friends of the Earth, Instituto de Derecho Ambiental, Pacific Environment and Resources Center, Sierra Club of Canada, and West Coast Environmental Law Association. The Submitters contend that the United States is failing to effectively enforce section 703 of the Migratory Bird Treaty Act, which prohibits the killing of birds and destruction of their nests without a permit, against logging operations throughout the United States. In its response, the United States admitted that it has never enforced section 703 against a logging operation, and that nonenforcement of the Act against logging operations is a reasonable exercise of enforcement discretion and results from a bona fide allocation of enforcement resources to higher enforcement priorities.

On 15 December 2000, in light of the submission and the United States' response, the Secretariat had recommended that a factual record be prepared for the submission. On 16 November 2001, the Council instructed the Secretariat to prepare a factual record with regard to two specific cases identified in the submission, but declined the recommendation to prepare a factual record regarding the allegation in the submission of a widespread failure to enforce section 703 against logging operations throughout the United States.

BC Mining

The BC Mining submission was filed on 29 June 1998, by the Sierra Club of British Columbia and other environmental groups. The Submitters allege that Canada systemically fails to enforce section 36(3) of the Fisheries Act to protect fish and fish habitat from destructive environmental impacts of the mining industry in British Columbia. The submitters described the Britannia, Tulsequah Chief and Mt. Washington Mines as examples of Canada's failure to effectively enforce this section of the Fisheries Act.

On 11 May 2001, the Secretariat recommended that a factual record be prepared regarding the full scope of the submission. On 16 November 2001, the Council voted unanimously to instruct the Secretariat to prepare a factual record only with respect to the Britannia case.

BC Logging Submission

Update: On 16 November 2001, the Council instructed the Secretariat to prepare a factual record with regard to two specific cases involving TimberWest, declining the Secretariat's recommendation to prepare a factual record regarding the alleged province-wide failure to enforce the Fisheries Act effectively.

The full text of all of the submissions and Secretariat recommendations are available on the CEC web site at http://www.cec.org/citizen.

Dams and Development cont'd

the world have helped communities and economies harness water resources for food production, energy generation, flood control and domestic use. Estimates indicate that 30 - 40% of irrigated land worldwide now relies on dams. Dams generate 19% of world electricity. The benefits were once widely believed sufficient to justify the enormous investments made - estimated at more than $2 trillion.

However, 60% of the world´s rivers have been affected by dams and diversions and 40 - 80 million people have been displaced. The nature and magnitude of these are key issues.

The Commission´s work involved an independent review of the experience with large dams. The WCD Knowledge Base includes eight detailed case studies, country reviews for India and China, a briefing paper for Russia and the Newly Independent States, a Cross-Check Survey of 125 existing dams, 17 Thematic Review papers, as well as the results of public consultations and more than 900 submissions. This provided the basis for the assessment of the technical, financial, economic, environmental and social performance of large dams, and the review of their alternatives.

The evaluation was based on the targets set for large dams by their proponents - the criteria that provided the basis for government approval. The Commission found that:

· Large dams were highly variable in delivering predicted water and electricity services - and related social benefits.

· Large dams for irrigation services typically fell short of physical targets, did not recover their costs and have been less profitable in economic terms than expected.

· Large hydropower dams tend to perform closer to targets for power generation, generally meet their financial targets but demonstrated variable economic performance.

· Large dams generally had a range of extensive impacts on rivers, watersheds and aquatic ecosystems - these impacts were more negative than positive and, in many cases, led to irreversible loss of species and ecosystems.

· Efforts to date to counter the ecosystem impacts of large dams have met with limited success.

· Failure to assess the range of potential negative impacts … have led to the impoverishment and suffering of millions.

· Many non-dam options could improve or expand water and energy services.

· Demand management (e.g. reducing consumption, recycling and supply and end-use efficiency measures) have potential to reduce pressure on water resources.

· Decentralised, small-scale options (e.g. micro hydro, home-scale solar electric systems, wind and biomass systems) offer an important near-term, and possibly long-term, potential.

The decision to build a dam is influenced by many variables beyond immediate technical considerations. Once a proposed dam project passed preliminary technical and economic feasibility tests and attracted interest from financing agencies and political interests, the momentum behind the project often prevailed over other considerations.

Dams & Development Facts

- Today, around 3800 km3 of fresh water is withdrawn annually from the world's lakes, rivers and aquifers. This is twice the volume extracted 50 years ago. P3
- 50 litres per person per day (or just over 18.25 m3 a year) covers basic human water requirements for drinking, sanitation, bathing and food preparation. In 1990, over a billion people had access to less than 50 litres of water a day. P5
- Agriculture accounts for about 67% of withdrawals, industry uses 19% and municipal and domestic uses account for 9%. P5
- One third of the countries in water-stressed regions of the world are expected to face severe water shortages this century. By 2025 there will be approximately 6.5 times as many people - a total of 3.5 billion - living in water-stressed countries. P7
- By the end of the 20th century, there were over 45 000 dams in over 150 countries. P8
- About one fifth of the world's agricultural land is irrigated, and irrigated agriculture accounts for about 40% of the world's agricultural production. P12
- Half the world's large dams were built exclusively or primarily for irrigation, and an estimated 30 to 40% of the 271 million hectares of irrigated lands worldwide rely on dams. Dams are estimated to contribute to 12-16% of world food production. P13
- Hydropower currently provides 19% of the world's total electricity supply, and is used in over 150 countries with 24 of these countries depending on it for 90% of their supply. P14
- Globally, about 12% of large dams are designated as water supply dams. P14
- Dams, inter basin transfers, and water withdrawals for irrigation have fragmented 60% of the world's rivers. P73
- As a physical barrier the dam disrupts the movement of species leading to changes in upstream and downstream species composition and even species loss. P82*
- EIA is recorded for less than 40% of dams commissioned in the 1990s. P186

Source: WCD report

The debate about dams is a debate about the very meaning, purpose and pathways for achieving development. Reconciling competing needs and entitlements is the single most important factor in understanding the conflicts associated with development projects and programmes - particularly large-scale interventions such as dams. An approach based on the recognition of rights and assessment of risks can lay the basis for greatly improved and significantly more legitimate decision-making on water and energy resource development.

Key principles and actions that the WCD proposes include:

An Author's Commentary - Val Geist

With the publication of *Whitetail Tracks* this month, I have completed a series of seven books on single big game species for the general public (See page 8 for the titles and publisher of each book in this series.). All but one were produced jointly with Michael Francis; Montana wildlife photographer and inspired colleague par excellence!

As you may know, I have supported wholeheartedly the aim of ASPB to make biology in its academic and professional forms relevant to the general public. What I have detailed below is a case in point. It's a commentary on this book series.

The aim of these books was to bring to the general public, in vivid images and words, a conception of how these species lived, how their characteristic features came to be, but also how they fitted into today's world, and what problems they faced. I sought to join good, current scholarship and good imagery, but in relation to human interests. I did not avoid controversies. Writing about the life of single species is intensely interdisciplinary, a point worth stressing, for by its very nature interdisciplinary research leads to new, that is, original, at times startling linkages.

Consequently, the books contain not merely material of interest to the general public, but to fellow scientists and wildlife managers as well. On one hand I placed facts within each species life history, with due attention to evolutionary history, and on the other hand I dwelled on issues of conservation. Here I stressed the best-kept secret in North America, its successful system of wildlife conservation, and the very important lessons derived there from. After all, this grassroots system, that engaged even the blue collar segment of North American society, did much more than return wildlife from the brink of extinction of a century ago. It showed how a natural renewable resource could be managed continentally as a public trust, how Garrett Hardin's famous 'Tragedy of the Commons' was utterly defeated, how a huge system of sustainable wildlife use generated wealth and employment through the private sector. It showed what kind of commercialization harmed and what kind fostered the conservation of wildlife.

Of course, I also dwelled on dangers to successful conservation, and therefore on what we must defend if wildlife is to continue to thrive. I was told that one reader tore apart *Elk Country* after reading the conservation chapter. That suggests, following Benjamin Franklin, that I had done something right. *Buffalo Nation*, more controversial, landed three Book-of-the-Year awards. I dwelled on matters of political incorrectness, pointing out how much society at large was indebted to hunters, that engaged with such passion, intellect and generosity for wildlife conservation, giving the rest of society a free ride. I emphasized that conservation can only proceed within ecological cycles of life and death, in which these cycles count, and public participation in these cycles counts, and that good conservation arises just as much from selfish motives and democratic processes, as does good economics. To those who have labored and chaffed under the problems of conservation in national parks and protected areas, I say try conservation of bio-diversity on the other 90 percent of the land! That's what ultimately counts, no matter how precious our protected areas.

Our system of wildlife conservation also stands as a silent critique of current government policies in economics, agriculture, environment and criminal law. It is a great cultural achievement of North American society, a joint venture of Canada with the United States. Readers are entitled to know, and be proud of it, very proud of it - and so to hell with political correctness!

One cannot research and compare a succession of species without seeing pattern, some of which run counter conventional wisdom or land in academic no-man's land. For instance, the paleo-ecology of North America is dominated by unique megafaunas, of which the Pleistocene megafauna was particularly diverse and impressive. Comparing it with its Eurasian counter part leads to the insight that the former was predator-limited and the latter resource-limited. Also, this megafuana goes extinct virtually in totality. For this reason alone North America has not had a "normal landscape ecology" since the end of the Pleistocene. Moreover, with the early demise of native people via European diseases and genocide in the 16th century, and thus the lifting of Native man's heavy hand off the landscape, "wilderness" quickly sprouted in response, obliterating earlier human settlements. Put less diplomatically: the "wilderness" encountered by pioneers was a post-Colombian artifact of colonization. This has powerful implications for the management of "wilderness areas", and the "let it be" philosophy - if one can call it such, is robbed of much of its intellectual justification.

One must also deal with some of the inadequacies of the discipline of biology, such as an oversimplified, if not simplistic, version of the theory of evolution as promoted currently, for instance, in Dawkins' books. The inadequacies reside in the inability of neo-Darwinism to integrate the inherent plasticity of the genome in response to environment. One painful casualty of this deficit is taxonomy. This has conservation consequences which inadequate science generates. On the positive side, phenotype plasticity adds much to an understanding of life strategies or such phenomena as trophy males. Why such are less than successful biologically, and why trophy management is misplaced, one can read up in *Whitetail Tracks*. In short, these books, though addressed to a general public, address shortfalls even in science and their implications. I have addressed such in earlier refereed publications and in my two books based on interdisciplinary studies *Life Strategies, Human Evolution, Environmental Design* (1978, Springer Verlag, New York) and *Deer of the World* (1998 Stackpole Books, Mechanicsburg, Pa).

Rare Vascular Plants of Alberta

The word rare sparks the imagination. Rare objects are sometimes difficult to discover, but we cherish them if they are found. Many rare plants can be found in Alberta's wild and not so wild-places. Some are big and beautiful, but others depend on our ability to travel slowly and observe closely. The Rare Vascular Plants of Alberta describes approximately 485 species that are considered provincially rare.

Coming across Rare Vascular Plants of Alberta in a bookstore, you might think it is simply another field guide similar to other books you have on plants. However, this book is the tightly packaged output of thousands of hours of field work and the input of over 100 other individuals and organizations; many of them ASPB members. Many features are included to help both casual readers and professionals to identify rare species. With 415 full-colour photographs, 480 drawings, and more than 800 maps, this exhaustively researched guide allows readers quick reference in the field and leisurely browsing in the office or at home.

Species descriptions are divided into four main sections based on growth form (woody plants, broad-leaved herbs, grass-like plants, and ferns and fern allies). Common, scientific and family names are included for all primary entries. A general description of each plant is followed by descriptions of habitat and maps showing the distribution of most species in both Alberta and North America. Each species description is concluded with notes on synonymy, descriptions of related or similar-looking plants, etymology of the scientific names

and, for some species, medicinal or aboriginal uses of the plants.

The appendices include keys to some of the more difficult-to-identify genera, listing of the species by natural region, species new to Alberta, species previously considered rare for the province but not included here, and species classified as rare in Canada. An illustrated glossary, a reference list, and an index conclude the book.

Edited by Linda Kershaw, Joyce Gould, Derek Johnson, and Jane Lancaster, Rare Vascular Plants of Alberta is perfect for teachers, students, professional botanists, land-use planners, foresters, environmental consultants, natural-history enthusiasts and anyone interested in learning more about Alberta's rare plants.

Published by the University of Alberta Press and Natural Resources Canada, Canadian Forest Service.

ISBN 0-88864-319-5 2001
$29.95 paperback

The University of Alberta Press has a number of botanical titles to bring to your attention including:

- A Painter's Year in the Forests of Bhutan
- Weeds of Canada and the Northern United States
- Plants of Kananaskis Country In the Rocky Mountains of Alberta
- Wildflowers of Alberta
- Flora of the Russian Arctic

Geist cont'd

Each of the seven species brings unique insights: why mule deer are susceptible to take over by whitetails; why elk, the same subspecies in Asia as America is ubiquitous here, but narrowly confined ecologically in Central Asia; why to mountain sheep big horns matter all; how the moose got its nose and bell and how it fortuitously escaped domestication by being too good as mounts, but did not survive cavalry trials - Sweden's hoped-for secret weapon; how bison were transformed by human hands from giants into dwarfs and how entrepreneurs saved bison from extinction; why pronghorn eyes are larger than those of elephants and how this speedy little plains runner has re-paid us over and over every kindness we extended to it; why the white-tailed deer is the world's oldest deer species, why it thrives on ecological havoc; and why today America is ecologically a topsy-turvy caricature of natural ecosystems, its ailments attributable to human activities - ancient and modern.

Michael Francis and I will be collaborating on other books, but they will be subject orientated, not species orientated. Predation is next on the agenda, and - possibly - the evolution of hunting in humans from its earliest manifestations onward to its unique expressions such as in Neanderthal man, or in our ancient Ice Age ancestors and in historical times. Hunting is very relevant to us as a historical and current activity, and the books above reflect on that. I hope they will serve in moral re-armament of hunter-conservationists as they face the future. If history is any indication, then they will do very well!

Val Geist, PhD, P. Biol.
Professor Emeritus of Environmental Science

SPECIES SERIES BY VAL GEIST

Mule Deer Country (1990, 2nd ed 1999),
Elk Country (1991)
Wild Sheep Country (1993)
North Word Press
5900 Green Oak Drive, Minnetonka,
MN 55343
1-800-328-3895

Whitetail Tracks (2001)
Antelope Country
Krause Publications
700 E. State St. Iola,
Wisconsin, 54990-0001
1-800-258-0929.

Moose (1999)
Voyageur Press
Available from Raincoast Books
Vancouver, BC, 1-604-328-7100

Buffalo Nation (1996)
Voyageur Press
Available from Fifth House Ltd.,
Calgary, Alberta

Dams and Development Concluded

1. Public acceptance of key decisions for equitable and sustainable water and energy resources development.
2. The exploration of alternatives, needs for water, food and energy. The appropriate development response should be identified from a range of possible options.
3. Opportunities exist to optimise benefits from many existing dams. Management and operation practices must adapt continuously to changing circumstances over the project's life.
4. Understanding, protecting and restoring ecosystems at river basin level is essential to foster equitable human development and the welfare of all species.
5. Negotiations with adversely affected people will result in mutually agreed and legally enforceable mitigation and development provisions.
6. Public trust and confidence requires that the governments, developers, regulators and operators meet all commitments for the planning, implementation and operation of dams.
7. Regional co-operation and peaceful collaboration between States will promote mutual self-interest.

The Commission's criteria and guidelines provide a new direction for appropriate and sustainable development. The report identifies the key elements of the debate on water and energy resources management and the role of dams in this debate. It proposes a decision-making process anchored in a rights-and-risks approach and based on negotiated outcomes. It offers a set of strategic priorities, principles, criteria and guidelines to address the issues around existing dams and to use in exploring new water and energy development options. Go to the Report Page to download PDF version. http://www.dams.org/

Source: http://www.dams.org/ Excerpted from the "Executive Summary - Dams and Development: A New Framework for Decision-Making". The Report of the World Commission on Dams Released 16 Nov 2000

The Future

Dams and Development motivated organisations internationally into discussion and action. A list of activities is also available at the WCD site.

A UN Environment Programme - Dams and Development Project - started operation on 1 November 2001. The objectives of the DDP are to:

- support the widespread dissemination of the WCD report and related products;
- support country-level, regional and global dialogues on the report and the issues it addresses;
- strengthen interaction and networking among participants in the dams debate with the aim of engaging all stakeholders in the dialogue; and
- facilitate the flow of information and advice concerning initiatives relevant to the WCD report.

The mandate of the DDP excludes it from taking positions or making judgements on individual projects or associated practices. For more information visit http://www.unep-dams.org/

STUDENTS OF WILDLIFE MANAGEMENT

Are you a student of Wildlife Management and still trying to get published? Here's your chance. The Fish and Wildlife Historians Club is currently working on a book project to document the history of fish and wildlife management and conservation in Alberta between 1905 and 2005. We are currently looking for student volunteers with a flare for research and nonfiction writing to contribute short biographies of prominent historical figures such as R.B. Miller, J. Dewey Soper and William Rowan. Writers will be acknowledged in the final published project. If interested, please contact Petra Rowell at prowell@telusplanet.net or (780) 458-5560.