

The Alberta Wildlifer

Official Newsletter of the Alberta Chapter, The Wildlife Society
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Editor: Dave Hobson

President's Message

Let me take this opportunity to welcome new members to the Alberta Chapter of The Wildlife Society and thank ongoing members for their continued support to our chapter.

I am pleased that our last meeting in Lethbridge was a great success. We have built a very strong history of hosting meetings that allow for the exchange of information and ideas. We also have a history of being an advocate for sound management of Alberta's resources. We are working as an executive on strengthening this aspect of our chapter. We will be providing more information on this topic as we work through the details.

As your president, I would like to continue to work on our strengths and develop some of our weaknesses. We have a strong membership, but I will be working hard over the next few months to recruit new members, that will take the Alberta chapter forward into the future. We need your support; it is up to you to spread the word, that we are a professional organization that is worth being a part of. We not only need you to spread the word, we need you to be involved. There will be many volunteer opportunities on committees, in planning our next meeting in Canmore, and acting as executive members in the future. If we are to be successful, we need you all to be involved.

If you have any concerns, ideas, or questions, feel free to get in touch with me and I will try and address these. Have a great summer. I look forward to meeting and working with all of you in the future.

Terry Kowalchuk

Editors Note

Once again I'd like to thank those who took the time to provide some very excellent feature articles for this issue. Jim Schieck of ARC provided the Alberta Biodiversity Monitoring article. Lisa Priestley provided the article on the Beaverhill Bird Observatory. Margo Pybus of Fish and Wildlife provided the update on Albertas CWD program. Brett Calverley of DU provided the article on the Alberta NAWMP partnership. Finally I'd like to thank Carmen Calliho for her article on aboriginal involvement in SARA.

Blair Rippen provided the Chapter News article on the Conservation Committee and the letter regarding the Oil Sands.

Chapter News

Redefining the ACTWS advocacy role

At our last annual general meeting in Lethbridge the topic of our role in environmental advocacy received considerable attention. During open discussion on the matter, many expressed the view that the collective biological/ecological/conservational expertise possessed by the Chapter membership offered unique opportunities to foster, promote, and encourage improvement in decisions affecting the provincial environment. Ideas were tabled to provide sound ecological information and advance "ecological literacy" in Albertans, including

government and industry. It was agreed that our past efforts in that regard were commendable but there is now a need to increase the intensity and direction.

With the above impetus, a movement began last spring with a review of our charter mandate and objectives. This was followed by the formation of a “new” Conservation Committee, consisting of six members (names below) selected from the 15 who expressed an interest in participating at the AGM. The six agreed to serve over the next few months on the task of receiving and reviewing suggested issues for advocacy attention. The Committee will select issues/topics for subsequent advocacy action. A plan of action will then be developed for each chosen subject using the guidelines outlined below. This process would involve consultation with others on the Conservation list and/or those members who have specific expertise relevant to the issue in question. The action plan(s) would then be presented to the ACTWS Executive to garner Chapter support. Approved plans would then be implemented.

The foundation for this action by ACTWS is partly rooted in the following passages from our Chapter mandate. However, it is also given urgency by the following outline of the present condition of our natural environment and the extent and pace of resource development that makes effective efforts in fulfilling our mandated objectives especially relevant.

*“The Alberta Chapter of The Wildlife Society (ACTWS) is a non-profit organization comprised of professionals and students in the field of wildlife biology and management. **Alberta's growing human population and increased level of resource use and extraction point to an urgent need to understand the effects of human landuses on wildlands, wildlife, and ecosystem integrity. It is essential that wildlife professionals exchange and communicate their thoughts on issues of resource sustainability to each other as well as to the public, government, and industry.** ACTWS can play an important role in this respect.”*

“ACTWS is dedicated to wise stewardship of natural resources and to sound management practices of wildlife populations and habitat. Where possible, the Chapter will advise Albertans, the government and industry about the value of wildlife and ecosystems and the various land use practices that affect our natural heritage.”

Mounting evidence on diverse fronts within the province indicates that our current resource exploitation rate is not sustainable and that we have over the past several years greatly accelerated the accumulation of a large ecological debt. As one convincing confirmation of this speculation, Dr. Brad Stelfox (Forem Consulting) used his ALCES model to predict the ecological consequences of current exploitation rates. The model predicts that without an immediate shift toward a more sustainable system, the provincial environment will, in the near future, be untenable relative to the natural capital necessary to provide for the air, water, and soil quality and quantity (environmental goods and services) required to support our considerable

biodiversity, and eventually, an acceptable environment for our human population.

The economic prosperity that we are now enjoying in Alberta has come at considerable cost to the ecosystems that we rely on for our life support systems. For example, evidence of the health of our riparian areas shows that only 15% are healthy and functioning within normal limits. This is directly related to anthropogenic impacts such as agricultural intensity (use of chemical fertilizers and pesticides), livestock density, and the fact that wetlands continued to be drained and replaced by cultivated land to produce crops that occupy a dwindling market in the global economy.

Overcoming the current momentum and changing toward a greater degree of sustainability relative to resource development and the environment will be a major challenge for the province. Past land use decisions in the province have seen environmental concerns often receiving only minor attention, as the lobby force is generally provided by the relatively few “environmental” NGOs, each with a unique mandated perspective. Consequently the ecological input message often lacks the perspective of being comprehensive, unbiased, and non-partisan. In addition, the ecological information provided generally lacks suggestions for mitigative options and alternative actions that are feasible as well as socially and economically viable. This situation could be greatly improved with effective involvement of ACTWS, which has a broad membership possessing considerable expertise and experience in the environmental conservation field.

Currently, governments are looking for new ways of doing business and are open to participation and advice from a broad spectrum of Albertans. Strategically, the time is right for a change in direction of the ACTWS. With such programs as Water for Life, the development of a Land Use Framework, the Integrated Land Management process, a Biodiversity Strategy for Alberta and the Integrated Watershed Management Planning that is going on within the major basins in Alberta our actions can make a difference in the direction of the province. Discussion under the concepts of ecological goods and services and natural capital are also continuing to move forward as potential solutions to repair damaged ecosystems and invest in our future.

The following outlines the approach we intend to pursue to improve our effectiveness as a credible lobby force in the province.

Issue Selection Identification of issues potentially worthy of input from ACTWS will begin by having the Chair of the ACTWS Conservation Committee receive and maintain a periodic compilation of current conservation events or issues that come to the attention of ACTWS through news media, word-of-mouth, and/or direct requests for involvement. Issue selection will be somewhat subjective but will be the result of consensus within Committee membership and based primarily on the following:

- those having potentially serious threats specifically to wildlife and/or wildlife habitat (in the form of resulting in declines in quantity, quality and/or diversity).

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- those with the potential to detrimentally affect large areas (i.e.) provincially or regionally.
 - those with the potential of having long term effects.

Action Preparation Guidelines

It is necessary to design ACTWS input in a way that establishes and maintains our reputation as a sought-after source of valuable and credible ecological information.

* In the case of issues or proposed projects that could proceed provided suitable mitigation was incorporated (in the opinion of ACTWS), input would illustrate the ecological consequences of the proposed activity but also provide the proponent with mitigative options that are economically and socially viable and feasible from their perspective.

* In the case of broad issues with no identified “proponent”, there may be opportunity to formulate input in the form of unsolicited position papers and/or through media exposure. In such cases, the principle of providing reasonable alternatives would form a significant part of the submission. Where the task is particularly onerous or where the specific expertise is not available within ACTWS membership, it is possible the decision could be to contract out the preparation of input.

* In cases where reasonable alternatives are deemed not to be available without irreversible ecological damage (i.e. “trade-offs”), input should avoid a completely negative approach by proposing alternatives and/or explaining the real ecological consequences of proceeding. Input should also identify the information gaps relating to the proposed activity, in non-confrontational terms.

* In cases where participation on stakeholder committees is requested (or where our involvement is sought by members), ACTWS would outline to the identified member representative, the expectations of their involvement, reporting requirements and, availability of compensation for personal expenses (if any).

Delivery Methods

Most ACTWS input will likely take the form of position papers, presentations, briefs, letters to government and/or specific proponents, participation on stakeholder committees, newspaper releases or, exposure in other media. However, there may also be opportunities to include instructional seminars or courses.

A proposal for appropriate action required in each case would be prepared by appointed individuals and/or by the ACTWS Conservation Committee. Each proposal would identify the nature of the task(s) involved, the expertise required, the term involved, the name(s) of member(s) willing to participate and, the requirements for feedback to ACTWS.

To maximize the impact of ACTWS actions, attempts will be made during input preparation to seek collaborative support and/or endorsement from other recognized groups/individuals with similar ecological or environmental concerns.

Protocol for Media Contact

While the chapter does have a protocol for media involvement, it would be revisited in the light of the new approach to ensure that the Conservation Committee and the President/Executive are working in concert for maximum efficiency and effectiveness.

Initial Action

An immediate opportunity for ACTWS advocacy action arose in September while the new Conservation Committee was being formed.. An initiative by the Pembina Institute encouraged public input to stimulate rethinking of the intensity and pace of development of InSitu oils sands extraction projects with special emphasis on the probable detrimental effects on the boreal forest.

A quick assessment by the new Committee resulted in agreement for ACTWS input and a letter was prepared, reviewed, and sent to Oil Sands Consultations, Alberta Department of Energy, Edmonton. The letter can be viewed on the ACTWS web site.

ACTWS Conservation Committee membership for September 2006 to March 31, 2007

Blair Rippin - Chair

Mark Boyce

Matthew Pyper

Dave Scobie

Arlen Todd

Lisa Wilkinson

October 3, 2006

Oil Sands Consultations
Alberta Department of Energy
North Petroleum Plaza
7th floor, 9945-108 St
Edmonton, Alberta
T5K 2G6

Dear Chair and Members of the Panel:

I am writing to express concerns about oil sands development within the province of Alberta. As president of the Alberta Chapter of the Wildlife Society, a non-profit organization comprised of approximately 250 professional (scientists, land managers, policy makers, and academics) and student members provincially and a further 9000 internationally, I would like to bring to your attention some major concerns of our organization.

Although we have specific concerns about all oil sands projects, the purpose of this letter is to address those issues pertaining to In Situ oil sands developments. Oil sands with In Situ development potential occupy 21% of the province of Alberta, and restrictions on the pace and extents of these developments need to be created. It is critical that the province focuses on developing a diverse economy that supports multiple values in the boreal forest, and protects the long term prospects of the province. To address this, we present two critical areas of consideration.

1) Ecosystem valuation of the boreal forest and the importance of multiple values:

Ecosystem valuation is a process which takes into account non-market values of the boreal forest (ie. purifying water, regulating climate, recreational values) and establishes a monetary value for these services. Recent studies have demonstrated that the boreal forest of Canada has a non-market value of \$93.2 billion annually (Anielski and Wilson, 2005). This value exceeds the cumulative market values of the boreal forest (oil production, timber harvesting, mining) by 2.5 times annually. This financial capacity demonstrates the importance of maintaining multiple values to the global economy. However, with unrestricted development of the 21% of Alberta that has potential for In Situ oil sands development, this entire value could be lost.

We believe that to protect the long-term interests of Albertans, the province must begin to take into consideration multiple values of the boreal forest. A healthy and prosperous province is one that diversifies its interests. Actions must be taken now to slow the pace and extent of In Situ developments and to protect the diversification capacity of the boreal region of Alberta.

2) Long-term impacts of In Situ oil sands fragmentation

Extensive research on industrial development in the boreal forest has concluded that many species of animals avoid anthropogenic disturbances. This creates indirect impacts of forest fragmentation which far exceed the direct impacts reported. For example, edge effect created by industrial developments is known to extend between 40 and 100 meters into the intact forest. This has a direct consequence on forest connectivity, mature forest quantity, and the long term persistence of boreal wildlife. Specifically, this fragmentation will result in caribou population declines as has been demonstrated by three separate studies (Boreal Caribou Committee, 2005; Schneider *et al.*, 2003; Wedaw and Hudson, 2004). In addition, the prediction of local extirpation of caribou as a result of In Situ developments is unacceptable, and will portray Alberta as being incapable of managing for multiple-values.

The long-term impact that water consumption by In Situ oil sand developments will have on freshwater resources is also a topic which needs to be addressed. Although 90% of the water is expected to be recycled, water withdrawal is still projected to reduce flow on the Gregoire River by up to 3.4% in the case of the OPTI-Nexen Long Lake project (OPTI Canada, 2000). In Situ oil sands development should not be portrayed as a success due to the lower water consumption compared to alternative oil sands developments such as mining. Mineable oil sands are not an appropriate baseline from which In Situ developments should be measured, but rather In Situ developments should be required to remain within the natural range of variability for water flow in the major watersheds from which the developments access water. In addition, these developments should be required to implement recommendations from provincial initiatives such as the Water for Life strategy.

Our organization fully supports the following five recommendations of the Pembina Institute presented in the comprehensive report: *Death by a thousand cuts*.

- 1) *Alberta Sustainable Resource Development (ASRD) should establish quantitative limits on cumulative industrial disturbances.*
- 2) *ASRD should establish new interconnected protected areas*
- 3) *All government departments should establish minimum standards reflecting “best practices” that companies must employ to minimize damage to the boreal forest.*

4) *ASRD should create a regional plan to protect the boreal forest.*

5) *Alberta energy should suspend new tenure allocations and Alberta Environment should suspend new project approvals until the regional plan is in place.*

To enhance the success of these recommendations, the province must ensure that all sections are supported to completion. The Cumulative Environmental Management Association (CEMA) presented plans to develop a regional ecosystem management plan for oil sands developments, but to date this project has completed only a local scale plan which does not meet the interests of Albertans. Projects such as this that fail to meet the intended goals limit productive management of the oil sands land base. By ensuring all of the above recommendations are achieved prior to further development, similar shortfalls will be avoided, and sustainable development of oil sands with In Situ potential can ensue.

Our motivation for composing this letter is to inform the Multi Stakeholder Committee that our organization believes in maintaining multiple-values within the boreal forest and protecting the long-term capabilities of the province to prosper.

Sincerely,

Terry Kowalchuk

President

Alberta Chapter of the Wildlife Society

P.O. Box 4990

Edmonton, AB T6G 5G8



2006 Northwest Section Wildlife Society Conference



Canmore, Alberta
March 18-20, 2007

Hosted by the Alberta Chapter of the Wildlife Society

**** Featuring Technical Papers & Posters, Plenary, Social Events***

**** Network with colleagues from the United States, B.C., NWT, and Yukon***

More details in next newsletter



Feature Articles

Alberta Biodiversity Monitoring Program

Preparing for Implementation

Background

The rate, diversity, and magnitude of industrial and community development in Alberta has expanded rapidly in recent decades, and is projected to grow substantially in the future. It is important to take steps so that the cumulative effects of this development does not adversely affect the health of Alberta's ecological and environmental resources. Specifically, Alberta needs an objective, long-term monitoring program to evaluate the ecological sustainability of resource management practices.



Historically, environmental monitoring programs have focused on air, land, and water quality. Until now, the quality and variety of life the environment supports has not been actively evaluated as a core measure of environmental health. Initiated in the late-1990s, the Alberta Biodiversity Monitoring Program (ABMP) was created to fill this gap.

The ABMP is a scientifically rigorous, province-wide, monitoring program that will provide information to aid resource managers. The program is based on consistent data collection, coupled with a systematic process for reporting on the status of, and changes to, biodiversity.

Phase I of the ABMP

Scientific and technical 1998 and 2002. This survey many species, Alberta in a systematic

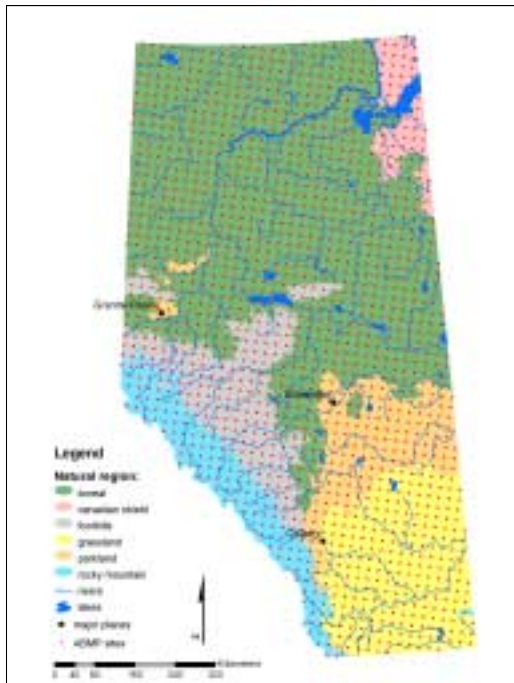


Figure 1. Sampling design of the ABMP. Grid with a 20 km spacing, resulting in 1656 sites. Sampling return interval of 5 years.

aspects of the ABMP were developed between development resulted in a program that will habitats, and human footprints throughout manner (Figure 1, Table 1).



Phase II of the ABMP

In 2003 the ABMP initiated a 4-year prototype to test the methods that were developed, and to prepare the program for implementation. We are presently in the last year of that prototype, and are preparing for implementation next year.

Business Planning

Based on consultation with governments, industries, and others, a business plan has been developed for the ABMP, along with a governance structure. These structures have received comprehensive review and are well supported by stakeholders. The costs of the ABMP have been determined, and potential efficiencies that will occur as a result of implementing the program have been identified and validated. We have created agreements with other organizations to reduce duplication of effort. For example, information to support the National Forest Inventory will be collected by the ABMP. A funding agreement for the ABMP is being negotiated.

Consultation and Communication

Communication and consultation with industry, government, environmental organizations, and the scientific/technical stakeholders are cornerstones of the ABMP. Information about the ABMP is continually updated, and where applicable, distributed to partners and interested individuals. Annual and semi-annual reports are distributed, and posted on the ABMP web site (<http://www.abmp.arc.ab.ca/>). Valuable feedback has been received during the consultations process, and has been incorporated so that the ABMP will meet the needs of stakeholders.

Field Data Collection

As part of the prototype, field methods for terrestrial and aquatic sampling were tested throughout Alberta's forest. Based on these tests, an integrated set of protocols, that are cost effective, has been developed. Protocols will be tested, and if necessary refined, in the parkland and grassland regions of Alberta during 2007. Terrestrial protocols were conducted at approximately 30 ABMP sites during each year of the prototype. Information from these sites was used to develop data analyses procedures, and to evaluate the statistical power of the program.

Table 1. Types of data collected by the ABMP.

| Terrestrial | | Aquatic |
|---------------------------------|------------------|----------------------------|
| Species Groups | Taxonomic | |
| Mammals | | Fish |
| Birds | | Benthic Macroinvertebrates |
| Springtails | | Zooplankton |
| Mites | | Phytoplankton |
| Vascular Plants | | Benthic algae |
| Bryophytes | | |
| Lichens | | |
| Fungi | | |
| Habitats | | |
| <i>At the Local Patch Scale</i> | | |
| Live trees | | Basin characteristics |
| Dead tree & log | | Channel characteristics |
| Shrub cover by height | | Aquatic vegetation |
| Cover of low vegetation | | Vegetation on shore |
| Cover of litter | | Amount of down wood |
| Soil amount | | Water physiochemistry |
| Vegetation diversity | | |
| <i>At the Landscape Scale</i> | | |

Analyses & Biodiversity Metrics

Converting ABMP data into products that will be used by resource managers is a significant challenge. The ABMP developed a pyramid framework for integrating, simplifying and communicating the complex information that is being collected (Figure 2). This framework provides flexibility so that each user can easily access the information they want, while still making all information available to everyone. Information will be communicated in relation to that present at the start of the monitoring program, and as related to that found in intact ecological systems. Both the intact and time-zero reference conditions can be important tools for setting targets and measuring the performance of policy and management decisions.

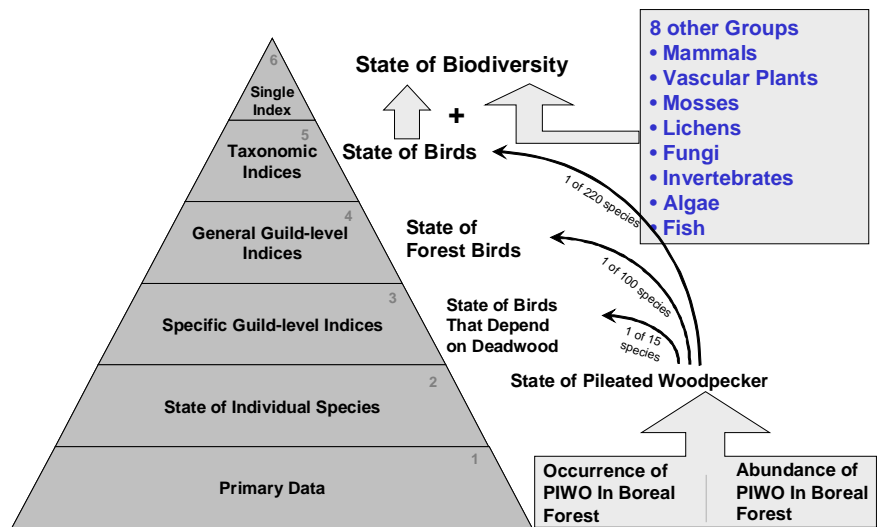


Figure 2. Pyramid to simplify and organize presentation biodiversity information

Data Management System

The ABMP will collect and manage an enormous volume of biodiversity data on species, habitats, and landscapes. As such we are developing an effective system to store and export information. In addition, a web site is being developed to allow free and easy access to all data by everyone. The data management system will be incorporated into a web site during 2007 once the analyses have been finalized. The website graphics and presentation, combined with the data management system, will ensure that data collected by the ABMP are easily accessible by all stakeholders.

Phase III - Looking Ahead to 2007

The ABMP prototype wraps up in 2006. Thus, we are presently preparing the ABMP so that it will become operational in 2007. We are fortunate to have a visionary management board, dedicated partners, and a team of hardworking professionals all committed to the program's success. As one of the most advanced biodiversity monitoring programs in the world, the ABMP is a strong statement by government and industry about their commitment to improving resource management systems. The ABMP is on target and on budget, and continues to gain stakeholder support. The continued success of the program relies on the commitment and support of all Albertans as we collectively strive to maintain a balance between economic growth and biological diversity.

Beaverhill Bird Observatory, 1984 to 2005

Lisa Priestley, Executive Director, Beaverhill Bird Observatory, Box 1418, Edmonton, AB T5J 2N5, E-mail: lisa@beaverhillbirds.com

The Beaverhill Bird Observatory (BBO) is a non-profit charitable organization that was established in 1984. We became incorporated in 1988, and are the second oldest banding station in Canada. Our mandate is: to promote community interest in birds and the natural world, to promote the preservation and conservation of Canada's natural heritage, to conduct studies of migrant and resident birds, to assist the work of amateurs and professional biologists and students who are carrying out compatible observations and research work, to engage in educational activities that promote an appreciation for Beaverhill Lake and the natural history of Alberta, and to cooperate with organizations with similar objectives.

Our main research station is located on the southeast shore of Beaverhill Lake in the Beaverhill Natural Area east of Tofield, Alberta. During migration, the lake is extremely important for waterfowl, shorebirds, songbirds, and raptors such as the Peregrine Falcon. The lake provides habitat for a variety of species such as the endangered Piping Plover during the summer. Due to these attributes, the lake has been designated a National Nature Viewpoint by the Canadian Nature Federation, a Wetland of International Importance under the Ramsar Convention and an Important Bird Area of International Importance. In 1987, the BBO was designated the stewards of the Beaverhill Lake Natural Area, a protected area on the southeast end of the lake. A bird banding laboratory was built in 1986. Over the last 20 years the laboratory has been staffed by summer students who, along with volunteers have been banding and counting birds in and around the natural area.

Main Programs

Our migration monitoring project was initiated in 1984 it became a fully standardized program in 1990. The methods we use involve a combination of standardized banding and daily counts that are now used at a chain of stations all across southern Canada and the northern U.S., the Canadian Migration Monitoring Network. The data collected provides us with much needed baseline data on population trends of northern breeding birds (Figure 1).

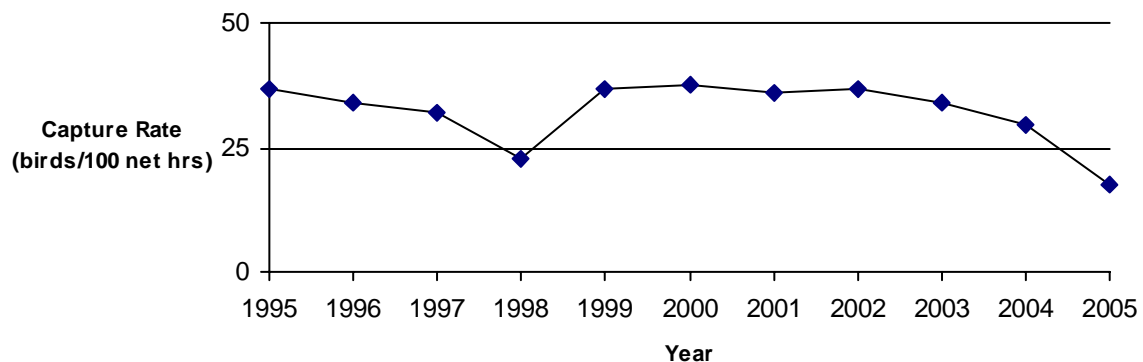


Figure 1. A comparison of spring capture rates (birds/100 net hours) between 1995 and 2005 at BBO.

We are involved with a summer monitoring program called Monitoring Avian Productivity and Survivorship (MAPS). The program was created by The Institute for Bird Populations in 1989 to assess and monitor the vital rates and population dynamics of over 120 species of North American landbirds in order to provide critical conservation and management information on their populations. The program utilizes mist netting and banding at a continent-wide network of monitoring stations staffed by both professional biologists and highly trained volunteers (<http://www.birdpop.org/maps.htm>) (DeSante and O'Grady 2000, DeSante and Nott 2004).

A pilot Northern Saw-whet Owl migration monitoring program was started in 1997, to determine if saw-whets migrate through the Natural Area. From 2002 through 2004, a full time study was conducted (Priestley and Priestley, 2005). The objectives of this project are to determine how many, age and sex classes, and timing, of Saw-whets migrating through the Beaverhill Lake region.

Public Education

Our public education involves a variety of activities. We are on site at the Beaverhill Lake Natural Area throughout the spring, summer, and fall for people to come and see the banding operations, and learn about how we study the birds. We have two major events for the public: The BIG Birding Breakfast and Steaks and Saw-whets. We also visit a variety of schools throughout Alberta, giving presentations on birds, banding, raptors, owls, endangered species, and ecology. The Royal Alberta Museum and John Janzen Nature Center also invite us to come and speak to school groups and families during their programs in the summer. Finally, we are invited to and participate in annual events including: Beaverhill Lake Snow Goose Festival, Tofield Spring Nature Festival, Ellis Bird Farm Bluebird Festival, Forest Explorers (Peace River), Migratory Bird Day (Inglewood Bird Sanctuary), and the Songbird Festival (Lesser Slave Lake Bird Observatory).

Other Programs

We monitor two sets of songbird nestboxes: 1) a Tree Swallow Nestbox Grid at Beaverhill Lake and 2) Elson's Bluebird Trail along roadsides by Beaverhill, Elk Island, and Fort Saskatchewan. We also have 100 saw-whet owl nest boxes in forested areas on private or provincial land around the Ministik and Beaverhill regions (Priestley et al. 2005). We have been documenting the migration of birds of prey in the fall through surveys and passive trapping techniques since 1997.

Two major volunteer programs are also being run through the bird observatory:

1) a raptor nest card program that was initiated in 1988 by the Alberta government, for raptor banders and researchers to collect information on nest locations of birds of prey and . Results will include a

better understanding of habitat use, productivity, and phenology (timing of nesting), which will help with status assessment and management (Priestley 2005a, Priestley 2005b),

2) The Alberta Nocturnal Owl Survey (ANOS) has been running since 1998, with the goals of: obtaining information on distribution and relative abundance of nocturnal owls in Alberta, collecting information that will lead to estimating population trends of nocturnal owls at regional and provincial scales, as well as contributing to a North America-wide program, and determining habitat associations of nocturnal owls. The Beaverhill Bird Observatory also took the lead in developing guidelines for a national owl survey program (Takats et al. 2001).

We have been involved with supporting Endangered Species work, particularly with the Burrowing Owl. This work includes:

- Conservation of Burrowing Owls including surveys studies of over-winter survival, diet and foraging ecology of burrowing owls in central Mexico funded by National Fish and Wildlife Foundation 2000-2004

- North American Burrowing Owl Conservation Action Plan drafted under contract to Commission for Environmental Cooperation 2004

- Funding for proceedings and international attendees at the Second International Burrowing Owl Symposium, Ogden, Utah and published in Journal of Raptor Research 35:(4)269-418

- Surveys and banding of songbirds in eastern Guatemala with USGS and FUNDAECO in 1993 and 1994

Beaverhill Bird Observatory has been very supportive over the years to graduate students. In 1989 Peter Dunn completed his PhD. thesis on “The Maintenance of Monogamy in Black-billed Magpies and Tree Swallows” through the University of Alberta. In 1990, Mike Quinn completed a Masters thesis on “Factors Regulating the Breeding Population, Reproductive Success and Mating System of House Wrens, *Troglodytes aedon*, at Beaverhill Lake, Alberta”. We have also participated in butterfly counts, dragonfly surveys, and RANA (Researching Amphibian Numbers in Alberta). Finally, we wrote the Important Bird Area Conservation Plan for Beaverhill Lake (Krikun and Holroyd 2001).

Acknowledgements

The Beaverhill Bird Observatory is made up of a very dedicated Board of Directors, and I thank them for their continuing support: Al DeGroot, Matt Hanneman, Geoff Holroyd, Richard Krikun, Darren McGregor, Chuck Priestley, James Sheppard, Bryn Spence, Margaret Takats, Sarah Trefry, and Enrique Valdez. We are always looking for new board members and volunteers, please contact us if you are interested. Our work would not be possible without funding and in-kind support from the following agencies: Alberta Community Development, Alberta Conservation Association, Alberta Ecotrust, Alberta Sport, Recreation, Parks, and Wildlife Foundation, Alberta Sustainable Resource Development, Canadian Wildlife Service (Environment Canada), Manning Diversified, Mountain Equipment Co-op, Student Career Placement Program, Shell Environment Fund, TD Friends of the Environment Foundation.

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Peter Stahl

Alberta's CHRONIC WASTING DISEASE RESPONSE PROGRAM:

Summary of activities from January to March, 2006

M.J.Pybus PhD, Provincial Wildlife Disease Specialist, Fish and Wildlife Division, Edmonton
on behalf of Alberta's CWD team

Chronic wasting disease (CWD) is a chronic degenerative and ultimately fatal disease of cervids (deer, elk, and to a lesser extent moose). It has the potential to significantly reduce cervid population densities and is considered a threat to deer populations in Alberta. Through CWD surveillance and management activities previous to 2006, two geographical areas were identified as potentially high risk for CWD incursion into Alberta: the Dilberry Lake Provincial Park area south of Chauvin (WMU 234), and the region around the confluence of the Red Deer and South Saskatchewan Rivers (WMUs 150 & 151). At the end of 2005, 4 CWD-positive mule deer had been identified in Alberta, all from the latter region (see map at: http://www.srd.gov.ab.ca/fw/diseases/CWD/pdf/CWD_surveillance.pdf). An International Expert Panel¹, convened in 2004 to examine the epidemiology and risks of CWD to cervids, concluded that CWD is likely not native to cervid populations in Canada and that there are no natural barriers to further spread of the disease in affected areas. In light of these findings, and the potential for CWD to negatively affect cervid populations, the Fish and Wildlife Division of Alberta Sustainable Resources Development made it a priority to prevent or limit the spread of CWD into the province.

Toward this objective, the Fish and Wildlife Division implemented a CWD response program from mid-January to mid-March 2006. The specific goals of the program were to limit disease transmission by reducing deer densities in the vicinity of CWD-positive deer, and to determine the extent of the disease distribution by conducting surveillance upstream on each of the South Saskatchewan and Red Deer rivers.

Intensive herd reduction was conducted in three areas, all within approximately 10 km of previous cases of CWD in wild deer in Alberta or Saskatchewan: Red Deer River (RDR), South Saskatchewan River (SSR), and Dilberry Lake Provincial Park (DLPP). In herd reduction areas, staff were instructed to shoot any deer that could be safely shot and recovered, regardless of species, sex, or age. During the Dilberry Lake delivery, a deer density of 1 km² (recommended by the International Expert Panel as a threshold for limiting CWD transmission), was reached after two days of herd reduction, so the program was closed down. Aerial surveys were conducted before and after each delivery to determine deer distributions and the changes in deer numbers.

Enhanced surveillance for CWD was conducted upstream from the RDR and SSR herd reduction areas (west to Highway 886 in the former, and west to CFB-Suffield in the latter). The goal was to collect and test 250 samples of adult deer from each of these areas.

¹ <http://wildlife1.usask.ca/ccwhc2003/publications/>

The field response program relied on Fish and Wildlife staff to shoot deer, collect heads for CWD testing, collect reproductive samples, salvage hides, and salvage usable meat. In addition, incisor bars were collected for aging purposes and tissues samples for genetic analyses. Staff from Saskatchewan Environment participated in disease control activities within the Saskatchewan portions of the 10km circles. All deer were processed in Oyen by Fish and Wildlife staff. Most of the heads were tested by Alberta Agriculture, Food and Rural Development in Edmonton. A few were tested by Prairie Diagnostics in Saskatoon.

Hides were provided to the Oyen Rod and Gun club for fund-raising programs. Antlers were provided to the provincial hunter education programs for teaching purposes. Salvaged meat from CWD-negative deer was distributed through normal Fish and Wildlife channels. Guiding principles for the program were safety of staff and the public in conjunction with effective and efficient shooting of deer with minimal disturbance to landholders and local residents.

In total, 1688 deer (1475 mule deer, 213 white-tailed deer) were collected between January 23 and March 11, 2006. Collection activities in the herd reduction areas yielded 1,022 deer from the RDR / SSR areas (884 MD and 138 WTD) and 40 from the Dilberry area (27 MD and 13 WTD). Collections during the enhanced surveillance programs, yielded 361 deer from the upstream Red Deer River area (319 MD and 42 WTD) and 265 deer from the South Saskatchewan River area (245 MD and 20 WTD). With the exception of one serious vehicle accident, all safety, surveillance, and initial herd reduction goals were achieved successfully.

In total, nine CWD-positive deer were collected in Alberta and two in Saskatchewan. Assuming the RDR and SSR herd reduction areas can be treated as a population unit, estimated CWD prevalence in deer in this area is 1.1% (95% confidence limits 0.5-1.9%). By species, estimated prevalence is 1.3% in mule deer (95% confidence limits 0.6-2.2%). No positive white-tailed deer were detected; however, sample size was relatively small.

Public meetings were held in Empress and Chauvin prior to and after disease control activities to provide information about CWD, its management and control options, an overview of the response programs, data on local deer populations, and to gain input for future deer harvest options. Meetings were held with the Chauvin CWD Public Advisory Committee and with local landowners in the Empress area. In addition, Fish and Wildlife staff made presentations at the Alberta Fish and Game Association Annual Meeting, Brooks Fish and Game Association chapter meeting, Wilderness Sportsmen's Club chapter meeting, Alberta Professional Outfitters Society Executive meeting, Alberta Chapter of The Wildlife Society Annual Meeting, and the Alberta Agriculture lunch-time seminar series. Also, Fish and Wildlife staff were invited by Saskatchewan Environment to present an overview of the CWD winter program at a public meeting in Leader, Saskatchewan. In all venues, the audience was encouraged to ask questions and provide comments and suggestions.

Total direct costs of the winter CWD program were in the range of \$470,000. Primary costs were associated with staff expenses and overtime as well as field equipment and supplies. Diagnostic costs were provided in-kind by Alberta Agriculture, Food and Rural Development.

This program could not have been completed without the significant efforts of Fish and Wildlife Division staff, particularly staff from the Enforcement Field Services and Wildlife Management Branch. The field program directly involved over 99 permanent and wage staff, including officers, biologists, technicians, and administrative staff who contributed over 14,000 hours to the program.

We also acknowledge the support and assistance of local residents, landowners, and landholders - this program would have ground to a halt without their patience and support.



CHRONIC WASTING DISEASE SURVEY 2006

Significant changes relating to disease management for the 2006 hunting seasons include:

- ≡ **MANDATORY submission of heads of deer harvested in five WMUs along the Alberta/Saskatchewan border: WMUs 150, 151, 234, 256, and 500.**

Note that antlers and skull plate of trophy deer can be removed and the remainder of the head submitted for testing.

- ≡ **Designated CWD Control Areas: WMUs 151 and 234 Ranges 1&2; WMU 150 Ranges 1, 2 &3.**

- ≡ Increased hunting opportunities in CWD Control Areas. See pages 61 & 63 of the 2006 Alberta Guide to Hunting Regulations, ask at your local Fish and Wildlife office, or visit www.srd.gov.ab.ca/fw/hunting/huntinfo.html

- ≡ Voluntary submission of adult deer heads from WMUs 144, 148, 152, 162, 200, 202, 203, 232, 236, and 238.

- ≡ New three-part labels that provide a unique identification number for each head submitted for CWD testing. When you submit the head to a Fish and Wildlife office or at a 24hr freezer (see below), please fill out the top part of the green three-part label. Attach the top two parts (intact) of the label to the deer head. You keep the bottom part of the label.

- ≡ Twenty 24hr freezers scattered throughout the border WMUs to make it easier for you to submit deer heads. Freezer locations also have the new labels, instructions, and plastic bags. Freezer locations are available at www.srd.gov.ab.ca/fw/diseases/CWD/index.html or at any Fish and Wildlife office.

- ≡ **Hunters will be notified of the CWD test results within six weeks of submitting a deer head.**

We appreciate your cooperation in these enhanced surveillance and disease response programs. The CWD test data will give a much better picture

of where the disease does or does not occur and the additional harvest will help limit further spread of CWD.



Heads for disease testing should be frozen as soon as possible and kept frozen. The frozen heads may be submitted to any Fish and Wildlife office. Please advise the office staff that you are submitting the heads as requested for the CWD survey. In addition, there are twenty freezers with 24-hr access located at several locations in the WMUs mentioned above. Contact any Fish and Wildlife office or check the web page www.srd.gov.ab.ca/fw/diseases/CWD/index.html for specific freezer locations and additional information. Labels, bags, and pencils as well as helpful instructions also are with the freezers.

You can submit either an intact head or a head with the skull plate and antlers removed. Both will provide useable samples for CWD testing. Please include information identifying **the location (WMU) and date of kill, as well as the species, sex, and approximate age (yearling or adult).**

Also, please include your WIN number! (so we can inform you of the CWD result)

We sincerely appreciate the efforts and submissions from hunters in past years and ask for your continued cooperation in helping to ensure Alberta's wildlife remains healthy.

Hunters should be aware that there is no scientific evidence to suggest that CWD can affect humans. As a precaution, the World Health Organization advises against allowing any products from animals known to be infected with any prion disease into the human food system.

For additional information about this survey or background about chronic wasting disease, please check the Fish and Wildlife webpages (as above) or contact Dr. Margo Pybus, Provincial Wildlife Disease Specialist (780-427-3462.)

The Alberta NAWMP Partnership - A New Approach to Science

The Alberta NAWMP Partnership is probably best known for its habitat conservation programs in support of the North American Waterfowl Management Plan's goal to restore waterfowl populations. Since 1989, Alberta NAWMP has funded research to support the planning and delivery of its conservation programs. Research has also been conducted to identify, and then maximize, the broad benefits of NAWMP's waterfowl programs on other wetland-associated species. Until recently, research grants had been awarded through the Alberta NAWMP Biodiversity Advisory Group.

2004/05 was a period of restructuring for the Biodiversity Advisory Group. A new Science Subcommittee was established, absorbing the responsibilities of this group and the Alberta NAWMP Management Committee's responsibilities for funding 'directed' waterfowl research.

Michael Barr, the Chair of the Science Subcommittee admits it was a challenge, but an opportunity also. "We took advantage of this time to step back and assess what we were doing, to clarify our needs and improve our processes."

"We immediately embarked on a needs assessment," Barr continues. "We knew we needed to identify our key information gaps and communicate these effectively to the research community so that we'd start to see proposals addressing these issues coming in to us. We also wanted to know from our partners if there were research questions relating to wetlands that they were struggling with on their own. If there was sufficient support, these questions would also be put out for proposal. In addition, we needed to identify outstanding information gaps in waterfowl research."

At the end of the exercise, four priorities were identified. For the 2005/06 funding window, and for the foreseeable future, Alberta NAWMP will be looking to meet the following research needs. Barr explains.

For Waterfowl, we need to...

- identify and explain waterfowl population trends in the boreal transition zone
- understand the impact of habitat loss (both wetland and upland) on waterfowl recruitment in the boreal transition zone
- better understand the reasons behind population declines in species such as scaups, scoters and the northern pintail.

For Wetland-associated Species, we need to...

- determine the geographic overlap between NAWMP (waterfowl) target areas and key areas for other bird groups and for wetland-associated species such as amphibians
- develop GIS-based data and/or predictive models for wetland-associated species that would indicate critical habitat features such as breeding, moulting and overwintering areas
- investigate the benefits or values of NAWMP programs to wetland-associated species.

For Wetland Health, we need to ...

- develop methods to assess the ecological status of all wetland types, using a broad suite of physical, chemical and biological measurements and indicator metrics, within or among Alberta's ecoregions.

For Wetland and Riparian Components of Environmental Agriculture, we need to...

- evaluate the waterfowl and wetland-associated species benefits of NAWMP programs for the purpose of integrating these programs into relevant Canada-Alberta Farm Stewardship Beneficial Management Practices for adoption by landowners (e.g., biodiversity Enhancement Planning, Enhancing Wildlife Habitat and Biodiversity, Riparian Health Assessment, Riparian Area Management, Species at Risk, and Grazing Management Planning)

“This focused approach is helping us to clear away the clutter,” explains Barr. “In the past we had requested and accepted research proposals more on an ad hoc basis. We were always able to fund excellent projects and receive data that we could integrate into our program planning. However, comparing the results of our needs assessment to some of our most recent research projects, I can see that we’re already making progress.”

Barr continues, “In terms of waterfowl research, we are already funding two investigations in the boreal transition zone related to habitat and waterfowl population trends. We also have an ongoing study on northern pintails.”

“We’re making progress too, on wetland-associated species. We’re moved from supporting inventories to supporting predictive tools for species groups over large areas—biome-based or greater. We’re looking at predicting abundance and density at a large scale rather than quantifying it at a project scale. And, this feels good.”

“As for the two new research categories that emerged from our needs assessment—wetland health, and wetland and riparian components of environmental agriculture—these link the wetland-based interests of our partners to the broader NAWMP goals. This is a sign we’re looking ahead and finding important areas of common interest.”

What does the future hold for the Alberta NAWMP Science Fund? “Well, with a budget of about \$275,000 a year and new, more focused guidelines, the sky’s the limit really. We know there is no shortage of great ideas out there. We look forward to hearing from you!”

What is the North American Waterfowl Management Plan?

The North American Waterfowl Management Plan was signed by Canada and the United States in 1986 in reaction to critically low numbers of waterfowl. The Plan's goal is to return waterfowl populations to their 1970s levels by conserving wetland and upland habitat. Mexico joined in 1994 making it a truly continental effort.

NAWMP’s current vision has three parts:

- **Plan partners enhance the capability of landscapes to support waterfowl and other wetland-associated species by ensuring that Plan implementation is guided by scientifically-based planning, which in turn is refined through ongoing evaluation**
- **Plan partners define the landscape conditions needed to sustain waterfowl and benefit other wetland associated species, and participate in the development of conservation, economic, management, and social policies and programs that most affect the ecological health of these landscapes.**
- **Plan partners collaborate with other conservation efforts, particularly migratory bird initiatives, and reach out to other sectors and communities to forge broader alliances in a collective search for sustainable uses of landscapes.**

The Alberta NAWMP Partnership is comprised of the following partner agencies: Alberta Agriculture, Food and Rural Development, Alberta Environment, Alberta Sustainable Resource Development, Ducks Unlimited Canada, Environment Canada – Canadian Wildlife Service, Nature Conservancy of Canada, Agriculture and Agri-Food Canada. On behalf of this partnership, habitat conservation is delivered by Ducks Unlimited Canada and the Nature Conservancy of Canada. Since 1986, NAWMP has invested more than \$130 million in habitat programs and other NAWMP activities.

Alberta NAWMP defines its successes by its broad partnerships, its habitat programs which include securement, enhancement or restoration and management, its reliance on science, and its dedication to pursuing policy initiatives with industry and government. Extension programs and communication activities support core program efforts and new initiatives. Among Alberta NAWMP’s newest undertakings is a mandate for waterfowl conservation and maximizing benefits for wetland-associated species in the Boreal forest.

Involvement of Aboriginal Peoples in the implementation of SARA – Alberta, Saskatchewan, Manitoba: Aboriginal Capacity and Critical Habitat Protection Funds

The involvement of Aboriginal People in the implementation of species at risk programs is a mandatory requirement under the Species At Risk Act (SARA). In order to implement the Species at Risk Act on Aboriginal Lands, some of the main considerations are that in Alberta, Saskatchewan, and Manitoba there are 178 First Nations represented by nine numbered treaties (Treaties 1-8, 10) with a total of 810 reserves. As well, Provincial and federal policies with respect to Métis harvests continue to evolve in the context of the Powley Decision. Implementation of any activities with Métis will need to be integrated with any activities relating to the Powley Decision. Other considerations in implementing the program are the recognition that there are existing networks and programs addressing capacity building on First Nation lands, meaningful collaboration and consultation with aboriginal peoples is resource intensive, and there is limited funding to address capacity and critical habitat issues on all aboriginal lands across 5 provincial and territorial jurisdictions.

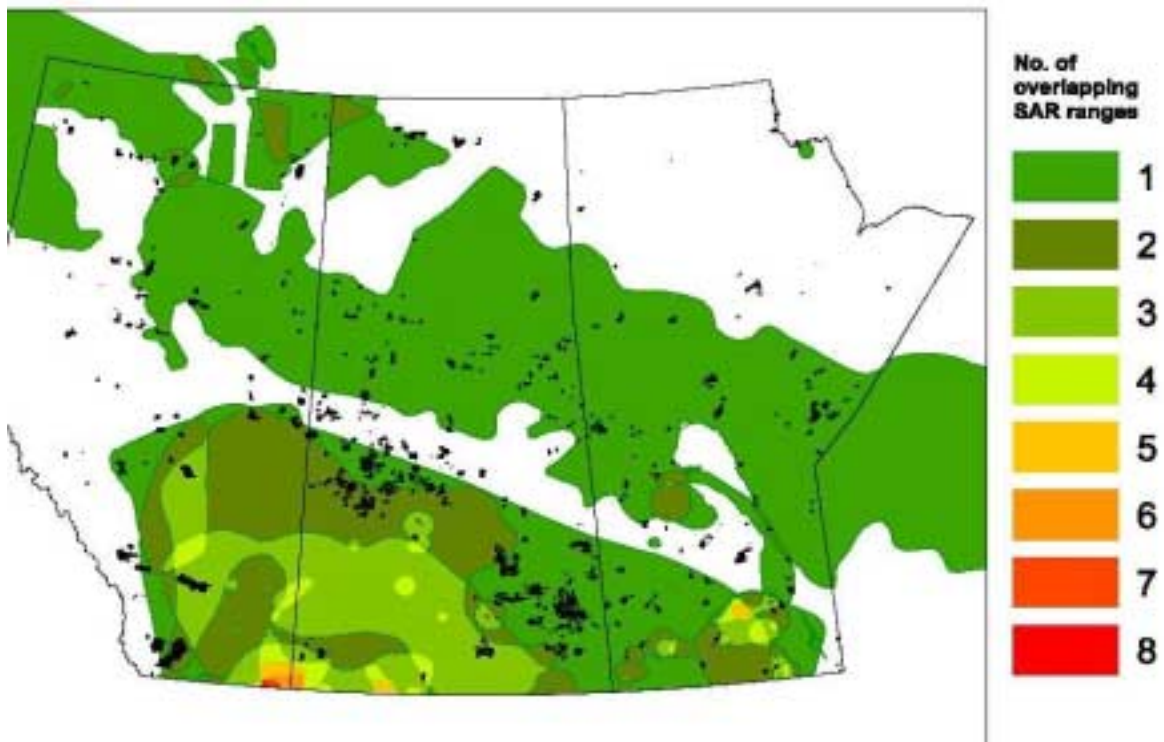
Involving Aboriginal People with Species at Risk Programs is vital for several reasons. According to the Russell Barsh, Associate Professor at the University of Lethbridge, Alberta: "...the world's remaining indigenous peoples tend to inhabit relatively undisturbed habitats that are reservoirs of biodiversity...." Since much native habitat has been destroyed through cultivation - native, undisturbed lands (often on reserves) are reservoirs of suitable habitats which may attract Species at Risk (whose ranges fall within certain treaty lands more significantly than others across the Prairie Provinces). Treaty 7, 4 and Treaty 1 lands contain the most overlapping species at risk ranges in the Prairie Provinces (see figure 2). Species at Risk that might be found across southern Alberta (Treaty 7) and Southern Saskatchewan (Treaty 4) include: Swift Fox, Burrowing Owl, Greater Sage-Grouse, Piping Plover, Sprague's Pipit, Western Silvery Minnow, Western Blue Flag, Bigmouth Buffalo, and Silver Chub. Treaty 1 (Southern Manitoba) lands may include Sprague's Pipit, Least Bittern, Eastern Loggerhead Shrike, Western Silvery Aster, Carmine Shiner, Lake Sturgeon and Shortjaw Cisco. Other treaty lands tend to overlap with fewer species ranges but still have some significant issues with respect to Woodland Caribou, Wood Bison. This includes Treaty 8 lands (Northern Alberta), Treaty 10 lands (Northern Saskatchewan), and Treaty 5 lands (Northern Manitoba)

SARA took effect as of June, 2004 and applied immediately on federal lands. Reserve lands are considered federal lands and the Government of Canada recognizes that Reserve lands have special status in that they are held in trust for Aboriginal peoples. Thus, there is need for a cooperative approach with respect to the Species at Risk Act on Reserve Lands. Capacity building with First Nations, on reserve lands, is an immediate priority. By Capacity Building, we mean enabling Aboriginal people to understand and participate in Species at Risk activities.

Figure 1: Treaty Areas in Prairie Provinces



Figure 2: Species at Risk Ranges and Aboriginal Lands



In 2004 - the participation of Aboriginal Governments in species at risk management efforts in the Prairie Provinces was non-existent or minimal. The reasons for the lack of involvement was due to a number of issues such as the lack of Species at Risk communication programs, information gaps on Aboriginal Lands, and the recognition that there are various levels of capacity of peoples and administration on Aboriginal lands. As well, Aboriginal People continue to deal with ongoing issues such as educational, housing, health-care issues which take precedence over Wildlife Conservation Issues. There are also difficulties such as access for biologists to Aboriginal lands, distributed representation of Aboriginal people through various governance structures and organizations, and differing views on the role of Aboriginal peoples in the governance of SARA. From the perspective of many First Nations and Aboriginal Organizations, there seems to be a strong desire for capacity to improve management of natural resources. From the perspective of government, there is a desire to work more cooperatively with aboriginal peoples, but there has been a historic inability to do so effectively, exacerbated by a lack of awareness and appreciation of First Nations land use, traditions, culture and values.

In 2004, the Treasury Board of Canada Secretariat approved funds to enable federal departments to support Capacity Building within Aboriginal organizations and communities for participation in the identification, protection and recovery of species at risk and their critical habitats. Environment Canada (EC), Fisheries and Oceans Canada (DFO) and Parks Canada Agency (PCA) deliver the program, with EC administering the program. Indian and Northern Affairs (INAC) also participate. There are two primary objectives of the Aboriginal Funds: 1) To Involve Aboriginal people in recovery planning and implementation activities and, 2) To Protect important or critical habitat on Aboriginal Lands. Projects will support identification, stewardship, protection and recovery of critical habitats or important habitats supporting endangered and threatened species at risk in priority (and other COSEWIC and SARA listed species) on Eligible Lands. These may include capacity building initiatives, which will contribute to critical habitat protection and recovery. Some examples of eligible projects include:

Informing and training Aboriginal peoples on protection and recovery of species at risk and their habitats; Collection, organization and use of Aboriginal or Indigenous Traditional Knowledge (ATK / ITK) for the identification, protection and recovery of species at risk; Biophysical inventories and Participation in the preparation of recovery strategies and management plans.

Eligible Lands include: a) Lands set apart for the use and benefit of Aboriginal people under the Indian Act or under section 91 (24) of the Constitution Act of 1867; b) Other lands directly controlled by Aboriginal people (e.g. Métis Settlement lands, and land claim /treaty settlement lands); and c) Lands where traditional activities (harvesting or other) are carried out. Eligible proponents include: Aboriginal organizations actively involved in the management of Eligible Lands, including: Indian Bands, Tribal Councils, Partnerships with Non-government organizations and other organizations if mandated by eligible proponents.

SARA Pathfinder Initiative:

Approved in 2005/6 and again in 2006 – 2008 for the Aboriginal Capacity Building and Critical Habitat Protection Funds are two *SARA Pathfinder* positions which were modeled on Natural Resource Canada's Energy or Climate Change '*Pathfinders*'. The SARA Pathfinders raise awareness of the Species at Risk Act (SARA) through capacity building, community engagement, assisting with species recovery management, identification, management and protection of Species at Risk (SAR) habitat, and participate in conservation and protection of species through stewardship applications and planning. In Alberta the SARA Pathfinder program is implemented by the First Nations Technical Services Advisory Group (FNATSAG). The Centre for Indigenous Environmental Resources (CIER) implements SARA by undertaking the role of 'Species at Risk Pathfinder (Manitoba and Saskatchewan Region)' [SAR Pathfinder (MS Region)'].

FNATSAG is a not-for-profit corporation, which began operation in 1998, under the mandate from the Alberta Aboriginal' Chiefs Summit, to provide advisory and technical support services to all forty-five First Nations and 9 Tribal Councils in Alberta. FNATSAG is located in Edmonton and is one of two FN organizations in Canada that provides technical services and support to FN communities. The services provided by FNATSAG vary depending on the community's level of capacity, technical skills, and proficiency and management expertise. CIER, is a national First Nation-directed environmental non-profit organization. CIER offers research, advisory, and education and training services to Indigenous communities, governments and private companies in four inter-related topic areas: forests, climate change, water, and sustainability.

Within Alberta, the program involves over 200 Aboriginal and northern communities, with an emphasis on the communities who have been identified by the Government of Canada as potentially having Species at Risk within their lands as priorities. In Manitoba and Saskatchewan, CIER recommended the Species at Risk Pathfinder (MS Region) Program be implemented over a period five years. This is necessary in order for the program to be fully effective at building capacity within Aboriginal organizations and communities for their effective participation in the identification, protection, and recovery of species at risk and their critical habitats on Aboriginal lands.

For more information on the Aboriginal Funds contact:

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About the Author:

Carmen Callihoo is the Aboriginal Specialist, for the Environmental Conservation Branch, Canadian Wildlife Service (CWS) and started work in Prairie and Northern Regions' Edmonton office in November, 2004. The newly created position will provide CWS with much needed capacity for the engagement of Aboriginal peoples in a number of program areas including species at risk and migratory bird management. The Prairie and Northern Region includes: Alberta, Saskatchewan and Manitoba. Carmen's responsibilities include: Development of partnerships, Consultation, Strategic Advice, and Research. Prior to joining Environment Canada, Carmen was an Environment Officer for Indian and Northern Affairs Canada (INAC) based in Edmonton, AB where her duties included Environmental Impact Assessments and Compliance promotion of Environmental Legislation on the five large Indian Reserves in Canada. Carmen was the first Aboriginal woman to become a Conservation Officer with the Province of Alberta (2000). She also worked seasonally with Alberta Fish and Wildlife which included being a 'Hacker' for Peregrine Falcons and relocating Black Bears in Northern Alberta, and for Parks Canada Agency in Waterton Lakes, Lake Louise, Kootenay, Yoho and Elk Island National Parks. In 1998 - she patrolled the backcountry in the famed Rock wall District in Kootenay National Park via horseback with her trusty steed: Will and packhorse: Poppy. Carmen completed her Bachelor of Science Degree specializing in Environmental Science at the University of Lethbridge, AB in 1998 and attained her Renewable Resource Management Diploma (1994) and Conservation Enforcement Certificate (1995) at Lethbridge Community College.

Upcoming Events**[Bear Conservation in a Fast-Changing North America](#)**

October 24-27, 2006 / Revelstoke, British Columbia

<http://www.cmiae.org/conferences.htm#Bear>

[8th Prairie Conservation and Endangered Species Conference and Workshop](#)

March 1-3, 2007 / Regina, Saskatchewan

<http://www.pcesc.ca/>

[4th North American Reservoir Symposium: Balancing Fisheries Management and Water Uses for Impounded River Systems](#)

June 6-9, 2007 / Atlanta, Georgia, USA

<http://www.sdafs.org/reservoir/symposium/index.html>

[Greening of Industry Network Conference Sustainable Ecosystem and Social Stewardship](#)

June 15-17, 2007 / Waterloo, Ontario

http://www.wlu.ca/page.php?grp_id=1685&p=5793

[XXVIII International Union of Game Biologists Congress](#)

August 13-18, 2007 / Uppsala, Sweden

<http://www-conference.slu.se/iugb2007/>

[Wild Trout IX: Sustaining Wild Trout in a Changing World](#)

September 16-19, 2007 / West Yellowstone, Montana, USA

<http://www.wildtroutsymposium.com/>

For information on these and other conferences, check the following website.

<http://www.srd.gov.ab.ca/library/conf.html>

Recently Published

Aldridge, Cameron L. and Mark S. Boyce. 2006. "Silver sagebrush community associations in southeastern Alberta, Canada." *Rangeland Ecol Manage* 58:400-405. Comment in *Rangeland Ecol Manage* 59:107-108.

Boyce, Mark S., Subhash R. Lele and Brian W. Johns. 2006. Whooping crane recruitment enhanced by egg removal. *Bio. Cons.* 126 (2005) 395-401.

Piorecky, Mark D. and David R. C. Prescott. 2006. Multiple special logistics and autologistic habitat selection models for northern pygmy owls, along the eastern slopes of Alberta's Rocky Mountains. *Bio. Cons.* 129 (2006) 360-371.

Scott Eric Nielson, Gordon B. Stenhouse and Mark S. Boyce. 2006. A habitat based framework for grizzly bear conservation in Alberta. *Bio. Cons.* 130 (2006) 217-229.

Ripley, Travis, Garry Scrimgeour and Mark S. Boyce. 2005. Bull trout (*Salvelinus confluentus*) occurrence and abundance influenced by cumulative industrial developments in a Canadian boreal forest watershed. *Can. J. Fish. Aquat. Sci.* 62 (2005) 2431-2442.

Please send any references of recently published articles to dave.hobson@gov.ab.ca. Articles of interest include those authored by ACTWS members on Alberta wildlife.

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