

**THE YUKON BIODIVERSITY WORKING GROUP**

**2009 ANNUAL FORUM**



**PROGRAM AND ABSTRACTS**

YUKON COLLEGE  
WHITEHORSE, YUKON  
APRIL 3-4, 2008

<http://www.yukoncollege.yk.ca/research/pages/biology>

## **THE YUKON BIODIVERSITY WORKING GROUP**

### **2009 ANNUAL FORUM**

**April 4, Saturday**

### **ORGANIZING COMMITTEE**

Scott Gilbert  
Dave Mossop

### **FOOD AND BEVERAGE**

Anne Morrison

### **OUR VISION AND PURPOSE**

The Biodiversity Working Group is a non-government open-membership group of those involved in ongoing biodiversity assessment and monitoring projects throughout the Yukon. It is hosted through the Northern Research Institute at Yukon College and meets informally during winter months. The vision is in four basic parts: a) To foster partnerships and networking, -- including coordinated contribution to national and local initiatives relative to the Canadian Biodiversity Strategy; b) to deliver public education on biodiversity issues; c) to provide coordination among field researchers promoting long term data bases on key focal species; d) to integrate local traditional knowledge into on-going field data gathering processes.

**THE FORUM** is designed as a Friday evening and full Saturday annual event, held this year April 3-4<sup>th</sup>. The purpose is to give an opportunity for a broad cross section of exposure to current field projects that relate to biodiversity assessment and monitoring in the Yukon. Posters, coffee and lunch breaks are normally provided in the hallway immediately outside the Lecture Theatre at Yukon College. *A day for community members and researchers to share information and foster partnerships, learn about Yukon plants, animals and special habitats as well as to identify knowledge gaps and species or habitats that need monitoring.*

**REGISTRATION:** The sessions are open to all with an interest in Yukon biodiversity, its assessment, monitoring and conservation. There has been no registration fee to date. We provide name tags and would like to keep a registry of all those attending. Thanks go to the Yukon Government, Dept. of Environment for sponsoring the coffee and lunch sessions.

## 2009 FORUM AGENDA

**Plenary Guest Speaker: Dr. David Welch (Pacific Biological Station)**

**Friday evening, Yukon College Theatre:7 pm**

In partnership with the Yukon Science Institute, a presentation by Dr. Welch detailing research addressing “Salmon Biodiversity in an Age of Global Warming”

- |              |   |   |
|--------------|---|---|
| <b>9:00</b>  | Bruce Bennett<br><i>Environment Yukon</i>   | Update on the Plants of Ivvavik National Park   |
| <b>9:20</b>  | Sara Pieper<br><i>University of Saskatchewan</i>  | The effects of temperature variation on alpine plants in south-central Yukon                |
| <b>9:40</b>  | Doug Clark<br><i>University of Alberta/Yukon Colleg/Yale Universtiy</i>                           | Polar bears, climate change, and human dignity: seeking integrative conservation policies – |
| <b>10:00</b> | Katie Aitken<br><i>Environment Canada / CWS</i>   | Update on Impact of the spruce beetle outbreak on forest birds in southwest Yukon.          |
| <b>10:20</b> | <b>Coffee session - poster viewing</b>  |   |
| <b>10:50</b> | Jen Line  | The natural history of Baikal Sedge   |
| <b>11:10</b> | Ben Schoneville & Ted Murphy-Kelly  | Albert Creek and Teslin lake bird observatories   |
| <b>11:30</b> | John Bailey<br><i>Universtiy of Western Ontario</i>   | Fish and benthic invertebrate stream bioassessments in the Yukon: 2004-2008                 |
| <b>11:50</b> | <b>2008 Biodiversity Awareness Award Presentation</b>   |   |
| <b>12:05</b> | <b>LUNCH on site – Room 2103 plus poster viewing</b>  |   |
| <b>1:10</b>  | Shelly Marshall<br><i>Simon Fraser University</i>   | Viewing grizzly bears at the Arctic Circle: effects on bear feeding behavior                |
| <b>1:30</b>  | Syd Cannings, and Lea Randall<br><i>Environment Canada/ Nature Serve YT</i>                       | The hunt for the dune tachinid fly: high noon on the Carcross dunes                         |
| <b>1:50</b>  | Colleen Henry<br><i>Arctic Athabaskan Council</i>   | Overview of the Arctic Biodiversity Assessment  |
| <b>2:10</b>  | Heather Milligan, Dorothy Cooleyand Murray Humphries<br><i>Environment Yukon and McGill Univ.</i> | “You are what you eat” understanding aquatic foraging by beavers and moose                  |
| <b>2:30</b>  | Sylvie Binette<br><i>Faculty of Forestry, Swedish Univ of</i>                                     | Some like it hot: short-term responses of beetles to fire in northern boreal forests        |

- Agricultural sciences*  
**2:50** Erin Spiewak  
*Ducks Unlimited (Yukon)* How do we sleep when our nests are burning?  
 Waterfowl response to fire
- 3:10** Tom Jung, B. Slough, C.Lausen,  
 D.Nagorsen, P. Kukka, L.Randall, K.  
 Everatt, K.Kuba, C.Eckert  
*Environment Yukon* A rapid assessment of mammalian and amphibian  
 biodiversity in two territorial parks in southern Yukon

<b>Poster Title</b>	<b>Author(s)</b>
Arctic Fox versus Red Fox in the Canadian Arctic: is there a clear winner after 38 years of monitoring in the warming N. Yukon?	Dan Galland, B. Slough, D.Berteaux and D. Reid
Short-term response of beetles to fire in the Northern boreal forest of Alaska: Conservation implications	Sylvie Binette <i>Fac. Of Forestry, Swedish Univ.</i>
Natural history and status of an elusive carnivore; an overview of the Yukon wolverine carcass collection program	Tom Jung, J.Robitaille, M.Oakley, H.Slama, P.Kukka, L.Viallano, M.Kotipelto, MDurocher, R.Rivard
Backyard Biodiversity and beyond	Remy Rodden, <i>Environment Yukon</i>
Long distance movements of avian predators: snowy owls and long-tailed Jaegers tracked via satellite	Jean-Francois Therrien, G. Gauthier, J.Bety, F.Doyle and D.Reid
Field trip to Yukon's North Slope 2008: Inspirational and informational	Anne Morrison and S. Altenberger <i>Renewable Res. Manage program, Yukon College</i>

As in previous years this is an informal event and we encourage short talks (15 min) and in "plain language" The audience is a cross section of "regular" folks, naturalists and biologists - by appealing to the average citizen we hope to make it more accessible to everyone - we have had strong feedback from attendees in previous years who said they appreciated the efforts of presenters to make their work understandable.

## ABSTRACTS

### 1. Update on the plants of Ivvavik National Park

#### **Bruce Bennett (*Environment Yukon*)**

Northern Yukon is one of the most botanically diverse areas in the arctic. Though it contains only 0.55% of the Arctic coastline, it contains 20% of the earth's arctic flora. Ivvavik National Park has more native vascular plant diversity than a similar-sized area surveyed in the Haines-Skagway Region, Alaska (406 vs 437 taxa). The results of the inventories include the presence of 437 vascular plant taxa, representing 32% of the Yukon flora. Nine new taxa were reported for Yukon including five new for Canada. Sixty-eight taxa were newly reported for the park. No alien species were found, though two native species may represent casual introductions. Many species such as moonwort reach their northern limit for North America in this area. Species such as Siberian wild oats are nationally rare and have not been collected in Canada in seventy years. Other species are found nowhere else in Canada or are disjunct from southern populations. Perhaps one of the most ecologically significant findings was the abundant layering of white spruce, an adaptation not seen elsewhere in Yukon and Alaska. This asexual form of reproduction may have allowed white spruce to survive in the Firth Valley through full glacial times.

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### 2. The effects of temperature variation on alpine plants in south-central Yukon

#### **Sara Pieper (*University of Saskatchewan*)**

An experimental approach to understanding plant responses to warming climate at the Wolf Creek study area near Whitehorse. The potential change in plant communities on the tundra was tested by building small plastic green houses on the site with companion control plots. Temperature loggers tracked temperature changes. Four species were used as indicators. Very little growth differences were found. Reproductive measurements showed significant changes in most cases. Inconclusive were changes between years. Herbaceous perennials showed the most significant responses. Overall, highly variable changes occurred with treatment. There is a suggestion that community stability was likely a result. The direct influence of temperature probably wasn't driving changes. Nutrient changes as a result of treatment was probably more important and changes were likely to be more long-term than demonstrated by the treatment.

**Contact:** Sara Pieper Dept. of Biology, University of Saskatchewan, Saskatoon

### 3. Polar bears, climate change, and human dignity: seeking integrative conservation policies

#### **Doug Clark (Univ. of Alberta/Yukon College and Yale Univ)**

Throughout the Arctic, the conservation of polar bears (*Ursus maritimus*) is based on the goals and principles of the 1973 *International Agreement for the Conservation of Polar Bears and Their Habitat* and has long been considered a wildlife management success story. In the past few years, conserving polar bears has become a complex and sometimes volatile issue with social, political and ecological dimensions spanning multiple geographic and institutional scales. Decision processes to date have not sufficiently fostered the identification and securing of common interests among diverse participants who at times express multiple competing perspectives in an arena that has become increasingly fragmented and symbolically charged by issues such as the 2008 listing of polar bears as Threatened under the U.S. *Endangered Species Act*. The fundamental challenge for polar bear conservation in Canada is re-designing the decision process so that it can constructively reconcile the various perspectives, demands, and expectations of the many participants. Here, I report on a preliminary attempt to build capacity to develop polar bear conservation policies that are adaptive, cognizant of biophysical and social realities in the North, and broadly supported by the people affected by such policies.

Contact: ([dclark@yukoncollege.yk.ca](mailto:dclark@yukoncollege.yk.ca))

### 4. Update on the effects of the southwest Yukon spruce beetle outbreak on forest birds

#### **Katie Aitken, (Environment Canada)**

Spruce bark beetles (*Dendroctonus rufipennis*) normally occur at low levels throughout boreal forests but occasionally undergo population outbreaks. Due to high summer temperatures and mild winters, spruce beetles in the southwest Yukon have undergone the largest and longest outbreak on record, causing extensive spruce mortality. Insect outbreaks provide a pulse of food for insectivorous birds, and subsequent changes in forest structure may alter nest-site availability and habitat suitability for breeding birds. However, little is known about how stand dynamics, succession and subsequent salvage harvesting following an outbreak of the extent of that experienced in southwest Yukon may influence forest bird communities. The Southwest Yukon Forest Birds and Spruce Beetles study was established by Environment Canada's Canadian Wildlife Service in 2007 to investigate the effects of white spruce (*Picea glauca*) mortality caused by the spruce beetle outbreak, subsequent changes in habitat structure and vegetation, and salvage logging on the avian community in the boreal spruce forest of southwest Yukon. Bird and vegetation surveys were conducted on 24 study sites located near Haines Junction, Yukon, in March-July 2007 and 2008. Approximately 40% of total spruce on the study sites were killed

by beetle, but the number of live trees undergoing active beetle attack declined between 2007 and 2008, from 83% to 23%. The number of trees killed by beetle increased with tree size, with <50% of small-medium trees killed (<23 cm diameter at breast height [DBH]) but >75% of medium-large trees killed (>23 cm DBH). Density of tall shrubs (>1.4 m high) increased with increasing spruce mortality, as did percent cover of grass, forbs, dwarf birch (*Betula nana*) and juniper (*Juniperus* spp). Forest birds displayed mixed responses to these changes in vegetation and habitat structure. Densities of ground-nesting species such as Dark-eyed Junco (*Junco hyemalis*) and shrub-nesting species, including Chipping Sparrow (*Spizella passerina*) were positively related to spruce mortality, while tree-nesting species such as Yellow-rumped Warbler (*Dendroica coronata*) declined with increasing spruce mortality. Because natural disturbances such as insect outbreaks are an intrinsic characteristic of boreal systems, forest bird communities may show mixed short-term responses and long-term resilience to changes in habitat structure and resource availability caused by disturbance.

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## 5. The Natural History of Baikal Sedge

### **Jen Line (Environment Yukon)**

This pictorial presentation summarized observations from three years of biological surveys and stewardship efforts for Baikal Sedge (*Carex sabulosa*), Yukon's only plant species protected under the federal Species At Risk Act (SARA). As of summer 2008, seven populations were known to exist on sand dunes in southwest Yukon. A 2008 survey of the only Alaskan population, in Koyukuk National Wildlife Area, was also described. While this sand dune specialist stabilizes sand with long rhizomes, the resulting rhizomatous shoots make it difficult to determine the number of individuals in each population. Another uncertainty is the reproductive success of these populations, since few mature seeds have been observed. A smut fungus is also known to attack developing seeds. A population genetic study by the Canadian Museum of Nature is underway to shed some light on genetic diversity and population structure. Potential threats to the sedge include encroachment of Boreal vegetation onto the dunes; invasive plant infestations; housing developments; and increased ATV use. Efforts have been made to increase public awareness about this fascinating plant through, for example, interpretive hikes. The Baikal Sedge Recovery Team, which includes members from the federal and territorial government and four First Nations governments, has been instrumental in guiding this work. Funding was provided by Parks Canada, Environment Yukon, Canadian Museum of Nature, Agriculture Canada, and the U.S. Fish & Wildlife Branch.

**Contact:** ([jen\\_line@northwestel.net](mailto:jen_line@northwestel.net))

## **6. Albert Creek and Teslin Lake bird observatories report**

### **Ben Schonewille and Ted Murphy-Kelly**

This project is a contribution of track song bird numbers through standard Canadian Migration Monitoring Network, “CMMN” mist net site, as an indicator of northern ecosystem health. Many species are declining across the continent. A continuing inventory of species of the North West. Two sites were used in 2008, one on the shore of Teslin Lake, the other at Albert creek near Watson lake. Both sites were active spring and fall. The Teslin site saw its first year of fall monitoring. Peaks in migration occurred in early May and late May. At Albert creek a daily high of 291 individuals were banded of 19 species. Notable was Cape-may warbler, Pileated woodpecker, Cedar waxwing, Bay-breasted warbler, Western tanager, Swamp sparrow, White-throated sparrow. A Vesper sparrow was a first. At Teslin a migration watch was use in addition to the banding many species watched passing were poorly represented in the banding. (1,700 A.robins observed, 2 banded; 1,600 Lapland longspurs observed, 5 banded etc) Notable captures were: Nashville warbler, Magnolia warbler, MacGullvary’s warbler, and an apparent hybrid Boreal/Mountain chickadee. A good suite of birds of prey were observed including the regionally rare Swainson’s hawk. The site was operational for 51 days in fall, (2,305 bandings of 48 species.) In total 7,000 birds were banded in 2008 of 75 species. The problems of funding for keeping these sites operational in 2009 were discussed; they probably will be operational for a shorter period this year.

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## **7. Fish and benthic invertebrate stream bioassessments in the Yukon: 2004-2008**

### **John Bailey (Uiverstiy of Western Ontario)**

There has been annual stream sampling conducted on streams in the Yukon River Basin since 2004 by the University of Western Ontario, Department of Fisheries and Oceans, Yukon Department of Environment and Environment Canada. This sampling has consisted of collection of benthic macroinvertebrates and fish, along with site-scale environmental data including water chemistry, stream dimensions and flow, riparian habitat characteristics and substrate attributes. Water samples were also collected and analyzed for metals and nutrients. This sampling has been conducted in accordance with protocols based on those established for the Canadian Aquatic Biomonitoring Network (CABIN) and research by the University of Western Ontario. Data from this sampling program provide the basis for reference condition approach bioassessments to evaluate possible impacts on streams in the Yukon. Sampling data for more than 300 sites in the Yukon are accessible on the CABIN website (<http://cabin.cciw.ca/>) which also provides for online stream site assessments. This bioassessment method is currently being used to monitor the Yukon placer mining regime and has been adopted by other agencies in the territory. Extensive training in data collection

and analysis methods has been carried out with first nation, territorial and federal government agency staff.

Contact: [jbailey@northwestel.net](mailto:jbailey@northwestel.net)

## **8. Viewing grizzly bears at the Arctic Circle: effects on bear feeding behaviour**

**Shelley Marshall (Simon Fraser University)**

Wildlife viewing has rapidly increased in popularity, especially when featuring large mammals in their natural environment. Researchers have questioned the sustainability of wildlife viewing because it may compromise the survival and reproduction of the focal animals. I investigated the effects of bear viewers on grizzly bears at the proposed bear viewing site along the Fishing Branch River, Yukon. Bears wary of human activity preferred to fish away from high human use areas within the viewing site, whereas bears tolerant of human activity fished around high human use areas. Bears reduced their salmon consumption by 24 % when viewers were present. At other bear viewing sites, bears compensated for human activity by feeding at times and in places where there were no people. I recommend investigating potential compensatory behaviours of bears at the Fishing Branch River. I developed an annual monitoring program to continue assessing any effects of viewing activities on these bears at the Fishing Branch River.

Contact: [Shelley.Marshall@gov.yk.ca](mailto:Shelley.Marshall@gov.yk.ca)

## **9. The hunt for the dune tachinid fly: high noon on the Carcross dunes**

**Syd Cannings and Lea Randall (Environment Canada/ Nature Serve, Yukon)**

In the summer of 2008, we took up the challenge of mapping the range of the rare Dune Tachinid Fly (*Germaria angustata*), and found it in a number of relict dune sites in southwestern Yukon. Previously, this fly was known only from Carcross in North America. There is good reason to believe that this species survived the last glaciation in the Yukon, contracting its range as the great periglacial dune fields stabilized and became forested. Because of its extremely restricted range, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) has identified the Dune Tachinid Fly as a high priority for assessment, and I (Syd) am now writing the status report. Tachinid flies are parasites of the larvae of other insects, often moths. We don't know the host of this species, but experts suspect it may be the caterpillar of the Coast Dart (*Euxoa cursoria*), a noctuid moth that occurs in the same locality and has a similar global distribution. Coast Dart larvae are cutworms that feed on the roots of a variety of dune plants. We surveyed four general areas this past summer and found Dune

Tachinid Flies wherever we sampled, with the exception of one small Baikal Sedge site between Carcross and Whitehorse. They flew at the Alsek River dunes in Kluane National Park, the Takhini River dunes in Kusawa Territorial Park, the Carcross dunes at the head of Bennett Lake, and at several small sand blowouts near the city of Whitehorse. This summer we hope to look for them (and expect to find them) at a few more small sites in the region, identified from satellite photos. The dunes of southwestern Yukon are home not only to this interesting species and the better-known Baikal Sedge; they are home to a whole biota of dune specialists, some of which are found in only a handful of places on Earth. In 2009 we will be also searching for the other dune tachinid flies of the region, and assisting specialists in Ottawa to sort out the complex of gelechiid moths that make the dunes home.

**Contact:** [Syd.Cannings@ec.gc.ca](mailto:Syd.Cannings@ec.gc.ca)

## **10. Overview of the Arctic Biodiversity Assessment**

### **Colleen Henry (Arctic Athabaskan Council)**

This is an initiative of the Arctic Athabaskan Council including representation from Alaska, Yukon and the NWT. Established in 2000, the council has about 45,000 members in 76 communities. The issue pursued by the assessment is basically environmental sustainability. Assessment and synthesis of data on trends, evaluation of the causes of change, and the integration of traditional knowledge and scientific knowledge are key components. Currently benchmarks are being looked for. The idea is to develop ideas on informing decisions and forming ideas for adaptation to change. A report is due in 2010 with a comprehensive report by 2013. Methods involve Elder documentation, anthropological study, community interviews and reporting back to communities for assessment. Scientific search is for key indicator species and long data bases. Some of the notable traditional stories include the “2 winters” and traditional food responses including caribou population “cycles”. This will not be viewed as a legally binding exercise but as information which will guide decisions in the future by the competent authorities.

**Contact:** <http://www.arcticathabaskancouncil.com>

## **11. “You are what you eat”: understanding aquatic foraging by beavers and moose**

### **Heather Milligan, D. Cooley & M. Humphries**

Beavers and moose are herbivores that can switch between aquatic and terrestrial diets and thus play an important role in regulating both aquatic and terrestrial ecosystems. The

contribution of aquatic plants to their diets has rarely been quantified, primarily due to the difficulties making underwater, and in the case of beavers, under-ice, observations. This study develops a methodology to estimate the importance of aquatic vegetation in herbivore diets using natural chemicals called carbon and nitrogen stable isotopes. Stable isotope analysis allows ecologists to trace an animal's diet, similar to the expression "you are what you eat". As animals consume their food, they incorporate the natural chemicals into their bodies. We observed that aquatic and terrestrial subarctic plants differed in their stable isotope signatures. We then examined the stable isotope signatures of fur from a population of beaver from James Bay and found that beavers from stream and pond habitats differed in their aquatic diets. We are currently applying the same methodology to better understand the importance of aquatic vegetation to moose in Old Crow Flats.

**Contact: [Heather.Milligan@gov.yk.ca](mailto:Heather.Milligan@gov.yk.ca)**

## **12. Some like it hot: short-term responses of beetles to fire in northern boreal forests**

**Sylvie Binette (Swedish Univ. of Agricultural Services)**

Fire is an integral part of the boreal forest ecosystem. A natural disturbance which is known to maintain biodiversity by the creation of a mosaic landscape composed of various successional stages. The extent of our knowledge on how arthropods react or have adapted to fire and, how fire affects the species assemblage is limited. The immediate short-term response of beetles to fire was studied in the boreal forest of interior Alaska following an experimental prescribed fire in 1999. The effects of fire on the beetle community were revealed by comparing window trap captures in unburned (control) and burned forest stands. The overall abundance of beetles decreased after the fire while the number of species increased. Many fire-favoured species, including pyrophilous ones, colonised the early successional habitats created by the fire, thus, resulting in profound differences in the beetle assemblages between burned and unburned areas. A total of 81 species were found in the burn representing, 76% of all trapped species. Of these, 33 species were fire-favoured. Indices of dominance clearly showed a much lower degree of dominance in the burn than in the control and beetles assemblages tended to be far more diverse in the burn (expressed as log series index-  $\alpha$ ). Several red-listed species either threatened or regionally extinct in Sweden were found in the burn stands of our study site in Alaska. The results of this study suggest that many beetles of the boreal forest favour fire-derived early successional open habitats and that provision for allowing the later should be an integral part of forest management plans and conservation initiatives.

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### **13. How do we sleep when our nests are burning? Waterfowl response to fire**

**Erin Spiewak (Ducks Unlimited - Yukon)**

Ducks Unlimited participated in the Ddhaw Ghro Habitat Protection Area Management Plan under the Special Management Area planning for Selkirk First Nation, and the First Nation of Nacho Nyak Dun Final Agreements. DU conducted an annual breeding waterfowl survey for five years. After the first breeding waterfowl survey in 2004, a fire swept through the valley burning a substantial portion of the ponds surveyed. Results showed that the year post fire (2005) had significantly less ducks than other years; however, ducks recovered or exceeded their 2004 population counts in 2006-2008. There were few significant habitat relationships, but when all ducks were combined, they preferred a combination of burned and unburned vegetation around ponds. Scaup, ring-necked duck, northern shoveler, green-winged teal and bufflehead were observed frequently, while mallard, green-winged teal, scaup, wigeon and bufflehead were the top breeding pair species. Ddhaw Ghro is an important migration stopover in spring.

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### **14. A rapid assessment of mammalian and amphibian biodiversity in two territorial parks in southern Yukon**

**Tom Jung, B.Slough, c.Lausen, D.Nagorsen, P.Kukk, L.Randall, K.Everall, K.Kuba, C.Eckert. (Environment Yukon)**

**(no abstract submitted)**

**Contact:** [Thomas.Jung@gov.yk.ca](mailto:Thomas.Jung@gov.yk.ca)

## **BIODIVERSITY AWARENESS AWARD PRESENTATION**

**Ted Murphy-Kelly and Ben Schonewille**

Over the past 8 years, Ted Murphy-Kelly and Ben Schonewille have become a dynamic team bringing bird banding to the forefront in Yukon. In 2001, Ted started the Albert Creek Bird Banding station which has provided an incredible amount of information on bird migration through the Yukon. In 2002, Ted was joined by Ben, an enthusiastic summer student whose vigour and energy built on Ted's experience and knowledge to help the station grow into an important centre for data collection and monitoring of bird patterns. In 2005, Ben opened the Teslin monitoring station and both stations have been operating and growing ever since.

Each year, Ted and Ben do extensive volunteer work to promote biodiversity awareness and stewardship in Yukon. To encourage community involvement, their stations are open to the public and they receive hundreds of visits from Yukoners and tourists each year. The stations complete extensive public education events and they are visited by a variety of groups from the Yukon Bird Club to youth and school groups. The data is used by agencies and researchers as they work to understand birds in our territory.

Both Ted and Ben have donated extensive personal time to keep these projects going and through them our understanding of Yukon's diverse and spectacular bird population has been strengthened. Without either one of these two individuals, the amount of information on birds and the awareness of birds in the Yukon would not be what it is today.

## **APPENDIX 1:**

### **Participants (Attendees, registrants and absentee presenters)**

Ben Schonewille	Environmental Dynamics Inc	speaker
Bruce Bennett	Yukon Department of Environment	speaker
Doug Clark		speaker
Jen Line	NatureServe Yukon	speaker
Katie Aitken	Environment Canada/CWS	speaker
	University of Toronto / UBC	speaker
	Environment Canada/CWS	speaker
	Yukon Department of Environment	speaker
	Environment Canada / NatureServe Yukon	speaker
Sylvia Frisch	Friends of Dempster Country	
Ted Murphy-Kelly		speaker
Thomas Jung	NatureServe Yukon	speaker
Dave Mossop	Yukon College	Poster
Don Reid	Wildlife Conservation Society Canada)	Poster
Erin Spiewak	Ducks Unlimited	Poster
	Environment Canada/CWS	Poster
	Ducks Unlimited	Poster
Adam Skrutkowski		
Aldo van Eyk		
Andrea Altherr		
Ann Marie Dillon		
Aynslie Ogden		
Brian Slough		
Cameron Eckert		
Carmen Wong		

Chandelle King  
Charlie Roots  
Chris Wilkinson  
Claire Eamer  
Collin Wright  
David Beloud  
Emeraude Dallaire-Robert  
Evelyn Church  
Georgina Sydney  
Geraldine Villemont  
Gord Bradshaw  
Heather Milligan  
Helmut Grünberg  
Ian Church  
Jenny Trapnell  
Jill Pangman  
Julie Frisch  
Kate Alexander  
Kate Swales  
Kawina Robichaud  
Ken Jeffrey  
Kim Melton  
Lisa Knight  
Lori Schroeder  
Louis Schilder  
Lyndsay Doetzel  
Manfred Hoefs  
Maria Leung  
Mark Andruskiw  
Mary Whitley  
Michael Bendall  
Norm Easton  
Patrick Riopel  
Renate Raudaschl  
Scott Gilbert  
Scott Fraser  
Shirley Hill  
Stefan Alexander  
Sue Kemmett  
Tonya Makletzoff  
Val Loewen  
William Linklater

Kaz Kuba  
Ken Marr  
Lee Mennell  
Marie Ducharme  
Warren Maroun  
Jim Boyd

Clive Osborne  
Brian Charles  
Helen Slama  
Linda Cameron

## **APPENDIX 2:**

### **PAST YEARS**

This is the sixth Biodiversity Forum held at Yukon College. The initial meet was held in 1998 and was designed to gather consensus among field people about the nature of Yukon needs for tracking the fortunes of wild species. One of the outcomes of that discussion was the development of the “Biodiversity Working Group” and the idea of an annual forum to allow updates of ongoing biodiversity work. The first in the current series was held in 2004. We also held a less formal ‘roundup’ of current field work two falls. (That effort has morphed into an on-line compendium of researchers, their on-going work descriptions and contact information. This initiative is designed to facilitate interested field workers’ efforts at networking and inter-connecting related data bases.)

**Copies of the proceeding of the initial Forum (1998) and abstracts of all subsequent meeting can be found on our web:**

<http://www.yukoncollege.yk.ca/research/pages/biology>