

**THE YUKON BIODIVERSITY WORKING GROUP**

**2011  
ANNUAL FORUM**



**PROGRAM AND ABSTRACTS**

**YUKON COLLEGE  
WHITEHORSE, YUKON  
APRIL 10, 2011**

[http://www.yukoncollege.yk.ca/uploads/Biodiversity\\_Forum\\_%20Abstracts\\_2008.pdf](http://www.yukoncollege.yk.ca/uploads/Biodiversity_Forum_%20Abstracts_2008.pdf)

## **THE YUKON BIODIVERSITY WORKING GROUP**

### **2011 ANNUAL FORUM**

**April 8-9, Friday evening and Saturday**

### **ORGANIZING COMMITTEE**

Scott Gilbert  
Dave Mossop

### **FOOD AND BEVERAGE**

### **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 8-9th. 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.

## 2011 FORUM AGENDA

Plenary Guest Speaker: Friday evening, Yukon College Theatre:7:30pm

In partnership with the Yukon Science Institute, a presentation detailing research addressing “Monitoring Ocean Biodiversity”. was presented. Professor Ron O’Dor of Dalhousie University was a principal in developing the Census of Marine Life, a 10-year international effort to assess the diversity, distribution, and abundance of marine life. This is a task never before attempted on this scale. In order to reach their goals, participants in the program tested dozens of new undersea technologies such as remotely operated underwater vehicles and gliders. The Barcode of Life DNA sequence technology and the Pacific Ocean Shelf Tracking system were integral parts.

Saturday: Yukon College theatre

### ORAL PRESENTATIONS

- |              |   |   |
|--------------|---|---|
| <b>9:00</b>  | James Kenyon - <i>Ducks Unlimited</i>   | Will changing water levels affect migrating waterfowl at Lewes Marsh?                       |
| <b>9:20</b>  | Syd Cannings - <i>Environment Canada</i> and André Langlois                   | Tiger Moths (Erebidae, Arctiinae): Hidden Gems of Beringia                                  |
| <b>9:40</b>  | Devon Yacura - <i>Yukon Bird Club</i>   | Bird use of the Whitehorse sewage lagoons - a 2010 field study and review of long-term data |
| <b>10:00</b> | Chandelle King - <i>Yukon College</i>   | Ecological Monitoring protocols at the Yukon Wildlife Preserve: what are we learning?       |
| <b>10:20</b> | <b>Coffee &amp; muffins hosted by Yukon Bird Club - poster viewing</b>        |   |
| <b>10:50</b> | Maria Leung   | Aquatic Invasive Species: "Its a small world after all"                                     |
| <b>11:10</b> | Lori Schroeder - <i>Yukon College</i>   | Southern Yukon Grassland Classification   |
| <b>11:30</b> | Bob Hayes   | Yukon wolves and the completion of wilderness   |
| <b>11:50</b> | <b>2011 Biodiversity Awareness Award Presentation</b>                         |   |
| <b>12:10</b> | <b>LUNCH on site – Room 2103 hosted by Yukon Environment - poster viewing</b> |   |
| <b>1:00</b>  | Al von Finster  | Water temperatures in Yukon waters  |
| <b>1:20</b>  | Greg Hare - <i>Government of Yukon, Archaeology</i>                           | Prehistoric fauna of the alpine - New Insights from the Yukon Ice Patches                   |

- 1:40** Syd Cannings - - *Environment Canada* and Lee Mennell, *Yukon Environment*      The Search for Spiked Saxifrage (*Micranthes spicata*) in the Klondike Goldfields
- 2:00** Tara Stehelin - *Yukon College*      Patterns of singing behavior of Dusky Flycatchers in southern Yukon
- 2:20** **Coffee & fruit hosted by Yukon Bird Club - poster viewing**
- 2:40** Wayne Strong - *Arctic Institute and U. of Calgary*      Preliminary results of an ecoclimatic zonation of Yukon
- 3:00** Trix Tanner – *Dept of Fisheries & Oceans*      Salmon DNA baseline
- 3:20** Ian Church - *Arctic Institute of North America*      What's New? Yukon's Expanding Network of Research Infrastructure

<b>POSTERS</b>	<i>Poster Title</i>
<b>Author(s)</b>	
Syd Cannings - <i>Environment Canada</i>	Dragonflies north of 60
Syd Cannings - <i>Environment Canada</i>	Emeralds at the crossroads: dragonfly hybridization in Beringia
Syd Cannings - <i>Environment Canada</i> and Thomas Jung - <i>Yukon Environment</i>	Vertebrates of conservation concern in the Yukon: 2010 status ranks
Thomas Jung, David Nagorsen, Piia Kukka, and Oliver Barker	Alien invaders: new records of house mice ( <i>Mus musculus</i> ) and brown rats ( <i>Rattus norvegicus</i> ) in the Yukon
Isla Myers-Smith., D.Hik, D. Reid, S. Gilbert, A. Kenney, C. Krebs, D. Cooley, C. Kennedy and J. Johnstone	Shrub expansion in the alpine and arctic tundra of the Yukon Territory
Don Reid and Frank Doyle	Short-eared Owls in north Yukon
Kym Rempel – <i>Yukon College</i> and Mary Gamberg – <i>Gamberg Consulting</i>	What is the level of mercury found in plants that form the diet of Porcupine caribou?
Devon Yacura – <i>Yukon Bird Club</i>	Bird use of the Whitehorse sewage lagoons - a 2010 field study and review of long-term data

*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. Will Changing Water Levels Affect Migrating Waterfowl At Lewes Marsh?

**James Kenyon (*Ducks Unlimited, Can*)** A proposal to increase water levels by up to 30 cm in the fall within the Lewes Marsh Habitat Protection Area for increased hydroelectric power generation during the winter is currently being examined. The impact changes in water levels will have on fall migrating waterfowl is unknown. Boat-based surveys were conducted from late-August to late-October to determine what species of waterfowl used Lewes Marsh, what abundances of birds were present, where in the HPA birds are located, and what habitat is used. Water levels were consistent throughout the fall of 2010. At least 20 species of waterbirds were observed. Peak migration occurred in October, mainly consisting of diving ducks such as bufflehead, scaup, ring-necked ducks, goldeneye, and swans. Dabbling ducks were most abundant early in the fall and consisted of mallards, northern pintail, American widgeon, and green-winged teal. Ducks were mainly located in slower parts of the river, in off channel sloughs and at the inflow of the M'Clintock River. Birds used large bays in late-October as sloughs were frozen over. Open water habitats were the most used habitats, particularly by diving ducks. Dabbling ducks used open water, edge, and emergent vegetation habitats equally. Changes in water levels are not believed to impact waterfowl populations at this site. Monitoring of spring habitat conditions such as submergent vegetation abundance and distribution will need to be done to ensure that no negative impacts of increased water levels occurs

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### 2. Tiger moths (*Erebidae, Arctinae*): hidden gems of beringia

**Syd annings and Andre Langois (*Environment Canada*)** Tiger moths are a group of moths that, while not especially diverse, exhibit a high rate of endemism in the Yukon. Of the 24 species known from the territory, 11 have a Beringian distribution and 4 of those species are Yukon endemics. Tiger moths are generally day-flying and many species are boldly and/or brightly coloured. Their larvae are often called 'woolly bears' because of their thick coat of long hairs. A few notable species or groups are discussed briefly.

*Arctia brachyptera*, the Kluane Tiger Moth, is a large, colourful species previously known only in the world from two sites in the Kluane Ranges. Recently, this species has been discovered at the eastern edge of Beringia in the Mackenzie Mountains of the Northwest Territories—illustrating how little we know of these large moths!

An undescribed species of *Holarctia*, closely-related to *H. sordida* of the Rocky Mountains of Alberta, has recently been found at a number of sites in the Yukon: the Kluane Ranges, and the Ogilvie, Wernecke, and Richardson Mountains. This species is dull-coloured but distinctively patterned, and lives in on talus slopes.

*Neoarctia lafontainei*, Lafontaine's Tiger Moth, is a robust grey species with a dull yellow pattern in the forewings. It is known only from a single pair collected on a mountaintop south of Windy Pass in the Ogilvie Mountains.

*Pararctia subnebulosa*, the Nebulous Tiger Moth, may be an example of a large, brightly coloured moth that is widespread but generally overlooked. It is known from the Chukotka region of Siberia, Alaska, and from the Ogilvie and Richardson Mountains in the Yukon. The females have small, narrow wings and are apparently flightless.

*Acsala anomala*, the Rockslide Lichen Moth, is a drab moth of the high alpine in central Yukon. While it appears to be widespread there, it is found nowhere else in the world. Its larvae eat the black lichen that grows on alpine rocks, and can take a number of years to reach adulthood. It is an unusual moth that has no apparent close relatives; a genetic study will be necessary to elucidate its ancestry. Another group of dull-coloured alpine moths are those in the genus *Dodia*. There are three species in the Yukon, two of which are Beringian in origin: *D. kononenkoi* and the endemic *D. verticalis*.

A group of brightly patterned tiger moths are in the genus *Grammia*, several of which are Beringian in origin. *G. yukona* is a recently described Beringian species closely related to the widespread western species *G. nevadensis*. *G. philipiana* is a Beringian species known from Alaska and the western NWT, with one record from the Yukon in the Richardson Mountains. There is also an undescribed Yukon species that is a close relative of the more widespread *G. speciosa*.

*Acerbia alpina*, the boldly patterned Arctic Tiger Moth, is rarely seen across the Low Arctic of Eurasia, and is known in Canada only from Herschel Island and one site in the Mackenzie Mountains of NWT.

Most importantly: members of the public can make a real contribution to our knowledge of these striking insects, simply by keeping a watch for them while hiking in the Yukon wilderness, and photographing or collecting them when they are found. Photographs of the Yukon species can be found at:

[www.cbif.gc.ca/spp\\_pages/noctuoidea/provinces/yt\\_e.php](http://www.cbif.gc.ca/spp_pages/noctuoidea/provinces/yt_e.php). Click on "Family Arctiidae."

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### 3. Bird use of the Whitehorse sewage lagoons

**Devon Yakura (*Yukon Bird Club*)** An eight month research project was conducted at the Whitehorse sewage lagoon in Whitehorse, Yukon, Canada. The aim of the study was to investigate the biological, chemical, and physical features of the lagoon that make it so attractive to birds. Surveys to identify nesting waterfowl, shorebirds, and passerines were completed. Aquatic invertebrates, water chemistry parameters, and plant communities were also collected and analyzed. There were 56 broods of seven species of ducks nesting at the lagoon during the summer of 2010: Green-winged Teal (15 broods), Mallard (13 broods), American Wigeon (11 broods), Lesser Scaup (8 broods), Gadwall (6 broods), Northern Pintail (2 broods), and Northern Shoveler (1 brood). Of the 56 broods, 54 were observed on the upper (secondary) cells, and 2 were seen on the long-term storage pond. Also, four species of shorebirds nested at the lagoon. Semipalmated Plover was the most numerous (10 broods), followed by Spotted Sandpiper (4 broods), Killdeer (1 brood), and Lesser Yellowlegs (1 brood). A point count survey detected 12 passerine species (Yellow-rumped, Yellow, and Wilson's warblers, American Robin, Common Yellowthroat, Alder and Olive-sided flycatchers, Dark-eyed Junco, Savannah, Chipping, Lincoln's, and White-crowned sparrows) that are suspected to be breeding in the lagoon area.

*Daphnia* and chironomid were the most abundant aquatic invertebrates in the lagoon system and were likely the main food items for breeding waterfowl. *Daphnia* populations ranged from 434 *Daphnia* per litre in secondary cell 4 to zero *Daphnia* in secondary cell 1. Other dominant invertebrates found in the sewage lagoon ponds were caddisflies, leeches, riffle beetles, water boatmen, mosquitos, and crane flies.

The high nutrient inputs into the lagoon allow for unnaturally high invertebrate populations and algae growth; key food sources for breeding and migrating birds. The diversity of habitat creates conditions that are attract many bird species. The predator-reduced environment created by the perimeter fencing, and the presence of thick willows are contributing factors. Whitehorse is situated on a major migratory route so staging is also likely.

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### 4. Ecological Monitoring protocols at the Yukon Wildlife Preserve: what are we learning?

**Chandelle King (*Yukon College*)** The goal of this project was to put in place environmental monitoring stations and protocols, at the Yukon Wildlife Preserve. These would serve to establish long-term databases to monitor the progress of various indicator

species. As a result, 8 sets of monitoring protocols were developed. The protocols are meant to be comprehensive but simple, so that anyone from the staff or visitors can pick them up and make a valuable and consistent entry.

The monitoring protocols include:

- 1) Cavity nesting birds: 30 standardized nest boxes were constructed and erected on fences throughout the preserve. Occupancy and productivity data are recorded annually in a standardized format.
- 2) Winter Track Count Transect: A selected km of perimeter fence is walked 24 hours after snowfalls during winter. A quick track reference guide was produced and standardized recording data sheets included.
- 3) Feeder Watch, a songbird feeder was installed near the interpretation center. A quick reference guide for common similar species was developed.
- 4) Waterfowl Count, Standardized counts were initiated for the two ponds on the preserve. These will mainly monitor the spring and fall migration.
- 5) Frog Watch, following the protocols of national Canadian program, this targets the monitoring of the wood frog at the Preserve's ponds. (A CD for sounds is included)
- 6) Plant Watch, Following the protocols of Canadian program, 8 plant species are targeted; permanent plots were established and marked.
- 7) Butterfly Monitoring Transect, A section of interior road verge was selected and protocols established for monitoring butterflies; the transect includes the monitoring of several species (dragonflies and damselflies).
- 8) Daily Observation: A method was established to solicit and record incidental observation of wildlife made by visitors to the preserve.

Individual protocols and data sheets were put into binders and left on site. In each binder the target time of year for monitoring and the recommended frequency are included. In the future, it is anticipated that the staff of the preserve will be responsible for maintaining all the databases (probably through partnership with the College). They only become valuable if they are religiously maintained year after year.

There remains work in the future for more monitoring protocols, namely with the weather, with a water flow and quality analysis, and with aquatic and terrestrial invertebrates.

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## **5. Aquatic Invasive Species: "Its a small world after all"**

**Maria Leung** The Yukon has the potential to have representative species from around the world in the form of Aquatic Invasive Species. I highlight the life history of several species, ranging from fish, molluscs and crustaceans to parasites, vascular plants and algae. Introduced populations of these species can displace native flora and fauna and damage infrastructure. As Yukon currently has few Aquatic Invasive Species, there is still opportunity to implement measures that would prevent or slow their spread into the territory.

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## 6. Preliminary Investigation of Southern Yukon Grassland Classification and Vegetation Associations

**Lori Schroeder (Yukon College)** Yukon's boreal pocket grasslands are considered to be modern analogues of the Beringian steppe communities of the colder, drier periods of the late Pleistocene. As a result, they harbor some rare plant species that make these grasslands of high conservation interest. The objective of this study was to describe the ecological characteristics of a range of grasslands in southwest/southcentral Yukon in order to determine if a finer scale classification is possible and/or warranted. In order to do this, site, soils and vegetation information was first collected along a northwest/southeast transect, and then analyzed for distinctive groupings, and characteristic plant associations. The five groups identified and described as vegetation types were distinguished most strongly by *Arctostaphylos uva-ursi* (Bearberry) and *Calamagrostis purpurascens* (Purple Reedgrass). This study shows that these grasslands can be classified at a finer scale, but how these types can be used to answer management questions remains to be explored.

**Contact:** [lschroeder@klondiker.com](mailto:lschroeder@klondiker.com)

## 7. Yukon wolves and the completion of wilderness

**Bob Hayes** This is an introduction to decades of field and literature work with Yukon gray wolf populations. A recent book has been a journey of discover starting with very early musings about original wolf origins in the Yukon early in the Pleistocene through to their community interrelationships today. The interaction with humans, in particular technological European people has been devastating for the wolf. Learning to live with intact ecosystems is going to be essential for northern societies to come to grips with.

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## 8. Temperatures of Yukon Waters

**Al von Finster** Water temperatures fundamentally influence aquatic productivity, and aquatic organisms at the individual, stock and species levels. Long term, high resolution data sets are required to develop thermal regimes of waters. Low cost, high resolution temperature data loggers are now available to serve this purpose. Deployment must be carefully planned and executed to ensure that data collected is representative, repeatable and comparable. The "Guidebook for Use of Data Loggers to measure Water Temperatures in the South West Yukon" provides guidance and may be found at [www.taan.ca](http://www.taan.ca). Recent investigations have found relatively warm (>18 degree) water temperatures in major rivers in summer; high (>25 degree) water temperatures in selected high altitude streams in Central Yukon; and daily minimum temperatures in mid-late morning and maximum temperatures in early evening.

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## 9. Prehistoric fauna of the alpine - New Insights from the Yukon Ice patches

**Greg Hare and Christian Thomas (*Govt of Yukon, archeology*)** Since 1997, more than 200 archaeological artifacts and 1700 well preserved faunal elements have been recovered from melting alpine ice patches in southwestern Yukon. The faunal material consists of skeletal remains of numerous species of large and medium sized mammals, especially caribou and Dall sheep, as well as the mummified remains of many varieties of small mammals and birds. More than 100 of these faunal elements have been radiocarbon dated with dates ranging from modern to 9000 years old. This dataset provides new insights into alpine biodiversity through the Holocene. Recent analysis of radiocarbon dates obtained from 95 dated caribou elements suggests that caribou may be most abundant in southern Yukon approximately 4000 years ago, but appear to have been in population decline since then.

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## 10. The Search for Spiked Saxifrage (*Micranthes spicata*) in the Klondike Goldfields

**Syd Cannings (*Environment Canada*), Lee Menell (*Yukon Environment*)**

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## 11. Patterns of singing behavior of Dusky Flycatchers in Southern Yukon

**Tara Stehelin (*Yukon College*)** Empirical data on singing behaviour of suboscine passerines (suborder Tyranni) are scarce, despite that 20% of all living songbirds belong in this suborder (over 1000 species). In addition, suboscines do not learn their songs from older adults in a population in the same manner as oscines, but instead acquire songs innately. This difference makes it inappropriate to apply theories surrounding oscine song to suboscine songs without empirical data. The Dusky Flycatcher (*Empidonax oberholseri*) is a suboscine breeding in southern Yukon, probably representing the northern edge of range for this species. However, the northern edge of breeding range for this species is unknown and may be changing alongside northern climates. I investigated patterns and functions of singing behaviour in such a manner as to allow comparisons between a population at the northern edge of range to a population further south (SW Alberta). To further address song function, I also examined features of song that may differ between individual males, and therefore could be used by females in mate selection, such as singing vigor (rate) and daily start times. We use date to first pairing as an indication of female choice, assuming that males with preferred singing characteristics are chosen first. We visited 11 territories daily and recorded either song observations (10-min song counts) or digital recordings from 22 May – 7 Jul 2010 at a location 10 km north of Whitehorse city centre at 1150 m elevation. Time males began dawn singing was highly correlated to time of sunrise (0 – 15 min before sunrise), and did not differ between individuals. Although daytime song rates differed between individual males, daytime song

rates did not significantly predict a male's pairing success (days to pairing). Daily and seasonal patterns of singing behaviour were very similar to those documented for the same species in SW Alberta. Daytime song rate decreased significantly once males became paired, strongly suggesting that daytime song functions at least partly in mate attraction. Contrastingly, dawn singing remained relatively unchanged upon pairing. In addition, males were most likely to dawn sing when at least one other male was singing, and least likely to sing when no other males were dawn singing. The same was not true for daytime singing. Males were most likely to engage in daytime singing when no other males were singing. These results add to growing evidence in this, as well as several other species, that dawn and daytime signals are directly differently. Dawn signals are directed at other males while daytime signals are directed at females. My results do not suggest that singing characteristics measured here were used by females in mate selection, although reproductive success was likely minimal for this population, making it difficult to detect an effect of female choice.

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## **12. Preliminary Results of an Ecoclimatic Zonation of Yukon**

**Wayne Strong (*Univ. of Calgary*)** An ecoclimatic zonation and an associated 1:1,000,000-scale map have been tentatively developed for Yukon based on a review and synthesis of ecological literature, forest cover and contour maps (1:50,000-scale), and aerial photographs; ecological modelling; and field reconnaissance. The mapped landscape units or ecoclimatic regions were defined as areas characterized by a distinctive ecological responses to climate as expressed by vegetation. Ecoclimatic regions were recognized based on reference sites, which occur on relatively level terrain that is neither exposed nor protected from environmental extremes (i.e., a site that reflect climatic rather than edaphic conditions). Ecotopographic sequences of vegetation and site conditions were also developed to characterize each region. Each region had a different type of reference vegetation based on physiognomy or composition. Differences in vegetation occurred in response to variations in both latitude and elevation. Eleven ecoclimatic regions have been tentatively recognized. The largest landscape units were the High Subarctic (north of the Mackenzie Mountains), High Boreal (between Dawson and Lake Laberge), and Northern Boreal-Cordilleran (south of 61°N latitude) regions. More than half of the territory was considered nonforest.

Associated with the previous analyses, two regression-based models were developed to facilitate the systematic mapping of climatic treeline, or the ecological boundary between alpine and subalpine vegetation. Temperature and precipitation data for 26 meteorological station locations and the 1984–2007 period were compiled to evaluate climatic differences among the regions. Records for most stations were fragmented (average ~10% missing data), so it

was necessary to quantitatively estimate missing values through the use of a control station (Pelly Ranch). Ordination of the temperature data showed a latitudinal gradation from the arctic in the north through High Subarctic to boreal forest-dominated ecoclimatic regions in the south. The High Boreal and Northern Boreal-Cordilleran (9 stations each), or principal forest regions in Yukon, had distinctly different temperature and somewhat different precipitation regimes.

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### **13. Salmon DNA baseline**

**Trix Tanner** (*Dept of Fisheries and Oceans*)

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### **14. Towards a Yukon Research Network**

**Ian Church** (*Arctic Inst of N.A.*) The Canadian Polar Commission report *Beacons of the North* focused on the infrastructure needed to supporting northern science. It made recommendations for a network of facilities that would be used for research, monitoring and education and which would be strategically located to represent the diversity of ecosystems and cultures. It suggested “hub and spoke” models with northern colleges possibly playing roles as key hubs in various provincial and territorial jurisdictions.

Yukon’s submissions to the Arctic Research Infrastructure Fund (ARIF) identified infrastructure challenges of supporting scientific activities in the Territory. These included diversity of landscapes, access, lack of facilities and the tendency to co-locate infrastructure with communities in valleys. It is possible that these challenges are at least partially resulting in the Yukon attracting a smaller percentage of Canada’s northern research projects funded through programs such as NSTP. Yukon submission to ARIF proposed a hub and spoke model utilizing Yukon College and Whitehorse as a territorial hub with other centres such as AINA’s Kluane Lake Field Station as hosting “sub hubs” and “spokes”.

Yukon has been successful in attracting project dollars to upgrade or add to our scientific infrastructure base. Projects have been completed or are underway at Herschel Island, Old Crow, and the Kluane Lake Field Station. In and around Whitehorse there have been new projects at Yukon Wildlife Preserve & Animal Care / Rehabilitation Centre, the Gunnar Nilsson & Mickey Lammers research forest and Yukon research farm, Energy Mines and Resources Bostock Core Library and Dendrochronology lab and Yukon College’s Yukon Research Centre of Excellence- infrastructure that complements facilities held by other agencies and government departments such as the Wolf Creek Basin.

Complementing the new infrastructure there has been progress in providing library and archival reference collections at EM&R, the Yukon Archives and Yukon College. The Arctic Institute of North America's ASTIS data base and Yukon Biodiversity subset ( a World Data Centre) and the Canadian Polar Data Catalogue ( a subset of IPYDIS) are both providing better on line access to meta data systems.

The Yukon is both attracting a rapidly expanding number of people not only with a scientific background but who are practicing in a related field. At the same time Yukon is developing a homegrown group of scientists- some of which who have received at least part of their training in association with Yukon institutions.

We are moving quickly towards a node of scientific activity though their remain both infrastructure and other shortcomings. These include hosting facilities in places such as the Klondike, South East Yukon and Dempster regions and improvement to access to on line journals - especially for investigators who are unattached to any major academic or government institution.

We also need to build on initiatives such as the Yukon Biodiversity Working group to develop better and stronger collaborations- not only within disciplines but also between disciplines

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## **BIODIVERISTY AWARENESS AWARD PRESENTATION**

### **Bob Sharp**

Bob has been a teacher and an educator in Yukon for over 40 years. Some of the many highlights of his contribution to biodiversity awareness focus on engaging youth. Bob has been a teacher trainer for Global Learning and Observations to Benefit the Environment (GLOBE) program for 13 years. He along with Remy Rodden and Alain Dallaire brought the international Envirothon competition to Yukon in 2003. Bob has been involved with International Polar Year, to get grade 11 students doing hands-on projects in the field.

Bob's vision initiated the Experiential Science Program when he was superintendent in 1991. This Yukon public school program for grade 11 students integrates Biology, Geography, Forestry, Chemistry, Art, and Field Methods. The program evolved from a realization that learning and understanding would benefit from hands-on experiences on the land. The program excites, inspires, challenges and motivates students with rigorous field methods, well kept data and sound scientific methodology. Over 500 Yukon students have

participated in the program many continuing their education through College and University. He continues to help Yukon teachers and students to get outdoors and discover their environment. He received the Prime Minister's Award of Excellence for Teaching in 1997. His influence reaches nearly every Yukon community and he has lived and taught in Carcross, Old Crow, Ross River and Whitehorse.

#### **APPENDIX 1:**

<b>Presenters &amp; Poster Presenters</b>		<b>Audience</b>
<b>Al von Finster</b>		<b>Adam Skrutkowski</b>
<b>André Langlois</b>		<b>Aden Horbachewsky</b>
		<b>Alexandra de Jong</b>
<b>Bob Hayes</b>		<b>Westman</b>
<b>Chandelle King</b>		<b>Andrea Altherr</b>
<b>Claire Eamer</b>	Poster	<b>Annie-Claude Letendre</b>
<b>Devon Yacura</b>		<b>Aynslie Ogden</b>
<b>Don Reid</b>	Poster	<b>Beryl Mason</b>
<b>Greg Hare</b>		<b>Bob Sharp</b>
<b>Ian Church</b>		<b>Bonnie Huebschwerlen</b>
<b>James Kenyon</b>		<b>Brian Charles</b>
<b>Kym Rempel</b>	Poster	<b>Brian Slough</b>
<b>Lori Schroeder</b>		<b>Bruce Bennett</b>
<b>Maria Leung</b>		<b>Charlie Roots</b>
<b>Piia Kukka</b>	Poster	<b>Chris Wilkinson</b>
<b>Syd Cannings</b>		<b>Christina Sobol</b>
<b>Tara Stehelin</b>		<b>Dave Mossop</b>
<b>Tom Jung</b>	Poster	<b>David Blakeburn</b>
<b>Trix Tanner</b>		<b>David Jennings</b>
		<b>Deanna McArthur (make one)</b>
<b>Wayne Strong</b>		<b>Dennis Kuch</b>
		<b>Dino Rudniski</b>
		<b>Doug Hitch</b>
		<b>Fiona Schmiegelow</b>
		<b>Frank Dalley</b>
		<b>Gerry Whitley</b>
		<b>Gord Bradshaw</b>
		<b>Heather Milligan</b>
		<b>Helmut Grünberg</b>

**Iain Walkely  
James Mooney  
Janelle Langlais  
Jennifer Daniels  
Jean Kapala  
Jim Gilpin  
Jim Hawkings  
Kate Swales  
Kathy Piwowar  
Katie Aitken  
Katie Hayhurst  
Kaz Kuba  
Lawrence Ignace  
Lessia Szulga  
Linda Cameron  
Line Plourde  
Lisa Knight  
Louis Schilder  
Manon Fontaine  
Marie Ducharme  
Mary Whitley  
Maxine Kehoe  
Neal Allison  
Norm Easton  
Pat Kehoe  
Pat Milligan  
Paul Davis  
Peeter Lepson  
Raelina Jobin  
Renate Raudaschl  
Rob Florkiewicz  
Saleem Dar  
Scott Gilbert  
Shannon Stotyn  
Todd Powell  
Tom Guy  
Tyler Kuhn  
Val Loewen  
Wendy Nixon**

## **APPENDIX 2:**

### **PAST YEARS**

This is the seventh 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/uploads/Biodiversity\\_Forum\\_%20Abstracts\\_2008.pdf](http://www.yukoncollege.yk.ca/uploads/Biodiversity_Forum_%20Abstracts_2008.pdf)**