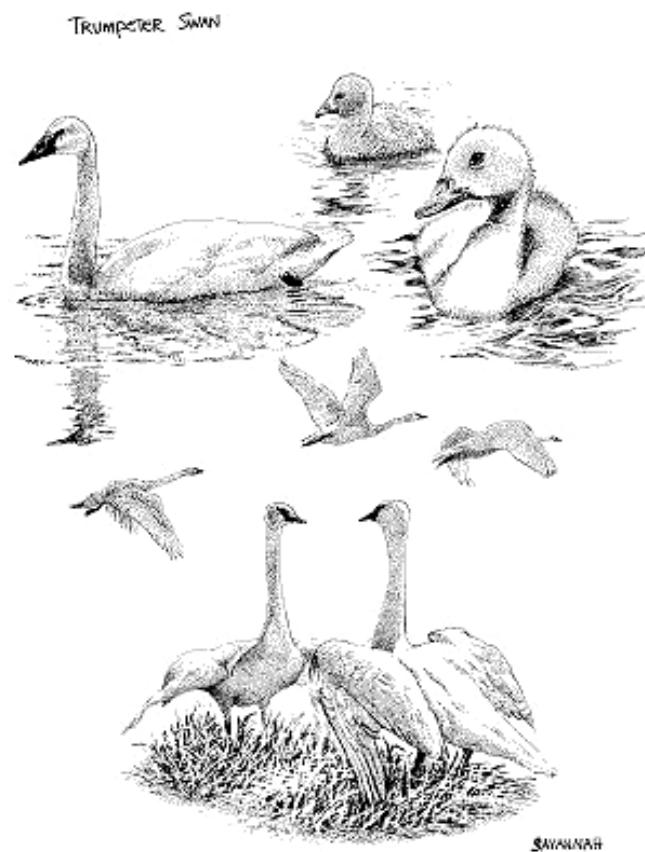


THE YUKON BIODIVERSITY WORKING GROUP

2006 ANNUAL FORUM



PROGRAM AND ABSTRACTS

YUKON COLLEGE
WHITEHORSE, YUKON
APRIL 8, 2006

THE YUKON BIODIVERSITY WORKING GROUP

2006 ANNUAL FORUM

April 8, 2006

ORGANIZING COMMITTEE

Scott Gilbert
Dave Mossop
Jen Line
Rosamund Pojar

FOOD AND BEVERAGE

Joanna Plecke

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 monthly 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 single-day annual event, held this year April 8th from approximately 9AM to 4PM. 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 (Tom Jung and Val Loewen) for sponsoring the coffee sessions.

2006 MEETING AT A GLANCE

Speaker		Title
1. Brian Slough	<i>Private researcher</i>	Discovering Yukon bats—1997-2005
2. Bruce Bennett	<i>YTG Environment</i>	Botany on the Beaufort
3. Mark O'Donoghue	<i>YTG Environment</i>	Community ecological monitoring (CEMP)
4. Al von Finster	<i>DFO</i>	The recession of Tweedsmuir glacier and the potential opening of the upper Alsek river watershed to Pacific salmon
5. Jennifer Smith	<i>Old Crow steward</i>	What are the community stewards doing?
6. Isaac Anderton & Stan Njootli jr	<i>Env. Dynamics inc</i>	Radio tracking Porcupine river coho
7. Don Reid	<i>Wildl Cons Soc.</i>	The leming's dilemma: fox cold or suicide
8. Tara Stehelin	<i>Univ of Calgary</i>	Assessing speciation in the <i>Empidonax</i> flycatcher using vocalization analysis
LUNCH (Announcement of 2005 and 2006 Biodiversity Awareness awards)		
9. Rob Florkiewicz	<i>YTG Environment</i>	The Carcross herd: is there room for caribou in our back yard?
10. Maria Leung	<i>Private researcher</i>	What do jumping mice have in common with frogs, toads and your favorite t-shirt?
11. Ben Schonewille	<i>Env. Dynamics inc</i>	Bird banding at Albert creek, and Teslin, Yukon
12. Jodie Mackenzie -Grieve	<i>DFO</i>	Thermal habitat use by lake trout (<i>Salvelinus namaycush</i>) in two contrasting Yukon lakes
13. David Henry & Denis Frost	<i>Parks Canada N.Yukon RRC</i>	Marten and wolverine populations in the Old Crow flats
14. Pat Tobler	<i>Env. Dynamics inc</i>	Juvenile Chinook salmon habitat restoration in the Mayo river:
15. Mary Gamberg	<i>Gamberg consulting</i>	Contaminants in Yukon wildlife
16. Jim Hawkings	<i>CWS</i>	Yukon Trumpeter swans: 2005 survey results
17. Dave Mossop, Katie Aitken	<i>Yukon College</i>	Old growth refugia in the Yukon boreal forest and cavity nesting birds

POSTERS

Frank Doyle	Goshawks, and spruce bark beetles
John Weaver	Nahanni Grizzlies
Michael Sheriff	The effects of stress on population dynamics of the snowshoe hare
Pam Sinclair	Rusty blackbird – a boreal songbird in trouble
Erin Spiewak	Ducks in the Yukon
Ben Schonewille	Teslin lake bird banding station results
Terry Mctintosh & Chris Marion	Moss collections in the Yukon
Morris Lamrock	Biodiversity education in the Yukon
Lloyd Freese	Kokanee salmon in Kluane, update

ABSTRACTS (in order of presentation)

1. Discovering Yukon Bats – 1997-2005 Research.

Brian G. Slough. (slough@northwestel.net)

I initiated bat studies in 1997 to learn about Yukon's bats. These were the first studies directed at bats in the territory and have been funded primarily by the Northern Research Institute, Yukon College. Objectives have been to determine species present, their distribution, colony dynamics, foraging and roosting habitats, and daily and seasonal activity patterns. Most, if not all, Yukon bats are migratory, and the locations of their swarming/hibernating sites remain a mystery. I am still trying to establish collaboration with Alaskan researchers to help answer this question. The following is a brief summary of some results.

I recorded a big brown bat (*Eptesicus fuscus*), in the southern Yukon near Teslin in 1999 and captured northern long-eared bats (*Myotis septentrionalis*) (along with collaborators from the Yukon Department of Environment and NatureServe Yukon) in the LaBiche River valley in the southeast. I have banded almost 400 little brown bats (*Myotis lucifugus*) and collected biopsy punches from 200 bats at several colonies across the southern Yukon. Tanya Dewey, University of Michigan, is analyzing *M. lucifugus* genetics, and has found two subspecies, *M. l. lucifugus* and *M. l. alascensis*, with both types found at a single colony near Whitehorse. Genetic differentiation of *M. l. alascensis* may warrant assignment to a new species.

Bats are present in the Yukon between mid-April and late-September, after migrating from unknown hibernating sites, some of which are believed to be in

karst caves in Southeast Alaska. The northern limit of bats at 64° appears to be constrained by migration abilities rather than summer light conditions or habitat factors. Bats forage in continuous daylight at the darkest part of the day, presumably to minimize predation risk and competition from birds. Foraging begins about ½ hour after sunset, when flies (Dipterans) are still abundant, and continues into the night when moths, other insects and spiders are taken. Riparian habitats are preferred.

Bat colonies are relatively unstable, with roost switching common and roost fidelity low. This suggests that roosting sites are not a limiting factor. They roost in man-made structures, rock crevices, tree cavities and behind tree bark. Yukon bats and individual colonies may belong to several populations, since they breed at hibernating sites in the fall.

2. Botanizing the Beaufort

Bruce Bennett (bruce.bennett@gov.yk.ca)

Rare plant surveys were conducted on the Yukon coast of the Beaufort Sea from July 24 – August 9, 2005 between the Blow River and the Alaskan border with support from Parks Canada, NatureServe Yukon and Wildlife Advisory Committee (North Slope). A total of 274 vascular plant species were recorded (total number of arctic plants worldwide is around 800). Three species were previously unreported in the Yukon Territory *Carex mackenziei*, *Puccinellia tenella* ssp. *langeana* and *Taraxacum hyparcticum*. 34 species have not been reported for the coast. 14 species were new to Ivvavik National Park. 14 species were not previously known in Inuvialuit Settlement Region in the Yukon.

This resulted in changes in status: 70 species of conservation concern: 3 (4%) new species were added (1 was found at 4 locations), 30% had their status raised (21) more common than previously thought. 7 (10%) dropped from watch list as too common, 8 (11%) raised to watch list only, 6 (9 %) raised by 1 level of rarity, 2 (3%) are more rare than previously thought, 44 (63%) remain unchanged (though 7 had new locations added, many other previous locations were confirmed & populations estimated)

In addition to vascular plants, inventories were made on mosses, lichens, liverwort and small mammals. Slugs were also collected in support of a parasite study.

3. Community ecological monitoring program (CEMP)

Mark O'Donaghue (mark.odonaghue.gov.yk.ca) and Scott Gilbert

The Community Ecological Monitoring Project (CEMP) was started in 2004 with funding from the Northern Ecosystem Initiative. This project expands the scope of the monitoring of the boreal food web that has been conducted in the Kluane region since 1973. The main objective of the project is to establish monitoring of important indicators of boreal ecosystem functioning, using consistent methods, in different areas of the Yukon, and using both scientific and local knowledge. Monitoring grids have been established near Mayo, Watson Lake, and Whitehorse, where the abundance of key components of the food web such as mushrooms, berries, spruce cones, small mammals, and snowshoe hares are measured each year. Populations of songbirds, owls, and mammalian carnivores are also indexed over broader areas using point counts and track transects. In Mayo, we have initiated a pilot program for regularly collecting local knowledge on environmental conditions. A workshop was held with First Nation elders and long-term residents to gather information on how conditions have changed over the past century, and how these changes have affected wildlife and subsistence activities. This gives us a historical baseline for comparing with more recent changes in the ecosystem. We are also conducting annual interviews with 20 local residents who are active on the land, asking them about a wide range of topics including weather, status and changes in wildlife populations, and harvest of berries, fish, moose, and furs. This project will help us measure the impacts of climate change on wildlife and the people who live in the Yukon's boreal forests.

4. The Recession of Tweedsmuir Glacier and the potential opening of the Upper Alsek River Watershed to Pacific Salmon: Biological, Social, Economic and Administrative Implications.

Al von Finster, Dept. Fisheries and Oceans, Whitehorse (vonfinstera@dfo-mpo.gc.ca)

Glacial action has dominated landscape development and species distribution in most of Canada including the extreme north-west of British Columbia and the southwest of the Yukon. For example, as glaciers moved forward, Pacific salmon moved back: as the glaciers retreated, the salmon moved forward. The glaciers are now in full retreat and the great post glacial (re)colonization by Pacific salmon continues apace. One of the last remaining glaciers which may bar a significant geographical area from recolonization is the terminus of the Tweedsmuir Glacier. This glacier enters the Alsek River valley from the west, and occupies the majority of the valley. The Alsek River is confined to Turnback Canyon and is incised deeply into the east valley wall. A graded channel under the present glacier is hypothesized. If it does exist, it will eventually be revealed

as a result of the continued recession of the Tweedsmuir. In the absence of a buried obstruction, this will provide access by Pacific salmon to most of the water bodies and courses within a geographical area of approximately 16,000 square kilometers. This area was almost entirely ice covered during recent glacial advances, and resulting deep glaciofluvial deposits currently provide storage for ground water. Discharges from these aquifers tend to be plentiful and of high quality. Lakes are also common in the region. These features will provide productive habitats for the most valued of Pacific salmon (sockeye, chinook, and coho). A fundamental decision will be required of society and management agencies and entities: to attempt to guide or control the recolonization through upper watershed stocking, or to allow colonization to occur at a “natural” pace. Regardless, there is the potential for great economic and social change to the southwest Yukon and to all communities living there; for the ecosystem of much of the area due to the import of marine derived nutrients; and to all types of governments as they meet the opportunities and address the challenges of a new and valuable resource.

5. What are the Community stewards doing?

Jennifer Smith (ocsteward@yknet.ca) -- no abstract provided –

This informative talk built on the introductory material Jocelyn McDowell(F&WM board) provided in the 2005 forum. The Community Stewards are evolving into a valuable and important link to the communities for on-going research. An impressive list of field projects in Old Crow were described that Jennifer was able to be directly involved with. Virtually all projects were headed by visiting researchers so the link to the community that was provided was obvious and valuable. A continuing benefit has been feed back from the community to researchers about adjustments to the program, new problems to assess and methods for better communication.

6. Radio tracking Porcupine river coho

Isaac Anderton and Grafton Njootli jr. (Ianderton@edynamics.com)

A radio tagging/telemetry pilot project was conducted on coho salmon (*Oncorhynchus kisutch*) in the Canadian portion of the Porcupine River during the winter of 2005/2006 in an effort to provide information regarding the spawning locations of this unique population of salmon. During November 8-14th, 2005, coho salmon were captured used a gillnet set below the ice. Twenty five coho salmon were fitted with esophageal radio transmitters (tags) and released. Two rounds of telemetry flights were conducted in order to locate the tags and thereby approximate the location of spawning areas. The first flights were conducted on November 27-29th, 2005, at which time a large portion of the Porcupine River watershed was surveyed. A total of 21 radio tags were located at that time. All 25 tags were located during the second flights were conducted on February 15-

16th, 2006. The majority of the tags were found in the Fishing Branch River watershed (19), with the remainder located in the Bluefish River (3), the lower Miner River (below mouth of Fishing Branch River) (1), and the Porcupine River mainstem (2). This project has determined that radio tagging/telemetry projects can be conducted successfully on coho salmon in the Porcupine River watershed during the winter. It has also provided the first evidence of salmon spawning in the Bluefish River as well as the North Fork of the Fishing Branch River; thereby, providing valuable knowledge regarding salmon habitat/migration patterns within the Porcupine River.

7. The lemming's dilemma: fox, cold, or suicide?

Don Reid Wildlife Conservation Society Canada, Whitehorse, (dreid@wcs.org)

Small rodents (*Dicrostonyx* spp., *Lemmus* spp., *Microtus* spp.) on the arctic tundra have evolved with periodic high risk of predation mortality, annual risk of mortality from severe winter cold, and periodic social stress at high population densities. Although these species (here collectively termed lemmings) do not choose their fate, they have evolved a variety of adaptations to deal with predation risk and cold temperatures. These selection pressures continue to shape the population dynamics of lemmings across the arctic. The northern Yukon is a particularly fascinating region, because these rodents do not show cyclic population irruptions through most of the north slope, but do appear to irrupt on Herschel Island. In the larger region without irruptions (northwestern NWT, north slope of the Yukon, north slope of the Brooks Range) the predator community that lemmings face is comprised mostly of generalists (notably the red fox, rough-legged hawk, grizzly bear, peregrine falcon, glaucous gull) that can sustain themselves on alternate prey even at low lemming densities. The primary alternate prey seems to be the arctic ground squirrel, but a greater diversity of small mammals in this region may also affect the relatively stable community structure. By contrast, where lemmings irrupt (through the arctic archipelago, Ungava, much of mainland NWT and Nunavut), they face a suite of specialist predators (notably arctic fox, snowy owl, ermine, jaegers) that cannot sustain themselves at very low lemming densities mainly because alternate prey are less diverse and abundant. So, diversity and abundance of alternate prey is likely one necessary condition for a non-irruptive dynamic. A second hypothetical factor limiting irruptions may be a combination of autumn and winter cold, which influence the extent of winter reproductive success. Colder autumn temperatures appear to reduce the chances of winter population growth; shallow winter snow packs appear to reduce the chances of winter breeding. The Yukon north slope has relatively low snow accumulations, compared to other Canadian arctic regions, because of relatively low snow fall, and limited topographic relief. The hypothesis that cold stress in autumn and winter limit winter population growth can be tested experimentally by using snow fences to enhance snow depths over

substantial portions of the tundra. This is one proposed project within a large ecosystem-wide investigation called Arctic Wildlife Observatories Linking Vulnerable EcoSystems (ArcticWOLVES) proposed for the International Polar Year.

8. Investigating speciation in Yukon *Empidonax* flycatchers

Tara Stehelin, Univ of Calgary (stehelin@ucalgary.ca)

The *Empidonax* genus of flycatchers is a rapidly evolving taxa of bird species. These closely related, (almost physically-identical) species, are apparently using vocalizations to isolate reproductively and therefore become biological species. I use song analysis to investigate how individuals use vocalizations in very sophisticated ways to organize and structure their reproductive behavior. All New World Flycatchers studied to date develop songs innately (reflecting their genotype) and the Yukon's *Empidonax* flycatchers are near the edge of the range, making our *Empidonax* flycatchers good candidates for the study of development of new genotypes. Yukon's renowned naturalist Bob Frisch, (now deceased), first suggested that there seemed to be 'extra' species of *Empidonax* here, especially in the northern Yukon. His estate helped fund my past work with the birds in southwestern Alberta, and I will now extend my research and use auditory analysis techniques that I have developed to search out the complete suite of species (and potential subspecies) in this genus in the Yukon. My work will involve careful recording of the various vocalizations from as broad a range of habitats as possible followed by spectrographic analysis using a technique called spectrographic cross-correlation (RTSD and SIGNAL bioacoustical software). The work may represent an important contribution to our understanding of Yukon's species diversity as well as our understanding of 'edge of range' places like the Yukon for speciation.

9. The Carcross herd: is there room for caribou in your back yard?

Rob Florkiewicz Government of Yukon, Department of Environment, Box 2703, Whitehorse, Yukon. Canada Y1A 7A1 (rob.florkiewicz@gov.yk.ca)

Carcross woodland caribou (*Rangifer tarandus caribou*) numbers are increasing as a result of an intensive management and recovery program that was initiated in 1993. This has been observed in both technical surveys and also through increased public sighting reports. In the last 13 years, three overlapping First Nation land claim agreements were settled resulting in a complicated array of private and public land management authorities on this winter range, situated in the Whitehorse periphery. I used 12 years of VHF radio-collar data (1994-2005) and five years of GPS radio-collar data (2000-2005) on female caribou were assessed to determine core wintering areas and key winter habitats. I used GPS

radio-collared caribou to evaluate land cover classes, derived from a classified Landsat 7 image, to evaluate the distribution and abundance of key habitats within this winter range. Caribou made significant use of Open Needle Leaf Lichen and Open Pine land cover classes and avoided the relatively more abundant Closed Needle Leaf class. Increasing pressure to develop land within the Carcross caribou winter range, where land is managed through a range of First Nations, private and public practices, means key caribou winter habitat is at risk. If caribou are to successfully recover on this landscape and persist through time, it is essential to manage, through meaningful participation among land management authorities, the remaining caribou habitat for environmental rather than human consumptive values.

10. What do jumping mice have in common with frogs, toads, and your favorite summer t-shirt?

Maria Leung (leungried@Northwestel.net)

Life history characteristics are outlined for two jumping mice species, three frog species, one toad species, and summer T-shirts in the Yukon. Previous work on the northern adaptations of meadow jumping mice suggest that jumping mice at the northern extent of their range emerged later and entered hibernation earlier than their southern counterparts. Northern jumping mice also appeared to gain proportionally more body mass before hibernating, lived a longer life and were restricted to producing one litter per year. I would like to resume this project by gathering more information to substantiate past findings. Previous findings were limited by small sample sizes. In light of climate change, I also propose to extend the research to include demography and survival of hibernating species living in shoreline through riparian habitat. Some climate change models predict that wetlands in the Yukon will dry and shrink. To answer the question in the title: Jumping mice, frogs and toads are all associated with wetland habitats; all hop, swim and dive using strong hind feet; all hibernate in the Yukon; and all reach the northern limit of their range in the Yukon. In the northern part of their range, these species and summer T-shirts likely have lower densities, have longer periods of dormancy, experience greater longevity and will be more adversely affected by climate change.

11. Monitoring birds at Albert Creek and Teslin banding stations

Ben Schonewille & Ted Murphy-Kelly (bschonewille@edynamics.com)

The Albert Creek Bird Banding Station operated during both the spring and fall migration seasons during 2005. This year was the station's fifth consecutive year of operation and this was one of the most productive to date. The station operated for 41 days from April 27th to June 7th. Over this time period, 1871 birds of 50 species were banded and 144 species were observed. During the fall season, the

station was operated for 59 days from July 24th to September 23rd. Over this time period, 2679 birds of 47 species were banded and 88 species were observed. The station continues to add to the knowledge of migratory birds in the southeast Yukon, primarily for those species found nowhere else in the territory. A number of these species are very rare in the Watson Lake region and the station has been successful in not only observing these species but also banding them. Species such as Cape May Warbler, Black and White Warbler and Blue Headed Vireo were banded during the 2005 season bringing the total number of species banded at the station to 73 species since 2001. Aside from gathering biological data, the station has also been successful in providing a unique educational opportunity for visitors of all ages. The station received a total of 777.25 volunteer hours by individuals assisting in the operation of the station. In addition, 77 visitor hours took place by individuals not assisting with the stations operation, but touring the area and learning about bird banding and bird migration in general.

12. Thermal habitat use by lake trout (*Salvelinus namaycush*) in two contrasting Yukon Territory lakes

Jodie Mackenzie-Grieve, Dept of fisheries and Oceans (Mackenzie-GrieveJ@DFO-MPO.GC.CA)

Thermal habitat use by lake trout (*Salvelinus namaycush*) in two northern lakes that differ in morphometry and thermal regime was monitored using temperature-sensitive acoustic and radio telemetry. We then contrasted in situ temperature selection by lake trout in these lakes with previously published estimates of the lake trout optimal thermal range of 8 to 12°C. We found that thermal habitat use by lake trout in the two northern lakes is not consistent with these literature-derived expectations. In Dezadeash Lake, which is isothermal in summer, temperatures typically exceeded the literature-derived upper limit of the optimal thermal range for lake trout of 12°C. Throughout the summer lake trout sought the coldest water in the lake which was in the form of shallow cold-water plumes derived from alpine ice-pack melt-water streams. Once lake temperatures declined in the fall, lake trout were distributed throughout the lake. In Kathleen Lake, where water temperatures ranged from approximately 2 to 12°C in the summer, the majority of lake trout selected habitats colder than the 8°C lower limit of their literature-derived optimal thermal range throughout the summer and fall. Our results highlight the importance of summer thermal refugia for lake trout inhabiting marginal systems and highlight the variation in thermal habitat use among populations inhabiting different thermal environments. Given the established importance of thermal habitat availability to lake trout production, our results suggest the need to better understand optimal thermal habitat characteristics in nature, particularly in light of factors such as climate warming.

13. Marten and wolverine populations in the Old Crow Flats

David Henry, Parks Canada, and **Dennis Frost** (david.henry@pc.gc.ca)

Over the past five winters, we have monitored two transects in the Old Crow Flats, Yukon Territory, recording the fresh tracks of all predators after fresh snowfalls. Patterns evident from these track transect data include:

- The percentage of total tracks that are Marten have been declining over the three winters of the study. These results suggest that the Marten population in the Old Crow Flats after becoming unusually abundant seven years ago may be slowly declining relative to the other furbearer populations in the Flats.
- During the past several winters Lynx tracks were recorded more frequently and over a wider area, perhaps in response to a moderate increase in the Snowshoe Hare population. The Crow River with heavy deciduous shrub growth on some of its banks appears to be important habitat for supporting Snowshoe Hare and Lynx during the low phases of their cycles.
- The percentage of total tracks that are Wolverine has remained constant over the five winters of the study. These data suggest a stable winter population of Wolverines in the Old Crow Flats. At the same time, the number of Wolverine tracks recorded on any given transect reading is highly variable, suggesting that these Wolverines are quite mobile.
- The Wolverine density estimate for the Old Crow Flats obtained from the aerial survey carried out from 16-22 March 04 was 32.87 Wolverines within a survey area of 3375 km². This works out to an average density of 9.74 Wolverines/1000 km². This density estimate together with the track data and local knowledge supports the conclusion that the winter population of Wolverines in the Old Crow Flats is an abundant population. It appears to be twice as dense as undisturbed Wolverine populations surveyed with the same techniques in southern Alaska. This population should continue to be recognized as a valuable wildlife component of the Old Crow Flats and Vuntut National Park.

14. Juvenile Chinook salmon habitat restoration in the Mayo river

Pat Tobler (ptobler@edynamics.com)

A radio tagging/telemetry pilot project was conducted on coho salmon (*Oncorhynchus kisutch*) in the Canadian portion of the Porcupine River during the winter of 2005/2006 in an effort to provide information regarding the spawning locations of this unique population of salmon. During November 8-14th, 2005, coho salmon were captured used a gillnet set below the ice. Twenty five coho salmon were fitted with esophageal radio transmitters (tags) and released. Two

rounds of telemetry flights were conducted in order to locate the tags and thereby approximate the location of spawning areas. The first flights were conducted on November 27-29th, 2005, at which time a large portion of the Porcupine River watershed was surveyed. A total of 21 radio tags were located at that time. All 25 tags were located during the second flights were conducted on February 15-16th, 2006. The majority of the tags were found in the Fishing Branch River watershed (19), with the remainder located in the Bluefish River (3), the lower Miner River (below mouth of Fishing Branch River) (1), and the Porcupine River mainstem (2). This project has determined that radio tagging/telemetry projects can be conducted successfully on coho salmon in the Porcupine River watershed during the winter. It has also provided the first evidence of salmon spawning in the Bluefish River as well as the North Fork of the Fishing Branch River; thereby, providing valuable knowledge regarding salmon habitat/migration patterns within the Porcupine River.

15. Contaminants in Yukon Wildlife

Mary Gamberg (mary.gamberg@northwestel.net)

Contaminants from both global and local sources are deposited in the Arctic, raising concern about contaminant levels in traditional foods. Over the last 15 years, the Yukon Contaminants Committee, in cooperation with INAC and YTG Environment, have studied contaminant levels in a wide variety of Yukon wildlife. Most contaminants measured were at low or undetectable levels and do not pose a threat to the animals or to those consuming the animals. High levels of cadmium were found in the livers and kidneys of some animals, particularly moose and caribou, and a health advisory was issued recommending limiting consumption of those organs from certain species. Cadmium does not accumulate in the meat of animals and the health advisory does not recommend limiting consumption of meat from any Yukon species. Cadmium levels in moose and caribou do not appear to be changing over time. Some elements such as aluminum and arsenic show similar patterns of annual variation between moose and caribou, suggesting an environmental driver. Other elements, such as cadmium and mercury, show dissimilar patterns of annual variation, reflecting differences in diet between species and subsequent differences in element availability. Annual variations in renal mercury concentrations in Porcupine caribou suggest a possible 6-year cycle that may be related to summer temperatures. Mean renal mercury concentrations in fall-collected female Porcupine caribou were significantly related (negatively) to mean summer temperatures in Old Crow, a community in the Porcupine caribou range. The ongoing Yukon Hunter Survey, which studies contaminants in Yukon moose and caribou, is being expanded under the Northern Contaminants Program, to include NWT and Nunavut. The Porcupine and Qamanirjuaq caribou herds will be

sampled every year, while the North Baffin, Dolphin and Union, Beverly, Bluenose East and Tay caribou herds, and moose from the Yukon and the Deh Cho region will be sampled every 5 years, to monitor temporal and geographical trends in moose and caribou in the Canadian Arctic.

16. Yukon Trumpeter Swans: the 2005 survey

Jim Hawkings (jim.hawkings@ec.gc.ca)

The 5th quinquennial (sp?) Yukon Trumpeter Swan Survey was conducted during mid-August 2005. This survey counts swans on a sample of 1:50,000 topographic maps throughout the central and southern Yukon and northwestern BC and produces an estimate of the total population. It is part of a larger North American Trumpeter Swan survey. This year 68 maps were surveyed over 11 days. The estimated population in the Territory is now 2,693 swans, 1,015 in the Pacific Coast Population which winters on the Pacific Coast from southeast Alaska to Oregon, and 1,677 in the Rocky Mountain Population which winters in the Tri-state (Idaho, Wyoming, Montana) area of the US. These figures represent continued increases from the 2000 survey as Trumpeters further expand their range in Yukon, and become more numerous in areas they already occupy. Whitehorse appears to be more or less on the line dividing the two populations. Concentrations of nesting swans can now be found in many parts of the Territory, for example Scottie Creek, Pickhandle Lakes, Nordenskiold River, lower Nisutlin River, and Tuchtua River. Populations will probably continue to increase until limits are imposed by the amount of habitat available in the respective wintering grounds.

17. Old Growth Refugia in the Yukon Boreal Forest and Cavity Nesting Birds

Katie Aitkin, Dave Mossop, (dmossop@yukoncollege.yk.ca); Fiona Schmiegelow

This work is research into the availability of very old trees in the Yukon boreal forest community required for providing nesting sites for larger cavity-nesting birds. It is hypothesized that the slow growing nature of northern boreal forest trees combined with the natural renewal cycle which sees the forest burn about every 200 years, should make the large, decadent tree bolls necessary, a very rare event. In spite of this, larger cavity nesters are fairly common. Research into the way in which the boreal forest community provides these nest sites, is seen as basic to understanding how true 'old-growth' can be a natural feature of this forest system. One hypothetical ecological 'rare event' suggested is wetland-

protected riparian forest “refugia” along glacial relict streams of the central and southern Yukon . The purpose is to test this idea as an example of a “keystone event”. Understanding how it occurs and planning for its continuation in the face of increasing human demands on the boreal forest will likely be essential to conserving biodiversity in the Yukon’s boreal forest. The work builds on several decades of research on Yukon wetlands and of monitoring artificial cavities. The new work is proposed for the upcoming several field seasons.

POSTERS

Goshawk Nesting Habitat Suitability Mapping and the impact of the Spruce Beetle outbreak on Goshawk Habitat Suitability:

Frank Doyle and Todd Mahon (doyle@bulkley.net)

Goshawks are a bird of prey associated with mature-old growth forests. They require interior forest conditions for nesting, and the majority of their prey is captured within this same habitat. Because of this reliance on mature-old growth forests, goshawks have been identified as a focal management species both at the landscape and stand levels. For the establishment of long-term land use plans, and for making both current and future stand level harvesting decisions, it is crucial to know where goshawk nesting habitat is, in order to successfully maintain a viable goshawk population.

This study, funded by the Yukon Government and CWS in the Champagne-Aishihik First Nations Traditional Territory and the Liard Regional District, used forest attributes from known nests (primarily located as part of the Kluane Boreal Forest Ecosystem Project) to determine what is suitable goshawk nesting habitat. Through 93 field verification transects, we were able to determine the overall accuracy of the available mapping to predict the location of goshawk nesting habitat. The quality of the mapping was such that goshawk nesting habitat can typically be identified accurately. Goshawk nesting habitat was not abundant in all landscapes, and in SW Yukon it was typically only found in the broader valleys. In the Liard Regional District nesting habitat is more widely distributed, but the most suitable stands for nesting are also those selected for harvesting. Suitability of the forest and the nest stands to support goshawk nesting, was apparently not negatively impacted by the Spruce Beetle outbreak. Within beetle killed stands, goshawks were breeding at the same rate as seen in the same stands 15 years ago, even though 60-90% of the mature trees had been killed. Greater growth of understory vegetation in beetle killed stands may possibly be supporting higher densities of prey. The success of this project supports the

possibility that the same technique may be used to manage for other focal wildlife species.

Declining numbers of Kluane's Kokanee salmon

Lloyd Freese Kluane National Park and Reserve (www.pc.gc.ca/kluane)

Kluane National Park & Reserve is Canada's only national park with a naturally occurring population of kokanee salmon, (*samäy ghra* in Southern Tutchone). Kluane's Kokanee complete their entire life cycle in the fresh water of the Kathleen Lake system. For the past 30 years, the park has monitored kokanee salmon as they return to spawn in Sockeye Creek. Spawning run counts have averaged about 2800 fish, but recently these numbers have dropped dramatically. Only 700 spawners were counted in 2002, followed by 160 in 2003, 53 in 2004, and 66 in the summer of 2005.

POSSIBLE CAUSES: Have the kokanee salmon been over-fished? Is climate change disrupting the kokanee's life cycle? Are water temperatures in the spawning stream too high for eggs to survive? Are there more predators or competition for food? Is there a new disease or parasite present in the lake? Is this part of a natural cycle that will recover on its own? Are kokanee spawning in a new area of the lake system?

Working with community and regional partners, the park closed sport fishing of kokanee salmon and is conducting studies to determine the reasons for the apparent decline in spawning numbers. The area around the spawning stream is zoned at the park's highest level of protection.

ONGOING RESEARCH a) Measuring changes in stream flow, temperature and water chemistry in the spawning stream.; b) Collecting weather and climate data; c) Examining contents of predators' stomachs; d) Measuring plankton productivity in Sockeye, Louise and Kathleen Lakes; e) Comparing creel surveys to analyze fish harvests; f) Conducting hydro-acoustics surveys to help us understand kokanee population dynamics in the Kathleen Lake ecosystem; g) Reviewing studies of declines in other kokanee populations

Studies are still ongoing, but initial evidence suggests that the Kathleen Lake system is a healthy environment. Some tests indicate higher water temperatures in the spawning stream, but it is not clear if this is a long-term change. Results from the hydro-acoustics surveys are expected soon.

Rusty Blackbird: a boreal songbird in trouble

Pam Sinclair, Canadian Wildlife Service(pam.sinclair@ec.gc.ca)

The Rusty Blackbird is a familiar sight in forested wetlands throughout the Yukon, and its squeaky song is a welcome sign of spring. Yet in recent decades, populations of this handsome songbird have been plummeting. The Rusty Blackbird's breeding range matches, almost exactly, the extent of the boreal forest in North America. Perhaps because of the remoteness of its nesting grounds, and likely because "blackbird" and "ecologically sensitive wetland songbird" are not usually said in the same breath, little attention has been paid to this songbird in peril. This is beginning to change, and the Canadian status of Rusty Blackbird is now being reviewed by the Committee on the Status of Endangered Wildlife in Canada. In 2005, the International Rusty Blackbird Working Group was formed to coordinate research, conservation, and public awareness efforts in the U.S. and Canada. Behavioural research and other studies are being conducted on the wintering grounds in the southeastern United States, and breeding biology is being investigated in Alaska and the Canadian boreal. In the Yukon, Rusty Blackbird numbers and distribution are now being tracked as part of annual spring roadside waterbird surveys conducted cooperatively by CWS, Yukon Environment, and Yukon College. In addition, in 2005, Rusty Blackbirds were colour-banded in Whitehorse, Teslin, and Watson Lake. During banding, feather samples were collected as part of a range-wide project which identifies geographically specific patterns in the relative amounts of different naturally-occurring forms ("isotopes") of hydrogen atoms in the feathers. Since Rusty Blackbirds grow new feathers while on the breeding grounds, feathers from birds on the wintering grounds can be analysed to determine their origin (i.e. where the bird nested). Knowing which parts of the breeding grounds are connected to which parts of the wintering grounds allows conservation actions to be specific to populations, and therefore more effective. Through coordinated research, monitoring, and inventory, it is hoped that the reasons for the declines will be identified and effective conservation actions can be taken.

Maternal stress and populations of snowshoe hares

Michael Sheriff, University of Toronto (michael.sheriff@utoronto.ca)

Maternal effects may affect not just individuals but entire populations. My research will measure the effects of maternal stress on reproduction, behaviour, survival, and physiology in snowshoe hares (*Lepus americanus*), how these effects are passed through multiple generations, and how this affects population changes in snowshoe hares.

Snowshoe hare populations fluctuate in an 8 to 10-year cycle through out most of the boreal forest. This cycle is severely impacted by predation, especially during the 2 to

3 year decline (Krebs et al. 2001; Krebs et al. 1995). During one such phase Boonstra et al. (1998) showed that hares were chronically stressed compared to hares during the population low. It has also been shown that as snowshoe hare populations reach peak levels and during the decline population phase, reproductive output decreases (Stefan and Krebs 2001). The stress associated with the risk of predation may act as a potential mechanism for these falling reproductive rates.

I intend to assess how maternal effects operate in snowshoe hares by monitoring the changes in the degree of stress in response to the increase-phase of the population cycle, the changes in reproduction in response to changes in the degree of stress (independent of the cyclic phase), and the changes in the degree of stress of the offspring in response to the degree of stress of their mothers. I predict that hares with higher stress levels will have a lower reproductive output. Understanding the mechanisms driving the population cycles of the snowshoe hare is critical as snowshoe hare is a keystone species within the boreal forest. Its population cycles impact many species of predators and prey from lynx and great horned owls to voles and deer mice.

Bird monitoring at the Teslin Lake bird banding station

Ben Schoneville (bschoneville!@edynamics.com)

The Teslin Lake Bird Banding Station was operated for 40 days from April 23rd to June 13th. A total of 1,142 birds of 43 species were banded and a total of 101 bird species were observed. The most commonly encountered group of birds at the banding station were the sparrows, which constituted 43% of all birds banded. There were two major peaks of activity at the banding station. Large numbers of early migrants (i.e.-sparrows) caused a spike in activity during the last few days of April and the beginning of May. A second peak, primarily warblers and thrush occurred between May 20th and May 28th. The banding station was successful in gathering baseline data for a number of lesser known Yukon species such as yellow bellied flycatcher, winter wren and magnolia warbler. The banding station was successful in beginning to gather baseline information on the bird life of the Teslin region. In addition to the gathering of biological data, the station was visited by people from across the Yukon as well as from abroad. A total of 312.75 visitor hours were compiled by the banding station which played host to visitors from far and near.

Nahanni Grizzlies

John Weaver (jweaver@wcs.org)

Wildlife Conservation Society (WCS) researchers are gathering important biological information on a suite of wildlife species to help Parks Canada,

First Nations and other stakeholders, including CPAWS, interested in preserving ecological integrity in the Greater Nahanni region in the Northwest Territories. Field personnel, including Dehcho and Sahtu aboriginal people, have collected hair samples from grizzly bears at scented hair-snagging stations and numerous natural rub trees. DNA analysis reveals the species, gender, individual identity and genetic diversity. WCS biologists have identified several key areas for grizzly bears outside the present park boundary and documented very high genetic diversity. This has led them to conclude that the present Nahanni National Park is too small and too narrow to ensure the ecological integrity for wide ranging animals such as grizzly bears and woodland caribou that require large, secure areas to sustain populations.

BIODIVERSITY AWARDS PRESENTATIONS:

2005 Biodiversity Awareness Award: Posthumously Awarded to:

Philip Preston Caswell

The 2005 Biodiversity Award is posthumously awarded to Phil Caswell. His death at his home in upstate New York on November 11, 2005 surprised and saddened the botany community in the Yukon and beyond.

From summer 2000 to 2005, Phil volunteered thousands of hours to Kluane National Park Reserve, much of it at his own expense, investigating, collecting and identifying plants from the Park and surrounding areas. He also volunteered briefly in Vuntut National Park and Asi Keyi (proposed Territorial Park). Furthermore, he volunteered thousands of hours to search through herbaria in Alaska, Yukon, British Columbia, Ottawa, and others to ensure that the list of known plants for Kluane was complete.

Phil's work greatly contributed to our understanding of the flora of Kluane, which (after the southeast Yukon) is the second-most biologically diverse area in the Yukon. In total, he discovered 13 new taxa for the Yukon: 3 introduced and 10 native plant species. Perhaps his two greatest discoveries were *Rumex beringensis*, a species new to Canada and the rediscovery of *Draba yukonensis*, Canada's rarest plant. Phil's work also provided valuable information about the plant ecosystems in the Park.

Phil had a dedicated love affair with plants in Kluane. Whenever Phil was contacted in the winter, he would always remind us how many days he had until he was on the road back to Kluane. The countdown usually started in the fall, the day after he left us. The return of spring was marked by his return to the Yukon. He would drive up each year and, upon arrival, quietly settle into the work he enjoyed doing.

Phil's enthusiasm was contagious; he always saw himself as a student, though for others he was always a teacher. He had a gift for exciting anyone, especially those with no background in botany, to seek out rare and elusive plants. Acknowledging contributions

was important to Phil; the number and diversity of people that assisted him is represented by the lists of “collectors” on the herbarium labels on his specimens.

Phil was a unique character and talented storyteller. Phil and his wife once cared for a ‘pet’ coatamundi and a cougar, among many other exotic creatures. He had a distinguished career in the US military. He received a Gallantry Cross for his role in initiating the Army of the Republic of Viet Nam II Corps’ highly successful counterattacks during the TET Offensive in 1968. After his military career he became a botanist. He studied plants for 20 years in Alaska and the Yukon. He was thus exceptionally talented in his field, but exceedingly humble. He preferred to call himself a ‘plant chaser’, fearing that the term botanist sounded too professional.

Phil’s energy was inspiring and unending. Even in his last days of life, his concern was to ensure that his work at Kluane would continue. To those in the Yukon who had the pleasure to know him, he will be missed, but not forgotten.

(Awarded by the Yukon Biodiversity Working Group – March 15, 2006.
Tribute prepared by Lloyd Freese, Ramona Maraj and Jennifer Line)

2006 Biodiversity Awareness Award:

W.J. “Bill” Cody

Bill Cody is being recognized for his numerous contributions to biodiversity awareness in the Yukon. Few individuals have made such a large and valuable addition to the knowledge of the North America flora found “north of 60°”. Bill has provided the foundation upon which all present and future studies of the Yukon flora are based.

Bill’s love of northern plants is rooted in his early years as a field botanist employed with Agriculture Canada. He spent 21 years working in the Northwest Territories and four years conducting field work in Yukon. Although he retired in 1987, his enthusiasm has continued. In his spare time and on his own dime he has written 14 major papers for the Yukon, the greatest culmination of which is the Flora of the Yukon Territory.

Bill continues to collaborate with Yukoners on new records and range extensions to the flora of Yukon. Although retired for almost 20 years, Bill continues to go to his office daily. In 1998, 2000 and 2001 he returned to the Yukon to continue his botanical work and to show the territory to his children.

Bill’s overall publication list is impressive: he has authored over 258 papers and books; at least 122 of these publications are based on his work in the north. His articles have appeared in journals such as: Canadian Field-Naturalist, Canadian Journal of Botany, Rhodora and Le Naturaliste Canadien. Books he has authored or coauthored include: The Ferns of Canada, Vascular Plants of the Continental

Northwest Territories, Flora of Riding Mountain National Park, and most recently Flora of the Yukon Territory.

In addition to these publications, he reviewed countless manuscripts, processed over 38,000 plant collections of his own and likely an equal number for other collectors. Our largest national herbarium, “Department of Agriculture in Ottawa” (DAO), would not be what it is today without Bill’s contributions. DAO is recognized as one of the top 20 herbaria in the world.

Bill has always been active in the Ottawa Field Naturalists. He has been the business manager for the Council of the journal *The Canadian Field-Naturalist* since 1948. He has always been more than supportive of students across Canada and has enriched countless lives with his knowledge and humility. He is an inspiration to many botanists.

To those in the plant world, Bill is already a titan. *Arabis codyi* and *Saxifraga codyana* are just two of the plant species found in the Yukon Territory that bear his name. With such a distinguished scientific career dedicated to plants in the north it is an honour to recognize William James Cody as the 2006 Yukon Biodiversity Awareness recipient.

(Awarded by the Yukon Biodiversity Working Group – March 15, 2006.
Tribute prepared by Bruce Bennett and Jennifer Line)

APPENDIX 1:

(Registered) Attendees:

Adam Skrutkowski	
Al von Finster	Dept Fisheries & Oceans
Alana Bekk	Del Van Gorder School
Amy Leach	Ducks Unlimited
Anna-Jean Sheriff	
Aura Vivas	
Barney Smith	Environment Yukon
Ben Schonewille	Teslin Lake Bird Banding Station
Ben Schonewille	Environmental Dynamics Inc
Bengamin Vivas-Gelinas	
Benoit Godin	Canadian Wildlife Service
Bonnie Huebschwerlen	
Bonnie Huebschwerlen	
Brad Martin	

Brian Bell	
Brian Slough	
Bruce Bennett	Wildlife Viewing - Environment Yukon
Bruce Hanna	Dept Fisheries & Oceans
Bruce McLean	
Charlie Roots	
Chris Marion	
Claire Eamer	
Claudia Rector	
Clay Alderson	
Clive Osborne	
Cynthia Friedrich	
Dan Beaudoin	
Dave Mossop	Yukon College
David Henry	Parks Canada
Dennis Kuch	YTG Parks
Don Reid	Wildlife Conservation Soc Canada
Erin Spiewak	Ducks Unlimited
Fiona.Schmiegelow	Canadian Wildlife Service
Gary Morgan	Del Van Gorder School
Geraldine Villemont	
Gerry Whitley	
Isaac Anderton	Environmental Dynamics Inc
Janet MacDonald	
Jeff Salo	Del Van Gorder School
Jen Line	
Jennifer Smith	Old Crow Steward
Jenny Trapnell	
Jessika Higgins	Del Van Gorder School
Jim Boyd	
Jim Hawkings	Canadian Wildlife Service
Jody Mackenzie-Grieve	Dept Fisheries & Oceans
Joella Hogan	
John Ryder	Yukon Land Use Planning Council
Joy Fulton	Del Van Gorder School
Julie Hawkins	Yukon College
Justina Ray	Wildlife Conservation Soc Canada
Karen Clyde	
Kathleen Dyke	Mayo Steward
Katie Hayhurst	YTG Parks
Kodey Small	Del Van Gorder School
Linda Cameron	
Lloyd Freese	Kluane National Park

Louis Schilder	Yukon College
Maria Leung	
Mark O'Donoghue	Fish & Wildlife Branch - YTG
Mary Gamberg	Gamberg Consulting
Mary Whitley	Yukon Conservation Society
Maureen Huggard	Yukon College
Melissa Valja	
Michael Gelinias	
Michael Sheriff	University of Toronto / UBC
Michelle Sicotte	WMAC
Mike Dehn	
Morris Lamrock	Education and Youth Programs
Natasha Ayoub	Yukon College
Nicole Johnston	Yukon College
Nikki Krocker	
Odile Duval	
Pam Sinclair	Canadian Wildlife Service
Pat Milligan	Dept Fisheries & Oceans
Pat Tobler	Environmental Dynamics Inc
Patrick Laroque	Del Van Gorder School
Paul Peirson	
Remy Rodden	Education and Youth Programs
Rob Florkiewicz	Regional Biologist - YTG
Rosamund Pojar	
Sahara Dove	Del Van Gorder School
Scott Gilbert	
Sebastien Vivas-Gelinias	
Selena Kaytor	Del Van Gorder School
Sharon Keaton	YTG Parks
Shirley Hill	Yukon College
Stan Njootli Jr	
Sue Kemmett	
Sylvia Frisch	
Tara Stehelin	Univ of Calgary
Ted Murphy-Kelly	Albert Ck Bird Banding Station
Theresa Gulliver	CPAWS
Tom Jung	Environment Yukon
Tonya Freake	Del Van Gorder School
Tyrel Potter	Del Van Gorder School
Val Loewen	
Wendy Nixon	Canadian Wildlife Service

APPENDIX 2:

PAST YEARS

This is the fourth 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.

THE INITIAL FORUM: 1998

Assessment and Monitoring at the Ecosystem Level

AGENDA (Yukon College Gym)

Displays/Posters of on-going Yukon biodiversity work will be set up in gym throughout

March 4: (Wednesday)

MORNING (8:00-11:30)

08:00 Registration, Early coffee

08:30 Introductions, greetings

Guest speakers (The ‘big’ scene, experiences elsewhere, pitfalls in data bank building, partnerships needed)

09:00 Thomas Brydges (Env Canada, Burlington)

09:45-10:30 Coffee, Posters

10:30 Larry Speers (Biodiversity Convention, Ottawa)

AFTERNOON (1:30-4:30)

Announcements 01:30

Group discussions 01:45 - 2:30

Break: 2:30-3:00

Group discussions

Evening: 07:00 Public lecture..in assn. with the Carnivore Conservation Workshop ‘Biodiversity -- why should we care anyway?’ -- Paul Paquet...in the College Gym

March 5: (Thursday)

MORNING

08:00 Registration, Posters, Early coffee

Guest speakers (cont’d)

08:45 Syd Cannings (B.C. Conservation Data Center)

AFTERNOON

01:30 Group discussions

02:30 Break

03:00 Reporting, Consensus
building, Priority setting

09:30-10:00 Break

10:00 David Henry (Parks Canada)

Evening: Public lecture: in assn with the Wolf Creek Research Project Workshop-- a
Science Institute lecture, 7:00 pm -- Gerry Jones -- Gold Rush Inn.

THE 2004 BIODIVERSITY FORUM

John Meikle and Charlie Roots	Biodiversity at the landscape level: a progress report from the Yukon ecoregions project
Brian Slough & Tom Jung	What do we really know about the mammal species of the Yukon and their distribution?
Lori Schroerer	Plantwatch in the Yukon
Aedes Scheer	Parasites in Procupine caribou
Kate Bartel	Clacier retreat and its significance for Yukon salmon
Amy Leach	Northern ducks: Ducks Unlimited's wetland conservation efforts in the Yukon
Jan Adamczwski	Marten and forest management in southeast Yukon: working with trappers
David Henry	The Klaune ecological monitoring project: emerging trends
Ted Murphy-Kelly	The Albert Creek bird banding and migration monitoring station
John Loehr	What does colour mean to a sheep, and why should we care?
Jim Hawkings	Trumpeter Swans
Rene Rivard	An observation of wolverine preying on beavers living in snow tunnels.
Dave Mossop	Review of the raptor population monitoring project
Jill Johnstone	Fire effects on Yukon forests

2005 BIODIVERSITY FORUM

Speaker	Topic
Scott Herron(CWS)	Biodiversity and conservation of migratory birds in the Yukon
Jim Pojar(CPAWS, Yukon)	Landslides and biophysical diversity
Jocelyn McDowell(F&WM board)	What the community stewards are up to
Mark Connor(Taku R. Tlingit)	Taku river Tlingits biomonitoring efforts
Richard Erhards(Taku R. Tlingit)	Biodiversity and salmon 'stock-specific' Management
Richard Erhards(Taku R, Tlingit)	Conservation area design for the Taku River traditional territory
Tom Jung & Brian Slough(YTG)	Conservation status of the land mammals of the Yukon
Dave Mossop(Yukon College)	Collapsing prey base and food switching in Peregrines
Al VonFinster(DFO)	Temperatures up, flows down:effects on streams in the SouthWest Yukon
Grant MacHutchon(consultant)	Bear habituation to people in the Yukon: where is it appropriate, where is it not?
Nick de Graff(consultant)	The mysterious Yukon Bering Cisco(<i>Coregonus laurettae</i>) – facts, fiction and otherwise
Lloyd Freese(Parks Can)	Kathleen Lake watershed Kokanee salmon population update
Fiona Schmiegelow(U of Alta)	Conservation approaches for intake landscapes – the Yukon advantage

Posters:

Logging effects on small mammals
Using TK to assess wolverine population trends
Fire and tree growth near Fox Lake, Yukon
Eskers and outwash plains in the Liard basin
Dragonflies in the Yukon
Songbird migration monitoring Albert Creek, Yukon
Lower Mayo River juvenile Chinook habitat restoration project
Woodland Caribou in the Yukon
Wood Bison recovery project

FORUM 2007: is scheduled for Saturday April 14th at Yukon College. Look for details in a notice next winter. Plan to attend.