

**YUKON CONSERVATION DATA CENTRE
ANNUAL PROGRESS REPORT
APRIL 2014 – MARCH 2015**



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**Yukon Department of Environment
Fish and Wildlife Branch
PR-16-06**

Cover: Yukon Podistera (*Podistera yukonensis*) was assessed as Special Concern (November 2014). Photo: Bruce Bennett.

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Introduction

The Yukon Conservation Data Center (Yukon CDC) is a member of a network of data centres and Natural Heritage Programs through North, Central, and South America coordinated by NatureServe International.

Working with conservation partners, the Yukon CDC gathers, maintains and distributes information on animals, plants, lichens, and ecological communities at risk or of conservation concern in Yukon. It also provides online tools and information about where species of conservation concern are or could potentially be found. The Yukon CDC collects, manages and uses detailed local information to assign conservation status rankings to Yukon species. The Yukon CDC is a repository of all available information about wild species of conservation concern native to Yukon. This accurate and current information allows for effective tracking of the conservation status and distribution of species in Yukon. With easily accessible information, government agencies, First Nations, industry, academia, conservation groups, and the public can make informed decisions about the management of our natural resources.

The Yukon CDC is part of the Biodiversity Section of the Fish and Wildlife Branch, Environment Yukon. Yukon CDC currently has one full-time coordinator and two part time staff (zoologist and data manager). Funding and staffing is provided through a partnership between Environment Yukon and Environment

Canada with support from Parks Canada Agency.

The Yukon CDC annually reviews their activities with the results being summarized in this report.

Following the 2011 to 2015 strategic plan, the Yukon CDC will:

- Maintain and add to the digital database of species
- Incorporate new information and repatriate old information from sources both within and outside of the territory
- Update conservation status ranks as information becomes available
- Provide data to clients through direct data requests
- Develop web-based tools to enable the public to access these data
- Communicate to potential clients the availability and utility of these products

2014 – 2015 Activities

Maintain and add to the digital database of species

Priority was given to adding new data for species currently assessed as at risk in Canada, and those under assessment by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Secondary priority was placed on entering new data that was received for other tracked species during this period. Finally, we entered backlog data and additional data were mined from older collections and observations.

Table 1. Yukon **Element** (taxa) changes and Biotics database enhancements for 2014 – 2015.

Number of new taxa added	361
Number of taxa removed (due to taxonomic changes, updated information, etc.)	28
Number of scientific name changes (updates to currently accepted name)	128
Number of synonyms added	569
Total number of taxa in the database:	5,167

Table 2. **Element Occurrences** (EOs; detailed mapped localities of species of conservation concern).

Number of new EOs	136
Number of updated EOs	195
Total number of Element Occurrences (EOs) in the database:	1,017

Table 3. **Source Features** (multiple mapped features that make up EOs).

Number of new Source Features	284
Number of updated Source Features:	145
Total number of Source Features in the database:	2,294

Table 4. **Observations** (each Source Feature can have multiple **observations** associated with it).

Number of new observations	361
Number of updated observations:	174
Total number of observations in the database:	4,864

Incorporate new information and repatriate old information from sources both within and outside of the territory

We undertook data mining initiatives at several institutions in 2014 – 2015. A large proportion of data-mining efforts in 2014 – 2015 were done in support of the General Status of Wild Species in Canada 2015

University of Alaska Museum of the North (ALA)

An undergraduate student and a graduate student were contracted to database and photograph existing herbarium collections from Yukon, housed at the University of Alaska. This completes the project, which digitized all the historical Yukon collection information. As a result, all the information is now available digitally through the Arctos database. The final report from ALA is pending. <http://arctos.database.museum/SpecimenSearch.cfm> (funding \$1,100 USD EC).

Canadian Museum of Nature (CMN)

Preliminary mining of historical bryophyte collections added 1,700 collections (435 were digitized last year). This information will become accessible remotely as this project proceeds (funding \$0 CAN).

Department of Agriculture and Agrifood Canada (DAO)

The largest collection of Yukon vascular plants in the world is housed in Ottawa. Photographs were taken of ~57,000 herbarium sheets (\$8,000 PCA; \$12,000 EC).

This resulted in at least 4 new species being found, ~250 collections were reidentified.

1,422 Photographs were transcribed into the Master Spreadsheet, and many (over 1,000) barcodes were added to existing records (\$9,000 NCC).

Two days were spent reviewing and annotating species of conservation concern (funding \$450 YG).

New York Botanical Gardens

Over 5,000 bryophyte collections previously databased at the New York Botanical Gardens were sent to the Yukon CDC. Approximately 1,400 of these were incorrectly attributed to Yukon. The remaining 3,600+ collections were compared with taxa currently listed in Yukon to help find unreported species. About 50 collections were subsequently reidentified by experts. At least 3 new previously unreported species were added (\$0).

University of Alberta (ALTA)

The largest collection of Yukon bryophytes in the world are housed at the University of Alberta. This number is believed to exceed 10,000 collections; close to 4,000 of these have been databased. A student was hired to spend time reviewing the collection, scanning and adding records to the database. The work to complete this project will likely take several years. (\$1,000 EC).

Update conservation ranks

The Yukon CDC organized and hosted a 2-day Yukon fish-ranking workshop during which all fish species were reassessed using the 3.1 version of

the NatureServe rank calculator which captures criteria used to develop the rank (NatureServe 2012). An afternoon was spent on high priority vascular plant species (COSEWIC-listed and COSEWIC candidate species) providing both a rank and threat assessment. Updated ranks and justifications were added to the BIOTICS database. In addition, species that had not previously been ranked, species with very old rank review dates, and species with high global, national, and/or subnational ranks were reviewed). For many of these Yukon species this was first time much of this data had been captured.

With the conversion to Biotics 5, the NatureServe rank calculator factors are now compatible with the Element Subnational Ranking (ESR) records in Biotics. In 2014 – 2015 205 new ESR records were created and 55 existing records were modified (to be updated).

Wild Species Canada (General Status) assesses the conservation status of species wild by nature in Canada. A report is produced every 5 years with the next publication focusing on 2015. As such higher effort/scrutiny is applied to conservation status. In addition, Yukon CDC ranks are now the basis for establishing the ranks in Canada. The numbers below are a reflection primarily of the changes made to invertebrate groups (e.g., grasshoppers, spiders, flies, bees) and bryophytes (i.e., mosses and liverworts). This accounts for a large number of changes. It is anticipated that in 2015 – 2016 an equally large number of taxa will be reassessed

including large groups such as birds, vascular plants, lichens, and beetles.

Table 5. Element Ranking (assigning Yukon conservation status ranks)

New S-ranks assigned (previously not ranked or element did not exist in database)	869 *104
S-ranks revised	499 *74
S-ranks reviewed but not revised	434 *56

*2013-14 changes

Provide data to clients through direct data requests

We received 699 requests (Figure 1; similar to last year's 683) representing 326 (similar to last year's 362) hours of non-project related work. These requests came from 267 (last year 254) different unique contacts representing 183 (last year 158) organizations (government branches, universities, businesses, or public).

Most notably there was a large increase in the number of YESAB assessments, however the time to process assessment requests has decreased. Many of the YESAB assessments were reassessments of existing projects such as waste transfer stations. Governmental, public, and academic requests seem to be consistent over the last 3 years. It is notable that there is very little contact between the Yukon CDC and municipalities or First Nation governments. The apparent decline in the use by business and non-governmental organizations needs to be investigated further.

Table 6. Overview of sources of data requests received by the Yukon CDC.

	2014- 2015	2013- 2014	2012- 2013
<i>Environment Yukon</i>	305	198	218
<i>Other governments</i>	122	122	170
<i>Non-governmental organizations</i>	48	102	48
<i>Academia</i>	83	86	75
<i>General public</i>	82	77	94
<i>Business</i>	53	84	46
<i>First Nations</i>	4	12	5
<i>Municipalities</i>	0	2	4
Total	697	683	660

There were at least 207 data-requests, primarily for environmental assessment and land-use purposes. These requests were primarily for the Yukon Environmental and Socio-economic Assessment Board (YESAB; 167 requests), and non-YESAB land-use planning, including agricultural applications, and local area plans (48 requests). There were also requests for species lists, and distribution information for surveys or other conservation purposes.

Developing web-based tools to enable the public to access these data

Generalized distributional data for species of conservation concern is also updated yearly and made

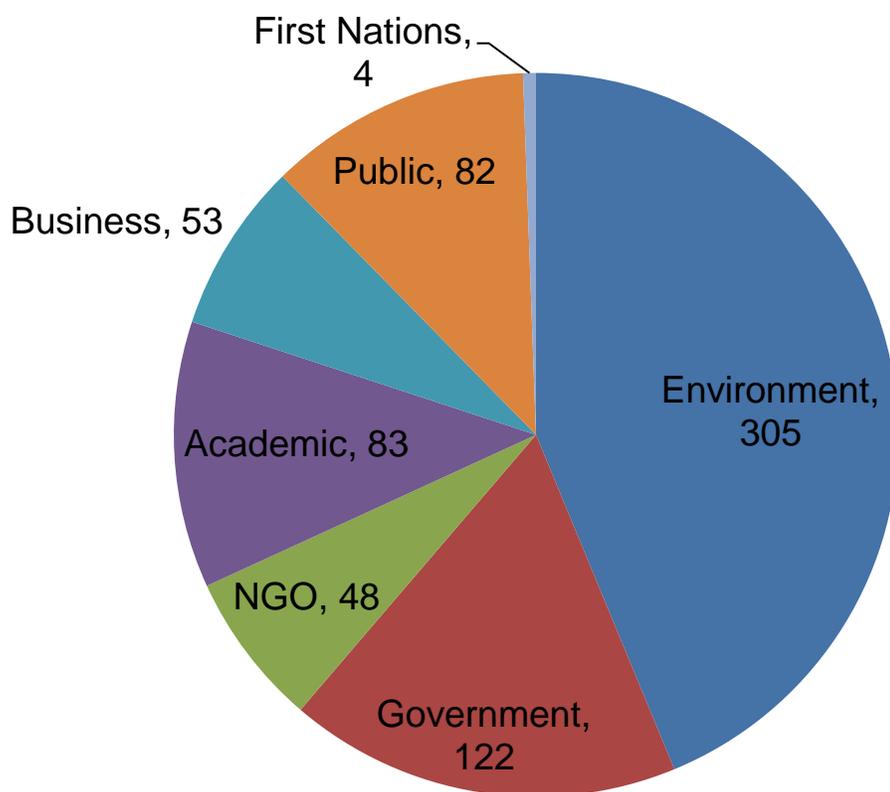


Figure 1. Data requests processed by Yukon Conservation Data Centre in 2014-15.

Table 7. List of Yukon CDC public presentations.

Presentation for	Event	Date
Dan Keyi Renewable Resources Council	Community barbeque	April 2014
Yukon Parks	Presentation to Whitehorse staff	May 2014
Yukon Conservation Society	Interpretive walks	May, June 2014
Yukon College	Indigenous studies presentation	May 2014
Forestry Branch, Energy, Mines & Resources	Presentation	June 2014
Wild Discoveries	Carcross Dunes interpretive walk	July 2014
Wild Discoveries	Takhini Salt Flats interpretive walk	August 2014
Biodiversity Forum	Public presentation	October 2014
Yukon College	Renewable Resources presentation	November 2014
Canadian Parks and Wilderness Society	Presentation	January 2015

available through the rare plant and animal information sheets www.env.gov.yk.ca/cdc . In 2014 – 2015, plant information sheets and species assessed by COSEWIC (Yukon species currently assessed as

being of conservation concern; http://www.env.gov.yk.ca/publications-maps/documents/Yukon_Species_at_Risk_2014.pdf) were made available.

Animal information sheets are still under development.

Communicate to potential clients the availability and utility of these products

In 2014 – 2015, a communication plan was developed for the Yukon CDC (see Appendix 1).

Projects for 2015 – 2016

Many ongoing operations of the data centre are outlined during the work planning process. Wild Species (General Status) 2015 is continuing through the calendar year. Birds, butterflies and moths, lichens, and vascular plants are the large groups currently being addressed. Other groups include flower flies, snails and slugs, and wasps.

Specific Activities for 2015 – 2016

- Communications Plan (April)
- Review Data Sharing Protocols (April)
- Refining the Bird Reporting Structure (April)
- Update Rare Plant Information Sheets (May)
- Review of Track/Watch list criteria (May)
- Refine the Pika Protocol (May)
- Develop Rare Animal Information Sheets (funding dependent)
- Quarterly Updates of Viewer Layers
- Attend AGM (June)
- Assisting ELC program (Faro June)
- Data Exchange (June)
- BIOTICS 5 conversion (August)

- Update Species at Risk Booklet (September)
- Refine and finalize bird range maps (September)
- Fish-ranking Workshop (October)
- Dragonfly ranking workshop (October)
- Data-mining (Vascular Plants – DAO, ALA; funding dependent)
- Data-mining (Mosses and Lichens; funding dependent)
- Data-mining (Arthropods; funding dependent)
- Ongoing Database Enhancement (based on existing prioritization)
- Data QC
- Reviewing ranks of high priority plants (Bruce)
- Refining Data Request Products
- Using mammal range maps to provide species lists (shapefiles exist)
- Developing an online report system (pending Sharepoint)
- Commissioning territorial status reports:
- Some key species could include: (Snowy Owl, Ogilvie Mountain Collared Lemming, Double-crested Cormorant, Woodchuck, Boreal Chorus Frog)
- Range distribution maps for tracked/watched vascular plants (Randi)
- Training partners for data-entry (post-conversion to Biotics 5)

Key Issues for 2015 – 2016

- Are the Yukon Mining and Lands Viewers effective tools in displaying our data? What level of detail can we display? How will data requests for these species be handled?
- How to leverage support and funding for assessing conservation status and distribution of Yukon mosses and lichens.
- How to receive technical support for updates of information sheets.
- How to manage Quality Control workload.
- Are there better ways to provide information through the website, particularly for individual species?

APPENDIX 1 YUKON CONSERVATION DATA CENTRE COMMUNICATIONS PLAN

Introduction:

The Yukon Conservation Data Center (Yukon CDC) gathers information about wild species in Yukon (mammals, birds, fish, amphibians, invertebrates, lichens, and plants), particularly those of conservation concern. This data is managed so that they are readily available for environmental assessments, research and conservation status ranking. This accurate and current information allows for effective tracking of the status and distribution of wild species in Yukon.

Program Objective

With easily accessible and complete information, government agencies, First Nations, industry, academia, conservation groups, and the public can make informed decisions about the management of our natural resources. The information and expertise of the Yukon CDC is relied upon to understand and make management decisions for the conservation of biological diversity in Yukon.

Communication Objectives

- Encourage potential users to access the Yukon CDC conservation data,
- Encourage potential contributors to report observations in a usable format,
- Encourage current contributors to continue to provide observations.

Key Messages

- Yukon CDC is the source for current, accurate and accessible information about Yukon's native species;
- Contribute your sightings of our watched and tracked species to help improve conservation efforts and decisions;
- Your contributions are valued because they help us track the status of rare species as well as inform decision makers in conservation planning.

Audiences

Users & Contributors

The current primary users of Yukon CDC data are land development assessors and planners who use the available information to inform decisions on activities that may affect species of conservation concern. As staff changes occur, it is important to maintain an awareness and use of the Yukon CDC and the products and services available. Main users are:

- Energy, Mines, and Resources
- Environment Yukon (e.g. Parks Branch, Environmental Affairs)
- First Nation Governments
- Fish and Wildlife Management Board
- Renewable Resource Councils
- Yukon Environmental and Socio-economic Assessment Board (YESAB)
- Yukon Land Use Planning Council
- Academia

There are other users of Yukon CDC, such as the general public, that access the data and some are active contributors and are well aware of the services we provide.

Contributors – Past and Potential

The Yukon CDC depends on submissions of observations by other groups and individuals, as we do not have an inventory program. These contributions improve our ability to assess the conservation status and distribution of species of conservation concern.

Past Contributors:

- General Public
- Academia –universities and colleges
- Consultants (Individuals, Companies)
- Industry Groups (e.g., mining exploration)
- Parks Canada Agency (Yukon and Western Arctic Field Units)
- Yukon Government
- Energy, Mines, and Resources (Agriculture, Yukon Geological Survey)
- Environment Yukon (Fish & Wildlife, Parks)
- Tourism and Culture

Potential Contributors:

- Canadian Parks and Wilderness Society
- Ducks Unlimited
- Fisheries and Oceans Canada
- First Nations Governments
- Landscape Conservation Cooperatives (LCC – Arctic, Northwest Boreal)
- Public Schools
- Wilderness Tourism Association of Yukon
- Wildlife Conservation Society
- Yukon Bird Club
- Yukon College – Northern Research Institute
- Yukon Conservation Society
- Energy, Mines, and Resources (Forestry)

- Environment Yukon (COSB, Y2C2)
- Yukon Fish and Game Association

Current situation

Information on the distribution, abundance and trends of species and their Yukon population is continually needed in order to assess the conservation status of Yukon's natural heritage. Data entry of the backlog of historical observations is nearly complete for most ranked species groups. Steps have been taken to improve and promote the website and online services. Many presentations have been given to select groups of users and contributors (e.g. consulting companies, Yukon parks staff). In 2012-2013, school presentations were given to raise awareness of Yukon Draba.

Agencies directly involved with environmental assessment in Yukon (i.e., YESAB, ENV-EA & FWB, CWS) and agencies and organizations outside Yukon involved with conservation initiatives (e.g., COSEWIC, NatureServe network members, universities, Nature Conservancy of Canada, Parks Canada Agency) are the most engaged. Even among those organizations that contribute to and/or use Yukon CDC data, there is a mixed level of awareness of what the Yukon CDC does and how its information may be of use to them. For example, within Environment Yukon, Climate Change Secretariat staff recently indicated that they were unaware of our program and the services we provide. An Environmental Assessment staff member was unaware that Collared Pika was one of the species we track. Even those aware of the Yukon CDC are not always contributing their valuable observations. For example, on average only two or three observations are submitted by Environment Yukon staff annually.

Communication Methods

Website Enhancements

The Yukon CDC maintains the information on two of Environment Yukon's webpages, the Yukon CDC page and Yukon Species at Risk page. It also provides the link to our online spatial data hosted on the Yukon Lands Viewer. The website is our main portal for sources of information. Most network members consider their website presence to be their strongest means of outreach. NatureServe International and NatureServe Canada's websites currently linked to the Yukon CDC website.

Activities:

The following activities will benefit those already aware of the Yukon CDC and Species at Risk websites and will help to meet our communication objectives (#2, #3).

- Implement online forms for reporting sightings and requesting data.
- Add video clips to the website on how to identify a species, or separate one species from another.

- Post annual changes to conservation ranks, species lists, and the annual report of Yukon CDC activities. While this information is desirable for our users it also demonstrates Yukon CDC activities which may not be captured elsewhere.
- Update the Species at Risk page to provide links for more information including species at risk reports, recovery strategies, and other key electronic information to individual taxa without having to host that information ourselves.
- Update conservation information as new materials become available and are reviewed (before and after the summer)
- Annually revise and post the Yukon Species at Risk booklet.
- Review other CDC websites for ideas and opportunities to improve the effectiveness of our website.

Presentations

Over the past year, the Yukon CDC made 15 presentations to a variety of groups (see Appendix 1). All presentations were found to be effective in raising awareness of the Yukon CDC based on comments received, however the increased awareness often did not result in an increase in observation submissions, with the exception of the Yukon Geological Survey and Renewable Resource Councils. Both users and contributors can benefit from presentations about the Yukon CDC and its products and services.

Activities:

Presentations can be delivered to key audiences as opportunities arise. Potential key contributors that will be a focus for raising awareness through presentations are:

- Engaging the public: the best future contributors are those that have provided information in the past. Presentations to the public will focus on the current priority species to report and to acknowledge their contributions. This exchange of information is a key approach to encouraging new contributors and maintaining existing ones.
- Environment Yukon staff: brown bag lunch presentations will increase awareness of the Yukon CDC and inventory needs. This will also provide an opportunity to discuss barriers to submitting data (responses from staff commonly include they do not think of looking for or reporting species when they are out in the field).
- Conservation Officer Services and Yukon Youth Conservation Corps (Y2C2): will be engaged to assist with specific inventory projects to confirm previous detections.
- Renewable Resource Councils: to date presentations have been made to the Alsek, Dan Keyi, Dawson, and Laberge through meetings and public open houses. We will continue to seek opportunities to do the same with the other RRCs.

- First Nation Governments: staff at the Lands Branch of the Kwanlin Dun First Nation expressed interest in the data and making contributions. Presentations to other First Nations will be given as opportunities arise.
- EMR: Yukon Geological Survey, Forestry will be approached to encourage submission of observations.
- Environmental groups: opportunities to present to staff of local conservation organizations (CPAWS, DU, WCS, YBC, YCS) are being sought.
- Parks Canada Agency: we will focus on the local field units, where mutual objectives can be realised, while maintaining national level cooperative efforts on data sharing agreements and information exchange.

Developing and Updating Communication Materials

The Yukon CDC has developed materials available for public engagements such as fairs, gatherings, shows, and public meetings. There are many venues (e.g., trade fairs, Environment Week, Swan Haven) where the presence of a Yukon CDC display will raise the profile of the Yukon CDC. Additional materials will be a focus in this period to further enhance our messaging where display and interactive materials are needed.

- Pop-up display: these are low costs and high profile. New displays that can be used at a variety of venues will deliver key messages.
- Develop new Species at Risk colouring sheet: currently the biodiversity colouring sheet does not include many of the currently listed or assessed species, which could be used for school visits and public events.
- Information Sheets: update (biannually) information sheets of species of conservation concern. These will be provided to contributors and potential contributors to help identify species of conservation concern in the field.
- Poster: update the poster *Tracking Yukon's Rare Plants and Animals* was distributed to all public schools and other organizations in the late spring of 2003.

Youth Engagement

Experience has shown that for long term projects it is effective to develop interest with youth than with most other demographic groups. The success of Celebration of Swans was due in large part to its focus on students.

Working with the Conservation Education program, we will develop regional learning resources including classroom programs based on regional specific examples (recent example: St. Elias School - Yukon Draba curriculum-linked programing developed for grades 4-6).

- Engage Golden Horn School to become involved in their Great Outdoor Experiential School (GOES) program. This may involve walks, presentations, or experiential activities at their camps focusing on conservation issues and ways to contribute.

- Contact the Experiential Science 11, OPUS and ACES programs to describe opportunities for these environmentally aware students to contribute to the Yukon CDC.
- Work with the home-school group in the Mount Lorne area to find and map Baikal Sedge sites in the Robinson area.
- Presentations to classrooms focusing on Yukon species at risk to improve understanding of causes of species becoming at risk and ways students and teachers can help with conservation actions.

Advertising and Promotion Methods

- Wanted Posters: to be set-up in communities where specific species information is needed (e.g., Western Toad in Watson Lake, Woodchuck in Dawson City, Wood's Sagebrush in Kluane, Ladybugs in Whitehorse). These posters would highlight species that are of conservation concern in Yukon, outline why the species are of concern, and provide contact information.
- Media articles: key messages drafted for use in newsletters.
- Direct messaging: build a distribution list of contributors – send out quarterly update of # of contributions, new species or major changes, reaffirm appreciation for their contributions past and future.

Evaluation

Several metrics of awareness can be tracked to assess whether outreach activities are effective.

- Number of requests for information (currently tracked and summarized in the annual progress report).
- Frequency of use of Yukon CDC data. For example, look for increasing use of Yukon CDC data in YESAB reports and recommendations over time. Determine which assessment processes do not use Yukon CDC data.
- Web activity: track analytics for the two webpages quarterly.
- Referral and recommendation ratio: when asked, where would one go to get the type of information supplied by the Yukon CDC by the target audience? How many respondents would refer to the Yukon CDC as a source of information?

APPENDIX 2 COMMUNICATION ACTIVITIES AND ADVANCEMENTS 2013-2014

Communications Plan (April- ongoing)

Update Rare Plant Information Sheets (May and January) completed
Review of Track/Watch list criteria (May) completed
Refine the Pika Protocol (May) - completed
Quarterly Updates of Viewer Layers (last export October)
Develop range maps for tracked vascular plants (June) - completed
Assisting ELC program (Faro Sept) – completed
Refining the Bird Reporting Structure (Sept) - completed
Update Species at Risk Booklet (March) - completed
Refine and finalize bird range maps (September) – not completed
Update Rare Plant Info Sheets (February) - completed
Develop Rare Animal Information Sheets – awaiting available contractor to update
Refining Data Request Products - completed
Using mammal range maps to provide species lists (shapefiles exist)
Developing an online report system (pending Sharepoint)
Range distribution maps for watched vascular plants (pending)

Presentations:

Environmental Dynamics Inc., 22 attendees April 2013
Yukon Parks, presentation to Whitehorse staff, 5 attendees April 2013
Yukon Geological Survey, 12 attendees May 2013
Yukon Parks, presentation to Tombstone staff June 2013
Y2C2, 6 attendees June 2013
Public Walk, Carcross Dunes, Wild Discoveries, 20 attendees, June 2013
Yukon Conservation Society, - 2 walks June, July 2013
CANPOLIN, presentation to visiting researchers Kluane Lake July 2013
Public Walk, Takhini Salt Flats, Wild Discoveries, 28 attendees, August 2013
Saint Elias School, Haines Junction, Grades 1-10 October 2013
Alaska Rare Plant Forum, 67 attendees, November 2013
Environment Yukon, Fish & Wildlife Branch Meeting, December 2013
Yukon College, 21 attendees, February 2013
Ducks Unlimited, Wetlands Meeting, March 2014
Dawson Renewable Resource Council, March 2014
Yukon Bird Club, TBD
Parks Canada, attempts to meet staff denied (due to lack of staff)