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### ***Columbia Mountains Institute of Applied Ecology***

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## *1 Message from the President*

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Welcome to my second annual message as President. It has been a pleasure these past two years to serve as President, I continue to learn the ropes from Dr. Brendan Wilson who served for 10 years as CMI's president and has maintained his position in the Vice-Presidential role. Thanks to Brendan for staying on as my mentor and coaching me through another great year with CMI.

This year we have shown a substantial increase in our membership, thank you to our dedicated members and welcome to our new members, we are excited to have you! We started this year off with a very popular and well attended event: Avoiding Incidental Take of Bird Nests: from law to practice, hosted in Cranbrook. This event was well attended by stakeholders, First Nations, government and industry, and provided an opportunity for dialogue between an environmental lawyer, regulators, and attendee's. CMI presented a roster of invited speakers to discuss legal risks, due diligence, provide perspectives from regulators (Canadian Wildlife Service) regarding enforcement and possibly future solutions. Participants also had the opportunity to engage in a working group to discuss pre-clearing nest surveys performed by biologists. During 2017, we hosted a total of 13 events or courses including statistical analysis and practice courses, and a few new courses around wetland plants, forest entomology, and introduction to QGIS which were all well received and attended.

On October 28, 2017, the directors met in Revelstoke and reviewed our Strategic Plan by attending a hosted strategic planning session with consultants from Strategic Leadership Solutions. An executive Strategic Plan summary with a number of recommendations was produced from the planning session, and a new updated Strategic Plan will be posted in 2018.

I would like to thank all the hard work from our directors and especially our executive director Hailey Ross. I would like to welcome Mia King, who is our new interim Executive Director who started in November 2017 to fill in while Hailey is growing her family once again, congratulations Hailey! Mia will cover Hailey's 2018-2019 maternity leave. Mia joins us in Revelstoke from Ontario, she has a BSc in Biology and a diploma in Ecosystem Management. For many years, Mia has been involved in delivering environmental education, increasing public awareness of aquatic species at risk, and leading school kids on interpretive hikes in the great outdoors. Please join us with a warm welcome to Mia as we are excited to have her on our CMI team, introduce yourself at your next CMI event!

I would like to take this opportunity to thank our corporate members, our sponsors, and our local partners who ensure we can continue to fulfill our vision as a non-profit society and provide educational opportunities to professionals in the Columbia Mountains Region.

Thanks to all our members, attendee's and volunteers helping us achieve another successful year!

Carrie Nadeau, R.P.Bio.,

President, Columbia Mountains Institute

## *2 Operations of the Columbia Mountains Institute*

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### **2.1 About Columbia Mountains Institute of Applied Ecology**

CMI's vision is of outstanding natural resource management through building and sharing knowledge about the ecology of the Columbia Mountains and its associated ecosystems.

Our mission is to foster collaboration, communication, and education in support of relevant applied ecology research within our area.

We're known best for hosting balanced, science-driven conferences and specialized courses that present the newest information and methodologies. We are a regional group that connects people working in the various fields of applied ecology – natural resource practitioners, managers, researchers, educators, academics, stewardship groups, and others with an interest in the ecology of southeastern British Columbia. Our website offers many resources, including summaries for all of our past conferences.

CMI was incorporated as a society in 1996, and is based in Revelstoke, British Columbia. The society is directed by a maximum of fifteen Board members (in 2017, by 12 Directors). An Executive Director supports the Board. In November of 2017, Mia King came on as interim Executive Director to cover for Hailey Ross who is off on maternity leave until 2019. CMI retains the services of a bookkeeper, and of website consultants as needed. Funding for the operation of our society comes from memberships and retained earnings from our projects (events), and other income such as grants from the Columbia Basin Trust, event sponsorships from private donors, and bank interest.

### **2.2 Board of Directors for 2017**

In addition to the Annual General Meeting, the Board of Directors met eight times, with the executive directors meeting an additional two times in 2017, to make decisions about future events, finances, policies, and hear reports from our sub-committees. Most Directors attend the meetings via a conference call.

For information about each Director, please visit our website at:

<http://cmiae.org/about/directors-administration/>

#### ***Executive***

Carrie Nadeau, President

Brendan Wilson, Vice-President

Kevin Bollefer, Treasurer

Ryan Gill (stepped down from the executive in Dec 2017 but remains as a Director at Large)

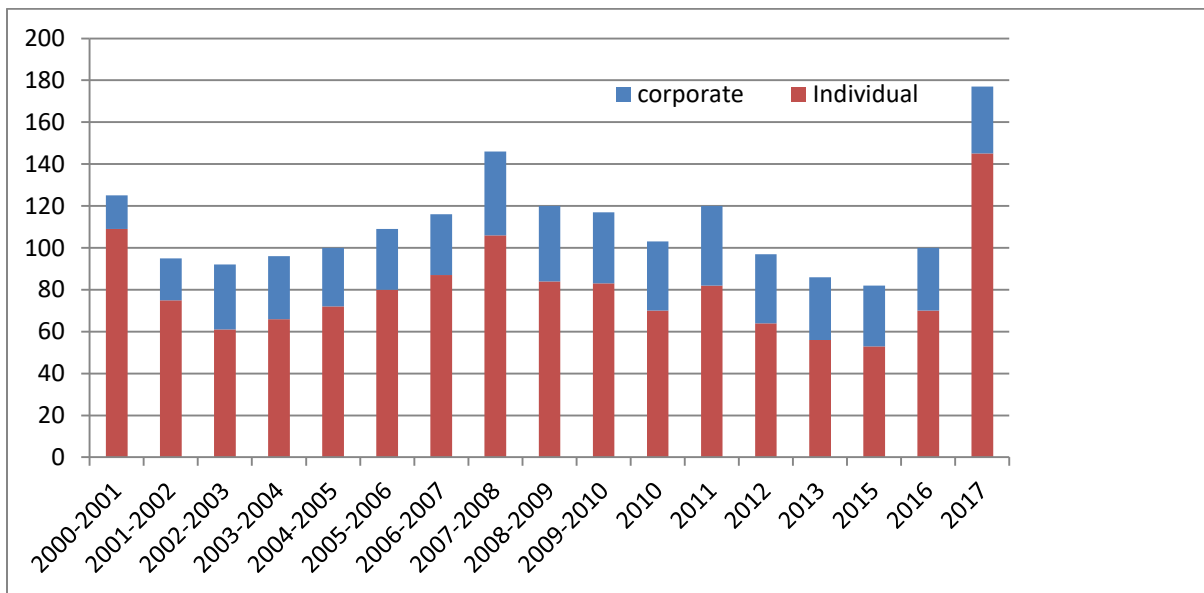
### **Directors at Large**

Jeremy Ayotte  
Marc-André Beaucher  
Harry vanOort  
Catherine Craig

Doris Hausleitner  
Robyn Irvine  
Mike Miller  
Randy Moody

## **2.3 Membership of CMI**

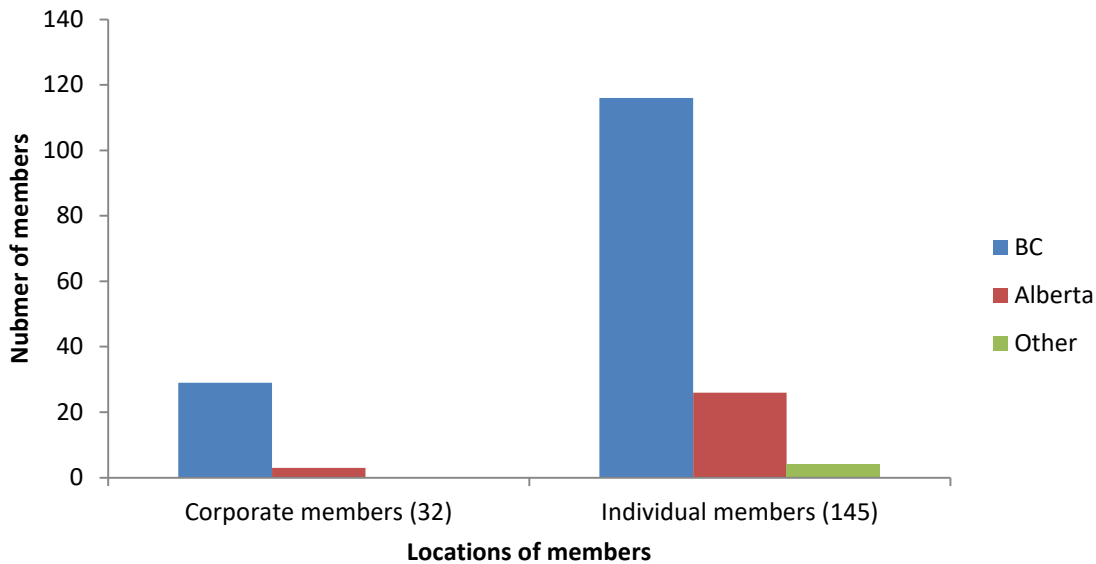
The Columbia Mountains Institute finished up the year with 145 individual members, and 32 corporate members. Our members' email updates go out to 366 individual email addresses. The information is circulated further within the corporate memberships. CMI also maintains a list of about 1124 individuals who have signed up to receive our email announcements about upcoming events and important activities. We consider these people to be a part of our network.



## **CMI corporate members for 2017**

AMEC Foster Wheeler (<http://www.amecfw.com/>)  
Associated Environmental Consultants. (<https://www.ae.ca/>)  
BC Hydro, Columbia Generation (<http://www.bchydro.com>)  
BC Ministry of Forests, Lands, and Natural Resource Operations, Kootenay Fish and Wildlife Branch (<https://www2.gov.bc.ca/gov>)  
Bulkley Valley Research Centre (<http://bvcentre.ca/>)  
Canadian Columbia River Inter-Tribal Fisheries Commission (<http://fnbc.info/org/>)  
CE Analytic (<https://www.barryjwilson.com/store>)  
City of Revelstoke (<http://www.cityofrevelstoke.com/>)  
College of Applied Biology (<https://www.cab-bc.org/>)  
Columbia Basin Trust (<http://cbt.org/>)  
Cooper, Beaudesne and Associates Ltd. (<http://cooperbeauchesne.com>)  
Cornice Environmental Consulting (<http://cec-env.com/>)  
Creston Valley Wildlife Management Authority (<http://www.crestonwildlife.ca>)  
Downie Timber (<http://www.downietimber.com>)  
DWB Consulting Services Ltd. (<http://www.dwbconsulting.ca/>)  
Ecoscape Environmental Consultants (<https://ecoscapeltd.com/>)  
Golder Associates: (<https://www.golder.com>)  
Keefe Ecological Services (<http://www.keefereco.com/>)  
LGL Limited Environmental Research Associates (<http://www.lgl.com/en/>)  
Lotic Environmental (<http://lotic.co>)  
Margo Supplies Ltd. (<https://www.margosupplies.com/>)  
Masse Environmental (<http://masseenvironmental.com/Home.aspx>)  
Monashee Outfitting Ltd. (<http://www.monasheeoutfitting.com/>)  
Parks Canada, Mount Revelstoke and Glacier National Parks (<http://www.pc.gc.ca>)  
Polster Environmental Services Ltd. (<http://polsterenvironmental.com/>)  
Revelstoke Community Forest Corporation (<http://rcfc.bc.ca/>)  
Selkirk College, School of Environment and Geomatics (<http://selkirk.ca/>)  
University of Victoria (<http://www.uvic.ca/>)  
Vast Resource Solutions (<http://www.vastresource.com/index.html>)  
Wildsight (<http://www.wildsight.ca>)  
Yellowstone to Yukon Conservation Initiative (<https://y2y.net> )

## Where do CMI members live?



## 2.4 Supporters of CMI for 2017

CMI benefits from the large number of volunteer hours contributed to CMI by our Board of Directors, and by the members of the organizing committees for our various events. These people keep us connected to ecological issues in southeastern BC. CMI continues to be effective because of their willingness to contribute time and expertise.

The Columbia Mountains Institute of Applied Ecology gratefully acknowledges the financial and in-kind support of agencies that partnered with us to make this year's events and our projects a success. The generosity of these agencies is recognized in the information about each past conference at CMI's website (<http://cmiae.org/events/past/>)

These agencies kindly provided financial or significant in-kind support for an event in 2017:

- Columbia Basin Trust
- Stanctec
- Teck
- College of the Rockies
- Okanagan College
- Selkirk College
- Cooper Beaudesne and Associates
- Revelstoke Community Forest Corporation
- BC Wildlife Federation
- Parks Canada Agency
- Columbia Shuswap Invasive Species Council
- Mountain Station Consultants

- Wildlife Infometrics
- BC Hydro
- Monashee Guide Outfitting Ltd.
- Revelstoke Snowmobile Club
- Valhalla Pure
- Rough Country

We also graciously acknowledge the contributions of the presenters and volunteers associated with each of our events.

## 2.5 Administration of CMI

Hailey Ross continued on as CMI's Executive Director. Mia King came on as interim Executive Director in November 2017 to cover Hailey's 2018-2019 leave.

## 2.6 Strategic Direction

In 2017, CMI continued to work towards the goals and objectives laid out in the Strategic Plan (2014-2017).

Work on renewing CMI's strategic plan started on October 28, 2017, when the CMI board of directors gathered for a strategic planning session with consultants Christina Benty and Caleb Moss from "Christina Benty Strategic Leadership Solutions". This meeting resulted in a document that the consultants described as an "executive summary with a number of recommendations". From this document a new Strategic Plan document will be developed by the CMI ED with input from the BOD. The new Strategic Plan will contain the following strategic areas of focus:

- Education, collaboration, and engagement
- Resource development
- Policies and procedures
- Directional shifts

# 3 *Activities of the Columbia Mountains Institute*

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## 3.1 Continuing education

### ***CMI Events in 2017***

A major goal of CMI is to identify current ecological issues and knowledge gaps, then host workshops or courses to address these issues. This section summarizes all events that were held in 2017. More details about each event, a list of event partners and supporters, and event summaries are available on CMI website in the "[Events](#)" section. Conference, course and workshop evaluation forms were collected. For conferences, this feedback is always summarized in the conference proceedings document and posted to the associated web-page.

Our event announcements are distributed to a targeted set of recipients. We promote almost entirely by email to: members (over 350), our event announcement distribution list (over 1100 individuals) professional associations, various other organizations and individuals as suggested by the topic of each event, and Facebook. Other agencies regularly include our information in their own notices and newsletters.

CMI announcements and news are sent to a network of over 1400 people working in the field of ecology in BC and Alberta.

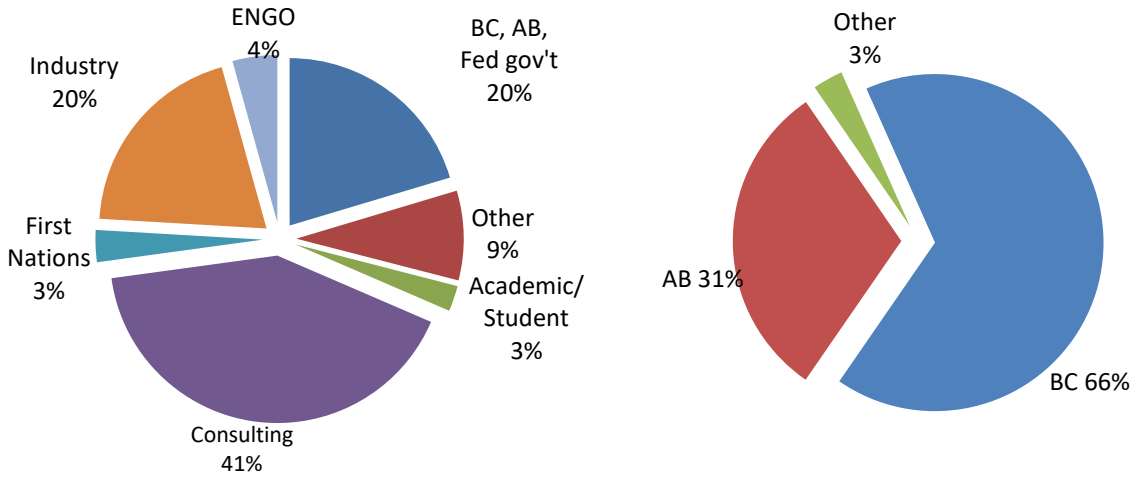
In total, there were 625 participants in CMI events in 2017(up from 374 in 2016). (Some people attended more than one event in which case their participation has been counted multiple times.)

- 145 people attended a course or workshop (that is up from 139 people in 2016)
- 167 people attended a conference or forum (that is down from 218 in 2016 which had two forums and a conference)
- 113 people attended a public presentation hosted by CMI (that is up from 17 people in 2016)
- 180 people attended a public presentation co-hosted by CMI

For our events in 2017, the tables on the following page show where participants are from, and their affiliations.



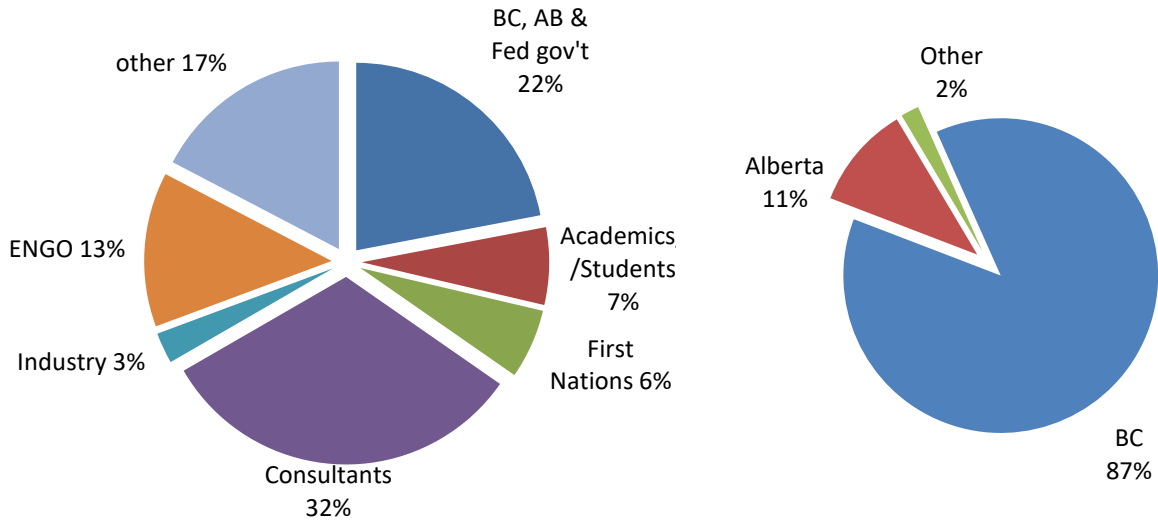
**Information about CMI conference participants in 2017**



Affiliation of conference and forum participants in 2017

Where conference or forum participants came from in 2017.

**Information about CMI courses and workshop participants in 2017**



Affiliation of course and workshop participants in 2017

Where course and workshop participants came from in 2017

## ***List of conferences and courses held in 2017***

Summary List of Events in 2017 in the order that they were delivered:

- [Introduction to Field Ornithology](#)
- [CMI Annual General Meeting & Networking Social](#)
- [The Messenger film screening with Dr. Erin Bayne](#)
- [Avoiding Incidental Take of Bird Nests: from law to practice](#)
- [Introduction to “R” Software](#)
- [Stats Refresher for Biologists in “R” Software](#)
- [Field Soil Description & Classification Course](#)
- [Introduction to the Wetland Plants of British Columbia](#)
- [Beyond the Statistics Refresher Course](#)
- [Advanced R Programming](#)
- [Forest Entomology: insight into the outbreak dynamics and impacts of major forest insects of B.C.](#)
- [Introduction to QGIS](#)
- [CRED Talks \(Columbia Region Ecological Discussions\)](#)

Information about all of these events can be found in the [Past Events](#) section of the CMI website, and a description of each event is found below.

### ***Introduction to Field Ornithology***

April 3-5, 2017

College of the Rockies and Creston Valley Wildlife Management Area, Creston BC

13 students attended this course

#### **Course Description**

This course introduced students to field ornithology including identification of birds by sight and sound, ethical and animal care considerations for field studies and basic methods in field ornithology (optics, field guides, sound recording, digital photography, DNA sampling, banding, standard survey protocols, estimating numbers, classifying and recording bird behaviour, data acquisition and data archiving). The majority of the course time will be held in a variety of outdoor settings in the Creston Valley Wildlife Management Area where students saw and heard numerous species of birds at an early stage in their spring migration.

Timed to coincide with the spring waterfowl migration and northward movement of raptors, students will have the opportunity to practice a sampling of field ornithology skills through direct observation and discussion with the instructors and other students. Bird observations made during the course were submitted to the eBird database as an example citizen science platform for field studies.

### *CMI Annual General Meeting & Networking Social*

April 25, 2017

Prestige Rocky Mountain Resort, Cranbrook BC

9 people attended the AGM

#### Meeting description

Every year a multi-disciplinary group of CMI members gather at a different place within our region to catch up on what members are doing, and have our short Annual General Meeting. This is a casual opportunity to rub elbows with each other, and non-members are always welcome.

This year's meeting was PowerPoint-free – just good people doing interesting work and connecting with one another. This event was FREE, and members were rewarded with a free drink ticket! A cash bar was set up, and folks were able to order food right off the West Coast Grill menu.

Prestige Rocky Mountain Resort, April 25th, 2017, 7pm-9pm for our AGM and first annual networking social. This event took place alongside the Avoiding Incidental Take of Bird Nests – from Law to Practice forum the next morning.

The Annual General Meeting took place at 8pm.

### *The Messenger film screening with Dr. Erin Bayne*

April 26, 2017

Prestige Rocky Mountain Resort, Cranbrook BC

~140 people in attendance (~50 from the local community)

#### Event Description

This award-winning documentary was screened as part of the CMI's forum: Avoiding Incidental Take of Bird Nests – from Law to Practice. This film screening was open and free for all to attend. Dr. Erin Bayne, leading avian ecologist and featured scientist in the film, provided an opening address and took questions after the screening.

#### Film Description

The Messenger, a new documentary by award-winning filmmaker Su Rynard chronicles the struggle of songbirds worldwide to survive in turbulent environmental conditions brought about by humans and argues that their demise could signify the crash of the ecosystems globally, akin to the disappearance of honey bees and the melting of the glaciers.

For thousands of years, songbirds were regarded by mankind as messengers from the gods. Today, these creatures – woven inextricably into the fabric of our environment – are vanishing at an alarming rate. Under threat from climate change, pesticides and more, populations of hundreds of species have dipped dramatically. As scientists, activists and bird enthusiasts investigate this phenomenon, amazing secrets of the bird world come to light for the first time in this acclaimed and visually-thrilling documentary. Beautiful slow-

motion photography illustrates the power and beauty of these delicate winged creatures that have been praised and eulogized across cultures and throughout time.

### *Avoiding Incidental Take of Bird Nests: from law to practice*

April 26-27, 2017

Prestige Rocky Mountain Resort, Cranbrook BC

~167 people attended this conference

#### Conference Description

Incidental take is now recognized as a major legal conundrum for many industries, including forestry, agriculture, mining, and utilities. Projects involving land clearing, or vegetation management being undertaken by developers, cities, and resorts now commonly commit to avoiding incidental take, and biologists are increasingly hired to mitigate nest loss due to land clearing activities. The risk of incidental take can be minimized by guidance from nesting models, and disturbance to nests is sometimes avoided by conducting pre-clearing nest surveys. However, all approaches for nest loss mitigation have shortcomings, and it's unclear what is required under "due diligence" and how this can be demonstrated.

This provided an opportunity for dialogue between an environmental lawyer, regulators, industry, and biologists whose work involves the Migratory Bird Convention Act (MBCA) and relevant mitigation. On the first day, CMI presented a roster of invited speakers to discuss legal risks, due diligence, provide perspectives from regulators (Canadian Wildlife Service) regarding enforcement and possibly future solutions, provide the ecological justification of legislation such as the MBCA and the BC Wildlife Act, and delve into potential for permitting of incidental take in the future, and the pitfalls of offsetting practices. A panel discussion/question period followed the presentations. On day 2, participants presented talks on approaches being used by industry, and ideas, results, and experiences (trials and tribulations) of incidental take avoidance and mitigation.

- Speakers and a poster session which addressed the issue of incidental take (April 26-27, 2017)
- An optional "Incidental Take Working Group" that discussed pre-clearing nest surveys performed by biologists. What is the role of the biologist? What information should be provided to the client? And who bears legal responsibility in the event of incidental take following a survey?
- An optional birding field trip

The film "The Messenger" was screened on the evening of April 26, 2017. This film screening was open and free for all to attend. Dr. Erin Bayne, leading avian ecologist and featured scientist in the film, provided an opening address and took questions after the screening.

An event summary is available on the event webpage.

### **Introduction to “R” Software**

May 8, 2017

Selkirk College, Castlegar BC

This course had 17 participants

Course was taught by Dr. Carl Schwarz from Simon Fraser University.

#### **Course Description**

New to R? The purpose of this 1/2 day workshop was to give participants an introduction to R/RStudio so they could take full advantage of the subsequent 3 day course: Stats Refresher for Biologists in “R.” This was also a stand-alone course.

### **Stats Refresher for Biologists in “R” Software**

May 9-11, 2017

Selkirk College, Castlegar BC

This course had 13 participants

Course was taught by Dr. Carl Schwarz from Simon Fraser University.

#### **Course Description**

Many scientific studies are full of statistical jargon, tables of averages and other statistics, and results of statistical tests which purport to prove a certain hypothesis. The purpose of this course was to review some of the basic sampling and experiment designs used by ecologists and to understand exactly what can and cannot be extracted from a set of data. With the advent of modern statistical packages, the analysis of data is fairly easy, but it is far too easy to get nonsense results. This course also reviewed common pitfalls in the analysis of data.

### **Field Soil Description & Classification Course**

June 7-9, 2017

Okanagan College, Revelstoke BC

15 students attended this course

Course was taught by Wayne A. Blashill, PAg

#### **Course Description**

The emphasis of this course was to record accurate soil description data for subsequent soil classification in the field and verify with other groups. Techniques were demonstrated to improve the quality of field determinations for soil texture, soil colour and % coarse fragment content. Soil remediation factors were discussed in the field relating to agriculture, forestry, mining and oil & gas.

Participants were expected to be able to describe and classify forest soils by the end of the course. They had a couple of new field techniques to improve the quality of their soils data. They were able to determine the % sand in the field to aid in soil texture determination using

the “spoon” method invented by the instructor. They also applied soil properties to assess soil salvage, soil remediation, restoration and reclamation activities.

The course was 3 days in duration. The first day (am) included morning introduction, best practises for soil pit excavation, review of soil description technical data, and soil ID (classification). The remainder of the course took place in the field. Participants described & recorded soil horizon designations & depths for organic and mineral layers, soil texture, soil colour, % coarse fragments, structure, pH, roots, pores, carbonates, effervescence, clay skins, mottles, rooting depth, drainage, seepage water depth and root restricting layers. Horizon designation & other factors were used to classify the soil.

### **Introduction to the Wetland Plants of British Columbia**

July 25-26 & 28-29, 2017

Okanagan College and various field sites, Revelstoke BC

40 people attended this course

This course was taught by Jamie Fenneman

#### **Course Description**

This course introduced students to the freshwater vascular plants of British Columbia, providing them with an overview of prominent and ecologically important groups as well as giving them the skills to identify many species in the field. The course prioritized the identification of families and easily-identifiable species, but also covered species-level identification within more challenging genera so as to introduce students to the process of species-level identification using dichotomous keys. Other topics touched on in this course included the ecological, biogeographic, and evolutionary relationships of the focal plants, wetland classification and indicator plants, general plant terminology, and the proper collection and preparation of plant specimens. This course included both classroom time and field trips to nearby wetlands.

Students enrolled in this course were also invited to participate in a Wetland Restoration workshop held on July 27<sup>th</sup>. CMIAE partnered up with the Columbia Shuswap Invasive Species Society and the BC Wildlife Federation to host a FREE Restoration and Invasive Species Workshop to dovetail the Introduction to the Wetland Plants of British Columbia course. This workshop provided an overview of steps involved in restoring a wetland, including site selection, design considerations, and permitting requirements. The presentation shared examples of wetland restoration in the context of managing invasive species, some of the successes and some of the challenges in BC. Following morning presentations, the participants traveled to a field site to receive hands-on training in wetland restoration design. This workshop was delivered by Neil Fletcher, Wetlands Education Program Manager for BC Wildlife Federation.

## Beyond the Statistics Refresher Course

Oct 2-5, 2017

Okanagan College, Revelstoke BC

10 students attended this course

This course was taught by Dr. Carl Schwarz

### Course Description

This course builds on the popular Stat Refresher courses offered from CMI and extends the methods in the intro course. Students could use R or JMP for (1) and (2) and (3a) below. Students needed R for (3b). Students could have taken all or part of the 4-day course, see course options below.

Prerequisites: Stat Refresher course from CMI or equivalent (e.g. a course in basic statistics)

### *Course Content*

Each topic was taught in 1 day, and was set up so that the students could pick and choose. Suggested combinations are as follows:

4 day course in this order: 3b, 1, 2, 3a

3 day course in this order: 3b, 1, 2

3 day course in this order: 1, 2, 3a

#### 1. Regression and ANCOVA – Oct 3, 2017

– review of simple linear regression; multiple regression; model selection using AIC methods; analysis of Covariance (multiple regression including categorical variables).

#### 2. More advanced analysis of experiments – Oct 4, 2017

– review of single factor completely randomized and blocked designs; two factor designs with one size of experimental unit; two factor designs with multiple sizes of experimental units (split-plot designs) which are very common in ecological studies; multi-factor designs

#### 3a. Basic multivariate analysis – Oct 5, 2017

– cluster analysis; principal components; discriminant analysis; ordination using Curtis-Bray analyses and non-metric multi-dimensional scaling (NMDS); correspondence analysis

#### 3b. Introduction to Bayesian analysis – Oct 2, 2017

– why go Bayesian? what it does and does not do; some simple Bayesian models and how to interpret results; capture-recapture; censored data; X values in regression measured with error

## Advanced R Programming

Oct 17-19, 2017

Okanagan College, Revelstoke BC

A total of 9 students participated in this course.

This course was taught by Dr. Carl Schwarz

### Course Description

In this course, R was taken to the next level from that seen in the basic Stat Refresher Course and/or the Introduction to R programming courses. This course focussed on more advanced features of R. It used the basic statistical methods from the Stat Refresher courses.

Prerequisites: Participants had a basic familiarity with R.

### Course Content

#### 1. Quick review of basic R

- data frames, vs vectors vs. matrices. vs lists
- selecting rows/columns of objects
- more advanced functions, e.g. grep for forming subsets
- recodes for grouping or changing values
- dealing with dates and times

#### 2. Better graphing via ggplot

- Basic qplot and ggplot commands
- More advanced features of ggplot
- Using maps and ggplot output; basic kriging for interpolations
- Saving ggplot graphics

#### 3. Casting and melting

- Restructuring your data for plotting and group analyses

#### 4. Basic model fitting and dealing with lists

- The basic ANOVA and regression models using the lm() function.
- List output and how to manipulate it

#### 5. Functions – generalize your work

- how to write functions
- different data structures for input and output (e.g. data frames, lists, etc)
- passing data among functions; scoping rules;
- debugging your functions
- sourcing and function management

#### 6. Subgroup processing



- the plyr package – processing for sub-groups of your data

#### 7. Bootstrapping/simulation studies

- how to find standard errors for non-standard cases

#### 8. RMarkdown – reproducible research

### **Forest Entomology: insight into the outbreak dynamics and impacts of major forest insects of B.C.**

Nov 1-2, 2017

Okanagan College, Revelstoke BC

13 people attended this course

This course was taught by Dr. Lorraine Maclauchlan

#### Course Description

This course introduced students to the major forest insects, both beneficial, and those considered pests, that are commonly found in interior forests of British Columbia. The course enabled students to recognize key insects groups, evaluate potential impact of these insects and understand their population dynamics and role in forest succession. Key insects groups included bark beetles, terminal and root collar weevils, defoliators and secondary insects (predators and agents of decomposition). Recognition of insects through signs and symptoms of the host was emphasized along with their ecological role in forest dynamics, response to climate and forest management. This course was classroom oriented with numerous displays of insects and host damage available for review. This course was a fantastic opportunity to learn more about the fir/spruce beetle outbreaks currently affecting the forests of interior BC.

### **Introduction to QGIS**

Nov 17, 2017

Okanagan College, Revelstoke BC

15 people attended this course

This course was taught by Richard Johnson, geological engineer

#### Course Description

The free, open source QGIS program is used and supported by a world-wide array of developers, allowing anyone to learn how to use this program to produce maps from public databases and their own knowledge. In a hands-on environment, students loaded basic maps, added lines, shapes, overlaid images, created contour maps, added labels and produced high quality maps for print or digital presentation. A basic knowledge of GIS was helpful to students, but not crucial.

There was minimal formal presentation; most of student time was spent working on their own computer with instructional support.

### **CRED Talks: Columbia Region Ecological Discussions**

Various dates

Revelstoke Community Centre, Revelstoke BC

313 people attended throughout this series

#### Speaker Series Description

CMI and the North Columbia Environmental Society launched a new speaker series: CRED (Columbia Region Ecological Discussions) Talks. The CRED talk series included speakers addressing a diversity of topics such as science communication, active ecological management, citizen science, research skills and techniques and the influences that our natural environment has on art and culture. This series was launched at the tail end of 2016, but the actual talks didn't start until Feb 22, 2017. In 2017, 6 different speakers gave presentations over the lunch hour at the Revelstoke Community Centre. In total, 133 members of the public attended these talks, including a grade 10 science class attending one of the talks. The CRED Talk series was also part of a film screening and discussion of the movie "Koneline: Our Land Beautiful", co-hosted with the Revelstoke Community Forest Corporation, Revelstoke Snowmobile Club, and Monashee Outfitting Ltd. Approximately 180 people attended this screening.

## 3.2 Supporting applied ecological research

### ***CMI Members' Updates***

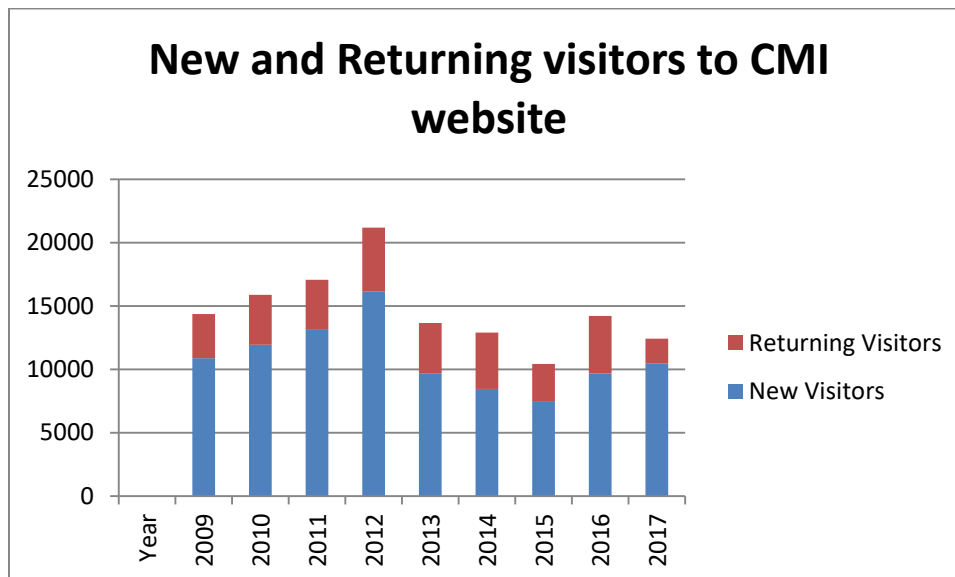
Seven CMI Members' Updates (newsletters) were sent in 2017, as well as assorted announcements for events and a few interim messages with information that did not make it into the Updates. CMI's email bulletins include CMI news and information about funding sources, resources in print and on other websites, job postings, workshops, and various other information of interest to ecologists working in southeastern British Columbia. Updates went to over 366 individual email addresses, and were circulated further within the corporate memberships.

### ***CMI web site ([www.cmiae.org](http://www.cmiae.org))***

Our Google Analytics program tells us that in 2017:

- our website had 12,410 visitors, which accounted for 16,440 sessions
- 84.3% were new visitors
- 15.7% were returning visitors
- we had 33,435 pageviews

The following chart shows that traffic to our website compared with other years.



- The most visited page on the site was the home page (which contains a list of upcoming events) with 4,782 visits (3,230 unique visits) in 2017
- The second most visited page was the Incidental Take of Nesting Birds event page, with 4,082 visits (3,397 unique visits)

The most popular PDF download in 2017 was for our conference summary. These summaries are a legacy of our events, and make the information from the event available to a much wider group than the participants. As of December 31, 2017, the top 5 PDF downloads were:

- Incidental Take 2017 Conference Proceedings (306 downloads)
- Incidental Take 2017 Conference Schedule (197 downloads)
- CMIAE ED Job Posting (95 downloads)
- Wildland/Urban Interface Fires, Fuel Management, and Ecosystems 2008 Conference Proceedings (73 downloads)
- Wetlands of British Columbia – A Guide to Identification (63 downloads)

### **Facebook**

In May 2011 CMI opened a Facebook page with the aim of reaching more people with our announcements, and enabling discussion about ecological issues. In addition to event announcements, any material which the executive director thought might be of interest to members of the CMI facebook page was also posted.

*Available data on CMI Facebook page:*

- There were 602 followers in 2017
- The total number of page “likes” received in 2016 was 595 (up from 489 in 2016)
- 59% of the people who “like” the CMI facebook page are women, 37% are men. This split has been consistent for many years.
- 30% are between the ages of 25-34, and 29% are between the ages of 35-44. This has also remained consistent over the last five years.
- Country Representation: 494 of our “fans” are from Canada, 52 people are from the US, 7 are from Australia, and 42 are from other countries around the world
- Top 5 City Representation: 58 of our fans are from Revelstoke BC, 37 are from Vancouver BC, 32 are from Victoria BC, 27 are from Nelson BC, 26 are from Calgary AB,

The facebook page does not sustain very much conversation and sharing of information apart from what the CMI executive director posted on the page. It is a good way to share pictures of events and postings of updates such as when a new download is available on the CMI website.

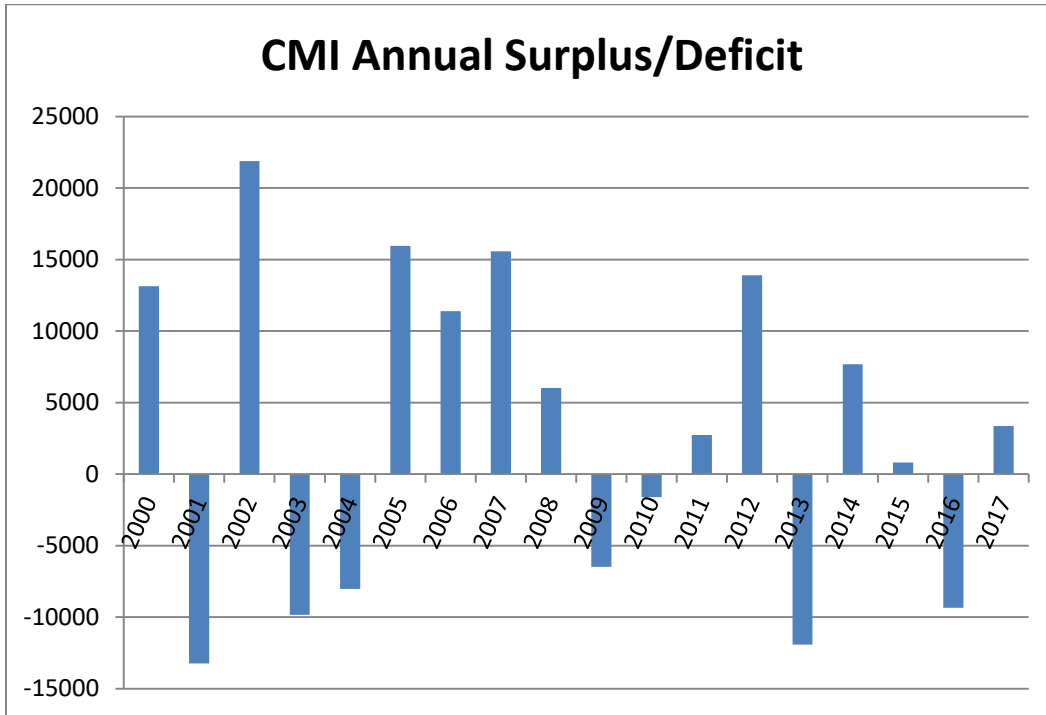
### **3.3 Collaboration**

CMI exchanges information with professional associations such as the Y2Y Network, Columbia Basin Trust, the Bulkley Valley Society, Kootenay Association for Science and Technology, Columbia Basin Environmental Education Network, Kootenay Conservation Program, the Columbia Basin Watershed Network, and many other agencies and mailing lists. Information from these groups is often passed on to CMI members in our monthly Members' Updates.

## 4 Preface to Financial Statement

This section prepared by CMI treasurer, Kevin Bollefer:

The un-audited financial statements for the fiscal year ending December 31, 2017 reported a surplus of \$3,371.16 for the year. The chart below shows how our net earnings have fluctuated from year to year. This is because our main revenue stream, which is net income or loss from our events, varies according to the number and type of events held each year. In 2017, CMI organized more courses than average and one very successful conference in Cranbrook.



In the years previous to 2014 Annual Surplus/Deficit was calculated with only administrative costs (including closed projects only). We have since changed this to include open projects as well.

The balance sheet on the final two pages of this annual report shows that we have built up our savings since CMI began in 1996. These savings are for keeping the society going if we have a year with low income, for replacing our assets, and for shielding us from risks, such as having to cancel an event at the last minute but still having to pay expenses. All in all, CMI remains in a good financial position to continue with what we do.

Our members and our volunteer Board of Directors continue to keep us in touch with current ecological issues and skill development needs. This is what keeps our events relevant and well-attended. Ideas for additional courses or conferences are welcome; please let Hailey or our Board members know.

Kevin Bollefer, CMI Treasurer

**Comparative Income Statement for the Columbia Mountains Institute for the Period  
ending December 31, 2017  
Income & Expense Sheet**

Dec 01 2017 to Dec 31,  
2017

Jan 01 2017 to Dec 31,  
2017

**INCOME**

<b>PROJECT FUNDING</b>		
Funding and Donations	0.00	12,566.82
Registration Fees	<u>1,884.00</u>	<u>104,508.92</u>
<b>TOTAL PROJECT FUNDING</b>	<u>1,884.00</u>	<u>117,075.74</u>

**ADMINISTRATIVE REVENUE**

Net Income / Loss from Finished Projects	-3,289.43	28,270.64
Grants and Donations	0.00	1,000.00
Membership Fees	0.00	8,335.00
Miscellaneous Income and Interest	<u>4.04</u>	<u>134.75</u>
<b>TOTAL ADMINISTRATIVE REVENUE</b>	<u>-3,285.39</u>	<u>37,740.39</u>

**TOTAL REVENUE**

<u>-1,401.39</u>	<u>154,816.13</u>
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**EXPENSE**

<b>PROJECT EXPENSES</b>		
Admin Cost Transfers	-3,289.43	28,270.64
Advertising	0.00	185.83
Catering / Food	0.00	24,561.64
Wages - Exec. Director	1,390.31	24,609.52
Miscellaneous fees	17.58	303.44
Equipment	0.00	0.00
Contract Fees	0.00	24,059.00
PayPal Charges Projects	36.37	2,327.91
Photocopying	0.00	178.41
Postage	0.00	36.30
Rent Conference Venues	0.00	2,451.90
Speaker Fees	0.00	0.00
Supplies	0.00	1,324.69
Travel	0.00	8,959.86
Website	0.00	350.00
Incomplete Projects	<u>2,278.10</u>	<u>930.34</u>
<b>TOTAL PROJECT EXPENSES</b>	<u>432.93</u>	<u>118,549.48</u>

**ADMINISTRATIVE EXPENSES**

Bookkeeping		187.50	3,180.00
Amortization		0.00	0.00
Bank charges / Visa fees		0.00	6.65
Insurance		0.00	1,834.00
Licenses and Dues		0.00	256.63
Miscellaneous		0.00	100.00
Office Furniture / Software		0.00	0.00
Office Supplies		0.00	142.50
PayPal Charges Admin		1.52	57.08
Photocopying		0.00	593.85
Postage		0.00	45.10
Rent		228.32	2,739.84
Staff Training		0.00	65.00
Telephone and Internet		93.67	2,198.53
Travel		0.00	398.00
Website		0.00	399.58
Gifts/Honorariums		0.00	30.57
Workers' Compensation		2.05	74.84
Wages	1,998.20		17,850.82
CPP Expense	132.41		1,933.26
EI Expense	74.36		989.24
Total Wage Expense		<u>2,204.97</u>	<u>20,773.32</u>
<b>TOTAL ADMINISTRATIVE EXPENSES</b>		<u>2,718.03</u>	<u>32,895.49</u>
<b>TOTAL EXPENSE</b>		<u>3,150.96</u>	<u>151,444.97</u>
<b>NET INCOME</b>		<u><u>-4,552.35</u></u>	<u><u>3,371.16</u></u>

## Balance Sheets 2017

As at Dec 31, 2017

### ASSET

#### CURRENT ASSETS

Money to be Deposited	1,237.31
Bank - R.C.U. 25890-5	16,609.70
RCU - Term Deposit 1 Year (Non-cashable) Jan 2017	26,339.58
RCU - Term Deposit 2 Year (Cashable) Jan 2017	20,655.70
RCU - Member Rewards	0.00
RCU - Shares	52.19
<b>TOTAL AVAILABLE CASH</b>	<b>64,894.48</b>

#### NON CASH CURRENT ASSETS

Accounts Receivable	1,449.00
Prepaid Insurance	1,855.00
Open Projects Expenses Paid	6,156.95
<b>TOTAL NON CASH ASSETS</b>	<b>9,460.95</b>

#### CAPITAL ASSETS

Laptop Computer	815.00
Accum Amort. - Laptop Computer	-815.00
Net - Laptop Computer	0.00
Desktop Computer (Purch.March 2011)	1,403.00
Accum. Amort. - Desktop Computer	-1,403.00
Net - Desktop Computer	0.00
Digital Projector	1,915.82
Accum. Amort. - Data Projector	-1,915.82
Net - Data Projector	0.00
<b>TOTAL CAPITAL ASSETS</b>	<b>0.00</b>

**TOTAL ASSET** 74,355.43

### LIABILITY

#### CURRENT LIABILITIES

Visa Payable	0.00
Prepaid Membership	655.00
Accounts Payable	414.66
Open Projects Funds Received	9,674.00
GST / HST Collected	-4.37
GST / HST Paid on Purchases	
GST / HST Payable	-4.37



Wage Accrual		36.95
Vacation Payable	<u>607.08</u>	
Total Payroll Taxes Payable		<u>607.08</u>
<b>TOTAL CURRENT LIABILITIES</b>		<u>11,383.32</u>
<b>TOTAL LIABILITY</b>		<u>11,383.32</u>
<b>EQUITY</b>		
<b>SURPLUS</b>		
Surplus - Beginning of the Year		59,600.95
Surplus (Deficit) - Current Year		<u>3,371.16</u>
<b>TOTAL SURPLUS</b>		<u>62,972.11</u>
<b>TOTAL EQUITY</b>		<u>62,972.11</u>
<b>LIABILITIES AND EQUITY</b>		<u><u>74,355.43</u></u>