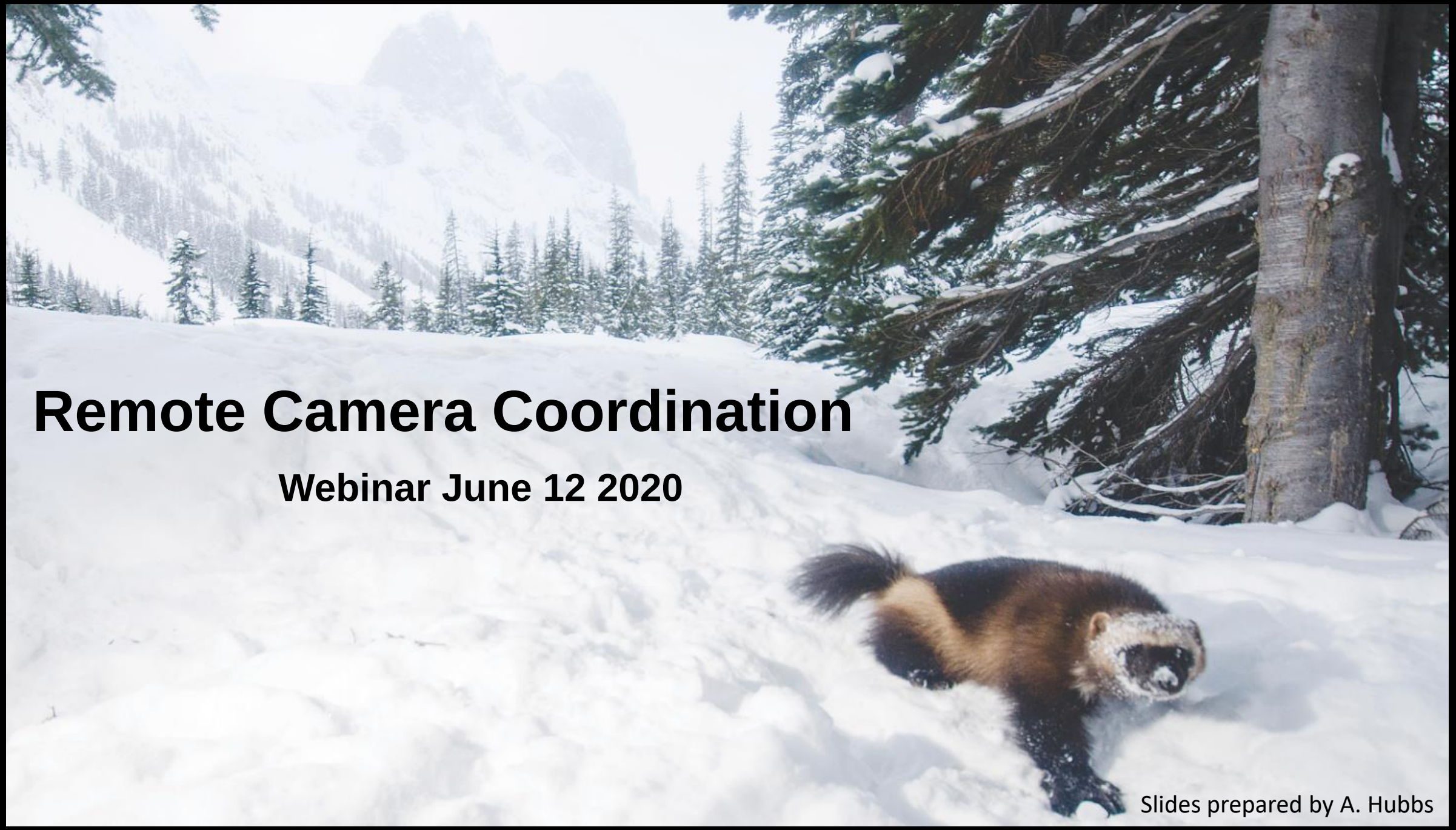


Remote Camera Coordination

Webinar June 12 2020

Slides prepared by A. Hubbs

Purpose of this Webinar

- **Update** you on recent camera coordination efforts
- Introduce you to **new participants** in these efforts (e.g. B.C. wildCam)
- Learn more about how we can **meet the needs** of Community of Practice
- Introduce **new research** that showcases collaboration

Webinar Agenda

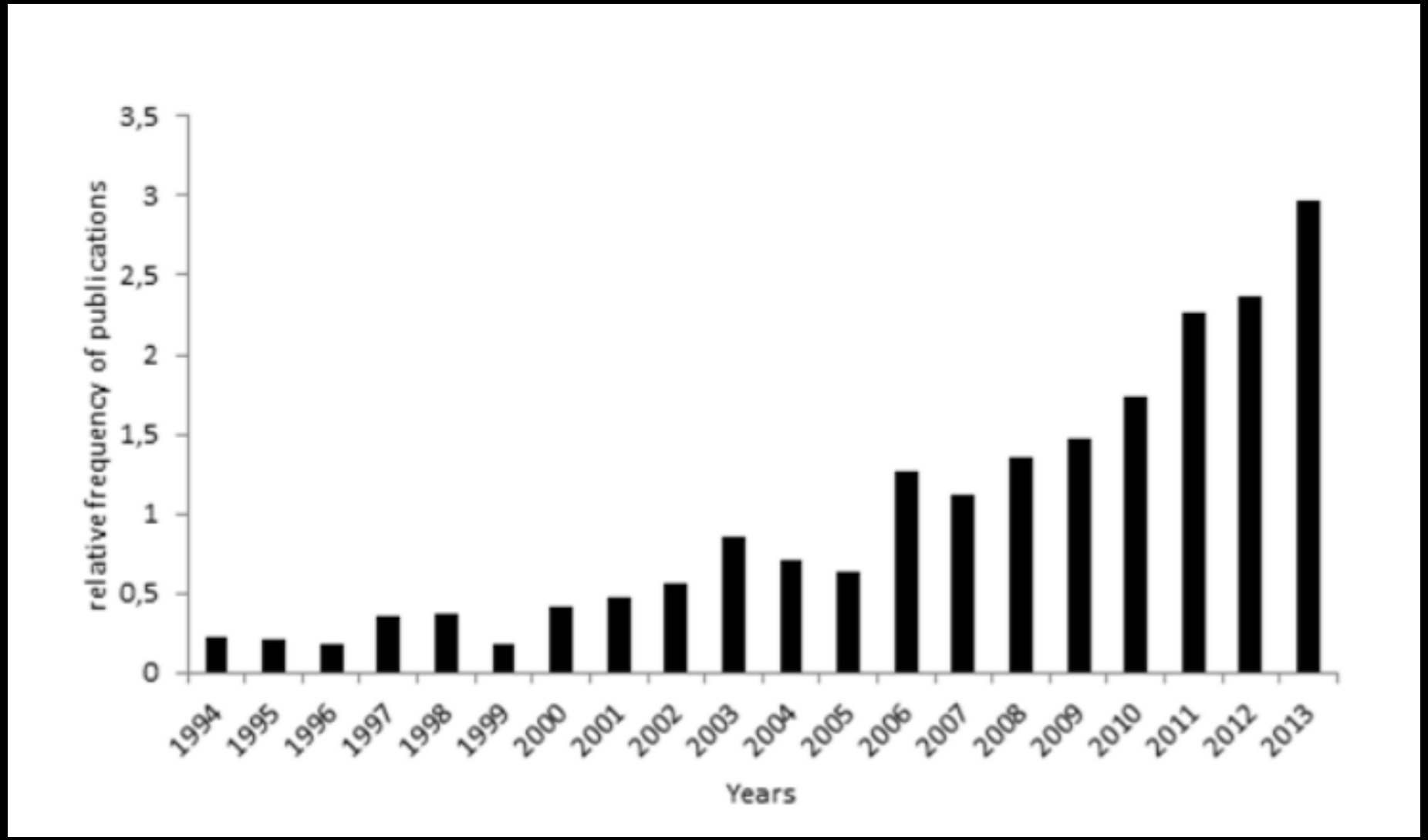
- **What have we <u>Done</u>?**
- **Where do we <u>Want To Go</u>?**
- **<u>Collaborative Studies</u>** – benefits & learnings

Photos: G. Court

How did We Get Here?

Photo: T. Whittaker

Growing Interest in Remote Cameras



Rovero et al. 2013

Reflected by Diversity of People on this Call

Provincial & Federal Governments
Researchers
ABMI, FRI
First Nations

- **Wildlife**
- **Fisheries**
- **Recreation**
- **Traditional Knowledge**

Alberta
B.C.
Ontario
U.S.

Alternatives to Traditional Methods

Information

Anthropogenic stressors

Human activity

Organisms

Individual
health & behavior
(e.g. condition, home range, diet)

Population
(e.g. abundance, occupancy, composition)

Community
composition & structure
(e.g. species richness, inter-specific interactions)

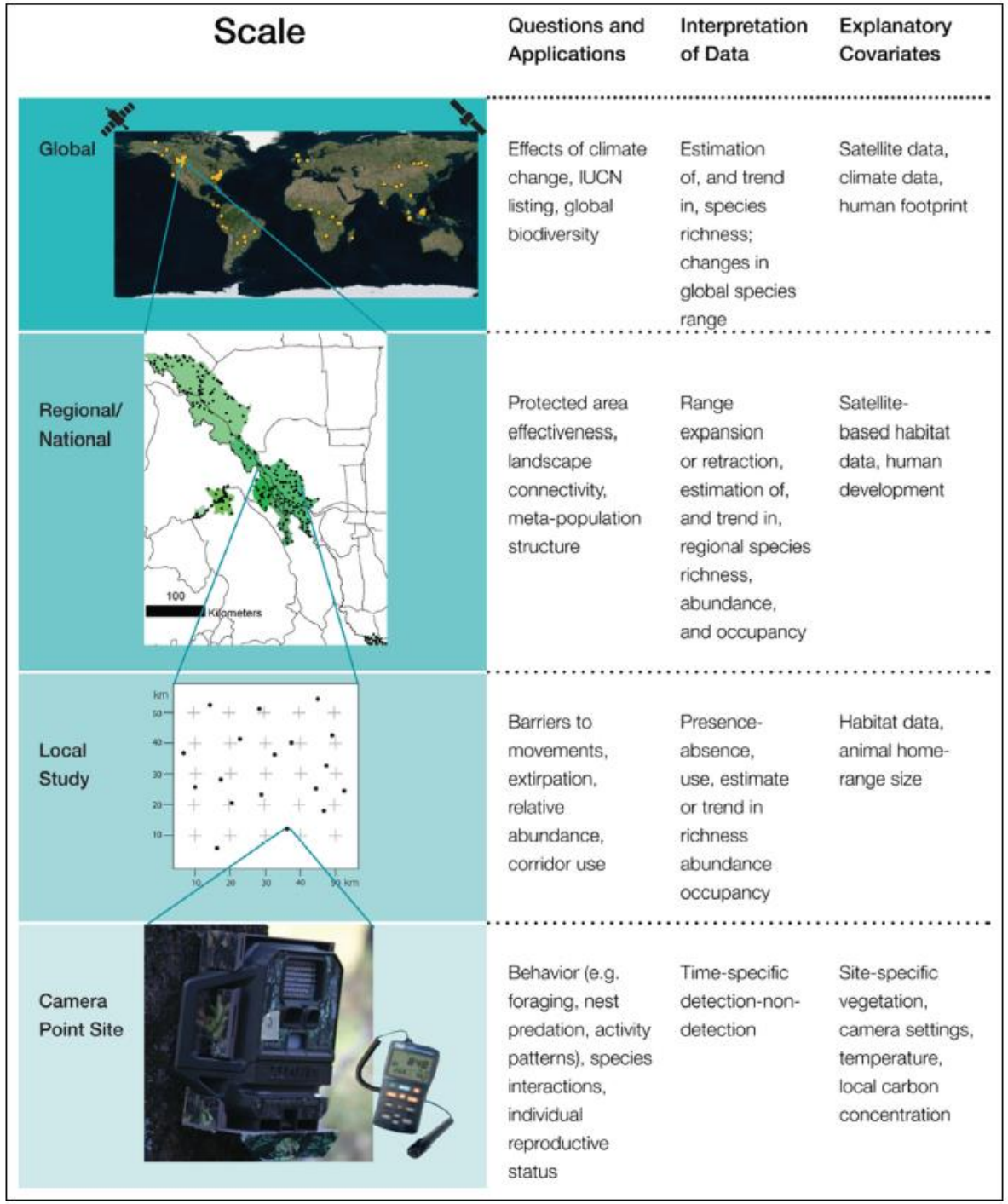
Natural drivers

Climate & Phenology
(e.g., green-up)

Key Questions

- **Rates and Drivers of Change**
- **Hypotheses – ecological systems & processes**
- **Response to management actions**

Steenweg et al. 2017



Some Common Challenges

- **Large datasets (e.g. data storage capacity, image classification)**
- **Limited Resources (short-term, small scale studies)**
- **Lack of Knowledge among Practioners (design to analyses)**
- **Inconsistency in methodology & metadata collected across studies**

See Scotson et al. 2017 – additional challenges & possible solutions

Strength in numbers

Better Methods

Reduced Costs

Bigger Questions

Stronger inferences

Remote Camera Workshop

Canmore March 2019

Remote Camera Workshop

Funding from

Workshop Objectives:

- To explore collaborative opportunities to use remote cameras to improve the monitoring and management of wildlife, habitat and human-interactions in Alberta

Emphasis on Collaboration

Workshop Agenda

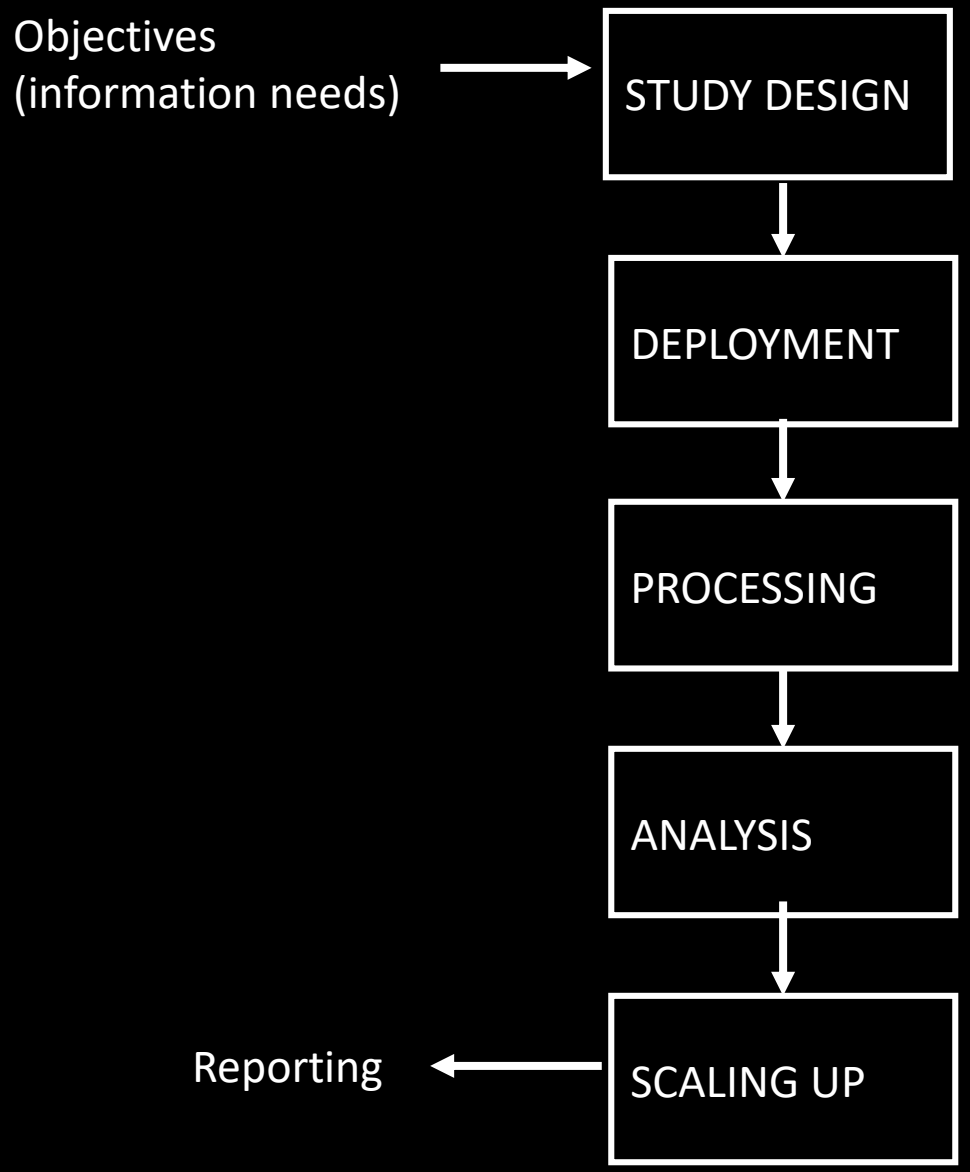
- How Can Cameras Help Us?
- What are Challenges & Opportunities (short- and long-term)?
- Remote Camera Networks

50 participants
Researchers (Universities)
Agencies (ABMI, FRI, CMN)
Government (Wildlife)

What We Heard

Needs – Challenges - Opportunities

REMOTE CAMERA STAGES



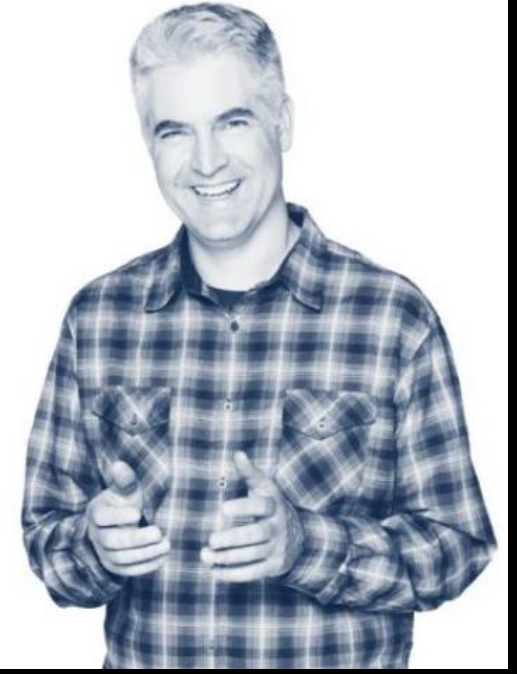
submit
Test
across
metadata
standards
data
steering
cost
protocols
bulk
rates
field
low
study
network
trap
use
camera
cameras
AB
citizen
etc
value
best
analysis
COMMUNITY
goal
used
site
PRACTICE
vs
lots
wildlife
unit
studies
Seek
First
good
remote
deployment
BC
power
via
info
eg
Class
land
drivers
methods
need
large
design
want
TOR
support
time
tools
needs
possible
open
quality
individual
health
sites
relative
weather

Highest Priorities

- **Objectives**
  - More projects human-use, relative abundance & density
  - Plus occupancy / habitat use/ distribution
- **Study Design**
  - Develop guidelines for each study objective (e.g. occupancy)
- **Processing**
  - Pool images for auto-tagging libraries for machine learning
- **Deployment & Analysis**
  - Cost-, Data- & knowledge sharing through Community of Practice
- **Scaling Up**
  - Standard protocols, metadata standards, Steering Committee

Since the Workshop…

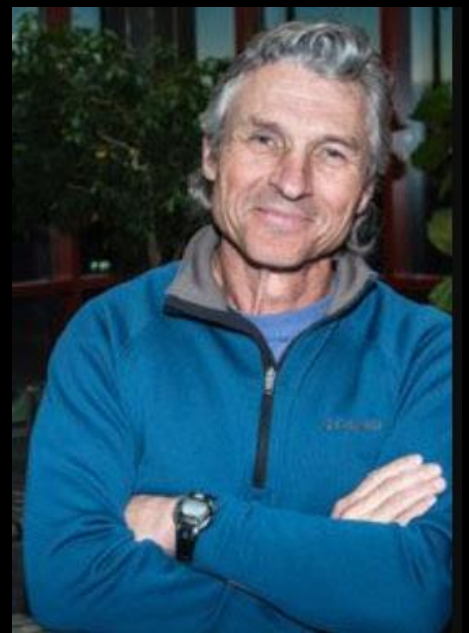
- **Establish Community of Practice (COP)**
  - You! Plus others who may be interested
  - Keen on expanding beyond initial wildlife-focus
  - To join the COP, contact Patricia Tomchuk ptomchuk@ualberta.ca
- **Establish an Alberta Steering Committee**



Jason Fisher
University Victoria

Cole Burton
University of British Columbia

Monica Kohler
ABMI- Co-Director, Application Centre



Stan Boutin
University of Alberta
Canadian Mountain Network

Erin Bayne
University of Alberta
Director - WildTrax

Jesse Whittington
Banff National Park- Wildlife Ecologist

Dan Farr (Co-Chair)
AEP- Director, Oilsands Monitoring

John Paczkowski
AEP- Park Ecologist

Tyler Muhly
B.C. Government-
Modeling Specialist

Anne Hubbs (Co-Chair)
AEP- Wildlife Management

(+ wildCam!)

Hire Alberta Remote Camera Coordinator

Thanks to…

Funding from the CMN and support from ABMI

ABMI

Patricia Tomchuk