WildTrax

Information Forum - Workshop
January 30th, 2018

It's Our Nature *to Know*
Alberta Biodiversity Monitoring Institute

UNIVERSITY OF ALBERTA

bioacoustic unit

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Alberta Biodiversity – See, Hear, Know

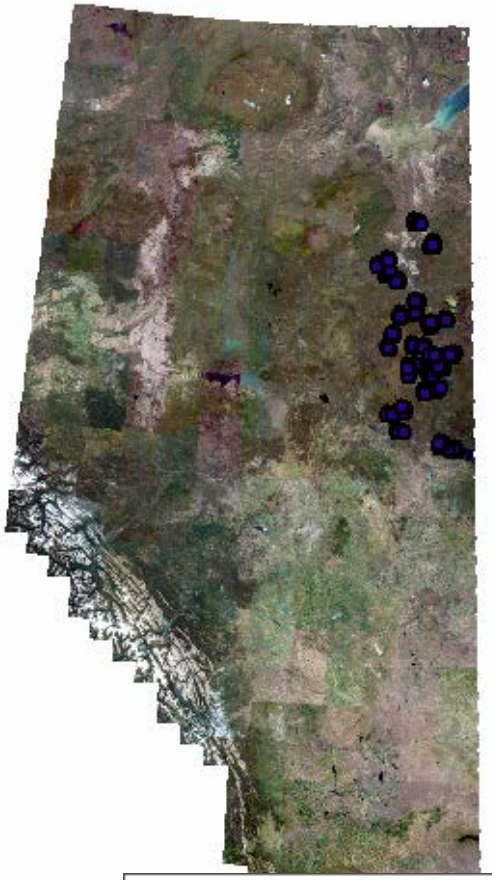
Background

- Previously used snow tracking and Riverforks to monitor mammals and birds
- Switched to the use of ARUs and Remote Cameras in 2015
- **Pro:** near continuous data collection!

A FEW GBs → TBs OF DATA

EXAMPLE: History of Bioacoustic Data Collection

- Bioacoustic data collection using ARUs began with the EMCLA pilot project in 2012
- Started with 25 ARUs
- Deployed 302 individual locations
- Collected 5.3 terabytes of data



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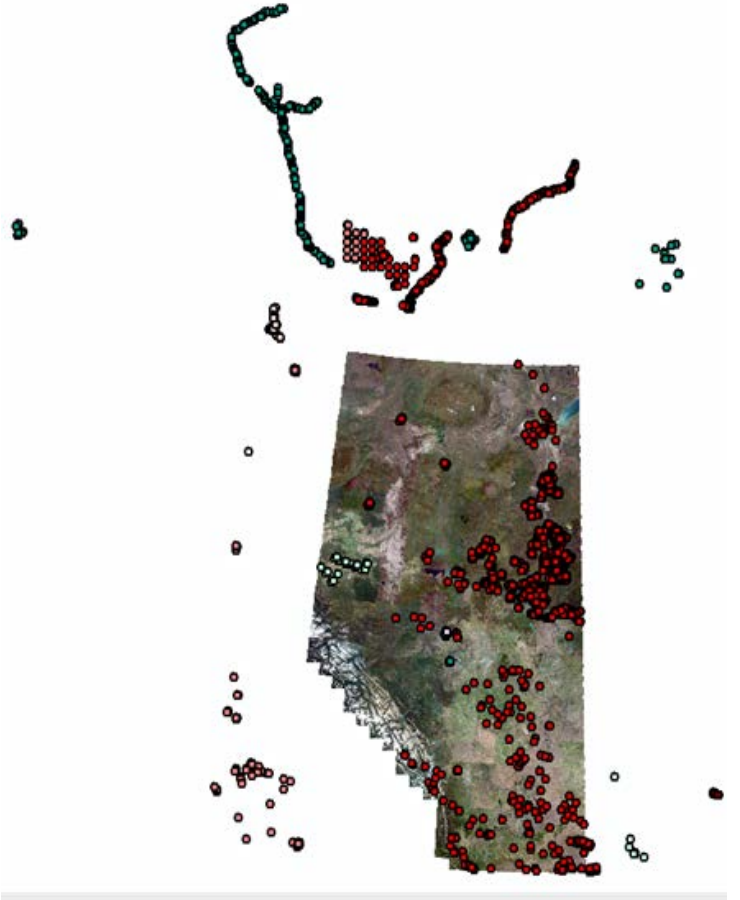
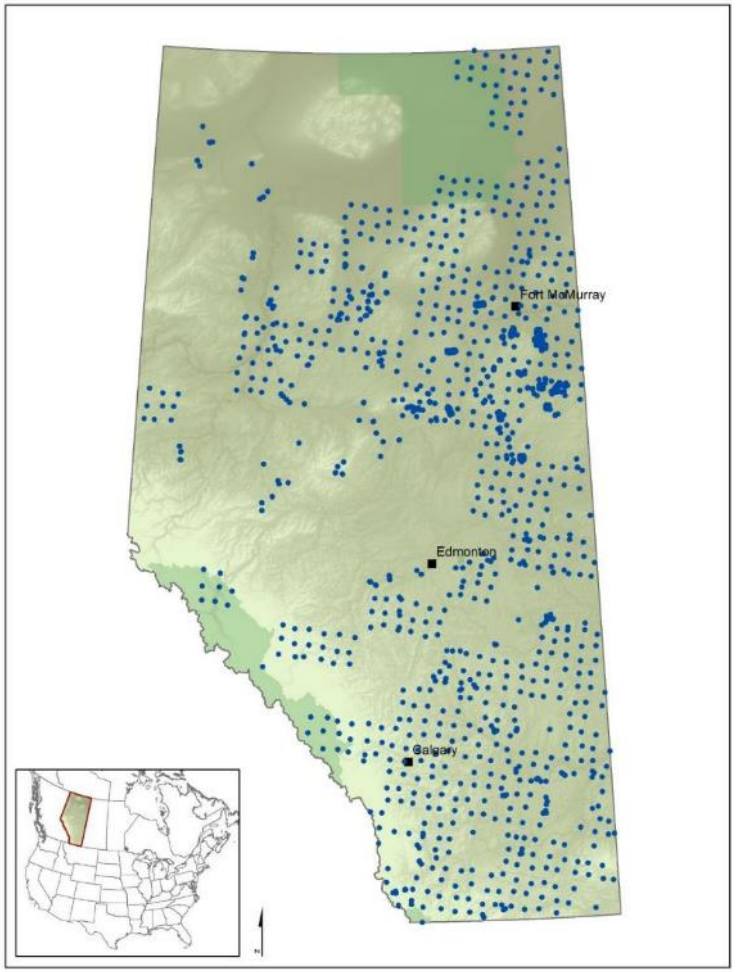


NOW

- Over 800 ARUs
- Over 13000 individual locations
- Over 55 Projects
- Accumulated over 200 TB of data
- 5.85 million recordings and counting

EXAMPLE: Camera Data Collection

- 9.5 million images from 2014-2018 (collect about 2-3 million images per year)



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Background

- Need for infrastructure to support these ‘Big Data’ data sets
- Support internal data storage and processing needs
- Create efficient processing platforms

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Background

- Need for infrastructure to support these ‘Big Data’ data sets
- Support internal data storage and processing needs
- Create efficient processing platforms
- Create best practices and protocols for cameras and ARUs

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In a Nutshell

- Is a web-based platform developed to establish a provincial environmental sensor data network
- Delivers multiple functions (currently for remote camera and ARU-based projects):
  - Project and user management
  - Data storage
  - Data processing and export
- Enables data sharing, transparency, and collaboration
- In Development: WildTrax Citizen Science to support crowd-based data tagging

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User Interface

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Live Demo: ARUs

Live Demo: Cameras

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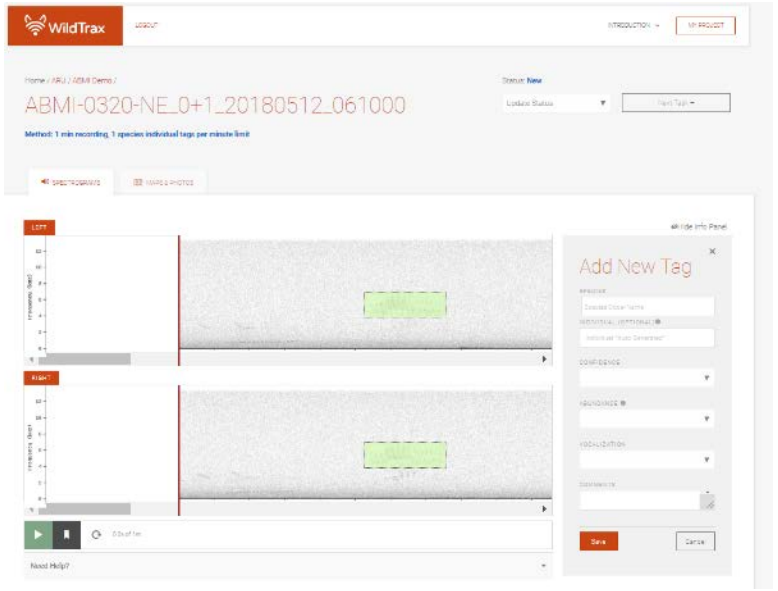
Benefits to Users

- Maximize data quality by reducing human errors
- Cost-savings through fast, efficient data processing; long term permanent storage
- Quick and easy data access and download
- Data contributes to bigger picture understanding of biodiversity change in AB
- Demonstrate leadership through a collaborative approach to collecting and interpreting data
- Engage citizens, communities, and partners in data collection
- Create and use the best available data to support environmental resource management



THANK YOU!

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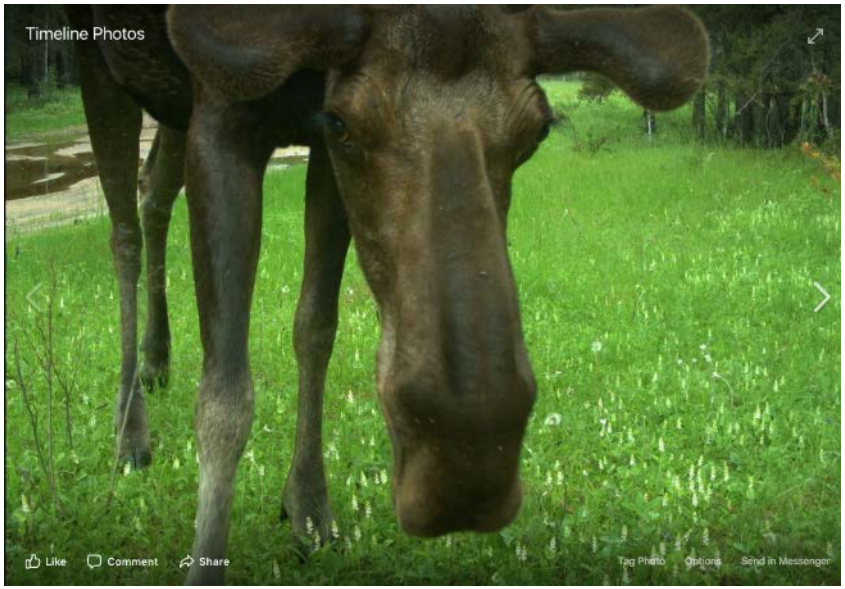
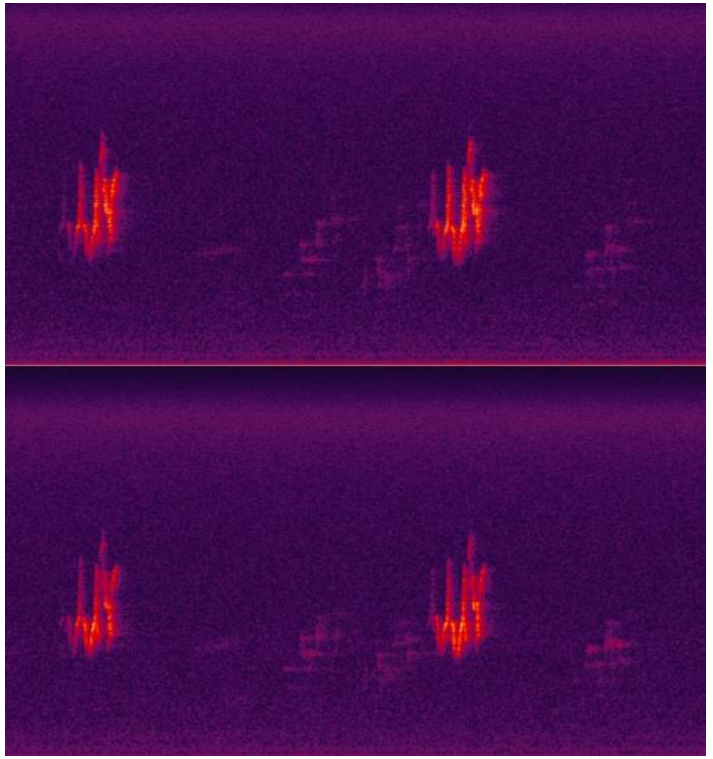


#CameraTrapTuesday

Feedback

- Is this product/research something you would use? Would it add value to the work you do?
- How could we improve this product so that it meets your needs, if it doesn't already?
- Are we missing something here? Do you have information we don't that could make this product even better? How can we work together?
- What other research questions should we be thinking about in relation to this product?

Some Fun Numbers

- 5.85 million recordings = play time of:
  - 175,500,000 minutes (@ 3 min/ file)
  - 292,500 hours
  - 12187.5 days
  - 33.4 years
- Transcribed ~1%
- Automate recognition on almost 100%