

# DoD and the AKN: Who, What, Where, When, Why, and How

*NMFWA Workshop, March 9, 2020, Omaha, Nebraska*

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# Welcome, Introductions, and Logistics



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# Introductions

Who are we?

Who are you?

Name, Branch, Position, What type of avian data you collect and use

# A few logistics

The Agenda (bookmark this)

[pointblue.github.io/dod\\_workshop](https://pointblue.github.io/dod_workshop)

Wi-fi access

Session: interactive & casual

Office hours on Wednesday

Parking lot items

# Can you log in?

Biologists:

**[data.pointblue.org/science/biologists](https://data.pointblue.org/science/biologists)**

Problems logging in?

Best to find a buddy.

# Limitations and caveats

Focus today: Point Count data

Bulk loading of data: office hours

First time giving this workshop

# AKN Project Data 101



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# Federal Avian Data Center

[data.pointblue.org/partners/fedadc/](https://data.pointblue.org/partners/fedadc/)

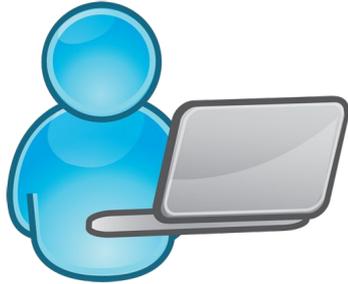
Federal Avian Data Center

Avian Knowledge Network

[Home](#) [About](#) [Uses of This Data Center](#) [Resources](#) [Help](#)



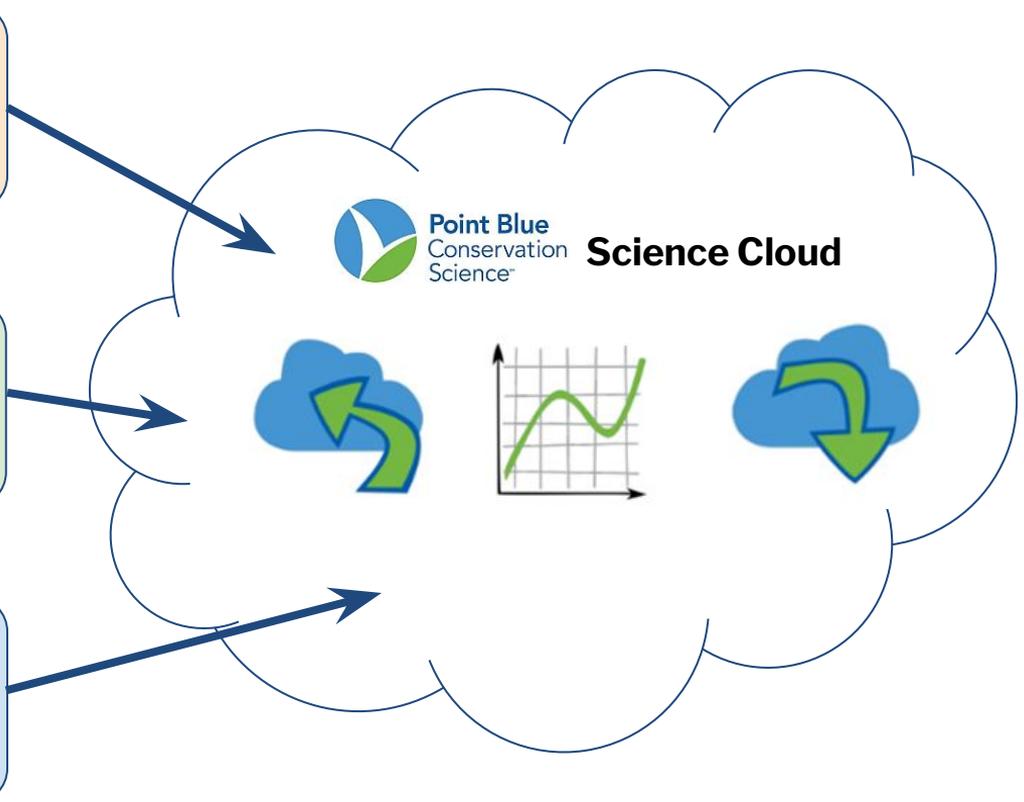
# AKN: common cloud technology



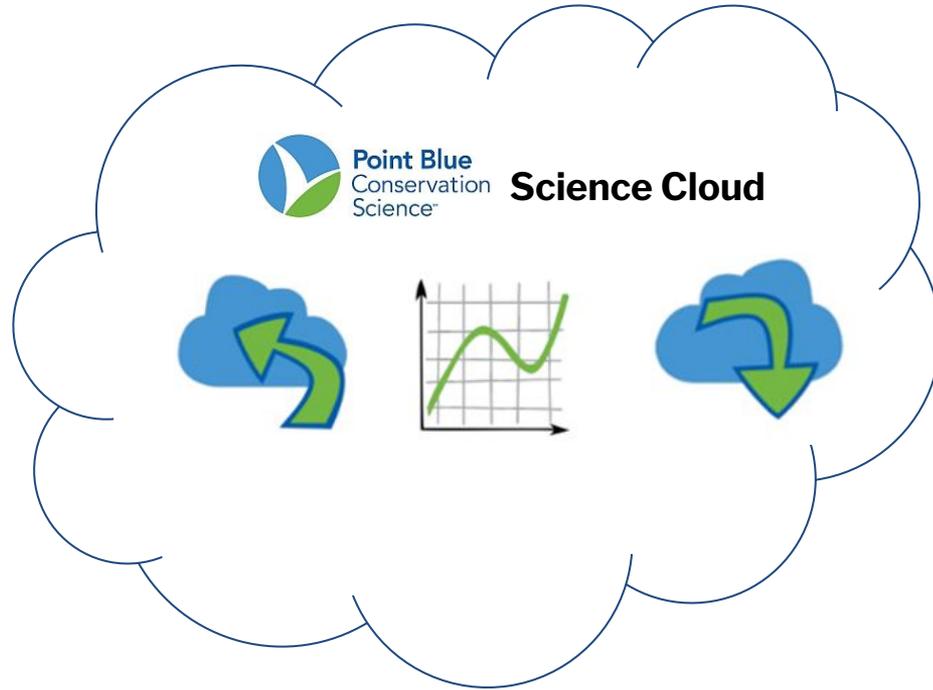
**Federal Avian  
Data Center**

**Avian  
Knowledge  
Northwest**

**Midwest  
Avian Data  
Center**



# Focus for this workshop



How do we represent protocol-based science?

How do you get data in?

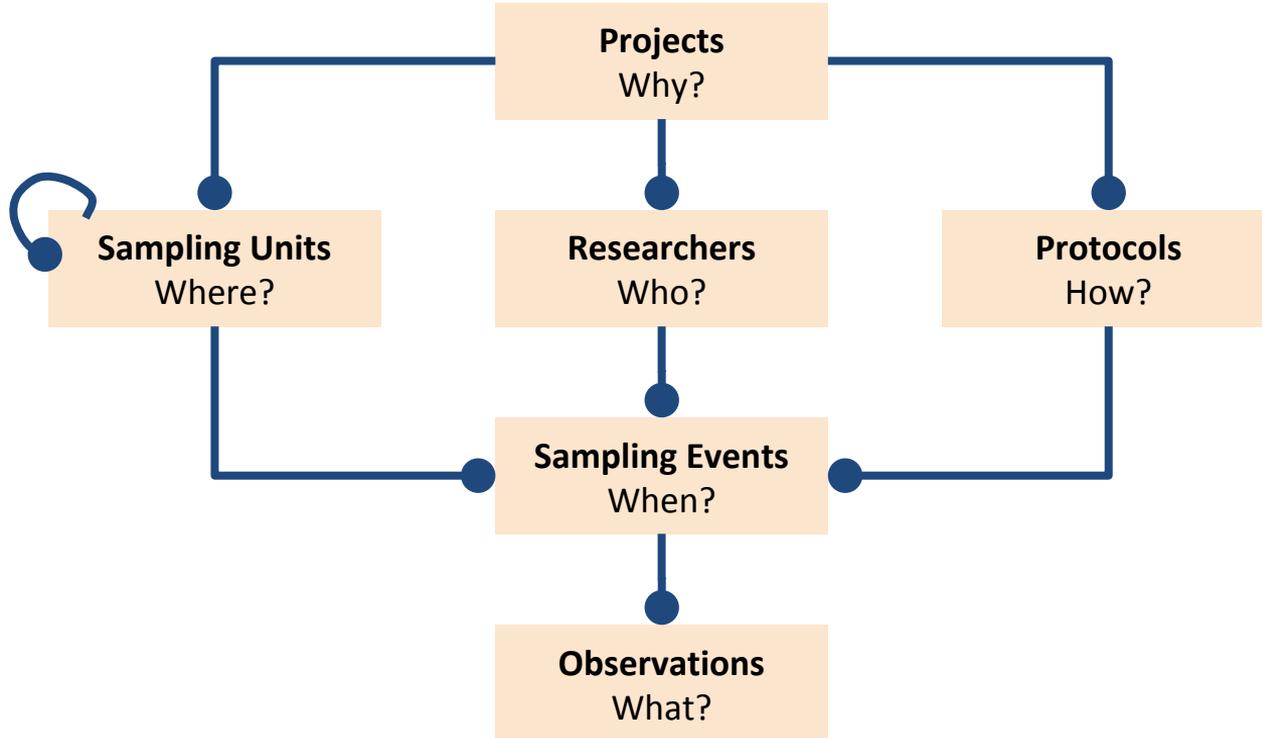
How do you data & information out?

What conservation questions can you answer?

# **AKN Project Data 101**

1. The parts of a Project Database
2. The workflow for creating a Project

# The Project Database



# Project

Container for Event and Observation data

Many ways to organize

For DoD: Project = Installation

# Protocols

The methods and mechanics of how observations were collected

Should provide enough information for researcher 20 years from now to understand the methods you used

# Protocol Information

- Duration
- Distance Bins
- Detection Codes
- Time Bins
- Double Observer
- Species Focus List
- Extended Columns
- Repeat Counts
- Species White / Black List
- Detection Aids
- Breeding Behavior
- Flyover Detections
- Protocol URL

# Main Protocol Types

- Point Count
- Linear Transect
- Area Search
- Secretive Marshbird
- Site Conditions

Pair up: Site Conditions with one of the others

**Protocols**  
How?

# Point Count Protocols

**Time:** Mins spent at each point + time bins

**Distance:** Binned or exact + max distance

**Detection:** List of cues

Can include breeding behavior

Assumed exhaustive survey

Each animal counted once

# Point Count Protocol Examples

## [Knutson \(USFWS\) protocol:](#)

10 minute, minute time bins, binned distances, simple detection

## [Point Blue protocol:](#)

5 minute, 1 time bin, exact distance, more complex detection

## [KBO protocol:](#)

5 minutes, 2 time bins, exact distance, complex detection, ext cols

Protocols  
How?

# Sampling Units

The locations where observations are collected

Hierarchically organized by Type

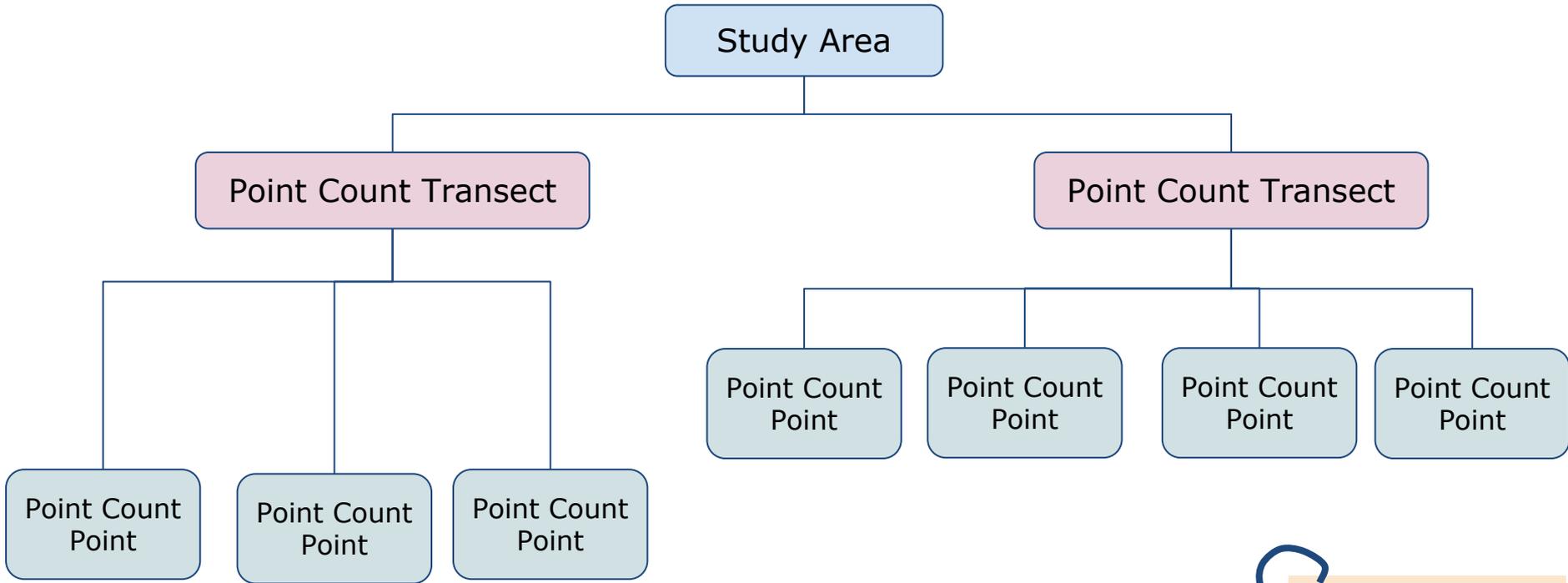
Uniquely named with Project

Can have Point/Line/Polygon



Sampling Units  
Where?

# Sampling Unit Types for Point Counts



 **Sampling Units**  
Where?

# Researchers

People identified in a Project for getting access and/or who made observations

Created by user registration (for active users) or manual entry (for historical data)

Researchers  
Who?

# Researcher Types

Project Leader: the data owner, has full control over data, metadata, and who gets Project access

Biologist: can enter and review data in the Project

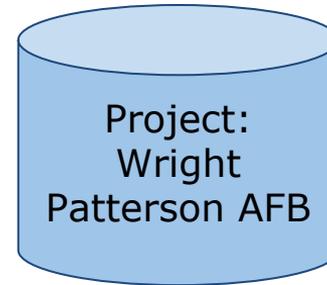
Researchers  
Who?

# Researchers & Project Access

Access Project assigned by Project Leader



Jane: Project Leader  
Mike: Biologist  
**Pat**: Biologist

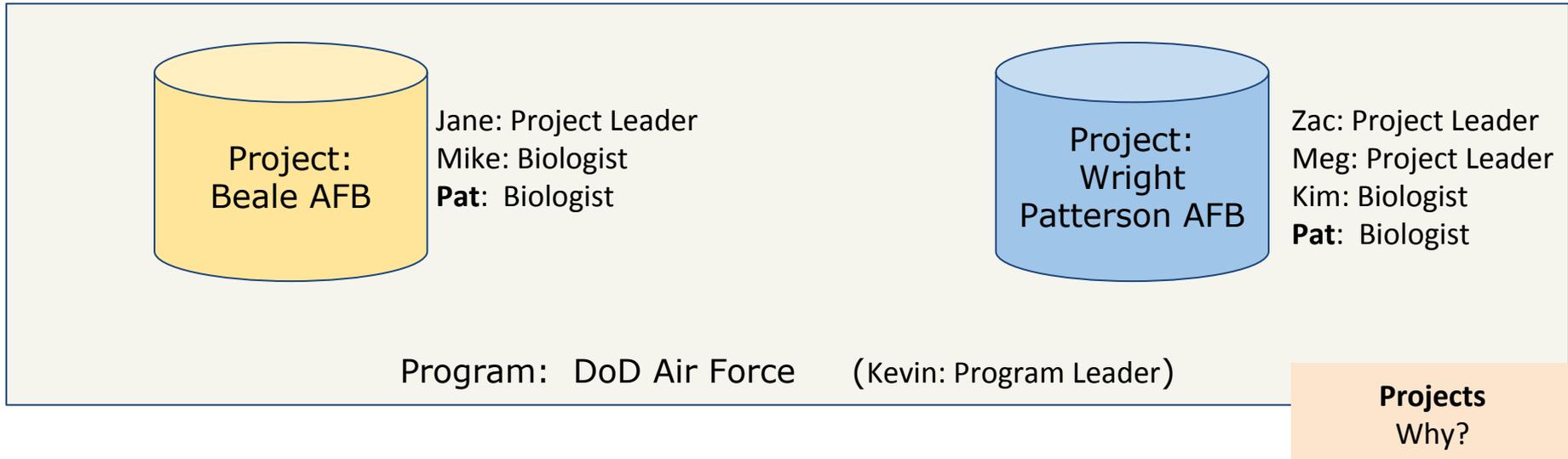


Zac: Project Leader  
Meg: Project Leader  
Kim: Biologist  
**Pat**: Biologist

**Projects**  
Why?

# Researchers & Project Access

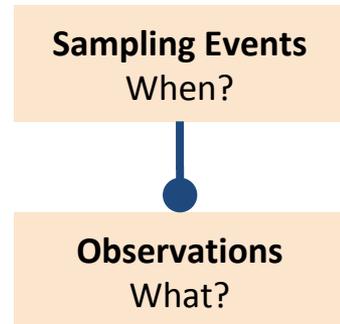
DoD will also have a Program Leader (managed by Point Blue staff w/ guidance from DoD leadership)



# Sampling Events and Observations

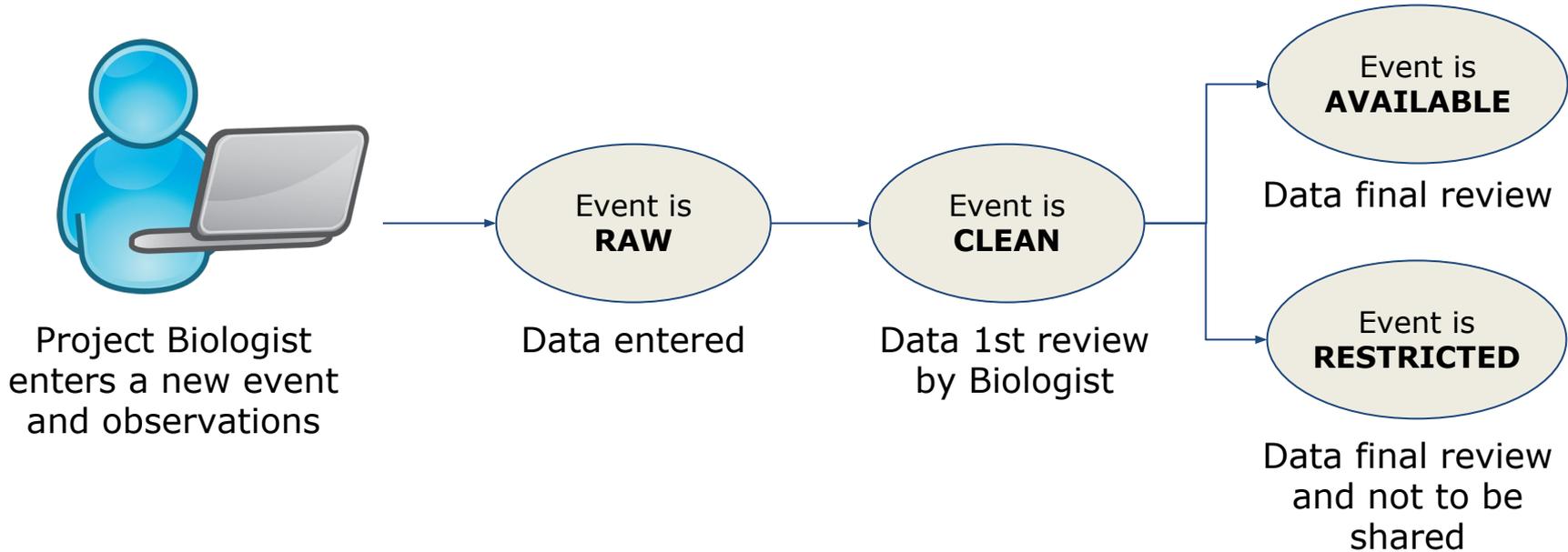
**Event:** survey at a Sampling Unit using a Protocol by Researcher at a specific date and time

**Observation:** one or more animal of a single species detected during an Event

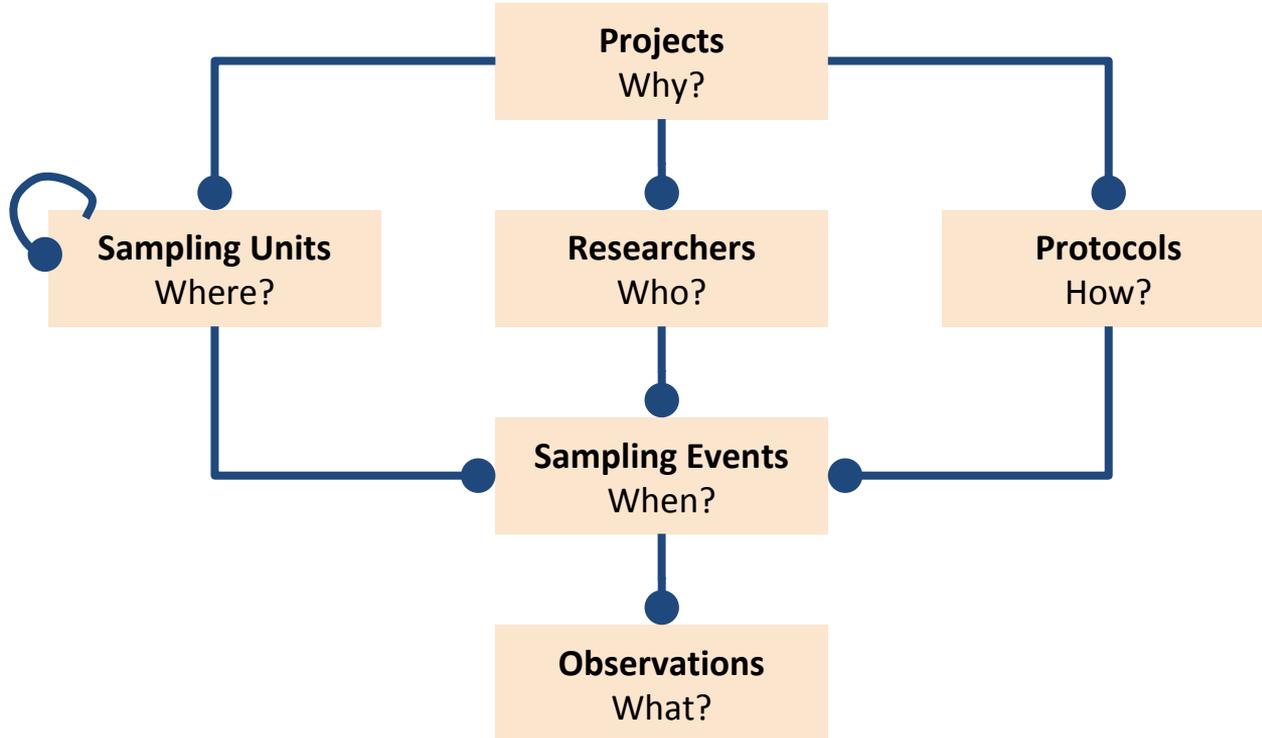


# Review Levels for each Event

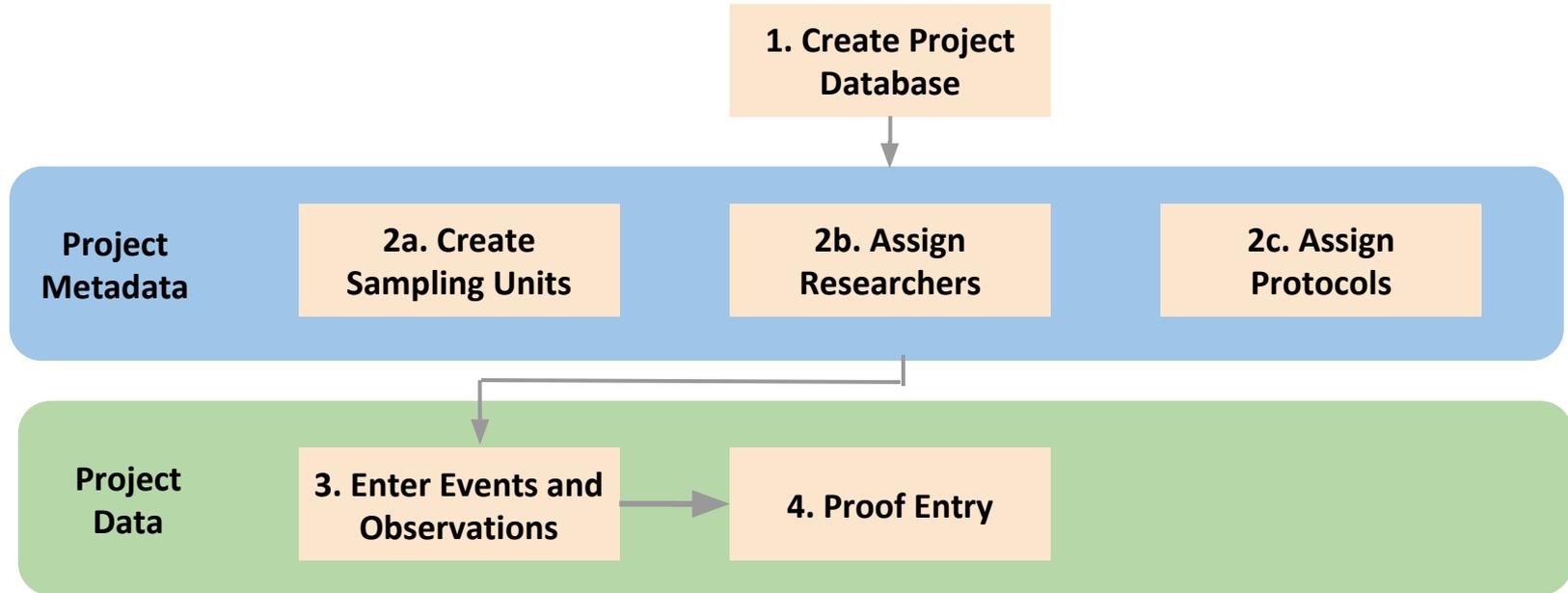
Steps to enter and review data in preparation for sharing



# Questions on Project Database?



# Workflow for Creating a Project (partial)



# Creating Project Metadata



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# Prepare for Exercises

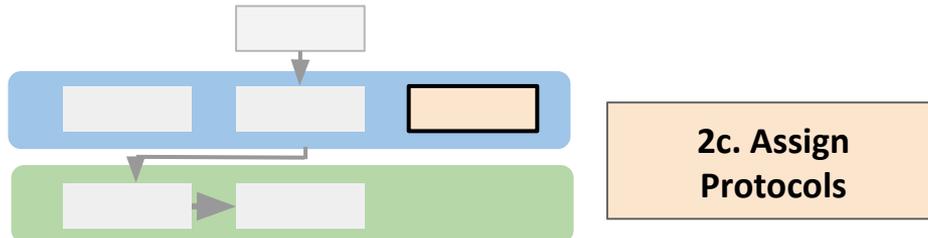
1. Open editor on computer or get piece of paper
2. Write down your table: Study Area
3. Write down 3-5 letters (initials, name):  
Point Count Transect
4. Write down that 3-5 letters again and put a 1-digit number after: Point Count Point

# Choosing Protocols (demonstration)

Goal: select Point Count and Site Conditions protocols that match data sheet

Tools:

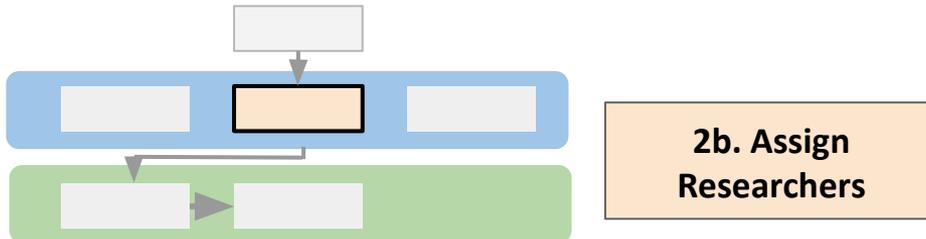
- [Our data sheet](#)
- [Protocol search tool](#)
- [Protocol inventory tool](#)
- [Biologists](#) for adding protocol to project



# Adding Researchers (demonstration)

Tools:

- [Biologists](#) for adding researchers to Project



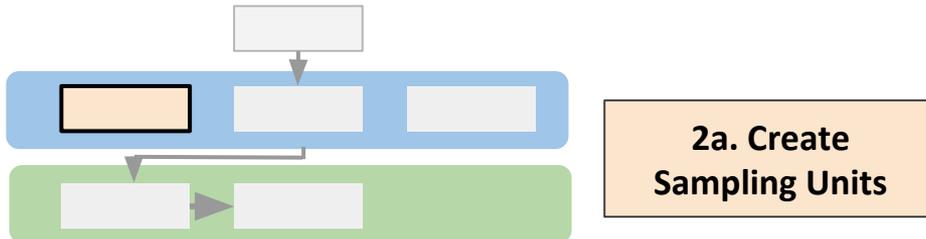
# Create Sampling Units (Exercise 1 and demonstration)

Exercise:

- [Exercise 1 instructions](#)

Downloading the sampling units:

- [Biologists](#) for download locations to GPS, GIS and more



# Break (15 mins)

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## Entering observation data to a Project



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# Enter & proof point count event (Exercise 2)

Exercise:

- [Exercise 2 instructions](#)
- okay not to follow data sheet exactly



# Download Point Count Data from Project (demonstration)

Tools:

- [Biologists](#) for download observations from our Project

# Bulk loading data into a Project



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# Bulk Loading Data

Loading spreadsheet data into the Project Database, including all metadata

Uses YAML file definition to describe how your spreadsheet maps into our schema

# Current State of Bulk Loading Tool

Version 1 product is difficult to use

We are working on Version 2 product that we will utilize components during Office Hours

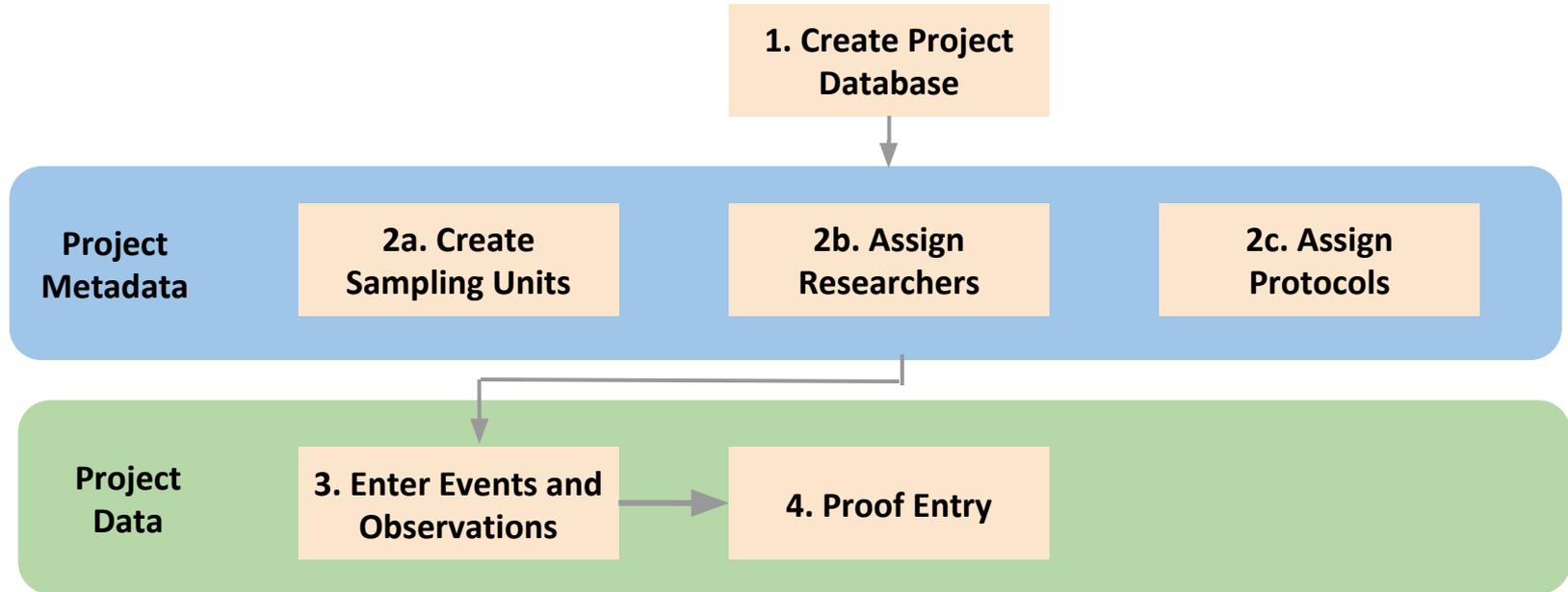
# Office Hours

Discuss bulk loading and other issues  
regarding your observation data

Wednesday, March 11, 0800-1700, in xxx  
Room

Sign up sheet available

# Any questions on Creating a Project?



# Lunch (60 mins)



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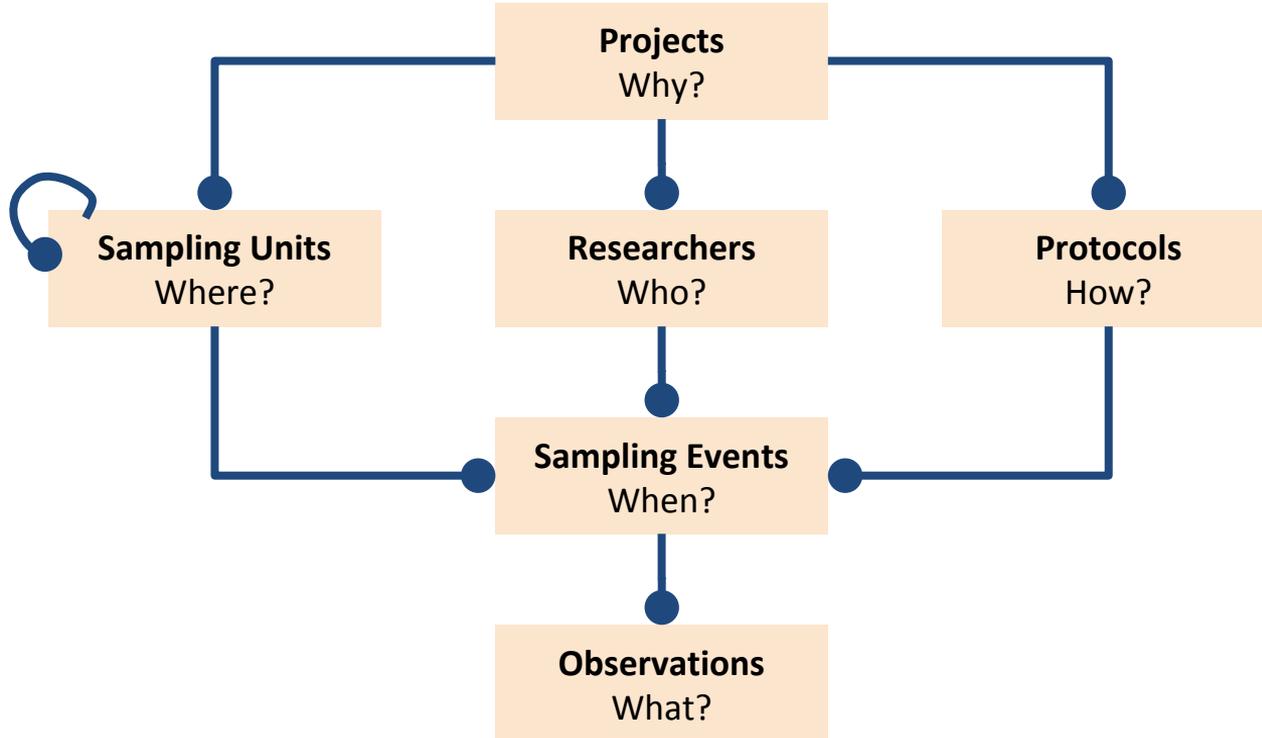
# AKN Warehouse Data 101



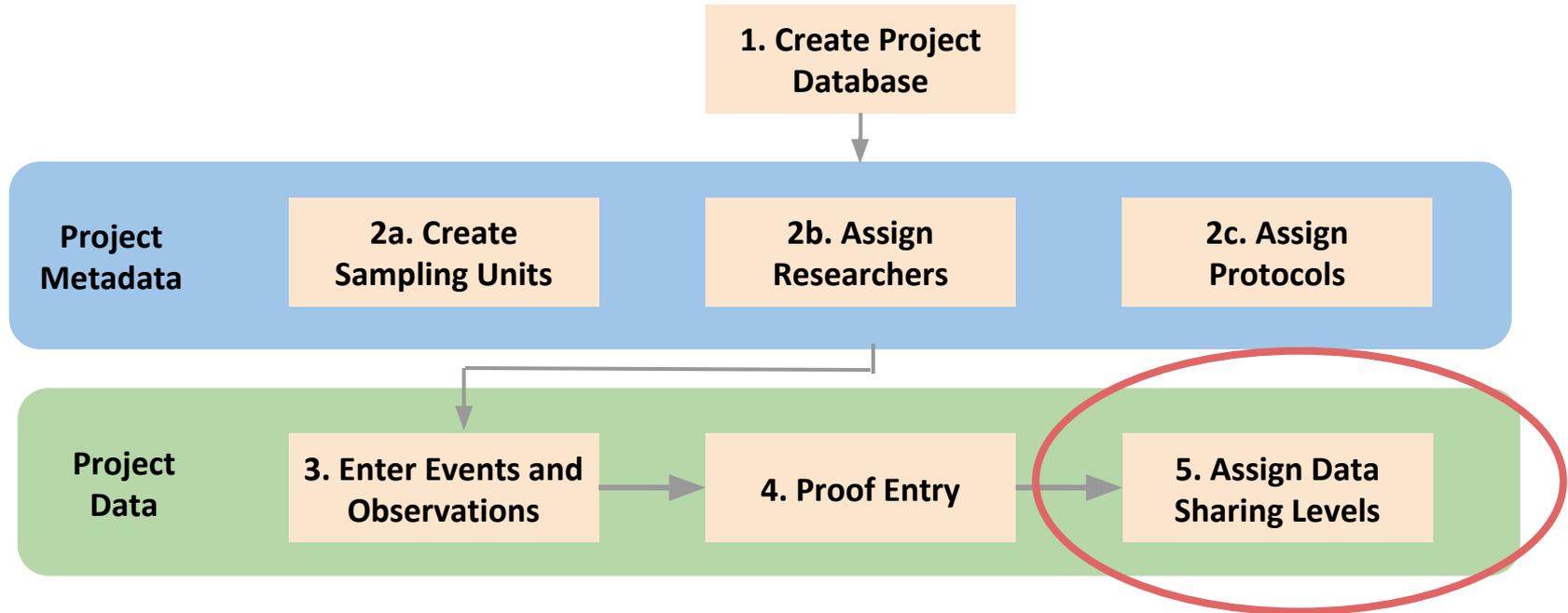
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# The Project Database



# Workflow for Creating a Project



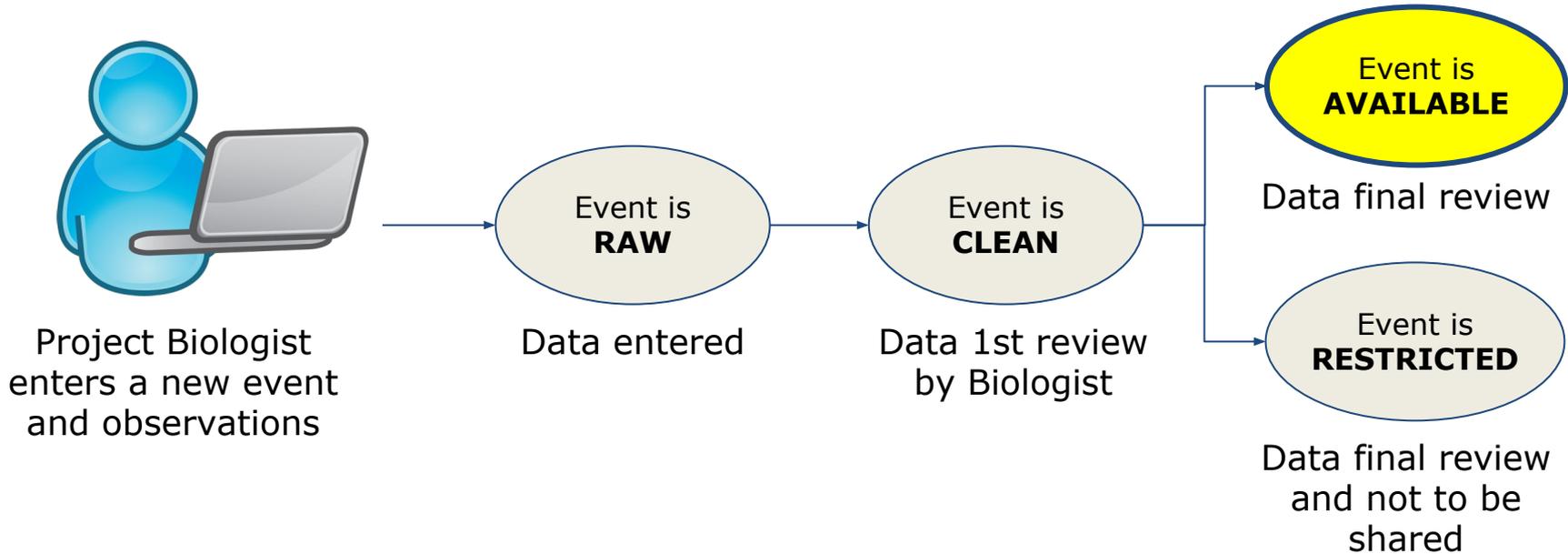
# Data Sharing Levels

Defines how visible each observation is for querying, summarizing, visualizing, and analyzing.

Controlled by the Project Leader within each project

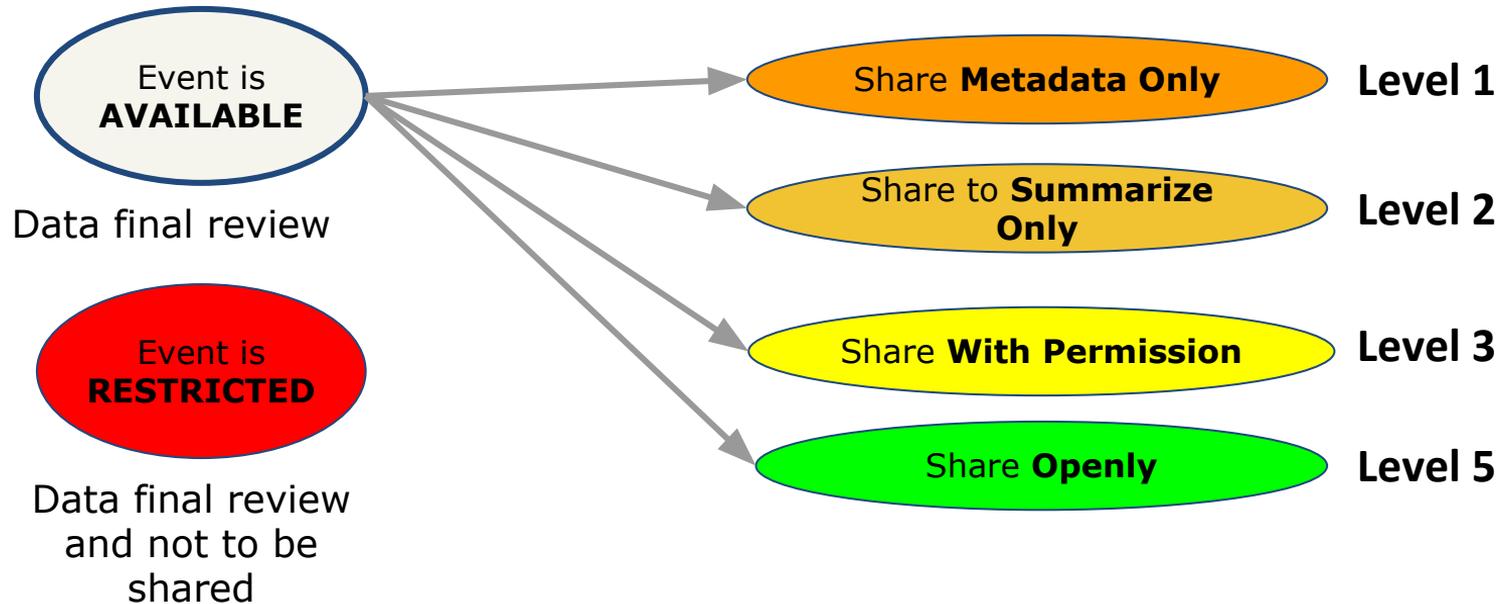
# Review Levels for each Event

Steps to enter and review data in preparation for sharing



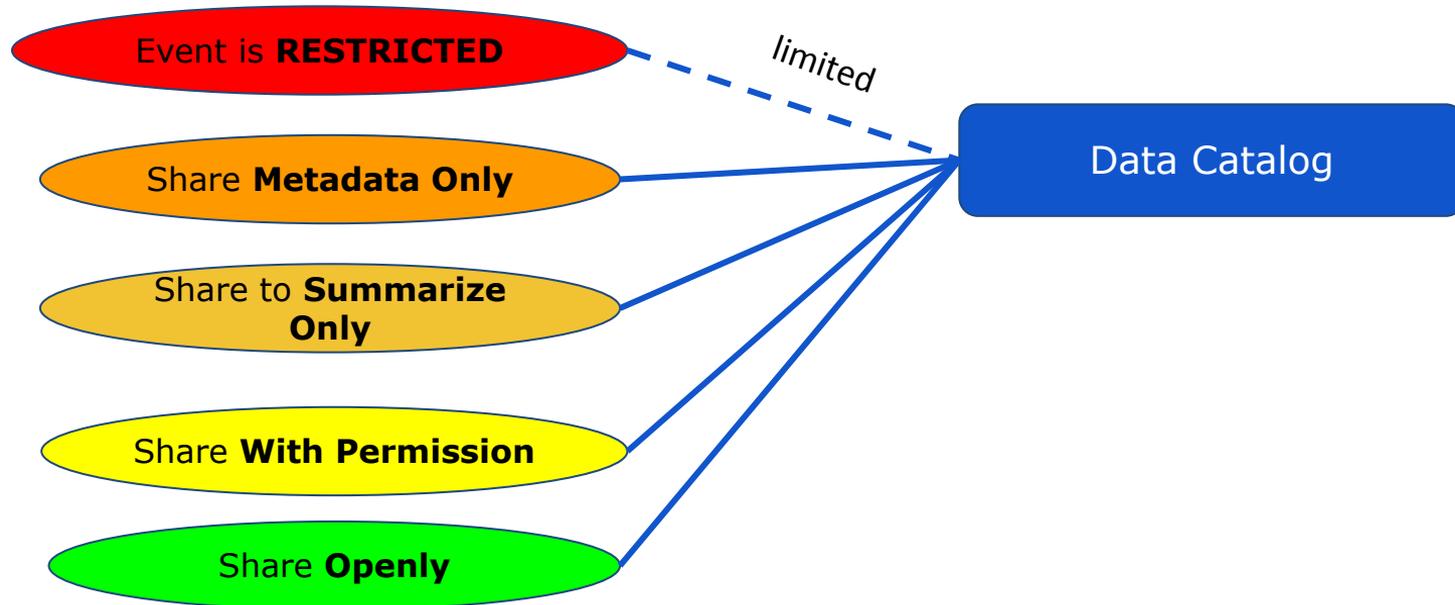
# Data Sharing Levels for each Event

Choices informs the Point Blue Science Cloud tools of your intentions.



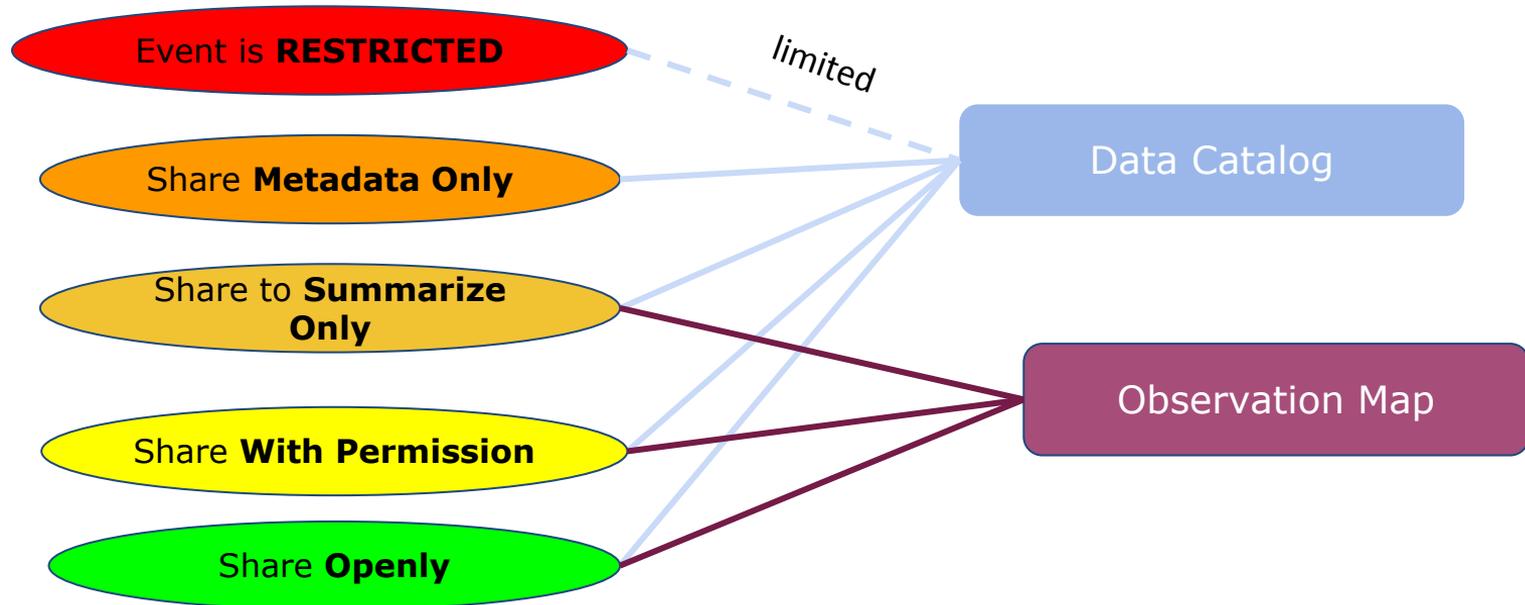
# Data Sharing and Tool Access

Choices informs the Point Blue Science Cloud tools of your intentions.



# Data Sharing and Tool Access

Choices informs the Point Blue Science Cloud tools of your intentions.



# Data Warehouses

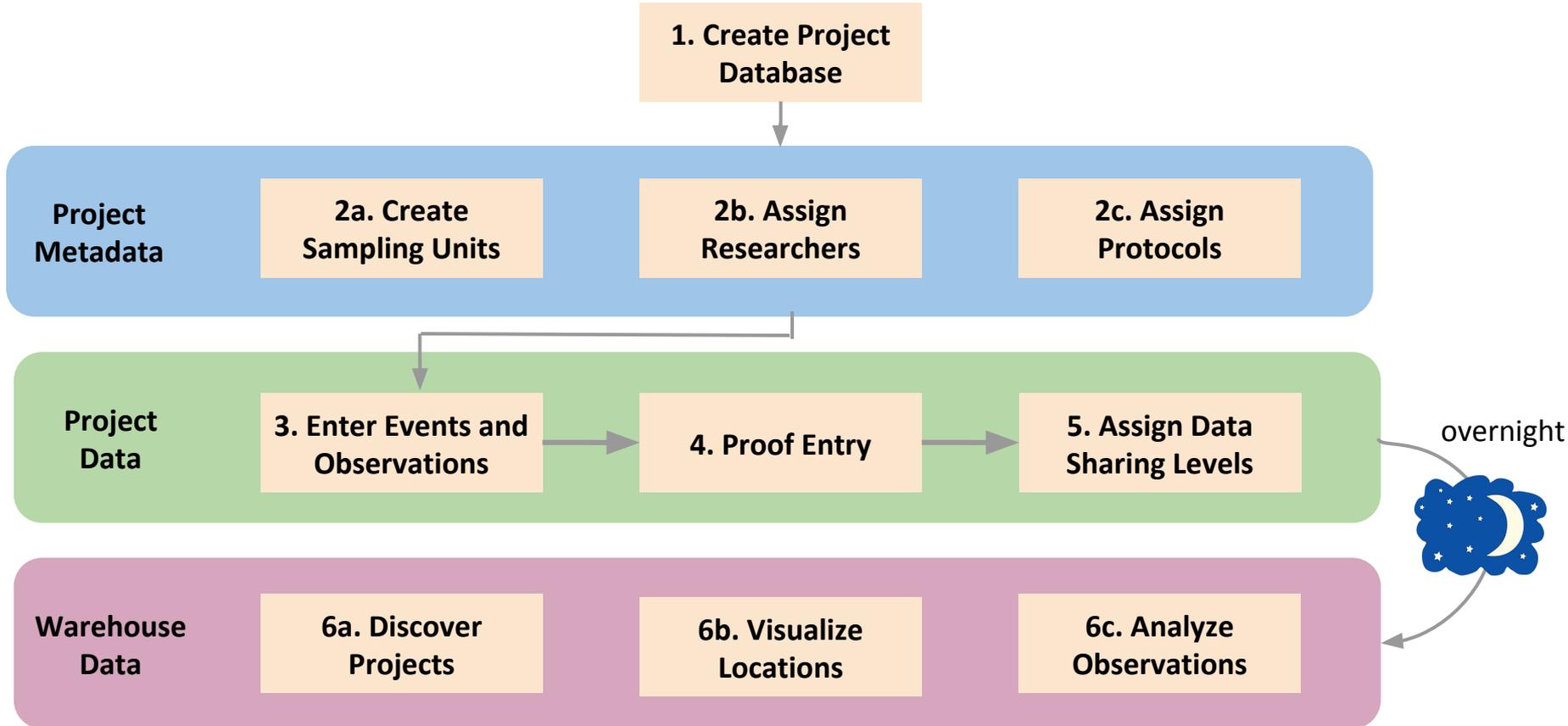
Database that with homogenized copy of observation data, organized by sampling method for cross-project query and analysis

Project data input today shows up automatically in the warehouse the day after you enter it

# Data Sharing Level Motivation

- Organizational Policy
- Federal / State Law
- Research and Right of First Publication
- Threatened / Endangered Species
- Private Landowner Agreements
- Contribute to AKN Science
- Partnership / Collaboration Development

# Workflow for Creating a Project



# Project Data vs Warehouse Data

Study Area	Transect	Point	Protocol	Visit	Date	Start Time	End Time	Time Bin	Time Bin	Count	Spp	Common Name	Scientific Name	Detection	Distance B	Distance B	Point Note	Obs	Researcher	Data Status	
LITTLERIVER	COMP_5	164	3_5_10m2	1	6/3/2019	8:01:00	8:11:00	3	0_3min	1	PIWA	Pine Warbler	Setophaga pinus	NR	G25	25 to 50	Light sprinkle, light rain		Arbour, David	AVAILABLE Level 5	
LITTLERIVER	COMP_5	164	3_5_10m2	1	6/3/2019	8:01:00	8:11:00	3	0_3min	1	GCFL	Great Crested Flycat	Myiarchus crinitu	NR	G50	50 to 100	Light sprinkle, light rain		Arbour, David	AVAILABLE Level 5	
LITTLERIVER	COMP_5	164	3_5_10m2	1	6/3/2019	8:01:00	8:11:00	3	0_3min	1	KEWA	Kentucky Warbler	Geothlypis formc	NR	G50	50 to 100	Light sprinkle, light rain		Arbour, David	AVAILABLE Level 5	
LITTLERIVER	COMP_5	164	3_5_10m2	1	6/3/2019	8:01:00	8:11:00	10	5_10min	1	BHCO	Brown-headed Cow	Molothrus ater	NR	G50	50 to 100	Light sprinkle, light rain		Arbour, David	AVAILABLE Level 5	
Project	Location	Protocol			Date	Time	HabitatPlot	Composition	Composition	Composition	Composition	Composition	Composition	Researcher							
LITTLERIVERNWR	164	FWS_PC_HAB_LWRMISS			6/3/2019	8:01:00	164	Vine	Cane	Overstory	Midstory	Understory	4	Arbour, David							

Project Database Version  
Warehouse Version

GlobalUniqueIdentifier	ProjectCode	ProjectName	LocalityID	StudyArea	Transect	TransectName	Point	SamplingU	ParentSam	Sam
URN:catalog:PRBO:LITTLERIVERNWR.300600.PointCount.3_5_10m25_50_100MflyByTm.329406.1	LITTLERIVERNWR	Little River NWR	LITTLERIVERNWR:COMP_5	Little River NWR	COMP_5	Compartment_5	164	300600	348115	Point
URN:catalog:PRBO:LITTLERIVERNWR.300600.PointCount.3_5_10m25_50_100MflyByTm.329406.2	LITTLERIVERNWR	Little River NWR	LITTLERIVERNWR:COMP_5	Little River NWR	COMP_5	Compartment_5	164	300600	348115	Point
URN:catalog:PRBO:LITTLERIVERNWR.300600.PointCount.3_5_10m25_50_100MflyByTm.329406.3	LITTLERIVERNWR	Little River NWR	LITTLERIVERNWR:COMP_5	Little River NWR	COMP_5	Compartment_5	164	300600	348115	Point
URN:catalog:PRBO:LITTLERIVERNWR.300600.PointCount.3_5_10m25_50_100MflyByTm.329406.4	LITTLERIVERNWR	Little River NWR	LITTLERIVERNWR:COMP_5	Little River NWR	COMP_5	Compartment_5	164	300600	348115	Point

DecimalLatitude	DecimalLongitude	Visit	ProtocolCode	Observat	Year	Collec	Month	DayC	JulianDa	JulianDayV	P Time	Collec	ScientificN	CommonN	SpeciesCo	Phylogen	DistanceFr	Flyc	I	Detectic	E	Observa	NoObsv	Record	Permissions
33.9699705	-94.70262	1	3_5_10m25_50_100MflyByTm	6/3/2019	2019	6	3	154	75	8:01:00	DA	1696	Setophaga Pine Warb	PIWA	1696	37.5			NR		1	0	AVAILABLE	LEVEL 5	
33.9699705	-94.70262	1	3_5_10m25_50_100MflyByTm	6/3/2019	2019	6	3	154	75	8:01:00	DA	1254	Myiarchus Great Cres	GCFL	1254	75			NR		1	0	AVAILABLE	LEVEL 5	
33.9699705	-94.70262	1	3_5_10m25_50_100MflyByTm	6/3/2019	2019	6	3	154	75	8:01:00	DA	1718	Geothlypis Kentucky	KEWA	1718	75			NR		1	0	AVAILABLE	LEVEL 5	
33.9699705	-94.70262	1	3_5_10m25_50_100MflyByTm	6/3/2019	2019	6	3	154	75	8:06:00	DA	2015	Molothrus Brown-hea	BHCO	2015	75			NR		1	0	AVAILABLE	LEVEL 5	



# **Data Sharing Guidelines/Policies and Agreements**

# Data Ownership and Control

Project Leaders / Organizations are the owner of data from a Project, regardless of where it is stored

Project Leaders can change Data Sharing Levels at any time, including making more restrictive

# Discovering observation data



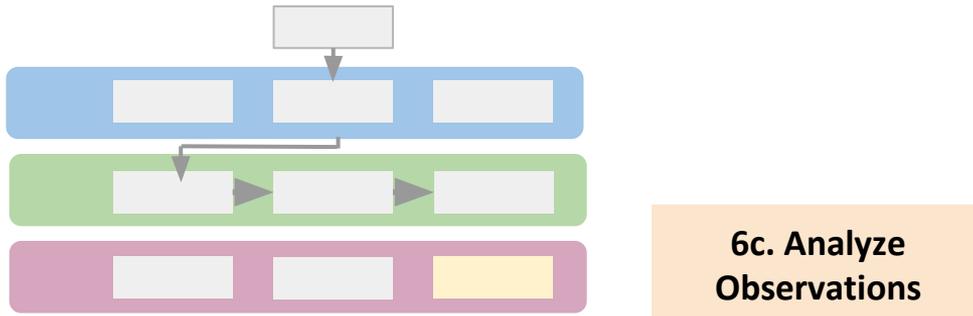
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# Create Species List with Phenology Tool (Exercise 3)

Exercise:

- Orientation of [Phenology Tool](#)
- [Exercise 3 instructions](#)



# Download Point Count Data from Warehouse (demonstration)

Tools:

- [Data Downloader](#)

# Break (15 mins)

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## Looking for trends



# Looking for Trends (Exercise 4)

Exercise:

- Orientation of [Data Catalog](#) and [Observation Map](#)
- [Exercise 4 instructions](#)



# How have others organizations fully leveraged the AKN?



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# Wrap-up



# DoD and the AKN: Who, What, Where, When , Why, and How

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## Thank you for participating!

