



AVIAN
KNOWLEDGE NETWORK

DoD AND THE AKN: WHO, WHAT, WHERE, WHEN , WHY, AND HOW

DoD National Guard Training
May 23-25, 2023
Hermiston, OR

Sam Veloz
Dianne Miller

John Alexander
Caitlyn Gillespie

Elizabeth Neipert
Zoe Duran



DoD AKN Training – 23-25 May, 2023, Hermiston, OR



Photo: Mick Thompson/Flickr (CC BY NC 2.0)



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pointblue.github.io/dod_workshop



Photo: Mick Thompson/Flickr (CC BY NC 2.0)



WELCOME, INTRODUCTIONS, AND LOGISTICS



Who are **we**?

Who are **you**? (we'll call on you)

- Name, Installation, Position
- What type of avian data you collect?
- How would you like to use AKN?

INTRODUCTIONS

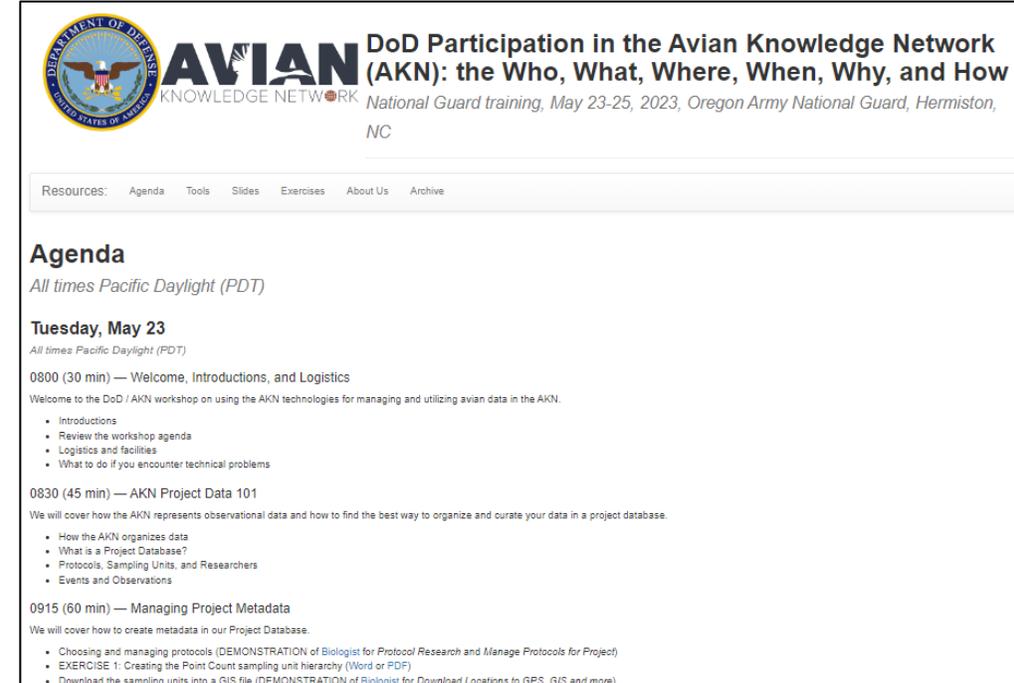
A FEW LOGISTICS...

- The Agenda with links (bookmark this): **pointblue.github.io/dod_workshop**
- Session: interactive & casual
- Office hours: 8 hours monthly sign up here



- Bring lunch each day
- Parking lot items

<https://www.dodakn.org/resources/get-training/#office-hours/>




AVIAN KNOWLEDGE NETWORK

DoD Participation in the Avian Knowledge Network (AKN): the Who, What, Where, When, Why, and How
 National Guard training, May 23-25, 2023, Oregon Army National Guard, Hermiston, NC

Resources: [Agenda](#) [Tools](#) [Slides](#) [Exercises](#) [About Us](#) [Archive](#)

Agenda

All times Pacific Daylight (PDT)

Tuesday, May 23
All times Pacific Daylight (PDT)

0800 (30 min) — Welcome, Introductions, and Logistics
Welcome to the DoD / AKN workshop on using the AKN technologies for managing and utilizing avian data in the AKN.

- Introductions
- Review the workshop agenda
- Logistics and facilities
- What to do if you encounter technical problems

0830 (45 min) — AKN Project Data 101
We will cover how the AKN represents observational data and how to find the best way to organize and curate your data in a project database.

- How the AKN organizes data
- What is a Project Database?
- Protocols, Sampling Units, and Researchers
- Events and Observations

0915 (60 min) — Managing Project Metadata
We will cover how to create metadata in our Project Database.

- Choosing and managing protocols (DEMONSTRATION of Biologist for Protocol Research and Manage Protocols for Project)
- EXERCISE 1: Creating the Point Count sampling unit hierarchy (Word or PDF)
- Download the sampling units into a GIS file (DEMONSTRATION of Biologist for Download Locations to GPS, GIS and more)

DoD MANDATE MEMO



OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
3400 DEFENSE PENTAGON
WASHINGTON, DC 20301-3400

ENERGY, INSTALLATIONS,
AND ENVIRONMENT

MEMORANDUM FOR DEPUTY ASSISTANT SECRETARY OF THE ARMY
(ENVIRONMENT, SAFETY AND OCCUPATIONAL HEALTH)
DEPUTY ASSISTANT SECRETARY OF THE NAVY
(ENVIRONMENT AND MISSION READINESS)
DEPUTY ASSISTANT SECRETARY OF THE AIR FORCE
(ENVIRONMENT, SAFETY AND INFRASTRUCTURE)

SUBJECT: Department of Defense Avian Knowledge Network Program

The Department of Defense (DoD), like other federal agencies, has significant regulatory, management, and stewardship responsibilities related to migratory birds. These requirements are driven primarily by the Migratory Bird Treaty Act (MBTA), the "Military Readiness Rule" (50 CFR § 21.15, Authorization of take incidental to military readiness activities) and Executive Order (EO) 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds." In accordance with EO 13186, DoD has also established a Memorandum of Understanding with the U.S. Fish and Wildlife Service outlining the management and stewardship activities DoD will implement for migratory bird conservation. All DoD natural resources conservation programs support DoD access to its land, air, and water resources for realistic military training and testing and to sustain the long-term ecological integrity of the resource base and the ecosystem services it provides, in accordance with the Sikes Act. Collecting data and information from ongoing surveys, inventories, and monitoring are essential to make informed management decisions, efficiently and effectively meet regulatory requirements (e.g., the MBTA, the Sikes Act), conduct environmental analyses, and support planning to adaptively manage migratory bird populations in the context of mission activities. As such, the DoD spends millions of dollars annually to collect these data.

However, even with the collection of large amounts of data, DoD faces significant challenges to fully utilize and optimize our avian data. These challenges include: (1) inefficient access to data for regulatory requirements, environmental analyses, and planning; (2) a lack of visibility on avian species population trends and management across the Military Services and broader landscapes; and (3) a lack of a centralized, secure data repository resulting in data loss during personnel turnover.

To address these challenges, DoD began partnering with other federal agencies (i.e., U.S. Fish and Wildlife Service, Bureau of Land Management, U.S. Forest Service) in the development of the Avian Knowledge Network (AKN) in 2016. The AKN is a national clearinghouse for avian data and decision support tool for assessing bird population health, status and trends, specific stressors, and conservation measures. The AKN connects partner datasets, includes metadata and data assumptions, contains powerful data analysis tools, and is a permanent archive of all data records.

This office fully endorses the use of AKN and requests that each DoD Component utilize AKN to the maximum extent practicable and provide staff the support needed to make AKN the best tool for DoD. A coordinated and comprehensive approach to implement DoD's participation in the AKN will directly support the military mission and improve the quality and effectiveness of bird conservation on DoD installations. For DoD to fully employ the power of AKN, user training and significant initial data management is required. This office, through the DoD Legacy Resource Management Program, is committed to providing baseline support and resources to help implement AKN. This support will provide training and education for personnel, and technical assistance related to system use and data management. The DoD AKN Director is Ms. Elizabeth Neipert, at elizabeth.s.neipert@erdcdren.mil or 907-201-6244.

Additionally, a national Cooperative Agreement has been established to support AKN implementation. It provides a streamlined process for DoD Components and installations to contribute additional resources to meet their unique needs.

The point of contact for this office is Ms. Liz Galli-Noble, DoD Senior Natural Resources Program Manager and Legacy Resource Management Program Manager, elizabeth.j.galli-noble.civ@mail.mil or 406-581-8148

KIDD, RICHARD GO Digitally signed by
ODWIN IV.1163856
081
Reason: I am the author
Date: 2022.08.24 11:39:54 -0400

Richard G. Kidd IV
Deputy Assistant Secretary of Defense
(Environment and Energy Resilience)

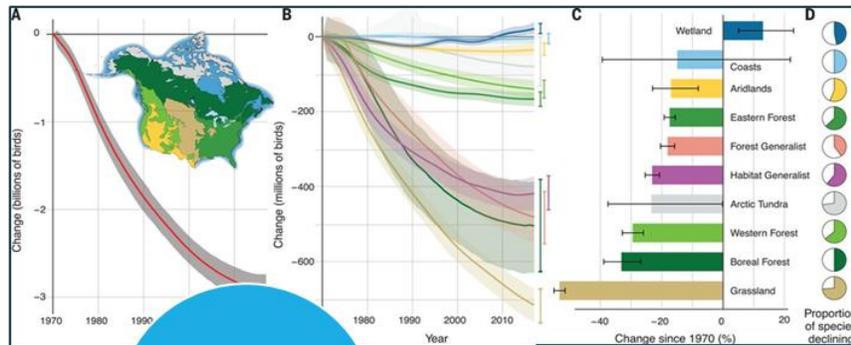
FULL AVIAN DATA LIFE CYCLE



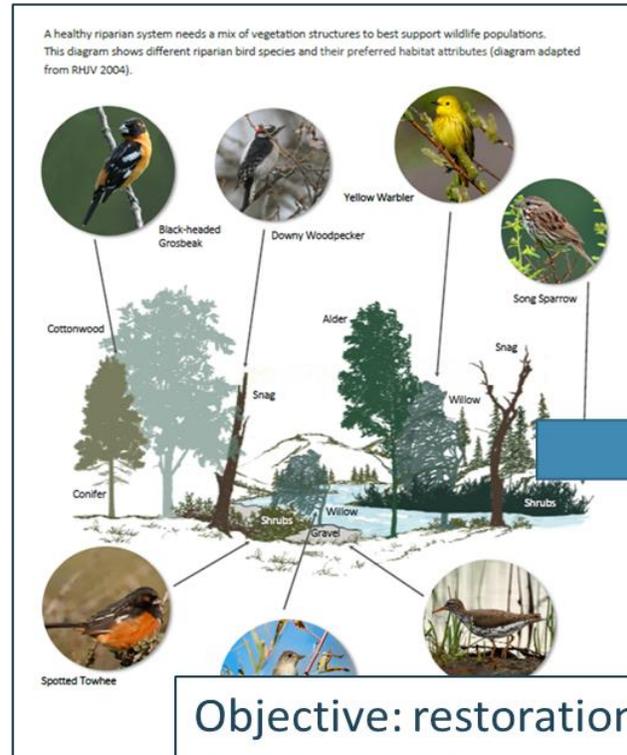
FULL AVIAN DATA LIFE CYCLE



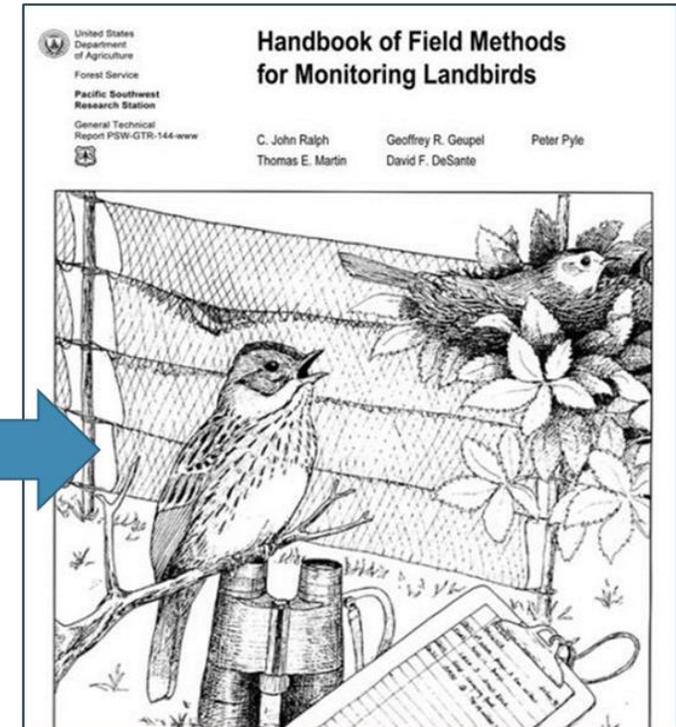
FULL AVIAN DATA LIFE CYCLE



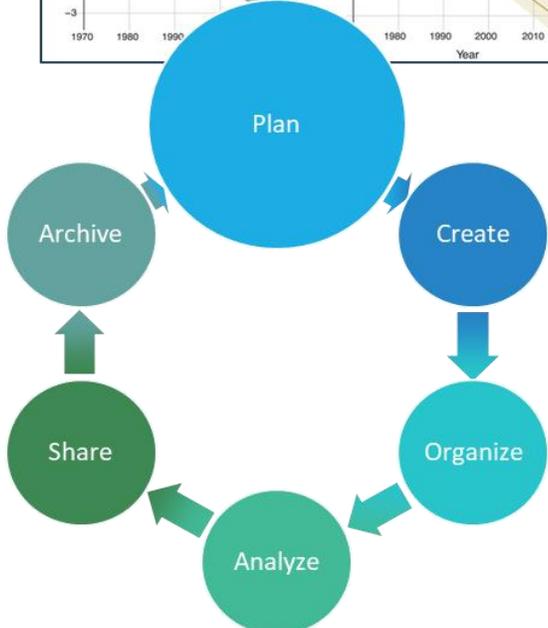
Objective: population trends



Objective: restoration & management

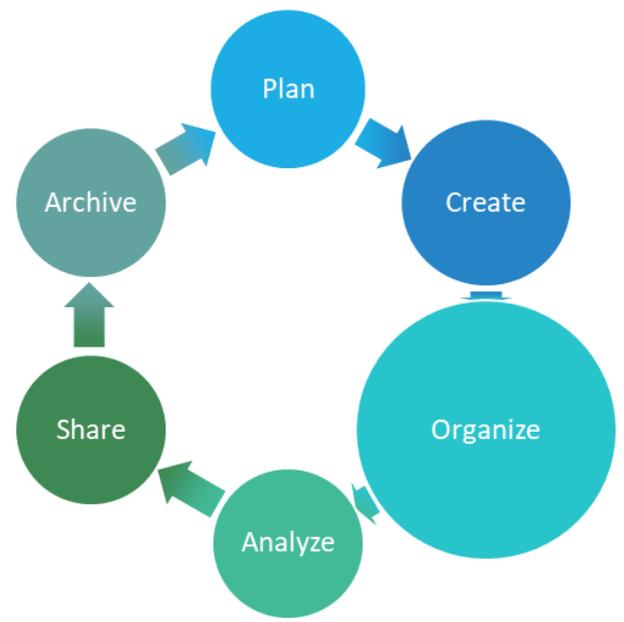


APPROPRIATE METHODOLOGIES



SURVEY OBJECTIVES

FULL AVIAN DATA LIFE CYCLE



Observations

Species observations with details, layout and titles dependent on protocol.

[Quick Tips >>](#)

- Separate observations on individual rows
- Scroll observations (not compatible with all browsers)

Observation Protocol: VCP100Sx
 Total Birds Counted: 7

DATA ENTRY
QA/QC

[Download CSV](#)

Point ⓘ	Time ⓘ	Species ⓘ	Time Bin ⓘ	Count ⓘ	Detection ⓘ	Distance ⓘ	AnimalSex ⓘ	Notes	
DI-10A	07:21	RWBL	1	1	S	52	Male		✕
DI-10A	07:21	RWBL	1	1	V	52	Male		✕
DI-10A	07:22	TUVU	2	1	V	FLO			✕
DI-10A	07:24	LASP	4	1	V	26			✕
DI-10A	07:24	LASP	4	1	V	94			✕
DI-10A	07:25	LASP	5	1	C	53			✕

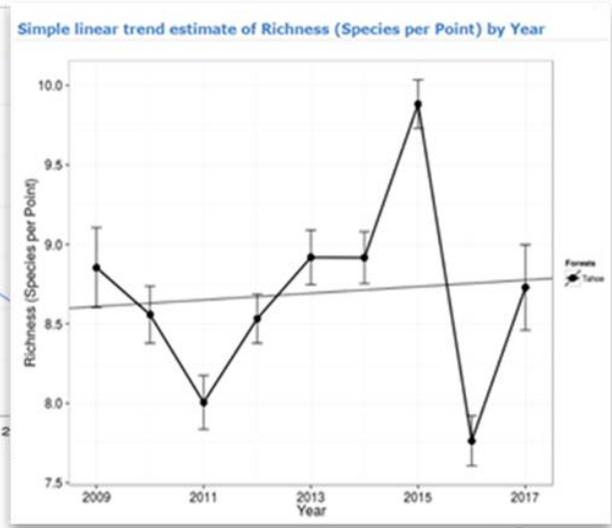
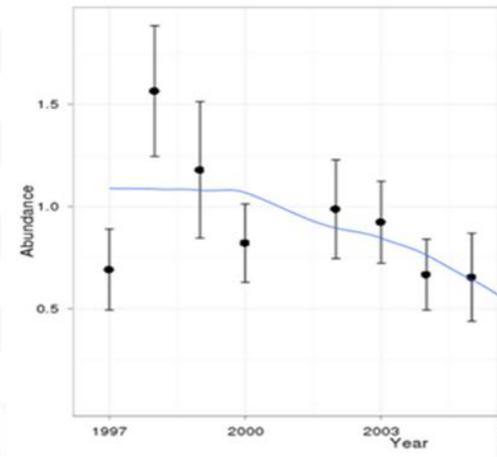
FULL AVIAN DATA LIFE CYCLE

ANALYSIS

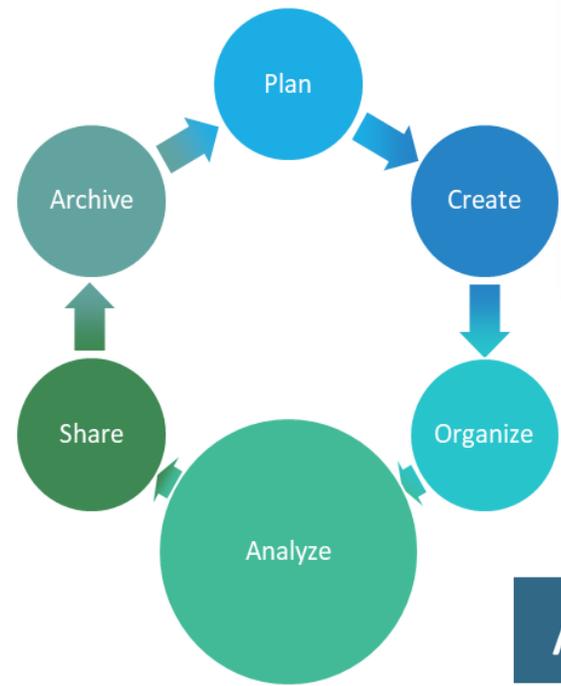
Total Number of Observations of each Species by Year

copy table to: [CSV](#) [HTML](#) [DOC](#) [PDF](#)

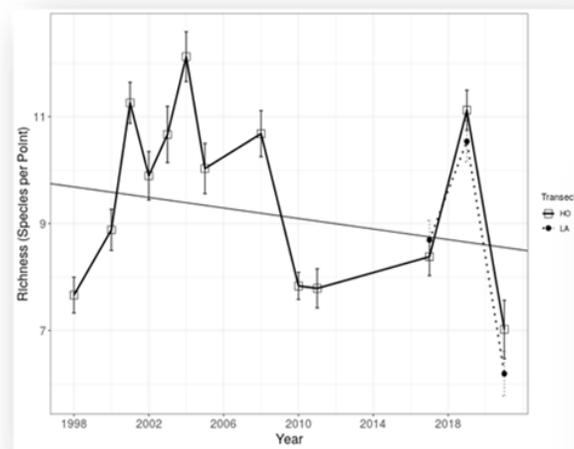
Common Name	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
American Crow	0	7	2	0	5	25	11	5	1	11	0
American Dipper	1	5	7	2	5	1	1	3	3	3	6
American Goldfinch	0	33	0	17	28	15	38	8	21	8	36
American Kestrel	0	Trend in Abundance over YearCollected. Generalized additive trend estimate of Abundance by Year with locally weighed (loess) smoother. Estimate for Species = Song Sparrow Using Locally Weighed (loess) Smoother									
American Pipit	5										
American Redstart	0										
American Robin	44										
American Three-toed Woodpecker	2										
Audubon's Warbler	55										
Bald Eagle	0										
Band-tailed Pigeon	0										
Barn Swallow	0										
Barred Owl	1										



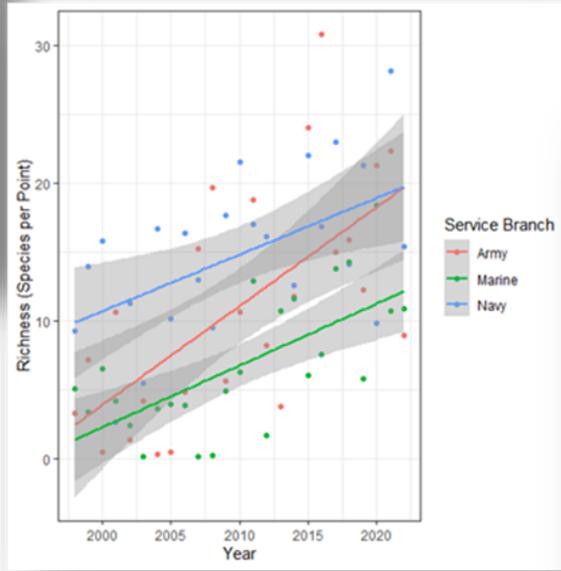
FULL AVIAN DATA LIFE CYCLE



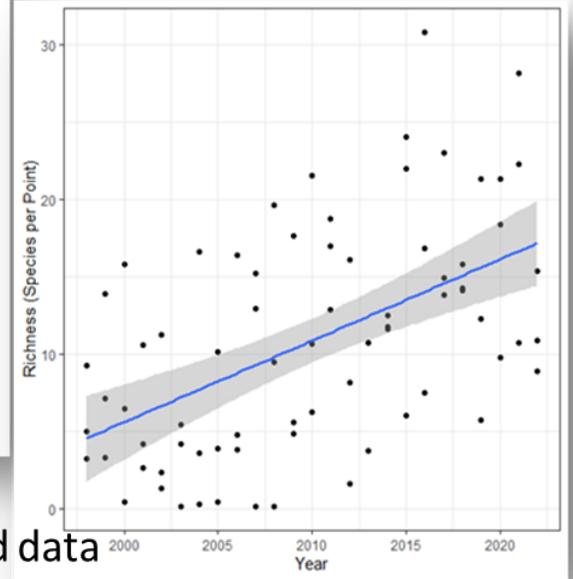
Vandenberg Space Force Base Project Riparian Richness



Service Branch Program Riparian Bird Richness



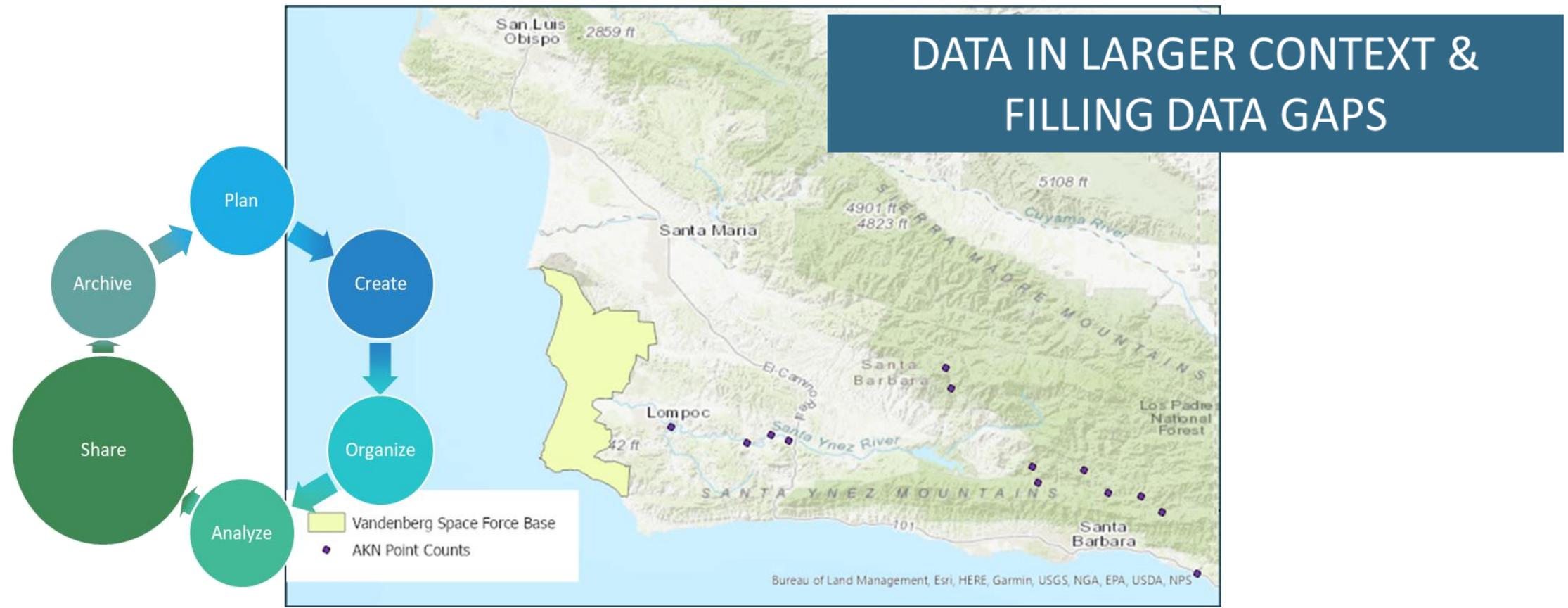
DoD Program Riparian Bird Richness



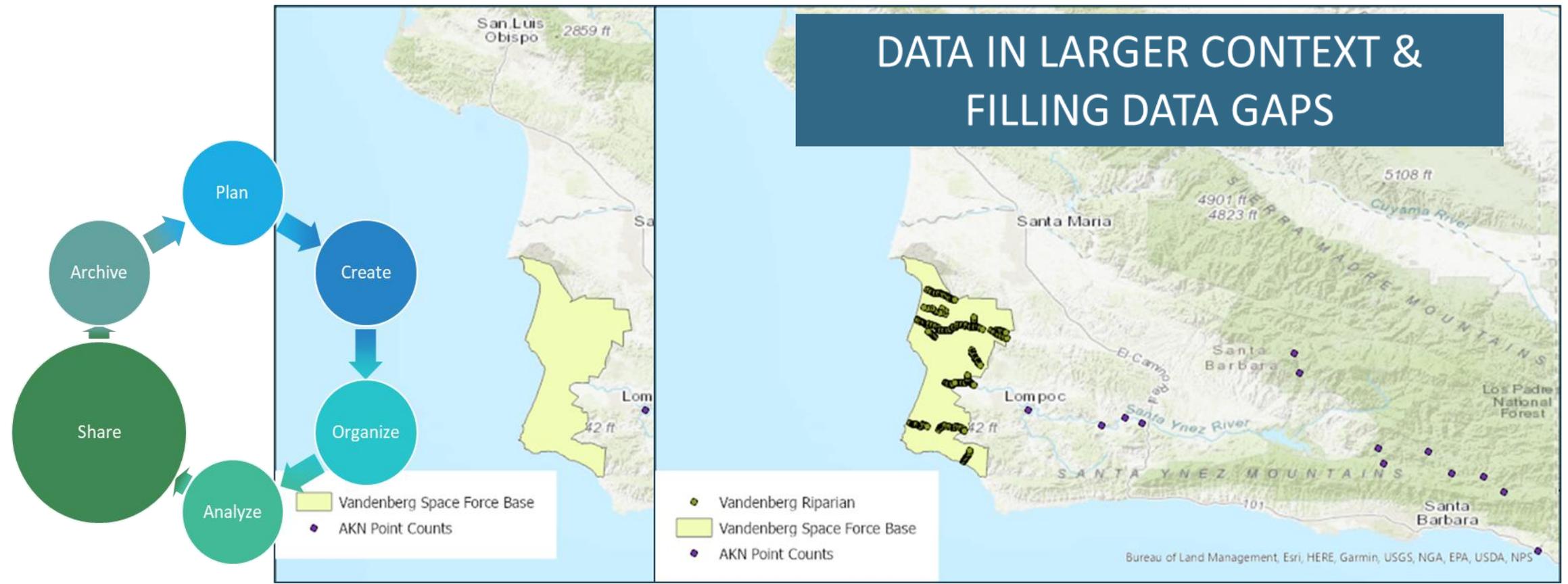
ANALYSIS AT MULTIPLE SCALES

*Simulated data

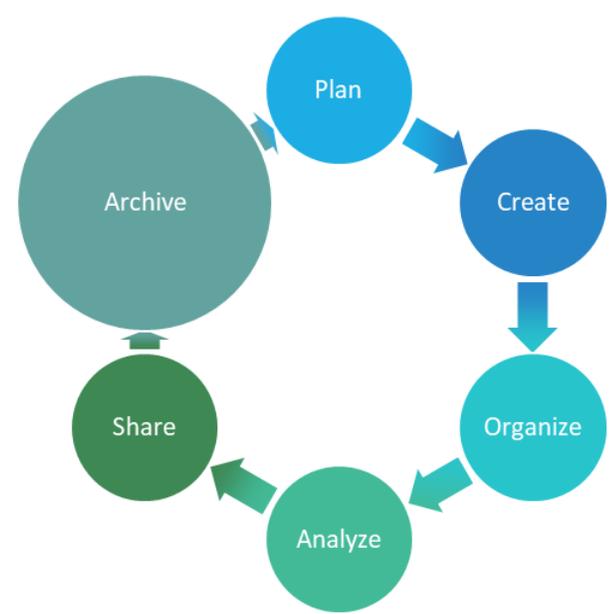
FULL AVIAN DATA LIFE CYCLE



FULL AVIAN DATA LIFE CYCLE



FULL AVIAN DATA LIFE CYCLE



Field Observations - Download

FORT_CARSON - [DOD_ARMY] Fort Carson Point Counts [open new project](#)

Selecting Sampling Units: Check all of the Sampling Units you want to select by clicking on each one. Open any part of the tree to get to more Sampling Units. To uncheck a Sampling Unit, click on it again. If you check or uncheck a Sampling Unit that contains other Sampling Units, the entire set of Sampling Units will be checked or unchecked. Click *Select All* to select and *Clear All* to unselect everything in the tree.

1. Select sampling units from the tree below.

[select all](#) [clear all](#)

- FORT_CARSON - [DOD_ARMY] Fort Carson Point Counts
 - Fort Carson Marshbird (FC_MB)
 - Fort Carson Point Count (CARSON_PC)
 - Bird Farm (Grassland) (GB_BF)
 - TA 08 (Grassland) (GB_TA08)
 - TA 10 (Grassland) (GB_TA10)
 - TA 15 (Grassland) (GB_TA15)
 - TA 24 (Grassland) (GB_TA24)
 - TA 28 (PJ) (PJ_TA28)

2. Download observation data from selected Sampling Units into:

Filter by Date (or leave blank for all records):
 From To

- Point Count Transect summary: [CSV \(Excel\) file](#) [HTML file](#)
- Point Count [CSV \(Excel\) file](#) [HTML file](#)

Project Protocols

[open new project](#) **FORT_CARSON - [DOD_ARMY] Fort Carson Point Counts**

[add one](#) copy table to: [CSV](#) [HTML](#) [DOC](#) [PDF](#)

Protocol Id	Protocol Name	Protocol Type	
BI_S_V_BI	BLRA,SORA,VIRA,BLTA	SecretiveMarshBirdCount	✗
IMBCR_VRPC	Bird Conservancy of the Rockies IMBCR 6 min count	PointCount	✗
SiteConditions_FORT_CARSON	Site conditions temperature, wind, sky, noise	SiteConditions	✗
VRPC__10min_2TB	Variable radius point count with detection cues lasting 10 minutes with 2 timebin and sex	PointCount	✗

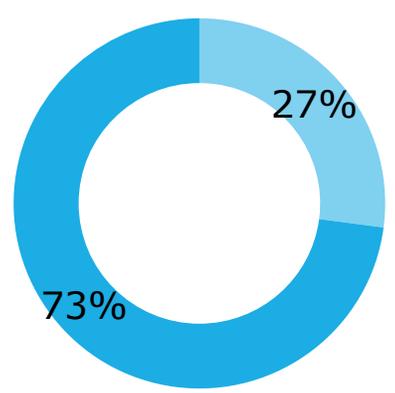
4 rows

PERMANENT STORAGE & ACCESS

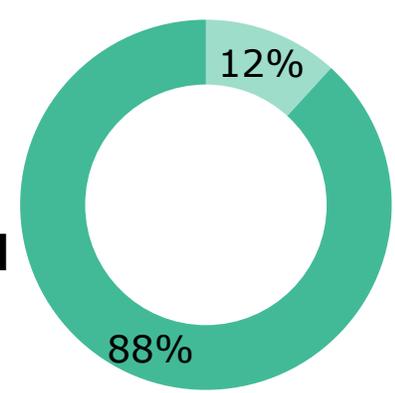
341 installations that require **Integrated Natural Resources Management Plans**

Army:	146	Marine Corps:	17
Navy:	82	National Guard:	54
Air Force:	96	(states and territories)	

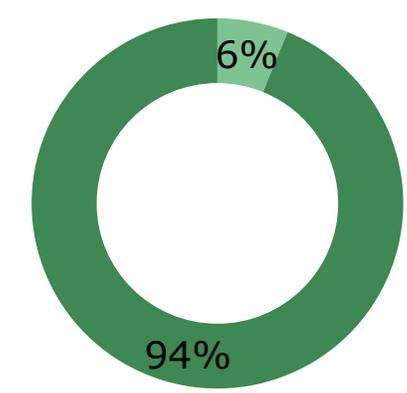
Air Force



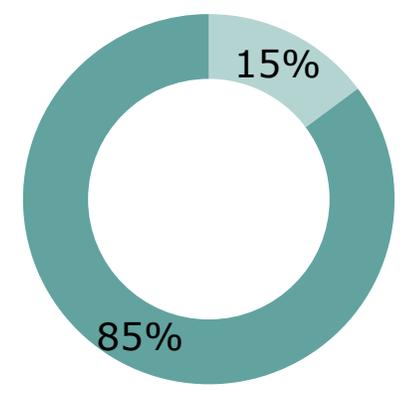
Marine Corps



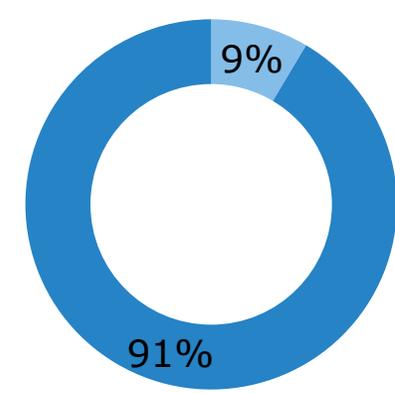
Army



National Guard



Navy



CAN YOU LOG IN?

Biologists:

data.pointblue.org/science/biologists

Problems logging in?

Best to find a buddy or have one of us help!



Photo: Eric Gofreed

LIMITATIONS AND CAVEATS

Focus for this training: Point Count data

Office hours are where we can dig deeply into your installation's specific projects, data needs, and issues.



AKN PROJECT DATA 101



DoD AKN PORTAL

<https://www.dodakn.org/>

Welcome to the DoD AKN Portal

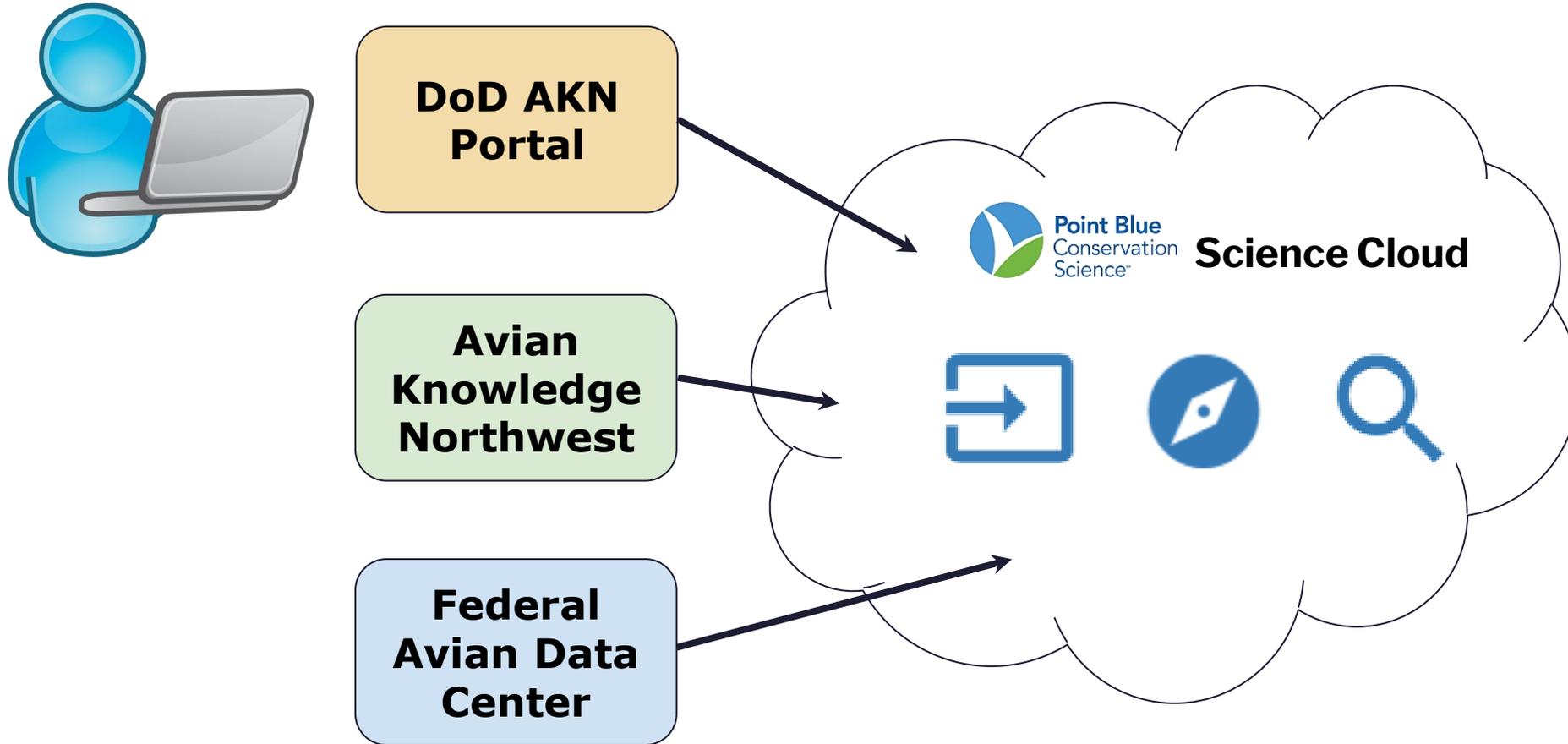
Provides a modern avian data management system approach to foster efficient, cost-effective and resilient conservation outcomes in support of the military mission.

[Manage data now](#)

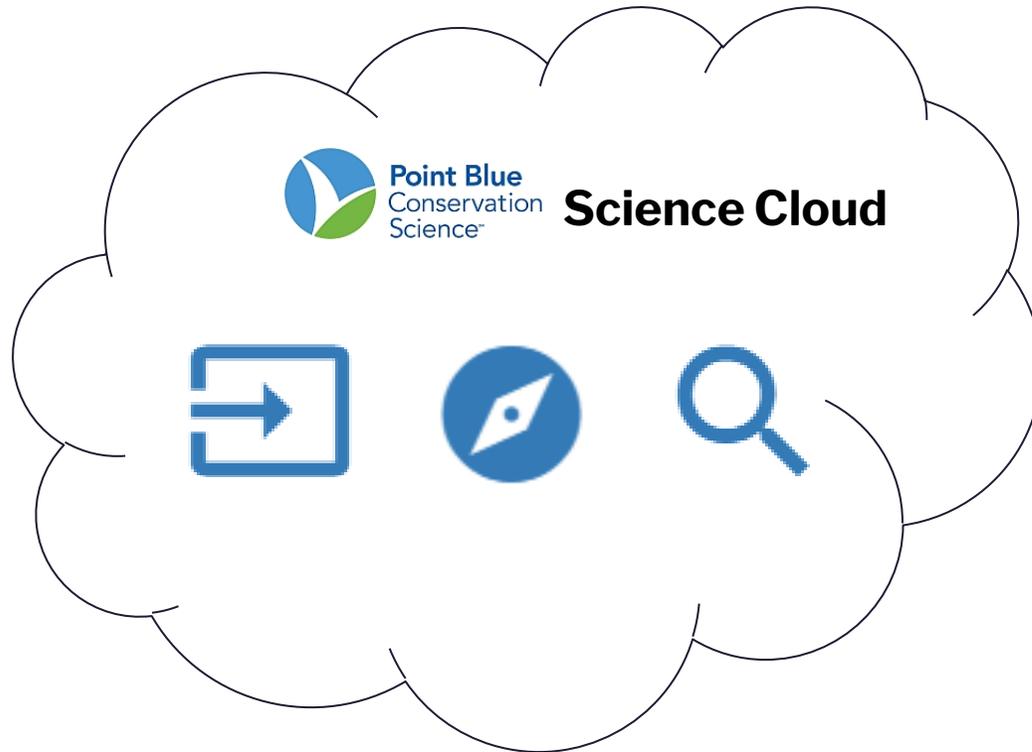
AVIAN
KNOWLEDGE NETWORK



AKN: COMMON CLOUD TECHNOLOGY



FOCUS FOR THIS TRAINING



How do we represent protocol-based science?

How do you get data in?

How do you get your data & information out?

What conservation questions can you answer?

MA ARMY NATIONAL GUARD

- Biologist leaving position one week after training
- Had 20+ years of data
- Working through data, realized inconsistencies in data entry
- Standardized protocol in system, showing required fields to be utilized in all future surveys
- Successfully uploaded 35,000 records prior to leaving DoD
- Data ready and available to successor



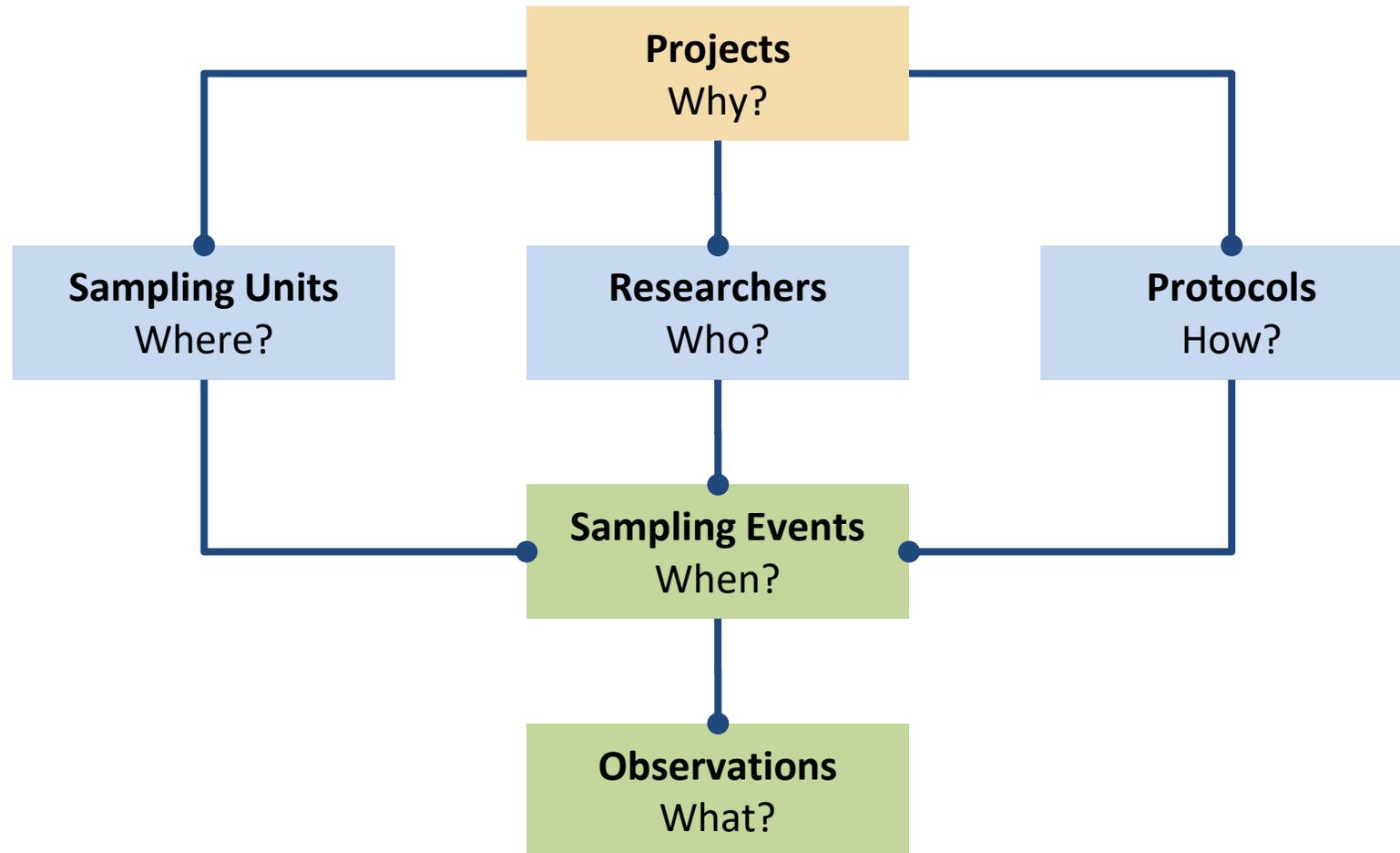
AKN PROJECT DATA 101

1. The parts of a Project Database

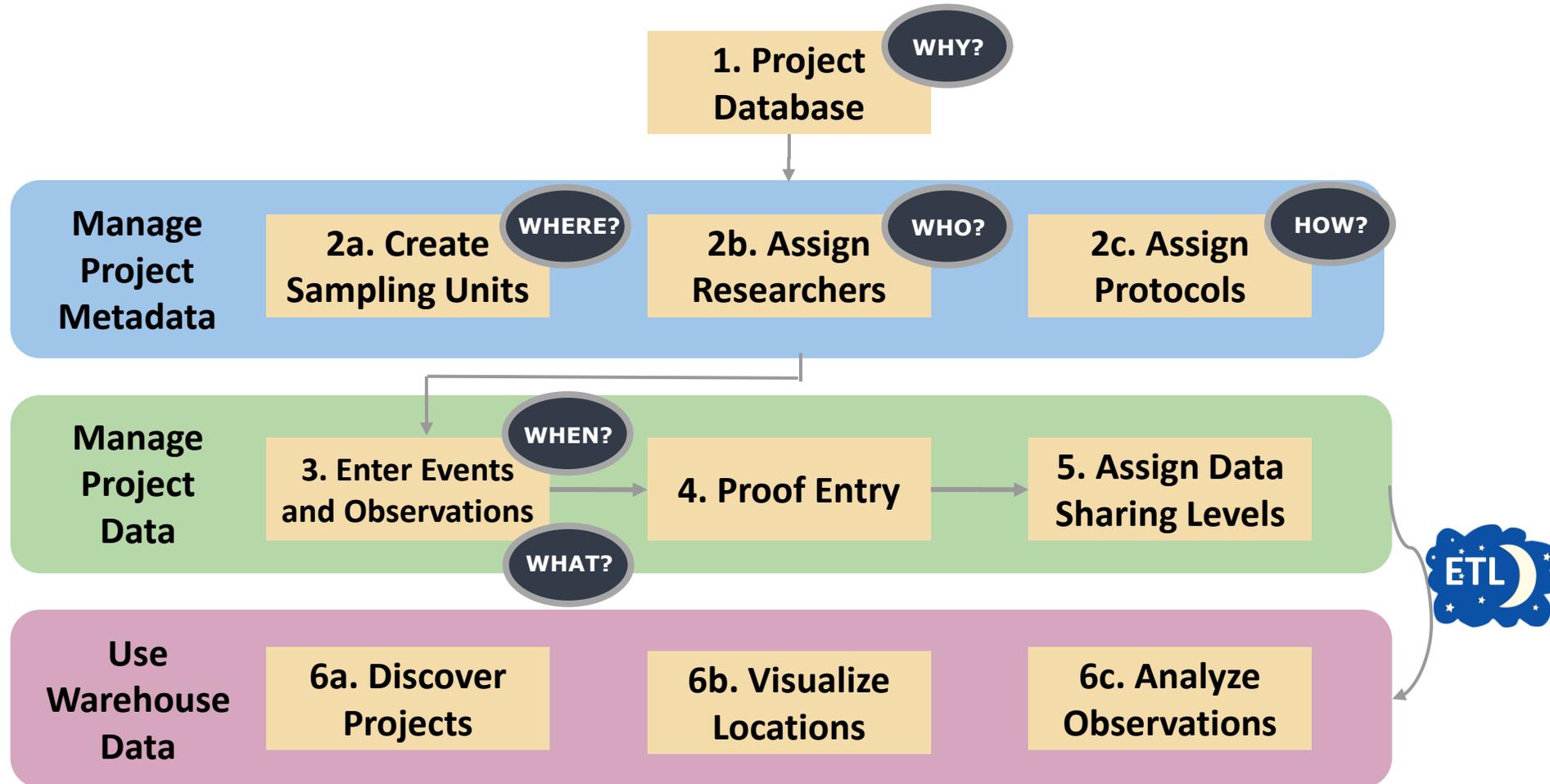
2. The workflow for creating and managing a Project



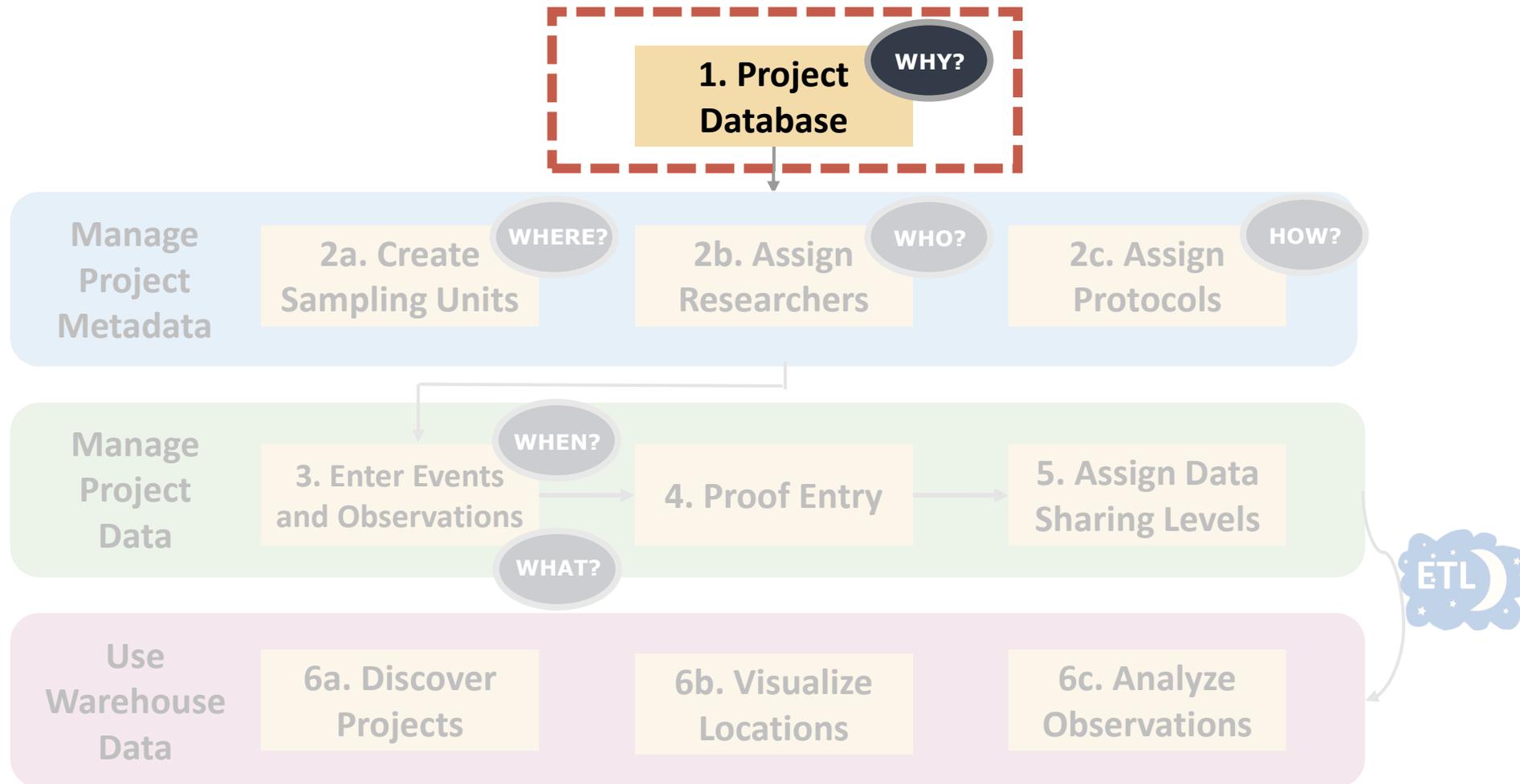
THE PROJECT DATABASE



WORKFLOW FOR MANAGING A PROJECT



WORKFLOW FOR MANAGING A PROJECT

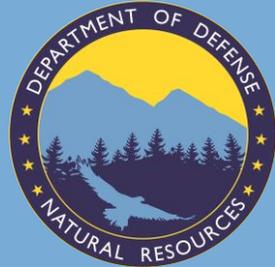


PROJECT

Container for Event and Observation data

Many ways to organize

For DoD: Project = Installation



DoD Program Structure



Air Force Subprogram 

Installation Project Databases

Army Subprogram 

Installation Project Databases

Navy Subprogram 

Installation Project Databases

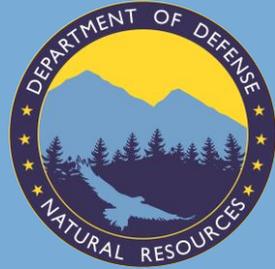
Marine Subprogram 

Installation Project Databases

National Guard Subprogram 

Installation Project Databases*

*National Guard Projects = State Installation = Study Area



DoD Program Structure



Air Force Subprogram



Installation Project Databases

Army Subprogram



Installation Project Databases

Navy Subprogram



Installation Project Databases

Marine Subprogram



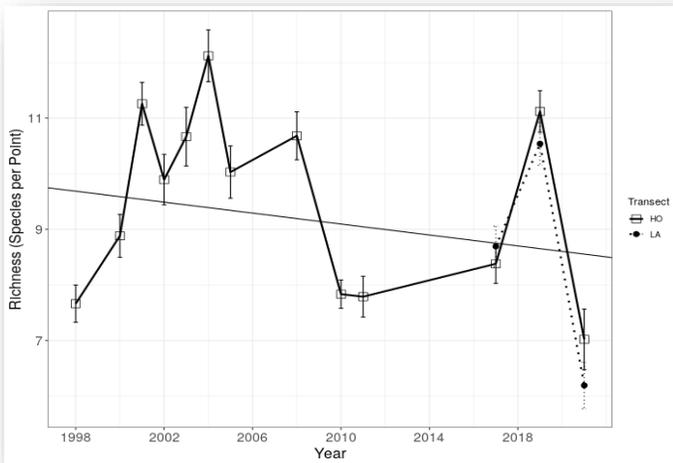
Installation Project Databases

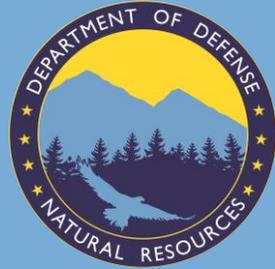
National Guard Subprogram



Installation Project Databases

Vandenberg Space Force Base Project Riparian Richness





DoD Program Structure



Air Force Subprogram



Installation Project Databases

Army Subprogram



Installation Project Databases

Navy Subprogram



Installation Project Databases

Marine Subprogram



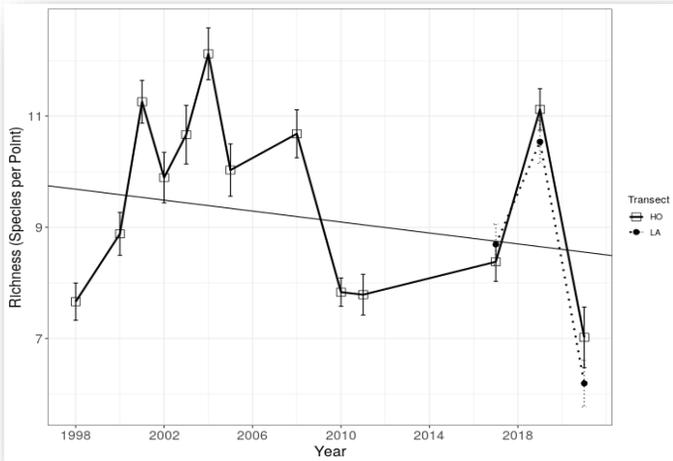
Installation Project Databases

National Guard Subprogram

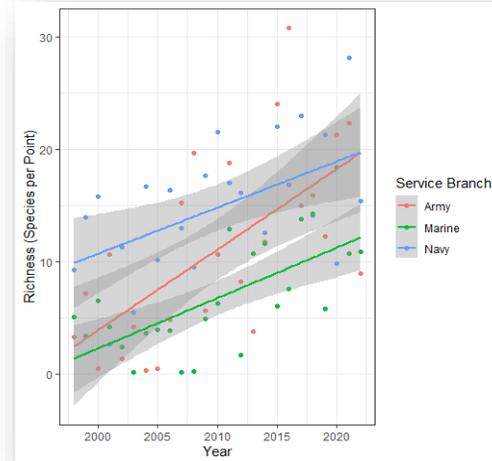


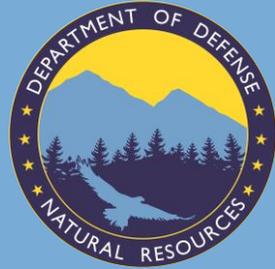
Installation Project Databases

Vandenberg Space Force Base Project Riparian Richness



Service Branch Program Riparian Bird Richness





DoD Program Structure



Air Force Subprogram



Installation Project Databases

Army Subprogram



Installation Project Databases

Navy Subprogram



Installation Project Databases

Marine Subprogram



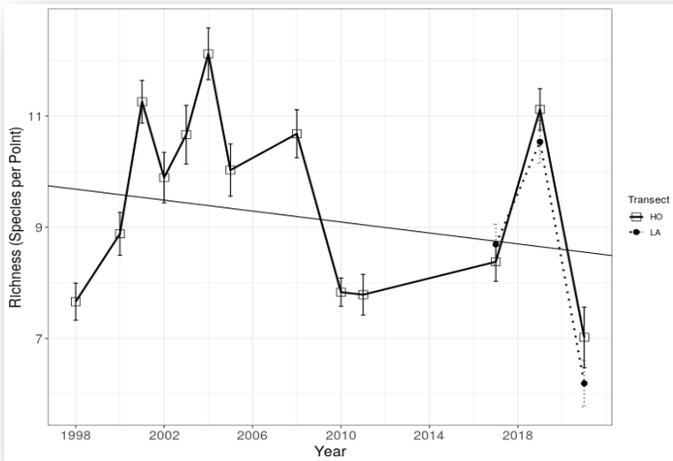
Installation Project Databases

National Guard Subprogram

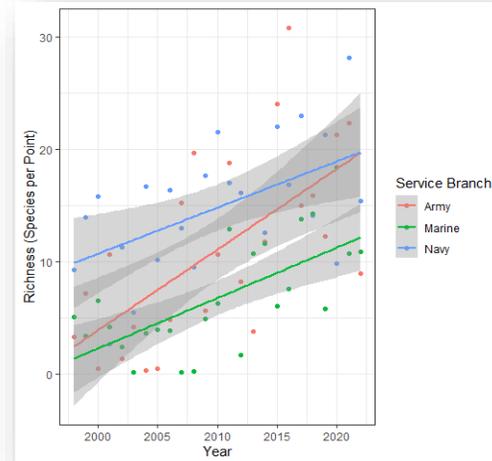


Installation Project Databases

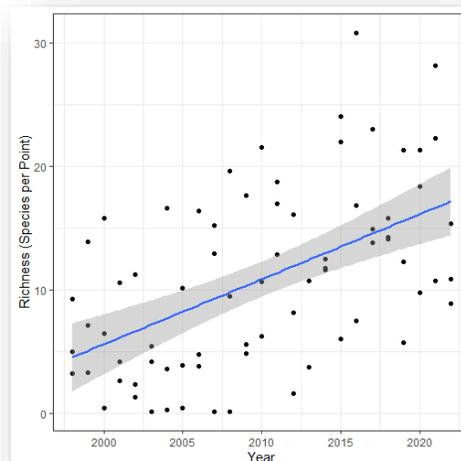
Vandenberg Space Force Base Project Riparian Richness



Service Branch Program Riparian Bird Richness



DoD Program Riparian Bird Richness



CASE STUDY:

SCIENCE TO SUPPORT LANDSCAPE LEVEL CONSERVATION

NORTH PACIFIC LANDSCAPE CONSERVATION COOPERATIVE

- Data integration for landscape-scale conservation analysis
- Understanding climate change effects on species and ecosystems
- Identify projected future biodiversity hotspots
- Provide interfaces to, geospatial and baseline data fundamental to understanding climate change effects

Click on an ecoregion in the map below to access more data and tools in that area.



CASE STUDY:

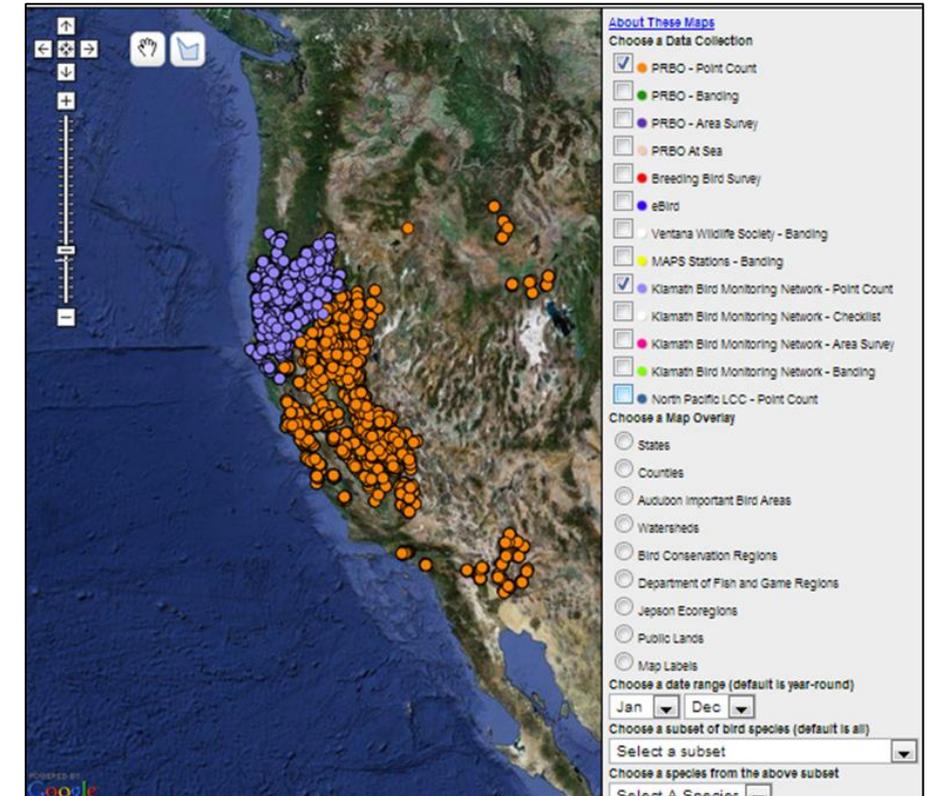
SCIENCE TO SUPPORT LANDSCAPE LEVEL CONSERVATION

NORTH PACIFIC LANDSCAPE CONSERVATION COOPERATIVE

17 Data contributors:

23 datasets

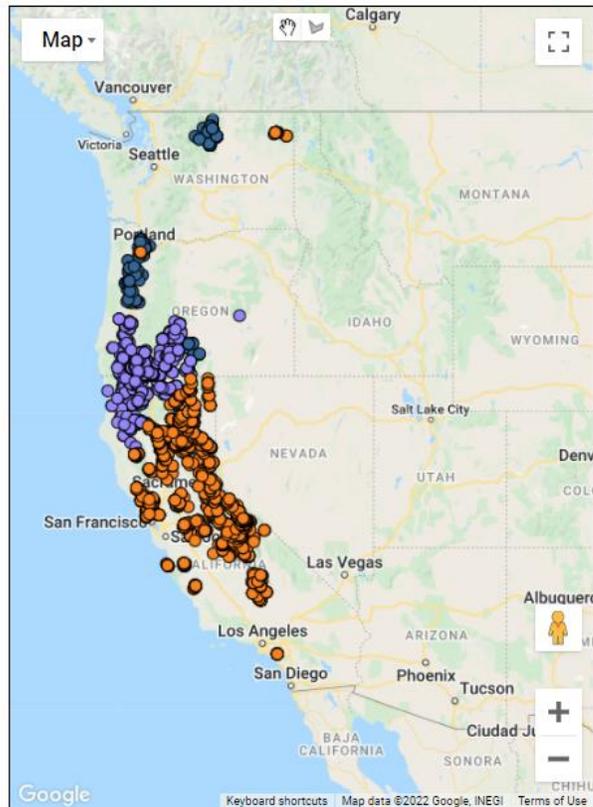
Over 900,000 new records



CASE STUDY:

UNDERSTANDING CLIMATE CHANGE EFFECTS ON SPECIES

NORTH PACIFIC LANDSCAPE CONSERVATION COOPERATIVE



CASE STUDY:

UNDERSTANDING CLIMATE CHANGE EFFECTS ON SPECIES

NORTH PACIFIC LANDSCAPE CONSERVATION COOPERATIVE

White-breasted Nuthatch

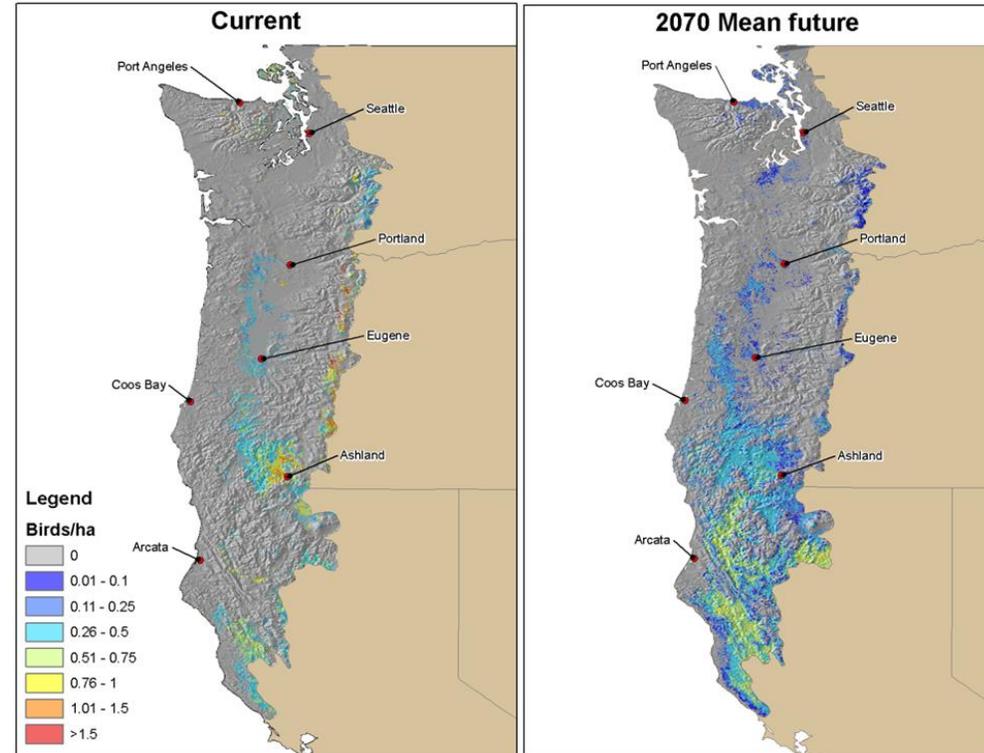
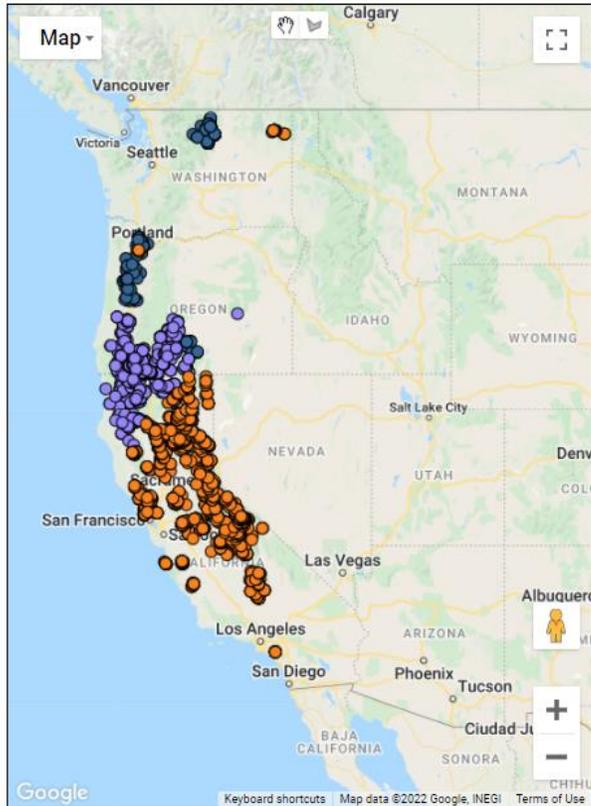


Photo (c) Peter LaTourrette

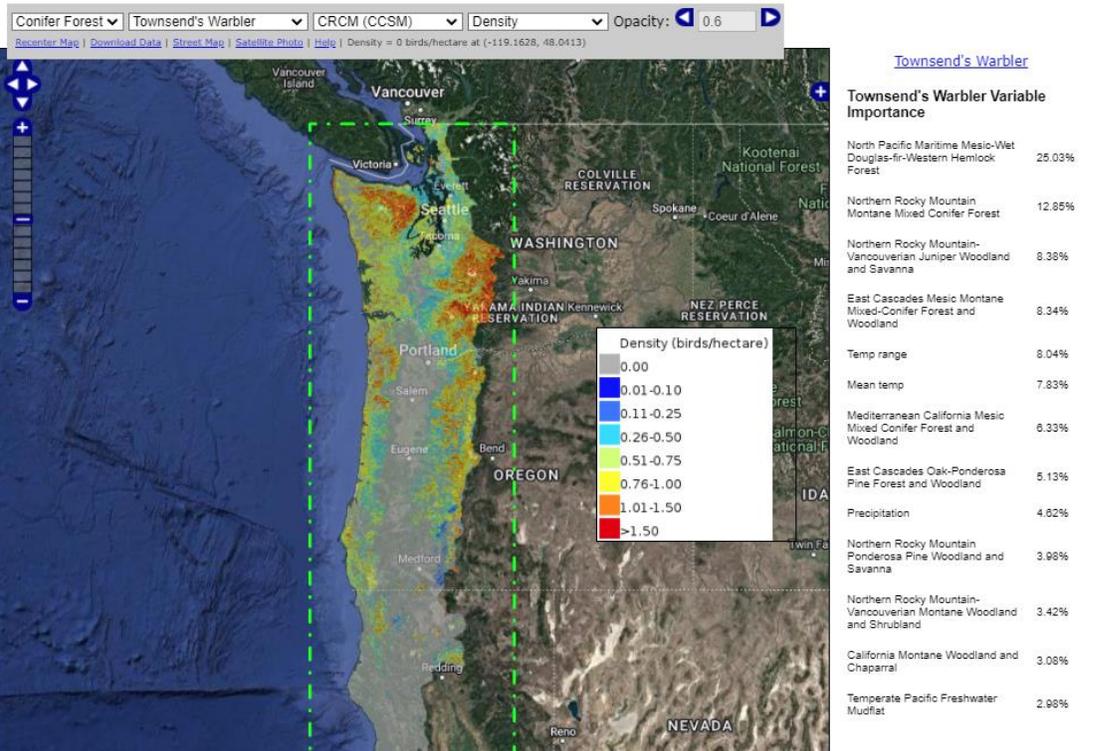
INTERACTIVE WEB TOOLS

Bird Distribution Map

Select one of the 26 species to view how its distribution and density will respond to climate change. We provide projections for current and future (2070) climate and environmental conditions.

You can choose to view:

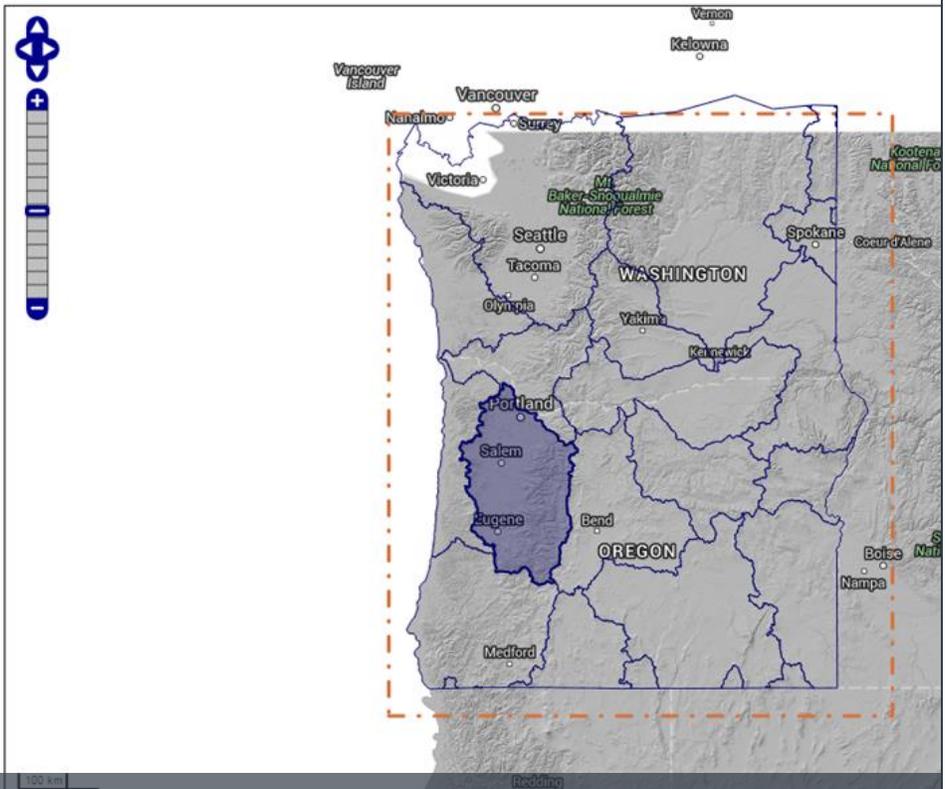
- Probability of occurrence
- Presence absence
- Density (birds/ha)



<https://data.pointblue.org/apps/nplcc/>

Recent Map | Help | Habitat suitability = 0.097 at (-122.6845, 46.0087)

- Overlays
- Watersheds (HUC6)
 - Vegetation Model
 - Places and Roads
 - Satellite Imagery
- Download
- [Data](#)
 - [Watershed Report](#)



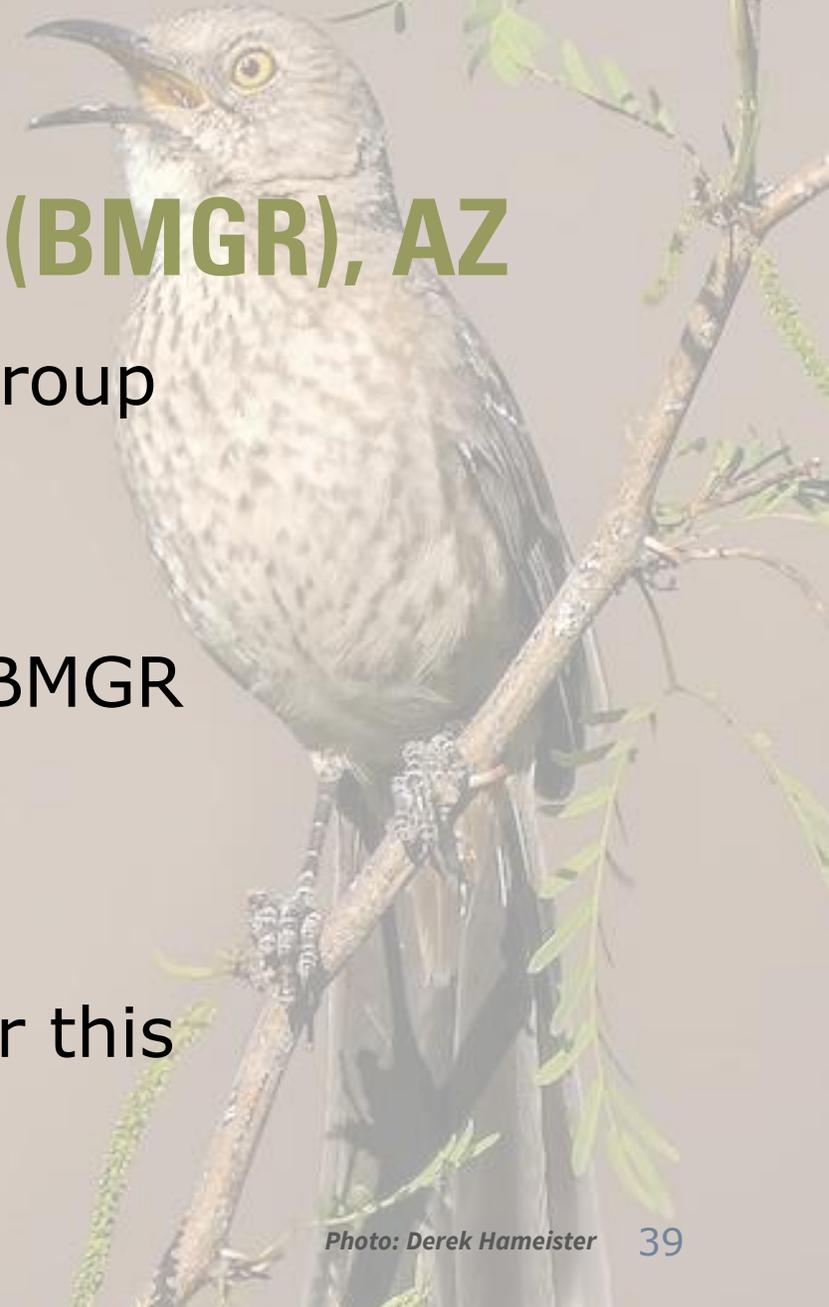
<https://data.pointblue.org/apps/nwsc/>



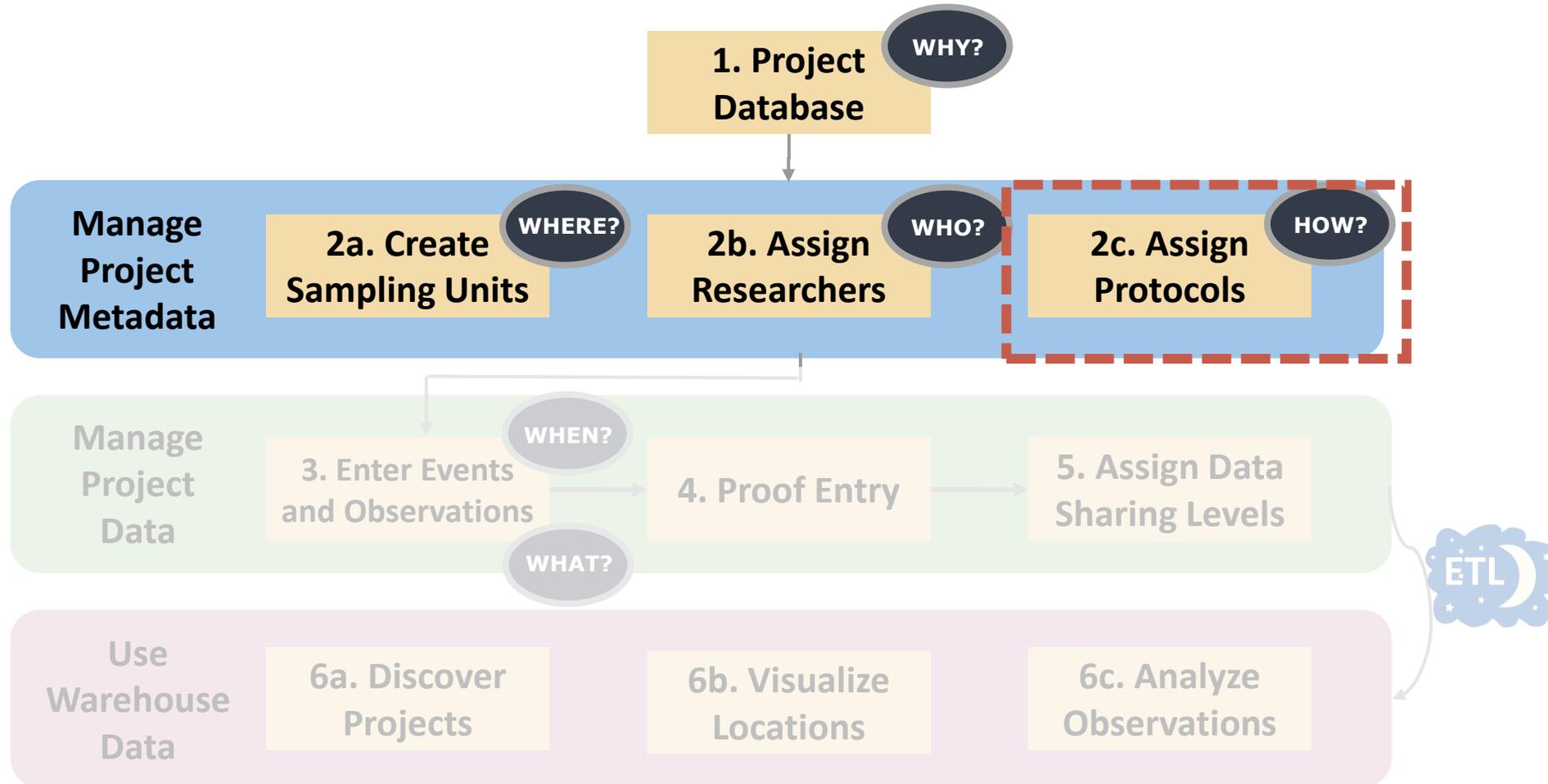
CASE STUDY:

BARRY M. GOLDWATER RANGE (BMGR), AZ

- Participating in Desert Thrasher Working Group
- Existing protocol in the AKN system
- Critical to add data to DoD-owned project
- Conducted surveys and entered data into BMGR project using desert thrasher data entry protocol available in AKN
- Shared data with thrasher initiative
- Data will show when querying DoD data for this species



MANAGING A PROJECT: PROTOCOLS

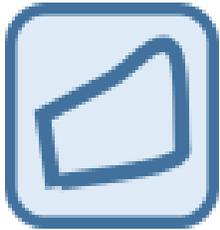


PROTOCOLS

The *metadata* describing 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

PRIMARY PROTOCOL TYPES



Area Search



Point Count



Linear Transect



Secretive Marshbird



Site Conditions

POINT COUNT PROTOCOLS

Duration of survey at each point

Time (binned)

Distance (binned or exact), maximum

Detection codes

Can include **breeding behavior**

Assumed **exhaustive** survey

Each animal **counted once**

POINT COUNT PROTOCOL EXAMPLES

Compare how 3 field methodologies represented:

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

[Point Blue protocol](#)

[KBO protocol](#)

CASE STUDY

**HOW TO ACHIEVE
CONFLICTING
CONSERVATION OBJECTIVES:**

***THE IMPORTANCE OF
STANDARD PROTOCOLS***



ASSESSING RAIL RESPONSE TO MANAGEMENT: THE CHALLENGE

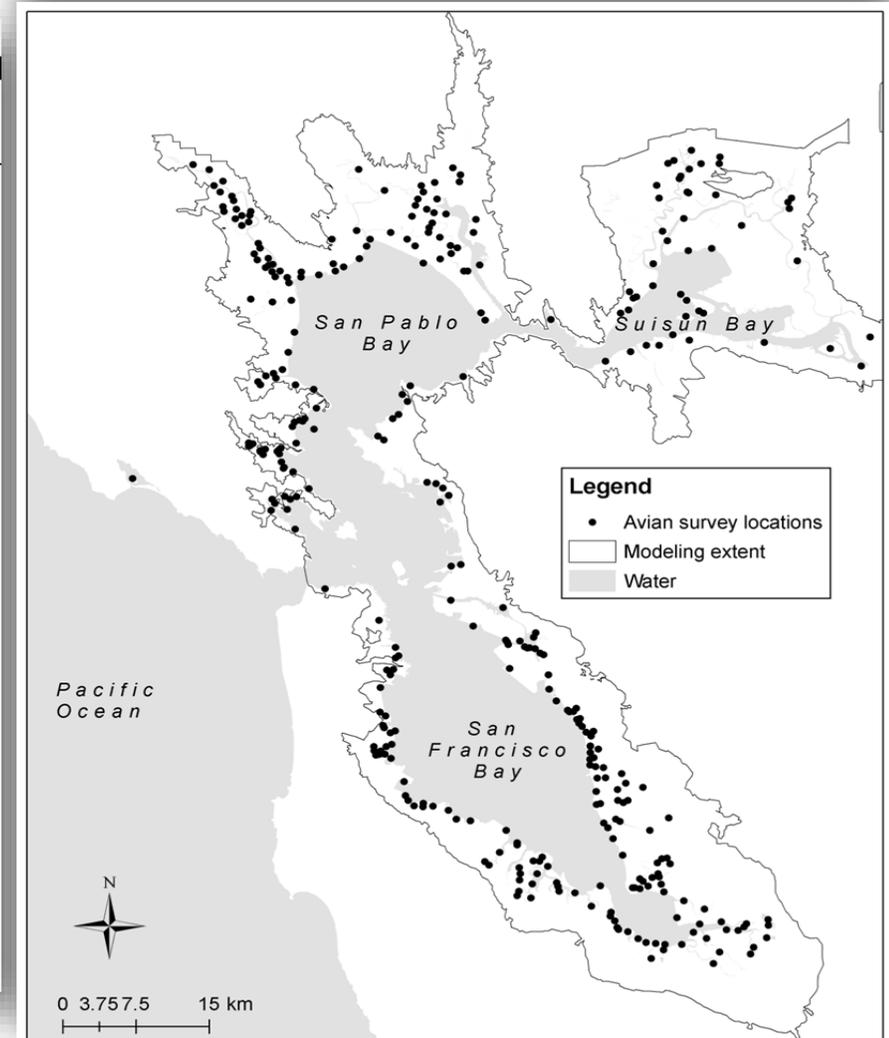


Multi-partner Effort



DEVELOPING A STANDARD PROTOCOL

- North American Marsh Bird Protocol-SF Bay
 - 10 min broadcast point count
- Long-term dataset since 2005
- **All partner data in the AKN**



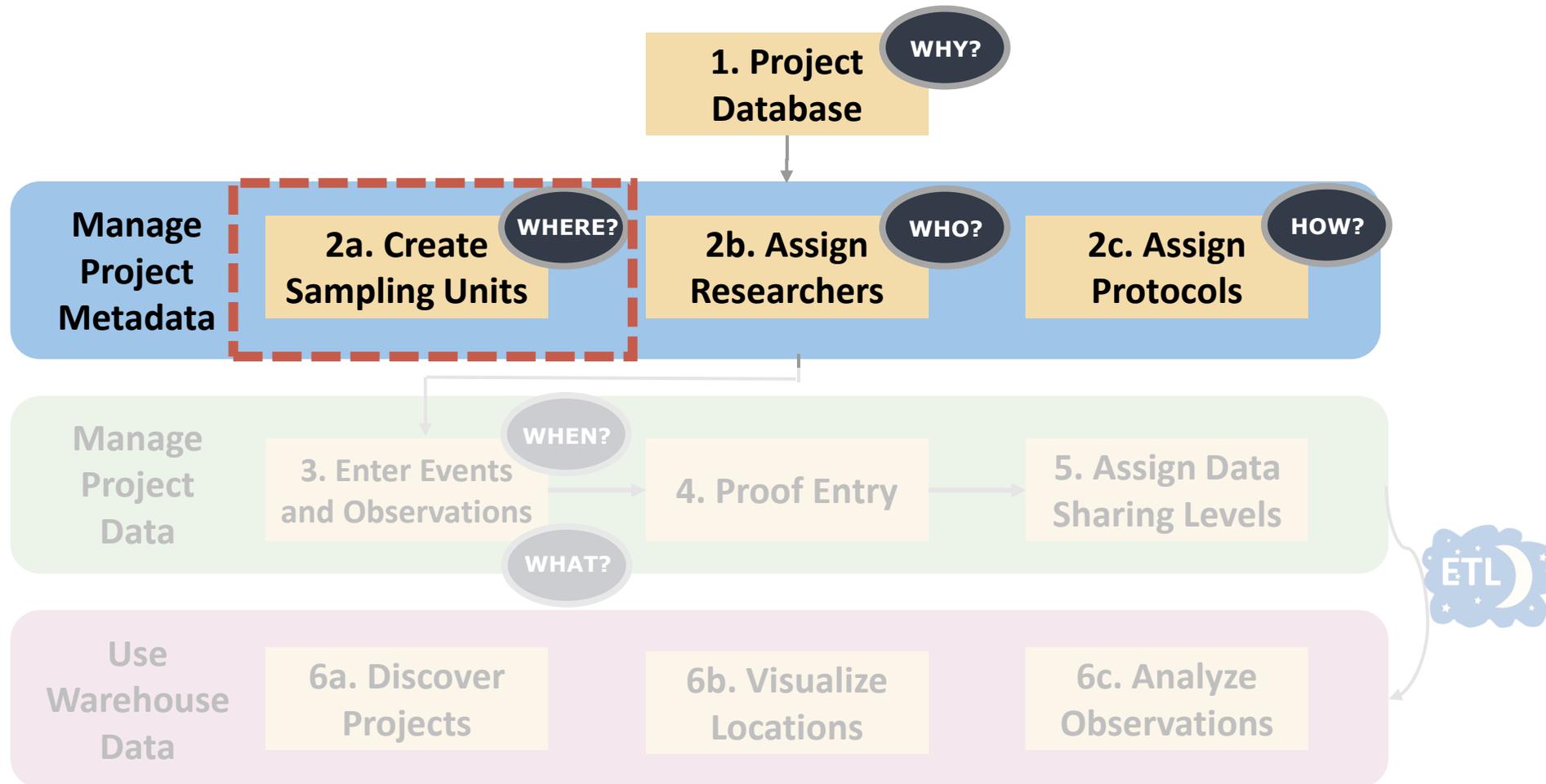
CHOOSING PROTOCOLS (DEMONSTRATION)

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

Tools:

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

MANAGING A PROJECT: SAMPLING UNITS



SAMPLING UNITS

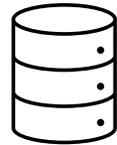
The locations where observations are collected

Organized into a tree (hierarchy)

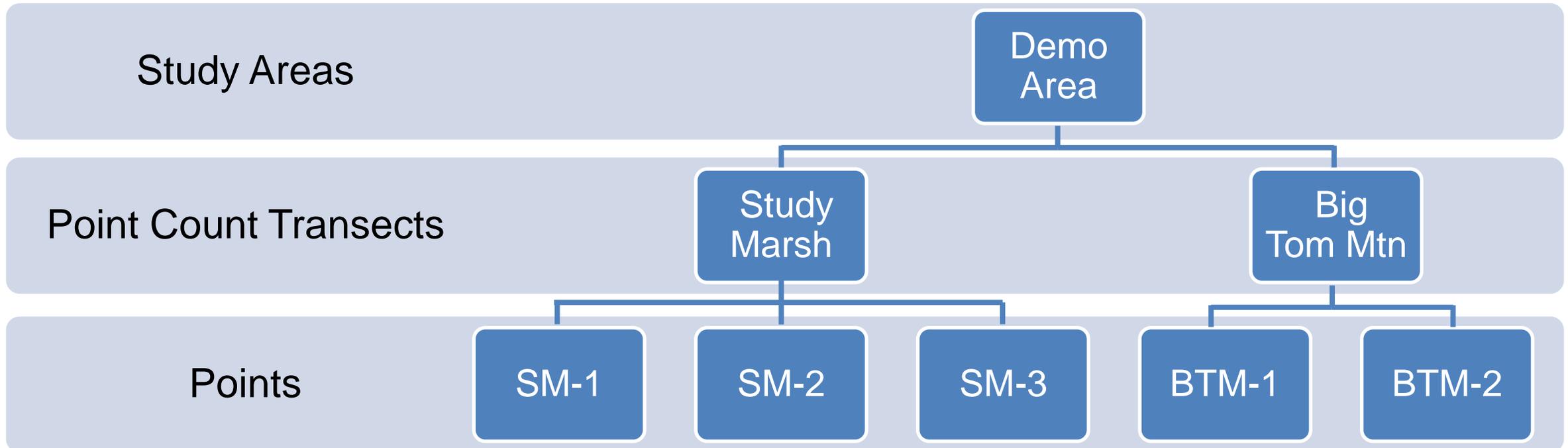
Uniquely named with Project

Can have Point/Line/Polygon

SAMPLING UNIT TYPES FOR POINT COUNTS

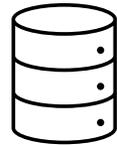


Project: DOD_DEMO

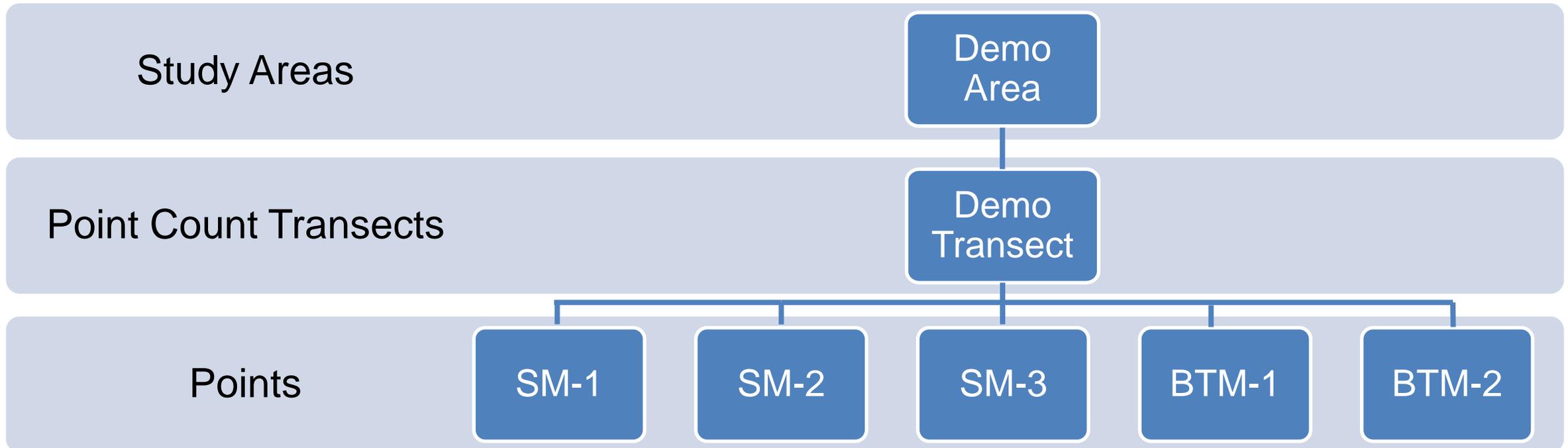


Replicates or independent points?
What questions are you asking?

SAMPLING UNIT TYPES FOR POINT COUNTS

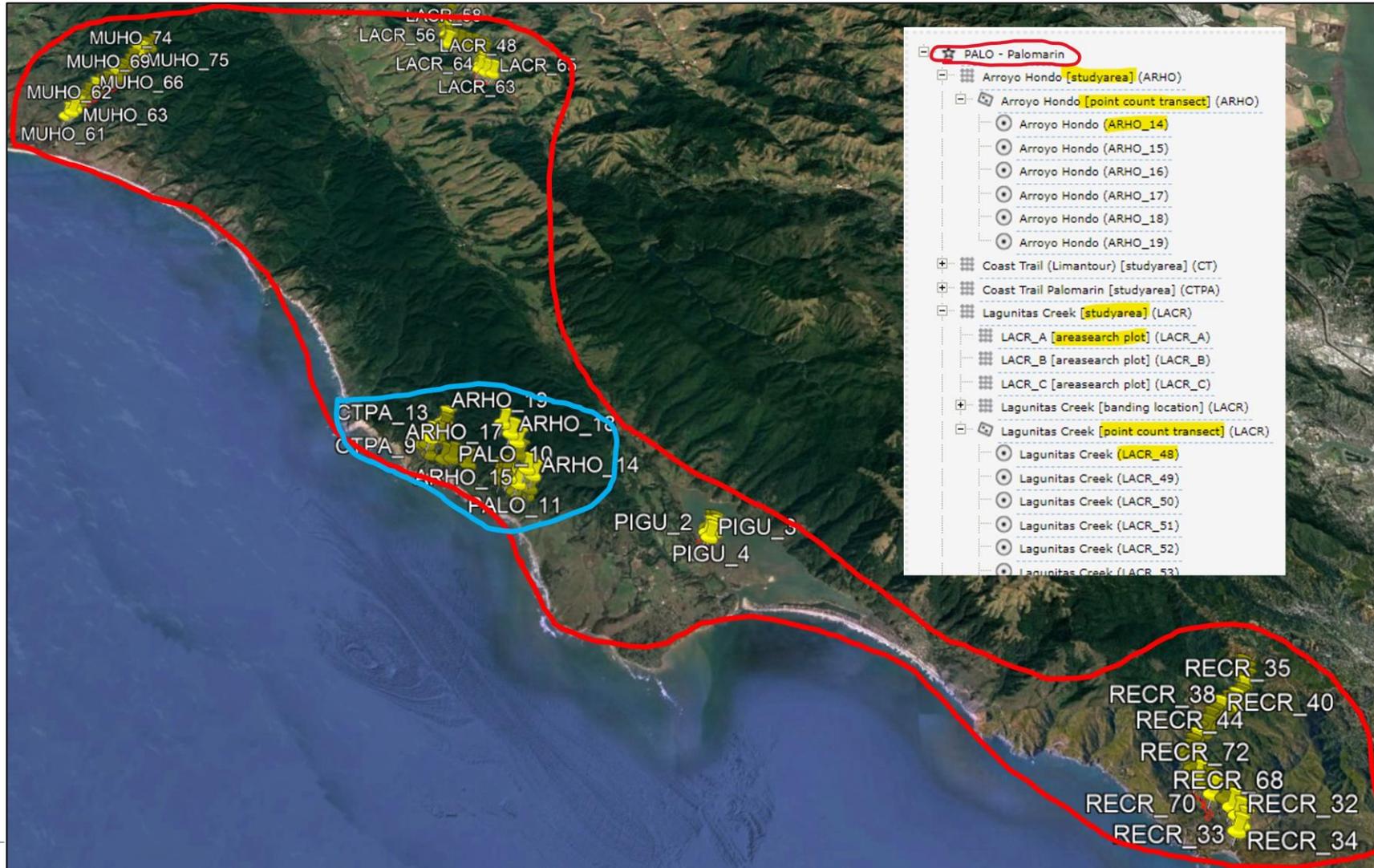


Project: DOD_DEMO



Replicates or independent points?
What questions are you asking?

SAMPLING UNIT TYPES FOR POINT COUNTS



SAMPLING UNIT TYPES FOR POINT COUNTS





MANAGING PROJECT METADATA

EXERCISE 1: CREATE SAMPLING UNITS

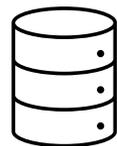


CREATE SAMPLING UNITS

EXERCISE 1

Purpose: Learn how to create a sampling unit hierarchy within a project to support a point count survey

Goal: Create a new point count transect with one point under your service branch's Study Area in the "DOD_DEMO" Project



Project: DOD_DEMO

CREATE SAMPLING UNITS

EXERCISE 1 *(THINKING AHEAD)*

- Consider how you might organize your data
 - Study Areas can be based on survey type rather than geography:
 - Ex- Study Area 1: multi-species point counts
 - Ex- Study Area 2: burrowing owl surveys
 - Only group points together in the same transect if they are part of the same survey (geographically grouped and collected on the same day)
 - Consider how you might name your study locations based on geographic features and numbers. (e.g., Emerald Hills 1, Alpha Maneuver Area 3)
 - Remember the hierarchy for point counts is
Study Area → Transect → Point(s)
- We will be building on this exercise later! Think about how your naming strategy can scale as you add surveys and points.

CREATE SAMPLING UNITS

EXERCISE 1

[Exercise 1 instructions](#)

LONG NAME VS SHORT NAME: WHAT'S THE DIFFERENCE?

- Every sampling unit has a **Short Name** and a **Long Name**
 - Short Names and Long Names can be the same
- **Short Name** + **Long Name** combinations must be unique within an AKN Project
 - e.g., transect names and point count names **CAN NOT BE THE SAME**
- **Short Names** will be seen throughout the tools and in your data download
 - It is the shorthand name for each sampling unit
- **Short Names** are limited to 12 characters
- **Long Names** can be longer and more descriptive, if useful

LONG NAME VS SHORT NAME: WHAT'S THE DIFFERENCE?

EXAMPLES (any of these would be correct):

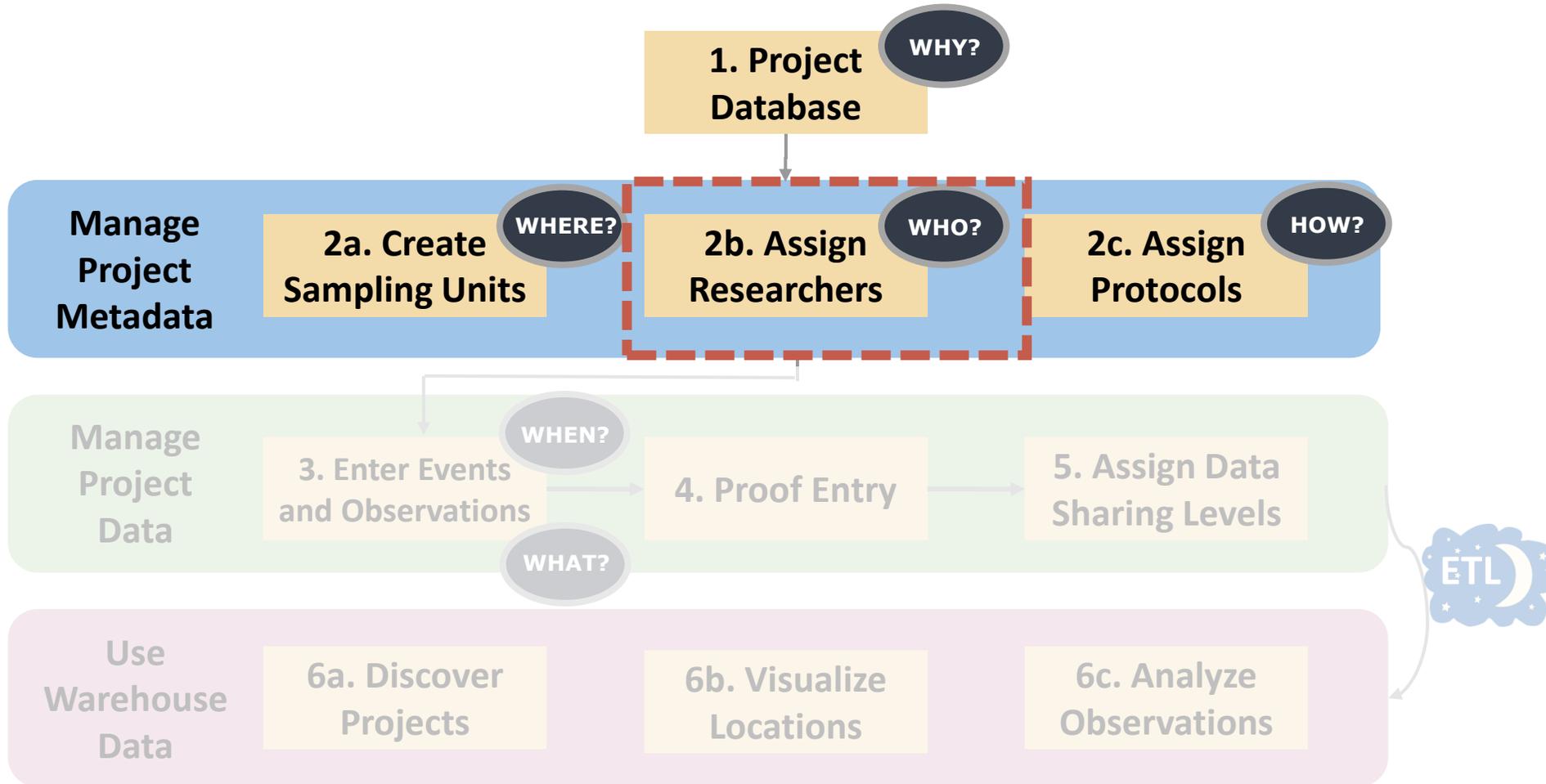
Point Count Transect Long Name	Point Count Transect Short Name
East Training Area	ETA
East Training Area 1	ETA-1
ETA	ETA
ETA-1	ETA-1

CREATE SAMPLING UNITS DEMONSTRATION

Download sampling units:

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

MANAGING A PROJECT: RESEARCHERS



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)

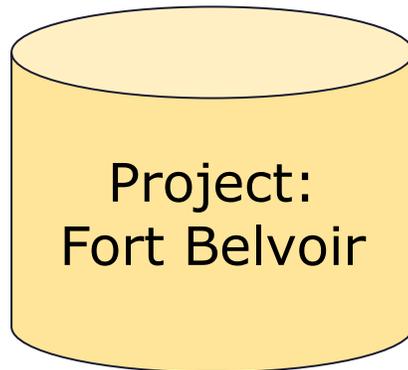
RESEARCHER TYPES

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

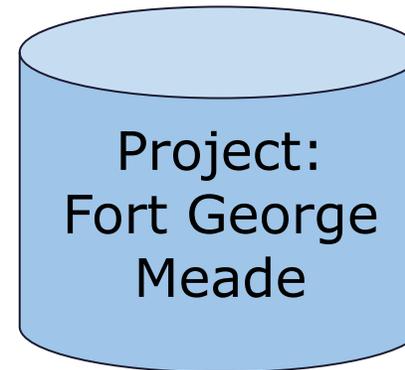
Biologist: can enter and review data in the Project

RESEARCHERS & PROJECT ACCESS

Access Project assigned by Project Leader



Jane: Project Leader
Mike: Biologist
Pat: Biologist

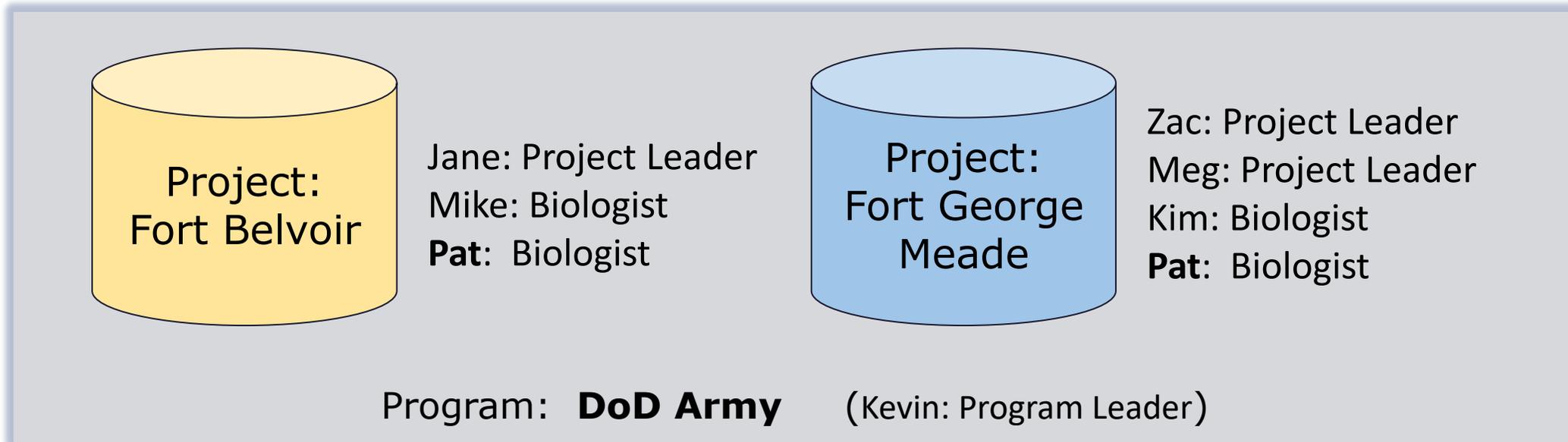


Zac: Project Leader
Meg: Project Leader
Kim: Biologist
Pat: Biologist

RESEARCHERS & PROJECT ACCESS

DoD will also have a Program Leader

(managed by Point Blue staff w/ guidance from DoD leadership)

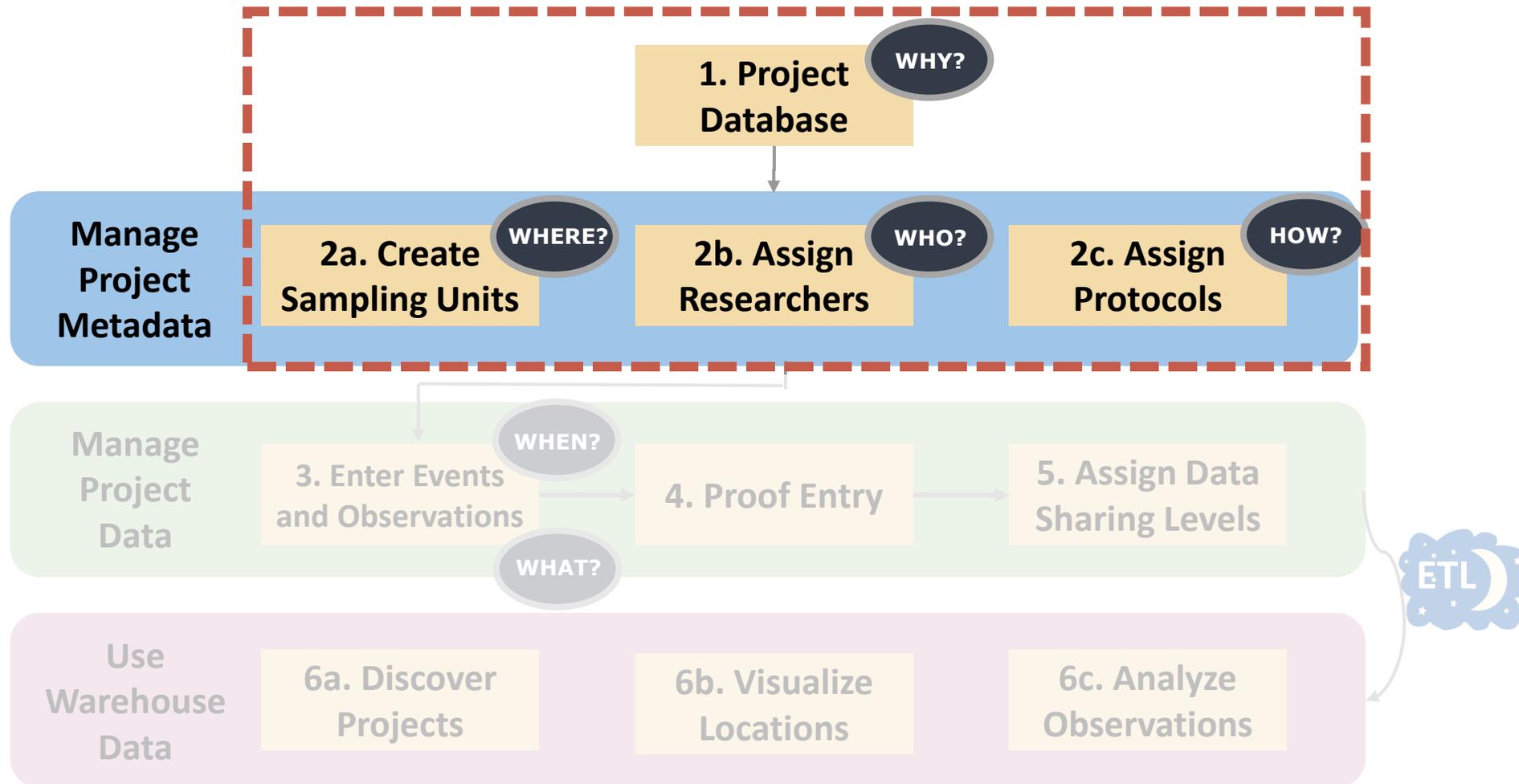


ADDING RESEARCHERS DEMONSTRATION

Tools:

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

QUESTIONS ON MANAGING PROJECT METADATA?





BREAK (15 MINS)

NEXT: MANAGING OBSERVATION DATA

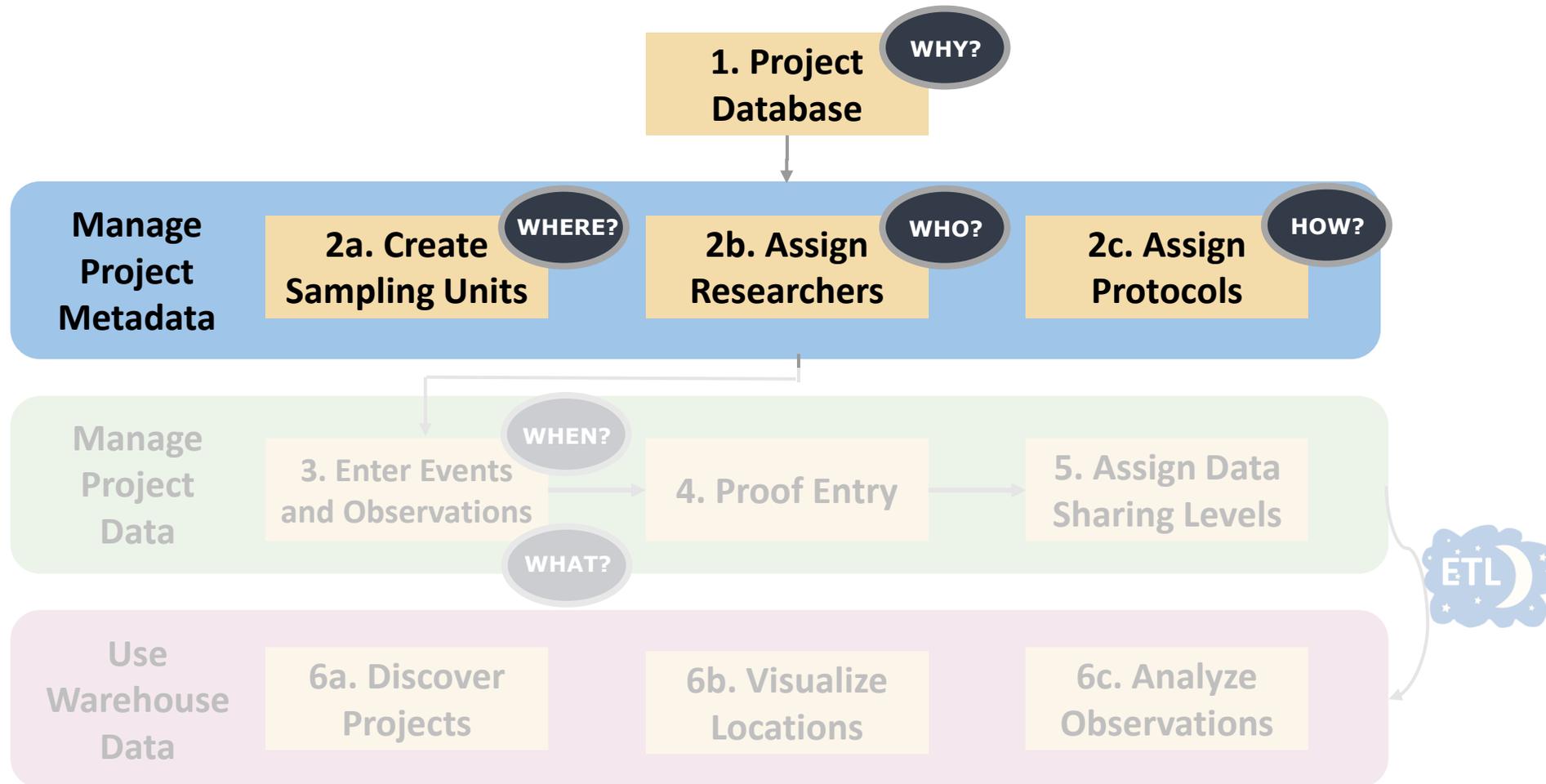




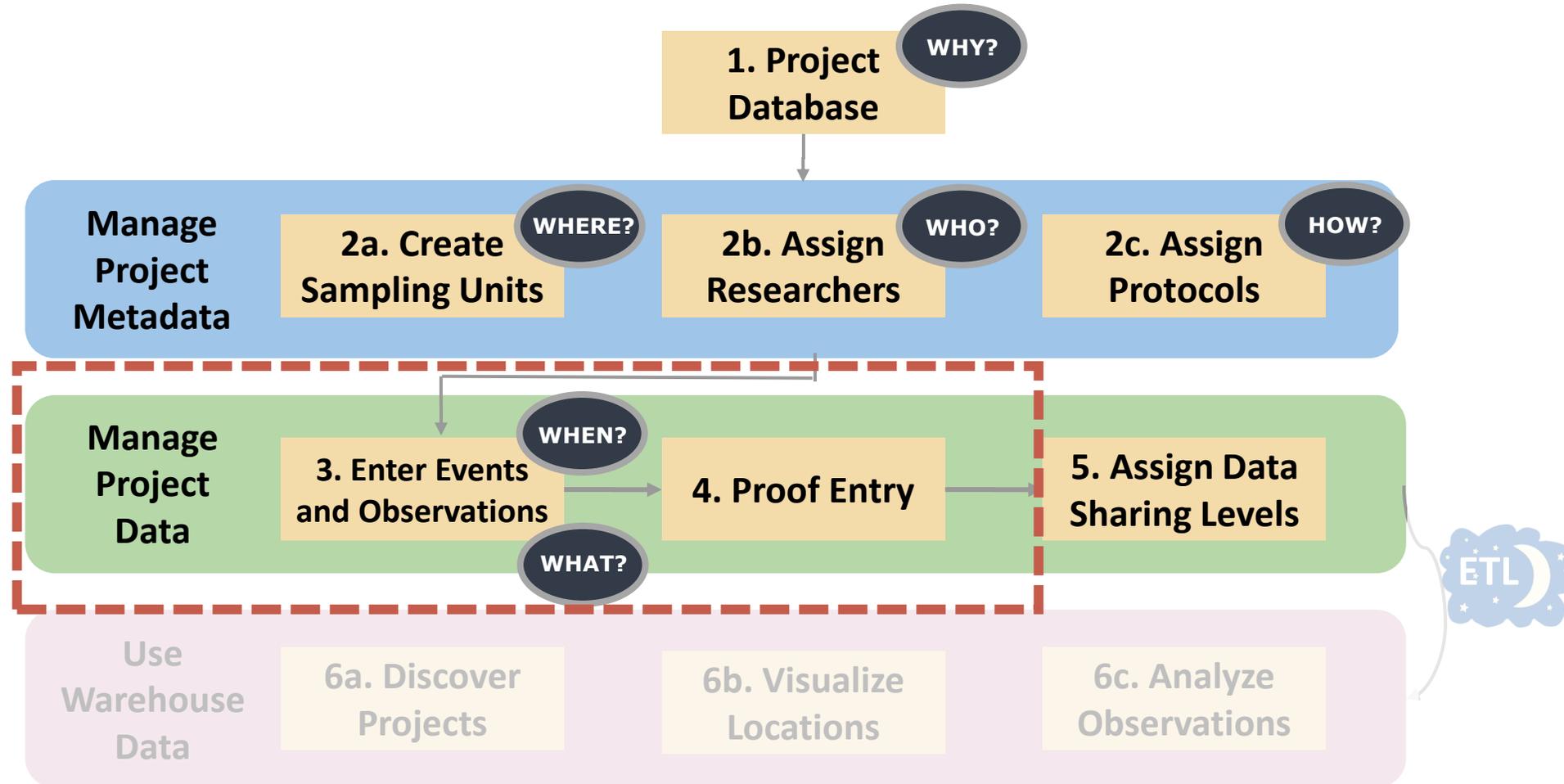
MANAGING OBSERVATION DATA



WORKFLOW FOR MANAGING A PROJECT



MANAGING A PROJECT: OBSERVATION DATA



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 individuals of a single species detected during an Event

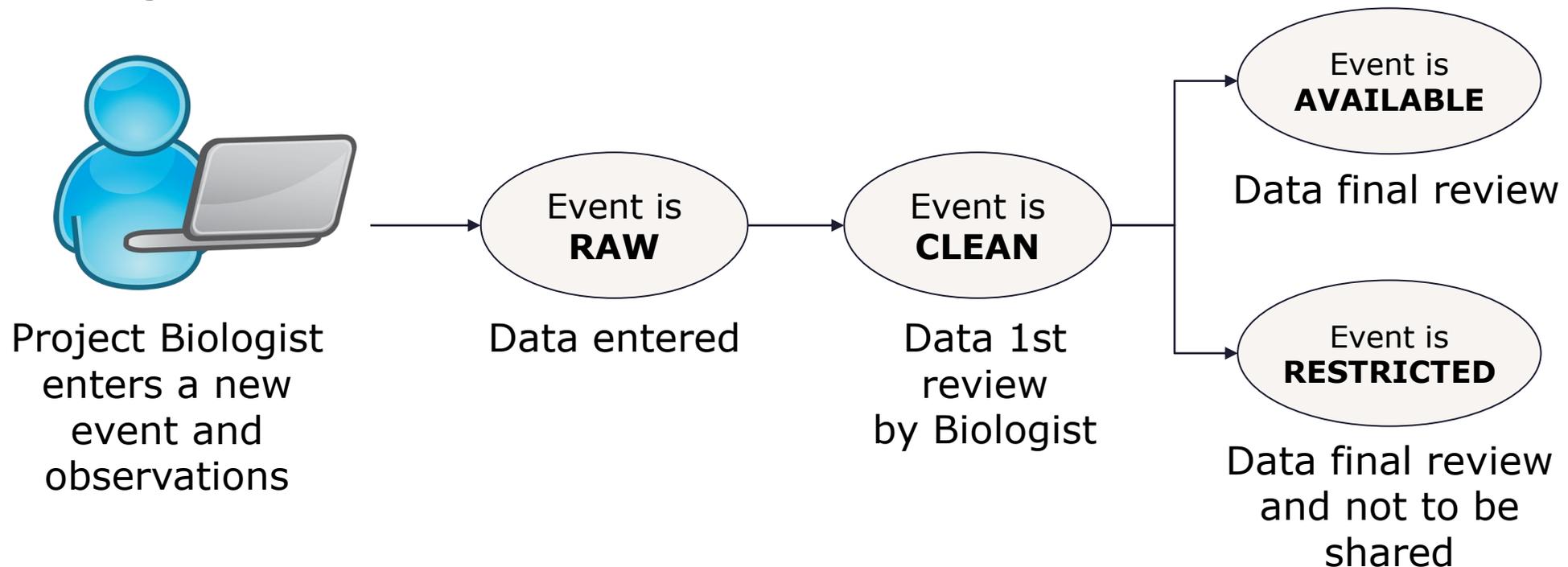
3. Enter Events
and Observations

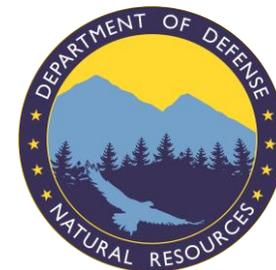
WHEN?

WHAT?

REVIEW LEVELS FOR EACH EVENT

Steps to enter and review data in preparation for sharing





MANAGING OBSERVATION DATA

EXERCISE 2: ENTER & PROOF POINT COUNT EVENT

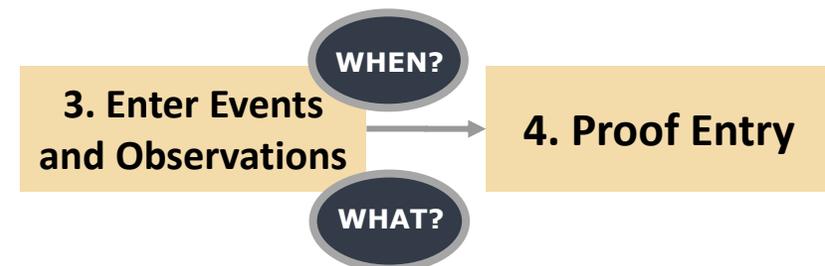


ENTER & PROOF POINT COUNT EVENT

EXERCISE 2

Purpose: Learn how to enter survey data and site conditions in Biologists and proof those data

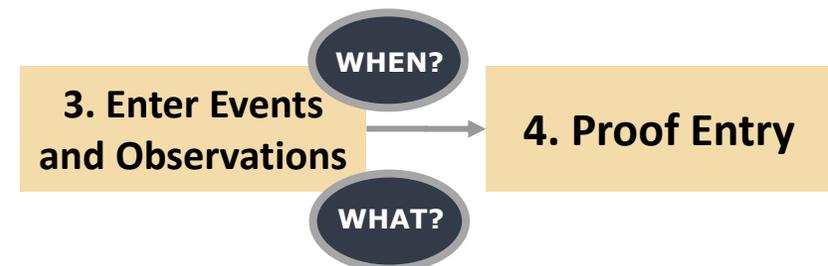
Goal: Enter the sample data for the sampling unit you created in Exercise 1, save it, and proof those data



ENTER & PROOF POINT COUNT EVENT

EXERCISE 2 *(THINKING AHEAD)*

- Data marked Clean through proofing will load into the data warehouse, making it available to analysis tools
- As Project Leader, you will:
 - Grant users who collect data access to Biologists to enter and proof their own data
 - Add protocols to the project and manage sampling units

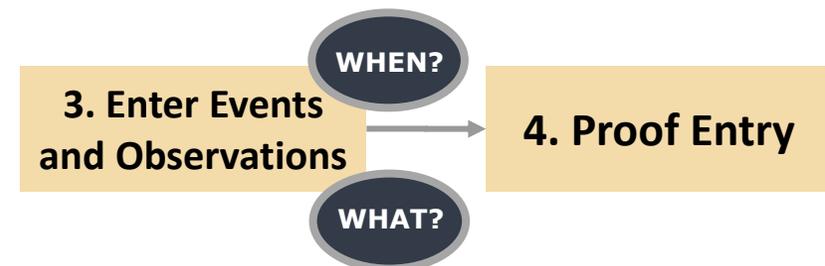


ENTER & PROOF POINT COUNT EVENT

EXERCISE 2

Exercise 2 instructions

- It is okay not to follow data sheet exactly



DOWNLOAD POINT COUNT OBSERVATION DATA FROM PROJECT DEMONSTRATION

Tools:

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

CASE STUDY:

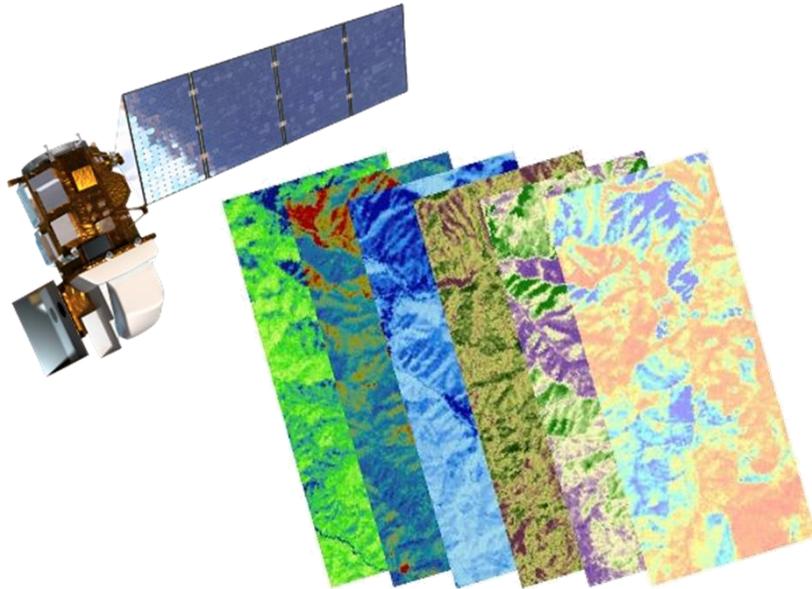
USFS REGION 8, MULTI-PARTNER



- 30-year dataset at-risk -- 13,664 sampling locations
- 1,121,654 point count observation records saved (!!)
- 364,574 site condition records archive
- Innovated -- XML scripts to capture all data field
- Data has been uploaded and a data entry system has been created

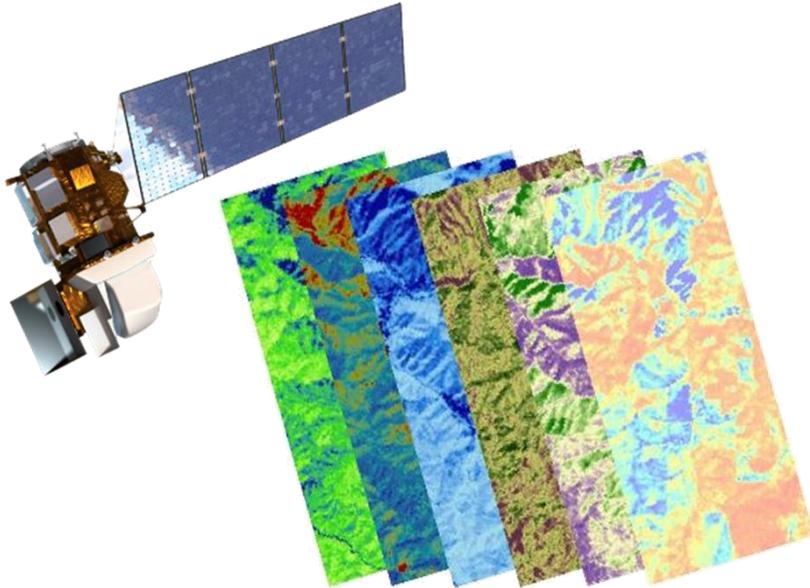
CASE STUDY: SPECIES-CENTERED HABITAT MODELING

(Shirley et al 2013, Betts et al 2014, Halstead et al 2019)



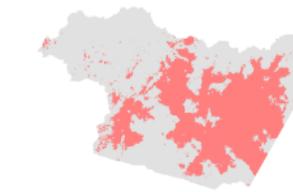
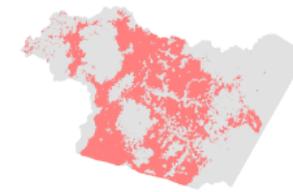
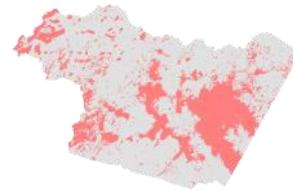
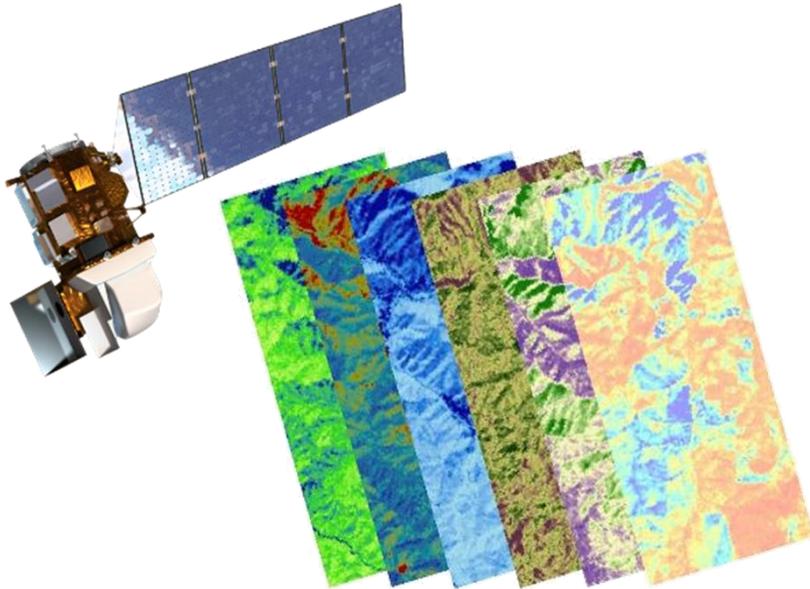
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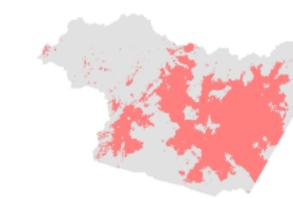
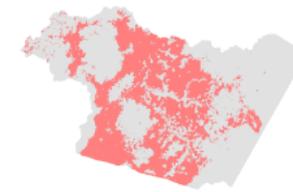
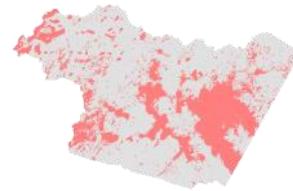
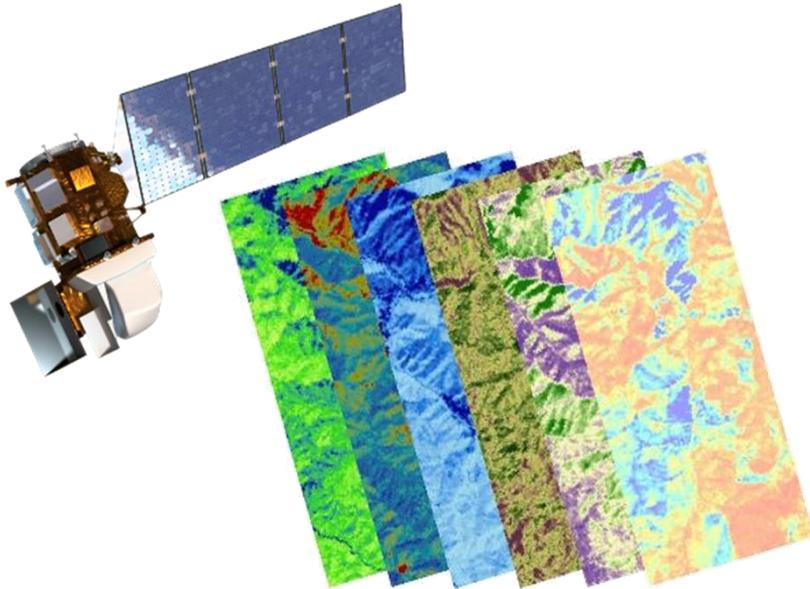
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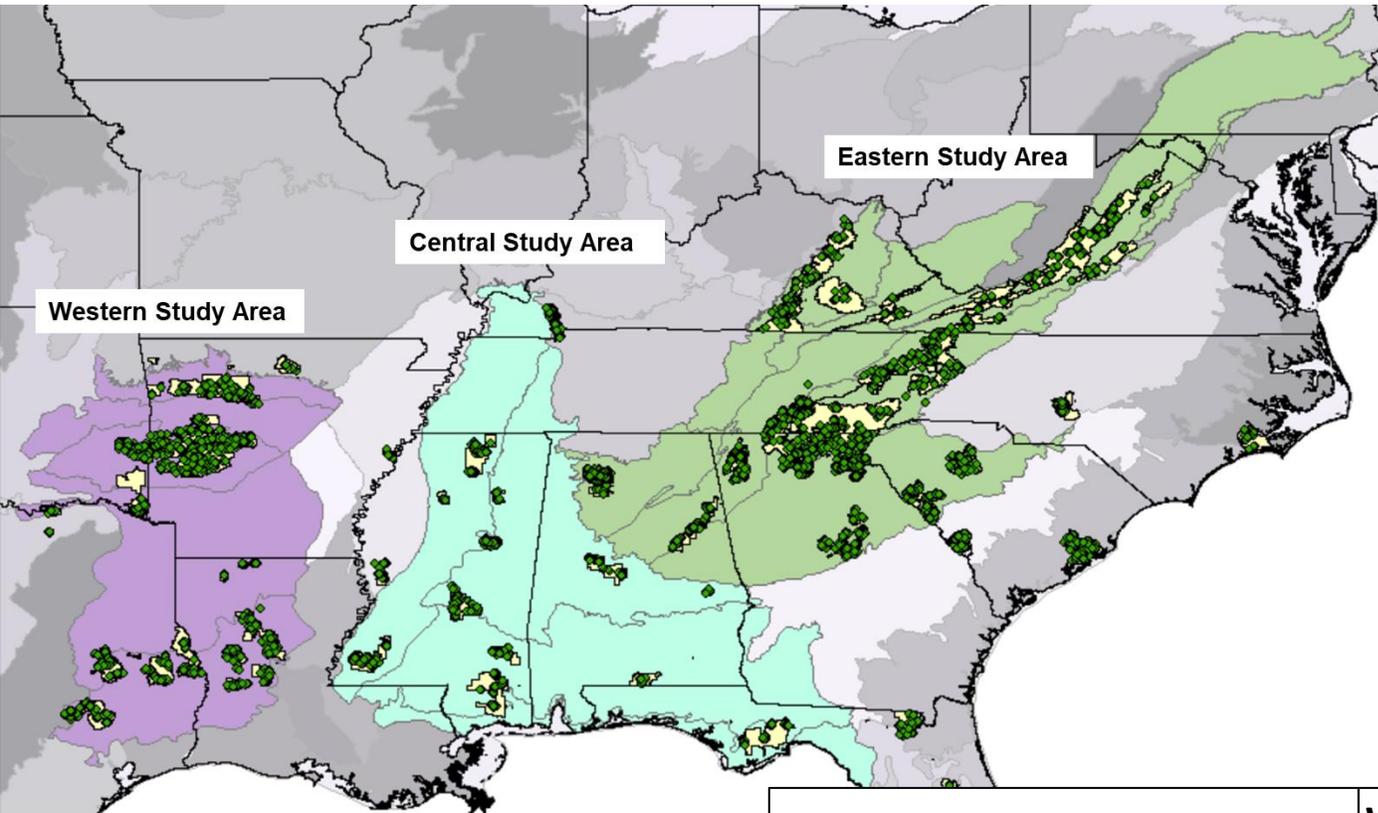
CASE STUDY: SPECIES-CENTERED HABITAT MODELING

(Shirley et al 2013, Betts et al 2014, Halstead et al 2019)



Compared to Land Cover Derived Models:

- High prediction ability
- Wider temporal range
- Avoid uncertainty:
 - misclassification of habitats
 - omission of fine-scale features
 - subtle changes in vegetation

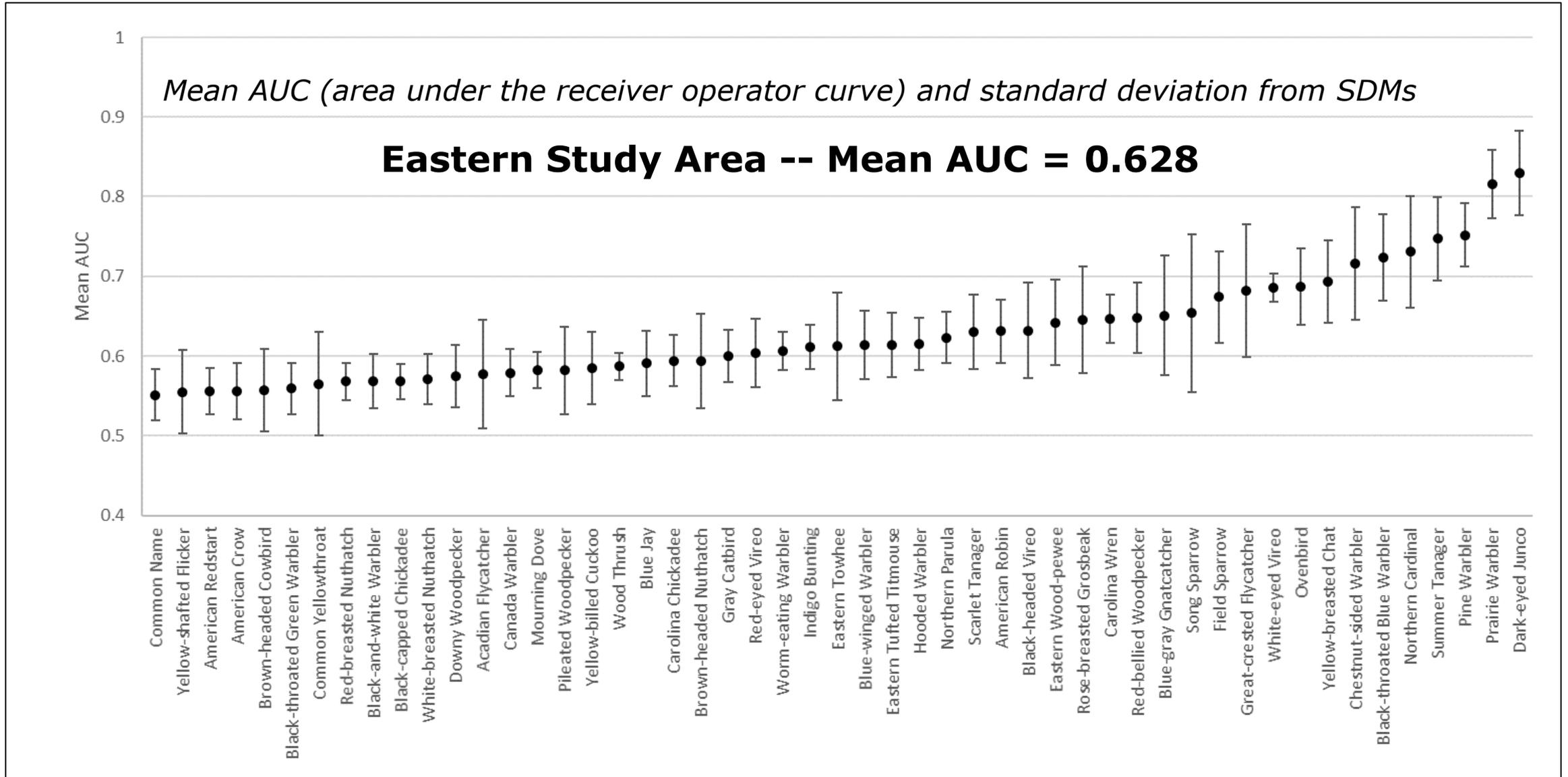


CASE STUDY:

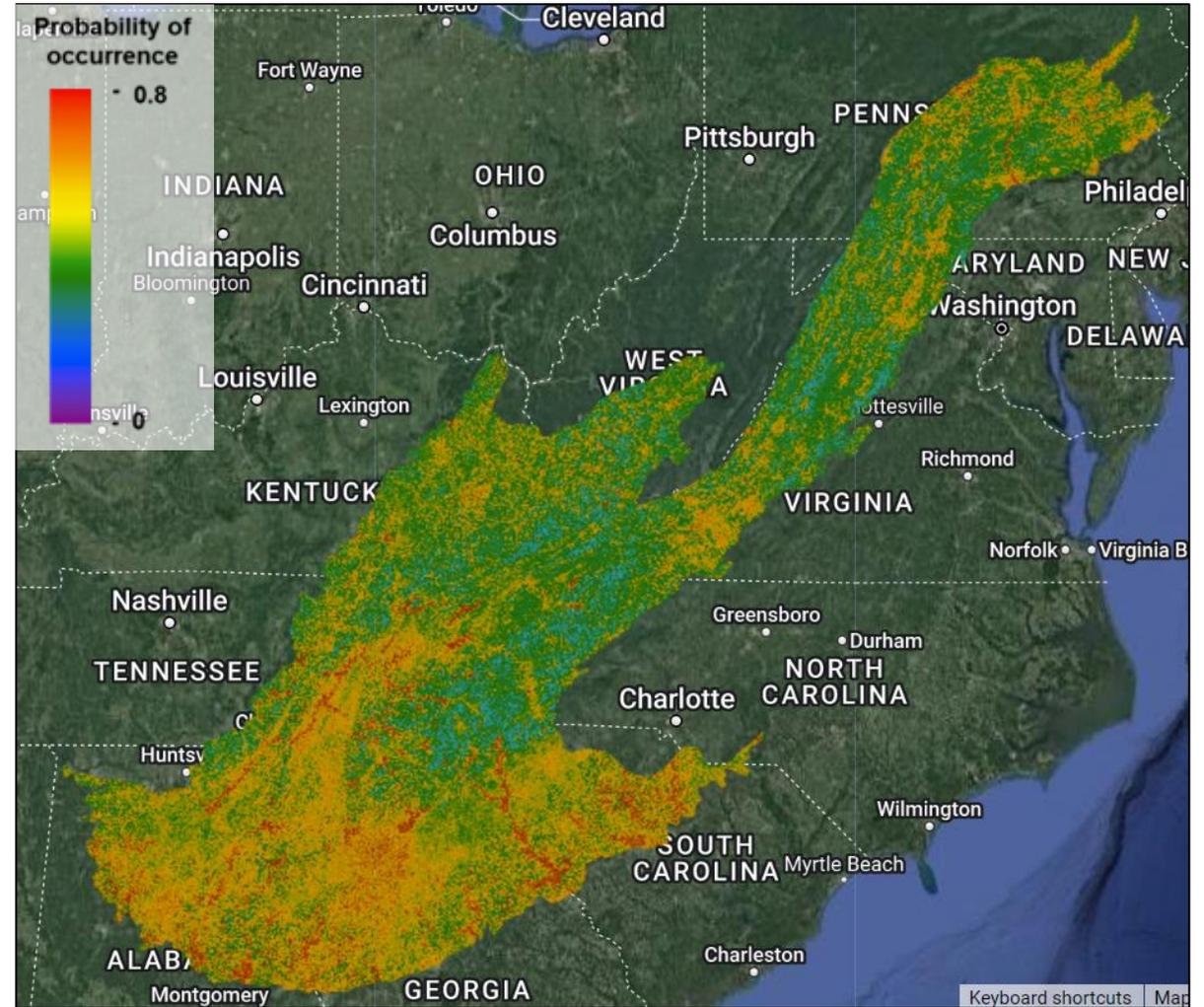
SPECIES-CENTERED HABITAT MODELING

(Shirley et al 2013, Betts et al 2014, Halstead et al 2019)

	Western Study Area	Central Study Area	Eastern Study Area
Number of final survey points	963	1068	3181
Number of species modeled	48	52	66
Number of species \geq AUC 0.55	35	36	51
Mean AUC for final models	0.628	0.630	0.628
St. dev. AUC for final models	0.054	0.073	0.067



CASE STUDY: PINE WARBLER HABITAT DISTRIBUTION -- 2019





BULK UPLOADING METADATA & OBSERVATION DATA INTO A PROJECT



BULK LOADING DATA

Loading spreadsheet data into the Project Database for loading Researchers, Sampling Units, and Observations

Observations: Uses definition file to describe how your spreadsheet maps into AKN

BATCH PROCESSING

Bulk Uploader v2 - Beta

Follow the steps below to load data in bulk into your project.

First, select the Project you want to bulk load into

FORT_HOOD - (IDOD_ARMY) Fort Hood

Next, select the Tool you want to use

Each tool independently does a task that helps you bulk load data into your project. Many of the tools process data in Batch, processing data in batches. Batch results can be found in the Batches tool.

[Add Researchers](#)

[Add Sampling Units](#)

[Add Observations](#)

[Add Protocol](#)

[Batches](#)

Results:

Batches for project FORT_HOOD

The table is showing all batches for this project. Click on a row to get the batch result details when Status is success or error.

[Save as CSV](#) [Refresh list](#)

ID	Utility	Status	Status Detail	Submitted	Duration	Actions
455	AddSamplingUnits	success	batch completed successfully	2021-08-10 20:07:48	0:01	⚡ ⬇️
454	AddSamplingUnits	error	batch completed with errors	2021-08-10 20:06:33	0:00	⚡ ⬇️
453	AddObservations	success	batch completed successfully	2021-08-09 19:25:10	1:03	⚡ ⬇️
452	AddObservations	error	batch completed with errors	2021-08-09 19:24:41	0:04	⚡ ⬇️
451	AddObservations	error	batch completed with errors	2021-08-09 19:23:19	0:09	⚡ ⬇️
450	AddObservations	error	batch completed with errors	2021-08-09 19:18:37	0:04	⚡ ⬇️
449	AddObservations	error	batch completed with errors	2021-08-09 19:03:35	0:03	⚡ ⬇️
448	AddObservations	error	batch completed with errors	2021-08-09 19:00:23	0:00	⚡ ⬇️

Results:

Errors:

Error line 744: Value not allowed for weatherwinddirectioncardinal: East Northeast

Error line 1055: The count field is required.

Add Observations Summary: CSV Rows Reviewed: 1054

Batch ID 451

AddObservations

plimptonc@gmail.com

Results:

Add Observations Summary: CSV Rows Reviewed: 1054, New PointCount Events created: 217, New PointCount Observations created: 1045, New PointCount SiteConditionEvents created: 217, New PointCount SiteConditionProperties created: 1207



BULK UPLOADING PROJECT DATA

EXERCISE 3: BULK UPLOADING SAMPLING UNITS



BULK UPLOADING SAMPLING UNITS

EXERCISE 3

Purpose: Build on exercise 1 using the Bulk Upload tool to create multiple sampling units at once for a given survey type

Goal: Bulk upload a new point onto your existing transect and add a new transect with three points

BULK UPLOADING SAMPLING UNITS

EXERCISE 3 *(THINKING AHEAD)*

- The Bulk Uploader tool is useful when you have many sampling units to add to your project.
- The Bulk Uploader tool can add sampling units to an existing hierarchy or create an entirely new hierarchy (*remember our discussion thinking about Study Areas!*)
- The Bulk Uploader tool can also add Researchers or Observation data to your project
 - Note: we will not be covering those use cases today but can assist in office hours

BULK UPLOADING SAMPLING UNITS

EXERCISE 3

Exercise 3 instructions

- okay not to follow instructions exactly

LONG NAME VS SHORT NAME: WHAT'S THE DIFFERENCE?

- Every sampling unit has a **Short Name** and a **Long Name**
 - Short Names and Long Names can be the same
- **Short Name** + **Long Name** combinations must be unique within an AKN Project
 - e.g., transect names and point count names **CAN NOT BE THE SAME**
- **Short Names** will be seen throughout the tools and in your data download
 - It is the shorthand name for each sampling unit
- **Short Names** are limited to 12 characters
- **Long Names** can be longer and more descriptive, if useful

LONG NAME VS SHORT NAME: WHAT'S THE DIFFERENCE?

EXAMPLES (any of these would be correct):

Point Count Transect Long Name	Point Count Transect Short Name
East Training Area	ETA
East Training Area 1	ETA-1
ETA	ETA
ETA-1	ETA-1

EXAMPLE: FORT CAVAZOS (HOOD), TX

- Modified existing protocol to meet data entry needs for three survey types
- Structured sampling units across installation
- Bulk uploaded over 3,000 rows of data; now direct entering survey data in AKN

Project Protocols

open new project
FORT_HOOD - [DOD_ARMY] Fort Hood

add one
copy to

Protocol Id	Protocol Name	Protocol
FTHOOD_WEATHER_COWS	Weather with temp, wind, sky, and precipitation, and total number of cows	SiteConditions
FTHOOD_WEATHER_FALL_COWS	Weather with temp, wind, sky, and precipitation, and total number of cows for fall point counts	SiteConditions
VCP100Sx	Variable Circular Plot, exact distances to 100m, then > 100 with AnimalSex, and bins over 100m for NOBO	PointCount
VCP_60m_4db	Variable distance point count 60 minutes with 4 distance bins <100, 100-250, 250, 500, >500	PointCount

4 rows

1. Select sampling units from the tree below.

select all
clear all

- FORT_HOOD - [DOD_ARMY] Fort Hood
- Grassland Point Counts 2016-2018 (GRASSLAND)
- Monitoring of Owls and Nightjars (MOON)
- Northern Bobwhite Point Counts (NOBO_PC)

OFFICE HOURS

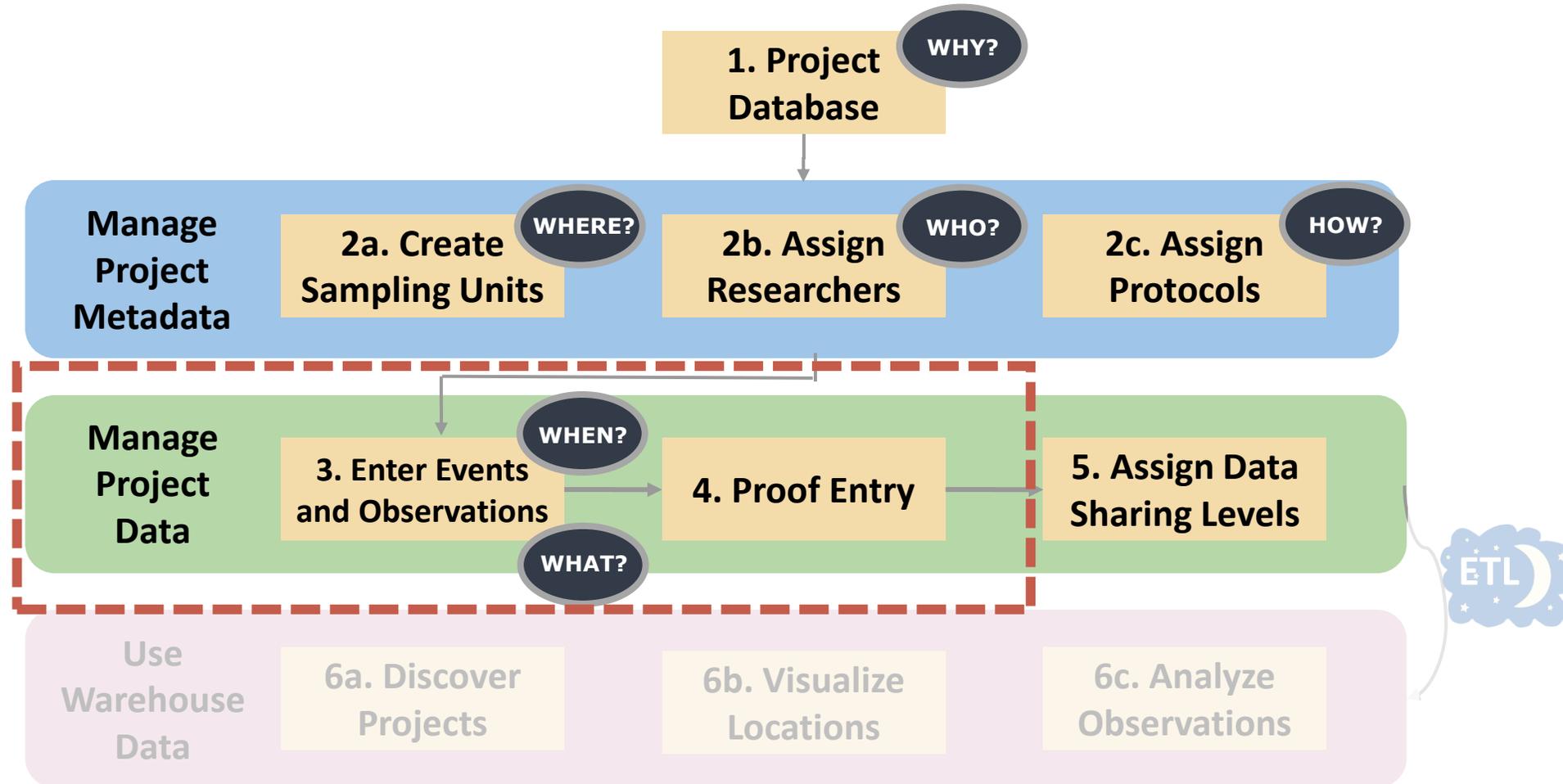
Discuss bulk loading and other issues regarding your observation data

Sign-up sheet up front for in-person office hours tomorrow and Thursday.



For future virtual office hours, sign up here:
<https://www.dodakn.org/resources/get-training/#office-hours/>

ANY QUESTIONS ON MANAGING PROJECT DATA?





OREGON ARMY NATIONAL GUARD BIRD PROJECTS





LUNCH





OREGON ARMY NATIONAL GUARD BIRD ID PRESENTATION





FIELD EXERCISE INTRODUCTION & LOGISTICS FOR TOMORROW





PLUSES AND DELTAS

DAY 1 WRAP-UP

Reminder: Bring lunch tomorrow!





END OF DAY 1





DoD AND THE AKN: WHO, WHAT, WHERE, WHEN , WHY, AND HOW

DoD National Guard Training
May 23-25, 2023
Hermiston, OR

Sam Veloz
Dianne Miller

John Alexander
Caitlyn Gillespie

Elizabeth Neipert
Zoe Duran



pointblue.github.io/dod_workshop



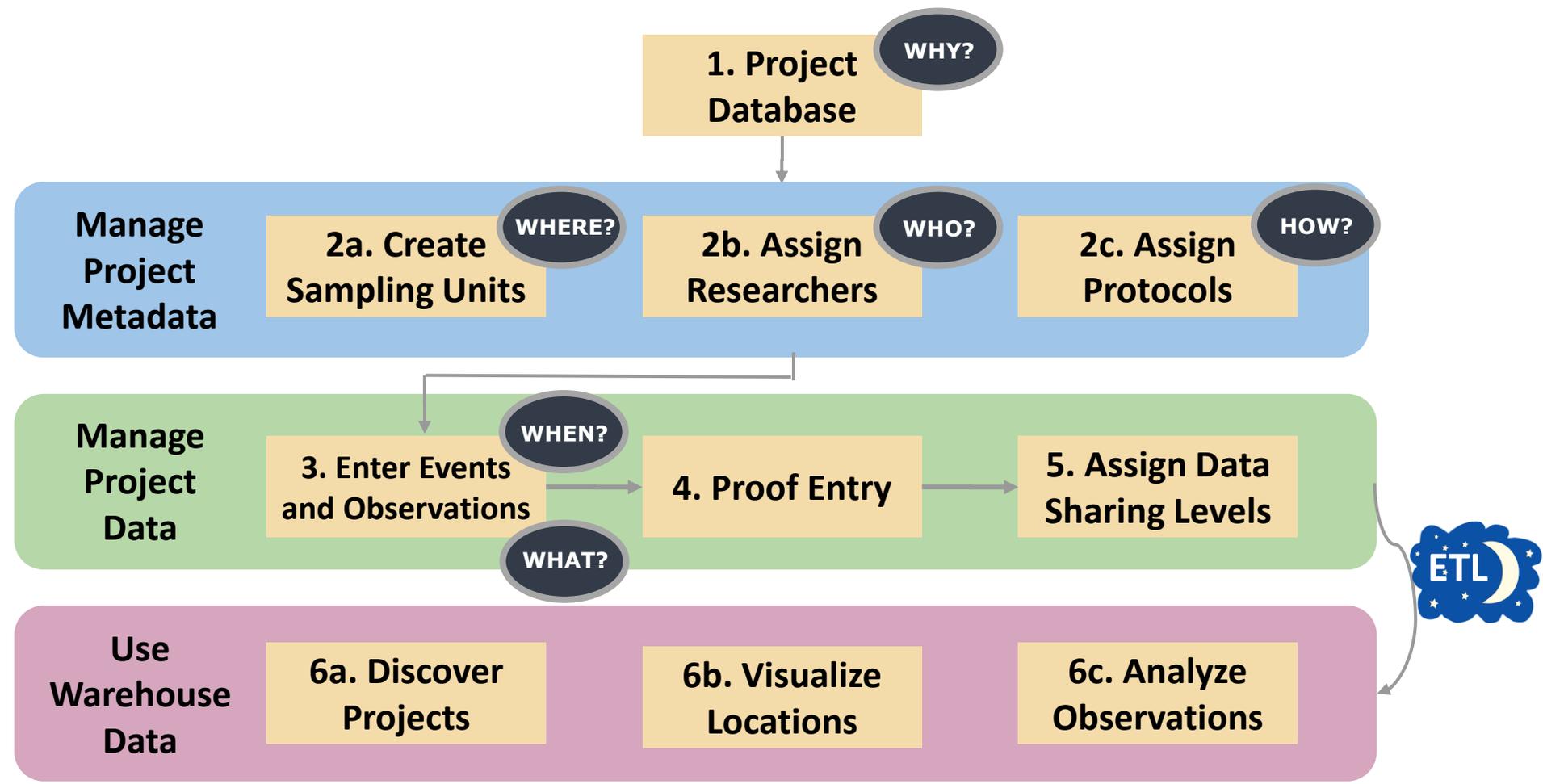
Photo: Mick Thompson/Flickr (CC BY NC 2.0)



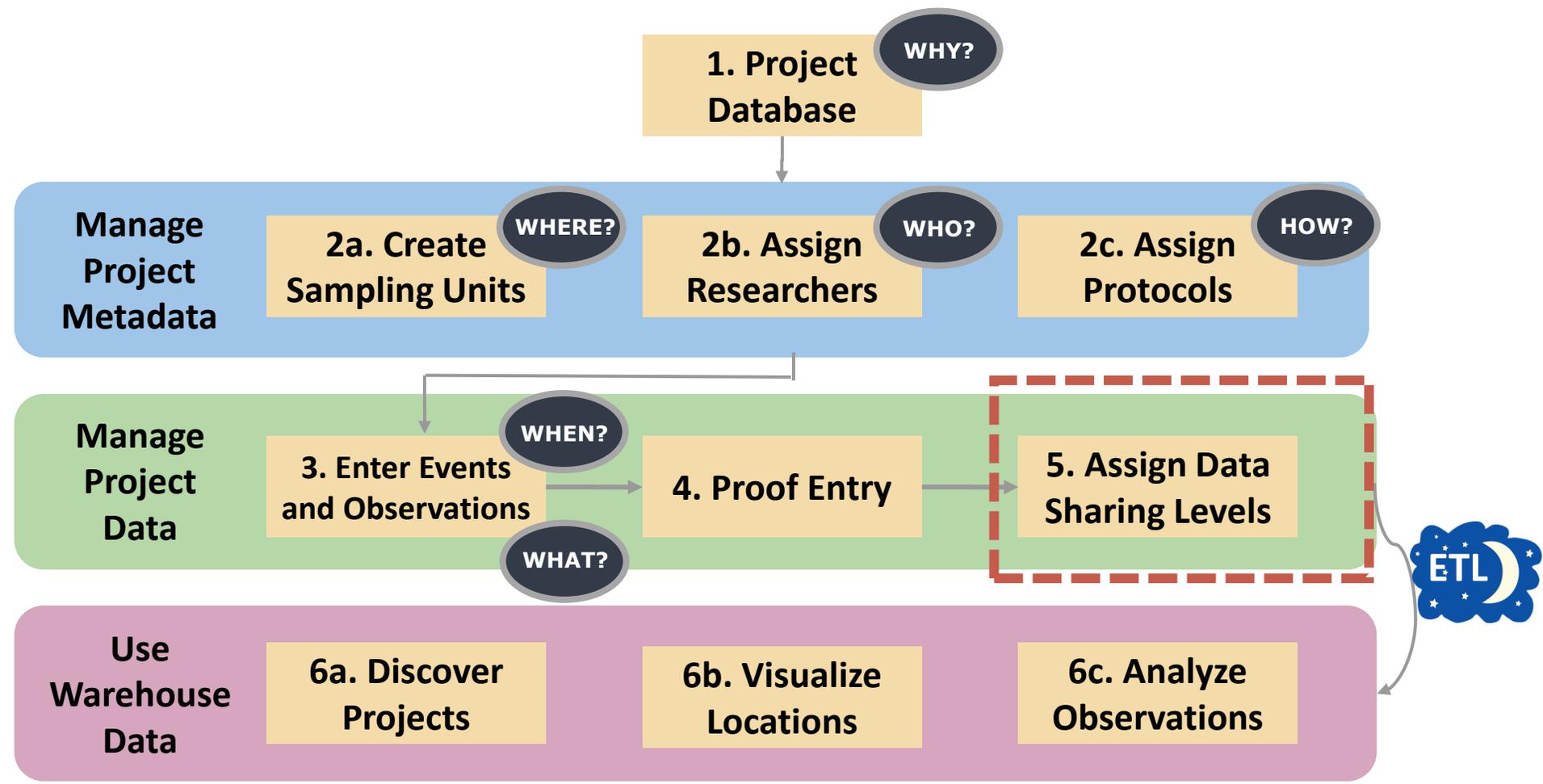
AKN WAREHOUSE DATA 101



WORKFLOW FOR MANAGING A PROJECT



MANAGING A PROJECT: DATA SHARING LEVELS



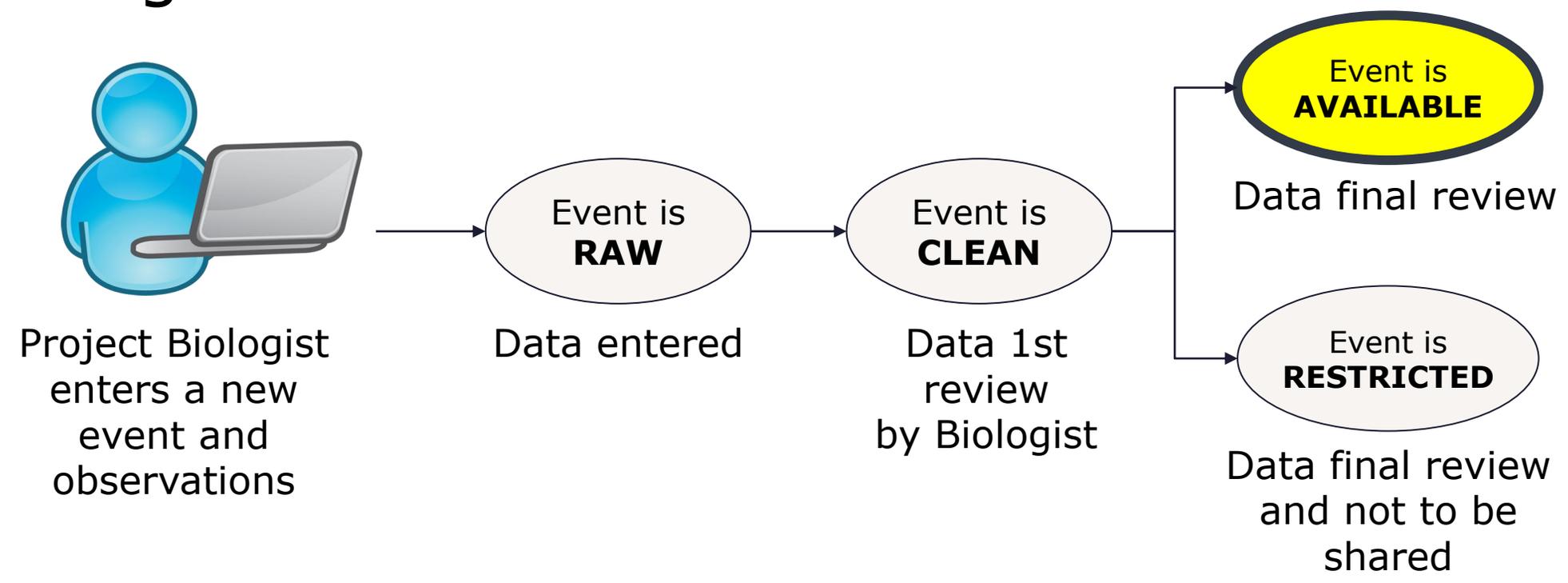
DATA SHARING LEVELS

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

Controlled by the Project Leader within each Project

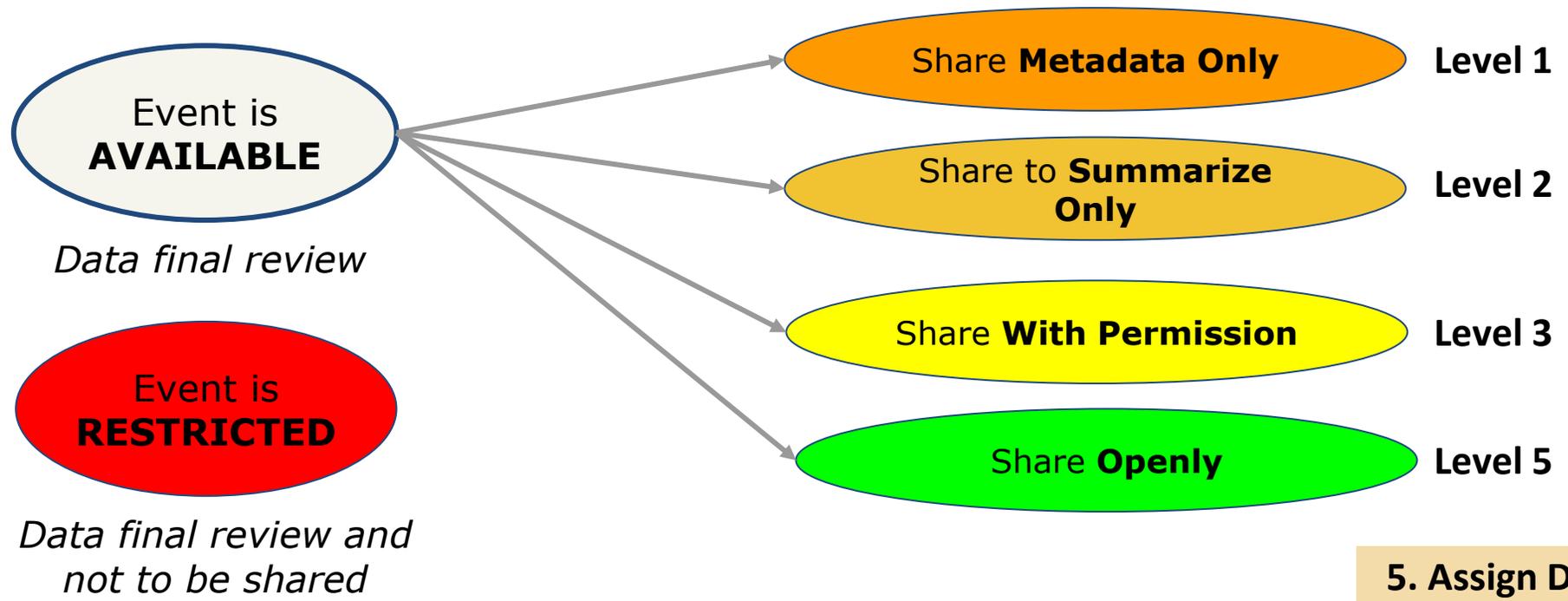
REVIEW LEVELS FOR EACH EVENT

Steps to enter and review data in preparation for sharing



DATA SHARING LEVELS FOR EACH EVENT

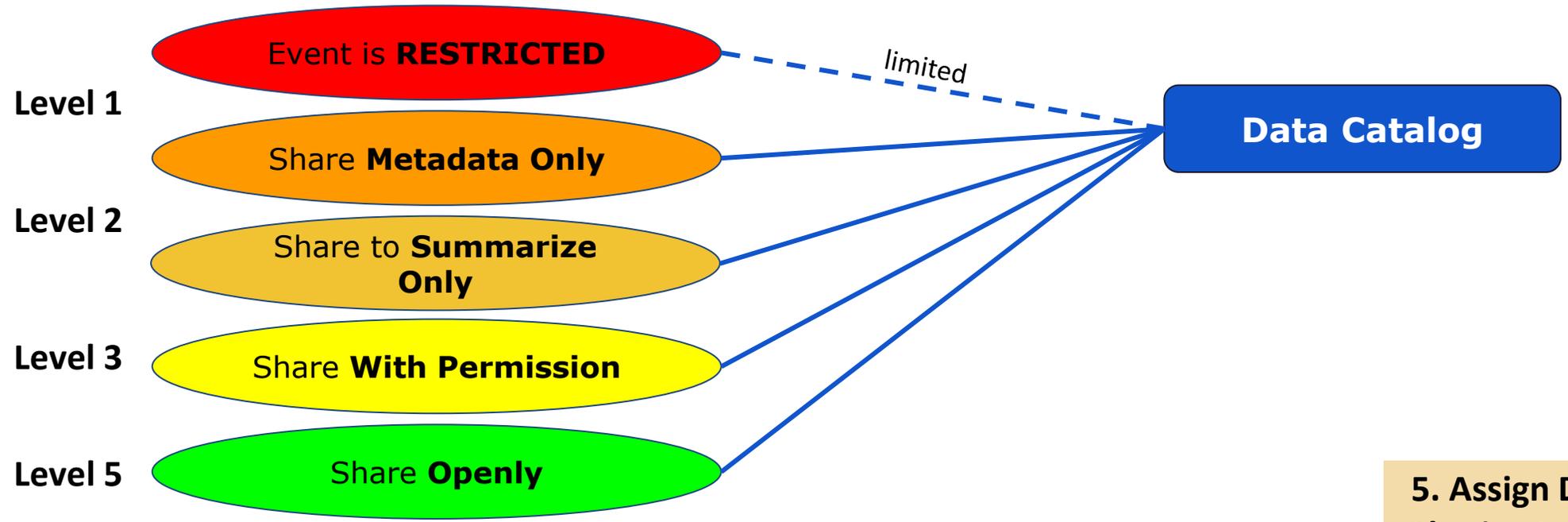
Choices informs the Point Blue Science Cloud tools of your intentions.



5. Assign Data Sharing Levels

DATA SHARING AND TOOL ACCESS

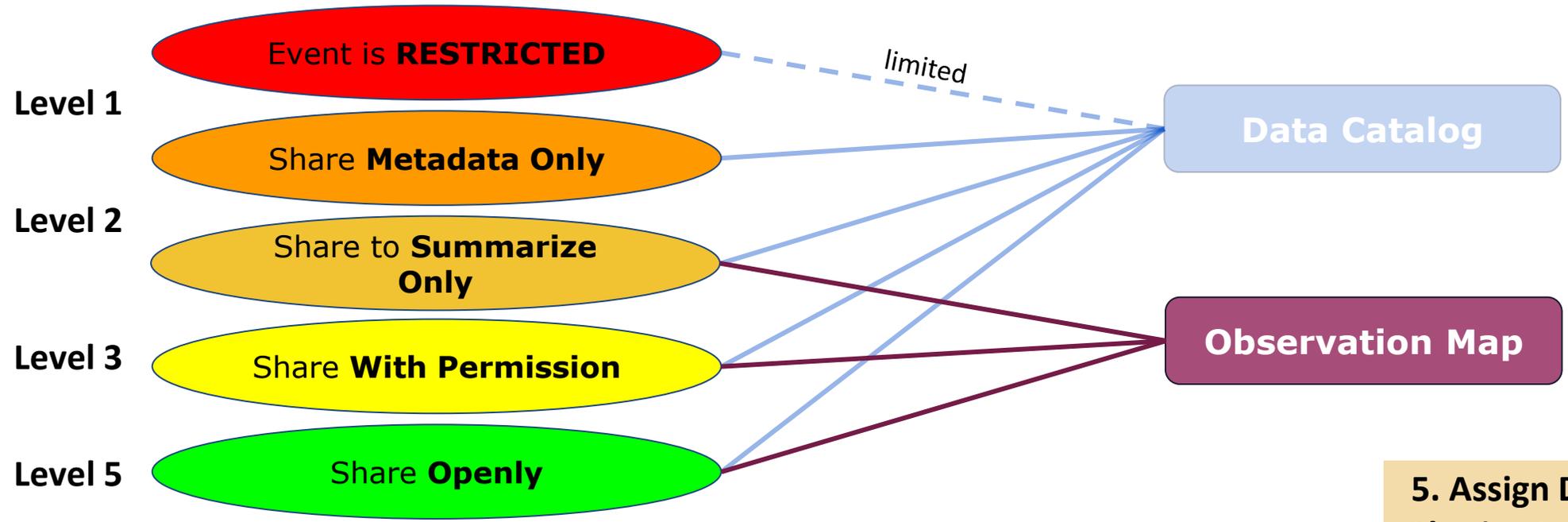
Choices informs the Point Blue Science Cloud tools of your intentions.



5. Assign Data
Sharing Levels

DATA SHARING AND TOOL ACCESS

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



5. Assign Data
Sharing Levels

DATA SHARING LEVEL MOTIVATION

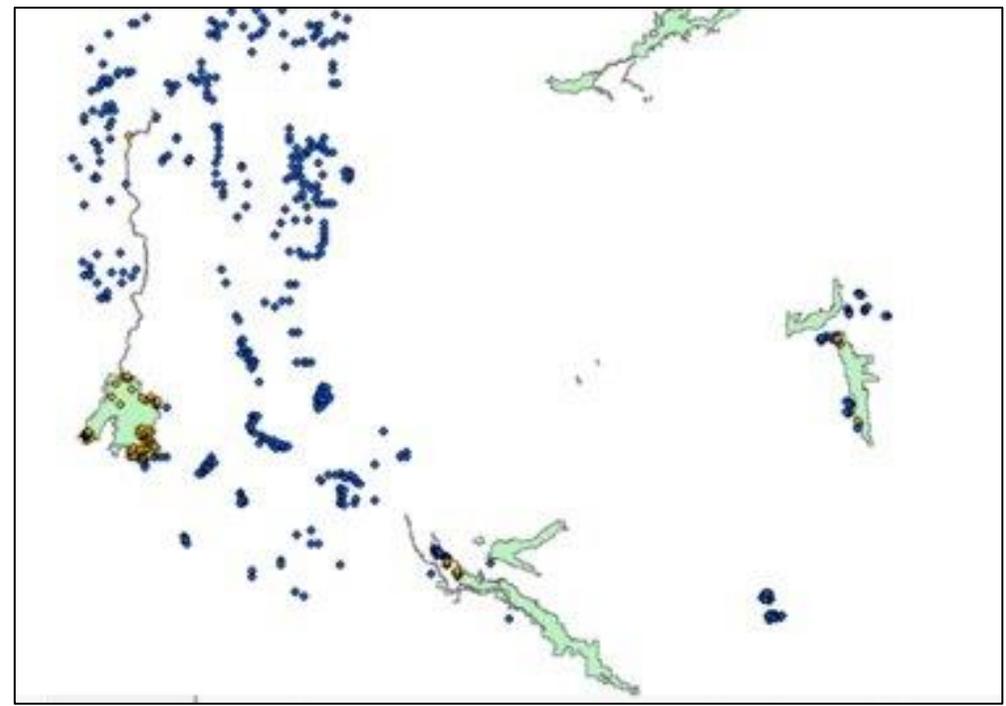
- Organizational Policy
- Federal / State Law
- Research and Right of First Publication
- Threatened / Endangered Species
- Private Landowner Agreements
- Contribute to AKN Science
- Partnership / Collaboration Development

**5. Assign Data
Sharing Levels**

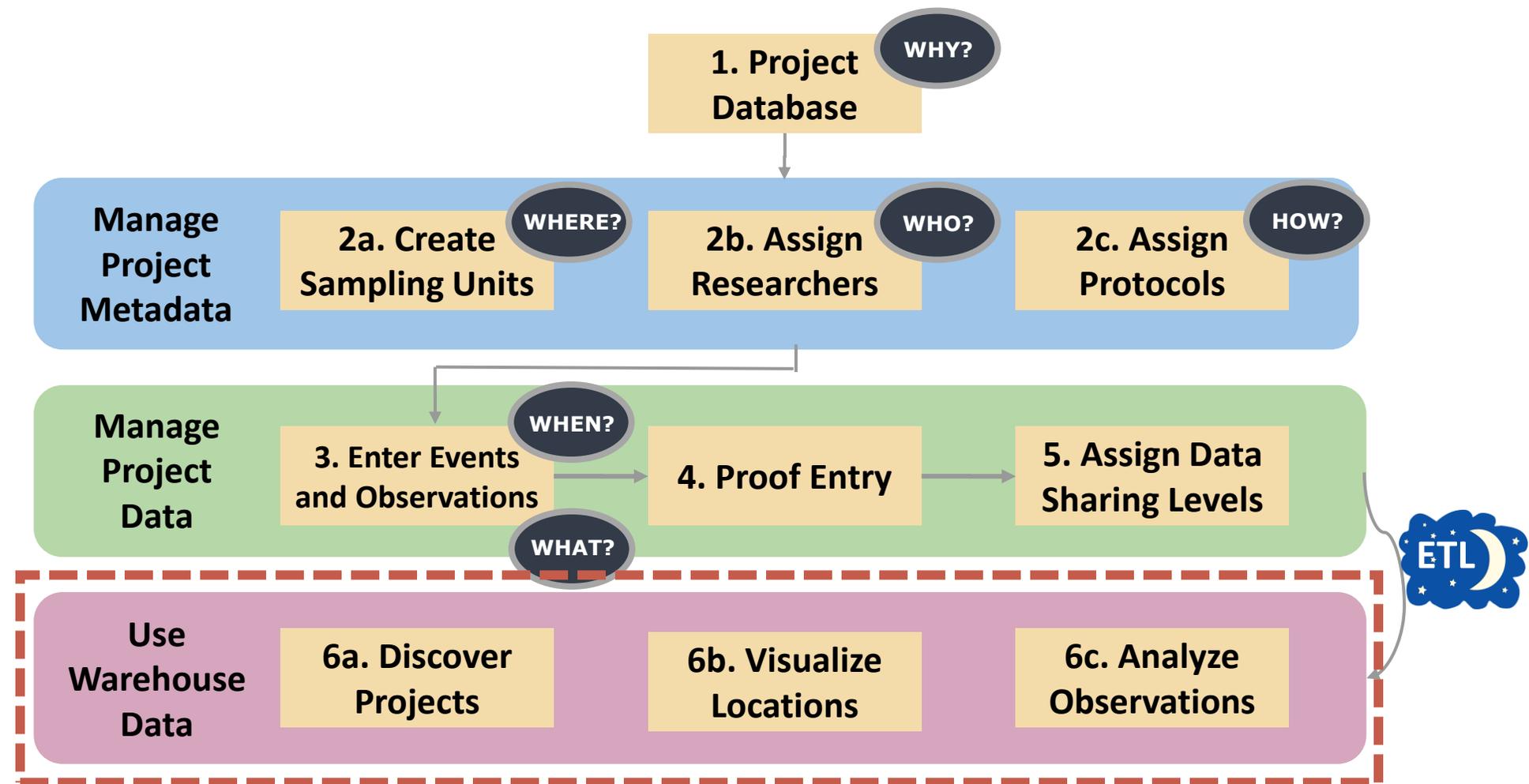


EXAMPLE: USACE-WILLAMETTE VALLEY PROJECT, OR

- New biologist took DoD AKN training at NMFWA
- Worked with DoD AKN Team to ID data within boundary
- Data was both USACE and partner data
- Created USACE WVP within USACE enterprise
- Gained access to USACE-owned data
- Reaching out to partners about sharing data within boundary



MANAGING A PROJECT: DATA WAREHOUSES



DATA WAREHOUSES

Database 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



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 HabitatPlotId	HabitatPlot Composition Vine	HabitatPlot Composition Cane	HabitatPlot Composition Overstory	HabitatPlot Composition Midstory	HabitatPlot Composition Understory	Researcher
LITTLERIVERNWR	164	FWS_PC_HAB_LWRMISS	6/3/2019	8:01:00	164	3	1	3	3	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

DecimalLat	DecimalLon	Visit	ProtocolCode	Observat	Year	Collec	Month	Day	JulianDa	JulianDay	P Time	Collec	ScientificN	CommonN	SpeciesCo	Phylogent	DistanceFr	Flyc I	Detectic E	Observa	NoObs	Record	Permissions
33.9699705	-94.70262	1	3_5_10m25_50_100MFLyByTm	6/3/2019	2019	6	3	154	75	8:01:00	DA	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	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	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	Molothrus	Brown-he	BHCO	2015	75	NR		1	0	AVAILABLE	LEVEL 5	

PROJECT DATA VS. WAREHOUSE DATA

Point Count Data

Same: Species, Count, Protocol, Locations, Detection Cues, Observation Time, Data Sharing Levels

Differences: Binned Distance averaged, Comments missing, no Site Conditions, Observer Names to Initials, no Time Bin



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



PARTNERSHIPS AND CONTRACTORS

Partner / Contractors

- DoD collects data for a Partnership
- Hiring independent contractors for survey work

DoD

- Wants to ask questions across DoD
- Needs to manage and control all data on installations

We want data collected on/near DoD installations in DoD Projects

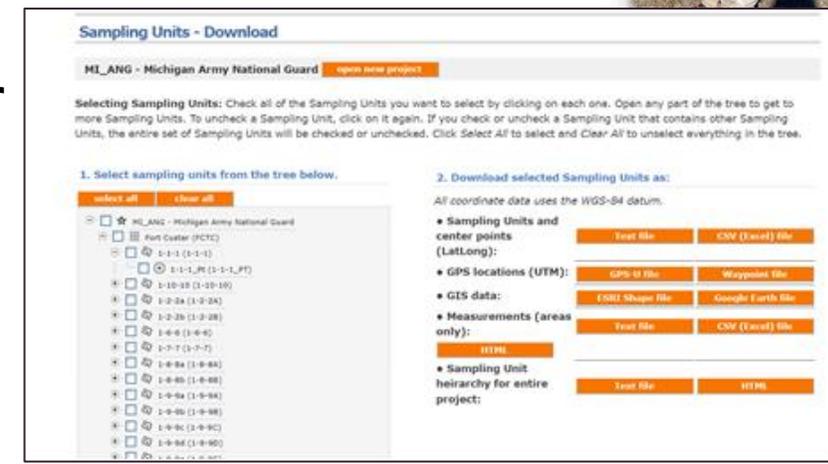


CONTRACTORS & TRAINING

MICHIGAN ARMY NATIONAL GUARD (MIARNG)



- Contracts Kalamazoo Nature Center (KNC) to complete bird surveys
- Wanted to train long-term staff to use AKN
- Attended training and entering data
- Additional benefit, KNC to enter other data, supplementing MIARNG data





CASE STUDY

Western Asio Flammeus Landscape Study (WAfLS)

Short-eared Owls

- Unique protocol & data structure
- Community scientist friendly
- Multi-state
- Information gaps
- Science delivery
- Species and habitat conservation





CASE STUDY

Western Asio Flammeus Landscape Study (WAfLS)

Short-eared Owls

Project home website
Centralized data portal
Decision Support Tools

Year 1 (2018)

- Design website on Avian Knowledge Northwest & eBird Northwest
- Development of data entry system
- Federate existing data
- Scope science delivery needs (best practices for development of decision support tools)





CASE STUDY

Western Asio Flammeus Landscape Study (WAfLS)

Short-eared Owls

Project home website
Centralized data portal
Decision Support Tools

Year 2 (2019)

- Website updates and maintenance
- Work with partners to develop science delivery and decision support tools





CASE STUDY

Western Asio Flammeus Landscape Study (WAfLS)

Short-eared Owls

Project home website
Centralized data portal
Decision Support Tools

Year 3 (2020)

- Website updates and maintenance
- Work with partners to complete final analyses, final reports, science delivery products, and decision support tools
- Complete final database curation and archiving





WAfLS Project Web Pages at AKN

TRAINING

This Identification Guide provides some helpful hints for

[READ MORE >](#)

PROTOCOLS AND DATA SHEET

Full protocol and data sheet available for future projects.

[READ MORE >](#)

WAFLS MENU

- Data and Protocol
- Program Partners
- Published Reports
- Published Papers

WEATHER

Date: [Enter date of event] Visit: 1 Data Sharing: RAW Observer: Alexander, John

* Cloud Cover: [Select one...] * Temperature (F): [] * Wind: [Select one...]

HOURS AND MILEAGE

Affiliation: [] * Paid Hours (Fed): [] * Paid Hours (Non-Fed): [] * Paid Miles (Fed): [] * Paid Miles (Non-Fed): [] * Volunteer Hours: [] * Volunteer Miles: []

<input type="checkbox"/>	Point	Start Time	End Time	Detections?	Notes
<input type="checkbox"/>	TP1			<input checked="" type="radio"/> yes <input type="radio"/> no	
<input type="checkbox"/>	TP2			<input checked="" type="radio"/> yes <input type="radio"/> no	
<input type="checkbox"/>	TP3			<input checked="" type="radio"/> yes <input type="radio"/> no	

VEGETATION COVER CLASSIFICATION (RECORD TO NEAREST 10%)

* Low Shrub: [] % * High Shrub: [] % * Cheatgrass Monoculture: [] % * Complex Grassland: [] % * Ag - Fallow: [] % * Ag - Dirt: [] % * Ag - Stubble: [] % * Ag - Green: [] %

#	Point	Time	Species	Count	Detection	Distance	SEOW_InitialDirection	SEOW_HabitatObserved	Min1	Min2	Min3	Min4	Min5
1	Select point...								<input type="checkbox"/>				
2	Select point...								<input type="checkbox"/>				
3	Select point...								<input type="checkbox"/>				
4	Select point...								<input type="checkbox"/>				

Hoot	Bark	Scream	WingClip	BillSnap	Perched	Foraging	DirectFlight	Agnostic	Courtship
<input type="checkbox"/>									
<input type="checkbox"/>									
<input type="checkbox"/>									
<input type="checkbox"/>									

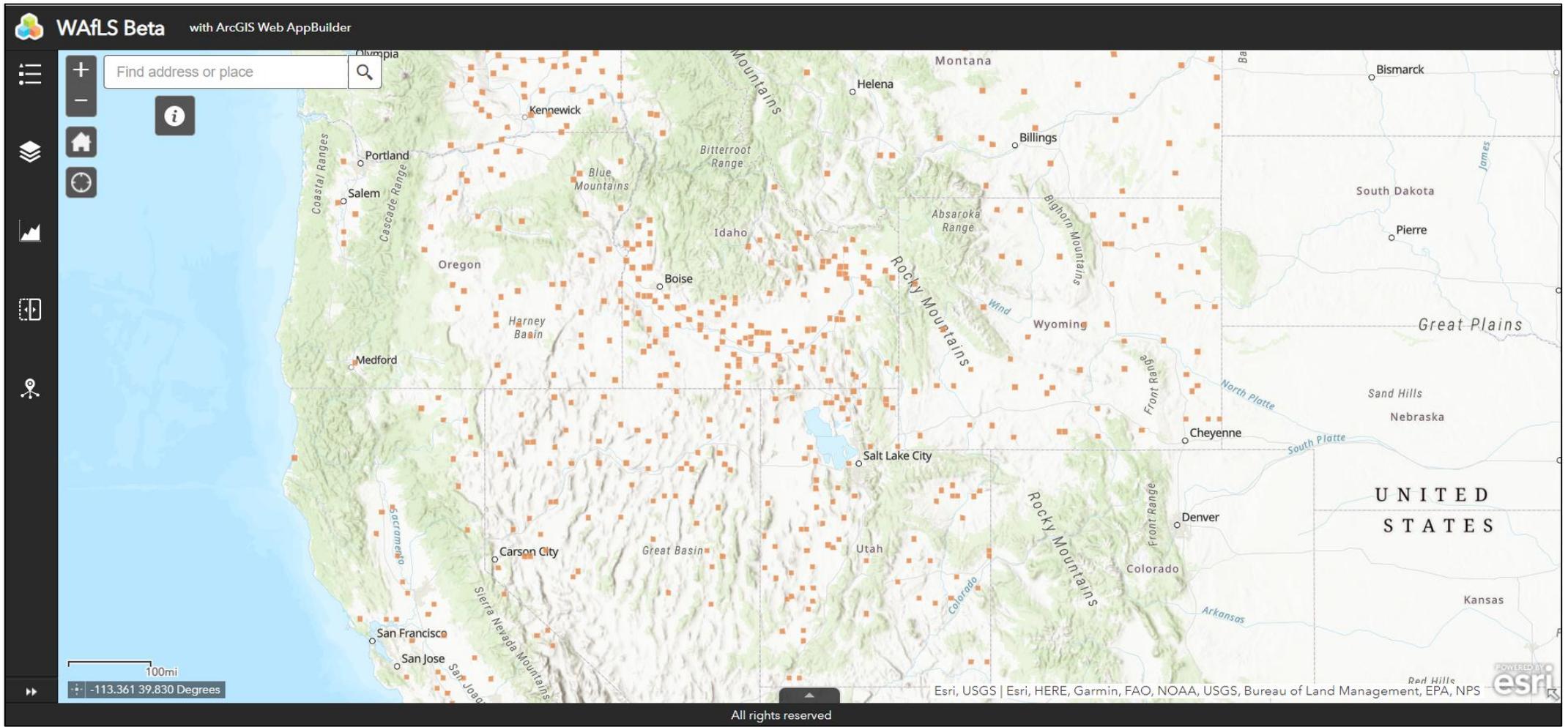
WAfLS Tool

WAfLS Protocols

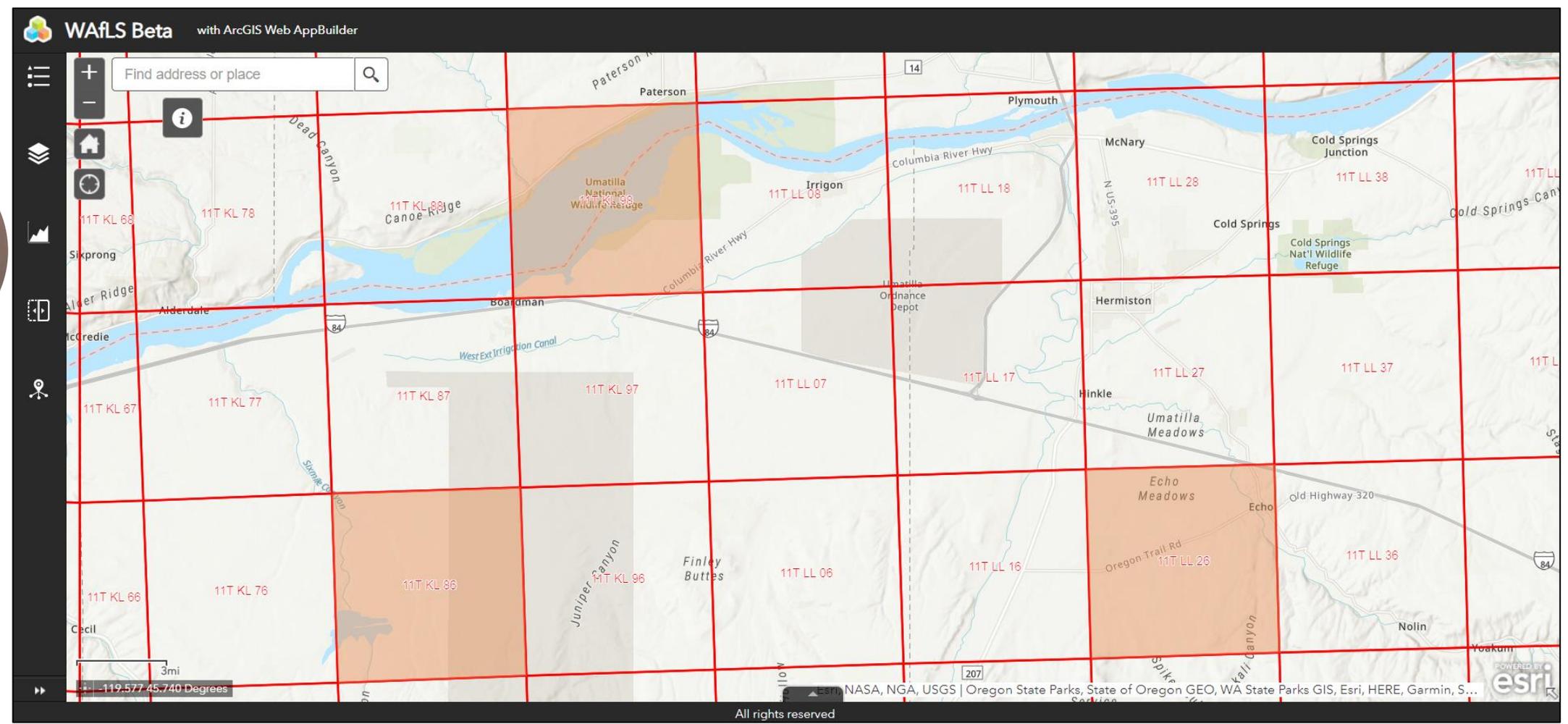
WAfLS Facebook

WAfLS Contact

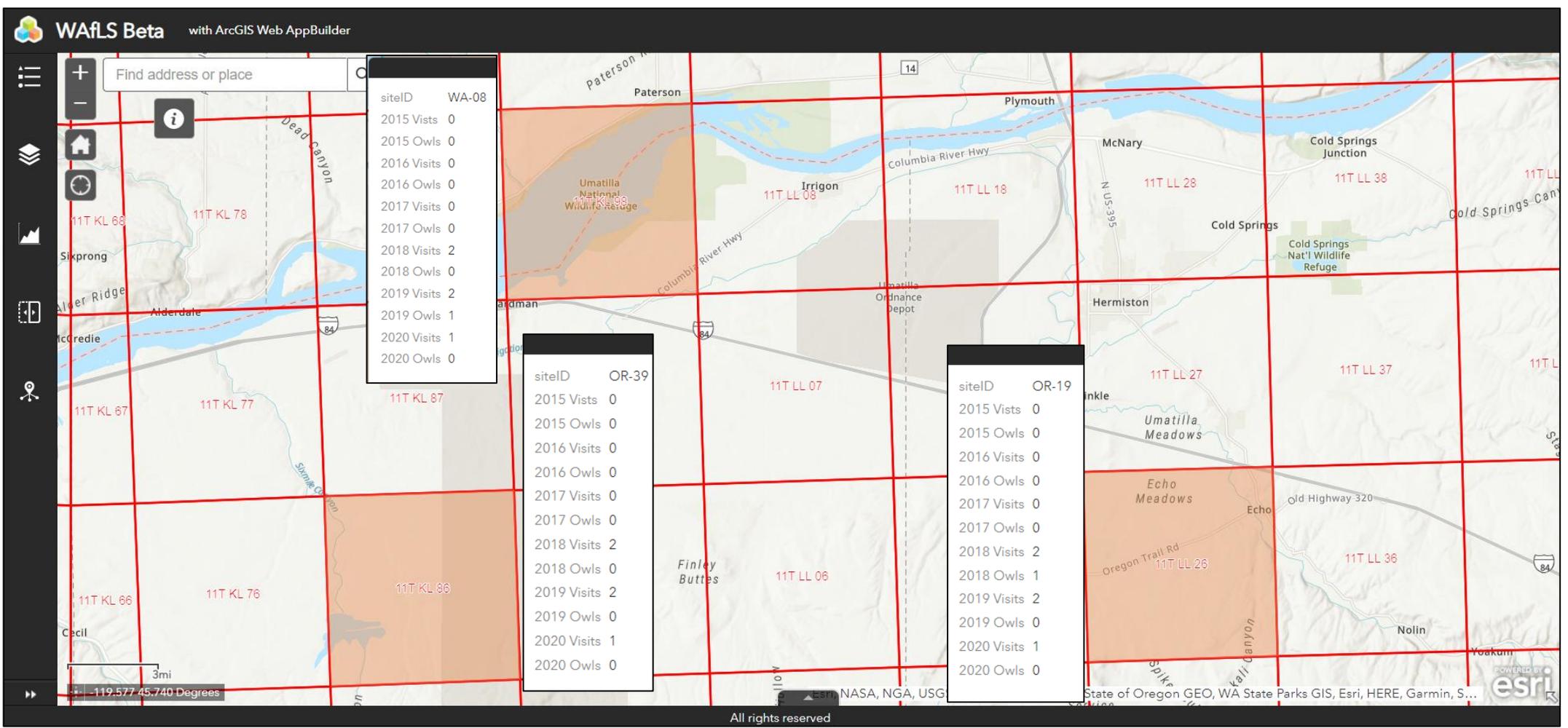
Data Explorer – sampling frame



Data Explorer – sampling frame



Data Explorer – effort & observations



Data Explorer – current occupancy



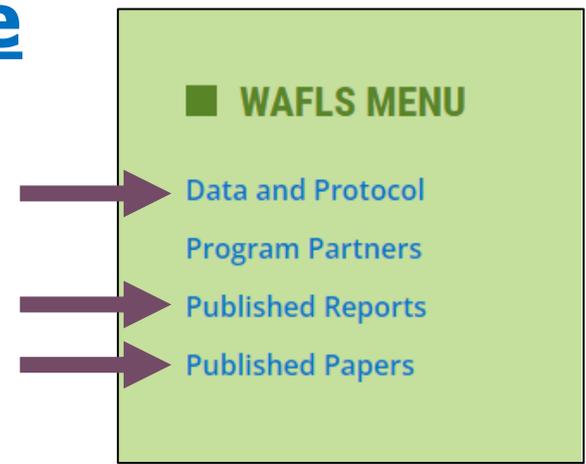
Data Explorer – future occupancy





RESOURCES

- [Project WAfLS Website](#)
- [Avian Knowledge Northwest SEOW Project Page](#)





DISCOVERING OBSERVATION DATA



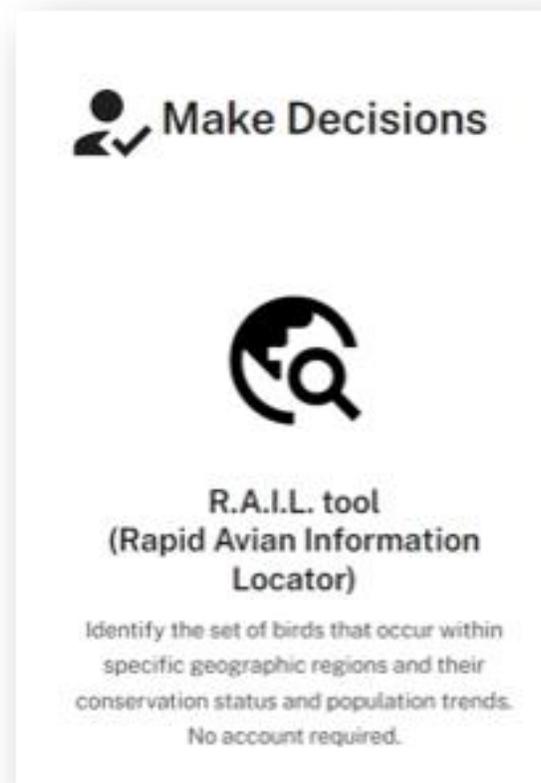


EXAMPLE: R.A.I.L. TOOL VANCE AIR FORCE BASE, OK

- Biologist was new to AF and did not have any bird data
- Wanted a list of birds on Vance for NEPA and INRMP updates

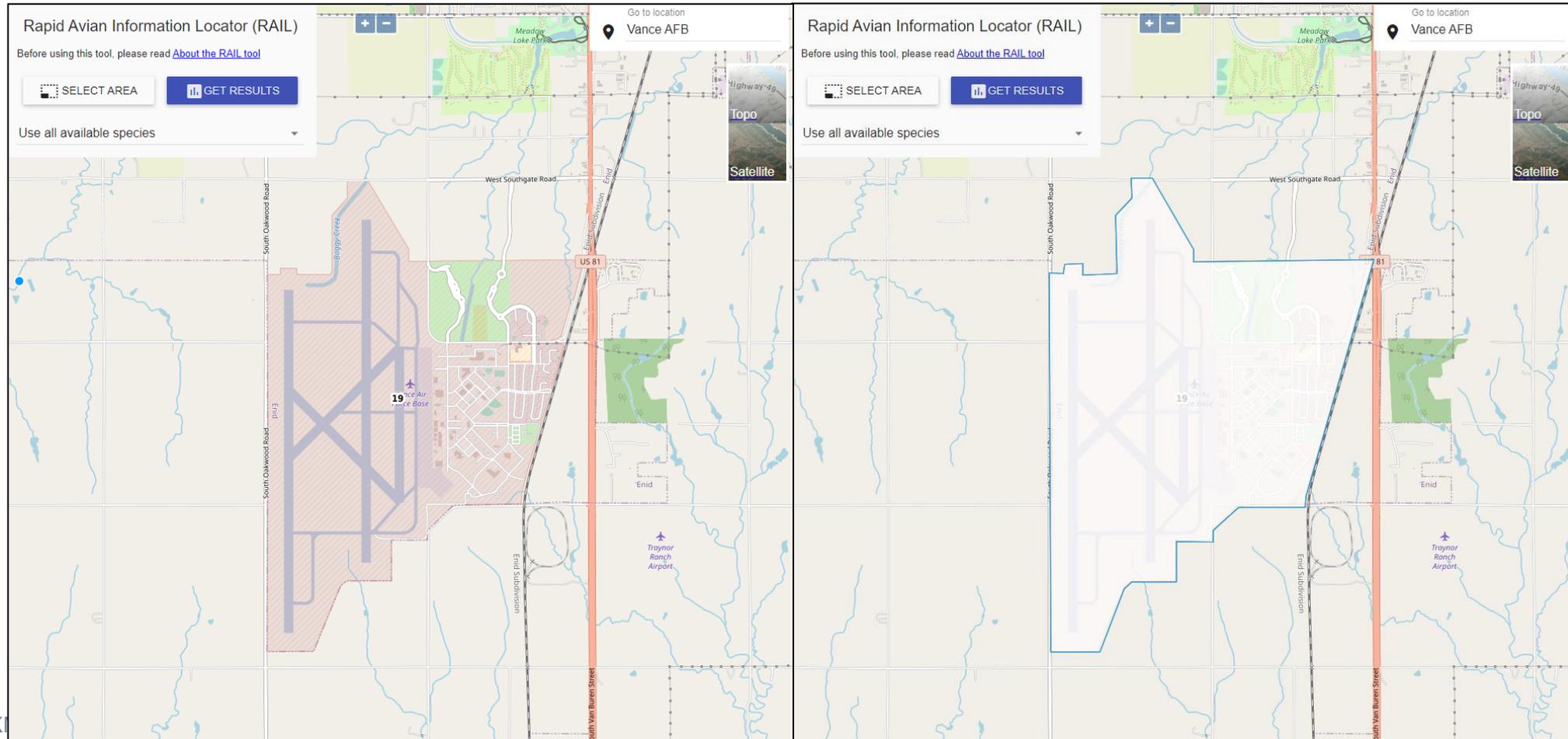
- RAIL tool available at no cost and without an account
Integrates data from AKN, Partners in Flight, US Fish and Wildlife, Breeding Bird Survey, eBird, All About Birds, and the Macaulay image library at Cornell

<https://data.pointblue.org/apps/rail/>





EXAMPLE: R.A.I.L. TOOL VANCE AIR FORCE BASE, OK





EXAMPLE: R.A.I.L. TOOL VANCE AIR FORCE BASE, OK

Rapid Avian Information Locator (RAIL)

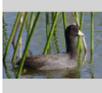
Before using this tool, please read [About the RAIL tool](#)

SELECT AREA GET RESULTS

Use all available species

Species Results FILTER RESULTS (Currently showing 172 of 172 results)

BCR(s): 19-CENTRAL_MIXED_GRASS_PRAIRIE
State(s): OK

Bird Species	Population Estimates	Conservation Status	Detail
 American Avocet <i>Recurvirostra americana</i>	Global: Not yet available Continental U.S.: Not yet available	BCRBCC Breeding: 9, 33	▼
 American Bittern <i>Botaurus lentiginosus</i>	Global: Not yet available Continental U.S.: Not yet available	State Threatened: MD State Endangered: MA, CT, NJ, PA, OH, IN	▼
 American Coot <i>Fulica americana</i>	Global: Not yet available Continental U.S.: Not yet available	Common	▼

	Barn Swallow <i>Hirundo rustica</i>	Global: 190,000,000 Continental U.S.: 40,000,000	Common	▼
	Bell's Vireo <i>Vireo bellii</i>	Global: 5,700,000 Continental U.S.: 4,600,000	Common	▼
	Belted Kingfisher <i>Megasceryle alcyon</i>	Global: 1,800,000 Continental U.S.: 830,000	BCRBCC Breeding: 13	▼
	Black-bellied Whistling-Duck <i>Dendrocygna autumnalis</i>	Global: Not yet available Continental U.S.: Not yet available	Common	▼
	Black-crowned Night-Heron <i>Nycticorax nycticorax</i>	Global: Not yet available Continental U.S.: Not yet available	State Threatened: ME, NJ, OH State Endangered: DE, PA, IN	▼
	Black-throated Green Warbler <i>Setophaga virens</i>	Global: 9,200,000 Continental U.S.: 2,900,000	BCRBCC Breeding: 27	▼



EXAMPLE: R.A.I.L. TOOL VANCE AIR FORCE BASE, OK

Filter Species Results

Length Min (cm)	Length Max (cm)	Primary Breeding Habitat	
Biology			
Egg Length Min (cm)	Egg Length Max (cm)	Incubation Period Min (days)	Incubation Period Max (days)
Egg Width Min (cm)	Egg Width Max (cm)	Clutch Size Min (integer)	Clutch Size Max (integer)
Number of Broods Min (integer)	Number of Broods Max (integer)	Food Category	
Behavior Category		Nesting Category	
Conservation Status			
Continental Importance	Half Life	<input type="checkbox"/> Federally Threatened or Endangered	
State Threatened or Endangered	Bird of Conservation Concern	<input type="checkbox"/> Migratory Bird Treaty Act (MBTA) - Listed	

CLEAR ALL FILTERS CANCEL APPLY

Rapid Avian Information Locator (RAIL)

Before using this tool, please read [About the RAIL tool](#)

Type a species...

Selected species

- BAEA - Bald Eagle
- OSFL - Olive-sided Flycatcher
- HASP - Harris's Sparrow

Bald Eagle
Haliaeetus
leucocephalus

Alpha Code: Not yet available

Habitat Category²: Forests

Primary Breeding Habitat⁴: Wetlands, Generalist

Food Category²: Fish

Behavior Category²: Soaring (raptor)

Nesting Category²: Tree

Incubation Period²: 34 - 36 days

Clutch Size²: 1 - 3 eggs

Number of Broods²: 1

Egg description²: Dull white, usually without markings.

Egg length²: 5.8 - 8.4 cm

Global: 200,000
Continental U.S.: Not yet available

State Threatened: MA, CT, NH, NY, TX

State Endangered: NJ, VT, CA

Physical Details

Weight²: 3000 - 6300 g

Length²: 71 - 96 cm

Population Information

Global Population³: 200,000

% Population Estimate USA³: Not yet available
Lower 95% Bound USA³: Not yet available
Upper 95% Bound USA³: Not yet available

Continental Population Trend⁴: Significant large increase

Regional Population Trend⁴: BCR19 - Significant large increase

% BCR Population³: BCR 19 - 0.00%
Lower 95% Bound BCR³: BCR 19 - null
Upper 95% Bound BCR³: BCR 19 - null

% State Population³: OK - 0.00%
Lower 95% Bound State³: OK - null
Upper 95% Bound State³: OK - null

Biology

Continental Importance⁴: Not yet available

Half Life⁴: Not yet available

Federally Threatened⁶: No

Federally Endangered⁶: No

State Threatened⁷: MA, CT, NH, NY, TX

State Endangered⁷: NJ, VT, CA

Migratory Bird Treaty Act⁸: Listed

Bird of Conservation Concern⁹: No



EXERCISE 4: CREATE A SPECIES LIST WITH THE R.A.I.L. TOOL



CREATE A SPECIES LIST WITH THE R.A.I.L. TOOL

EXERCISE 4

Purpose: Get familiarized with the RAIL tool, which can help you find general information about the species in a particular area and their conservation status

Goal: Be comfortable navigating the RAIL tool to find information about species on your installation and understand the limitations of the tool

Thinking Ahead: Consider how RAIL might be helpful for your analyses and reporting

CREATE A SPECIES LIST WITH THE R.A.I.L. TOOL

EXERCISE 4

Exercise:

- Orientation of [R.A.I.L. Tool](#)
- [Exercise 4 instructions](#)



DOWNLOAD POINT COUNT DATA FROM WAREHOUSE DEMONSTRATION



Tools:

- [Data Downloader](#)



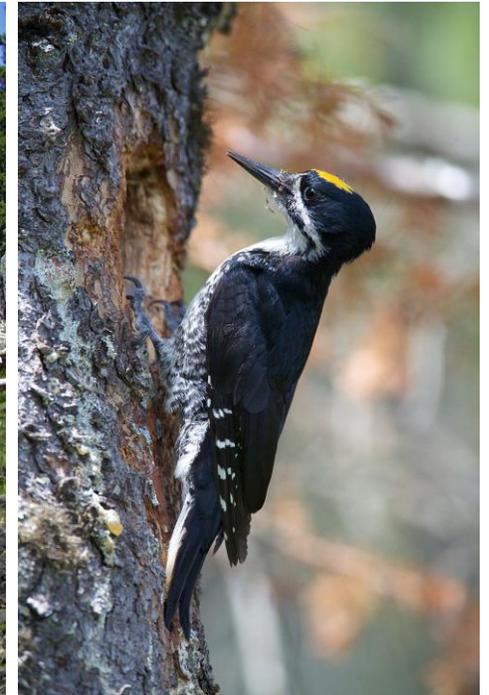
**Region 5 Post-Disturbance Hazardous Tree
Management Project**

Management Indicator Species Report

Prepared by: Angela Gatto, Wildlife Biologist
For: Lassen and Plumas National Forests
Date: March 2022

CASE STUDY:

**MAKING FOREST
MANAGEMENT
MORE EFFICIENT**



<https://data.pointblue.org/apps/snamin/>

AKN TOOLS GUIDE FOREST MANAGEMENT

Map ▾

[About These Maps](#)

Choose a Species
All Species ▾

Choose a Project

- Aspen
- Fuels
- Meadow
- Post-fire
- Bioregional Upland
- Bioregional Riparian

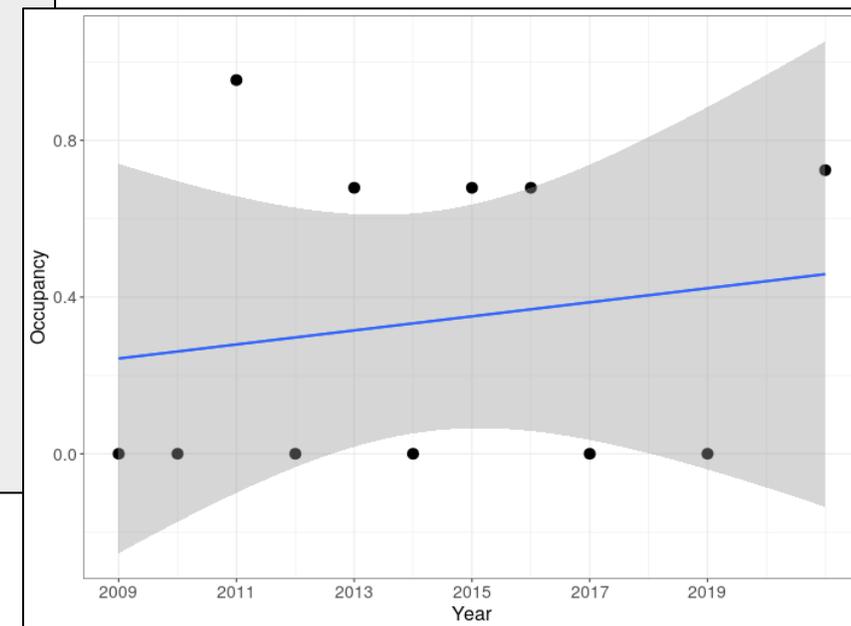
Choose a Map Overlay

- Section
- Township
- Ranger District
- Basic Ownership [?]
- Fire Perimeter
- Plumas-Lassen Administrative Study Units
- Vegetation Burn Severity [?] [\[Legend\]](#)
- (none)

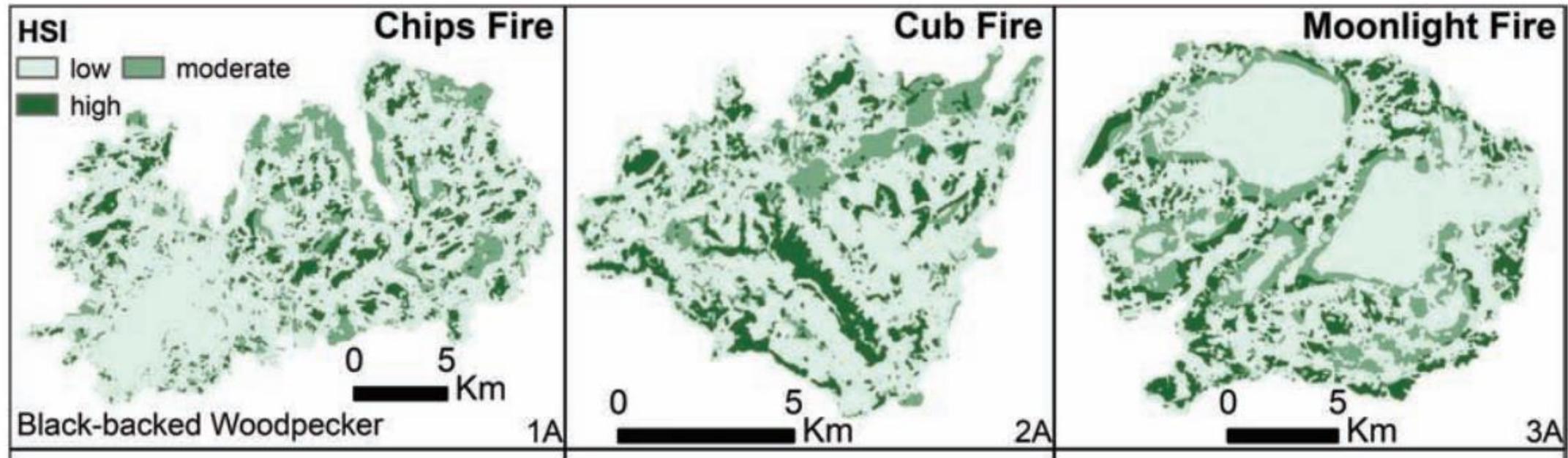
**Plumas NF, Mt. Hough Ranger District
Treatment Unit 4 (TU-4)
58867 Acres**

All Species at SIL3_9 [PLAS]

2003 American Robin	0
2004 American Robin	0
2005 American Robin	0
2006 American Robin	2
2007 American Robin	0
2008 American Robin	0
2009 American Robin	0
2010 American Robin	0
2011 American Robin	3
2003 Black-backed Woodpecker	0
2004 Black-backed Woodpecker	0
2005 Black-backed Woodpecker	0
2006 Black-backed Woodpecker	0
2007 Black-backed Woodpecker	0
2008 Black-backed Woodpecker	0
2009 Black-backed Woodpecker	0
2010 Black-backed Woodpecker	1
2011 Black-backed Woodpecker	0
2003 Black-headed Grosbeak	0
2004 Black-headed Grosbeak	2
2005 Black-headed Grosbeak	0
2006 Black-headed Grosbeak	0
2007 Black-headed Grosbeak	0
2008 Black-headed Grosbeak	0
2009 Black-headed Grosbeak	0
2010 Black-headed Grosbeak	0
2011 Black-headed Grosbeak	0
2003 Brown Creeper	0
2004 Brown Creeper	0



AKN TOOLS FOCUS FUTURE STUDIES



Campos et al. 2020. Predictive habitat suitability models for nesting woodpeckers following wildfire in the Sierra Nevada and Southern Cascades of California

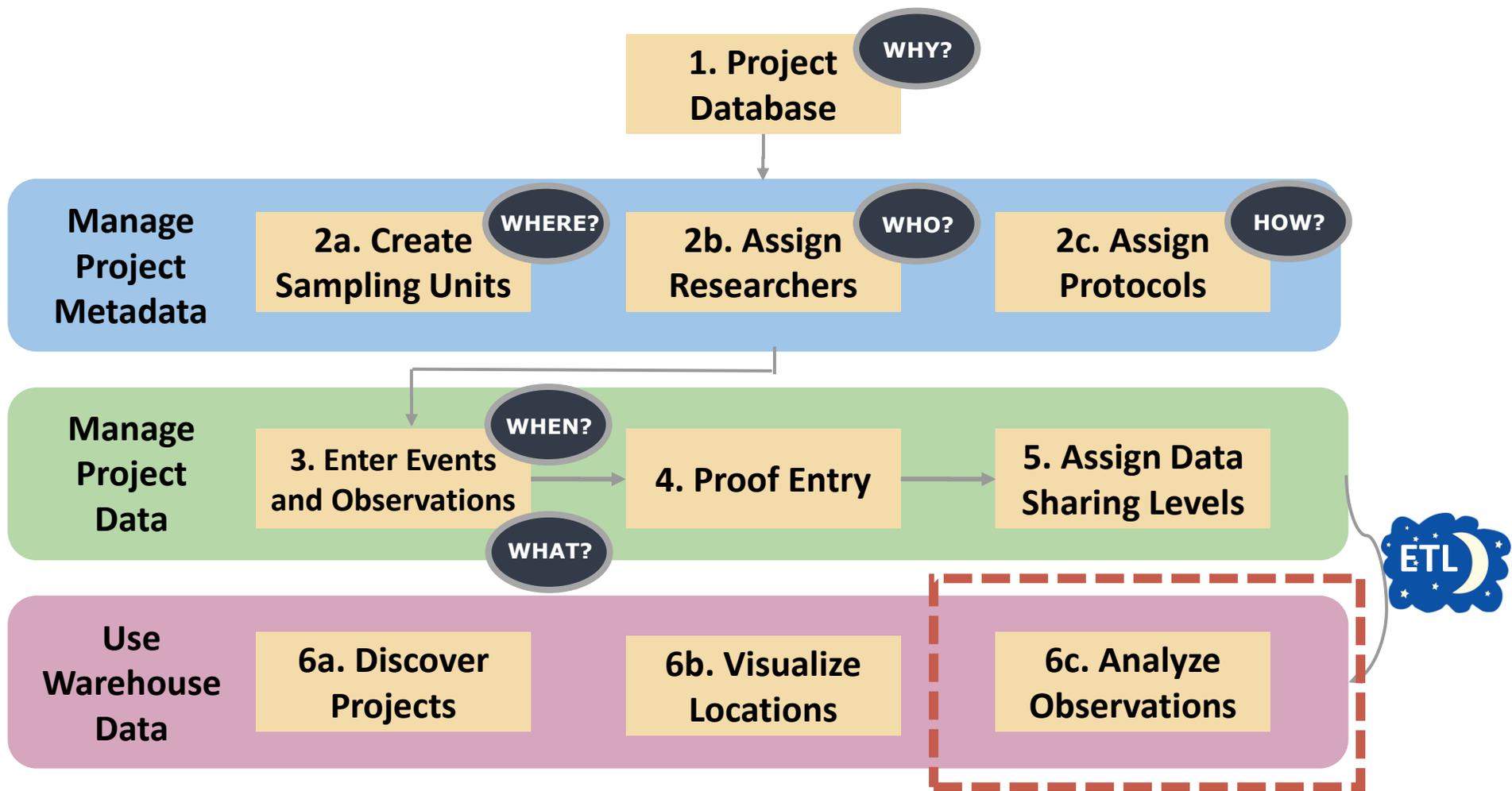


BREAK (15 MINS)

NEXT: LOOKING FOR TRENDS



MANAGING A PROJECT: LOOKING FOR TRENDS



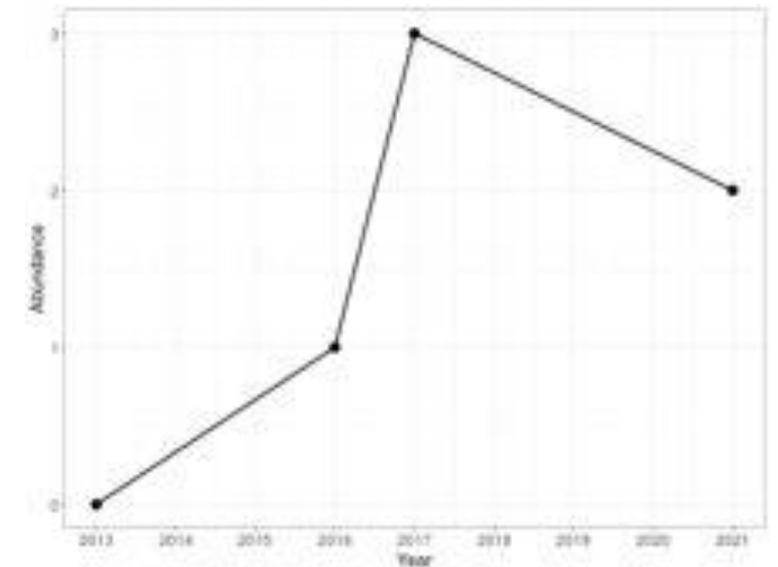


USING THE ANALYST TOOL DEMONSTRATION

Tools:

- <https://data.pointblue.org/apps/analysts/>

Common Name	2013	2014	2015	2016	2017	2021
Acadian Flycatcher	6	11	25	12	14	15
Alder Flycatcher	0	0	0	0	1	0
American Crow	41	28	42	29	24	113
American Goldfinch	14	1	5	6	3	16
American Redstart	0	1	0	1	1	2
American Robin	0	0	0	0	1	0
Barred Owl	0	0	0	0	0	1





LOOKING FOR TRENDS

EXERCISE 5



LOOKING FOR TRENDS

EXERCISE 5

Purpose: Introduce you to more data exploration and discovery tools

Goal 1: Be comfortable searching the Data Catalog to find available datasets and project metadata

Goal 2: Understand how to use the Observations Map to find survey locations from different datasets for a particular species and examine species trends

Thinking Ahead: Consider how Data Catalog might be helpful for archiving information about your project, and how Observations Map may be helpful for your analyses and reporting

LOOKING FOR TRENDS

EXERCISE 5

- Exercise:
 - Orientation of [Data Catalog](#) and [Observation Map](#)
 - [Exercise 5 instructions](#)

Use
Warehouse
Data

6a. Discover
Projects

6b. Visualize
Locations

6c. Analyze
Observations



WHAT SHOULD YOU EXPECT THIS YEAR WITH AKN AND DoD PARTICIPATION?





LEGAL DRIVERS

- Migratory Bird Treaty Act (PL 65-186; 16 USC 703 *et seq.*)
- Sikes Act (PL 105-85, as amended through 2004 including PL 108-136; 16 USC 670 *et seq.*)
- Executive Order 13186 *Responsibilities of Federal Agencies to Protect Migratory Birds*
- DoD Instruction 4715.03, *Natural Resources Conservation Program*
- National Environmental Policy Act, as amended. (PL. 91-190, 42 U.S.C. 4321-4347, as amended by Pub. L. 94-52)
- Endangered Species Act (16 U.S.C. 1531-1544, 87 Stat. 884), as amended – PL. 93-205
 - Prioritize species
 - Facilitate and encourage collaboration with partners
 - Focus research and planning efforts
 - Increase information sharing



DOD AKN STRATEGIC APPROACH

- DoD AKN Program Management Plan
- OSD and Military Services Support
- Cooperative Agreement
- Updates on Service-specific Work
- Planned Updates, Tools, Data Initiatives
- On-going Support





DOD AKN STRATEGIC APPROACH

5-Year Needs/Initiatives

▪ **Training**

- Instructor-led training courses (in-person and virtual)
- Create video trainings for common actions (continuing)
- Monthly "Office Hours"

▪ **DoD-Specific Tools**

- DoD AKN portal page
- DoD user guide
- DoD data standards
- Scope of work language for contractors

▪ **Data Initiatives**

- Mission-Sensitive Species data
- MAPS and banding data (cost-share)
- BASH data

▪ **AKN Tools (partner initiatives)**

- Program query tool
- "Contractor" role
- "Analyst" role

▪ **On-going Support**

- DoD Program Management
- Historical data updates
- Technical support
- Annual maintenance



OSD AND MILITARY SERVICES SUPPORT

▪ **Office of Secretary of Defense and Military Service Support**

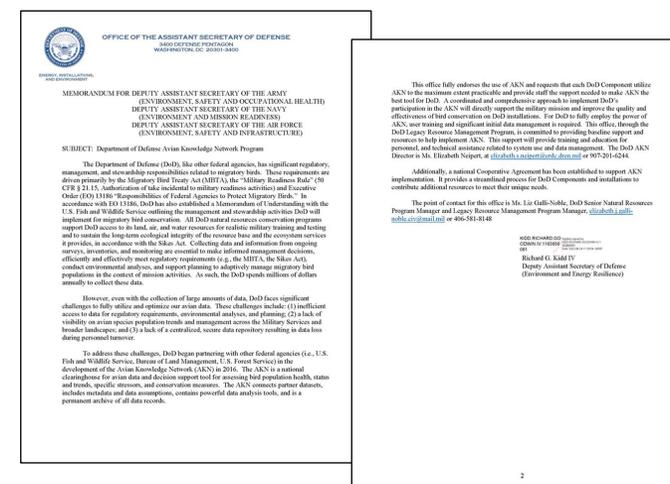
- Ryan Orndorff and Liz Galli-Noble-Office of Secretary of Defense
- Karla Meyer & Kirsten Christopherson-Air Force
- Brian Moyer & Steve Sekscienski-Army
- Jacque Rice-Marine Corps
- Jeff Gardner & Tom Mayes-Navy
- Alisa Dickson & Jay Rubinoff-National Guard

▪ **DoD Support Memo**

- Signed 24 June 2022
- Mandate use DoD-wide

▪ **DoD-wide Cooperative Agreement**

- Allows oversight of all AKN actions
- Cost-share actions
- Enable Military Services and installations to empower smaller amounts of \$\$
- Allows MIPR for funding our program partners





OSD AND MILITARY SERVICES SUPPORT

Air Force



- Funded two virtual trainings, Nov 30 – Dec 1, 2022 and February 7 & 8, 2023
- Funded initial training videos-COMplete; available on AKN YouTube Channel
- Funded five MSS Initiatives, BUOW first
- Funded data discovery survey, data prioritization, assistance with set number of data sets



Navy

- Funded data discovery survey and data prioritization
- Funded SOW language for contractors



Army

- Initial steps for data discovery survey for informed decisions



Marine Corps

- Commitment to fund improved tools and training
- Developing solid 5-year investment plan for trainings, data support, and tool development

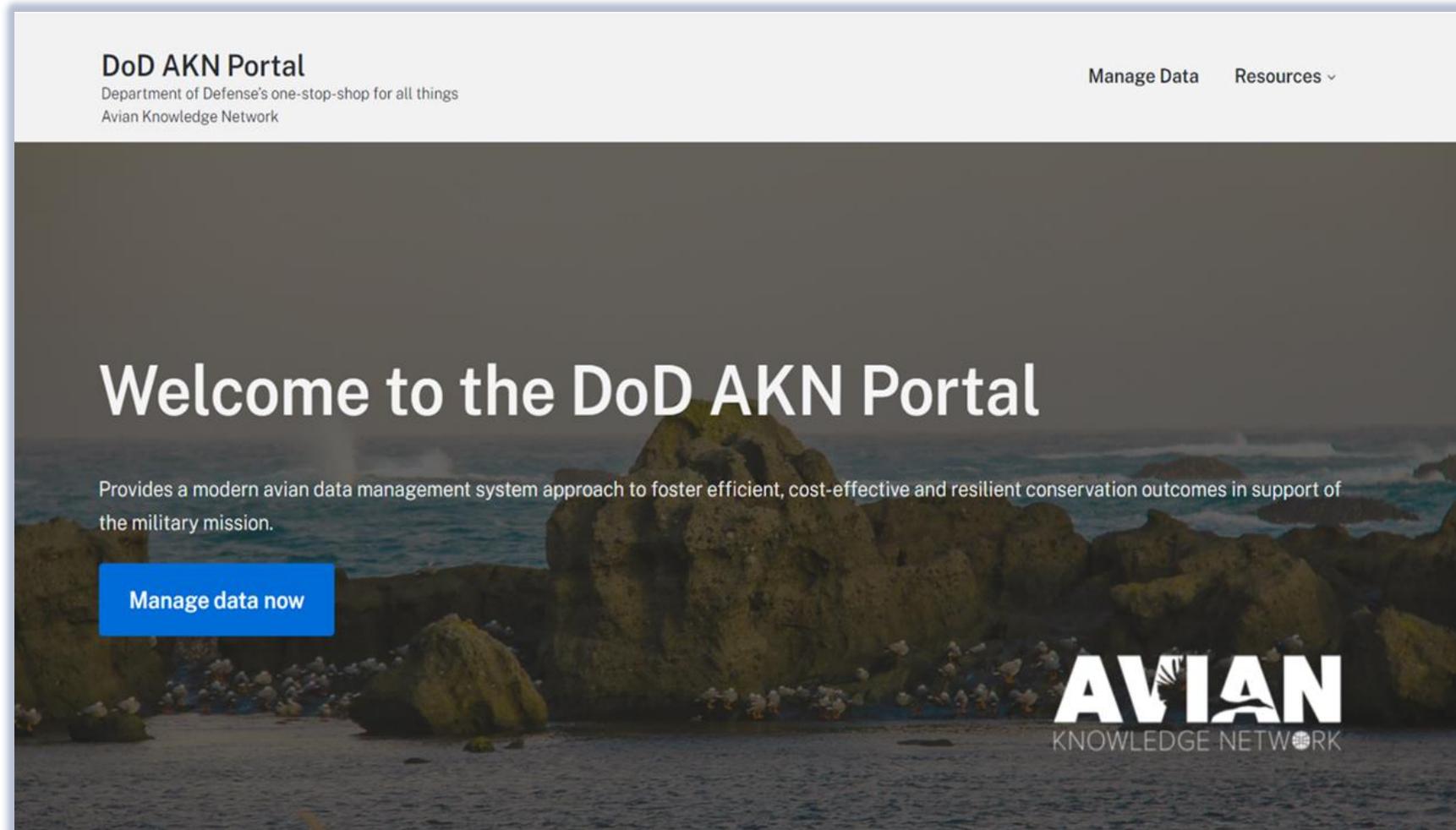


National Guard

- Need to work with States
- ARNG Environmental Advisory Council's Conservation Committee approved Guard-specific training for FY23 hosted by ORARNG



DoD AKN PORTAL





DoD AKN PORTAL

The screenshot displays the DoD AKN Portal interface. At the top, there are navigation links for "Manage Data" and "Resources". The main content area is divided into several sections:

- Get Data In:** Contains three application cards:
 - Biologists Application:** Enter and review your observation data. Requires account and data.
 - Project Leader Application:** Manage your avian observation data, survey locations, survey protocols and project researchers. Requires an account and project leader role.
 - Bulk Uploader Application:** Upload more than one survey into your project. Requires an account.
- Explore Data:** Contains three tool cards:
 - Phenology Tool:** View abundance and relative probability of presence summaries throughout the year for birds in a particular region of the United States. No account required.
 - Observation Map:** Map for viewing and querying avian observation data at surveyed locations. No account required.
 - Analyst Application:** Retrieve and analyze data that you have permission to access. Account required.
- Make Decisions:** Contains one tool card:
 - R.A.I.L. tool (Rapid Avian Information Locator):** Identify the set of birds that occur within specific geographic regions and their conservation status and population trends. No account required.
- Discover Data:** Contains two tool cards:
 - Data Catalog:** Tool to discover data and projects in the AKN. No account required.
 - Data Download Application:** Application to download data for a specific project. Requires access to projects with an account.
- Species Lookup tool:** Find the scientific name, common name and/or a species four letter species code. No account required.
- Protocol Search tool:** Find definitions for avian observation protocols that exist in the AKN. No account required.

At the bottom left, there is a blue button that says "Manage data now".

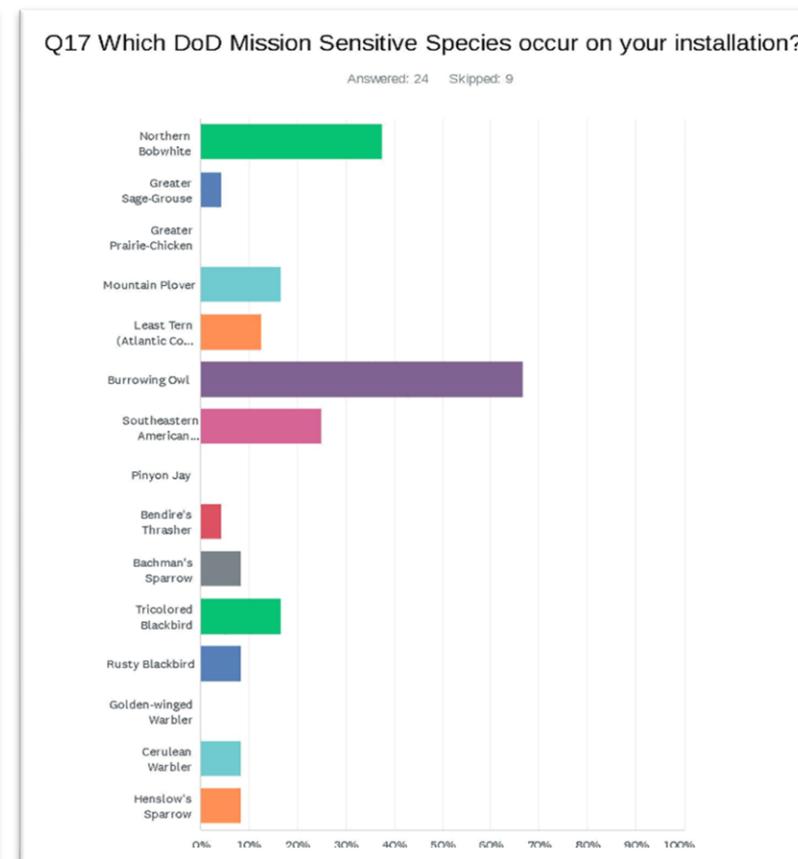
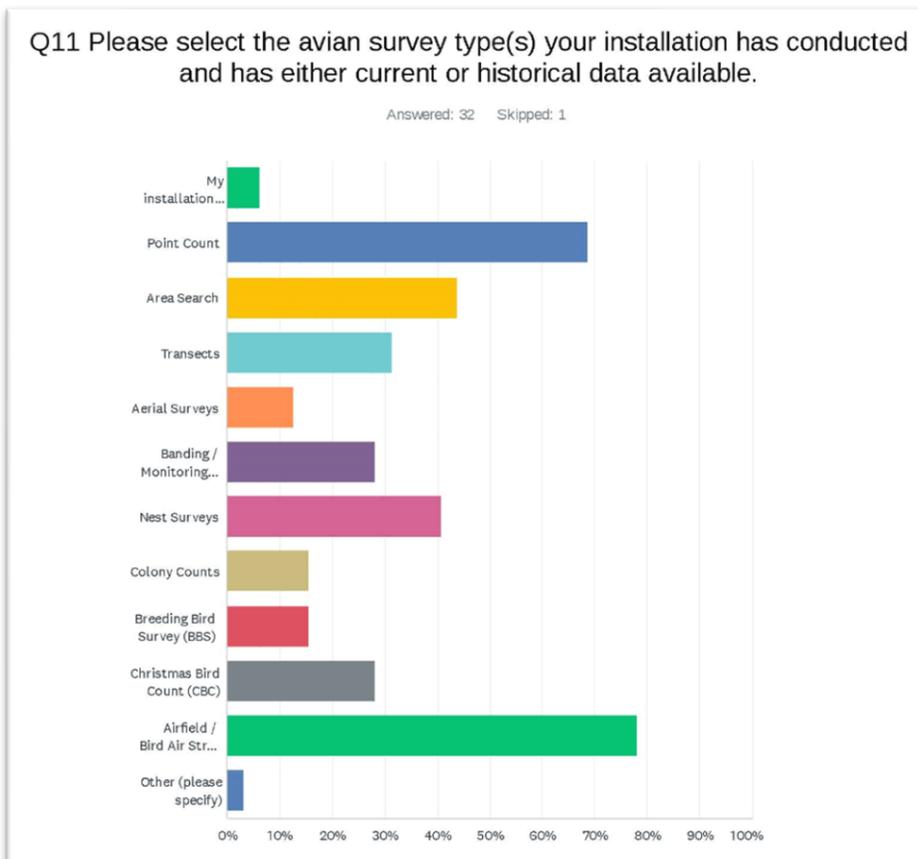


TRAINING MATERIALS

https://www.youtube.com/channel/UCi9in_tC9uTZa9Bo3HgnY1Q



DATA DISCOVERY SURVEY & TRAINING QUESTIONNAIRE



DOD MISSION-SENSITIVE SPECIES (MSS)



Northern Bobwhite



Greater Sage-grouse



Mountain Plover



Greater Prairie Chicken



Burrowing Owl



Least Tern (Atlantic Coast)



Cerulean Warbler



Golden-winged Warbler



Pinyon Jay



Southeastern American Kestrel



Henslow's Sparrow



Rusty Blackbird



Bendire's Thrasher



Tricolored Blackbird



Bachman's Sparrow



DOD MISSION-SENSITIVE SPECIES (MSS)

Species	# of Installations
Greater Sage-Grouse	6
Greater Prairie-Chicken	3
Northern Bobwhite	70
Southeastern American Kestrel	14
Black Rail**	5
Mountain Plover	16
Burrowing Owl	50
Least Tern (Atlantic Coast Pop)	18
Pinyon Jay	7
Bendire's Thrasher	4
Golden-winged Warbler	24
Cerulean Warbler	30
Bachman's Sparrow	24
Henslow's Sparrow	25
Tricolored Blackbird	15
Rusty Blackbird	30



DoD MSS INITIATIVE

DATA

- Locate historical and contemporary data
- Identify and prioritize datasets and projects for AKN integration

FIELD METHODS

- Identify SMEs for each species and categorize acceptable and appropriate survey methodologies
- Work with DoD PIF Research and Monitoring Working Group

DATA ENTRY PROTOCOL

- Upload data protocols into AKN, ready for use by any user

MSS QUERY TOOL IN AKN

- Add MSS as a guild in tools, such as Analyst and Data Downloader



DoD MSS INITIATIVE: *BUOW*

Data Survey

- Survey installations with BUOW
- Historical and contemporary data discovery and prioritization

AKN Data Protocols

- Bulk upload
- Data entry user interface

DoD Focus Group of SMEs

- Identify SMEs for BUOW
- Clarify objectives
- Field method review
- Standard monitoring methods (acceptable and appropriate)

Science Delivery

- Custom queries and analyses
- Decision support tools

- ✓ Standardized Monitoring Strategies for Burrowing Owls on DoD Installations (Garcia et al 2008)
- ✓ Burrowing Owl Survey Protocol and Mitigation Guidelines (California Burrowing Owl Consortium 1993)



DoD MSS INITIATIVE: *PIJA*

Data Survey

- Survey installations with PIJA
- Historical and contemporary data discovery and prioritization

AKN Data Protocols

- Bulk upload
- Data entry user interface

DoD Focus Group of SMEs

- Identify SMEs for PIJA
- Clarify objectives
- Field method review
- Standard monitoring methods (acceptable and appropriate)

Science Delivery

- Custom queries and analyses
- Decision support tools

- ✓ Data Standards and Survey Protocol for Pinyon Jays Version 1.0 (Pinyon Jay Working Group 2021)
- ✓ Guidance for Locating Pinyon Jay Nests and Confirming Breeding (Pinyon Jay Working Group 2021)



DoD DATA NEEDS

- BASH Data, specifically data collected by USDA-WS
- Banding data, including MAPS
- Nest data
- Sensor and machine-collected data
- Survey 123 cross-walk directly into AKN
- Foreign OCONUS data



DoD-SPECIFIC TOOLS

Contract Language

- Possession of data collected by contractors is an issue identified by NMFWA Bird Conservation Working Group since its inception in 2014
- AKN offers a mechanism and structure
- Develop guidelines and language for DoD personnel to integrate into contracts
 - Option to upload directly into system (current limitations)
 - Option to deliver data in format acceptable for immediate upload into system

SCOPE OF WORK LANGUAGE

for Contracts, Cooperative Agreements and Interagency Agreements

Issue: possession of and access to data collected by contractors, external partners

Solution: enter into DoD-owned AKN projects

Method: develop language and guidelines for DoD contracts and agreements



Distribution, Abundance, and Breeding Activities of the Least Bell's Vireo at Marine Corps Base Camp Pendleton, California

2019 Annual Data Summary



Prepared for:

Assistant Chief of Staff, Environmental Security
U.S. Marine Corps Base Camp Pendleton

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY
WESTERN ECOLOGICAL RESEARCH CENTER

SCOPE OF WORK LANGUAGE

for Contracts, Cooperative Agreements and Interagency Agreements



AVIAN
KNOWLEDGE NETWORK

*Leveraging Partnerships, Data and Technology Information
Revolutionize Avian Conservation and Management*

**Statement of Work Language for Department of Defense
Service Contracts, Grants, and Cooperative Agreements**
DRAFT – February 2023

Introduction

To improve quality, access, and usability of avian survey, monitoring, and research data collected for Department of Defense (DoD), contractors and cooperators collecting such data use the Avian Knowledge Network (AKN) to enter, proof, and deliver their data. Here we provide guidance for developing statement of work language for contracts and agreements to specify such use of the AKN by contractors and/or cooperators. Specifications may vary based on whether the DoD is acquiring data from a contractor via a service contract or from a cooperator via a grant or cooperative agreement. The DoD and AKN are also developing new capacities, including a Program Enterprise System and additional user access specifications that will influence how the DoD specifies AKN use in contracts, grants, and cooperative agreements.

Following are details to be included in the "Statement of Work" section of a service contract, grant, or cooperator agreement. There are multiple options for data access, project set-up, and data entry for users with AKN training or for contractors/cooperators who do not have AKN training but will need to submit their project data in AKN compatible formats.

Terms used in Statement of Work (SOW) language

AKN Project—Fundamental unit of organization for observation data within the AKN. Projects contain information about how (Protocols), who (Researchers and Users), where (Sampling Units), when (Sampling Events), and what (Sampling Event Observations) data are collected. For DoD, each installation has its own project.

Sampling Protocol Definition—Defines how the data were collected and how they are stored.

Contractor/Cooperator—Party within the agreement that is primarily responsible for data collection and data entry.

DoD Designee—Primary DoD point of contact for contract terms. Can also specify an DoD AKN staff member if AKN staff will be working with the Contractor/Cooperator.

Field Methods—Protocol for data collection in the field used by the Contractor/Cooperator.

User Roles—The AKN allows for multiple levels of access to enter, manage, and share data. AKN users are assigned a User Role associated with each AKN Project they have permission to access. Current User Roles include:

- Biologist**—An AKN user assigned as a Biologist in an AKN Project can enter and proof data. Biologists can also review, edit, or correct previously entered data in any dataset housed within the AKN Project.
- Project Leader**—In addition to all Biologist User Role capacities, AKN users assigned as a Project Leader in an AKN Project can assign Sampling Protocol Definitions to an AKN Project, manage the Sampling Units (areas, points, transects, etc), manage data, get full exports of the AKN Project data from the system, and manage the User Roles (Biologist or Project Leader) of other AKN users on the AKN Project. Project Leaders can also set the desired data sharing levels for data, which determines how the data will appear in the various tools in AKN.

Sampling Unit—Field location where research or a survey is conducted and samples (observations) are collected. Sampling units are arranged hierarchically within AKN Projects (e.g., point count points nested within a transect).



AVIAN
KNOWLEDGE NETWORK

Sampling Units contain a location name and geometry that describes where it sits on the earth. All point, polygon and other geographic data are described in WGS-84 Latitude-Longitude (EPSG:4326) geographical coordinate system.

Sampling Event— Represents the survey itself with a unique combination of location, date and time, person/people, and the protocol employed.

Statement of Work Language

The statement of work should specify standards for 1) data ownership and access 2) selecting sampling methods and AKN Sampling Protocol Definition(s), 3) providing details about sampling locations, 4) formats for uploading data. A user with AKN training may engage with the AKN directly as part of each of these steps; however, options are provided below for each step that allow for a Contractor/Cooperator without AKN training to provide the information in a format that is easily uploaded into the AKN by a DoD Designee. Information provided must be fully described per the AKN Guidance documents referenced in each step below.

DATA OWNERSHIP: DoD must have permanent access to all data collected for the agreement.

- SOW LANGUAGE: DoD owns and will have permanent access to all data collected for the agreement. The observation data (not summarized data) must be entered into the AKN and approved by the appropriate Project Leader at the appropriate sharing level (see DoD AKN Guidance: AKN Data Access, Entry, and Analysis for sharing level definitions). Data may be shared with the Contractor/Cooperator following [DoD AKN Guidance: AKN Data Sharing Guidelines](#) with specifics outlined in an AKN Data Sharing Agreement [DoD Designee PROVIDES ATTACHMENT].

DATA COLLECTION: Specify whether DoD or the Contractor/Cooperator will choose the sampling methods (CHECK ONE):

DoD Designee will specify the sampling methods to be used and corresponding Sampling Protocol Definition.

- SOW LANGUAGE: Contractor/Cooperator will use [FIELD METHOD WITH CITATION] with associated field forms [DoD Designee PROVIDES ATTACHMENT]. The data collected on field forms will conform to the metadata specified by the methodology and associated Sampling Protocol Definition provided at [DoD Designee provides AKN link].

Contractor/Cooperator will specify the sampling methods to be used and corresponding Sampling Protocol Definition. (Only use this option if the Contractor/Cooperator knows there is a corresponding Sampling Protocol Definition in the AKN).

- SOW LANGUAGE: Contractor/Cooperator will provide sampling methods with associated field forms and a link to the associated Sampling Protocol Definition here <https://data.gov/blue.org/science/biologists/ohs/protocolsearch.php>. Instructions for describing metadata are provided in [DoD AKN Guidance: Describing Sampling Protocol Definitions](#) and instructions for providing sampling methods is provided in [DoD AKN Guidance: Describing Field Methods and Sampling Design](#).

Contractor/Cooperator will specify sampling methods to be used that does not have a corresponding AKN Sampling Protocol Definition.

2

DoD AKN Guidance:

1. Avian Knowledge Network Data Sharing Guidelines
2. Describing Sampling Protocol Definition for AKN Compatible Projects
3. Sampling Protocol Definition Template
4. Describing Field Methods and Sampling Design
5. Creating AKN Compatible Sampling Units
6. Sampling Unit Bulk Upload Templates
7. AKN Data Access, Entry, and Analysis
8. Preparing Data to Submit for Bulk Uploading for AKN Compatible Projects



AKN-WIDE TOOLS

Enterprise Support for Programs

Need: Data curation, management, and analysis at multiple scales (installation, Military Service, and DoD-wide)

Solution: AKN-wide structure allowing multiple Project grouping via Programs.

Plan: Add ability to create/manage Programs appropriately based on rights, especially for query and download of project data, user access management, protocol assignment, data sharing level.

Status: Completed the program enterprise warehouse feature preliminary research phase and are moving on to the prototype phase, where we will attempt our first successful build of a program warehouse. Expecting to roll out in next 18 months.



AKN-WIDE TOOLS

Updated User Roles

Need: Roles within the system that meet partner requirements for data entry and/or analysis for portions of AKN projects

Solution: Creation of two new user roles that meet identified needs

Plan: Creation of Contractor Role - Create a new role to support contractor who gets access (data entry, data download, data analysis) for the portion of a Project for which they are providing services.

Creation of Analyst Role - Create a new role to allow full access to a Project or Program for data download and analysis, but not ability to manage metadata or user access.

Status: Needs and roles identified and prioritized. Awaiting completion of the Enterprise Support for Programs.



DoD Mission Benefits

- Secure database to input/upload, curate, and manage DoD field data
- Empowers historical data
- Assess status of birds on/near installations
- Monitor trends at multiple scales
- Data sharing and integration with partners
- Advanced data analysis and visualization tools
- Access to data that contributes to more technically and scientifically sound INRMPs and NEPA environmental reviews
- Contributes directly to proactive conservation, monitoring and management of priority bird species



Enabling the Mission, Defending the Resources



NEXT STEPS FOR YOU





SIGN-UP FOR DoD AKN UPDATES

Programs Performance Stakeholders References

DEPARTMENT OF DEFENSE
LEGACY PROGRAMS

DoD Legacy Resource Management Program

Menu

Contact the POC for DoD Legacy Resource Management Program

Privacy Advisory: The use of information provided is subject to the DENIX Privacy Policy. You may opt out of providing contact information in this form. If you do so, we will not be able to provide a response.

***Required**
*Your Name:

*Email Address:

Phone Number:

*Subject:

*Message:

I'm not a robot

Search DoD Legacy Resource M

Legacy Listserv
Click here to sign up for the Legacy Listserv

News

- Natural Selections Newsletter Winter 2021-2022 (1.37 MB)
- 2021 DoD Climate Action plan (12.11 MB)
- Fantastic Flights: Technology Tells the Tale of Avian Travels (Legacy #16-764)

Online Tools

- Conserving Biodiversity on Military Lands: A Guide for Natural Resource Managers 3rd Edition
- Biodiversity Outreach Tools
- Climate Adaptation for DoD Natural Resource Managers, 2019 (Legacy Project #16-790)

1. Enter name
2. Enter email address
3. Enter "add to listserv"
4. Say please in message
5. Confirm you're not a robot

Programs Performance Stakeholders References

DEPARTMENT OF DEFENSE

DoD Partners in Flight (DoD PIF)

Menu

Contact the POC for DoD Partners in Flight (DoD PIF)

Privacy Advisory: The use of information provided is subject to the DENIX Privacy Policy. You may opt out of providing contact information in this form. If you do so, we will not be able to provide a response.

***Required**
*Your Name:

*Email Address:

Phone Number:

*Subject:

*Message:

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DEPARTMENT OF DEFENSE

- DoD Plans
 - Strategic Plan
- Important Bird Areas
 - Important Bird Areas
 - Military Lands as Important Bird Areas
- Resources and Information
 - About Resources
 - Articles
 - Presentations
 - Fact Sheets
 - Birds of North America Online
 - Species of Concern
 - Bird Conservation Map
 - Species Profiles
- Archives
 - Kirtland's Warbler
 - About KW Archives
 - Articles
 - Books and Book Chapters
 - Cooperative Agreements
 - Correspondence
 - Interviews
 - Maps
 - Miscellaneous Information
 - Photos
 - Plans
 - Policy
 - Press Releases
 - Profiles
 - Radio and Film
 - Outreach
 - KW Reports
 - KW Scientific Papers
 - Sighting and Banding Records
 - Theses and Dissertations

Contact POC

Find Your DoD PIF Contact



ONGOING SUPPORT

▪ ***Monthly Virtual Office Hours***

- Monthly “Office Hours”
- Calendar and signups [here](#)

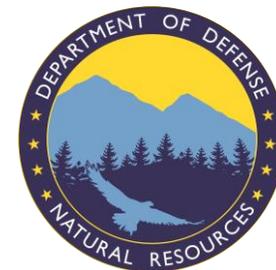
▪ ***Other Opportunities***

- Training videos on AKN YouTube Channel
(https://www.youtube.com/channel/UCi9in_tC9uTZa9Bo3Hgny1Q/featured)
- Funded data initiatives from Military Services
- Email me, elizabeth.s.neipert@erdc.dren.mil



END-TO-END PROCESS TO REGISTER A NEW USER

DEMONSTRATION



WHAT UPDATES, INITIATIVES, TOOLS DO YOU WANT TO SEE?





OPEN FORUM





PLUSES AND DELTAS

FINAL DAY WRAP-UP





DoD AND THE AKN: WHO, WHAT, WHERE, WHEN , WHY, AND HOW

DoD National Guard Training
May 23-25, 2023
Hermiston, OR

Sam Veloz
Dianne Miller

John Alexander
Caitlyn Gillespie

Elizabeth Neipert
Zoe Duran



DoD AKN Training – 23-25 May, 2023, Hermiston, OR



**Thank you for participating
and thank you to our hosts!**

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