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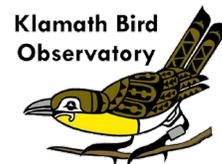
# THE AKN: WHO, WHAT, WHERE, WHEN, WHY, AND HOW

*AKN Virtual Training (Guam/CNMI)*  
*4 and 6 February 2026*  
Virtual

**Sam Veloz**

**Elizabeth Neipert**  
**Zoe Duran**

**John Alexander**  
**Caitlyn Gillespie**  
**Nora Honkomp**





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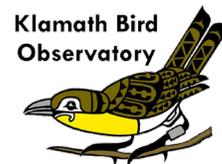
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[pointblue.github.io/dod\\_workshop](https://pointblue.github.io/dod_workshop)

# WELCOME, INTRODUCTIONS, AND LOGISTICS





Who are **we**?

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

- Name, Affiliation, Position
- Have you collected avian data yourself before?
- What type of avian data you collect?
- How would you like to use AKN?

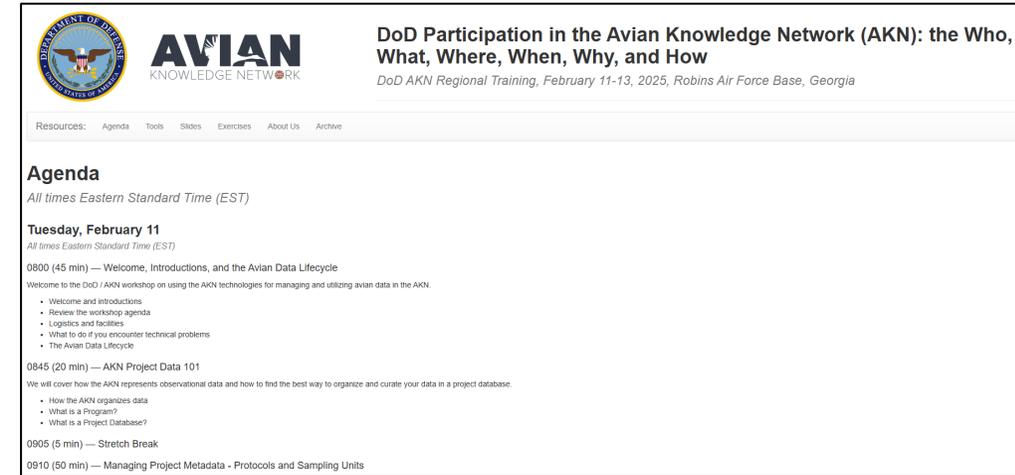
# INTRODUCTIONS

# A FEW LOGISTICS...

- The Agenda with links (bookmark this): **[pointblue.github.io/dod\\_workshop](https://pointblue.github.io/dod_workshop)**
- Session: interactive & casual
- Office hours: 16 hours monthly, sign up here



<https://www.dodakn.org/office-hours-booking-page/>




**AVIAN**  
 KNOWLEDGE NETWORK

**DoD Participation in the Avian Knowledge Network (AKN): the Who, What, Where, When, Why, and How**  
*DoD AKN Regional Training, February 11-13, 2025, Robins Air Force Base, Georgia*

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

**Agenda**  
*All times Eastern Standard Time (EST)*

**Tuesday, February 11**  
*All times Eastern Standard Time (EST)*

0800 (45 min) — Welcome, Introductions, and the Avian Data Lifecycle  
 Welcome to the DoD / AKN workshop on using the AKN technologies for managing and utilizing avian data in the AKN.

- Welcome and introductions
- Review the workshop agenda
- Logistics and facilities
- What to do if you encounter technical problems
- The Avian Data Lifecycle

0845 (20 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 Program?
- What is a Project Database?

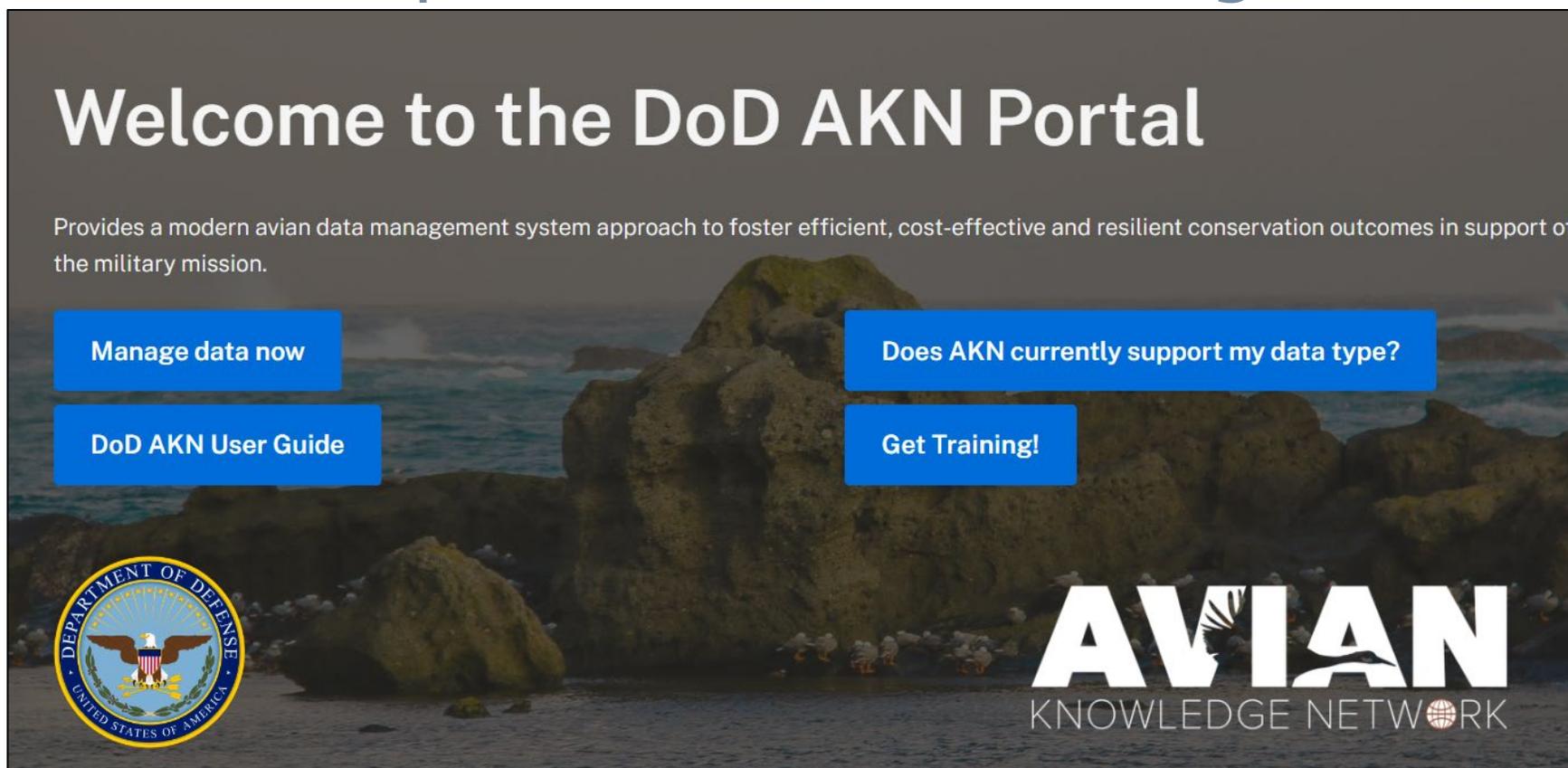
0905 (5 min) — Stretch Break

0910 (50 min) — Managing Project Metadata - Protocols and Sampling Units

- Parking lot items

# DoW 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](#)

[DoD AKN User Guide](#)

[Does AKN currently support my data type?](#)

[Get Training!](#)



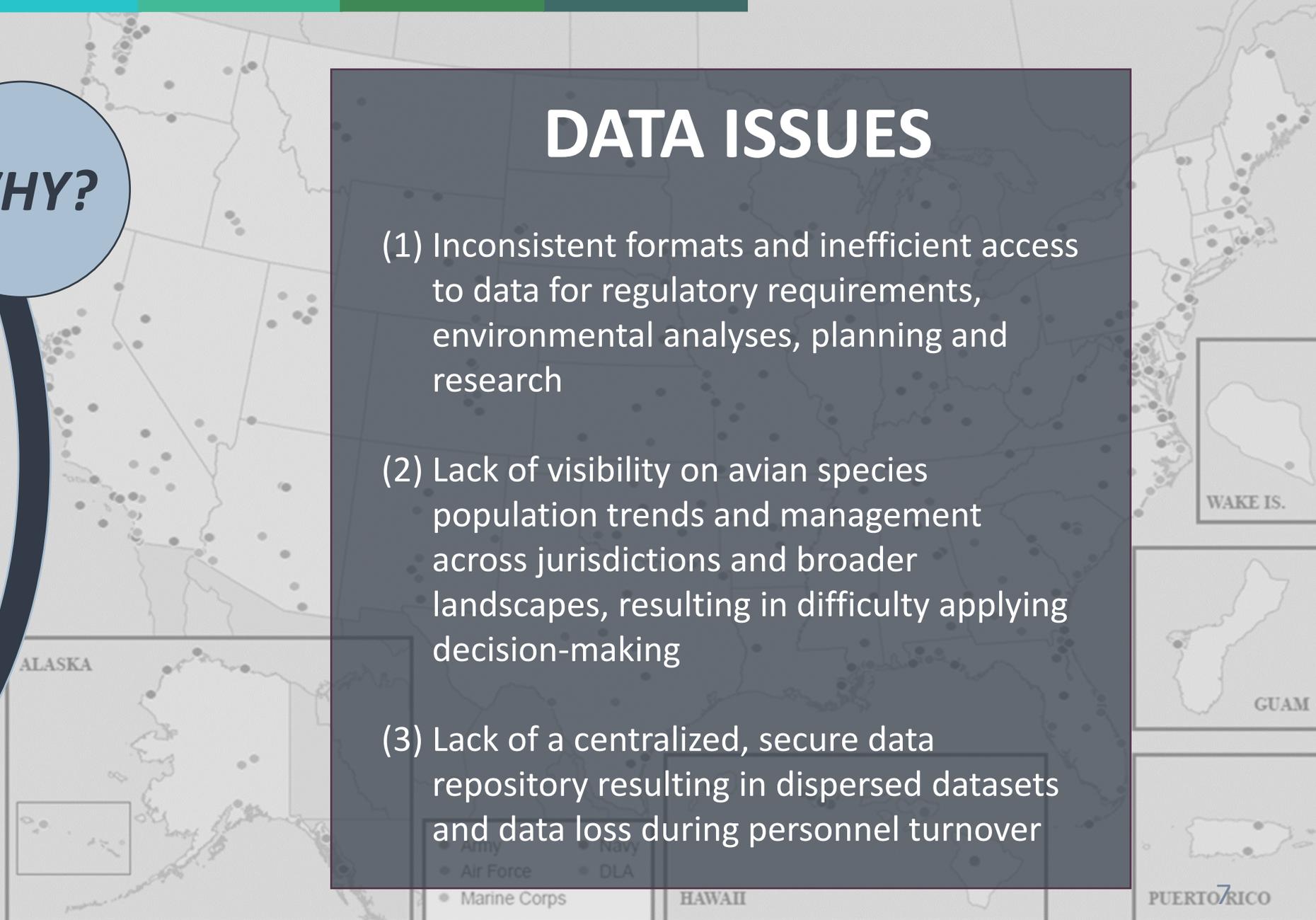


# Bird management agencies & AKN

*WHY?*

## DATA ISSUES

- (1) Inconsistent formats and inefficient access to data for regulatory requirements, environmental analyses, planning and research
- (2) Lack of visibility on avian species population trends and management across jurisdictions and broader landscapes, resulting in difficulty applying decision-making
- (3) Lack of a centralized, secure data repository resulting in dispersed datasets and data loss during personnel turnover





# Bird management agencies & AKN

*WHAT  
?*

## AKN DATA SOLUTIONS

- (1) Allowing efficient access to data for regulatory requirements, environmental analyses, planning and research
- (2) Creating visibility on avian species population trends and management across jurisdictions and broader landscapes and
- (3) Offering secure, centralized data repository and archive

• Army      • Navy  
• Air Force      • DLA  
• Marine Corps

HAWAII

WAKE IS.

GUAM

PUERTO RICO

# AVIAN KNOWLEDGE NETWORK MISSION



Support a network of partnerships, data, and technology to improve bird conservation, management, and research across organizational boundaries and spatial scales.



# AKN WEBSITE

<https://avianknowledge.net/>



**AVIAN**  
KNOWLEDGE NETWORK

ABOUT ▾ TOOLS ▾ PORTALS ▾ HELP ▾ Q

# Avian Knowledge Network

Leveraging Partnerships, Data and Technology to Revolutionize Avian Conservation and Management

A NATIONAL PARTNERSHIP

## Who We Are

The Avian Knowledge Network (AKN) is a partnership currently composed of federal and state agencies and non-governmental organizations who have shared priorities regarding informatics needs for biodiversity conservation and management. The AKN is a powerful and secure cloud computing system that government agencies, NGO's and others are using to enter, manage, analyze and share their avian observation data.

**MANAGE & EXPLORE DATA**  
AKN offers tools for collecting, entering, uploading, managing, accessing and summarizing bird monitoring data.

EXPLORE TOOLS

SIGN UP FOR UPDATES | CONTACT

**AVIAN**  
KNOWLEDGE NETWORK

ABOUT ▾ TOOLS ▾ PORTALS ▾ HELP ▾ Q

KEEP CONNECTED

## AKN Newsletter / Updates

Subscribe to keep informed about updates and new features in the Avian Knowledge Network.

### Archive

Coming soon!

## Subscribe

\* INDICATES REQUIRED FIELD

**Email Address \***

**First Name \***

**Last Name \***

**Associated Organization \***

SUBSCRIBE

SIGN UP FOR UPDATES | CONTACT

# LEGAL DRIVERS

- Migratory Bird Treaty Act (PL 65-186; 16 USC 703 *et seq.*)
- 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
- Executive Order 13186 *Responsibilities of Federal Agencies to Protect Migratory Birds*
- Sikes Act (PL 105-85, as amended through 2004 including PL 108-136; 16 USC 670 *et seq.*)
- DoD Instruction 4715.03, *Natural Resources Conservation Program*
  - Prioritize species
  - Facilitate and encourage collaboration with partners
  - Focus research and planning efforts
  - Increase information sharing
  - Technology demonstration and transfer
  - Improved efficiencies



# DoW MANDATE MEMO



ENERGY, INSTALLATIONS,  
AND ENVIRONMENT

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

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](mailto: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](mailto:elizabeth.j.galli-noble.civ@mail.mil) or 406-581-8148

KIDD, RICHARD GO Digitally signed by  
ODWIN, IV.1163856  
081

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

# DoW AKN Program

## Task Categories



### Ongoing Base Support

Ex. project coordination, customer data support, back-end technical support



### Training

Ex. quarterly regional, service-specific, NMFWA, training videos



### DoW-Specific Requirements

Ex. user guides, DoW AKN Portal, data visualization and query tools



### Data Initiatives

Ex. new data type incorporation, integration with partner data, data standardization



### AKN Tools (Partner Initiatives)

Ex. new AKN roles, advanced analysis and query functionality, cohesive U.I., Program Enterprise



# Driving Avian Data Questions

1. What species have confirmed occurrence within my area of interest or management unit? Across a broader landscape? Across jurisdictions or partner lands?
2. What species have the potential to occur within my area of interest? Across a broader landscape?
3. How are species “doing” (e.g., abundance, density) within my area? Across the region? Across the western US? In comparison to other land jurisdictions? (AKA “Do we need to be concerned about this species?”)
4. What factors are driving population trends in my area? Are current conservation actions, management practices, or planning approaches effective? (AKA “Are my conservation strategies working?”)
5. What species may occur or persist in my area under future conditions?

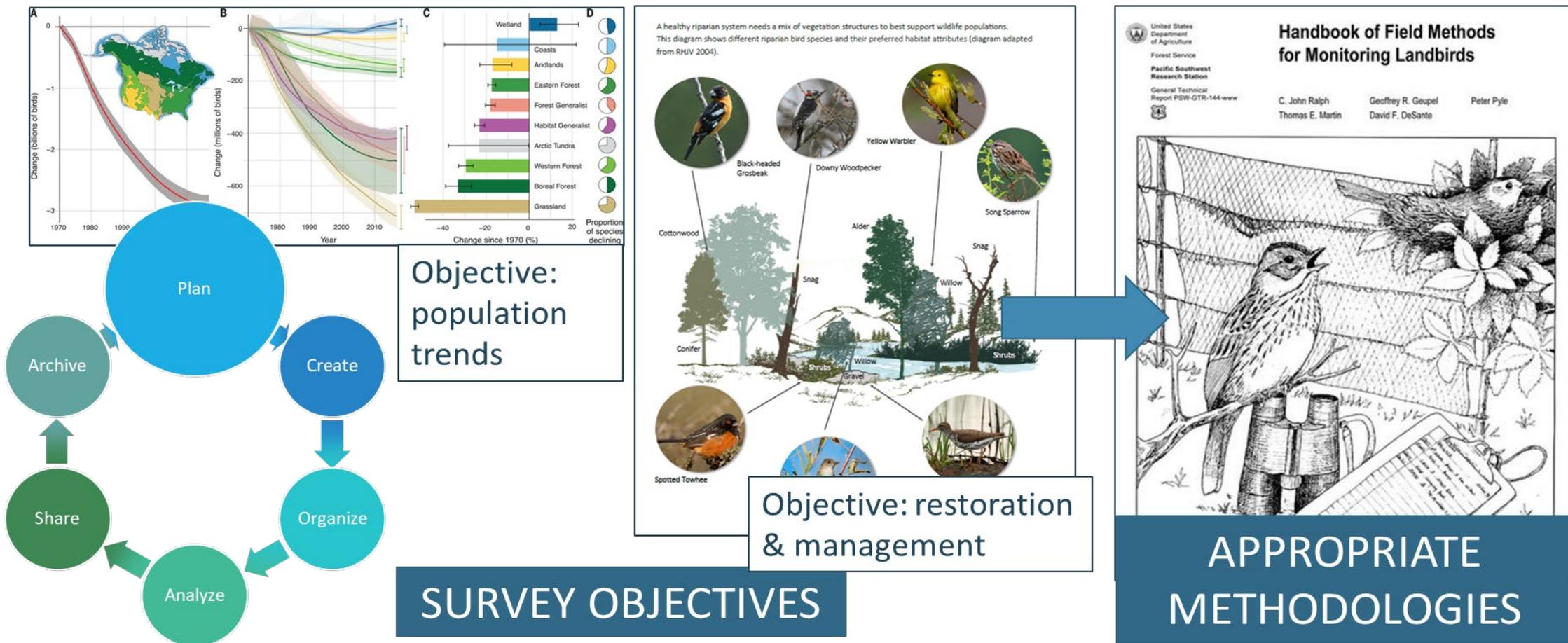
# FULL AVIAN DATA LIFE CYCLE



# FULL AVIAN DATA LIFE CYCLE

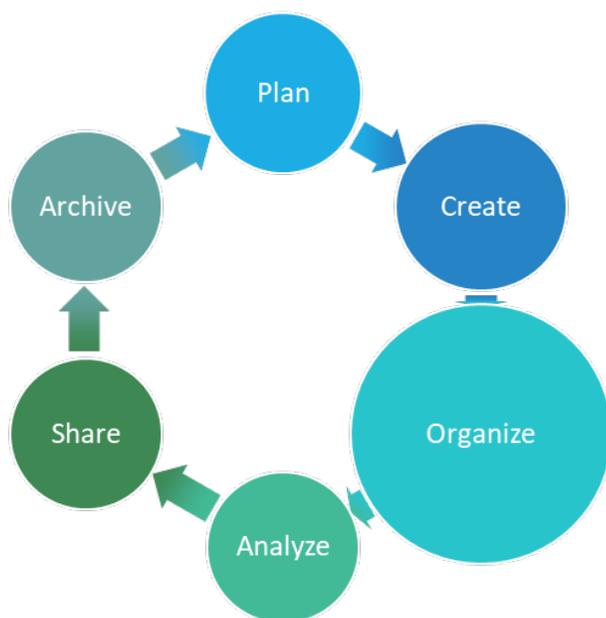


# FULL AVIAN DATA LIFE CYCLE





# 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

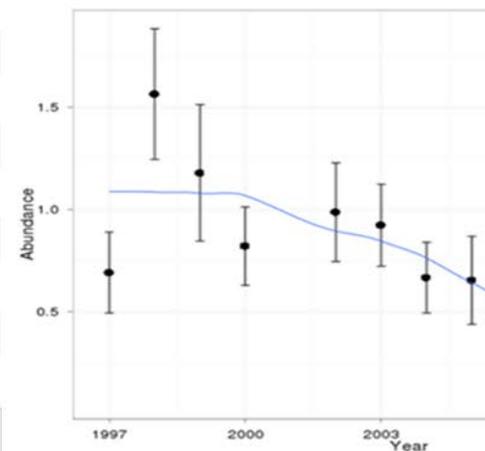
## ANALYSIS

### Total Number of Observations of each Species by Year

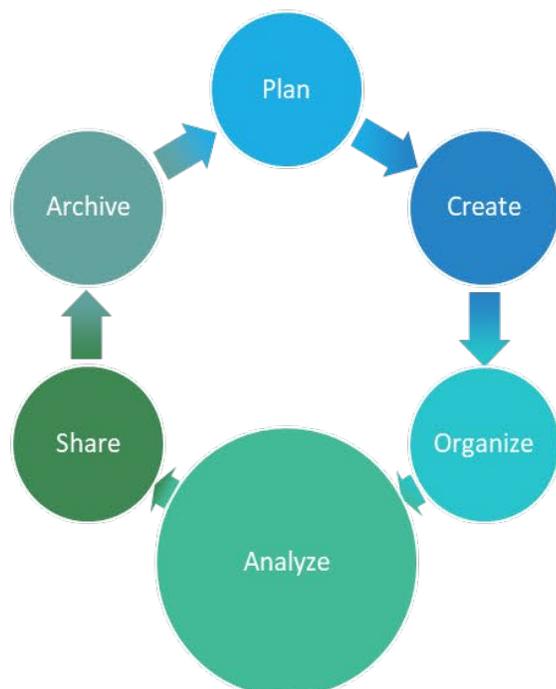
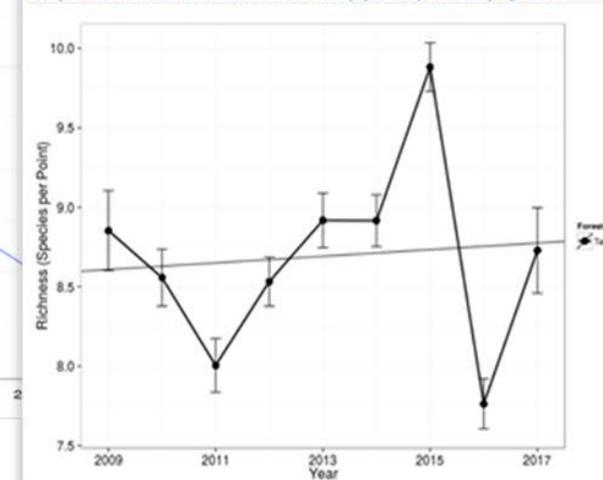
copy table to: [CSV](#) [HTML](#) [DOC](#) [PDF](#)

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										
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										

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

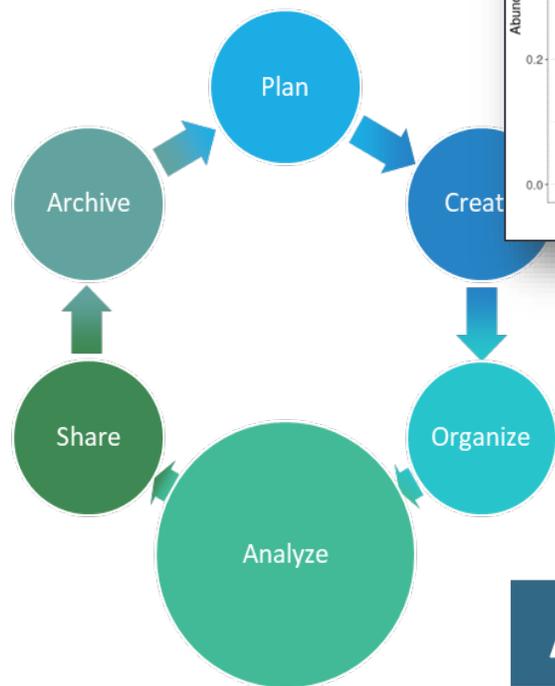


Simple linear trend estimate of Richness (Species per Point) by Year

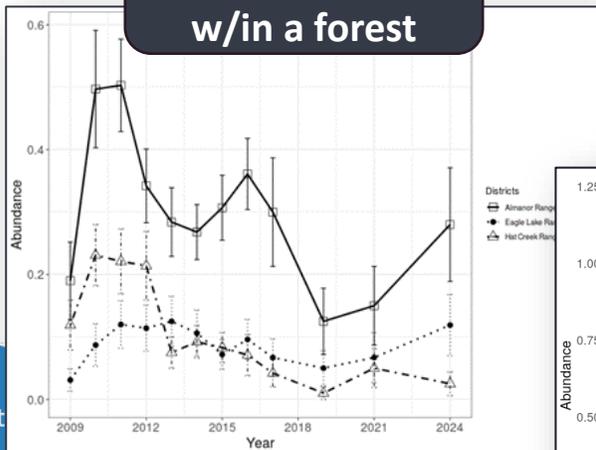


# FULL AVIAN DATA LIFE CYCLE

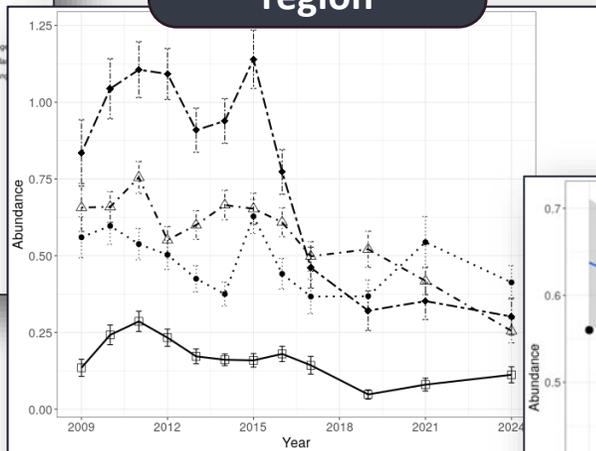
## Fox Sparrow Trends Across Scales



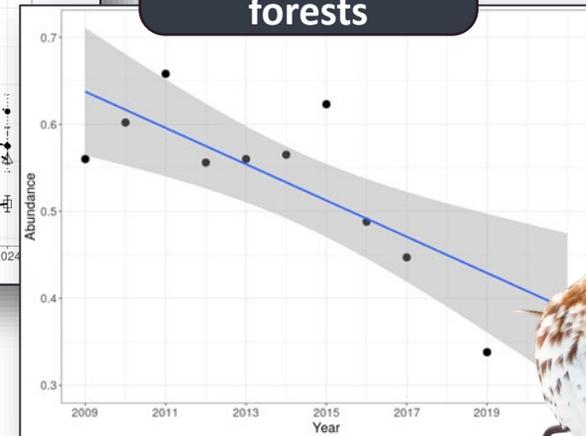
Across different sampling areas w/in a forest



Across multiple forests in a region



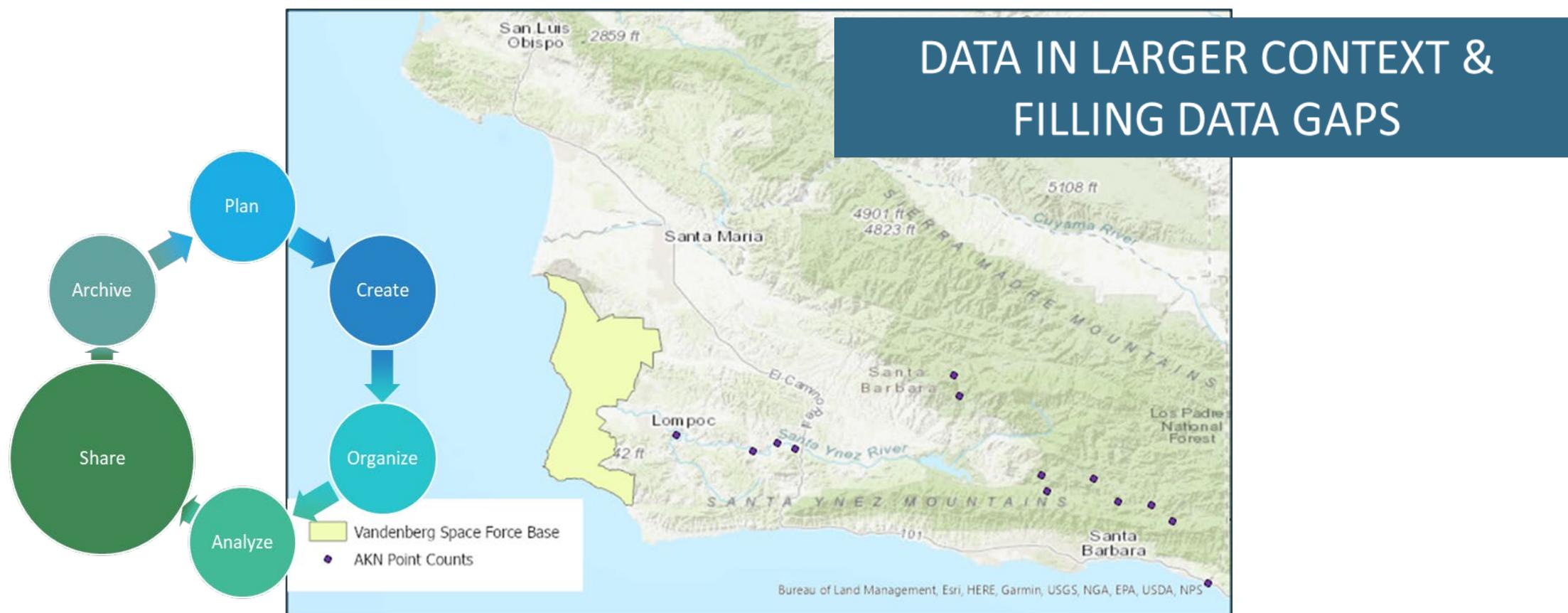
Across all managed forests



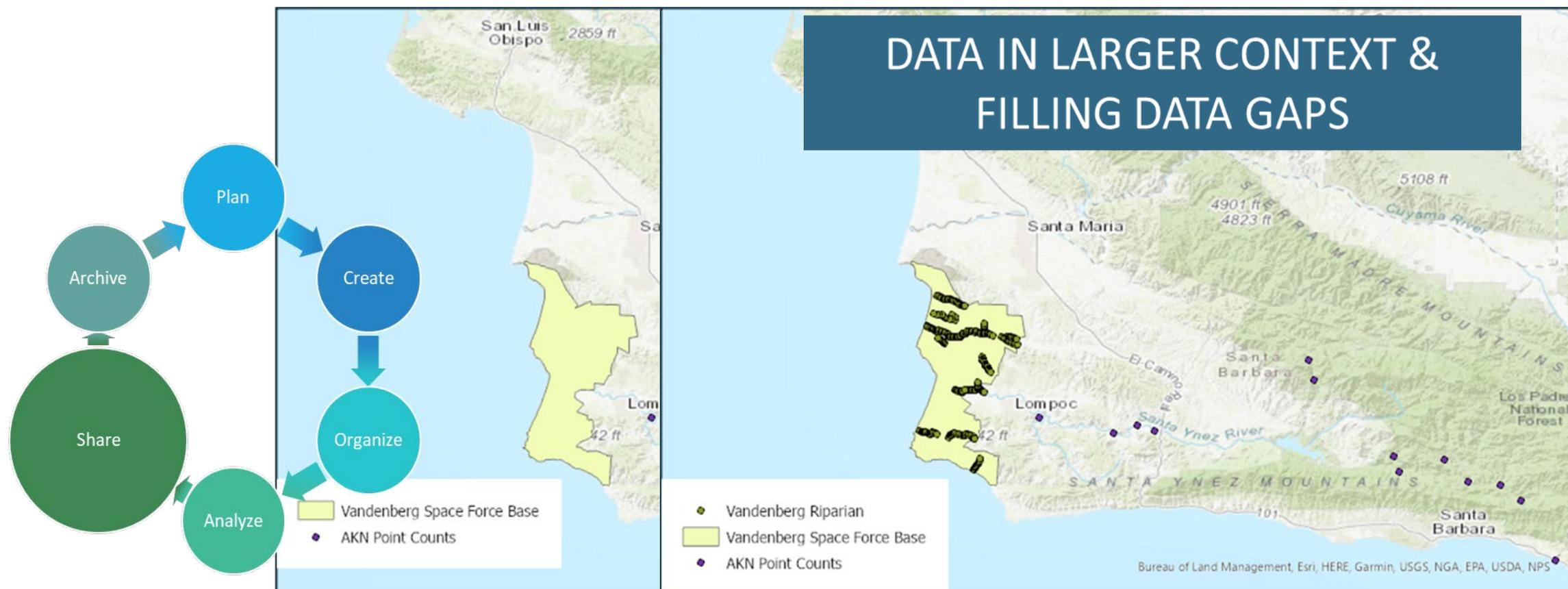
ANALYSIS AT MULTIPLE SCALES



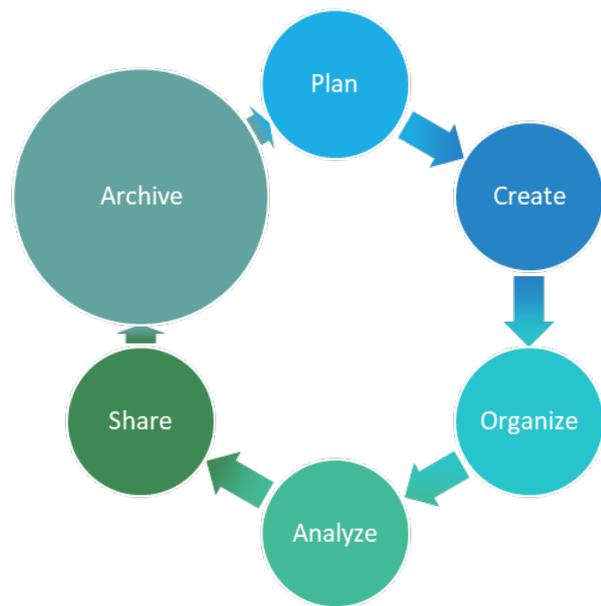
# FULL AVIAN DATA LIFE CYCLE



# 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](#)

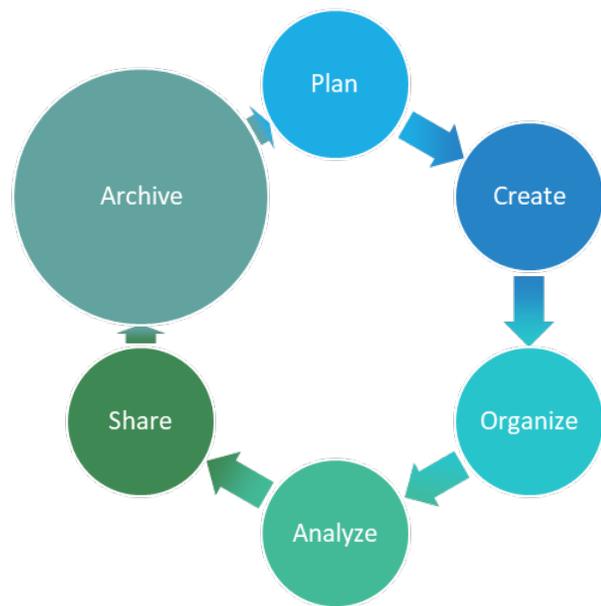
Protocol Id	Protocol Name	Protocol Type	
BL_S_V_BI	BLRA,SORA,VIRA,BLTA	SecretiveMarshBirdCount	✗
IMBCR_VRPC	Bird Conservancy of the Rockies IMBCR 6 min count	PointCount	✗
SiteConditions_FORT_CARSON	Site conditions temperature, wind, sky, noise	SiteConditions	✗
VRPC__10min_2TB	Variable radius point count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

4 rows

## PERMANENT STORAGE & ACCESS



# FULL AVIAN DATA LIFE CYCLE



Service Name	Provider	Category	Authorization Level	Status	Count 1	Count 2
Perceptyx	Perceptyx Insights Platform	SaaS	Moderate	FedRAMP Authorized	1	0
]pexip[	Pexip Government Cloud (PGC)	SaaS	Moderate	FedRAMP Authorized	1	0
PingIdentity	PingOne for Government	SaaS	Moderate	FedRAMP Authorized	1	0
pitney bowes	SendPro 360	SaaS	Moderate	FedRAMP Authorized	4	3
Point Blue Conservation Science	Point Blue Science Cloud	SaaS	LI-SaaS	FedRAMP Authorized	1	0
TowerTrain	USALearning Federal Learning Enclave - SaaS	SaaS	Moderate	FedRAMP Authorized	20	19
PROJECT HORIZONS	GSS One - Azure	PaaS	Moderate	FedRAMP Authorized	9	26



# CASE STUDY:

## KLAMATH BIRD OBSERVATORY

### **AKN for Streamlined Data Management**

- Bird monitoring since mid 90's
- Data entered directly into AKN since 2016
- Streamlined data management process
- Save time and money every field season



# CASE STUDY: KLAMATH BIRD OBSERVATORY

## Pre-Season:

- Download survey locations from AKN to GPS units



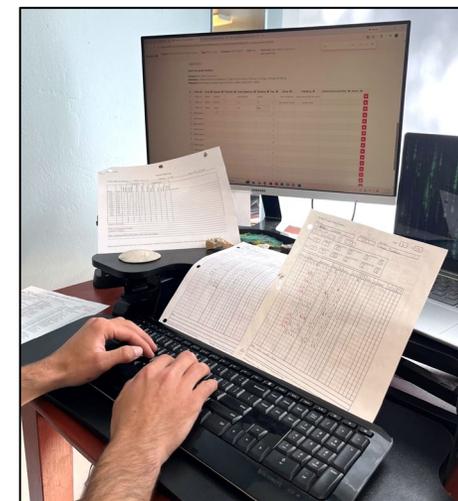
## During Season:

- Collect data on paper forms in field
- Enter data directly into AKN



## Post-Season:

- Download data to share with partners and analyze





# CASE STUDY:

## KLAMATH BIRD OBSERVATORY

DecimalLatitude	DecimalLongitude	ObservationDate	Time	Collector	CommonName	SpeciesCode	Distance	DetectionCue
42.92888	-122.27877	6/17/2025	9:12:00	AH	Yellow-rumped Warbler	YRWA	20	S
42.92888	-122.27877	6/17/2025	9:15:00	AH	Pileated Woodpecker	PIWO	79	C
42.92888	-122.27877	6/17/2025	9:16:00	AH	Lazuli Bunting	LAZB	76	S
42.92888	-122.27877	6/17/2025	9:12:00	AH	Yellow-rumped Warbler	YRWA	58	S
42.92888	-122.27877	6/17/2025	9:12:00	AH	Nashville Warbler	NAWA	49	S
42.92888	-122.27877	6/17/2025	9:12:00	AH	Lazuli Bunting	LAZB	46	S
42.92888	-122.27877	6/17/2025	9:13:00	AH	Common Raven	CORA	63	V
42.92888	-122.27877	6/17/2025	9:13:00	AH	Golden-crowned Kinglet	GCKI	34	S



Cue	Description
C	Call
S	Song
V	Visual



# CASE STUDY:

## KLAMATH BIRD OBSERVATORY

### Advantages and Efficiencies

- No updating, managing old Access databases or spreadsheets
- Efficient QA/QC process
- Quick data access for new staff members
- No reformatting needed to compile datasets for analyses/data sharing

# CAN YOU LOG IN?

Biologists:

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

---

*Problems logging in?*

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

# LIMITATIONS AND CAVEATS

**Focus for this training:** Point Count data

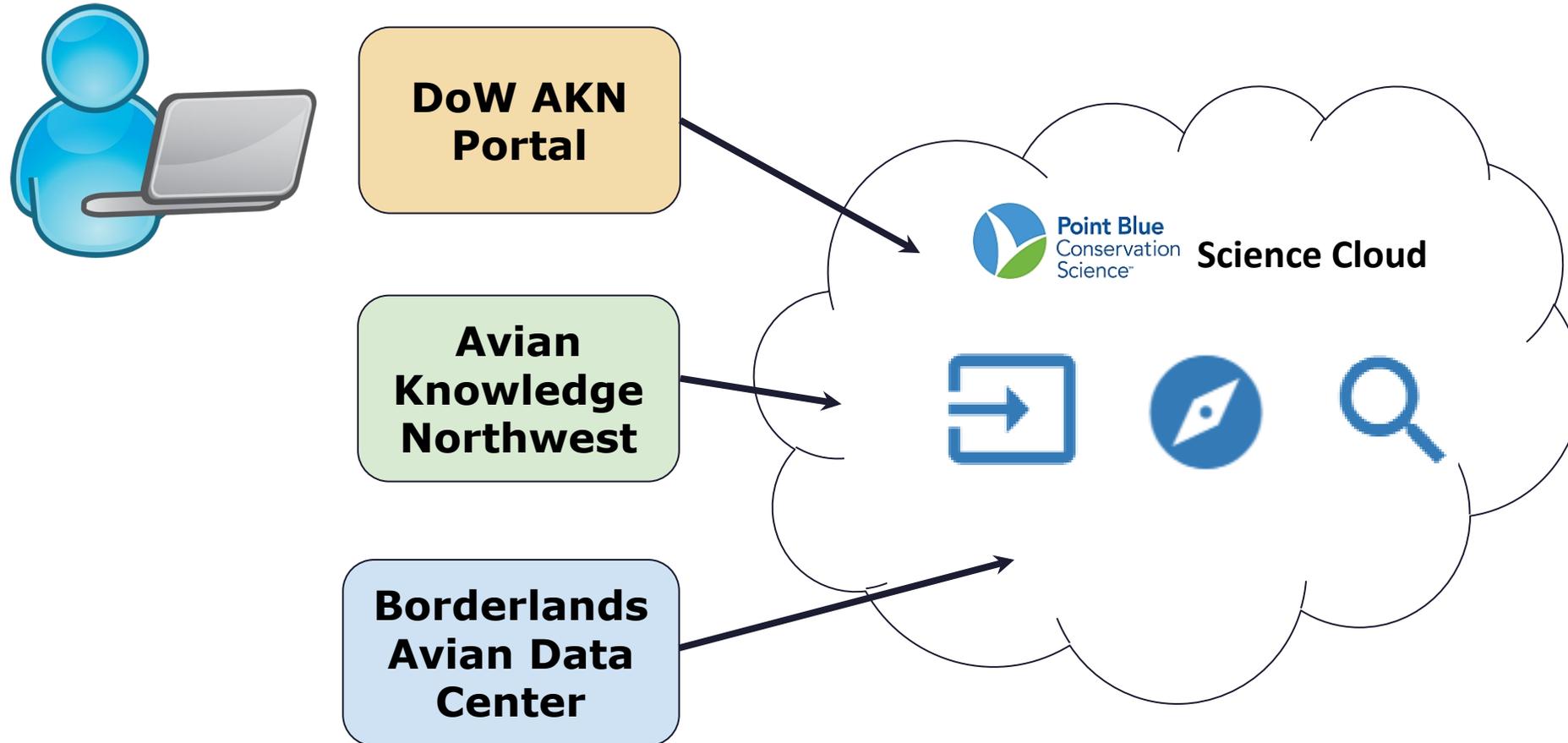
*Office hours are where we can dig deep into your specific Projects, surveys, data management/analysis needs, and any system issues.*



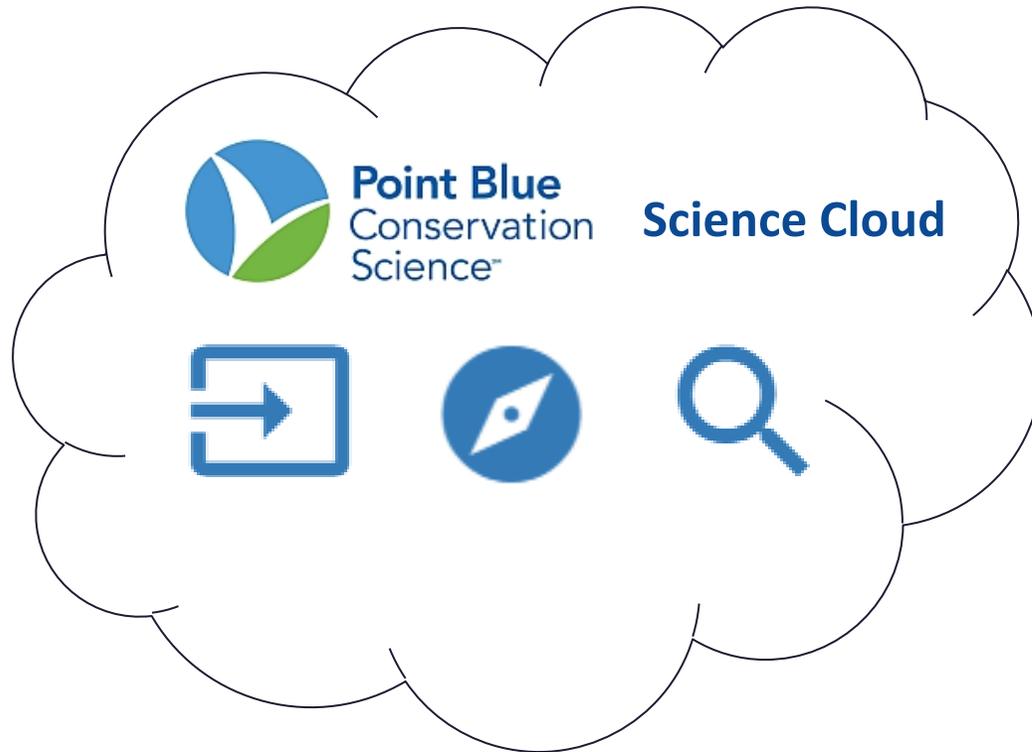
# AKN PROJECT DATA 101



# AKN: COMMON CLOUD TECHNOLOGY



# FOCUS FOR THIS TRAINING



How do we represent protocol-based science?

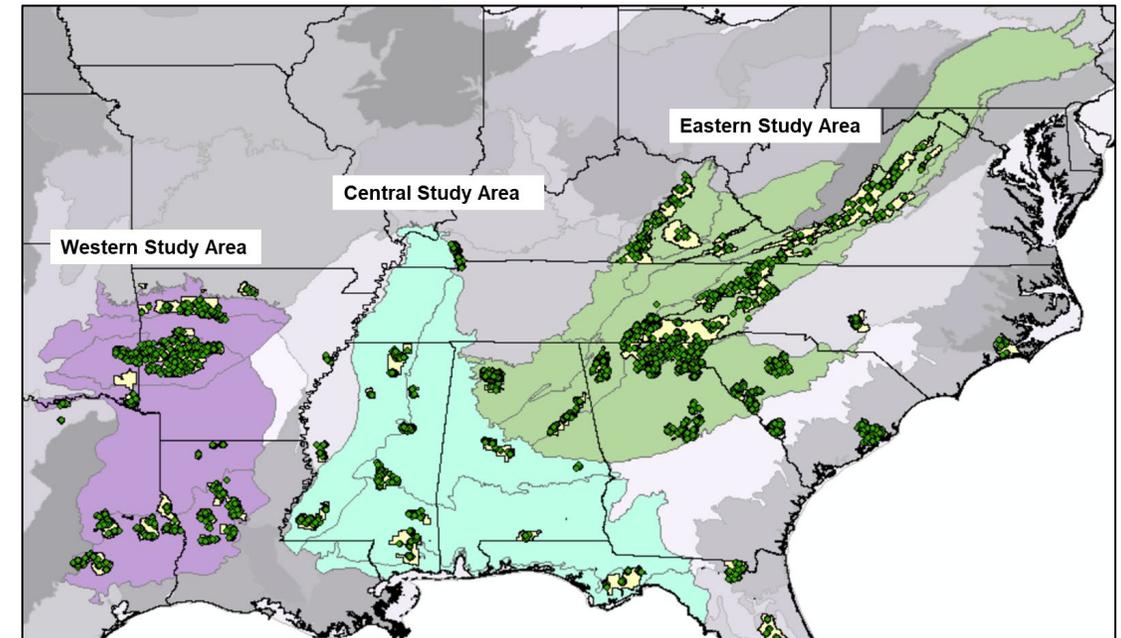
How do you get data in?

How do you get your data & information out?

What conservation questions can you answer?

# CASE STUDY: USFS REGION 8

- **30-year** USFS database with bird monitoring data across 34 national forests and 13 states was being **decommissioned**
- FS regional biologist wanted to save data and make sure current FS biologists could access it
- **1,121,654** point count observation records (**13,664** sampling locations) uploaded to AKN!
- **100+** FS biologists in Region 8 now have access to their data and continue to contribute new data every year
- Data used to create species distribution models, now being applied in multiple AKN decision support tools

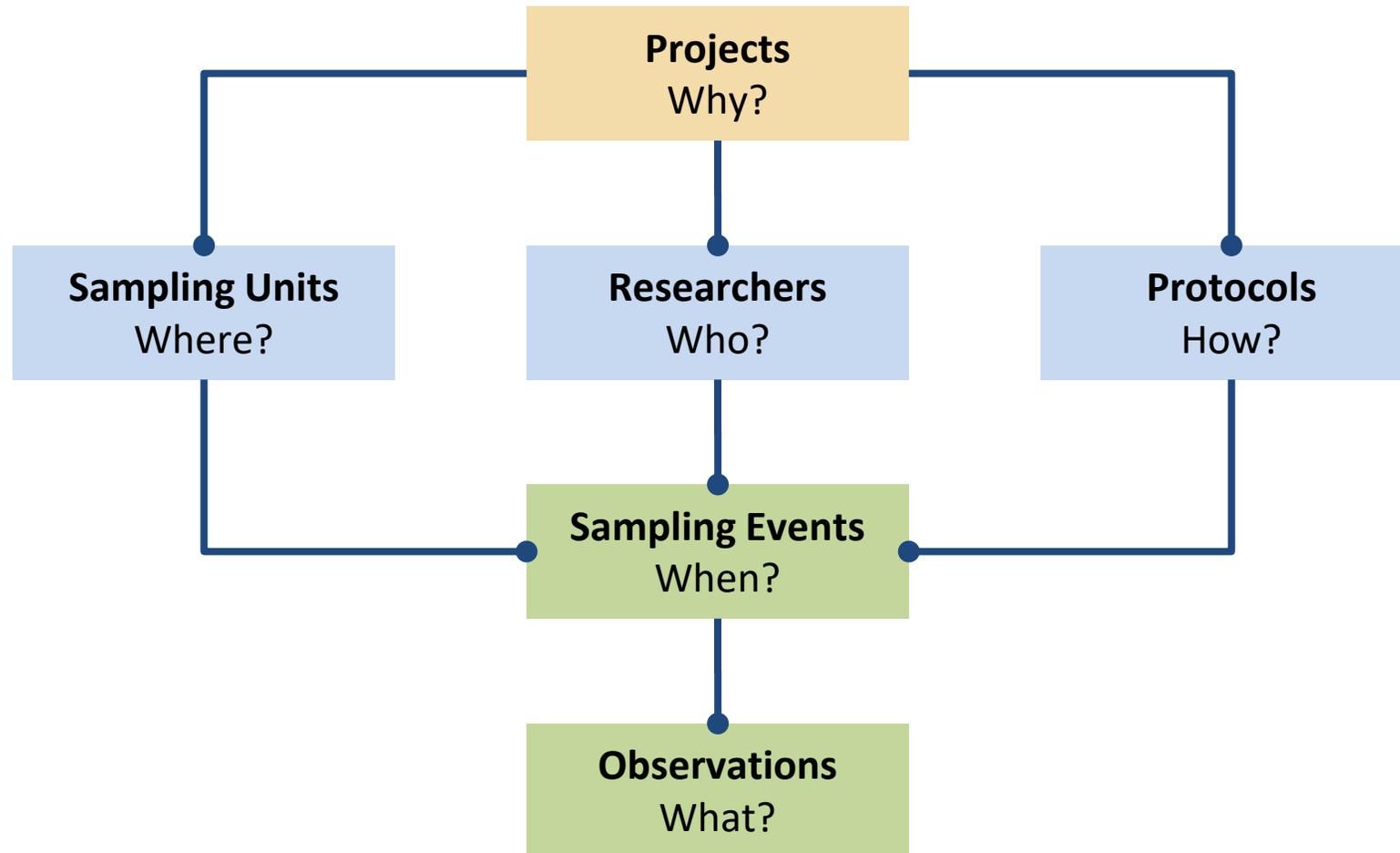


# AKN PROJECT DATA 101

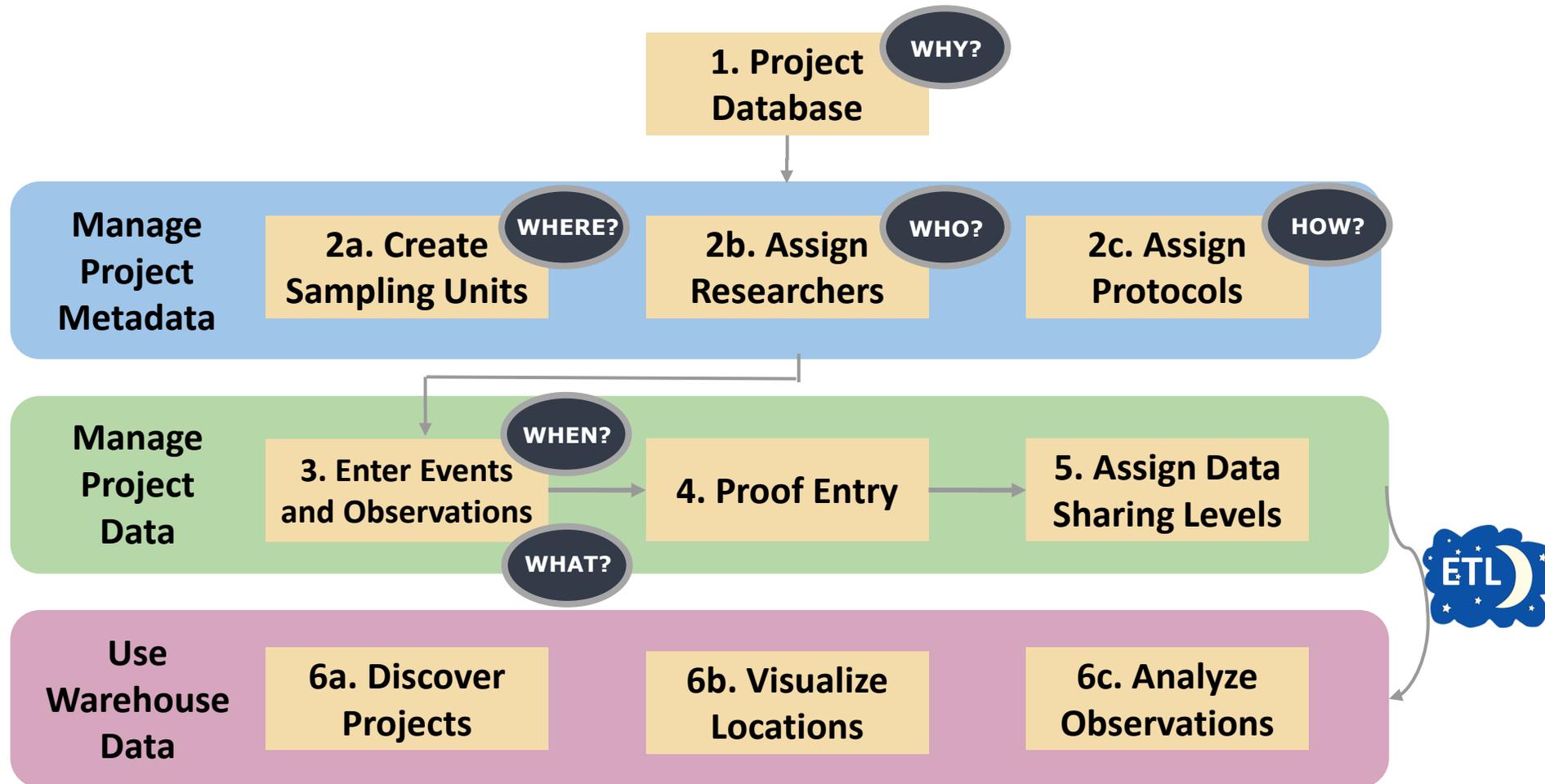
1. The parts of a Project Database

2. The workflow for creating and managing a Project

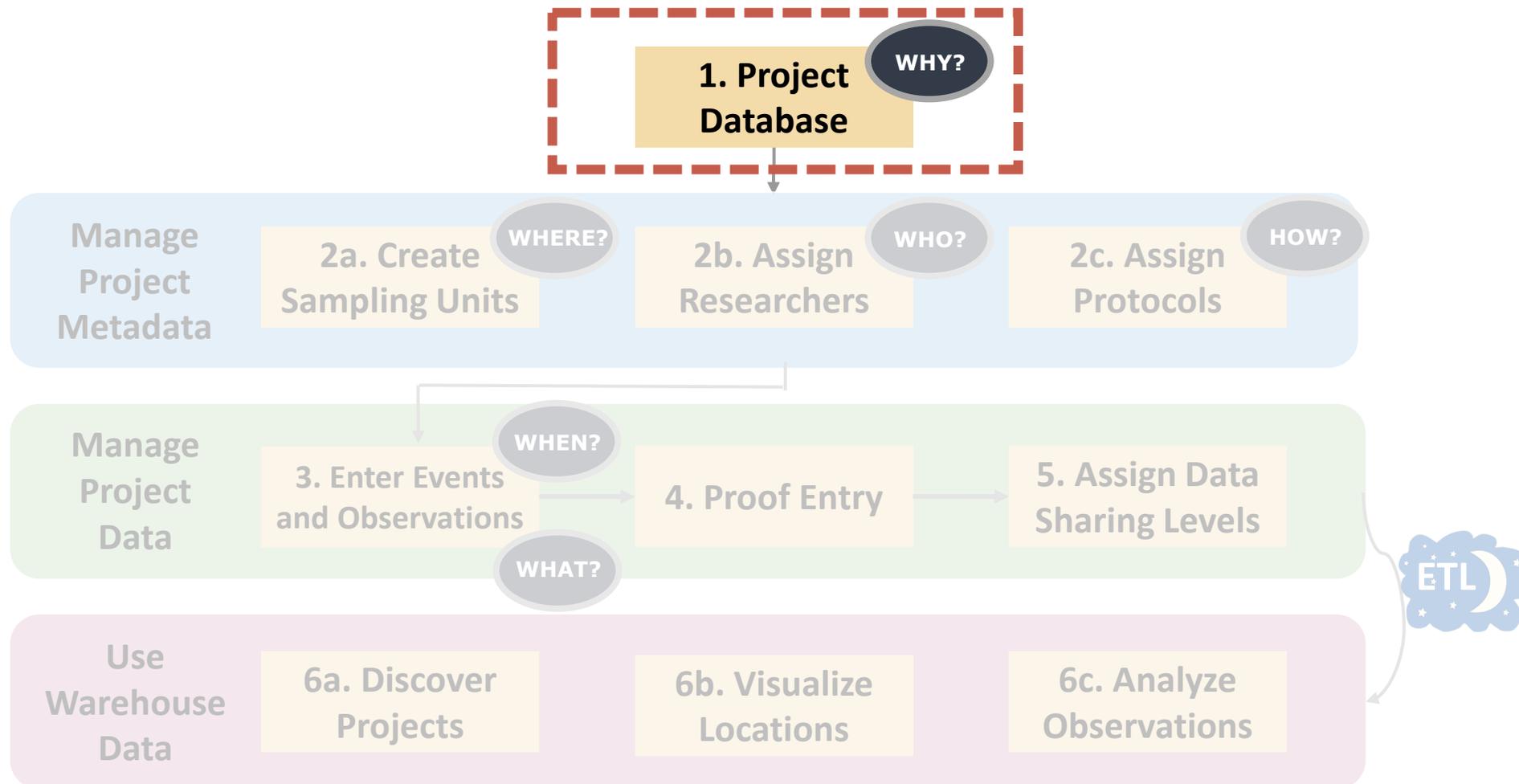
# THE PROJECT DATABASE



# WORKFLOW FOR MANAGING A PROJECT



# WORKFLOW FOR MANAGING A PROJECT



# PROJECT

Container for Event and Observation data

Many ways to organize

For DoW: Project = Installation

For Partners: Flexible to mirror your management structure

## Example: DoW Program Structure



## Example: DoW Program Structure

**Air Force  
Subprogram**



Installation Project  
Databases

**Army  
Subprogram**



Installation Project  
Databases

**Navy  
Subprogram**



Installation Project  
Databases

**Marine  
Subprogram**



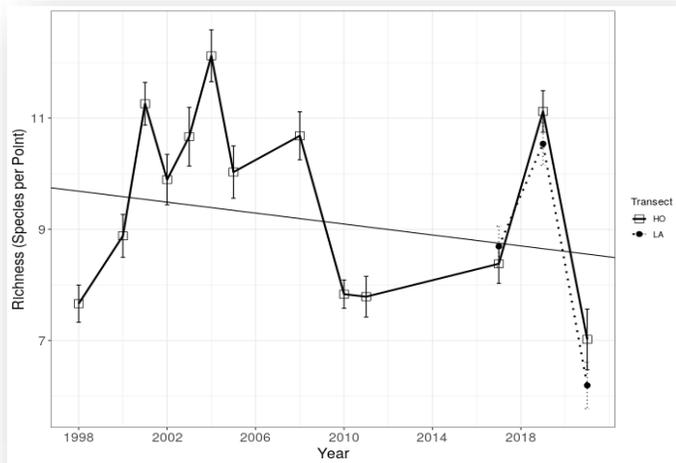
Installation Project  
Databases

**National Guard  
Subprogram**



Installation Project  
Databases

Vandenberg Space Force Base Project  
Riparian Richness



## Example: DoW Program Structure

**Air Force  
Subprogram**



Installation Project  
Databases

**Army  
Subprogram**



Installation Project  
Databases

**Navy  
Subprogram**



Installation Project  
Databases

**Marine  
Subprogram**



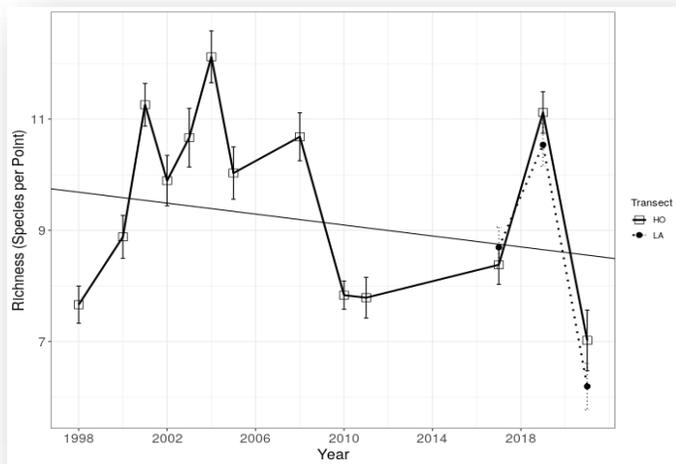
Installation Project  
Databases

**National Guard  
Subprogram**

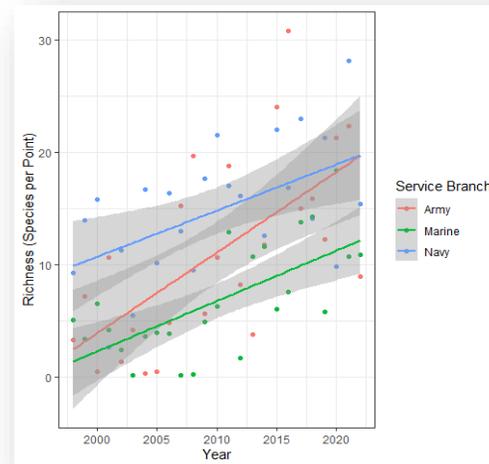


Installation Project  
Databases

Vandenberg Space Force Base Project  
Riparian Richness



Service Branch Program Riparian  
Bird Richness



## Example: DoW Program Structure

**Air Force  
Subprogram**



Installation Project  
Databases

**Army  
Subprogram**



Installation Project  
Databases

**Navy  
Subprogram**



Installation Project  
Databases

**Marine  
Subprogram**



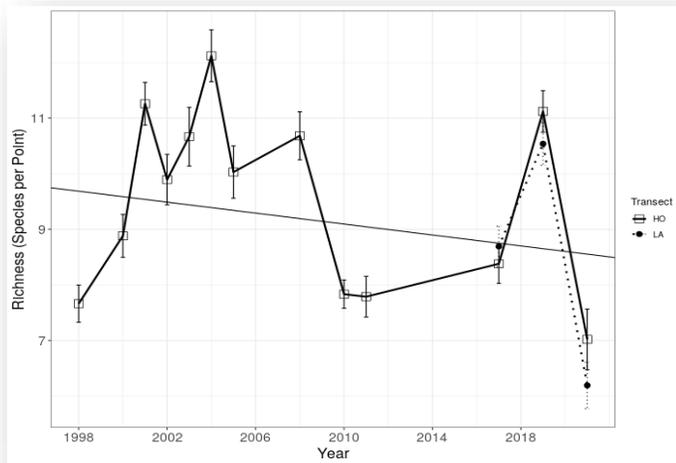
Installation Project  
Databases

**National Guard  
Subprogram**

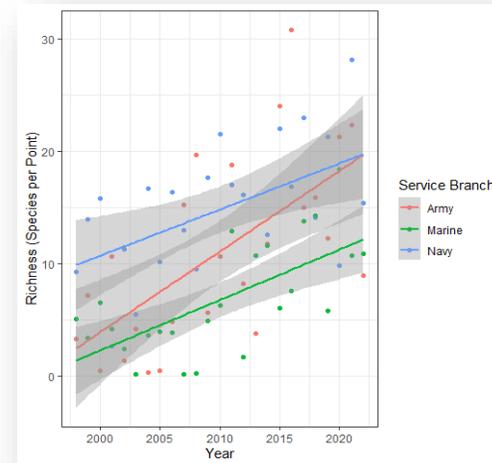


Installation Project  
Databases

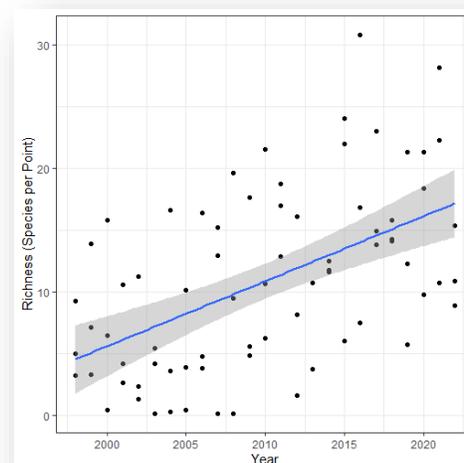
Vandenberg Space Force Base Project  
Riparian Richness



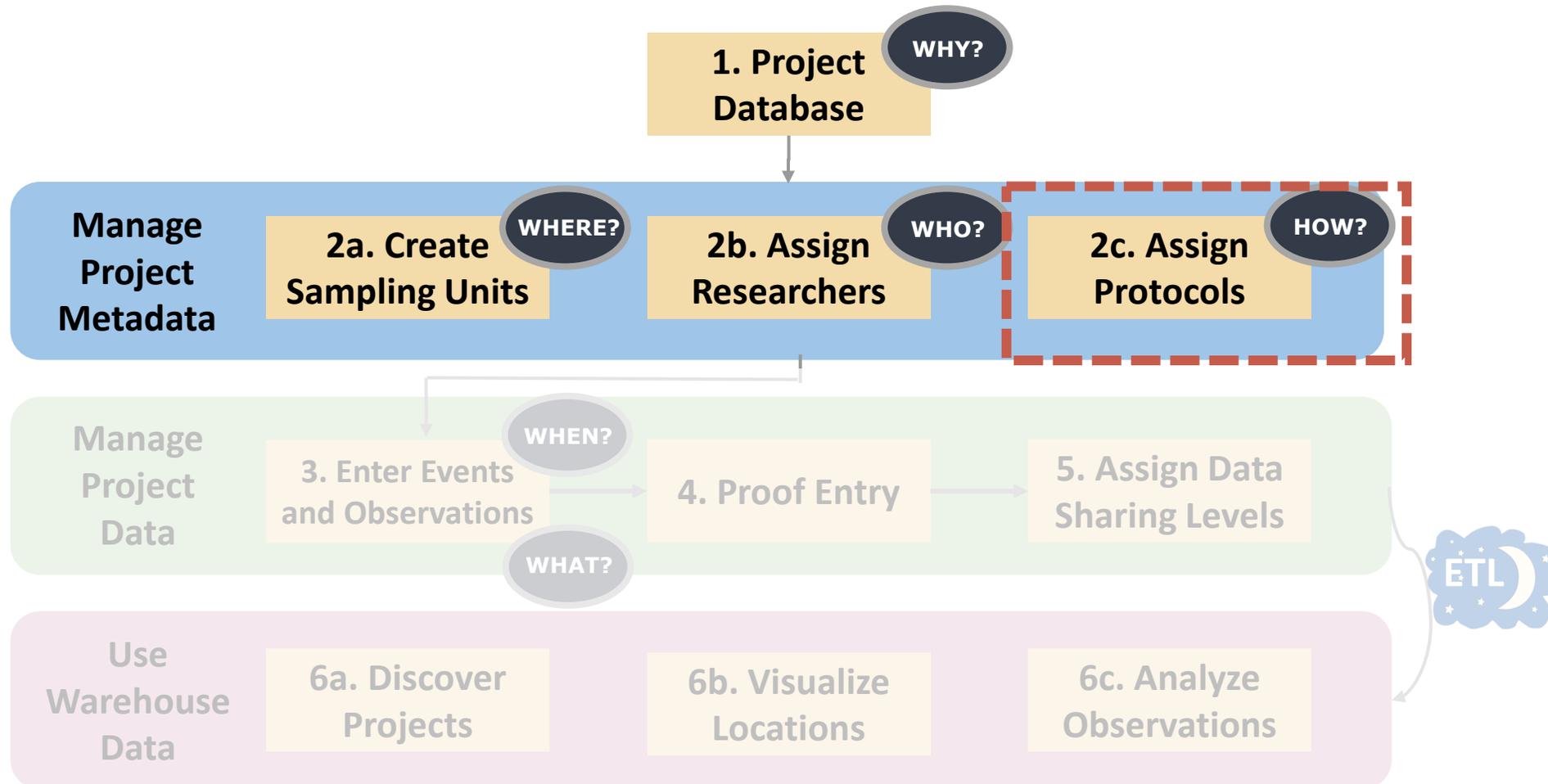
Service Branch Program Riparian  
Bird Richness



DoW Program Riparian  
Bird Richness



# MANAGING A PROJECT: PROTOCOLS



# PROTOCOLS

The *metadata* describing the methods and mechanics of **how** observations were collected

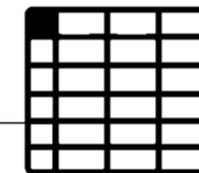
Should provide enough information for researcher 20 years from now to understand the methods you used



# FIELD METHODS

vs.

# AKN PROTOCOLS



## A Survey Protocol for Pinyon Jay Road-based Point Count Surveys

Version 1, March 2023

The road-based survey is a useful method of surveying for Pinyon Jays under certain circumstances and can be used in conjunction with or as an alternative to the Pinyon Jay Working Group (PJWG) pedestrian-based area search survey protocol (Boone et al. 2023; <https://partnersinflight.org/resources/pinyon-jay-working-group/>). Table 1 compares the two protocols.

The PJWG protocol consists of pedestrian surveys of 2.5 x 2.5 km blocks. That method is useful for discrete survey areas known or suspected to have Pinyon Jays, surveys with adequate personnel and funding to complete the time-intensive pedestrian surveys, and areas where foot traffic is allowed.

In some situations, however, road-based surveys may be more appropriate than pedestrian surveys. For example, pedestrian surveys or multiple visits may not be feasible in areas where no information on Pinyon Jay presence exists; in extremely large, previously un-surveyed areas; when financial and personnel resources are limited; or where foot traffic is prohibited, such as some areas on DoD installations.

The key elements of the road-based protocol are:

- 1) Use of 5 x 5 km blocks as the primary survey units. For analysis consistent with 2.5 km surveys, 5 km blocks can be sub-divided into 2.5 km blocks ("plots" in the PJWG protocol).

The 5 km blocks (25 km<sup>2</sup>) are recommended because of the greater geographical coverage possible with road-based surveys. This block size is based on radio telemetry studies of Pinyon Jay flocks and approximates known breeding season home ranges. [Examples include: 43.05 km<sup>2</sup> (including two colonies of 16.67 km<sup>2</sup> and 26.38 km<sup>2</sup>) (Johnson et al. 2014); 25.51 km<sup>2</sup> (Johnson et al. 2014); 26.99 km<sup>2</sup> (Novak 2019).] It is designed to reduce the possibility that a) a single flock moving over its home range will be counted two or more times, and b) more than one flock will be counted as a single flock (resulting in undercounts in a survey block that is too large). Either double-counting or under-counting is undesirable for a species of conservation concern, where accurate population estimates, trends, and occupancy are necessary for conservation and management. Road-based sampling can cover a block rapidly, before a flock can move into a neighboring block, potentially reducing both types of errors.

- 2) Delineation of survey routes along selected roads within the blocks (Figure 1). Blocks must include enough accessible road length to allow at least three point-count stops. If blocks will be subdivided into 2.5 km blocks for analysis, it is desirable to include at least three point-count stops in each 2.5 km block analyzed. However, this may not be possible

## Sampling Protocol Definition

Protocol: PIJA\_6min

Description	Road-side Point Count PIJA protocol
URL	No URL
Duration	6 minutes
Protocol type	PointCount
Other characteristics	Binned distance protocol

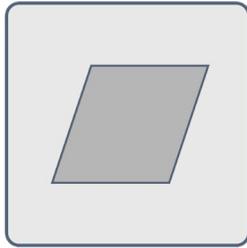
## Detection Cues

Summary: A (Aural), NA (Not recorded on datasheet), V (Visual), VA (Both Visual and Aural)

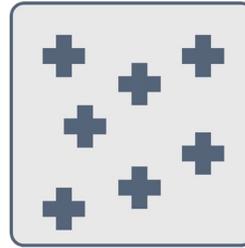
Cue	Description
A	Aural
NA	Not recorded on datasheet
V	Visual
VA	Both Visual and Aural

## Distance Bins

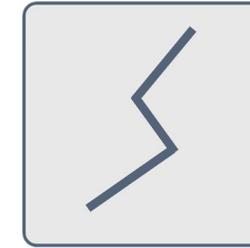
# PRIMARY PROTOCOL TYPES



Area Search



Point Count



Linear Transect



Secretive Marshbird



Site Conditions



# PROTOCOL TYPES DISCUSSION



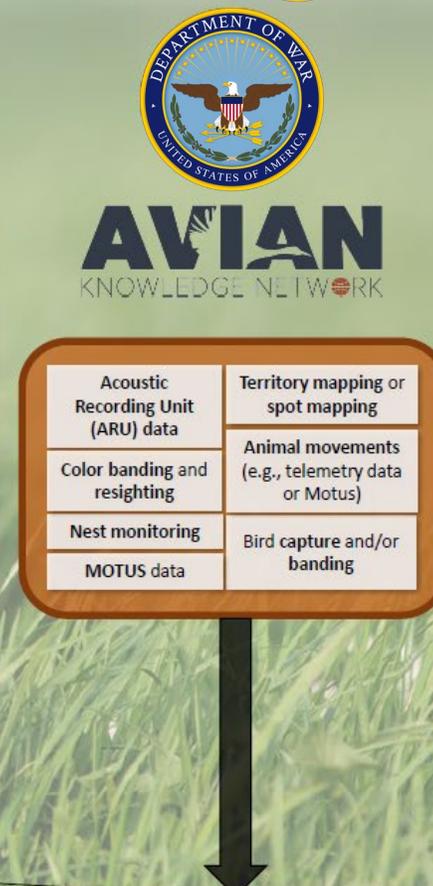
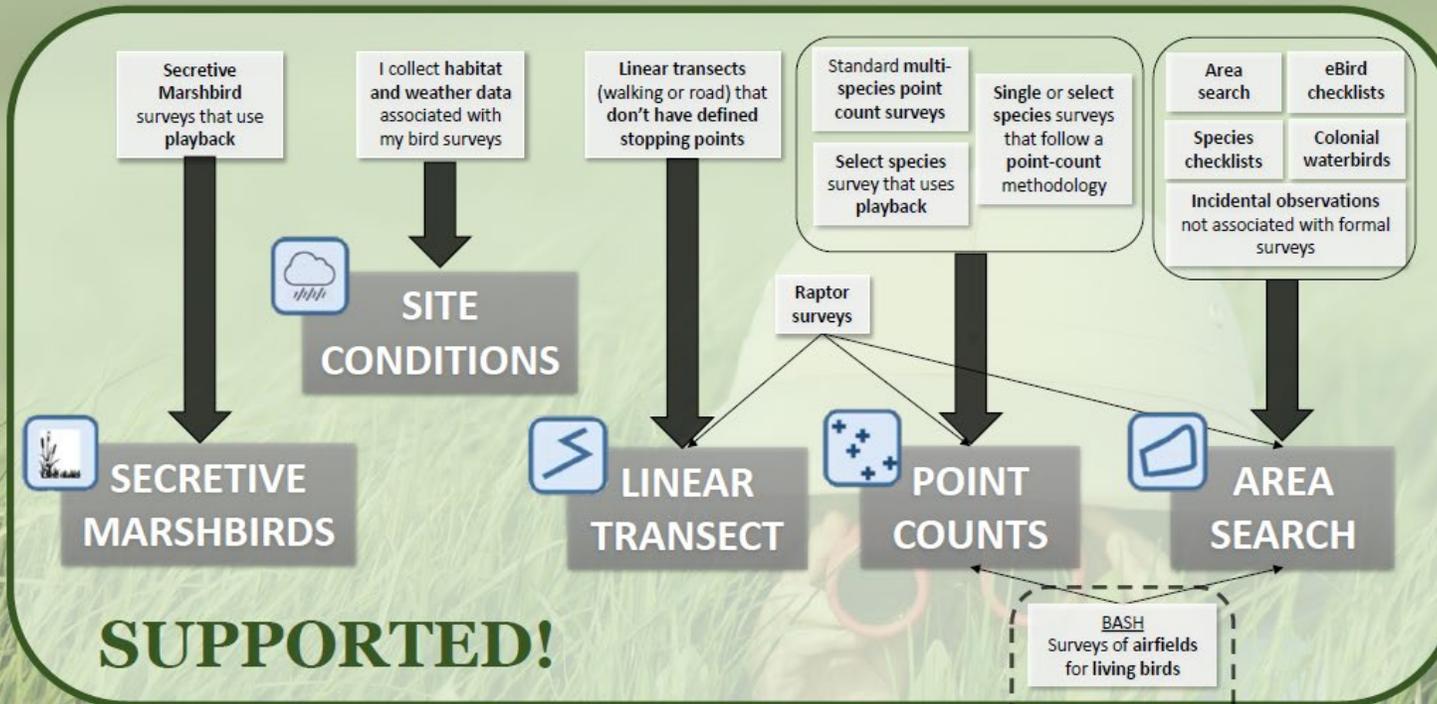
## Point Counts



## Area Search



# Is your data-type currently supported in AKN??



Other demographic data (e.g., fledgling counts, nest counts, brood data)

I collect data that I'm not sure fits into one of these formats

I have a species-specific protocol that is a mix of two or more of these methods

**IT'S COMPLICATED...**

We may or may not have a protocol for you, but we need a little more information. Consult with an AKN team member for advice.

[CONTACT US](#)

**NOT SUPPORTED ...YET!**

But don't worry!  
Our team is constantly updating available protocols, so let's touch base and see what we can do!

# 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 are represented:



[Bird Conservancy of the Rockies IMBCR protocol](#)



[Point Blue protocol](#)



[KBO protocol](#)



# HOW TO ACHIEVE CONFLICTING CONSERVATION OBJECTIVES: *THE IMPORTANCE OF STANDARD PROTOCOLS*





# ASSESSING RAIL RESPONSE TO MANAGEMENT: THE CHALLENGE

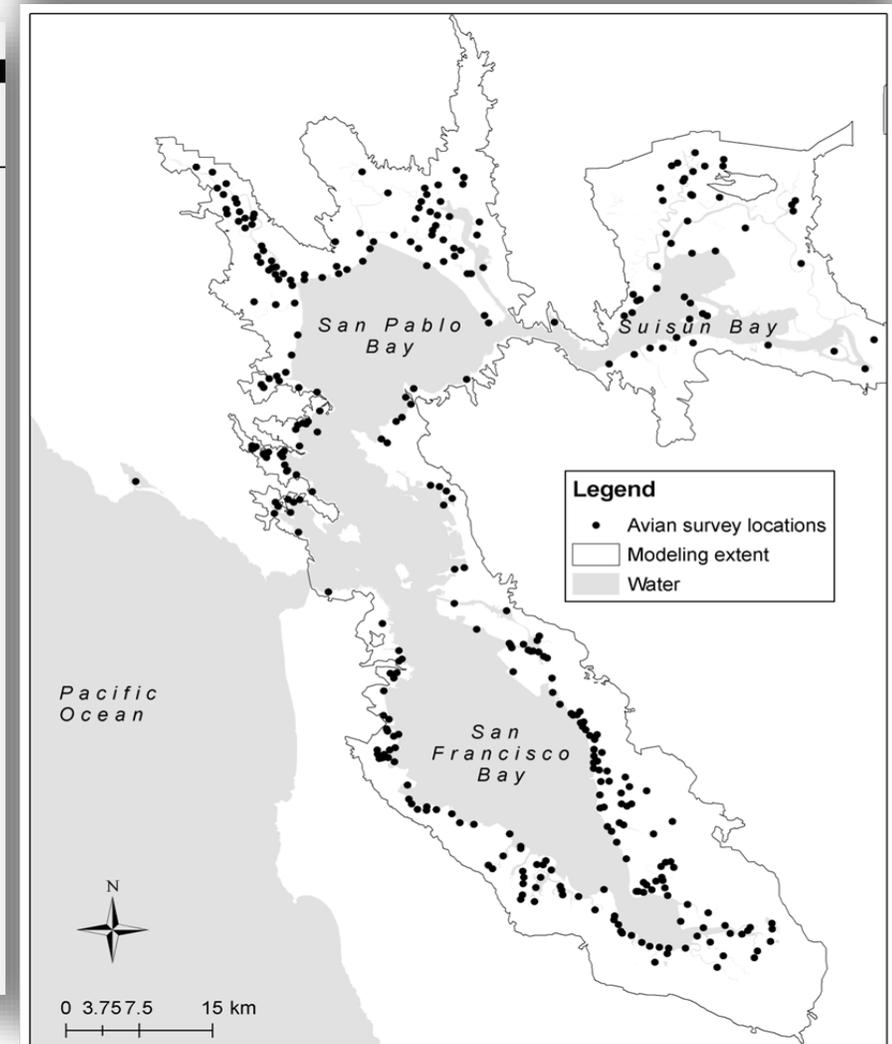


## Multi-partner Effort



# 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**



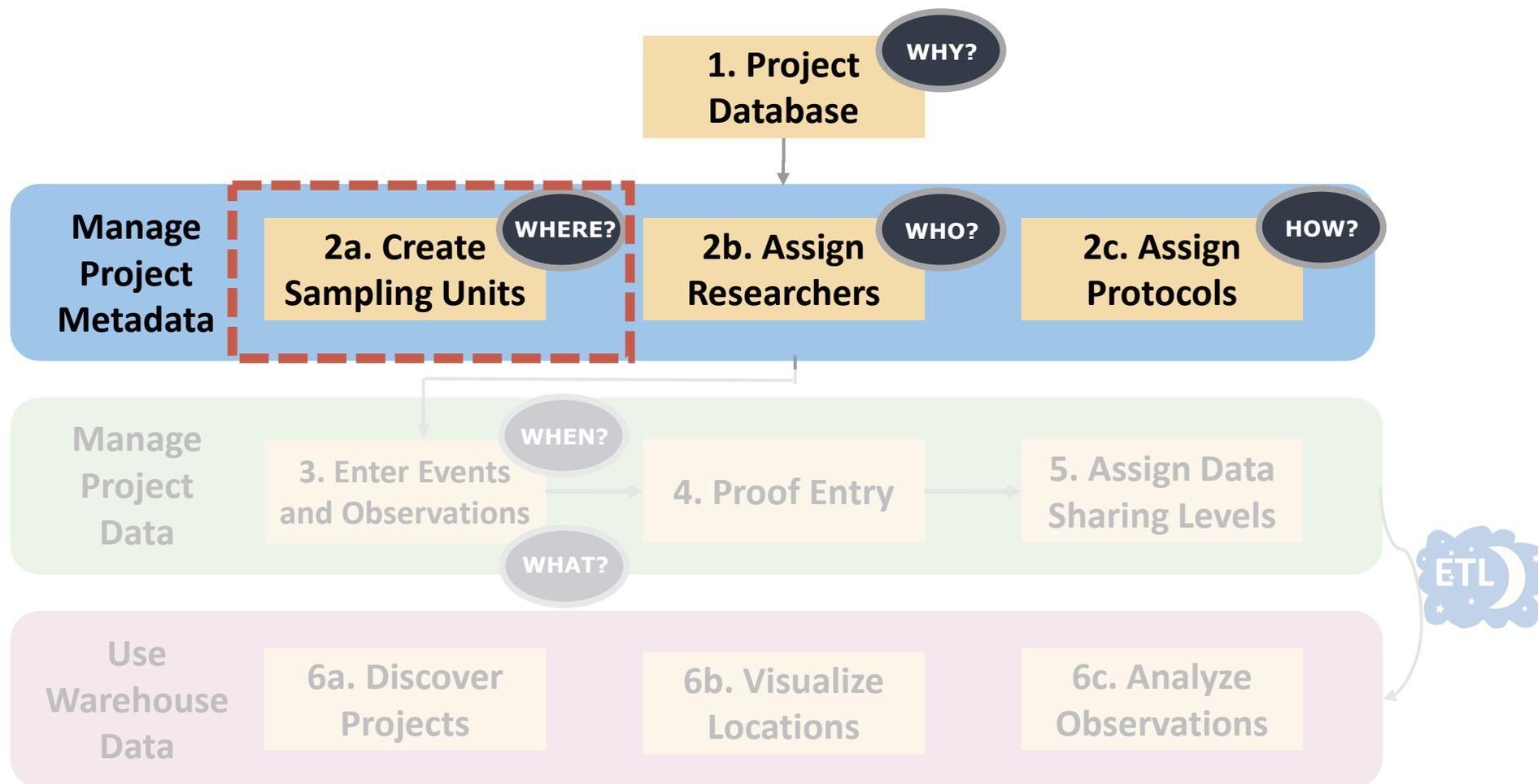
# CHOOSING PROTOCOLS (DEMONSTRATION)

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

## Tools:

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

# MANAGING A PROJECT: SAMPLING UNITS





# SAMPLING UNITS

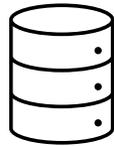
The locations where observations are collected

Organized into a tree (hierarchy)

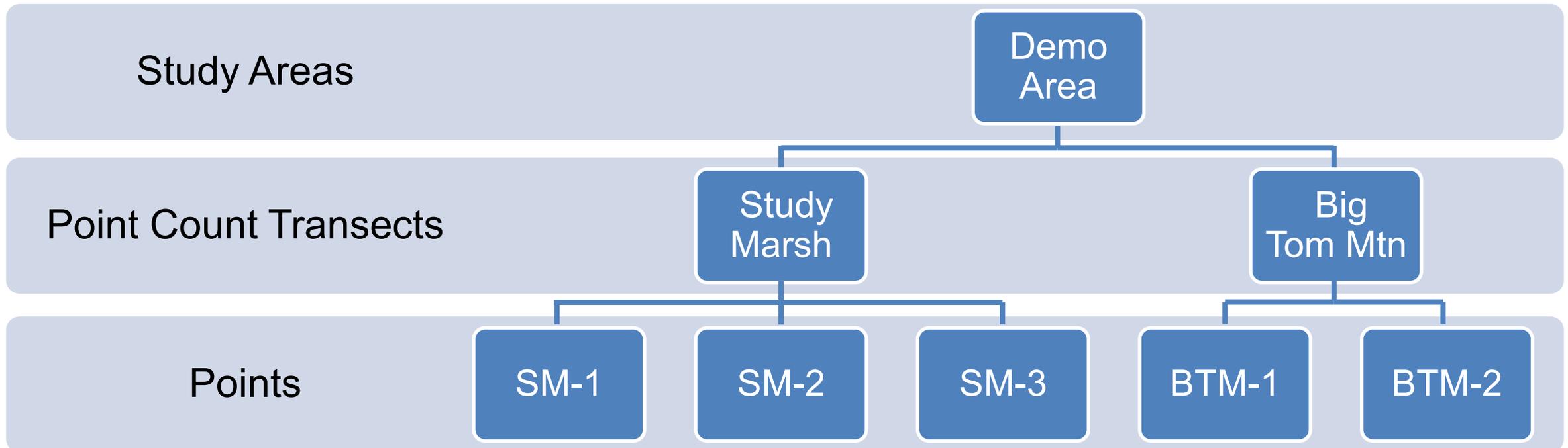
Uniquely named with Project

Can have Point/Line/Polygon

# SAMPLING UNIT TYPES FOR POINT COUNTS

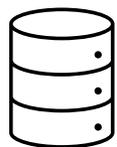


**Project:** DOD\_DEMO

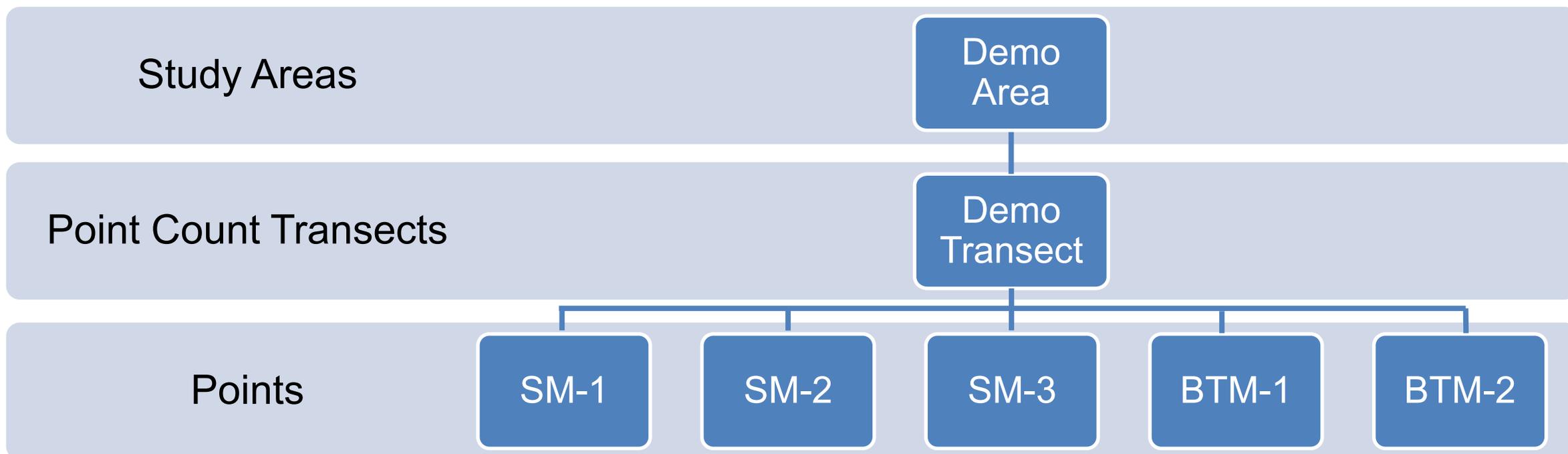


Replicates or independent points?  
What questions are you asking?

# SAMPLING UNIT TYPES FOR POINT COUNTS



**Project:** DOD\_DEMO

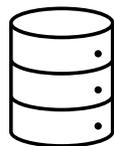


**Replicates** or independent points?  
What questions are you asking?

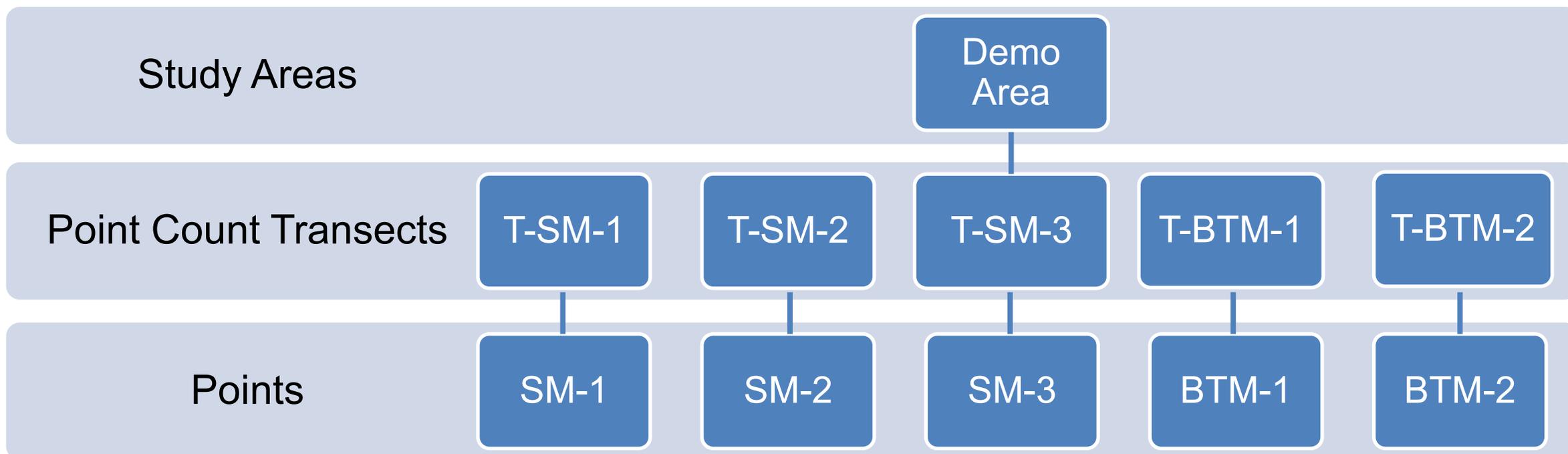
2a. Create  
Sampling Units

WHERE?

# SAMPLING UNIT TYPES FOR POINT COUNTS



**Project:** DOD\_DEMO



**Example-** Single-point Transects  
(independent points)



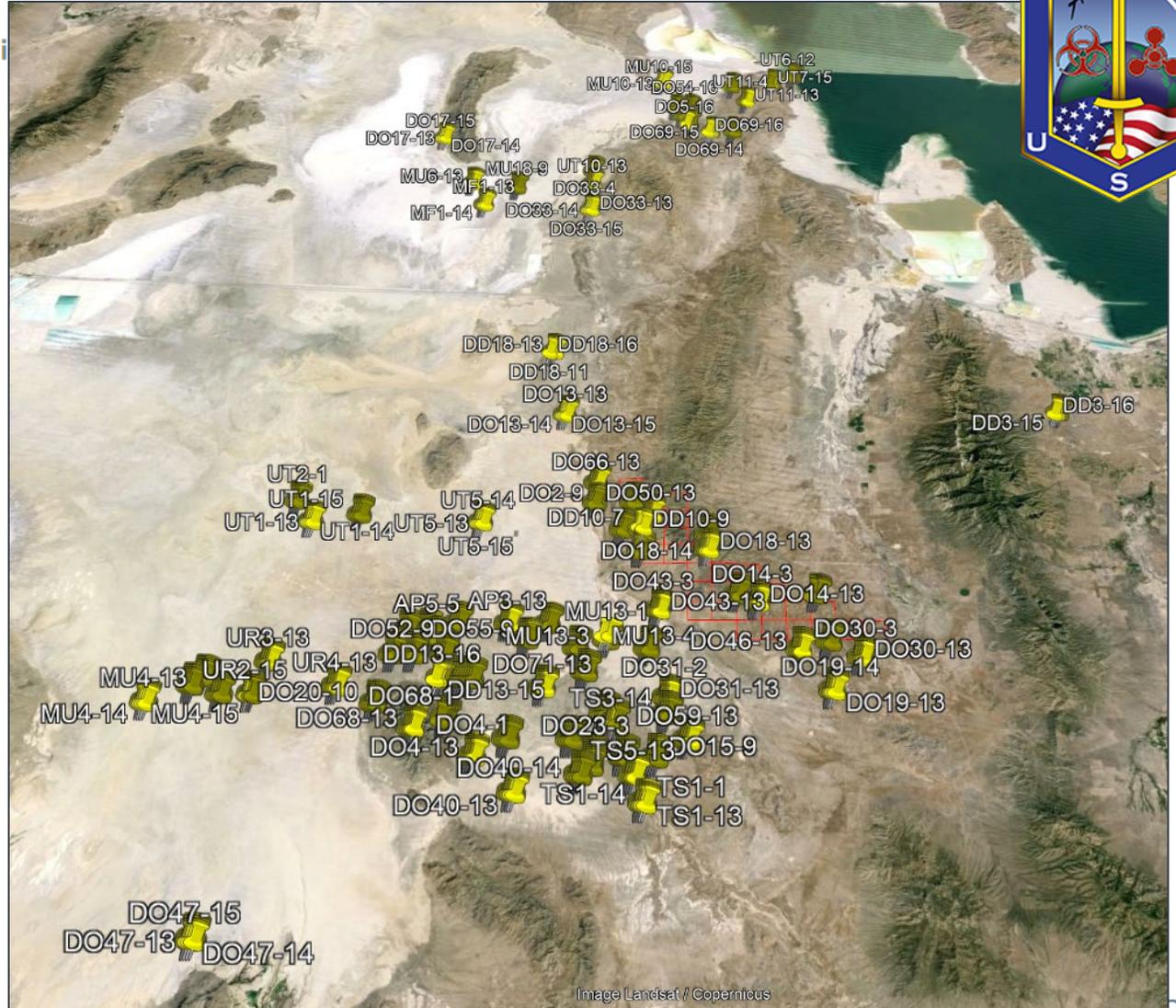
### DUGWAY\_PROVING\_GROUND - [DOD\_ARMY] Dugway Proving Ground

Click on the Sampling Unit or Project you want to select (it will highlight tree node and the tooltip will tell you what type of feature it is).

☰ ☆

**DUGWAY\_PROVING\_GROUND - [DOD\_ARMY] Dugway Proving Ground**

- ☰ IMBCR (IMBCR)
  - ☰ IMBCR All Other DoD Lands (UT-BCR9-DD)
  - ☰ IMBCR APG (UT-BCR9-AP)
  - ☰ IMBCR DoD Lands Pre Restratification (UT-BCR9-DO)
  - ☰ IMBCR Mud Flat Pre Restratification (UT-BCR9-MF)
  - ☰ IMBCR Mudflats (UT-BCR9-MU)
  - ☰ IMBCR Target S (UT-BCR9-TS)
  - ☰ IMBCR UTG (UT-BCR9-UR)
  - ☰ IMBCR UTTR (UT-BCR9-UT)
- ☰ PIJA Landscape Survey (PIJA)





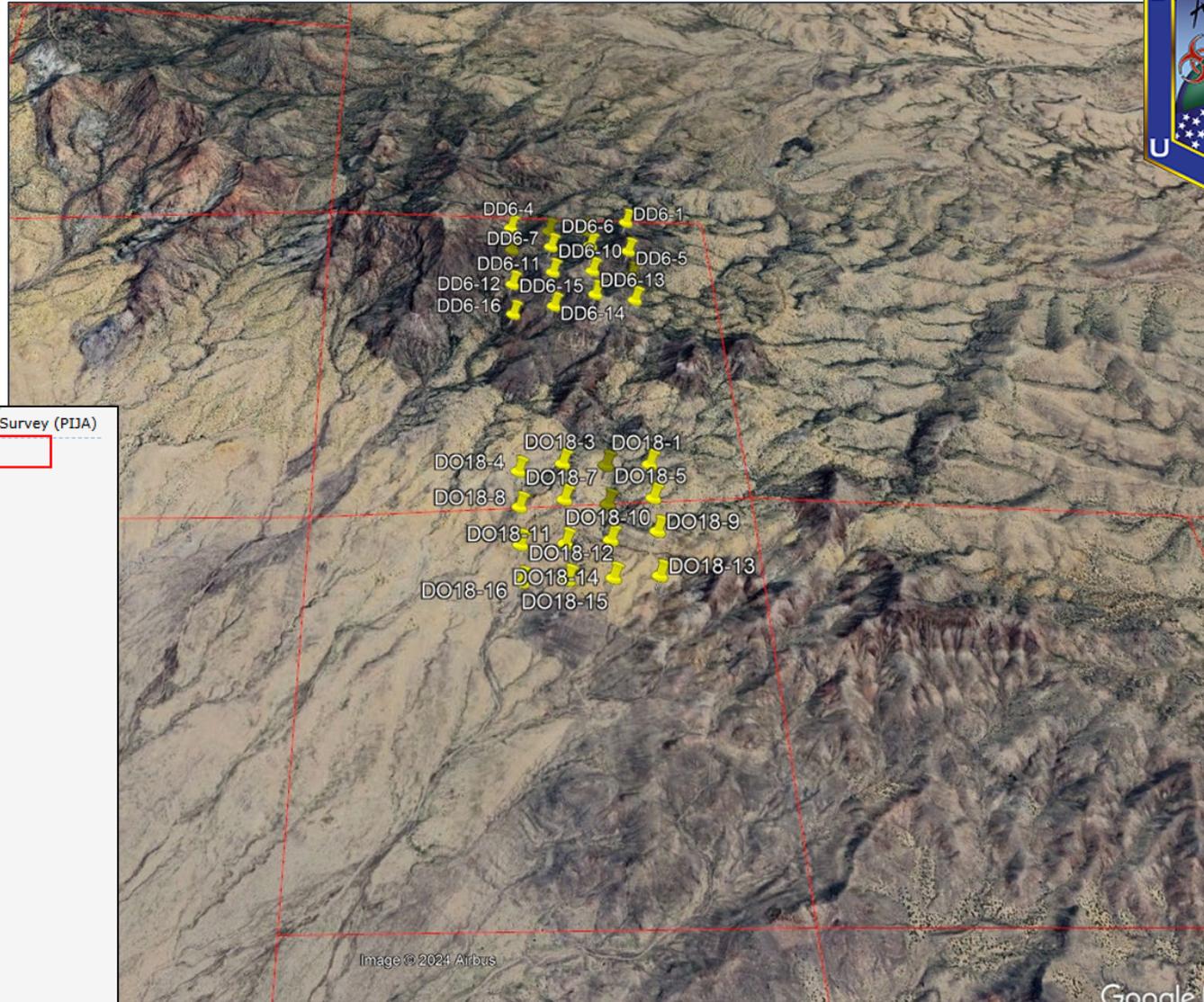
- IMBCR (IMBCR)
  - IMBCR All Other DoD Lands (UT-BCR9-DD)
    - UT-BCR9-DD1 (DD1)
    - UT-BCR9-DD10 (DD10)
    - UT-BCR9-DD13 (DD13)
    - UT-BCR9-DD18 (DD18)
    - UT-BCR9-DD22 (DD22)
    - UT-BCR9-DD3 (DD3)
    - UT-BCR9-DD30 (DD30)
    - UT-BCR9-DD4 (DD4)
    - UT-BCR9-DD5 (DD5)
    - UT-BCR9-DD6 (DD6)**
      - DD6-1 (DD6-1)
      - DD6-10 (DD6-10)
      - DD6-11 (DD6-11)
      - DD6-12 (DD6-12)
      - DD6-13 (DD6-13)
      - DD6-14 (DD6-14)
      - DD6-15 (DD6-15)
      - DD6-16 (DD6-16)
      - DD6-2 (DD6-2)
      - DD6-3 (DD6-3)
      - DD6-4 (DD6-4)
      - DD6-5 (DD6-5)
      - DD6-6 (DD6-6)
      - DD6-7 (DD6-7)
      - DD6-8 (DD6-8)
      - DD6-9 (DD6-9)
    - UT-BCR9-DD9 (DD9)
  - IMBCR APG (UT-BCR9-AP)
  - IMBCR DoD Lands Pre Restratification (UT-BCR9-DO)
  - IMBCR Mud Flat Pre Restratification (UT-BCR9-MF)
  - IMBCR Mudflats (UT-BCR9-MU)
  - IMBCR Target S (UT-BCR9-TS)
  - IMBCR UTG (UT-BCR9-UR)
  - IMBCR UTTR (UT-BCR9-UT)
- PIJA Landscape Survey (PIJA)**
  - PIJA1 (1)
  - PIJA10 (10)
  - PIJA11 (11)
  - PIJA12 (12)
  - PIJA13 (13)
  - PIJA14 (14)
  - PIJA15 (15)
  - PIJA16 (16)
  - PIJA17 (17)
  - PIJA18 (18)
  - PIJA19 (19)
  - PIJA2 (2)
  - PIJA20 (20)
  - PIJA21 (21)
  - PIJA22 (22)
  - PIJA23 (23)
  - PIJA24 (24)
  - PIJA25 (25)
  - PIJA26 (26)
  - PIJA27 (27)
  - PIJA28 (28)



= Point Count Point



= Area Search



# BREAK

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## NEXT: EXERCISE 1 – CREATE SAMPLING UNITS



# MANAGING PROJECT METADATA

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## EXERCISE 1: CREATE SAMPLING UNITS



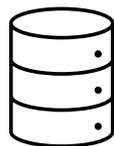


# CREATE SAMPLING UNITS

## 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 (e.g., Navy) 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: Tinian Monarch 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

**Reminder about Study Areas:** In the project DOD\_DEMO, your STUDY AREA is your service branch. The name is listed first, followed by the short name in parentheses.

### 1. Select sampling units from the tree below.



The screenshot shows a tree view for the project "DOD\_DEMO - DoD Demonstration Project". At the top are two buttons: "select all" and "clear all". Below the project name, there are six items, each with a checkbox and a grid icon:

- Air Force (AIRFORCE)
- Army (ARMY)
- Marine Corps (MARINES)
- National Guard (GUARD)
- Navy (NAVY)
- Other Service Branches (OTHER)

For example, this Study Area Name is Air Force, and the Study Area Short Name is AIRFORCE



# 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



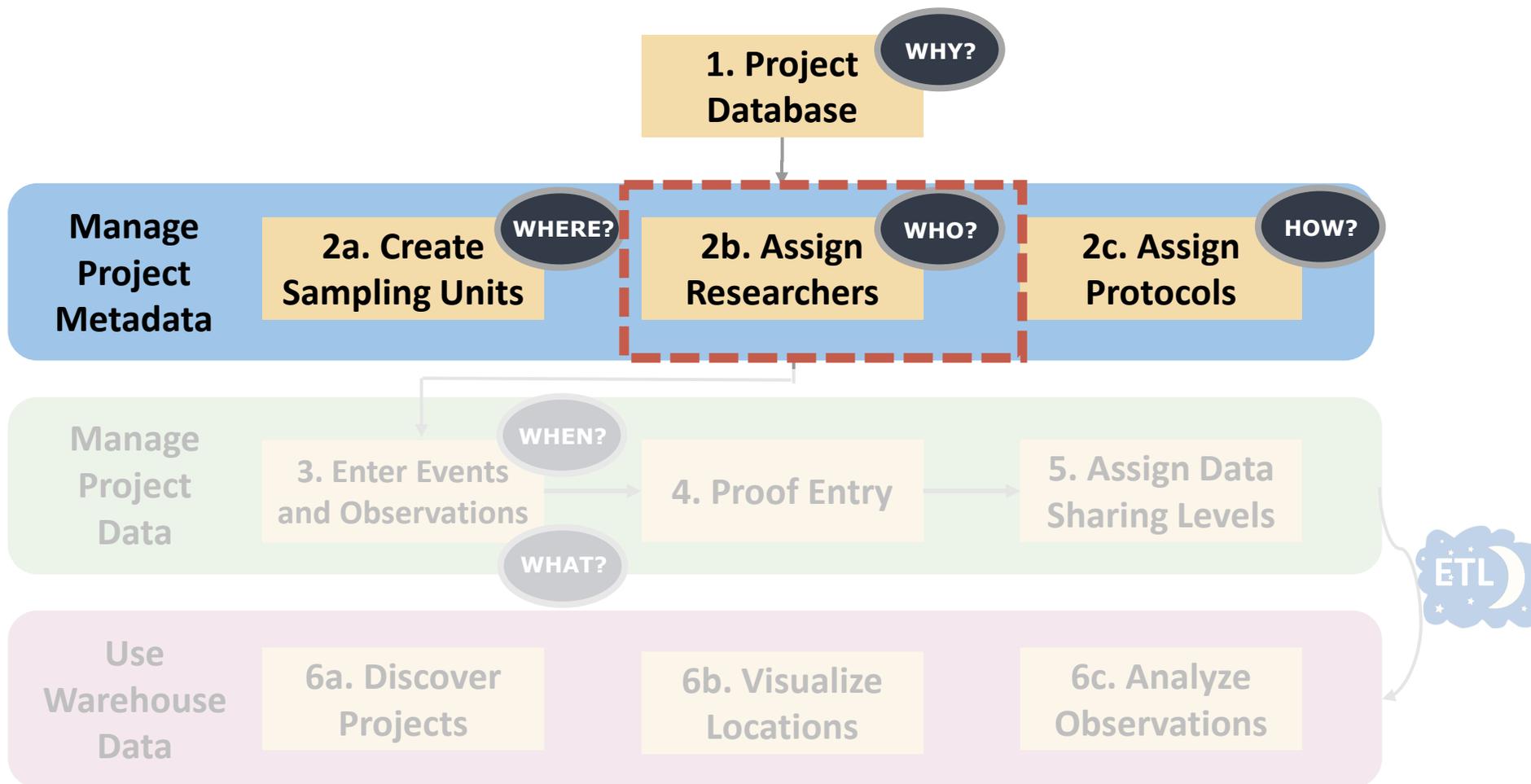
# DOWNLOAD SAMPLING UNITS DEMONSTRATION

Download sampling units:

- [Project Leaders](#) for download sampling unit 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

## Project access assigned by Project Leader



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

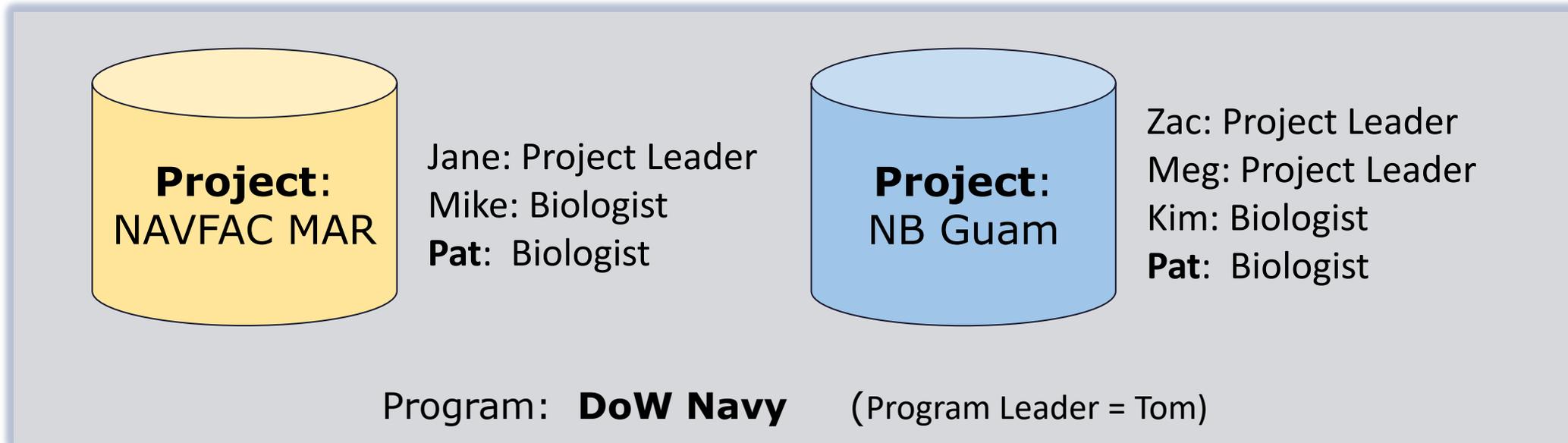


Zac: Project Leader  
Meg: Project Leader  
Kim: Biologist  
**Pat:** Biologist



# RESEARCHERS & PROJECT ACCESS

Many Projects can be organized into a Program with a Program Leader



2b. Assign  
Researchers

WHO?

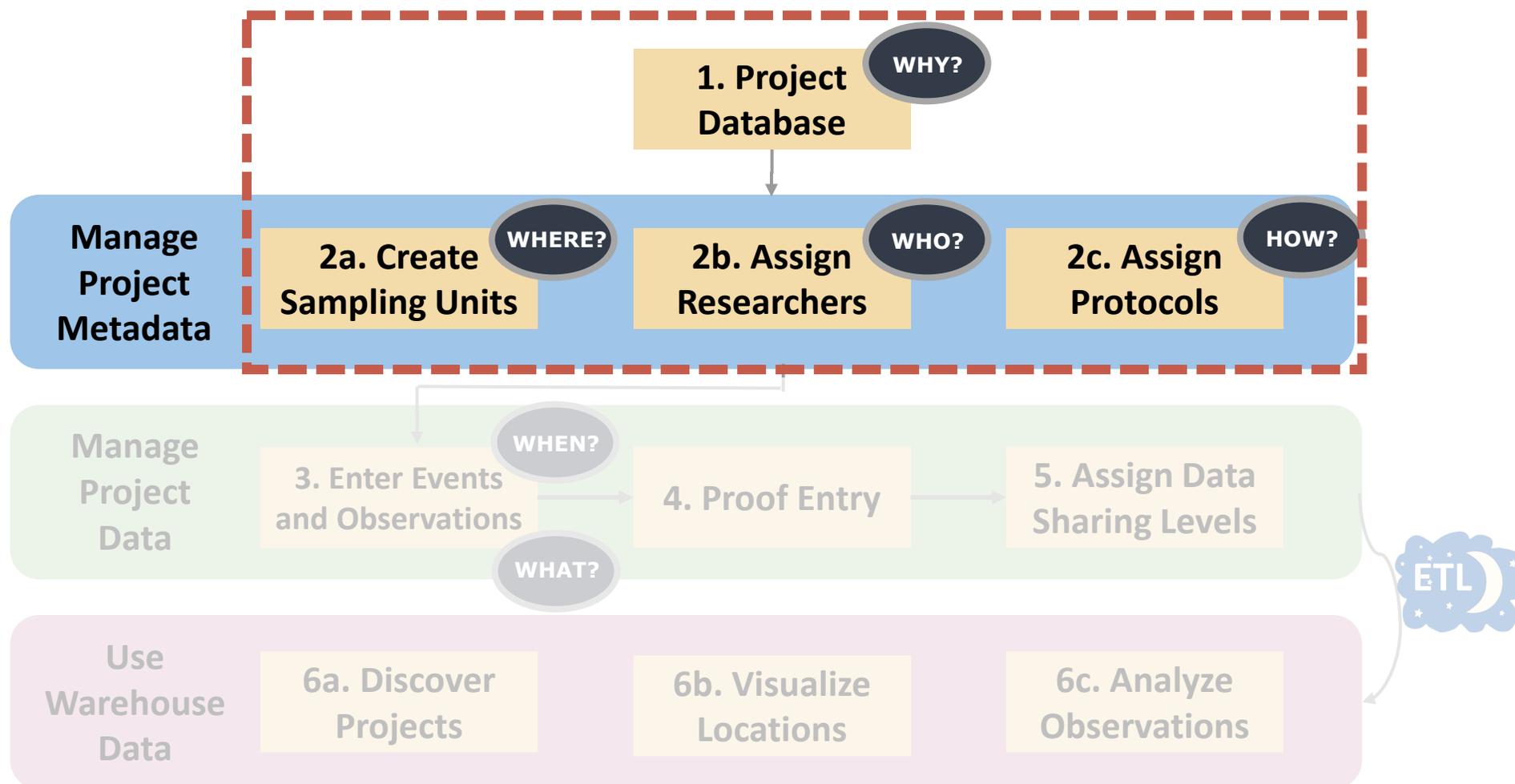


# ADDING RESEARCHERS DEMONSTRATION

## Tools:

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

# QUESTIONS ON MANAGING PROJECT METADATA?

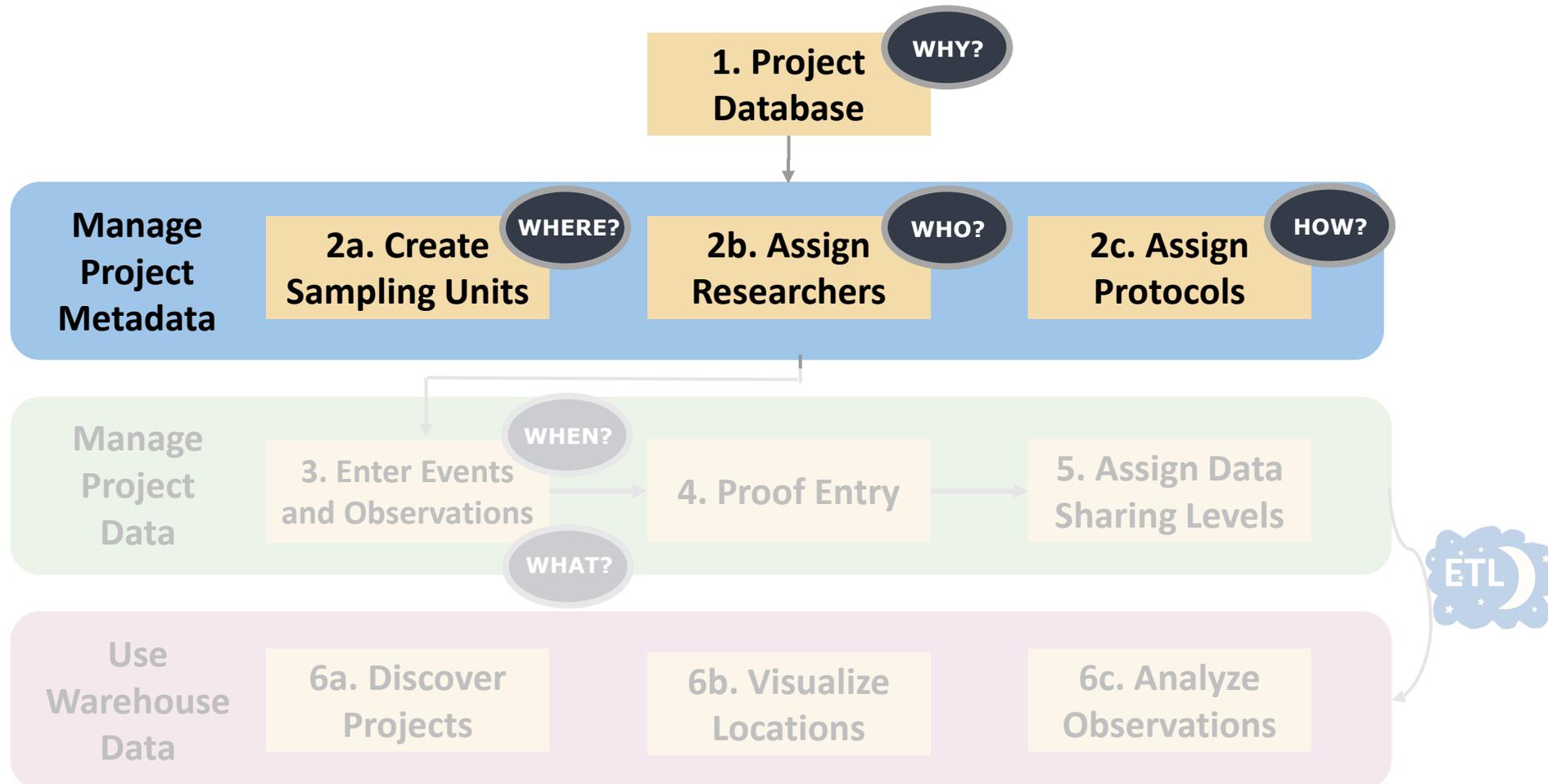


# MANAGING OBSERVATION DATA



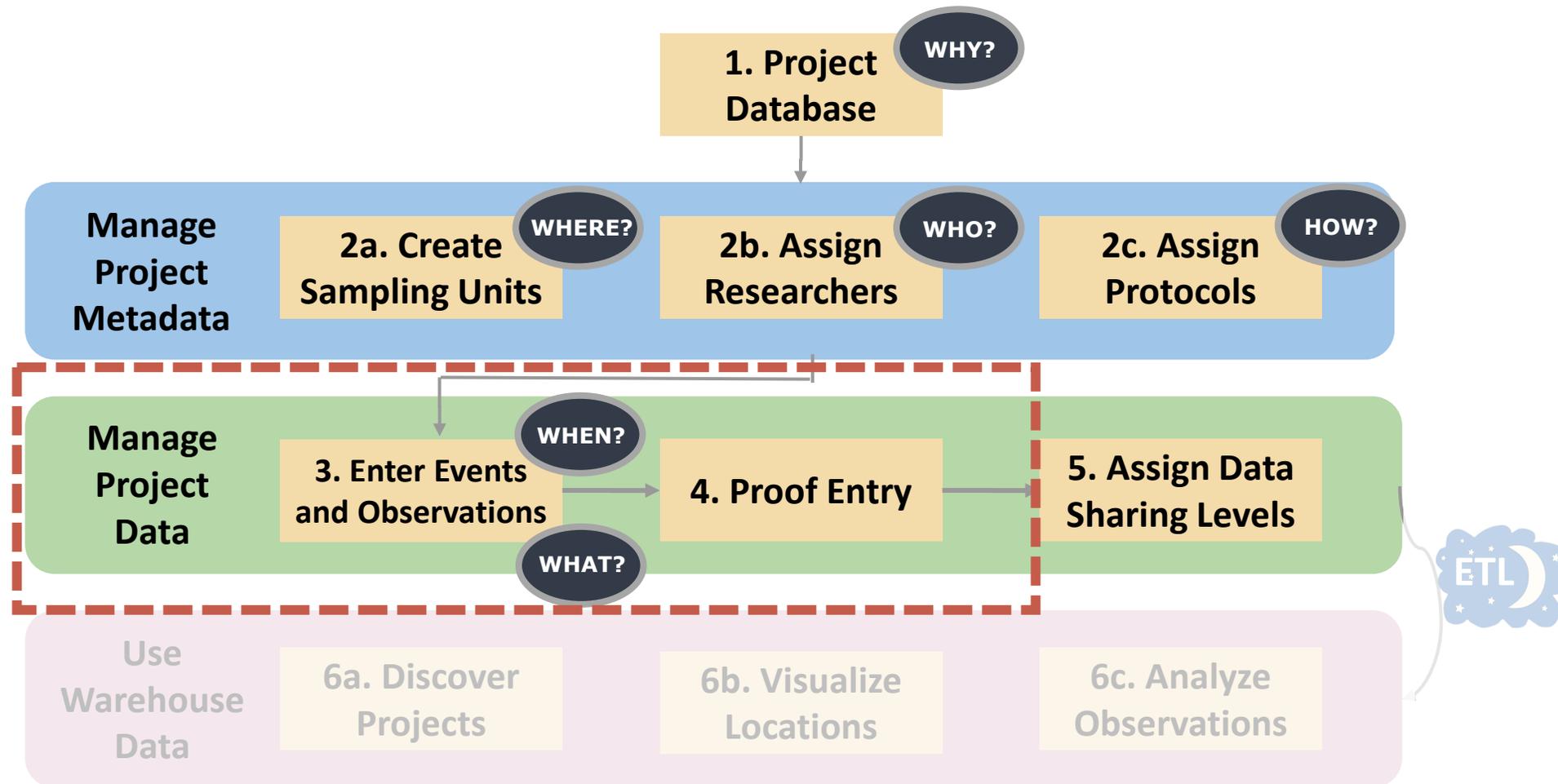


# WORKFLOW FOR MANAGING A PROJECT





# 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

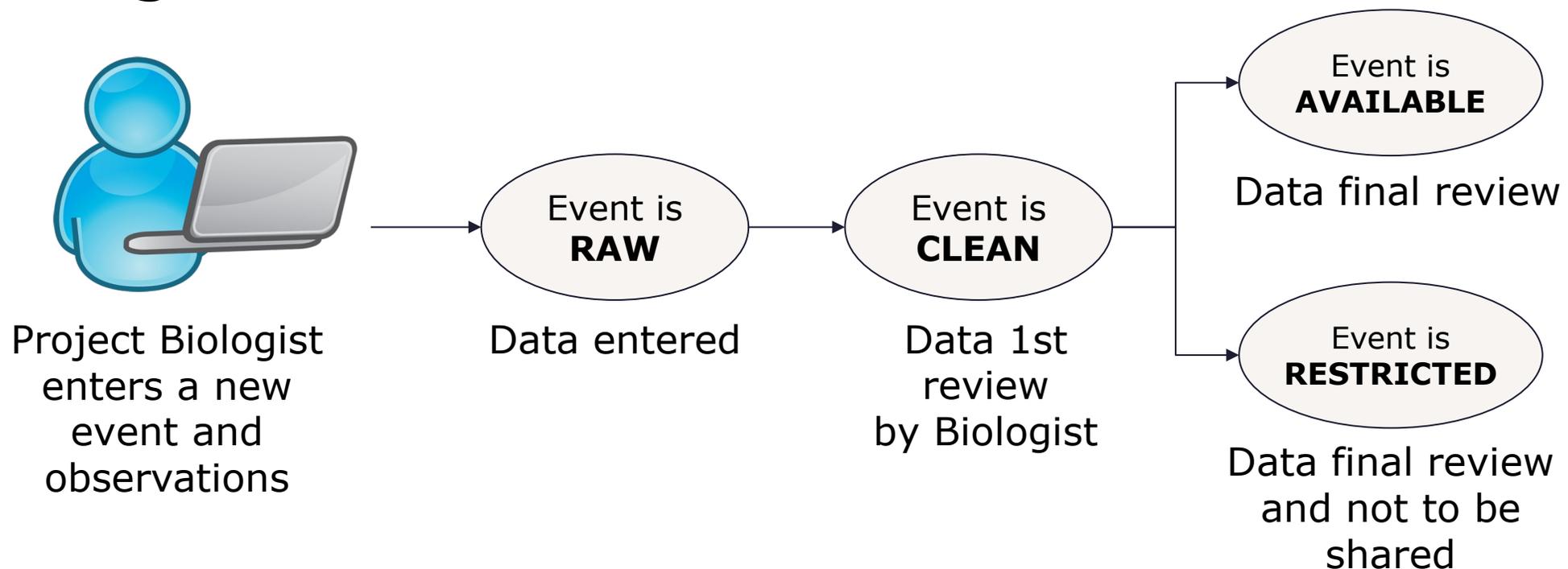
3. Enter Events  
and Observations

WHEN?

WHAT?

# REVIEW LEVELS FOR EACH EVENT

Steps to enter and review data in preparation for sharing





# MANAGING OBSERVATION DATA THROUGH BIOLOGIST

- Data entry using Biologist
  - Best for direct entry into the system

Point Count Data Form														Page		of			
Project/Region										Site Code			Site Name						
Month	Day	Year	Visit	Observer	Temp. (Cel.)	Cloud Cover %	Ppt. (N,F,M,D,R)	Wind (Beaufort)											
Station	Time	Species Code	Count	DT	Distance	Loc	Prev	Noise	Breed	Note#	Count	DT	Distance	Loc	Prev	Noise	Breed	Note	

## Datasheet

Biologists

**+ New Point Count Visit**

What did you see during your visit?

General

Enter the following information about your visit.

[Quick Tips >>](#)

Enter date of event

**Visit**

1

**Data Sharing**

RAW

**Observer**

Duran, Zoe



## Web-based Form

# MANAGING OBSERVATION DATA

---

## EXERCISE 2: ENTER & PROOF POINT COUNT EVENT

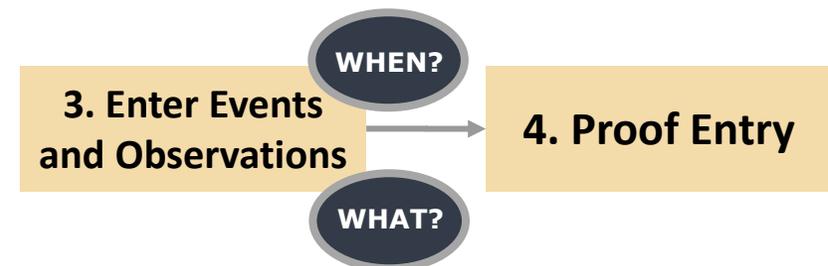


# ENTER & PROOF POINT COUNT EVENT

## EXERCISE 2

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

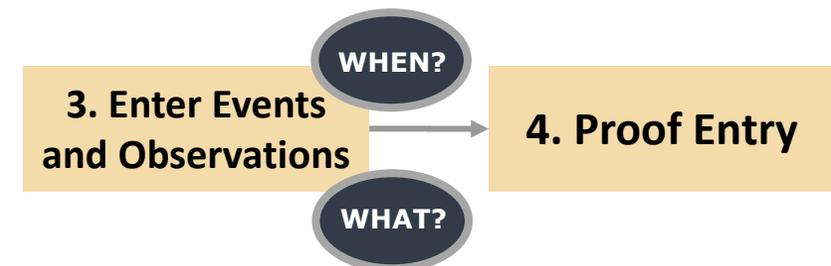
**Goal:** Enter the sample data for the sampling unit you created in Exercise 1, save it, and proof those data



# 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

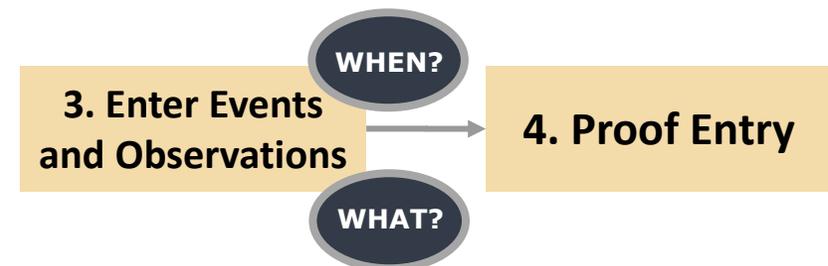




# ENTER & PROOF POINT COUNT EVENT

## EXERCISE 2

### Exercise 2 instructions



# DOWNLOAD POINT COUNT OBSERVATION DATA FROM PROJECT DEMONSTRATION

## Tools:

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



# CASE STUDY:

## Hawai'i Biennial Waterbird Survey

- State-wide **standardized methodology**, used to report status of endemic and ESA-listed spp. to USFWS
- Implemented by state, federal agencies, NGOs, research institutions
- **Problem:** data stored in difference formats, limited access
- **Solution:** AKN standardizes data structure built to match methodology
  - Efficient downloading and sharing
  - Support shared conservation objectives across region, species, etc.

### Hawaii Biannual Waterbird Survey 2017 Protocol Update



WATERBIRD SURVEY DATASHEET											
<b>WETLAND CONDITION CODES</b>				<b>WETLAND (W)</b>				<b>WEATHER CODES</b>			
Human Impact (HI)				Wetland (W)				Weather (W)			
0 = dry				0 = no rain				0 = no wind, < 1 mph			
1 = lower than normal				1 = moderate				1 = mist or fog			
2 = normal				2 = heavy (many people present; e.g., wedding, boating, fishing, etc.)				2 = wind 1-4 mph			
3 = higher than normal				3 = water at high tide mark				3 = heavy rain			
4 = open water (<25% veg)				4 = water 50 ft from high tide mark				4 = heavy rain			
5 = 25-50% veg cover				5 = water 50 ft from high tide mark				5 = heavy rain			
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# 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 (e.g., historic datasets)

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 processing results can be found in the Batches tool.

[Add Researchers](#)

[Add Sampling Units](#)

[Add Observations](#)

[Add Protocol](#)

[Batch](#)

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	<a href="#">⚡</a> <a href="#">⬇</a>
454	AddSamplingUnits	error	batch completed with errors	2021-08-10 20:06:33	0:00	<a href="#">⚡</a> <a href="#">⬇</a>
453	AddObservations	success	batch completed successfully	2021-08-09 19:25:10	1:03	<a href="#">⚡</a> <a href="#">⬇</a>
452	AddObservations	error	batch completed with errors	2021-08-09 19:24:41	0:04	<a href="#">⚡</a> <a href="#">⬇</a>
451	AddObservations	error	batch completed with errors	2021-08-09 19:23:19	0:09	<a href="#">⚡</a> <a href="#">⬇</a>
450	AddObservations	error	batch completed with errors	2021-08-09 19:18:37	0:04	<a href="#">⚡</a> <a href="#">⬇</a>
449	AddObservations	error	batch completed with errors	2021-08-09 19:03:35	0:03	<a href="#">⚡</a> <a href="#">⬇</a>
448	AddObservations	error	batch completed with errors	2021-08-09 19:00:23	0:00	<a href="#">⚡</a> <a href="#">⬇</a>

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

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## 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

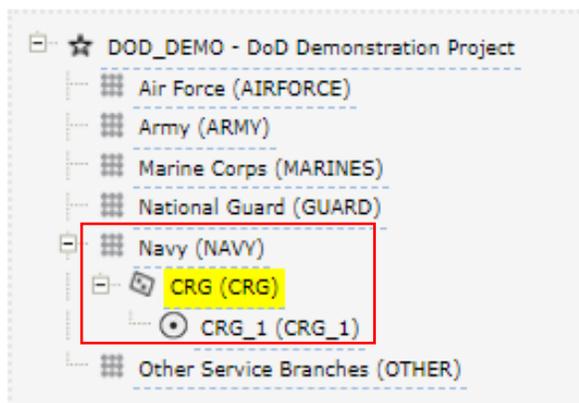
### [Exercise 3 instructions](#)

# BULK UPLOADING SAMPLING UNITS

## EXERCISE 3

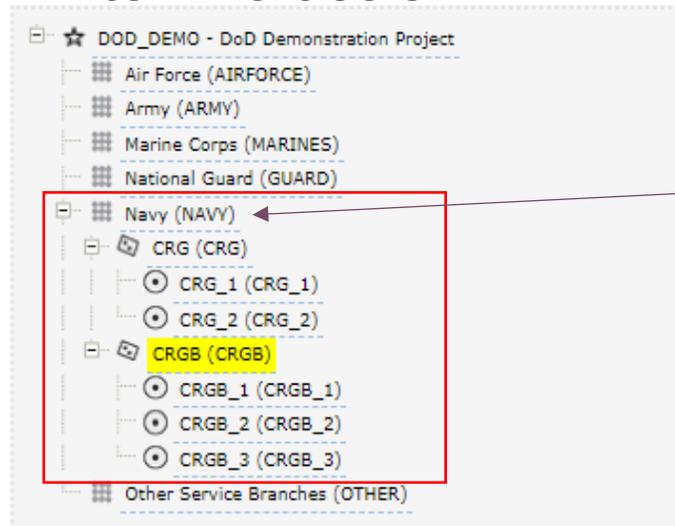
**Tip:** Go back to Project Leader (Sampling Units-> Create and Manage) and take a look at the sampling unit you already created in Exercise 1. In this exercise, we'll create a new point under the existing transect, plus add a new transect with new points.

After Exercise 1:



Study Area: Navy  
Point Count Transect: CRG  
Point Count Point: CRG\_1

After Exercise 3:



Make sure you are using the same Study Area (your service branch or affiliation) for Exercise 3!

In this example, the Study Area Name is Navy and the Study Area Short Name is NAVY

2a. Create  
Sampling Units

WHERE?



# 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
Bateha Wetlands	BW
Bateha Wetlands 1	BW-1
BW	BW
BW-1	BW-1



# EXAMPLE: FORT CARSON, CO

**FORT\_CARSON - [DOD\_ARMY] Fort Carson Point Counts**
open new project

Click on the Sampling Unit or Project you want to select (it will highlight yellow). Open any part of the tree to get to more detail. Hover on a tree node and the tooltip will tell you what type of feature it is.

★ FORT\_CARSON - [DOD\_ARMY] Fort Carson Point Counts

- Fort Carson Marshbird (FC\_MB)
- └ Cottonwood Spring (MB\_COTTON)
- └ Frog Pond (MB\_FROG)
- └ Haymes Reservoir (MB\_HAYMES)
- └ Infantry Creek East (MB\_INFEAST)
- └ Infantry Creek West (MB\_INFWEST)
- └ K Ditch (MB\_KDITCH)
- └ Lytle Spring (MB\_LYTLE)
- └ Middle School Area (MB\_MIDSCHOOL)
- └ MSR 1 / Range 113 (MB\_RG113)
- └ North B Ditch (MB\_BDITCH)
- └ Northside Reservoir (MB\_NORTHSIDE)
- └ Range 04 (MB\_RG04)
- └ Range 08 (MB\_RG08)
- └ Training Area 05 / Rock Creek (MB\_TA05)
- └ Training Area 08 / AHA (MB\_TA08)
- └ Womack Reservoir (MB\_WOMACK)
- 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)
  - └ TA 29 (PJ) (PJ\_TA29)
  - └ TA 30 (Grassland) (GB\_TA30)
  - └ TA 30 (PJ) (PJ\_TA30)
  - └ TA 31 (Grassland) (GB\_TA31)

**Add Sampling Units under the highlighted feature with:**

online form
GPS-U file
Waypoint Plus file

KML file
SHP file

**Update Sampling Unit geometry under the highlighted feature using:**

GPS-U file
Waypoint Plus file
KML file

SHP file

**Manage the highlighted feature:**

edit
move in hierarchy
delete

[Give Us Your Feedback](#)

[Preferences](#)

**How Do I...**

- [... create a new Transect of points from a GPS-U file?](#)
- [... handle the message "Error on Add: Duplicate entry ..."?](#)
- [... update points in a transect using a GPS-U file??](#)

### Project Protocols

open new project
**FORT\_CARSON - [DOD\_ARMY] Fort Carson Point Counts**

add one

Print Copy table to: CSV HTML DOC PDF

Protocol Id ?	Protocol Name ?	Protocol Type ?	
ARSE_PJJA	Area search survey standard protocol from the PJJA Working Group	AreaSearch	✗
BL_S_V_BI	BLRA,SORA,VIRA,BLTA	SecretiveMarshBirdCount	✗
IMBCR_VRPC	Bird Conservancy of the Rockies IMBCR 6 min count	PointCount	✗
SiteConditions_FOR	Site conditions temperature, wind, sky, noise	SiteConditions	✗
SiteConditions_PJJA	Site Conditions PJJA protocol developed by the PJJA Working Group	SiteConditions	✗
SPCH_LOCATION	Species checklist with coordinates	AreaSearch	✗
VRPC__10min_2TB	Variable radius point count with detection cues lasting 10 minutes with 2 timebin and sex	PointCount	✗

# OFFICE HOURS

Discuss bulk loading and other issues regarding your observation data

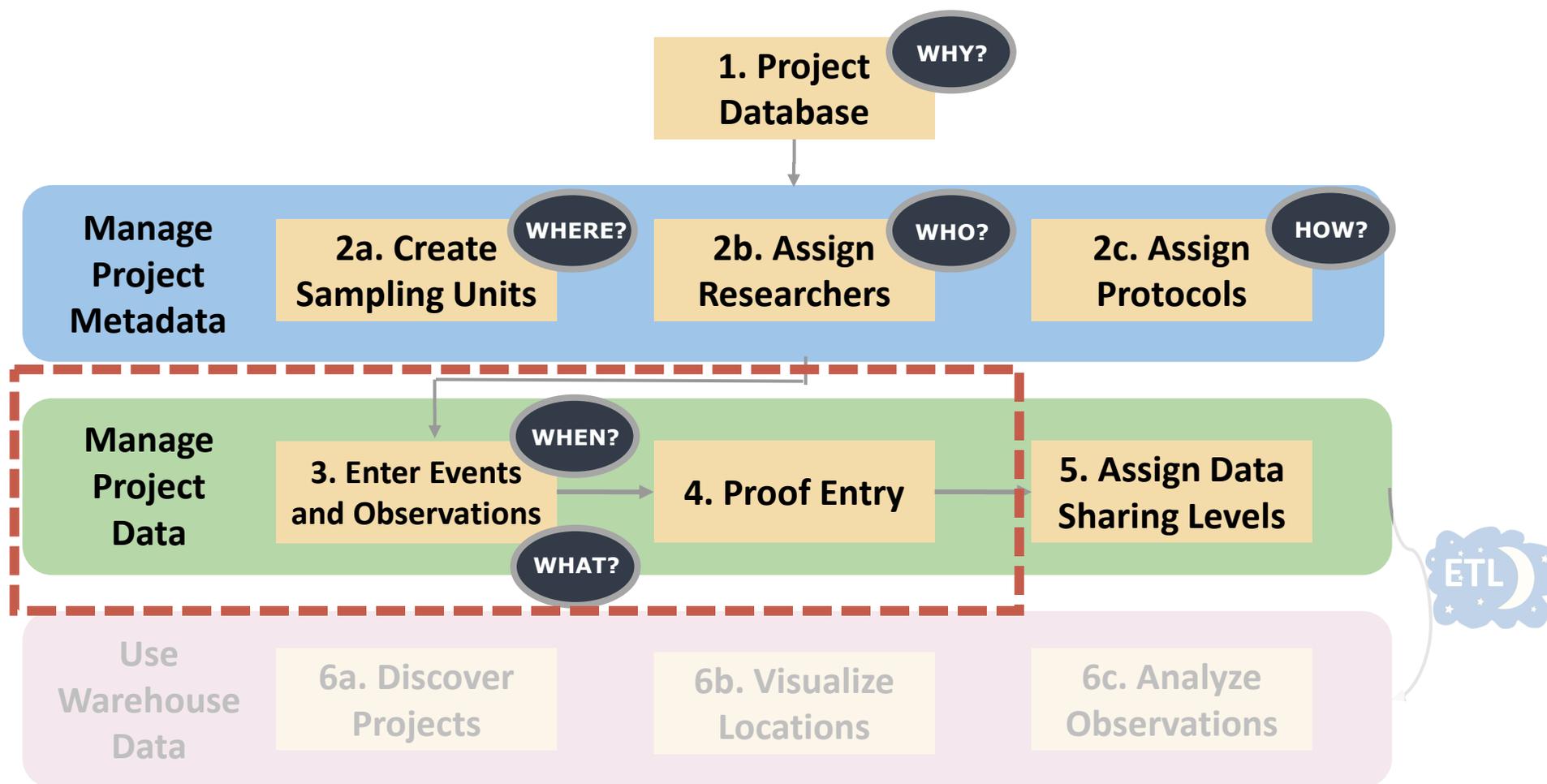
*Resources available for DoW **and** partners in the Marianas for data support.*

Office Hours sign up is on the DoW AKN Portal page:  
<https://www.dodakn.org/office-hours-booking-page/>

- Next appointment dates: Feb 17 & 19PT



# ANY QUESTIONS ON MANAGING PROJECT DATA?



# PLUSES AND DELTAS

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## DAY 1 WRAP-UP





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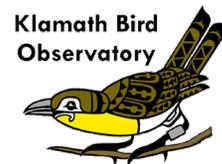
# THE AKN: WHO, WHAT, WHERE, WHEN, WHY, AND HOW

*AKN Virtual Training (Guam/CNMI)*  
*4 and 6 February 2026*  
Virtual

**Sam Veloz**

**Elizabeth Neipert**  
**Zoe Duran**

**John Alexander**  
**Caitlyn Gillespie**  
**Nora Honkomp**



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

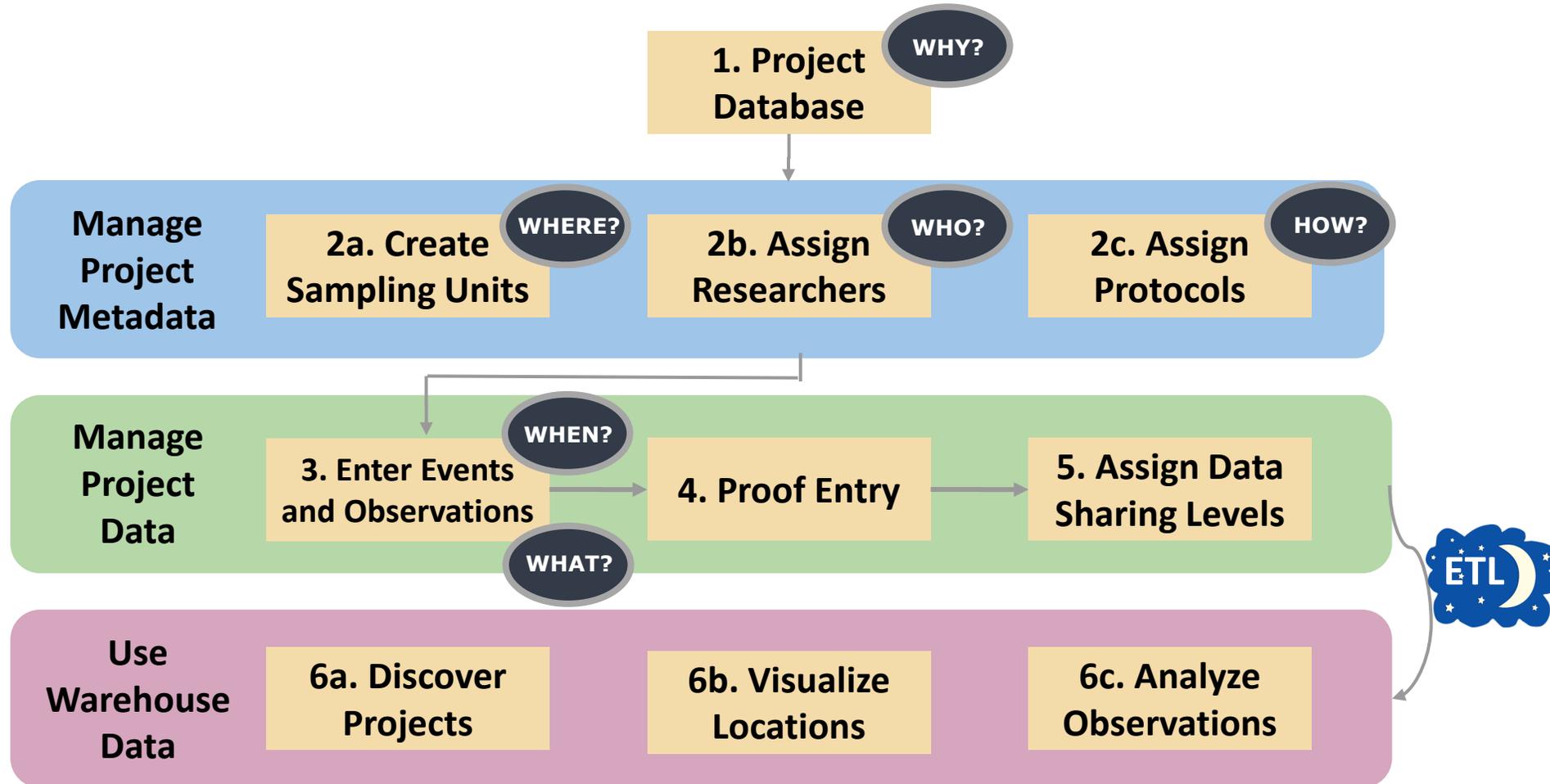
# DEMO: EDITING DATA



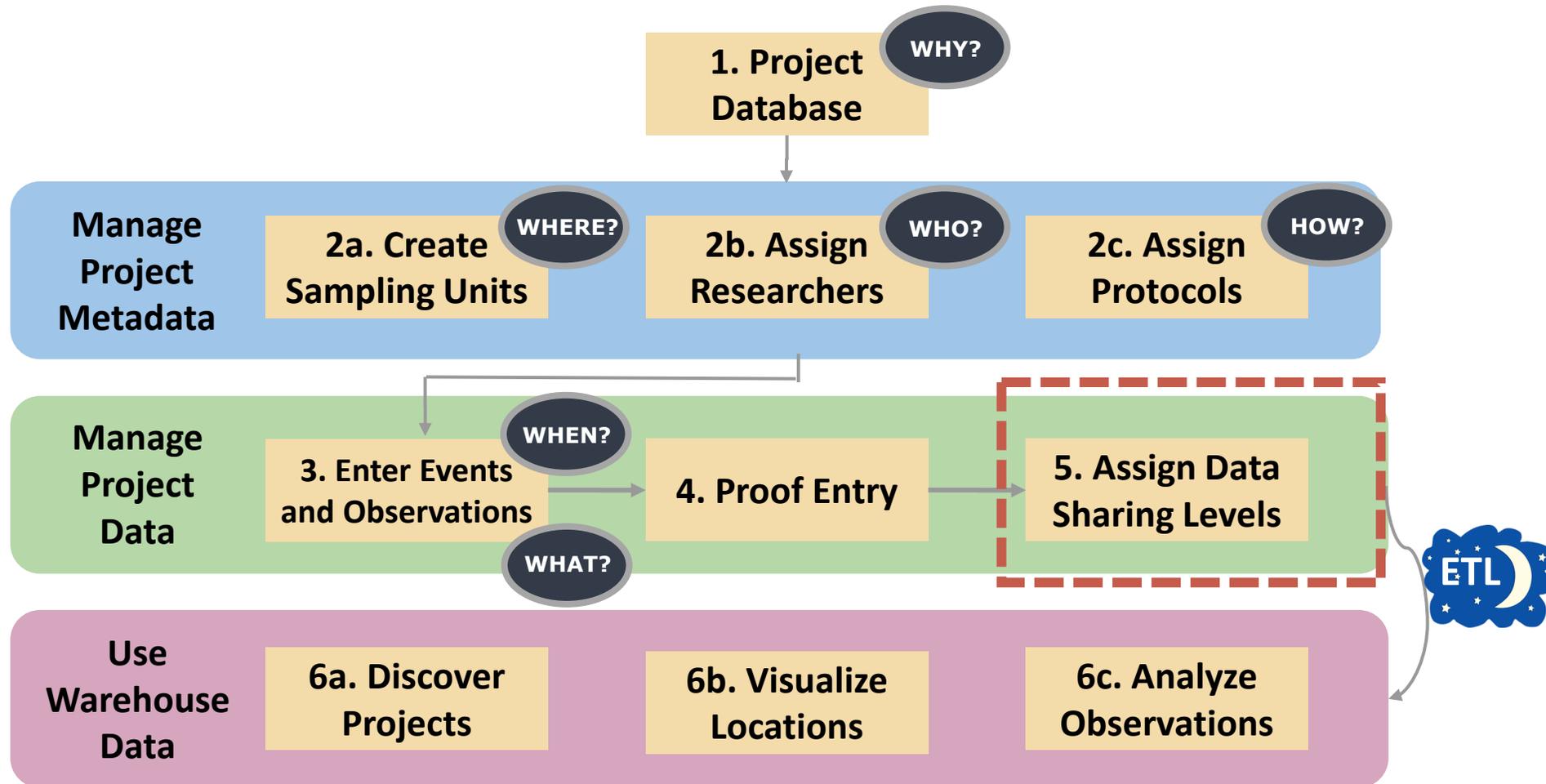
# AKN DATA SHARING LEVELS



# WORKFLOW FOR MANAGING A PROJECT



# MANAGING A PROJECT: DATA SHARING LEVELS



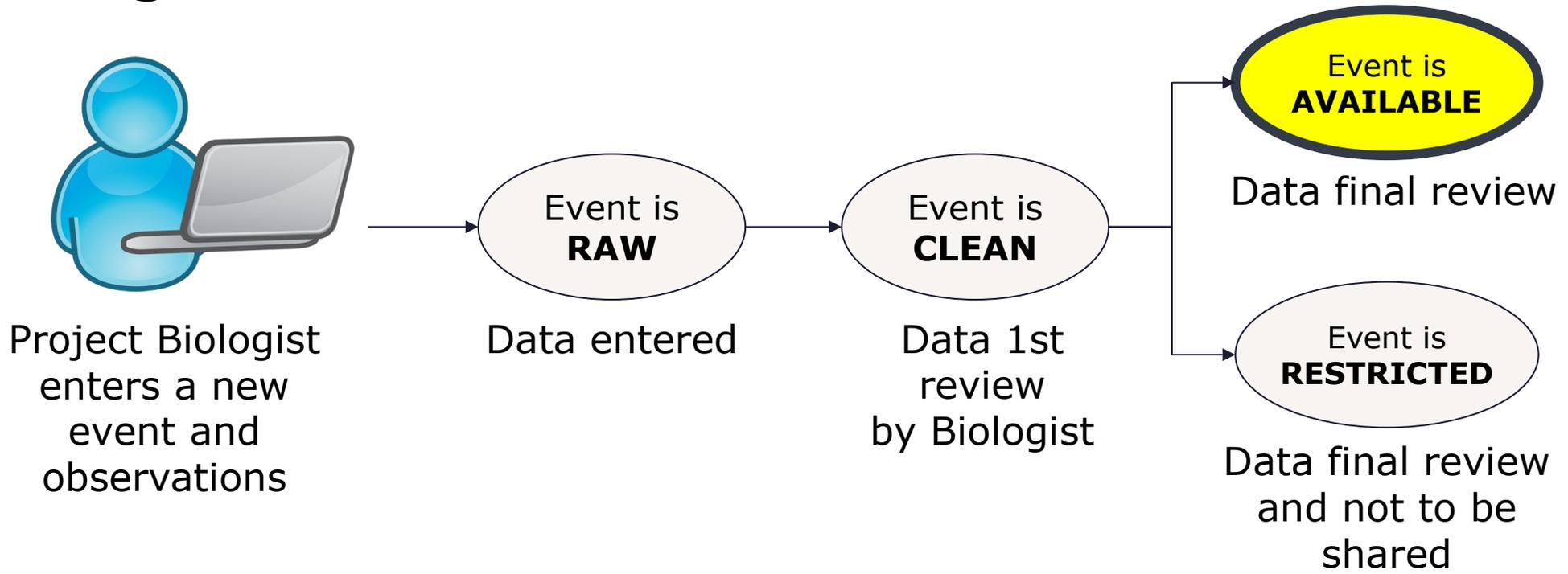
# DATA SHARING LEVELS

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

Controlled by the Project Leader within each Project

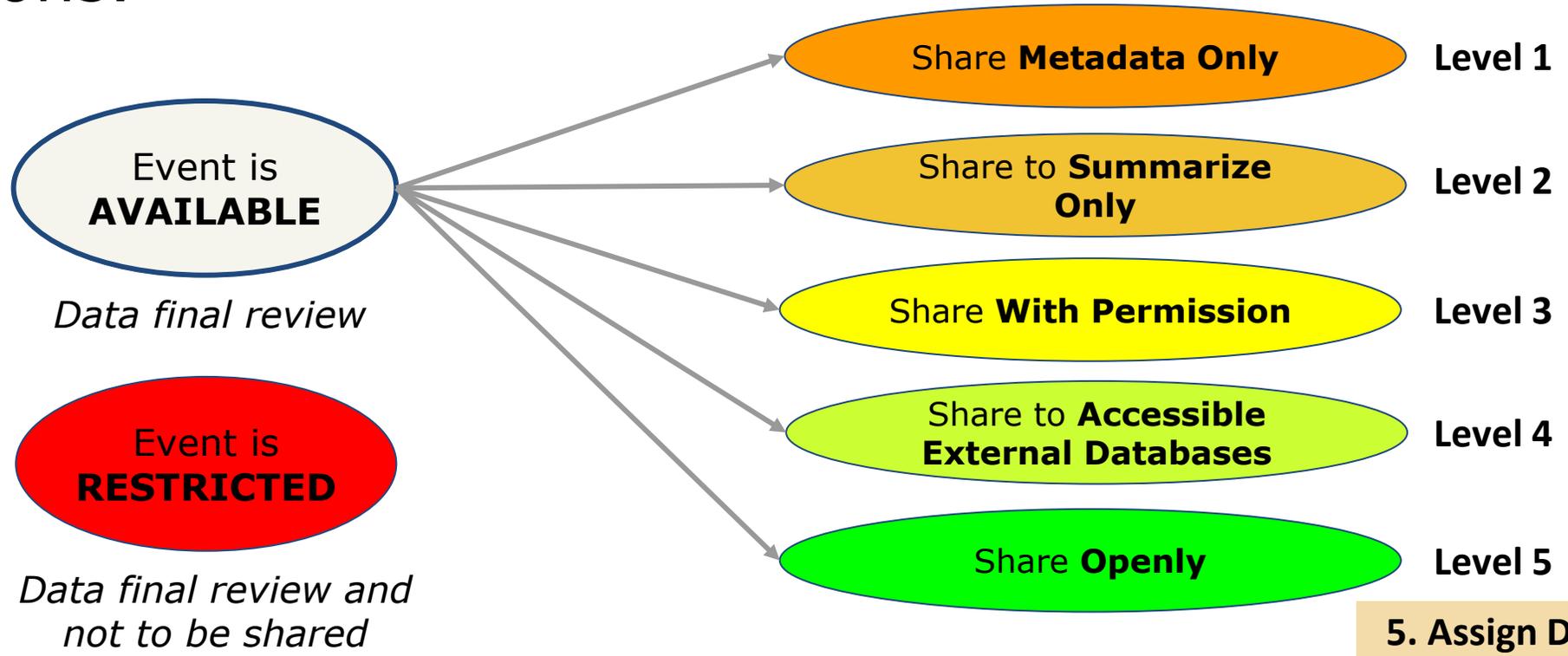
# REVIEW LEVELS FOR EACH EVENT

## Steps to enter and review data in preparation for sharing



# DATA SHARING LEVELS FOR EACH EVENT

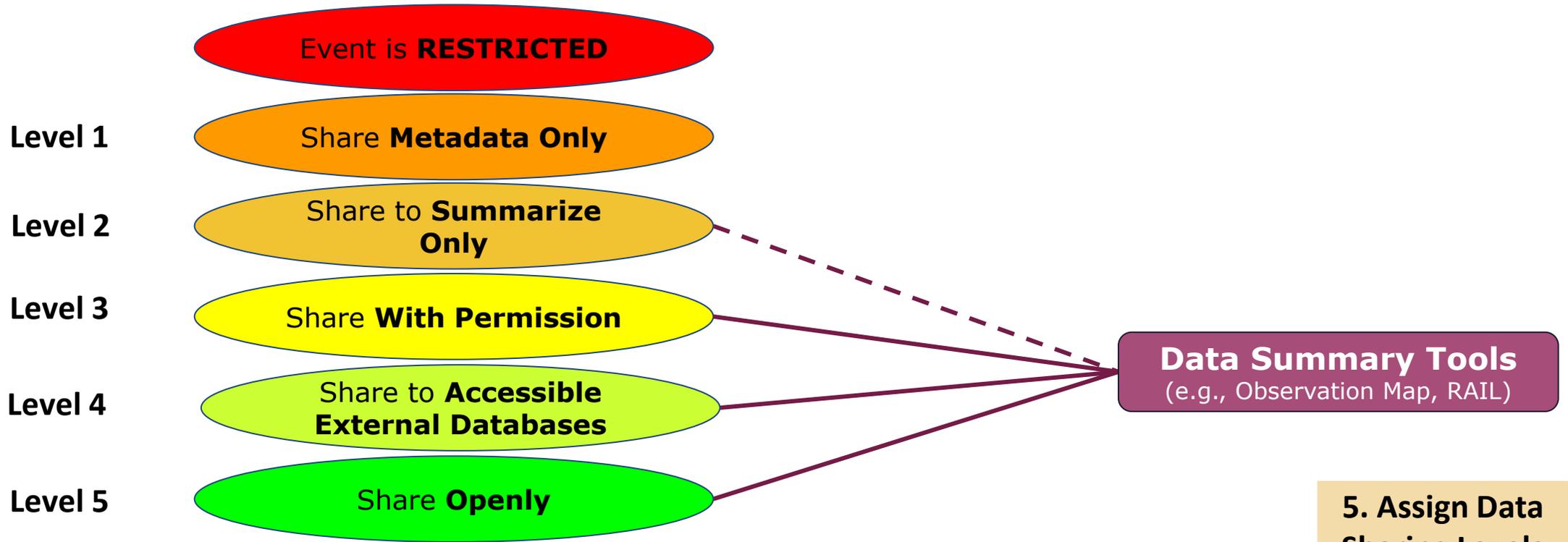
Choices informs the Point Blue Science Cloud tools of your intentions.



**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 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**

# SETTING DATA SHARING LEVELS DEMONSTRATION

Tools:

- Project Leaders to set/edit sharing levels

# EXERCISE 4: SETTING DATA SHARING LEVELS



# SETTING DATA SHARING LEVELS

## EXERCISE 4

**Purpose:** This exercise will show you how to set data Sharing Levels for your data. As a Project Leader, you can change the data sharing levels for any sampling event in your project at any time.

**Thinking Ahead:** Data sharing is automatically set to “CLEAN” after the data have been entered and proofed. After that, a Project Leader must manually change the data sharing levels so the desired amount of information about the data is shared. For your data to appear in tools, such as Observation Map, it must be set to Level 2 or above.

5. Assign Data  
Sharing Levels

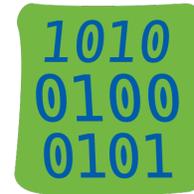


# SETTING DATA SHARING LEVELS

## EXERCISE 4

Exercise:

- [Exercise 4 instructions](#)



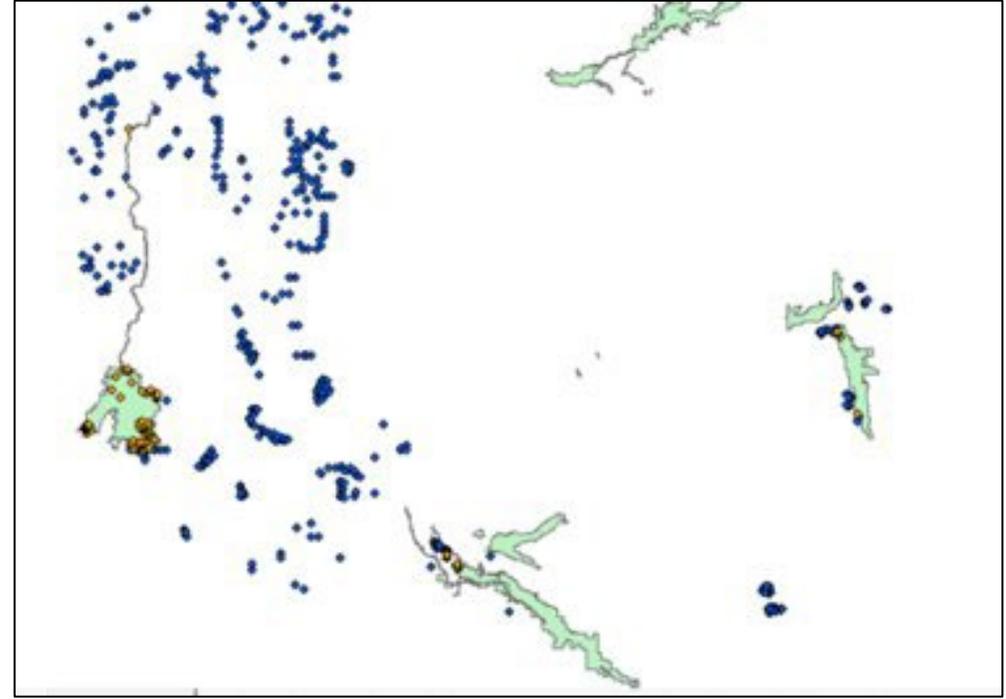
Sharing Levels



# EXAMPLE: USACE-WILLAMETTE VALLEY PROJECT, OR



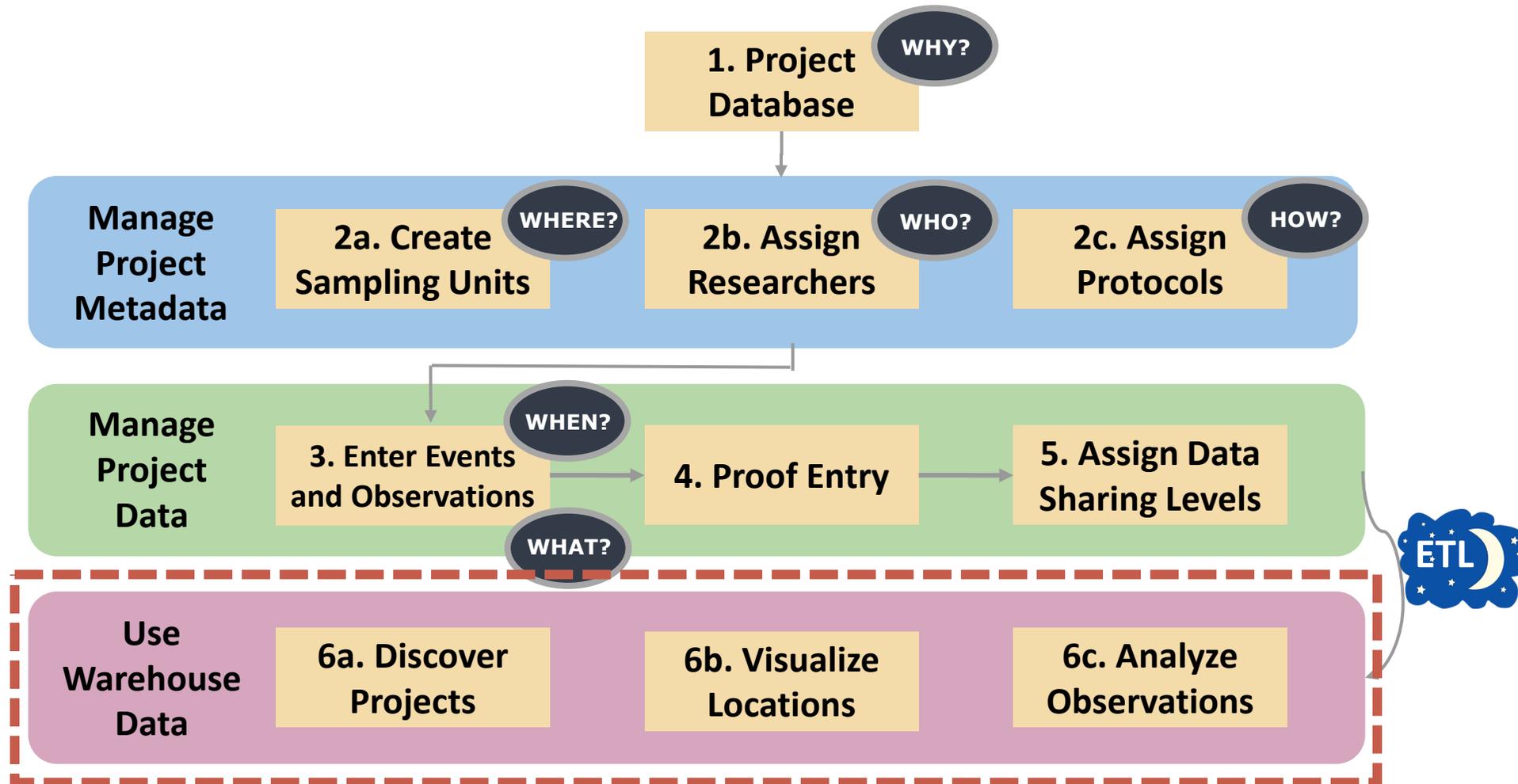
- New biologist took DoW AKN training at NMFVA
- Worked with DoW AKN Team to ID data within boundary
- Data was both USACE and partner data
- Created USACE WVP within USACE enterprise
- Gained access to USACE-owned data
- Reaching out to partners about sharing data within boundary



# AKN WAREHOUSE DATA 101



# MANAGING A PROJECT: DATA WAREHOUSES





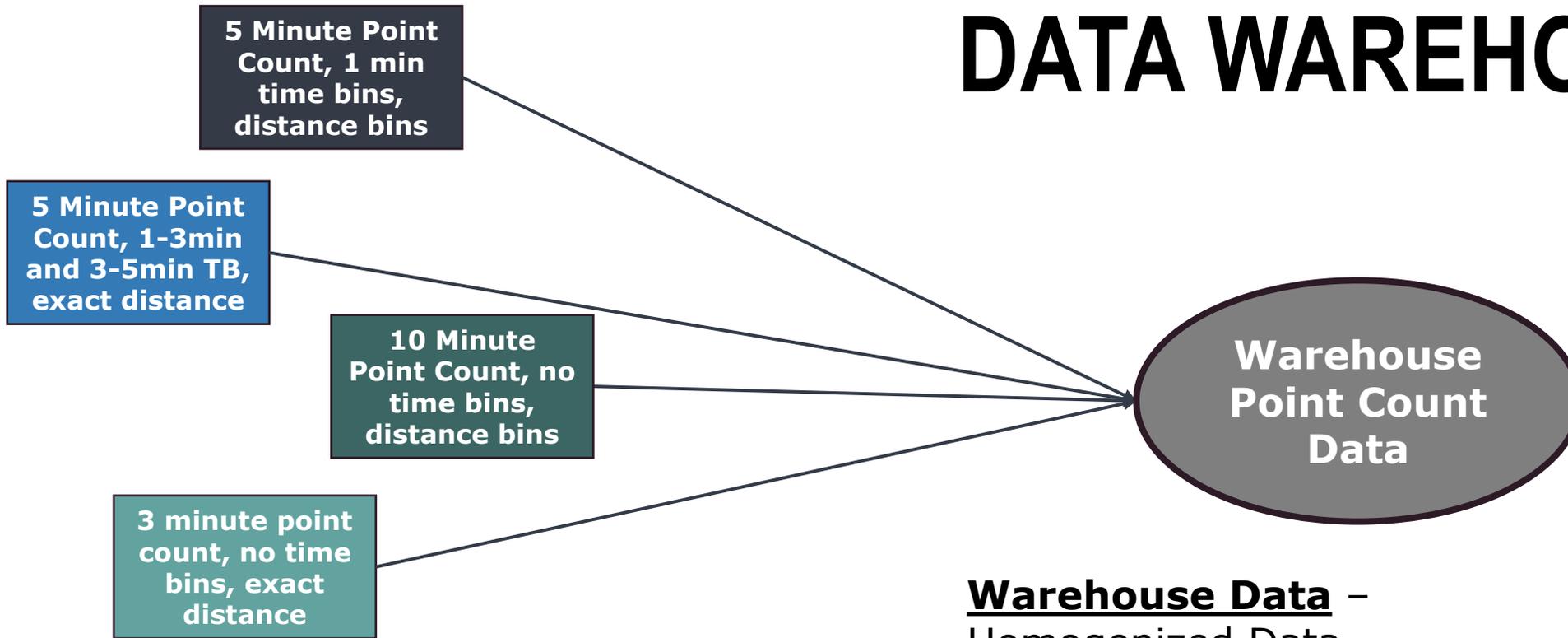
# DATA WAREHOUSES

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

Enables data from **different Protocols** under the same data type (e.g., Point Count) to be aggregated

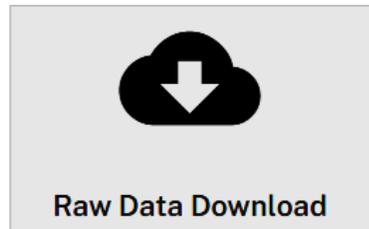


# DATA WAREHOUSES



**Raw Data** – Differs by Protocol Fields

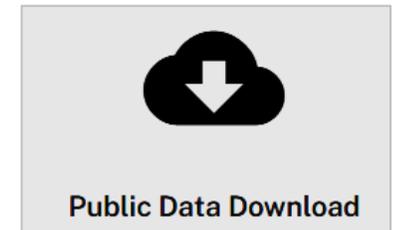
*Stored in its full fidelity in your AKN Project Database*



**Warehouse Data** – Homogenized Data, Comparable across Protocols

*Stored in the Warehouse database*

*Only **data you have access to** or that are shared at Level 5*



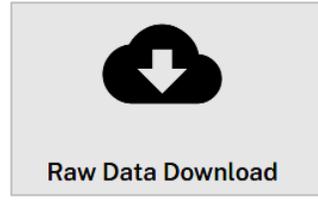


# PROJECT DATA VS. WAREHOUSE DATA

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 crinitus	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 formica	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 Cowbird	Molothrus ater	NR	G50	50 to 100	Light sprinkle, light rain		Arbour, David	AVAILABLE Level 5

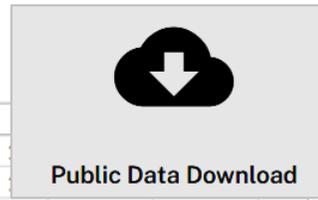
Project	Location	Protocol	Date	Time	HabitatPlot HabitatPlotId	HabitatPlot Composition Vine	HabitatPlot Composition Cane	HabitatPlot Composition Overstory	HabitatPlot Composition Midstory	HabitatPlot Composition Understory	Researcher
LITTLERIVERNWR	164	FWS_PC_HAB_LWRMISS	6/3/2019	8:01:00	164	3	1	3	3	4	Arbour, David



## Project Database Version

## Warehouse Version

GlobalUniqueIdentifier	ProjectCode	ProjectName	LocalityID	StudyArea	Transect	TransectName	Point
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	
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	
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	ObservationYear	CollectionMonth	DayC	JulianDayC	JulianDayV	P Time	Collector	ScientificName	CommonName	SpeciesCode	Phylogenetic	DistanceFrom	Flycatcher	Detection	Observation	NoObserved	RecordPermissions
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-hea	BHCO	2015	75		NR	1	0	AVAILABLE LEVEL 5

# PROJECT DATA VS. WAREHOUSE DATA

## Point Count Data

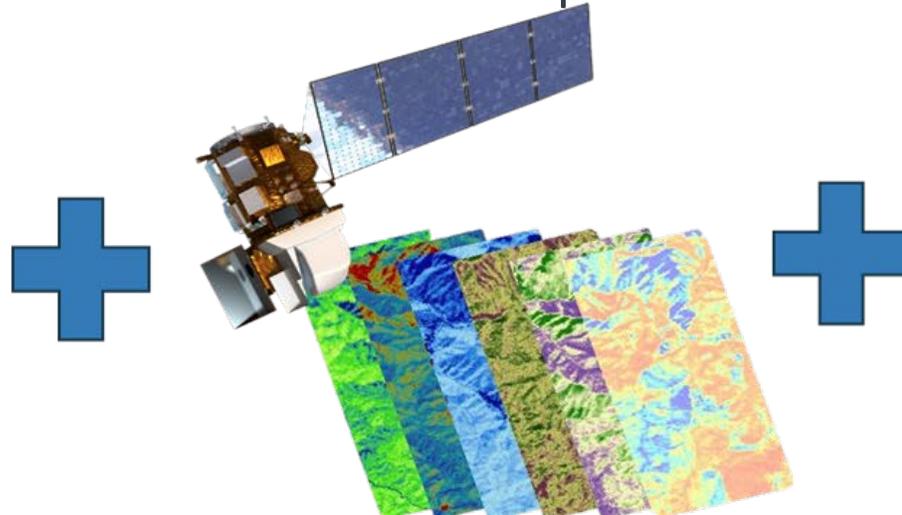
**Same:** Species, Count, Protocol, Locations, Detection Cues, Observation Time, Data Sharing Levels

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

# CASE STUDY:

## AVIAN DISTRIBUTIONS ACROSS LANDOWNERSHIPS (ADALO) PHASE 2

- Use **AKN data** in conjunction with **NASA remote sensing products** to model avian distribution and abundance across the U.S.
- Incorporate **DoD AKN data** for Mission-Sensitive Species



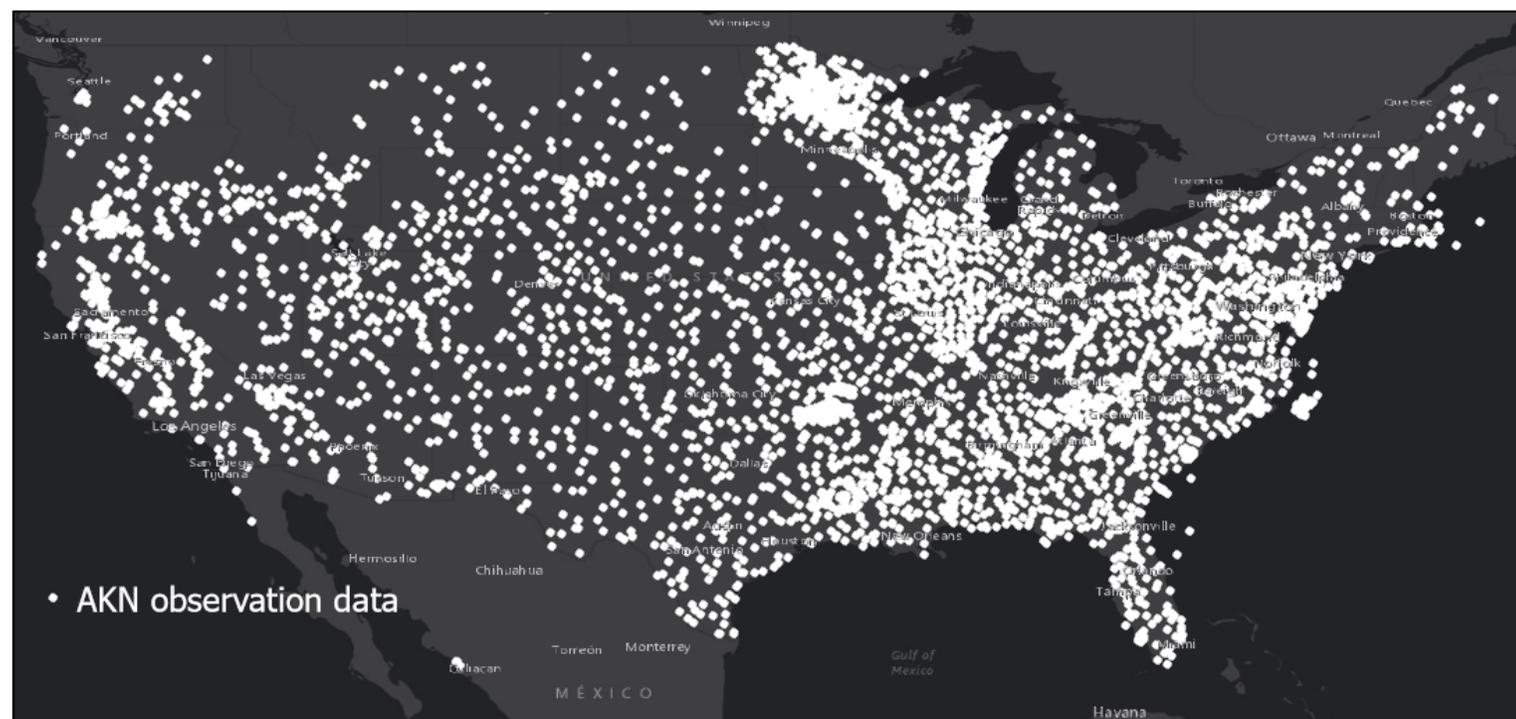
*Proposal through NASA Research Opportunities in  
Space and Earth Science (ROSES)*



# CASE STUDY:

## AVIAN DISTRIBUTIONS ACROSS LANDOWNERSHIPS (ADALO) PHASE 2

- Create species distribution models for Mission-Sensitive Species across the US
- Data from **192 AKN point count projects**
- **Over 50 different protocols**
- Warehouse delivers all of this data in **one spreadsheet** ready for our modeling process
- Models will be updated annually with new observation data and satellite remote sensing data



# DOWNLOAD POINT COUNT DATA FROM WAREHOUSE DEMONSTRATION



Tools:

- [Data Downloader](#)

# DATA OWNERSHIP, SHARING, AND CONTRACTORS



# 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

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

## DoW

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

**We want data collected on/near DoW installations in DoW 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

>> *Same story with AZGFD!*



**Sampling Units - Download**

MI\_ANG - Michigan Army National Guard [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](#)

- MI\_ANG - Michigan Army National Guard
  - Fort Cluster (FCTC)
    - 1-1-1 (1-1-1)
    - 1-1-1\_1R (1-1-1\_1R)
    - 1-10-10 (1-10-10)
    - 1-2-2a (1-2-2a)
    - 1-2-2b (1-2-2b)
    - 1-6-6 (1-6-6)
    - 1-7-7 (1-7-7)
    - 1-8-8a (1-8-8a)
    - 1-8-8b (1-8-8b)
    - 1-9-9a (1-9-9a)
    - 1-9-9b (1-9-9b)
    - 1-9-9c (1-9-9c)
    - 1-9-9d (1-9-9d)
    - 1-9-9e (1-9-9e)

2. Download selected Sampling Units as:

All coordinate data uses the WGS-84 datum.

- Sampling Units and center points (LatLong): [Text file](#) [CSV \(Excel\) file](#)
- GPS locations (UTM): [GPS K file](#) [Waypoint file](#)
- GIS data: [ESRI Shape file](#) [Google Earth file](#)
- Measurements (areas only): [Text file](#) [CSV \(Excel\) file](#)
- [HTML](#)
- Sampling Unit heirarchy for entire project: [Text file](#) [HTML](#)

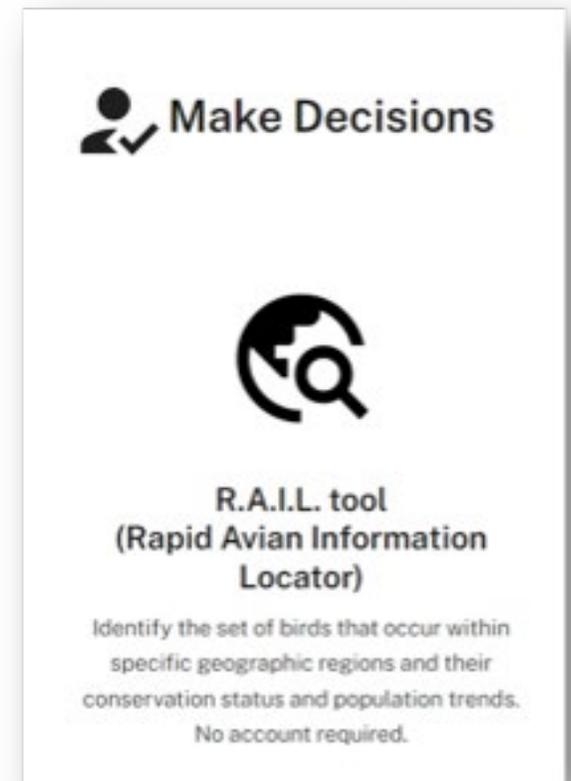
# DISCOVERING OBSERVATION DATA



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

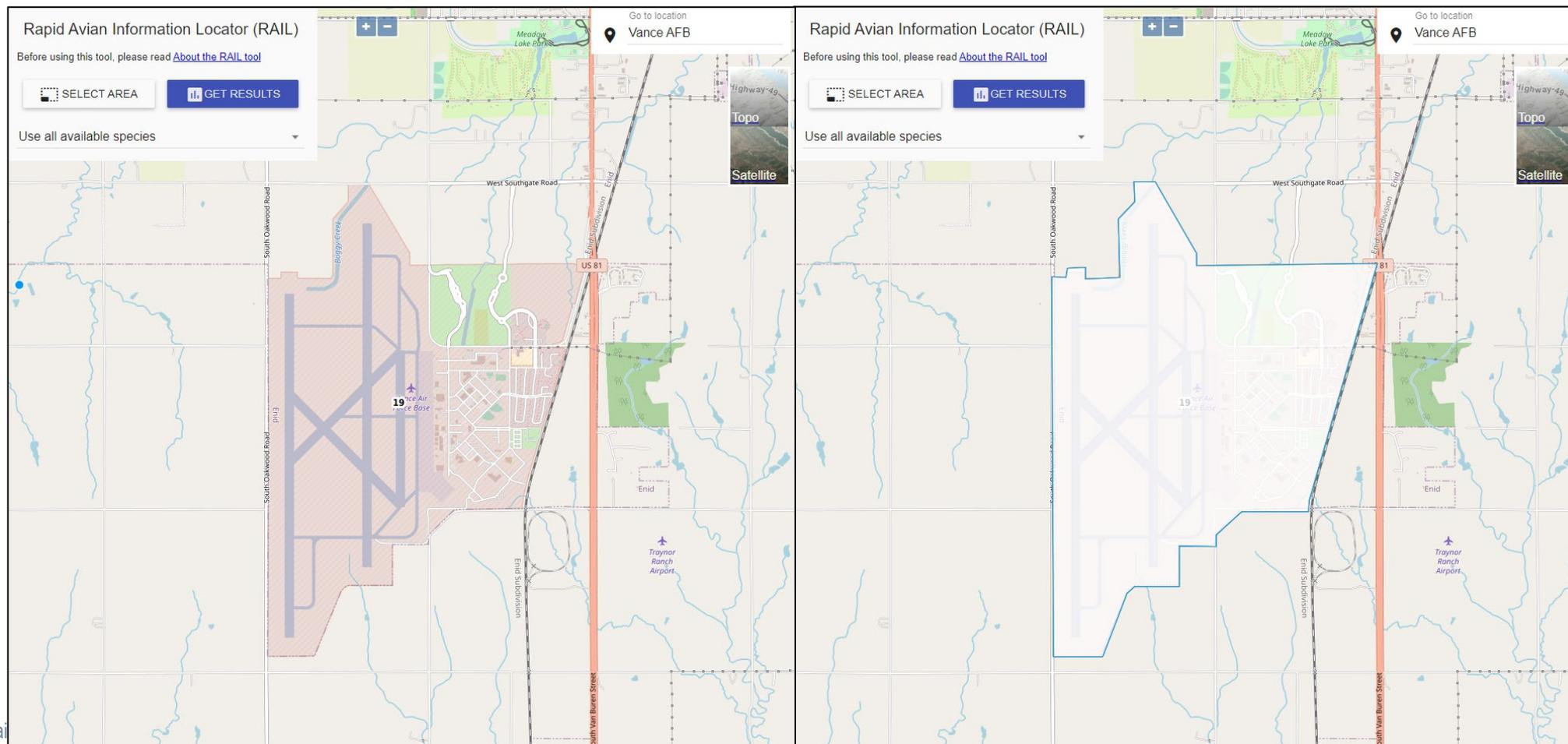
- Biologist was new to AF and did not have any bird data
- Wanted a list of birds on Vance for NEPA and INRMP updates
- RAIL tool available at no cost and without an account  
*Integrates data from AKN, Partners in Flight, US Fish and Wildlife, Breeding Bird Survey, eBird, All About Birds, and the Macaulay image library at Cornell*

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



# EXAMPLE: R.A.I.L. TOOL

## VANCE AIR FORCE BASE, OK



Rapid Avian Information Locator (RAIL)

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

Use all available species

Go to location  
Vance AFB

Topo  
Satellite

South Oakwood Road  
Enid  
West Spoutgate Road  
Highway-49  
US 81  
Enid  
Traynor Ranch Airport  
Enid Subdivision  
South Van Buren Street

# EXAMPLE: R.A.I.L. TOOL

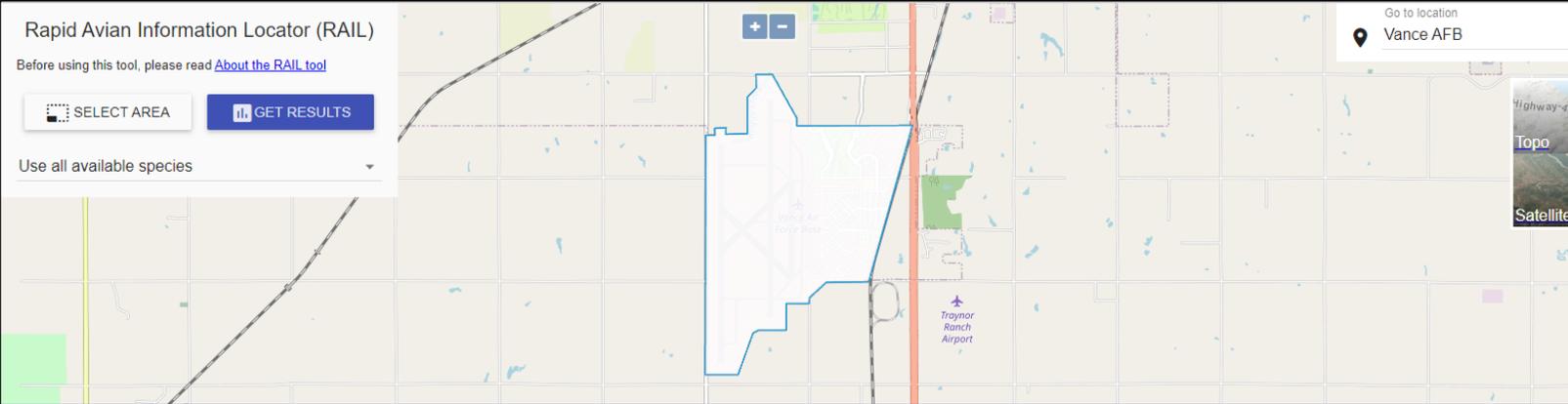
## VANCE AIR FORCE BASE, OK

Rapid Avian Information Locator (RAIL)

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

SELECT AREA GET RESULTS

Use all available species



Go to location  
Vance AFB

Highway - eg.  
Topo  
Satellite

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	
<b>Biology</b>			
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:   Federally Threatened or Endangered

Bird of Conservation Concern (BCC):   Migratory Bird Treaty Act (MBTA) - Listed

DoD Mission Sensitive Species

[APPLY](#)

### Rapid Avian Information Locator (RAIL)

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

SELECT AREA

GET RESULTS

Type a species...

Selected species

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

**Bald Eagle**  
*Haliaeetus*  
*leucocephalus*

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

**State Threatened:** MA, CT, NH, NY, TX  
**State Endangered:** NJ, VT, CA

**Alpha Code**  
Alpha Code<sup>1</sup>: Not yet available

**Habitat**  
Habitat Category<sup>2</sup>: Forests  
Primary Breeding Habitat<sup>4</sup>: Wetlands, Generalist

**Physical Details**  
Weight<sup>2</sup>: 3000 - 6300 g  
Length<sup>2</sup>: 71 - 96 cm

**Population Information**  
Global Population<sup>3</sup>: 200,000  
% Population Estimate USA<sup>3</sup>: Not yet available  
Lower 95% Bound USA<sup>3</sup>: Not yet available  
Upper 95% Bound USA<sup>3</sup>: Not yet available  
Continental Population Trend<sup>4</sup>: Significant large increase  
Regional Population Trend<sup>4</sup>: BCR19 - Significant large increase  
% BCR Population<sup>3</sup>: BCR 19 - 0.00%  
Lower 95% Bound BCR<sup>3</sup>: BCR 19 - null  
Upper 95% Bound BCR<sup>3</sup>: BCR 19 - null  
% State Population<sup>3</sup>: OK - 0.00%  
Lower 95% Bound State<sup>3</sup>: OK - null  
Upper 95% Bound State<sup>3</sup>: OK - null

**Biology**  
Food Category<sup>2</sup>: Fish  
Behavior Category<sup>2</sup>: Soaring (raptor)  
Nesting Category<sup>2</sup>: Tree  
Incubation Period<sup>2</sup>: 34 - 36 days  
Clutch Size<sup>2</sup>: 1 - 3 eggs  
Number of Broods<sup>2</sup>: 1  
Egg description<sup>2</sup>: Dull white, usually without markings.  
Egg length<sup>2</sup>: 5.8 - 8.4 cm

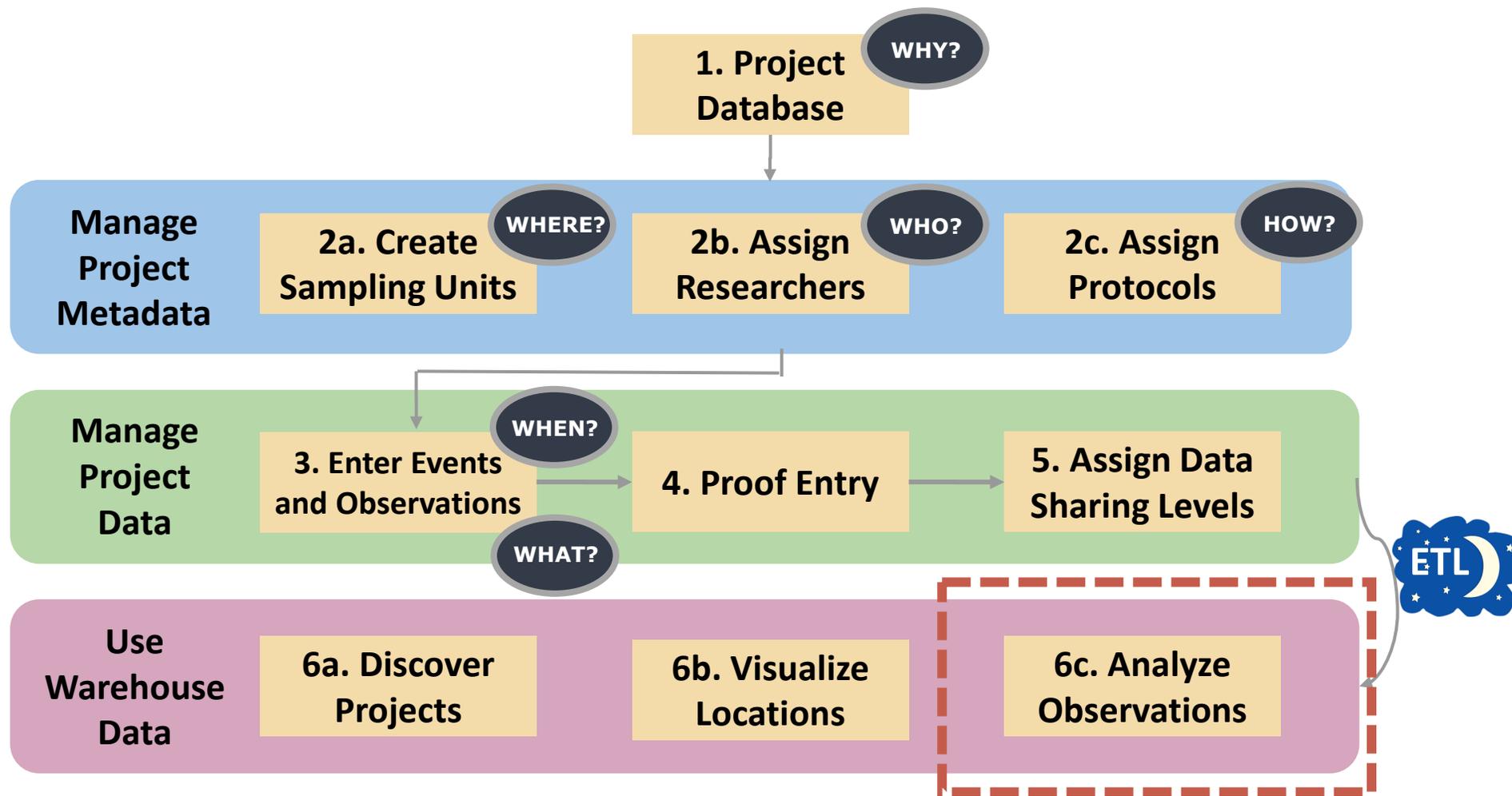
**Conservation Status**  
Continental Importance<sup>4</sup>: Not yet available  
Half Life<sup>4</sup>: Not yet available  
Federally Threatened<sup>6</sup>: No  
Federally Endangered<sup>6</sup>: No  
State Threatened<sup>7</sup>: MA, CT, NH, NY, TX  
State Endangered<sup>7</sup>: NJ, VT, CA  
Migratory Bird Treaty Act<sup>8</sup>: Listed  
Bird of Conservation Concern<sup>9</sup>: No

# NAVIGATING THE R.A.I.L. TOOL DEMONSTRATION

Tools:

- [RAIL Tool](#)

# MANAGING A PROJECT: LOOKING FOR TRENDS



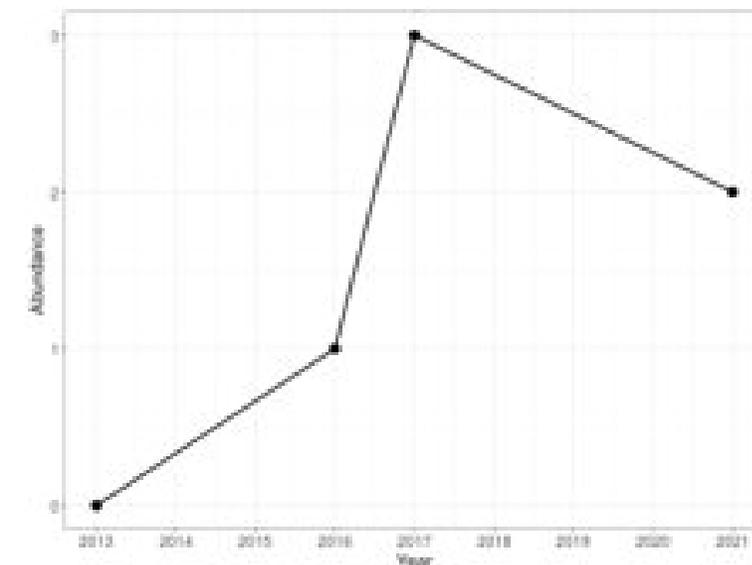


# USING THE ANALYST TOOL DEMONSTRATION

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

**Goal 2:** Use the Analyst Application to create a species list, check effort summaries, and examine trends.

**Thinking Ahead:** Consider how Observations Map may be helpful for your analyses and reporting; consider how the Analyst Application can assist in your data visualization and annual reporting needs.

# LOOKING FOR TRENDS

## EXERCISE 5

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

Use  
Warehouse  
Data

6a. Discover  
Projects

6b. Visualize  
Locations

6c. Analyze  
Observations

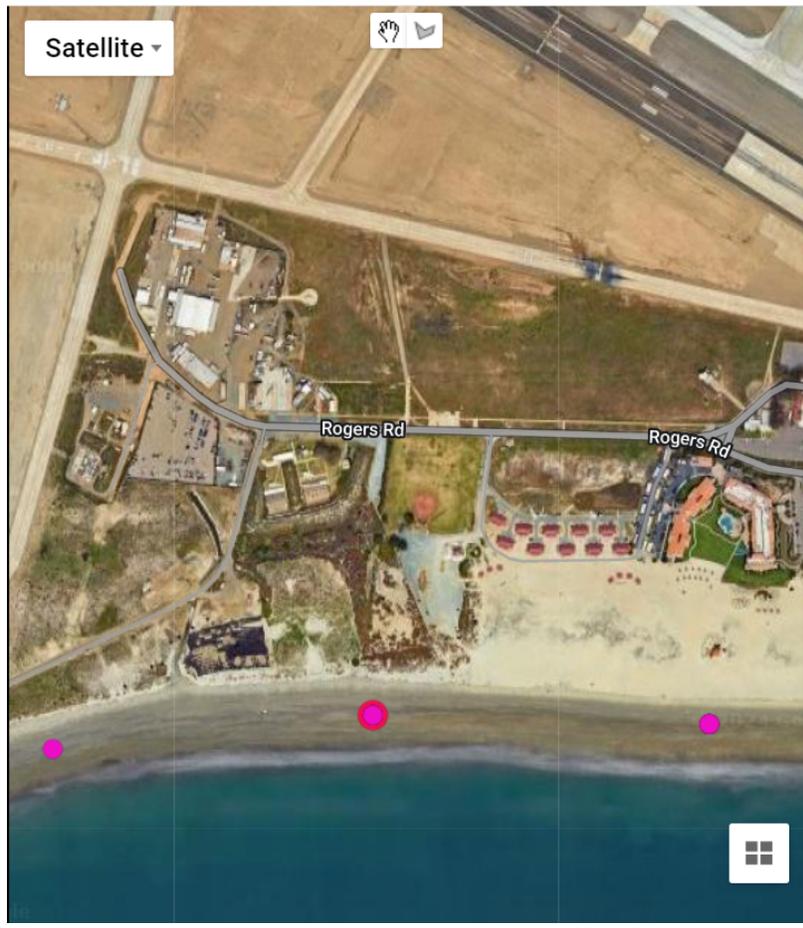
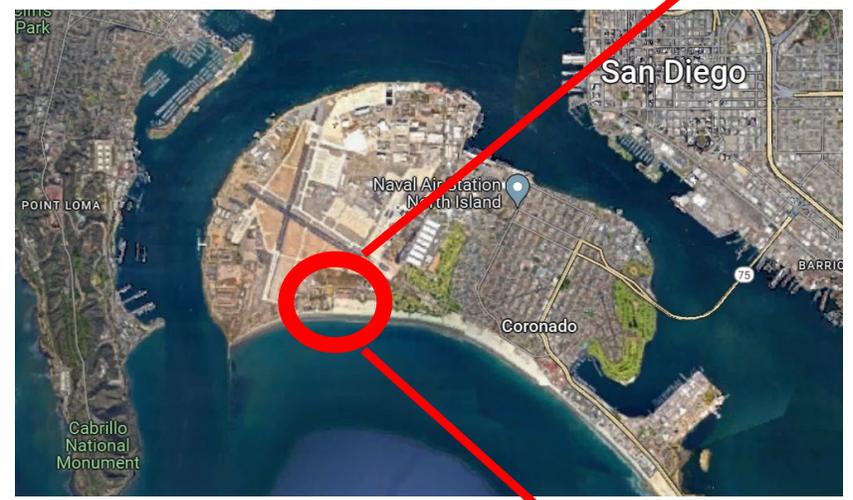
# CASE STUDY: MIGRATORY SHOREBIRD PROJECT

- Largest coordinated effort to monitor wintering shorebirds across all **13 countries** of the Pacific Coast of the Americas
- Project goals
  - Wintering Shorebird **abundance and distribution**
  - Factors **influencing** shorebird populations
  - Provide **science-based management** guidance from site to fly-way level



Western Sandpiper, Dam Neck Annex, VA; Credit: Paul Block

# CASE STUDY: MIGRATORY SHOREBIRD PROJECT



**About These Maps**

Select a species from the map controls. Click on the center of a point to see a simple summary of avian observations at that location by year. Click within a summary area to see observations summarized for that area.

**Choose a Species**  
 Select A Species

**Data Collection**

Shorebird/Raptor Observations (Mar–Jun)  
 Shorebird/Raptor Observations (Nov–Feb)

**Choose the Area to Summarize**

by State/Province (Canada/US/Mexico)  
 by Country

**Shorebird observation legend**

- 0
- 1 - 10
- 11 - 100
- 101 - 1000
- 1001 - 10000
- 10001 - 50000
- 50000 +

**13 visits from 2011—2023**

- American Kestrel (1)
- Black-bellied Plover (1110)
- Black Turnstone (11)
- Dunlin (14)
- Marbled Godwit (633)
- Red Knot (100)
- Ruddy Turnstone (26)
- Sanderling (2776)
- Semipalmated Plover (77)
- Sharp-shinned Hawk (1)
- Snowy Plover (179)
- Surfbird (3)
- Western Sandpiper (56)
- Willet (532)

**California (United States of America)**

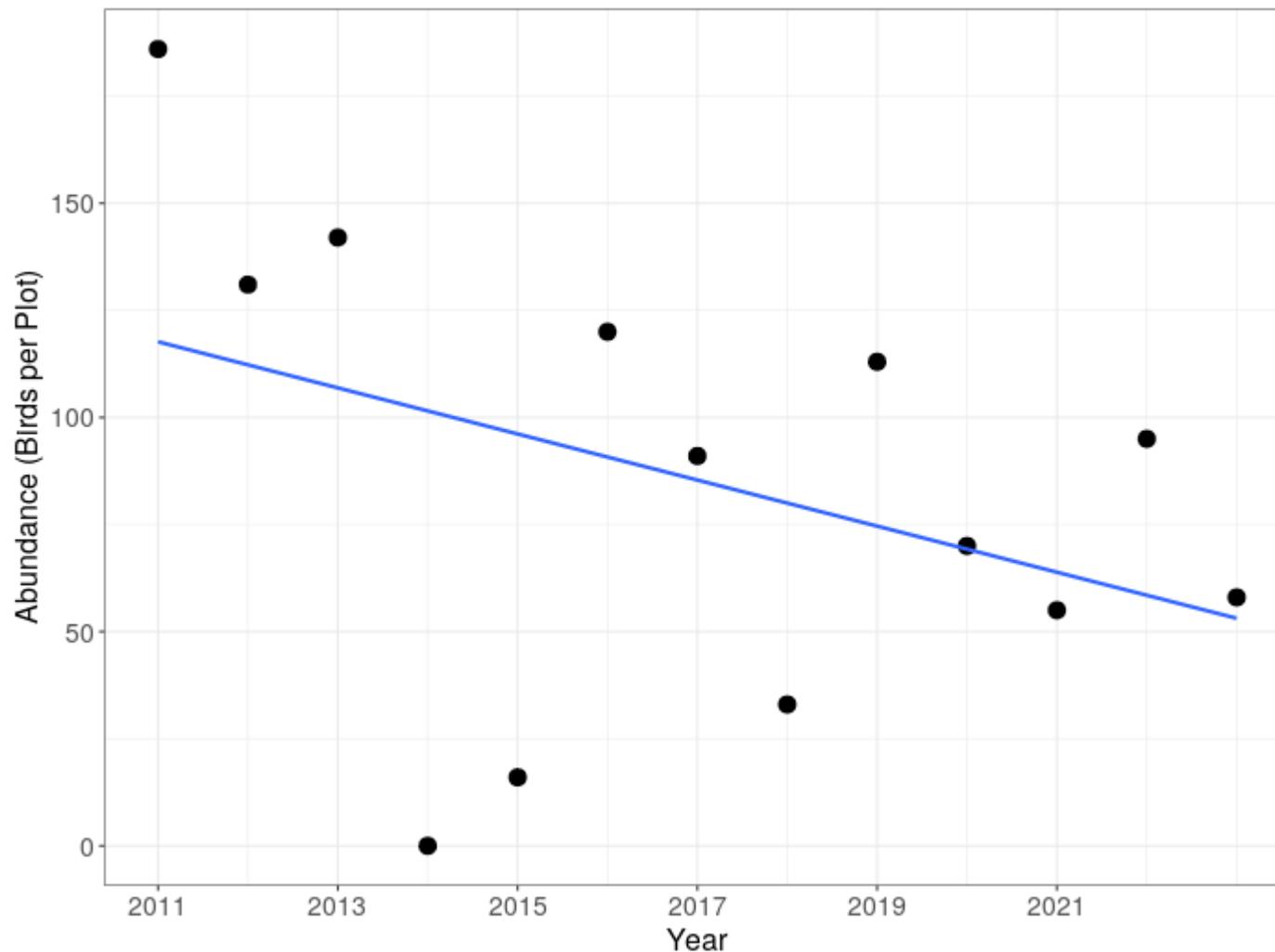
**Months: -**

[1971](#) | [1972](#) | [1973](#) | [1974](#) | [1975](#) | [1976](#) | [1977](#) | [1978](#) | [1979](#) | [1980](#) | [1981](#) | [1982](#) | [1983](#) | [1984](#) | [1985](#) | [1986](#) | [1987](#) | [1988](#) | [1989](#) | [1990](#) | [1991](#) | [1992](#) | [1993](#) | [1994](#) | [1995](#) | [1996](#) | [1997](#) | [1998](#) | [1999](#) | [2000](#) | [2001](#) | [2002](#) | [2003](#) | [2004](#) | [2005](#) | [2006](#) | [2007](#) | [2008](#) | [2009](#) | [2010](#) | [2011](#) | [2012](#) | [2013](#) | [2014](#) | [2015](#) | [2016](#) | [2017](#) | [2018](#) | [2019](#) | [2020](#) | [2021](#) | [2022](#) | [2023](#) | [All Years](#)

- Aleutian Cackling Goose (225)
- Allen's Hummingbird (78)
- American Avocet (437618)
- American Bittern (1140)
- American Black Duck X Mallard Hybrid (2)
- American Coot (5843730)
- American Crow (1590)
- American Golden-Plover (86)
- American Green-winged Teal (12110490)
- American Kestrel (2881)
- American Pipit (387)
- American Robin (10)
- American White Pelican (9861)
- American Wigeon (16921300)
- American x Eurasian Wigeon (6)
- Anna's Hummingbird (67)
- Ashy Storm-Petrel (2)
- Atlantic Brant (305)
- Baird's Sandpiper (648)

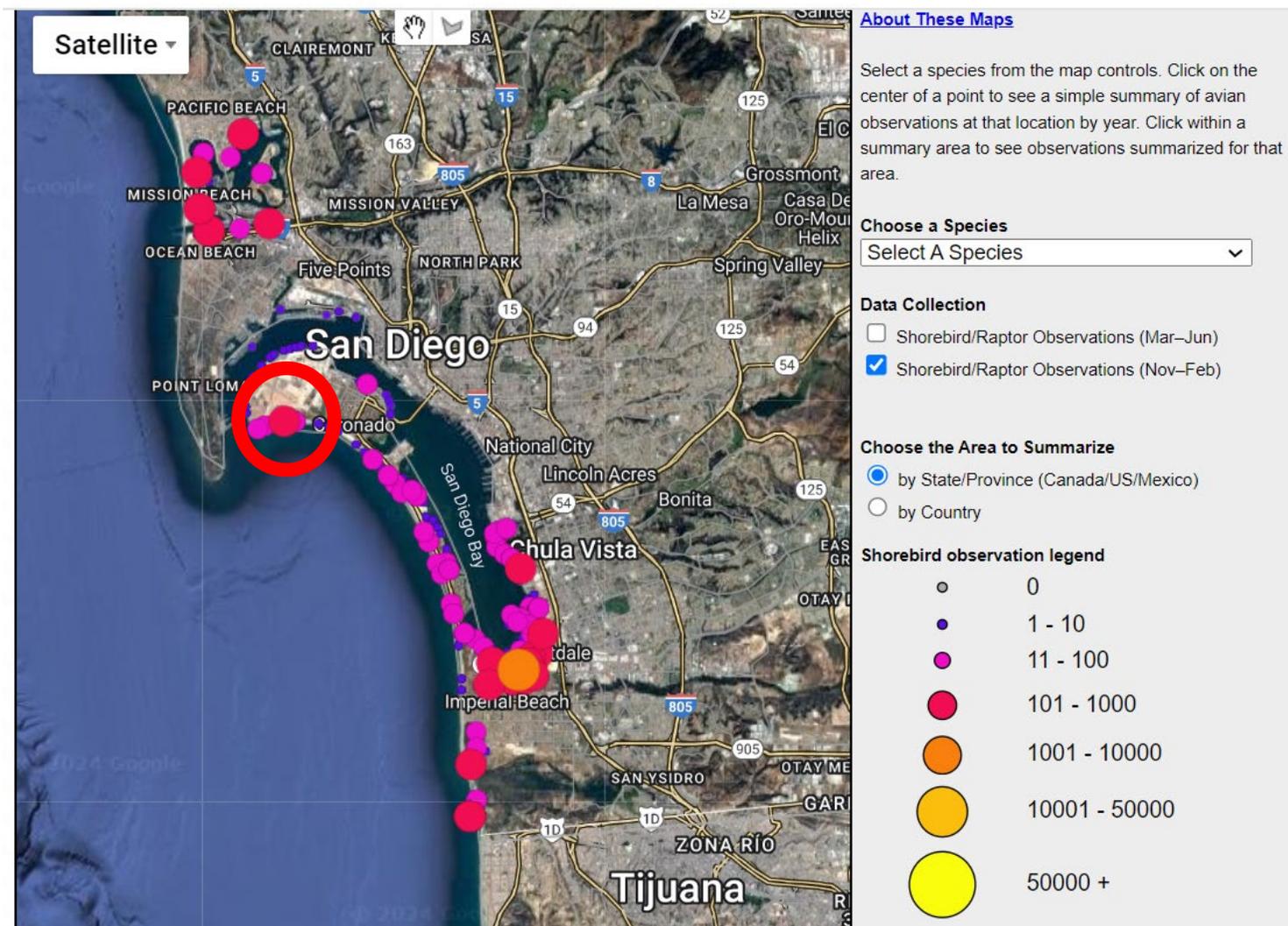
# CASE STUDY: MIGRATORY SHOREBIRD PROJECT

## North Island Coronado Beach Black-bellied plover abundance



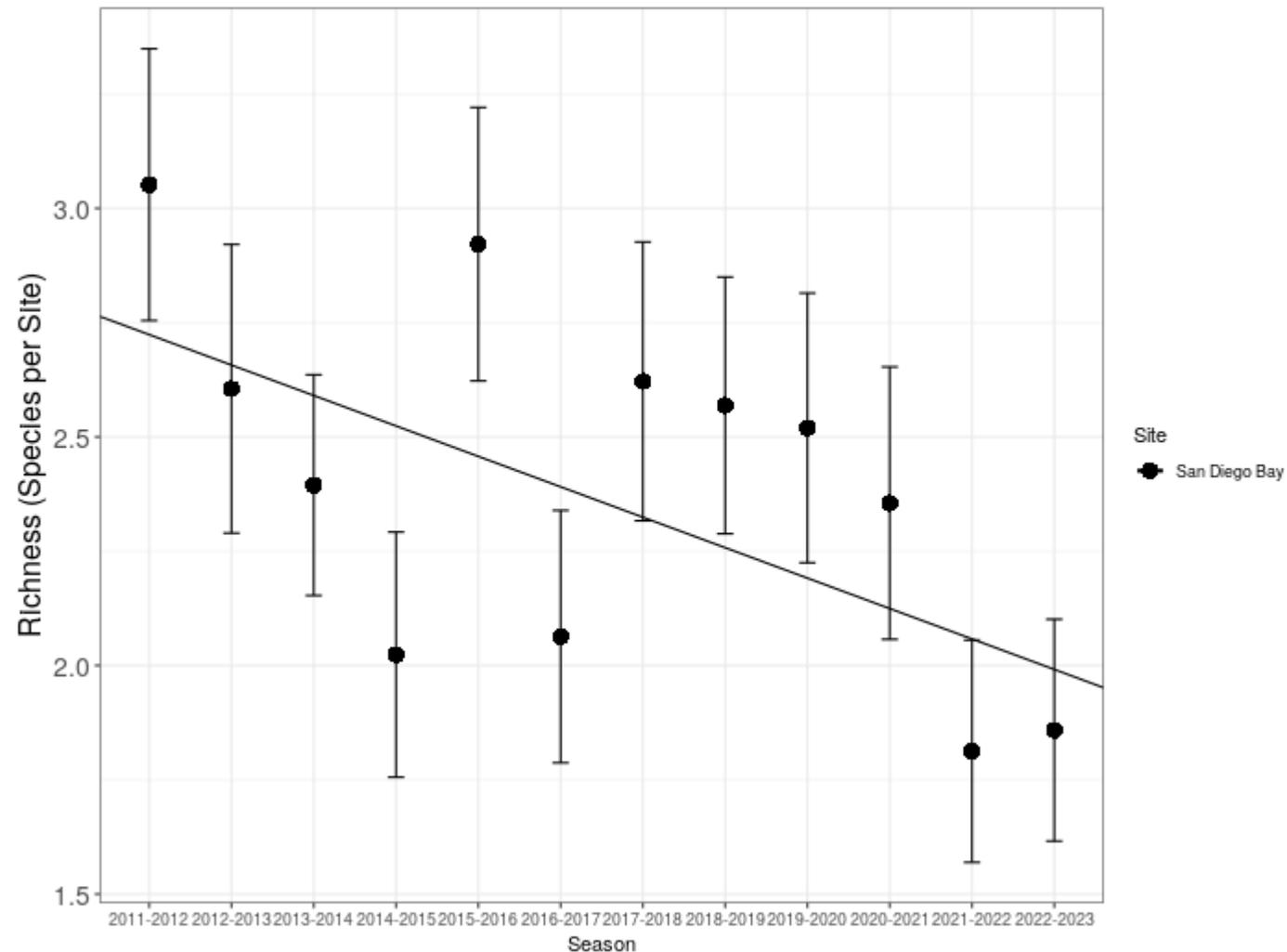
# CASE STUDY: MIGRATORY SHOREBIRD PROJECT

- Data collected between November and December every year since 2011
- <https://migratoryshorebirdproject.org>



# CASE STUDY: MIGRATORY SHOREBIRD PROJECT

**San Diego Bay:** Wintering shorebird species richness



# BREAK (10 MINS)



Data from multiple sources, varying formats, historic and contemporary datasets

PACIFIC FLUYW COLONIAL WATERBIRD SURVEY General Information, Survey Information, Current Information, Notes, and Checklist sections.

Table with columns for Species, Date, Time, and other survey parameters.

Handwritten note: "Pile in the rain, the quick brown fox jumps over the lazy dog. Fisher Song Per. The quick brown fox jumps over the lazy dog. Right Meter. The quick brown fox jumps over the lazy dog. Good! Love it! the quick brown fox jumps over the lazy dog!"

Table with columns for Species, Date, Time, and other survey parameters.

Table with columns for Date, Time, and other survey parameters.



# MARIANA ISLANDS CONSERVATION STRATEGY (MICS)

Spreadsheet showing conservation goals and data for various species, including columns for Species, Goal, and Status.

Shared Conservation Goals (e.g., Species Viability Targets)

# CASE STUDY:

## MARIANA ISLANDS CONSERVATION STRATEGY (MICS)



**FULL  
AVIAN  
DATA  
LIFE  
CYCLE**

# CASE STUDY: MARIANA ISLANDS CONSERVATION STRATEGY (MICS)



## Plan

- Methodological alignment with partners
- What is your question?
  
- Office Hours



Protocol Search tool

# CASE STUDY:

## MARIANA ISLANDS CONSERVATION STRATEGY (MICS)



### Create & Organize

- Align AKN Protocols with field methodologies
- Standardized data input & QA/QC via Biologist, Bulk Uploader



Biologists Application



Bulk Uploader Application

# CASE STUDY: MARIANA ISLANDS CONSERVATION STRATEGY (MICS)



## Analyze

- Coarse analyses via Analyst tool
- Raw Data Downloader to download clean, raw data for external analyses
- Public Data Downloader to download homogenized data within or across Projects



Analyst Application



Raw Data Download



Public Data Download

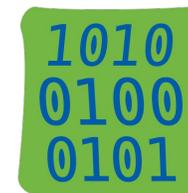
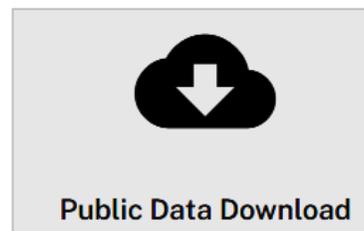
# CASE STUDY:

## MARIANA ISLANDS CONSERVATION STRATEGY (MICS)



### Share

- Data sharing levels
- Sharing homogenized data via warehouse export
- Program Enterprise capacities



Sharing Levels

# CASE STUDY: MARIANA ISLANDS CONSERVATION STRATEGY (MICS)



## Archive

- Staff turnover
- Full description of essential metadata
- Historic and contemporary data
- You own and control in perpetuity

# DOW AKN PROGRAM OVERVIEW





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@erdc.dren.mil](mailto:elizabeth.s.neipert@erdc.dren.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](mailto:elizabeth.j.galli-noble.civ@mail.mil) or 406-581-8148

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Date: 2022.08.24 11:39:54 -0400

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

# DoW MANDATE MEMO





# DOW AKN STRATEGIC APPROACH

- DoW AKN Program Management Plan
- Status of DoW Data
- Data Initiatives
- DoW-Specific and AKN-wide Tools
- Priority Tasks for FY26

# DoW AKN Program

## Task Categories



### Ongoing Base Support

Ex. project coordination, customer data support, back-end technical support



### Training

Ex. quarterly regional, service-specific, NMFWA, training videos



### DoW-Specific Requirements

Ex. user guides, DoW AKN Portal, data visualization and query tools



### Data Initiatives

Ex. new data type incorporation, integration with partner data, data standardization



### AKN Tools (Partner Initiatives)

Ex. new AKN roles, advanced analysis and query functionality, cohesive U.I., Program Enterprise



# DOW MISSION BENEFITS

- Secure database to input/upload, curate, and manage DoW 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, NEPA environmental reviews, and ESA Section 7 Consultation
- Contributes directly to proactive conservation, monitoring and management of priority bird species

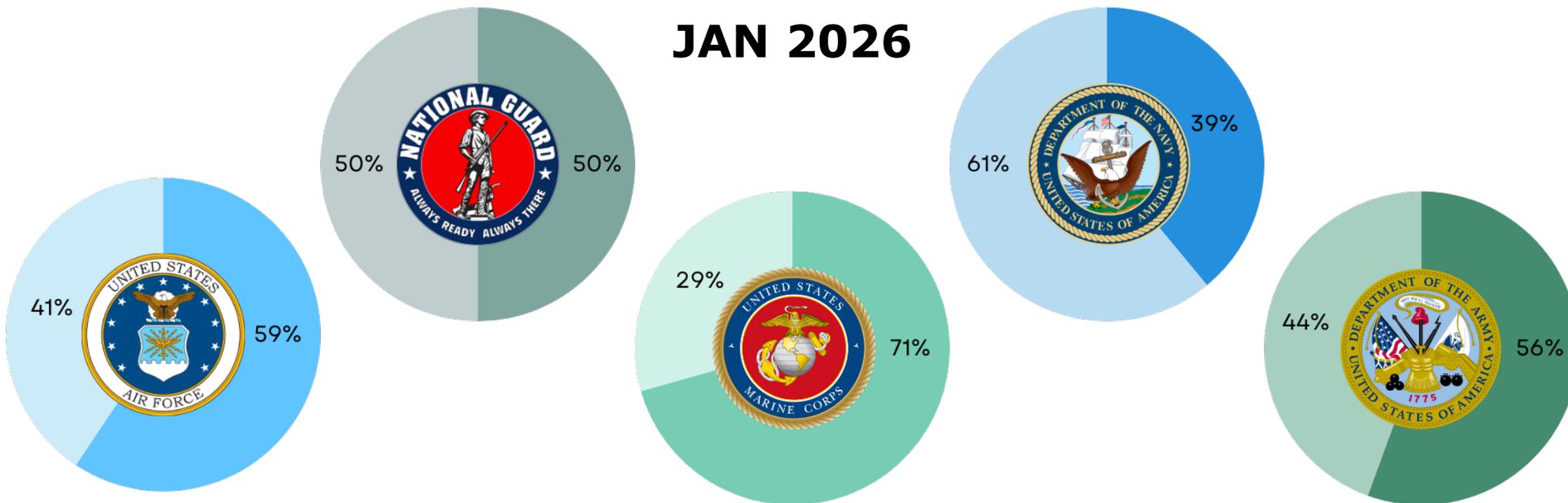


**Enabling the Mission, Defending the Resources**

# MILITARY SERVICE PROGRESS

## *Installations with Active Projects by Service Branch*

**JAN 2026**



Total Number of Installations: **63** Army, **78** Navy, **96** Air Force, **17** Marine Corps, **54** National Guard states/territories

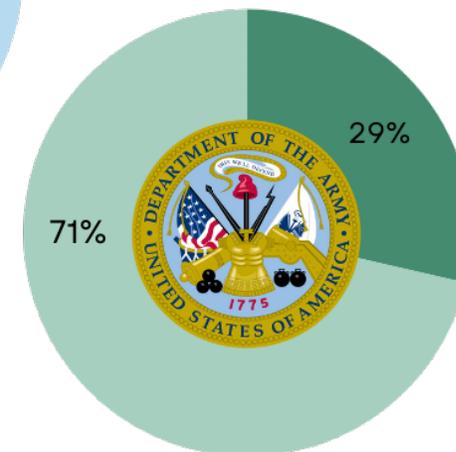
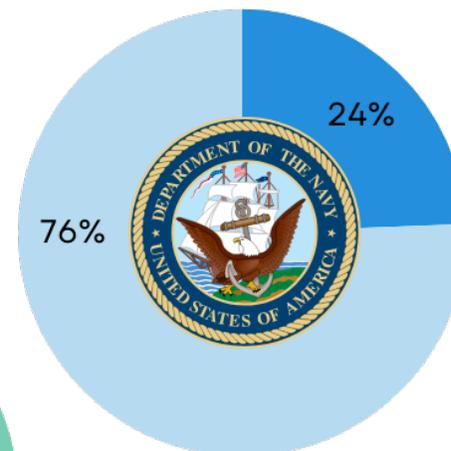
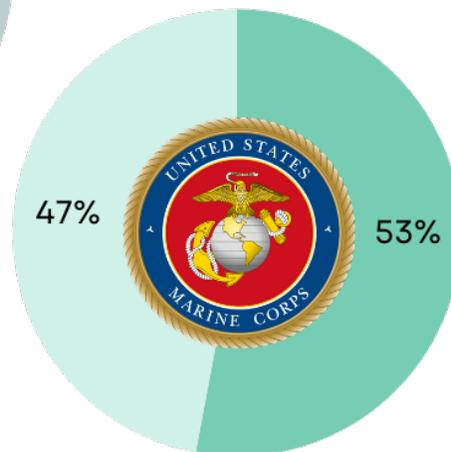
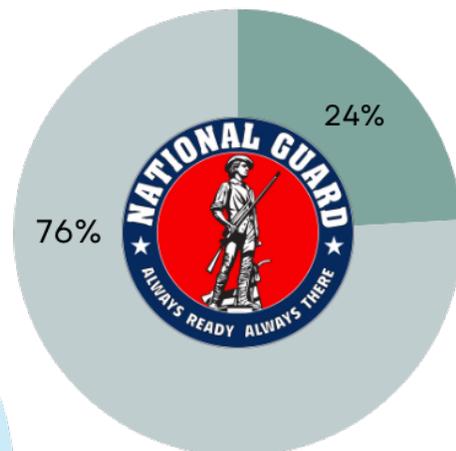
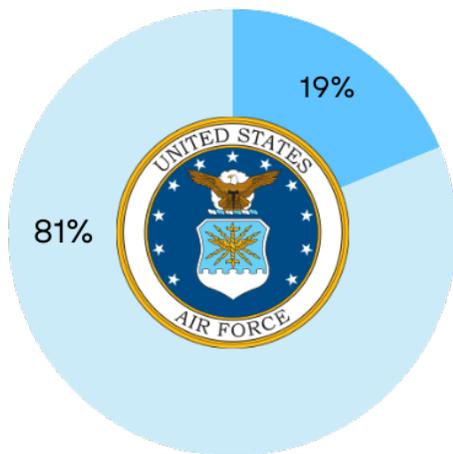
**Dark colors** - Installations with Active Projects

**Light colors** - Installations without Active Projects

# MILITARY SERVICE PROGRESS

## *Installations with Contemporary Data by Service Branch*

**JAN 2026**



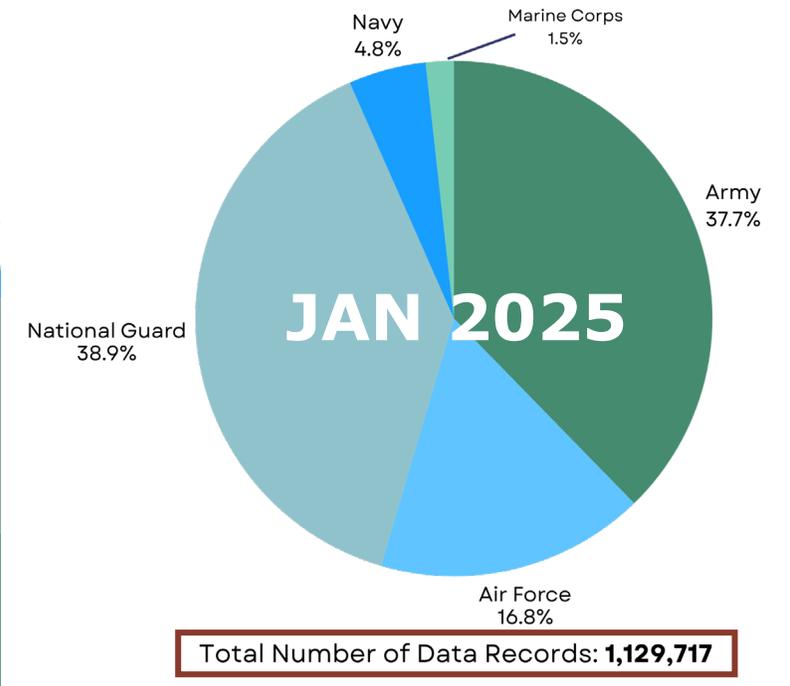
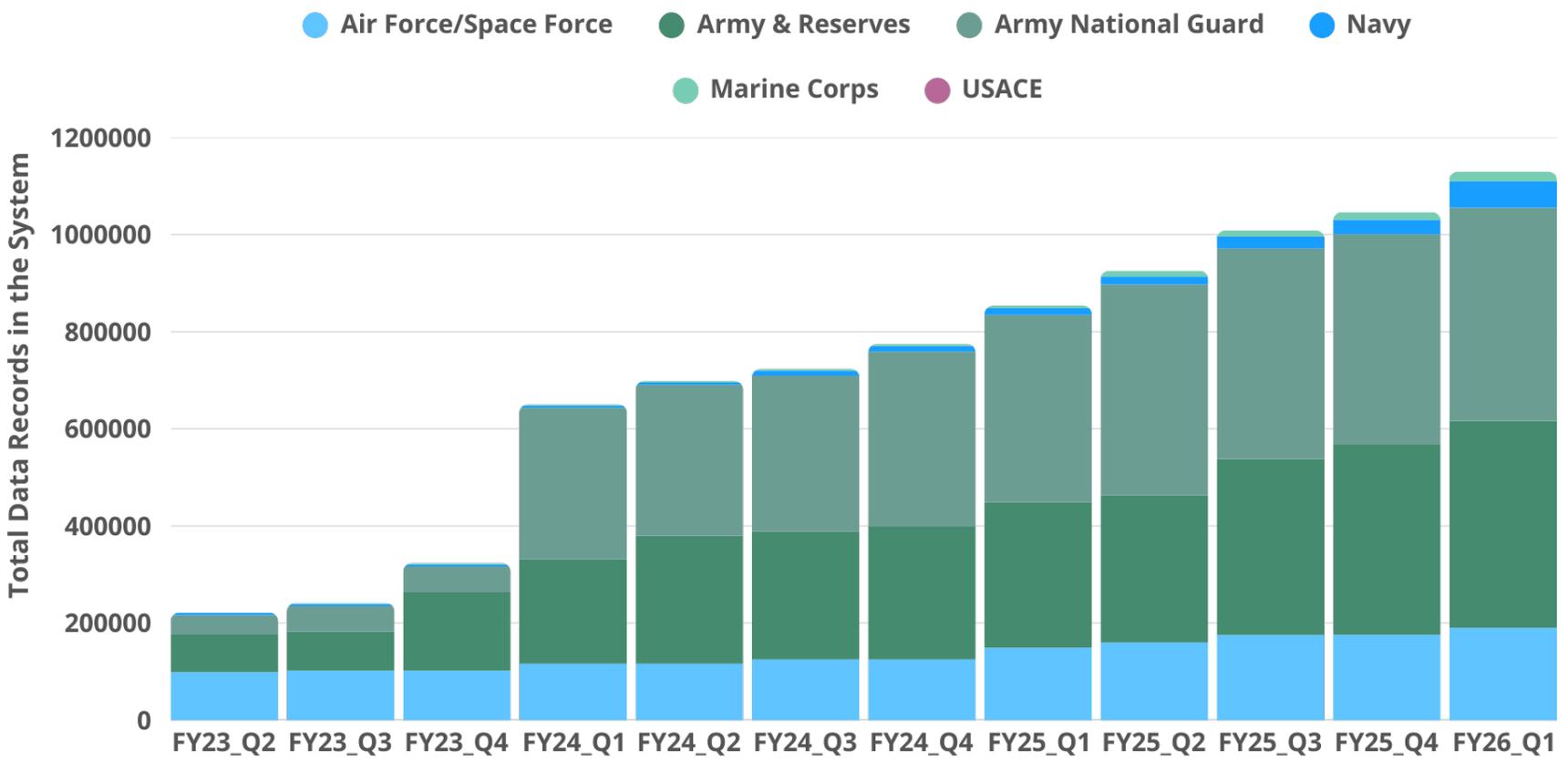
Total Number of Installations: **63** Army, **78** Navy, **96** Air Force, **17** Marine Corps, **54** National Guard states/territories

**Dark colors** - Installations with Active Projects

**Light colors** - Installations without Active Projects

# MILITARY SERVICE PROGRESS

## *DoW Data Records in AKN by Military Service*

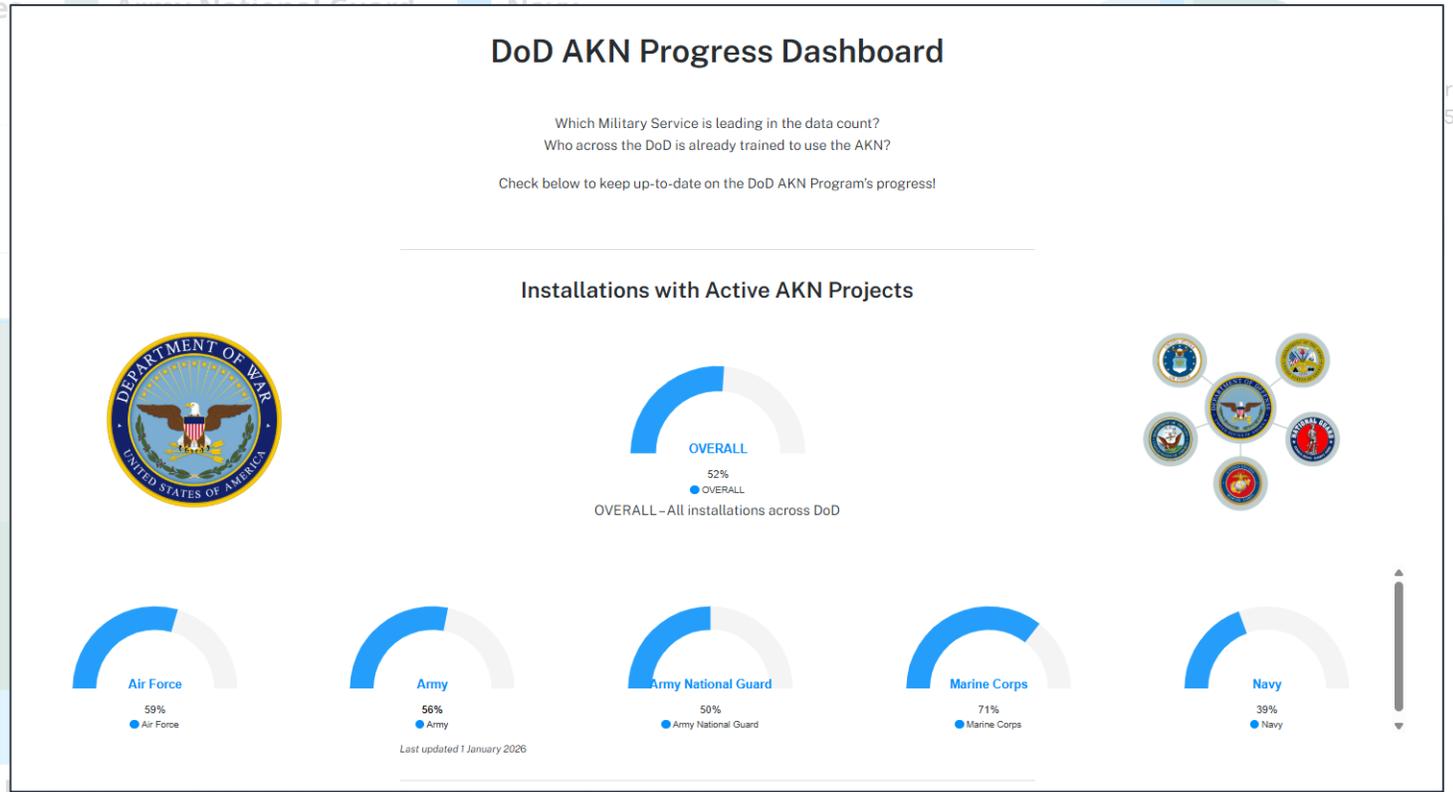


# MILITARY SERVICE PROGRESS

## DoW Data Records in AKN by Military Service

Check out the latest DoW AKN Program Progress on our new Progress Dashboard

Total Data Records in the System



<https://www.dodakn.org/dod-akn-progress-dashboard/>

# AKN TOOLS AND RESOURCES





# AKN Resources

## *Standardized Sampling Methods*

- Identify the **most common** bird monitoring questions
- Promote **standardized** data collection methods
- Provide **appropriate protocol** selection based on management or research needs





# AKN Resources

## *Standardized Sampling Methods*

### SPECIES CHECKLIST



Species checklists are a simple way to record both incidental and comprehensive observations of bird species observed on your installation that don't fit a traditionally structured survey (e.g., point counts, line transects, etc.).

### CHRISTMAS BIRD COUNT



The Christmas Bird Count (CBC) is a citizen science project that involves counting birds in the Western Hemisphere. Click here to learn how to incorporate CBC data collected on your installation into your AKN Project here.

### EBIRD CHECKLISTS



eBird is a powerful community science tool run by Cornell Lab of Ornithology that collects observational data from birders. Click here to learn how to incorporate eBird checklist data collected on your installation in your AKN Project.

### POINT COUNT METHODS



Click here to learn about Point Count methodologies including their assumptions, typical use cases, and examples of commonly used methodologies and their AKN Protocols.

### AREA SEARCH METHODS



Click here to learn about Area Search methodologies including their assumptions, typical use cases, and examples of commonly used methodologies and their AKN Protocols.

# DOW MISSION-SENSITIVE SPECIES (CONUS)



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



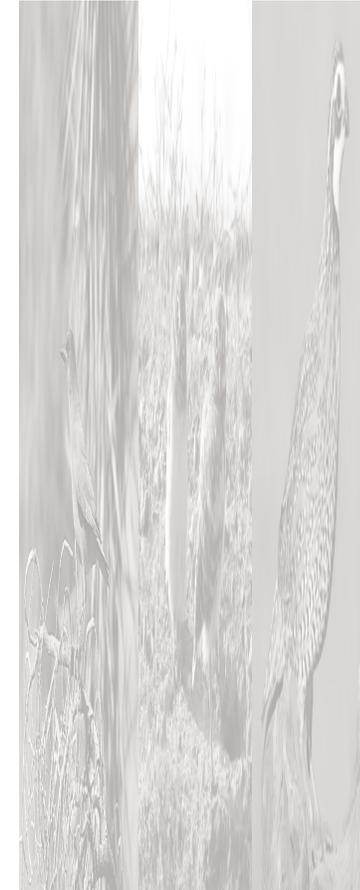
# DOW MISSION-SENSITIVE SPECIES (CONUS)

Species	# of Installations
Greater Sage-Grouse	6
Greater Prairie-Chicken	3
Northern Bobwhite	70
Southeastern American Kestrel	14
<del>Black Rail**</del>	<del>5</del>
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

## DOW AKN MSS 4-PRONGED APPROACH

- ✓ FOCUS GROUP
- ✓ AKN PROTOCOLS
- ✓ DATA
- ~~✓ MSS QUERY TOOL IN AKN~~

# DOW MISSION-SENSITIVE SPECIES





# DOW MISSION-SENSITIVE SPECIES

Pinyon Jay Survey  
Protocol for  
Landscape  
Applications (PIJA  
Working Group 2023)



Area Search survey  
based on 2.5km grids,  
available in AKN

DoW identified need for  
road-based point count  
protocol for rapid  
assessment at larger  
scales



Road-based point  
count protocol,  
available in AKN

**Both field  
methods  
posted on DoW  
AKN Portal**

[https://www.dodakn.org/resources/mss/#MSS\\_PIJA](https://www.dodakn.org/resources/mss/#MSS_PIJA)

# DOW MISSION-SENSITIVE SPECIES

Standardized Monitoring Strategies for Burrowing Owls on DoD Installations  
(Garcia et al 2008)

Guidelines and Recommendations for Burrowing Owl Surveys and Mitigation  
(California Burrowing Owl Consortium 1993)

Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game 2012)

Comparison of Detection Probability Associated with Burrowing Owl Survey Methods  
(Conway and Simon, 2003)

## Focus Group SMEs:

Courtney Conway, *USGS ID Cooperative Fish and Wildlife  
Research Unit*

Sandra Menzel, *Talon Ecological Research Group*

David H. Johnson, *Global Owl Project*

Kevin Warner, *Idaho Army National Guard*

Colin Leingang, *JBLM Yakima Training Center*

Russ Lawrence, *Hill AFB and Utah Test and Training Range*





## DoW PIF Mission-Sensitive Species Hawaii and Pacific Islands

### Tier 1 MSS

White Tern



Tinian Monarch



**Tier 1 not shown:**  
Black-footed Albatross, Pueo (Hawaiian Short-eared Owl), Christmas Shearwater, Oahu and Kauai 'Amakihi

Golden white-eye



Mariana Kingfisher



Micronesian Starling



White-throated Ground Dove



Micronesian Honeyeater



Rufous Fantail



Mariana Fruit Dove



### Tier 2 MSS

## MICS Focus Species

Rota Bridled White-eye



Mariana Swiftlet



Guam Micronesian Kingfisher



Mariana Crow



Micronesian Megapode



Nightingale Reed Warbler



Mariana Common Moorhen



Guam Rail



DoW PIF  
Fact Sheet

[https://www.denix.osd.mil/dodpif/denix-files/sites/37/2023/12/DoD-PIF\\_MSS-Fact-Sheet\\_Hawaii-Pacific-Islands\\_FINAL\\_508.pdf](https://www.denix.osd.mil/dodpif/denix-files/sites/37/2023/12/DoD-PIF_MSS-Fact-Sheet_Hawaii-Pacific-Islands_FINAL_508.pdf)

2026, Virtual



# EMERGING DATA NEEDS

- Sensor and machine-collected data (ARUs, Motus)
- Nest data
- Banding data, including MAPS
- Spot-mapping
- Survey 123 cross-walk directly into AKN
- Foreign OCONUS data



# NEW DATA TYPES: ARU DATA

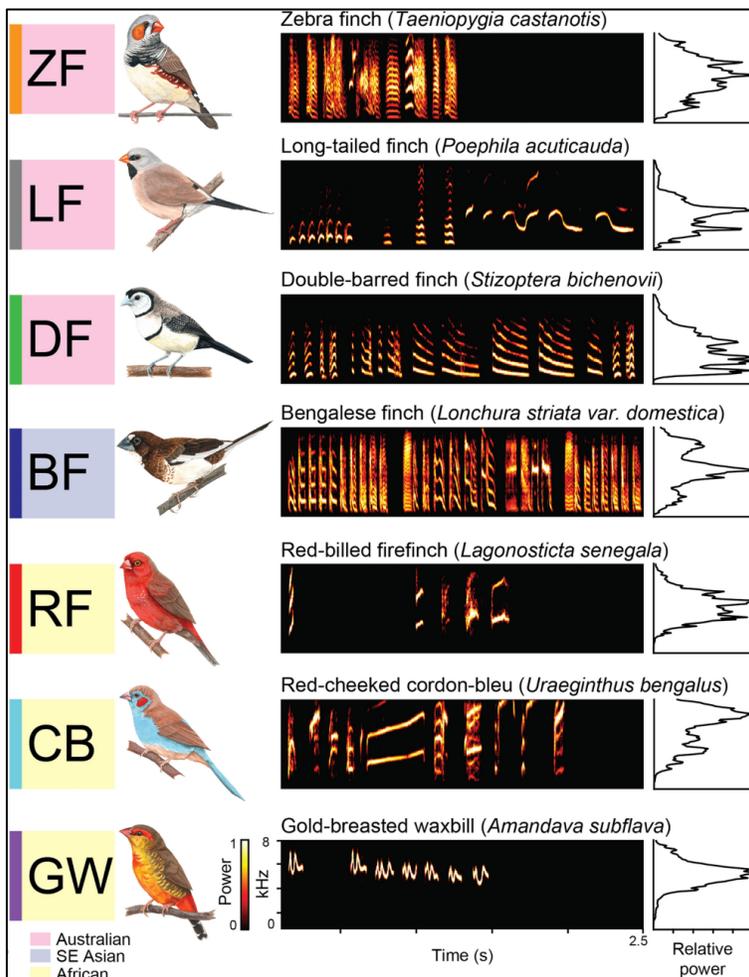
## Metadata Considerations

- Hardware - sensor make, model
- Microphone type
- Sensor settings
  - Gain (Microphone Sensitivity)
  - Sample Rate (kHz)
  - Pre-filtering
- Study design
  - Recording schedule
  - Sampling Units



**Machine-  
collected  
raw audio  
data**

# NEW DATA TYPES: ARU DATA



## Metadata Considerations

- Post-processing method – manual vs. machine-learning software
- Software name
- Confidence score threshold
- Degree of overlap
- Sensitivity

## Species ID via machine-learning

# NEW DATA TYPES: ARU DATA



Machine-collected raw audio data



Year	Month	Day	Time	Species
2022	5	24	144	Setophaga Cerulean V CERW
2022	5	24	144	Setophaga Cerulean V CERW
2008	6	12	164	Centronyx Henslow's HESP
2017	5	18	138	Centronyx Henslow's HESP
2008	6	18	170	Centronyx Henslow's HESP
2008	6	18	170	Centronyx Henslow's HESP
2008	6	18	170	Centronyx Henslow's HESP
2008	6	18	170	Centronyx Henslow's HESP
2017	5	19	139	Centronyx Henslow's HESP
2017	5	19	139	Centronyx Henslow's HESP
2008	6	12	164	Centronyx Henslow's HESP
2017	5	18	138	Centronyx Henslow's HESP
2017	5	18	138	Centronyx Henslow's HESP
2008	6	12	164	Centronyx Henslow's HESP
2008	6	12	164	Centronyx Henslow's HESP
2008	6	12	164	Centronyx Henslow's HESP
2017	5	15	135	Centronyx Henslow's HESP
2017	5	19	139	Centronyx Henslow's HESP
2008	6	18	170	Centronyx Henslow's HESP
2008	6	4	156	Centronyx Henslow's HESP
2017	5	17	137	Centronyx Henslow's HESP
2017	5	17	137	Centronyx Henslow's HESP
2008	6	12	164	Centronyx Henslow's HESP
2019	5	15	135	Centronyx Henslow's HESP
2019	5	15	135	Centronyx Henslow's HESP
2008	6	4	156	Centronyx Henslow's HESP
2008	6	4	156	Centronyx Henslow's HESP
2017	5	15	135	Centronyx Henslow's HESP
2023	4	27	117	Centronyx Henslow's HESP
2024	5	13	134	Agelaius tr Tricolored TRBL
2021	6	2	153	Agelaius tr Tricolored TRBL
2024	6	10	162	Agelaius tr Tricolored TRBL
2022	5	2	122	Agelaius tr Tricolored TRBL
2024	5	13	134	Agelaius tr Tricolored TRBL
2024	6	10	162	Agelaius tr Tricolored TRBL
2024	6	10	162	Agelaius tr Tricolored TRBL
2023	6	14	165	Agelaius tr Tricolored TRBL
2020	6	2	154	Agelaius tr Tricolored TRBL
2020	6	2	154	Agelaius tr Tricolored TRBL

**AVIAN**  
KNOWLEDGE NETWORK

123 44 7:51:00 Agelaius tr Tricolored TRBL

Tabularized observation data



# 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 DoW-owned AKN projects

**Method:** develop language and guidelines for DoW contracts and agreements

## 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

# 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*

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**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 cooperative 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 (contractor and/or cooperator), where (Sampling Units), when (Sampling Events), and what (Observations) is collected.

**Least NRM Effort**—Project that has its own project, or they are stored, or suitable 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.goinblue.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](#).

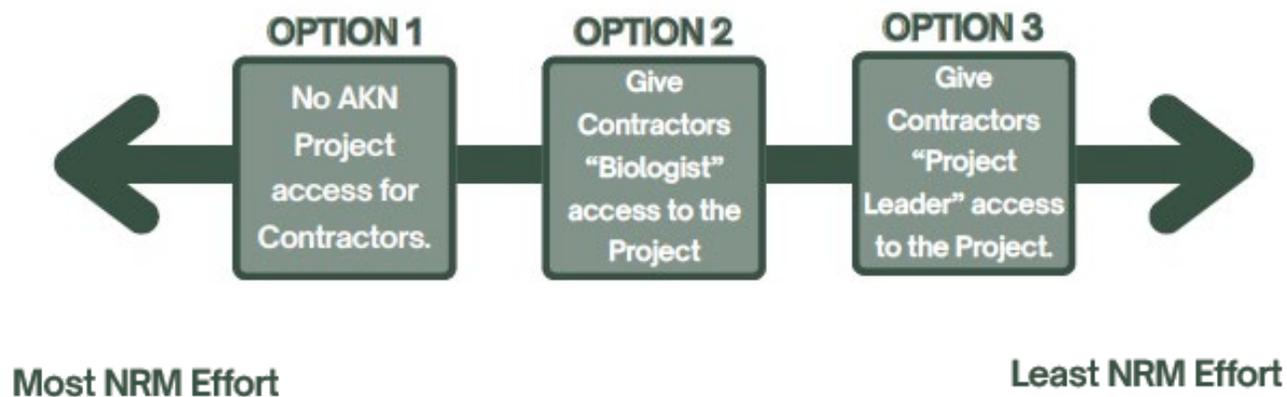
Contractor/Cooperator will specify sampling methods to be used that does not have a corresponding AKN Sampling Protocol Definition.

2

## 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

# GUIDANCE TO HELP PROJECT MANAGERS DETERMINE ROLES FOR THEIR CONTRACTORS



## AKN Guidance:

- Guidance for NRMs working with **contractors**
- Describes all available **User Role choices**
- Assist NRMs in deciding **what level of AKN Project access** to grant contractors
  - Takes into account NRM effort/involvement, contractor access, etc.

*Will be posted to the DoW AKN Portal site SOON! (sign up for updates to be the first to know!)*

# AKN USER GUIDE

Detailed Step-by-step Instructions for AKN Use;  
Supplements Training



Getting  
Started

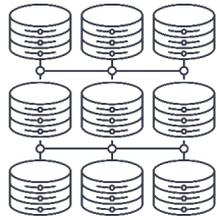
Managing  
Project

Getting  
Data In

Getting  
Data Out

Exploring  
Data

DoW  
Glossary



# AKN TOOLS

## *Enterprise Support for Programs*

**Need:** Data curation, management, and analysis at multiple scales (e.g., field office, regional office, entire agency)

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

**Plan:** Build new technology, to create/manage Programs, especially for query and download of project data

**Status:** In prototype phase  
I. Beta test of Program download tool  
II. Prototype of Program warehouse

Project Management Portal [↑](#)

### Project Downloader

This tool allows you to download your observation data, sampling unit configurations, or both on a per-sampling unit, per-project basis. All projects that you have access to, including any in your program, will be available for selection. Once you click the download button, a zip file containing one CSV per selection will download from your browser.

#### Project

Select one or more projects or sampling units for data download.

**Filter**

Department of Defense ✕ Clear Program | 🔍

Select all projects

- ABERDEEN\_PROVING\_GROUND - (DOD\_ARMY) Aberdeen Proving Ground
- ALTUS\_AFB - (DOD\_AIRFORCE) Altus AFB
- ARNOLD\_AFB - (DOD\_AIRFORCE) Arnold AFB
- AZ\_ARNG - (DOD\_NATGUARD) Arizona Army National Guard
- BARKSDALE\_AFB - Barksdale Air Force Base
- BARRY\_GOLDWATER\_RANGE\_EAST - (DOD\_AIRFORCE) Barry M. Goldwater Range East
- BARRY\_GOLDWATER\_RANGE\_WEST - (DOD\_MARINE) Barry M. Goldwater Range West

You must select at least one sampling unit or project

#### Observation data

If you would like to download observation data, select the type(s) of survey data to be included in the download.

**Survey types**

NOTE: If the survey data type is not available for any number of projects you've selected, those projects will not be included in the resulting download.

- Point count observations
- Area search observations
- Secretive marshbird observations
- Vegetation observations
- Site condition observations
- Linear transect observations
- Soil survey observations
- WIFL territory summaries
- Banding observations

**Date filter**

Select a date filter to limit observation data downloaded to those created within the specified range.

Start date  Stop date

#### Sampling units

If you would like to download sampling units, select which file type(s) to include in the download.

- CSV
- KML
- Shapefile
- GPSU
- Waypoint

You must select at least one of either the observation data or sampling unit file types



# CASE STUDY: PROGRAM ENTERPRISE – COLONIAL WATERBIRDS

- CWB data collected across **several states and provinces**
- Survey **methods vary** (e.g., some count pairs, some nests), stored in many **different formats**
- **Lack of visibility** on species data and numbers state-wide, range-wide



*Great Egret (rookery); Fort Stewart; Photo credit: Paul Block*

# CASE STUDY:

## PROGRAM ENTERPRISE – COLONIAL WATERBIRDS

**PACIFIC FLYWAY COLONIAL WATERBIRD SURVEY**

**General Information**

Colony Name: \_\_\_\_\_ Colony Code (if known): \_\_\_\_\_ Coordinates (WGS84) Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

Survey Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_ Status\* (check 1): Active  Inactive

Primary Observer Name: \_\_\_\_\_ Email: \_\_\_\_\_ Telephone #: \_\_\_\_\_ Agency/Affiliation: \_\_\_\_\_

**Survey Information**

Survey Method/Vantage Point (check 1):  Perimeter  Boat  Aerial Photo  Direct Aerial  Within-colony  Other \_\_\_\_\_

Survey Type (check 1):  Full (complete) survey  Partial survey  % of Colony: \_\_\_\_\_

Vantage Point: \_\_\_\_\_ Distance: \_\_\_\_\_

**Count Information**

Species	Survey Target**	Count #	Number Observed			Estimated Breeding Pairs	Estim. Yod Prod.
			Nests	Adults	Young		

\*Status - Active = Breeding (nest building, courtship, incubation, eggs, or chicks observed)  
Inactive = Non-breeding (no active nests, eggs, or chicks)

\*\*Survey Target - N = Nesting target; P = Production target

Comments (other nesting species, predators, presence of banded birds): \_\_\_\_\_

**Colony Site Information**

State: \_\_\_\_\_ County: \_\_\_\_\_ General I: \_\_\_\_\_

Nesting habitat ground, trees, manmade structure: \_\_\_\_\_ Land Own: \_\_\_\_\_

**Mississippi Flyway Colonial Waterbird Survey 2018**

COLONY NAME: \_\_\_\_\_ COLONY CODE: \_\_\_\_\_ COLONY (check one): Active  Inactive

SURVEY DATE: \_\_\_\_\_ DIGITAL PHOTOGRAPHY: No  Yes

OBSERVER(S): \_\_\_\_\_

Primary: \_\_\_\_\_ Last Name: \_\_\_\_\_ First: \_\_\_\_\_ MI: \_\_\_\_\_

Email: \_\_\_\_\_ Telephone: \_\_\_\_\_

Cooperators: \_\_\_\_\_

SURVEY/VANTAGE POINT (Check one): on-site visit  from boat  perimeter  area survey  TMC start: \_\_\_\_\_ end: \_\_\_\_\_

Species	Predominant Reproductive Stage (Enter a code from box below)	Survey Type (Enter a code from box below)	Number Nests	Total Number Nests	Number Active Nests	Number Young Seen	Estimated Breeds
DH-cr. Cormorant							
Groov. Blue Heron							
Great Egret							
Bl-cr. Night-Heron							
Cattle Egret							
Litt. Blue Heron							
Arkingo							
Green Heron							
Shore Egret							
Y-cr. Night-Heron							
Other:							

Survey Type Codes: Actual Count = 1; Visual Estimate = 2; Sampling = 3; Other = 0

Stage Codes: Pre-nesting (standing around in field) = 1; Incubation = 2; Unhatched Young = 4; Age = 5

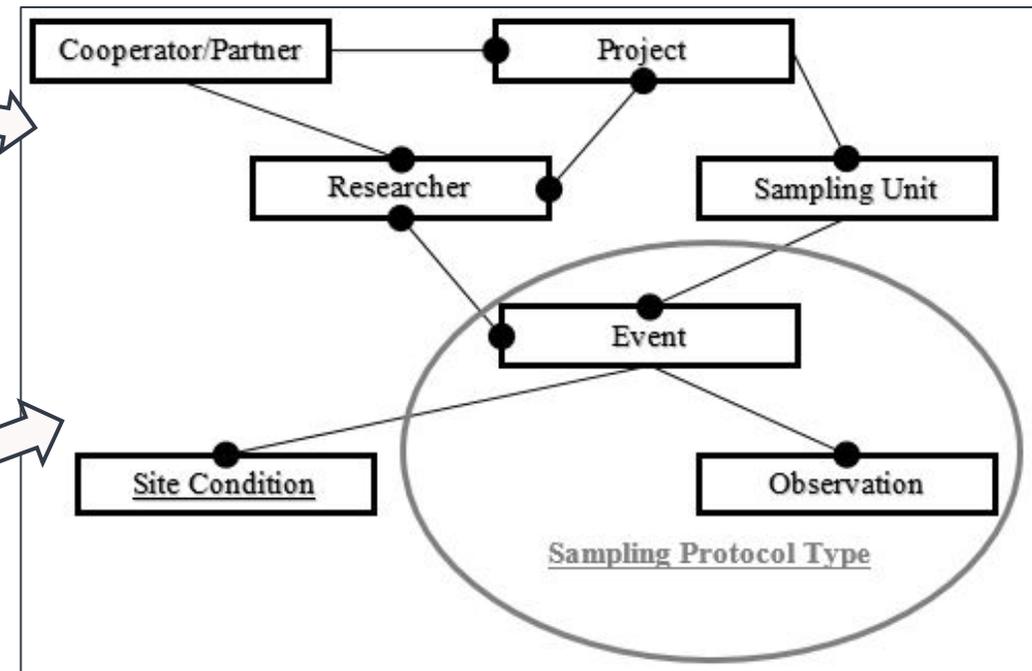
Comments (Other Notable Species): \_\_\_\_\_

COLONY SITE DESCRIPTION: County: \_\_\_\_\_ State: \_\_\_\_\_ Hexcode (Area Q25) \_\_\_\_\_

Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

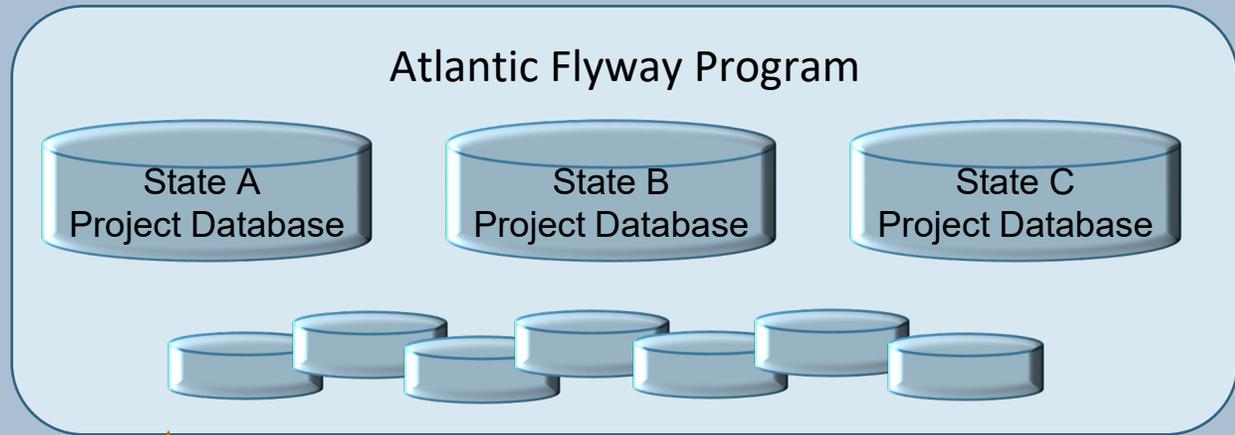
Explain how nesting, roosting, and where standing in relation to herony (using GPS (NAD 83): \_\_\_\_\_

Nearest City/Town: \_\_\_\_\_ Distance: \_\_\_\_\_ miles Direction from town to colony: \_\_\_\_\_



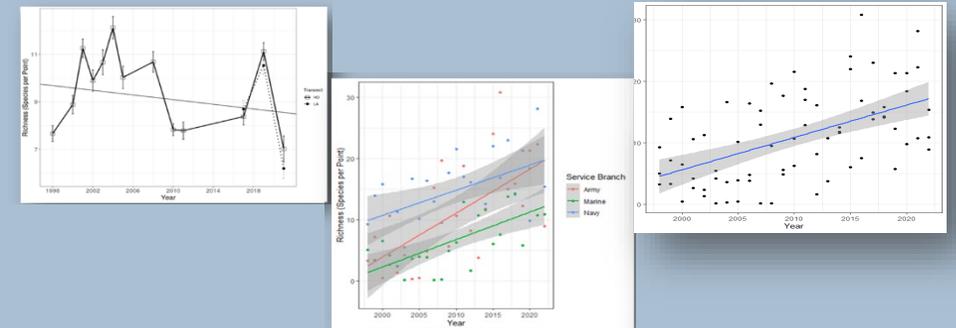
- Sampling Protocol Definition(s)**
- [CWB ATLANTIC FLYWAY](#)
  - [CWB ATLANTIC FLYWAY CONDITION](#)

# Colonial Waterbird Program Structure



Other Projects & Programs

Program-based multi-scaled data access, analysis, download & outputs



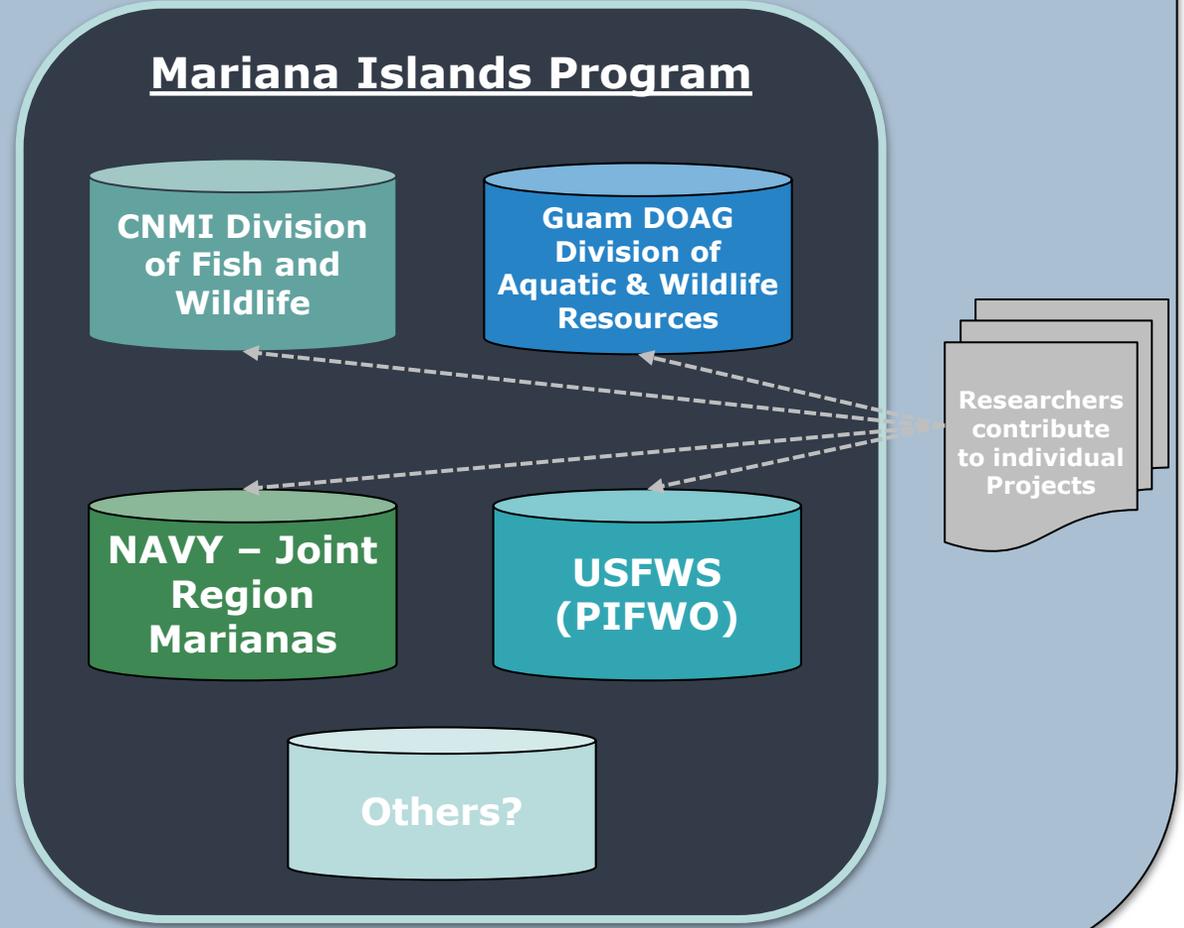
Flexibility with data analysis

Sharing controlled at the Project database (or observation) level, can choose to share or not

Scaled conservation actions targeted where most needed



# Potential Mariana Islands Regional Program Structure



# AKN TOOLS

## *More Flexible User Roles*

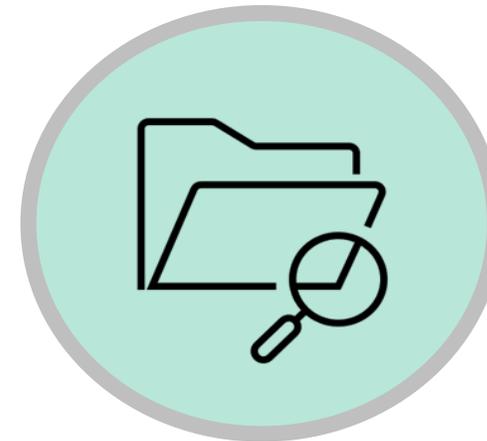
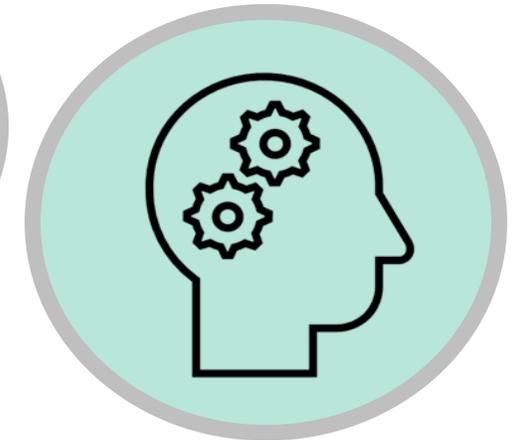
**Need:** Roles in the system that meet requirements for data entry and/or analysis for portions of AKN projects

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

**Plan:** Create two new roles

- I. **Contractor Role** - support a contractor requiring access (data entry, data download, data analysis) to a portion of Project
- II. **Analyst Role** - allow full access to a Project or Program for data download and analysis, w/o ability to manage metadata or user access.

**Status:** Needs and roles identified, Will begin upon completion of the Enterprise Support for Programs



# Driving Avian Data Questions

1. What species have confirmed occurrence within my area of interest or management unit? Across a broader landscape? Across jurisdictions or partner lands?
2. What species have the potential to occur within my area of interest? Across a broader landscape?
3. How are species “doing” (e.g., abundance, density) within my area? Across the region? Across the western US? In comparison to other land jurisdictions? (AKA “Do we need to be concerned about this species?”)
4. What factors are driving population trends in my area? Are current conservation actions, management practices, or planning approaches effective? (AKA “Are my conservation strategies working?”)
5. What species may occur or persist in my area under future conditions?

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



# NEXT STEPS FOR YOU





# SIGN-UP FOR DOW AKN UPDATES

## 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

Does AKN currently support my data type?

DoD AKN User Guide

Get Training!



Sign Up to Receive DoD AKN Program Updates

### Join the DoD AKN Program Contact List

Name \*

First

Last

Affiliation (Military Service or Company Name) \*

Installation (if applicable)

Email \*

Comment or Message

Submit



Bluethroat, Nome, AK, C. VanTassel

<https://www.dodakn.org/resources/join-the-dod-akn-program-contact-list/>

# SIGN UP FOR AKN UPDATES



SIGN UP FOR UPDATES | CONTACT

**AVIAN**  
KNOWLEDGE NETWORK

ABOUT ▾ TOOLS ▾ PORTALS ▾ HELP ▾ Q

## Avian Knowledge Network

Leveraging Partnerships, Data and Technology to Revolutionize Avian Conservation and Management

**A NATIONAL PARTNERSHIP**

### Who We Are

The Avian Knowledge Network (AKN) is a partnership currently composed of federal and state agencies and non-governmental organizations who have shared priorities regarding informatics needs for biodiversity conservation and management. The AKN is a powerful and secure cloud computing system that government agencies, NGO's and others are using to enter, manage, analyze and share their avian observation data.

**MANAGE & EXPLORE DATA**  
AKN offers tools for collecting, entering, uploading, managing, accessing and summarizing bird monitoring data.

EXPLORE TOOLS

SIGN UP FOR UPDATES | CONTACT

**AVIAN**  
KNOWLEDGE NETWORK

ABOUT ▾ TOOLS ▾ PORTALS ▾ HELP ▾ Q

**KEEP CONNECTED**

### AKN Newsletter / Updates

Subscribe to keep informed about updates and new features in the Avian Knowledge Network.

#### Archive

Coming soon!

### Subscribe

\* INDICATES REQUIRED FIELD

**Email Address \***

**First Name \***

**Last Name \***

**Associated Organization \***

SUBSCRIBE

# 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/UCi9intC9uTZa9Bo3HgnY1Q/featured>)



<https://www.dodakn.org/get-training/>

### Training Course Site

Select the link below to access the Training Course Site which gives you access to the current and archived course agendas and materials including training slides and course exercises.

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

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

**Questions, thoughts, suggestions in the future?  
Contact our team!**

**DoDAKN@erdc.dren.mil**



## Office Hours: Project Set Up in the AKN

### New Project Questionnaire

Name:

Installation:

Email Address:

- 1) Please provide a short summary of the scope of your project. What are the objectives/questions for your project?
- 2) What survey type do you conduct? (e.g., Point Count, Area Search, Line Transect, etc.)
- 3) **Sampling Units:** How are your surveys organized? How do you select your sampling locations? Briefly describe your study design.
  - a. If point counts, are they grouped into transects, or are all points independent?  
Y or N
- 4) **Observation Protocol:** Describe your field methods. Do you have a written protocol or data dictionary? Y or N
  - a. Species
  - b. Length of survey
  - c. Time Bins
  - d. Distance—exact or binned?
  - e. Detection cues—do you record this? Y or N
    - If so, what detection cues do you use (e.g., call, song, visual, wing, etc.)?
    - If so, all types or just first detected?



# END-TO-END PROCESS TO REGISTER A NEW USER DEMONSTRATION

ual  
*Red-cockaded Woodpecker, Camp Lejeune; Photo Credit: Kevin Rose*

# STEP 1: NEW USER REQUESTS AN ACCOUNT

Point Blue New User Registration

## New User Registration

First Name \*  Last Name \*

Email Address \*   
to sign-in and register.

Password \*

Re-enter Password \*

Your Organization \*

Street Address

City  State

Country

Point Blue New User Registration

## Thank you for registering!

We will be sending you an email momentarily asking you to confirm this registration

- Make sure that you can receive email from [datasolutions@pointblue.org](mailto:datasolutions@pointblue.org) so that the message isn't blocked as spam.
- You should receive a confirmation email within a few minutes. If not, you should re-register, as your email address may have been typed incorrectly.
- If you do not receive your confirmation email after the second registration attempt, please send an email to [support@pointbluehelp.zendesk.com](mailto:support@pointbluehelp.zendesk.com) with details of your registration.
- Use the link in that email to confirm your registration. Upon confirmation, an email will be sent to a project leader or system administrator approving your access to the system and any projects you've requested.



# STEP 2: VERIFY ACCOUNT

 datasolutions@pointblue.org 13-03-202

---

**Subject:** Please confirm your registration with DOD\_DEMO

---

Confirm Your Registration with DOD\_DEMO

DOD\_DEMO User Name: DoDTest@akn.org

Thank you for registering your account with DOD\_DEMO

Before you are able to use your new account, you must click the link below to validate your e-mail address and complete your registration:

[https://data.pointblue.org/apps/public/deju.php?p=NewuserConfirm&tt=\\_\\_tmpr65f1ee1b28d6d&hs=YjQ0WnowTmNMVGZ3adc&deju\\_nextPage=nu-confirm](https://data.pointblue.org/apps/public/deju.php?p=NewuserConfirm&tt=__tmpr65f1ee1b28d6d&hs=YjQ0WnowTmNMVGZ3adc&deju_nextPage=nu-confirm)

If you have any problems or questions, please contact us at support@pointb

**Point Blue Science Cloud**

---

**Email confirmation**

Please use the button below to complete your email confirmation.

**Point Blue Science Cloud**

---

**Email successfully confirmed**

Thank you for successfully confirming your email address.

An email was sent to the project leader(s) of your requested project for approval.

Once your project access has been approved you will receive an email with information about how to log into the system.



# STEP 3: PROJECT LEADER APPROVAL

OAKN new user request to join DOD\_DEMO - Message (HT...)

File Message Help Acrobat

Share to Teams All Apps Mark Unread Find Zoom Save Attachments

OAKN new user request to join DOD\_DEMO

datasolutions@pointblue.org  
To: crg; Dianne Miller

Reply Reply All Forward

Wed 3/13/2024 11:35 AM

If there are problems with how this message is displayed, click here to view it in a web browser.  
Click here to download pictures. To help protect your privacy, Outlook prevented automatic download of some pictures in this message.

Start your reply all with:

**WARNING, this message has originated from an external source.**

AKN new user request to join DOD\_DEMO

The following person is requesting access:

Name: TestUser, DoD Email: [DoDTest@akn.org](mailto:DoDTest@akn.org) Project: DOD\_DEMO

To approve or deny this request, click on this link: [https://data.pointblue.org/apps/projectleaders/index.php?page=appr-new-p&deju\\_rid=27045&deju\\_hs=YjQ0WnowTmNMVGZ3dw%3D%3D&deju\\_registration\\_host=cadc&deju\\_pr=DOD\\_DEMO](https://data.pointblue.org/apps/projectleaders/index.php?page=appr-new-p&deju_rid=27045&deju_hs=YjQ0WnowTmNMVGZ3dw%3D%3D&deju_registration_host=cadc&deju_pr=DOD_DEMO)

All the best, Your Avian Data Center

# STEP 3: PROJECT LEADER APPROVAL

*THIS IS WHERE YOU COME IN*



**Project Leader**

Home

Sampling Units

Field Observations

Project Definition

## Approve New User Request

**Project:** DOD\_DEMO  
**Requestor:** TestUser, DoD  
Email: **DoDTest@akn.org**

Which Approval should you choose? ?

Approve as Biologist

Approve as Project  
Leader

Deny Access

# BIOLOGISTS VIEW

## Welcome to AKN Biologists

AKN Biologists is an application for entering and reviewing field observations in support of the Avian Knowledge Network, hosted by [Point Blue Data Solutions](#)

### Projects

What project do you want to work in?

[Quick Tips >>](#)

DOD\_DEMO - DoD Demonstration Project

### Project Observation Types

For project: DOD\_DEMO

What type of observations would you like to work on?

[Quick Tips >>](#)

- [Area Search Surveys](#)
- [Point Count Surveys](#)
- [Site Conditions](#)

[Feedback](#) | **User:** [dodtest@akn.org](#) | [Logout](#)

Powered by [Point Blue Data Solutions](#)



# INACTIVE ACCOUNT

Biologists **Project:** DOD\_DEMO Error: PRBODB.InvalidProjectAccessRights (403 error) ✕

## Welcome to AKN Biologists

AKN Biologists is an application for entering and reviewing field observations in support of the Avian Knowledge Network, hosted by [Point Blue Data Solutions](#)

### Projects

What project do you want to work in?

[Quick Tips >>](#)

Loading available project operations...

---

[Feedback](#) | [User:](#) dodtest@akn.org | [Logout](#) Powered by [Point Blue Data Solutions](#)

# OPEN FORUM



# PLUSES AND DELTAS

---

# WORKSHOP WRAP-UP





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

*AKN Virtual Training (Guam/CNMI)*  
*4 and 6 February 2026*  
Virtual

**Sam Veloz**

**Elizabeth Neipert**  
**Zoe Duran**

**John Alexander**  
**Caitlyn Gillespie**  
**Nora Honkomp**

