



AVIAN
KNOWLEDGE NETWORK

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

*DoD OCONUS Training
21 – 23 February, 2024*

Marine Corps Base Hawaii Kanohe Bay, HI

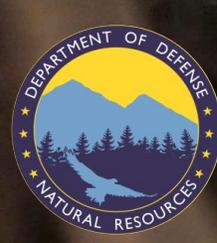
Sam Veloz
Dianne Miller

Elizabeth Neipert
Zoe Duran

John Alexander
Caitlyn Gillespie



Black-crowned Night Heron, Coronado, CA; Photo Credit: Dana Bradshaw



pointblue.github.io/dod_workshop

Black-crowned Night Heron, Coronado, CA; Photo Credit: Dana Bradshaw

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

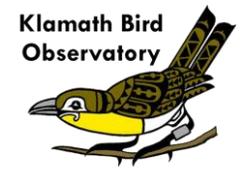
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WELCOME, INTRODUCTIONS, AND LOGISTICS





Who are **we**?

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

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

INTRODUCTIONS

A FEW LOGISTICS...

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



DoD Participation in the Avian Knowledge Network (AKN): the Who, What, Where, When, Why, and How
DoD AKN Marine Corps/Navy OCONUS Training, February 21-23, 2024, Marine Corps Base Hawaii

Resources: Agenda Tools Slides Exercises About Us Archive

Agenda
All times Hawaii Standard (HST)

Wednesday, February 21
All times Hawaii Standard (HST)

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

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

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

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

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

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

- Bring lunch or go out to lunch nearby (1hr)
- Parking lot items

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



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

ENERGY, INSTALLATIONS,
AND ENVIRONMENT

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

SUBJECT: Department of Defense Avian Knowledge Network Program

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

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

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

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

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

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

KIDD, RICHARD GO Digitally signed by
ODWIN IV.1163856
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16366591
Date: 2022.08.24 11:39:54 -0400

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

DoD MANDATE MEMO



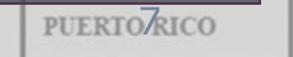
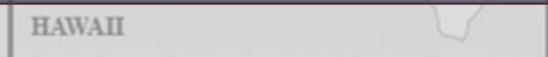


WHY?

**DoD
&
AKN**



- Army
- Air Force
- Marine Corps
- Navy
- DLA



DOD DATA ISSUES

- (1) Inefficient access to data for regulatory requirements, environmental analyses, and planning
- (2) Lack of visibility on avian species population trends and management across the Military Services and broader landscapes
- (3) Lack of a centralized, secure data repository resulting data loss during personnel turnover



WHY?

**DoD
&
AKN**

AKN DATA SOLUTIONS

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



HAWAII

PUERTO RICO

WAKE IS.

GUAM



FULL AVIAN DATA LIFE CYCLE

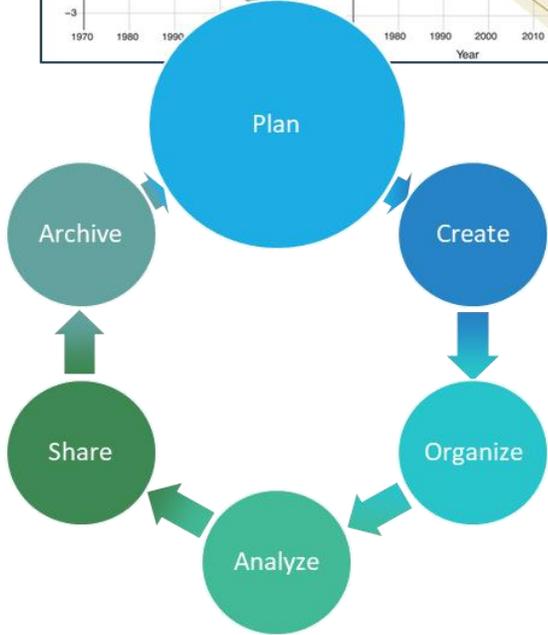
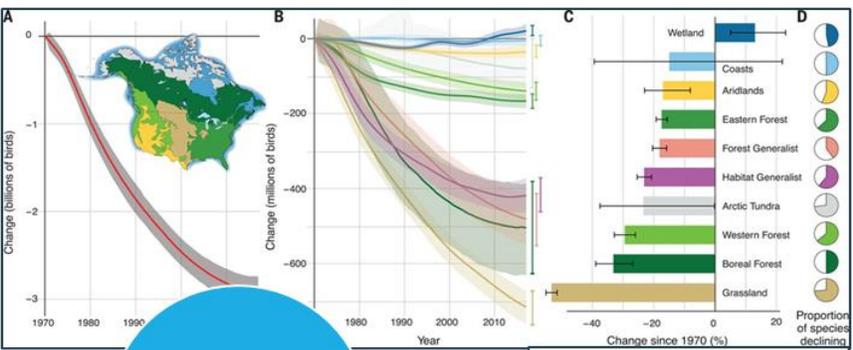


FULL AVIAN DATA LIFE CYCLE

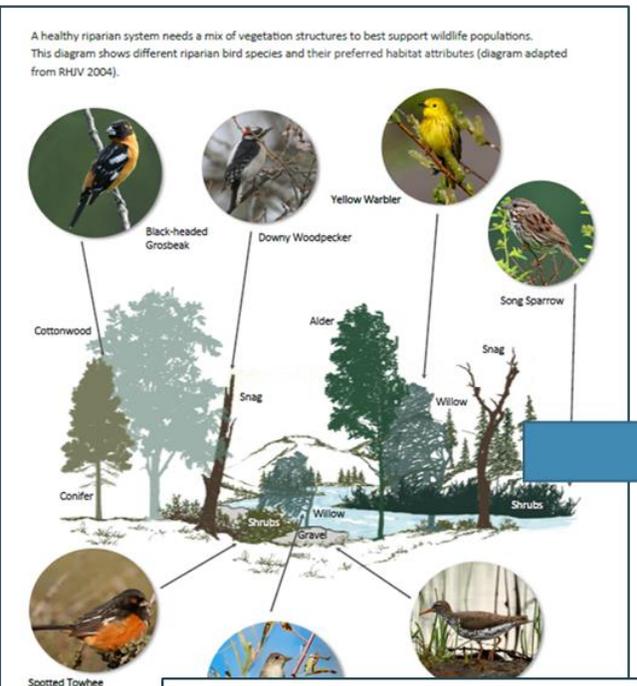




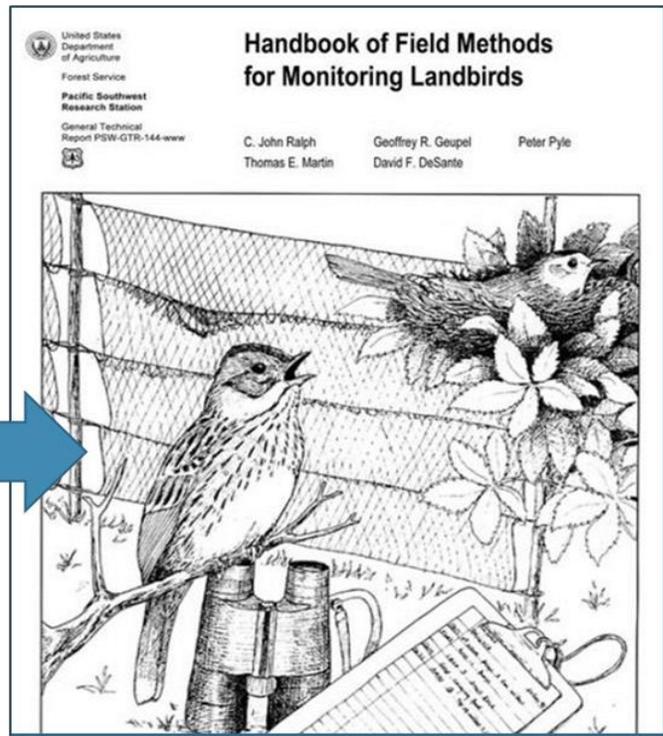
FULL AVIAN DATA LIFE CYCLE



Objective: population trends



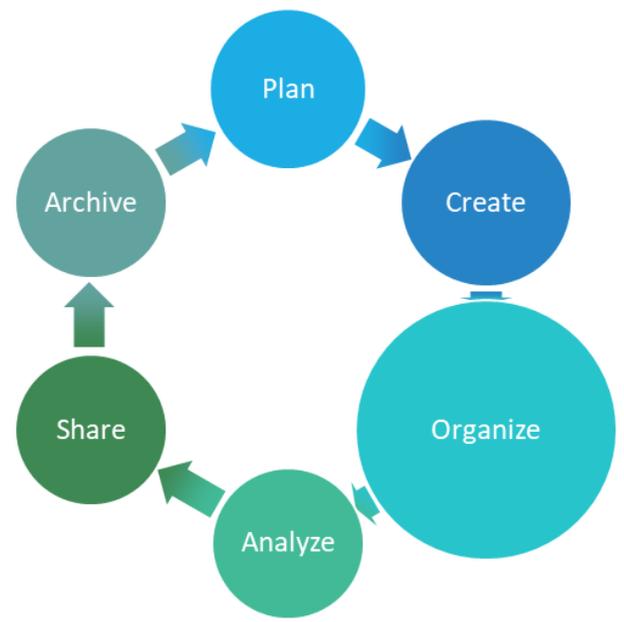
Objective: restoration & management



APPROPRIATE METHODOLOGIES

SURVEY OBJECTIVES

FULL AVIAN DATA LIFE CYCLE



Observations

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

[Quick Tips >>](#)

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

Observation Protocol: VCP100Sx
 Total Birds Counted: 7

DATA ENTRY
QA/QC

[Download CSV](#)

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



FULL AVIAN DATA LIFE CYCLE

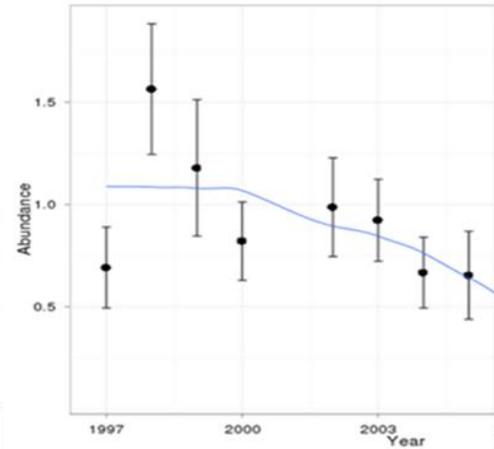
ANALYSIS

Total Number of Observations of each Species by Year

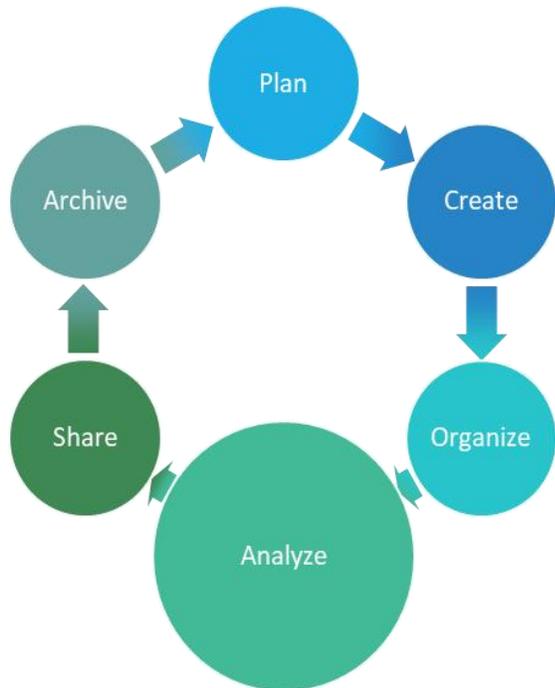
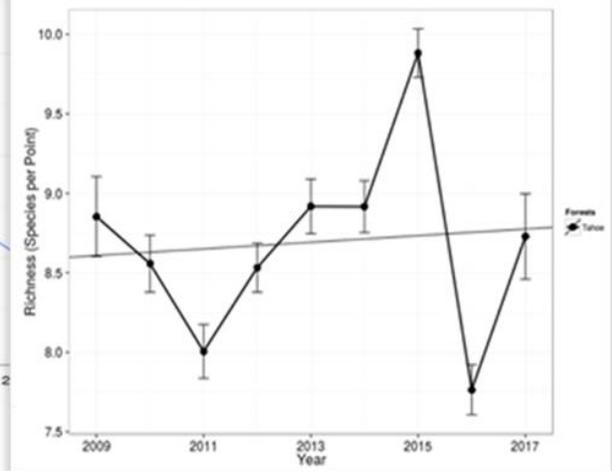
copy table to: [CSV](#) [HTML](#) [DOC](#) [PDF](#)

Common Name	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
American Crow	0	7	2	0	5	25	11	5	1	11	0
American Dipper	1	5	7	2	5	1	1	3	3	3	6
American Goldfinch	0	33	0	17	28	15	38	8	21	8	36
American Kestrel	0										
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										

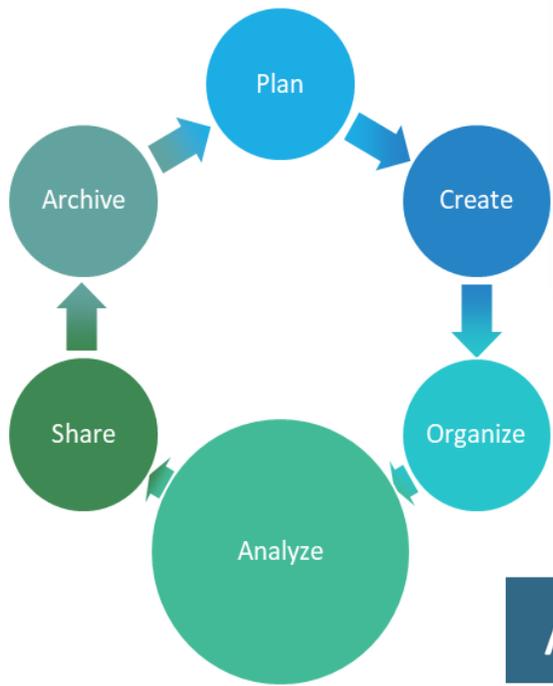
Trend in Abundance over Year Collected. Generalized additive trend estimate of Abundance by Year with locally weighed (loess) smoother. Estimate for Species = Song Sparrow Using Locally Weighed (loess) Smoother



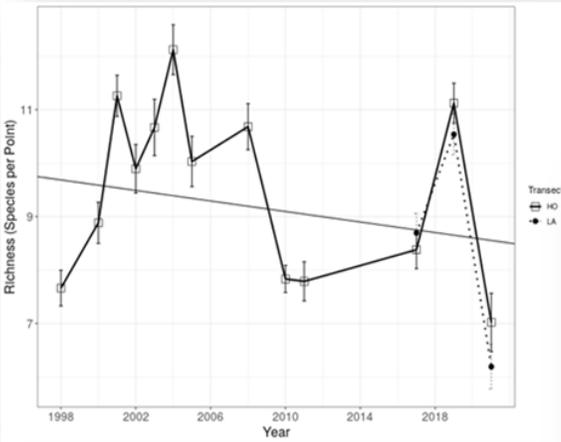
Simple linear trend estimate of Richness (Species per Point) by Year



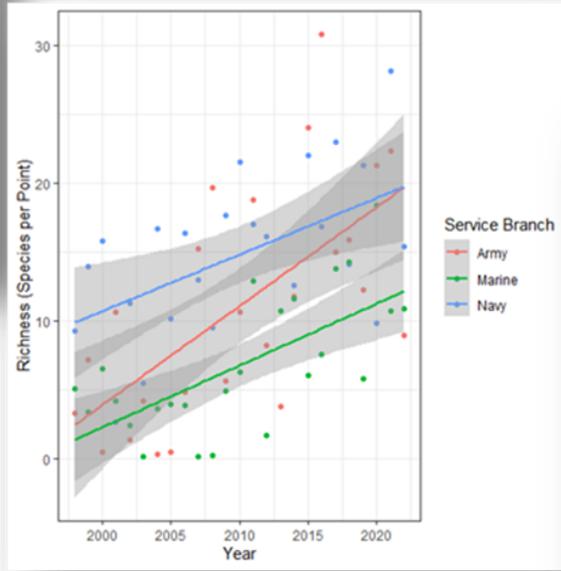
FULL AVIAN DATA LIFE CYCLE



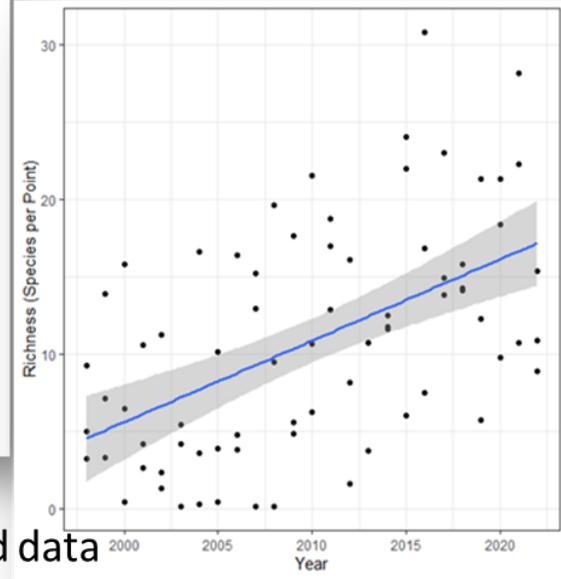
Vandenberg Space Force Base Project Riparian Richness



Service Branch Program Riparian Bird Richness



DoD Program Riparian Bird Richness

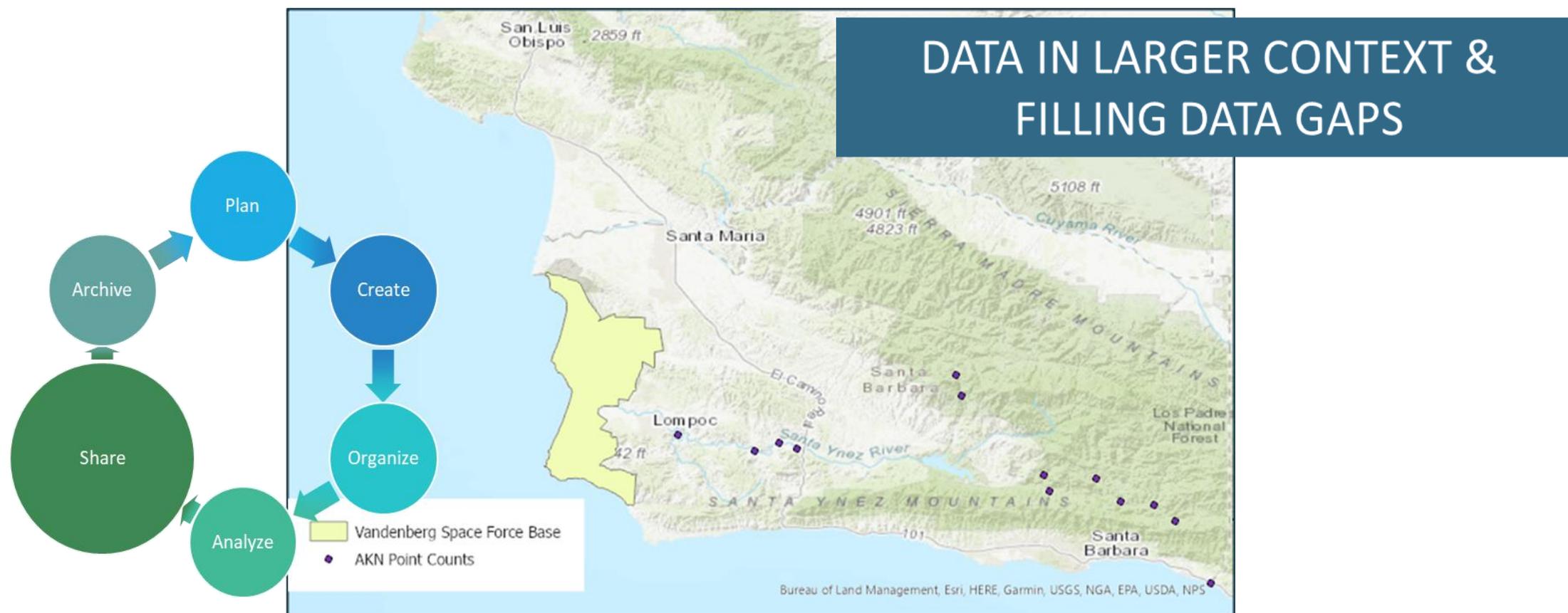


ANALYSIS AT MULTIPLE SCALES

*Simulated data

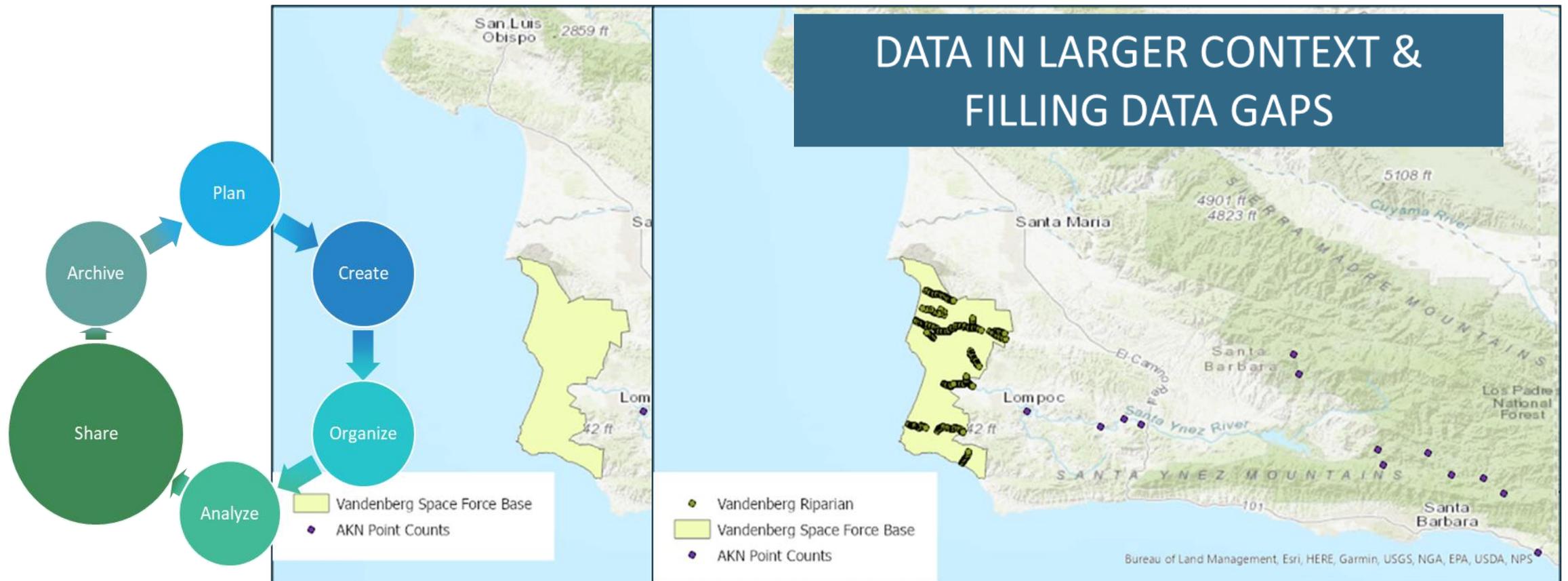


FULL AVIAN DATA LIFE CYCLE

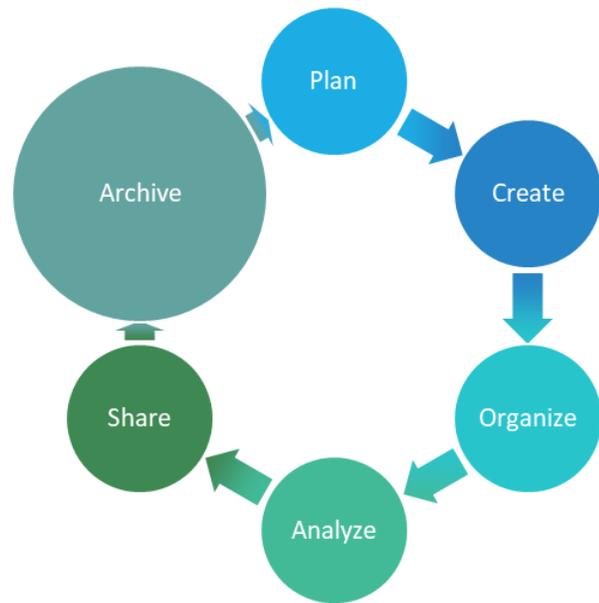




FULL AVIAN DATA LIFE CYCLE



FULL AVIAN DATA LIFE CYCLE



Field Observations - Download

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

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

1. Select sampling units from the tree below.

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

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

2. Download observation data from selected Sampling Units into:

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

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

Project Protocols

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

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

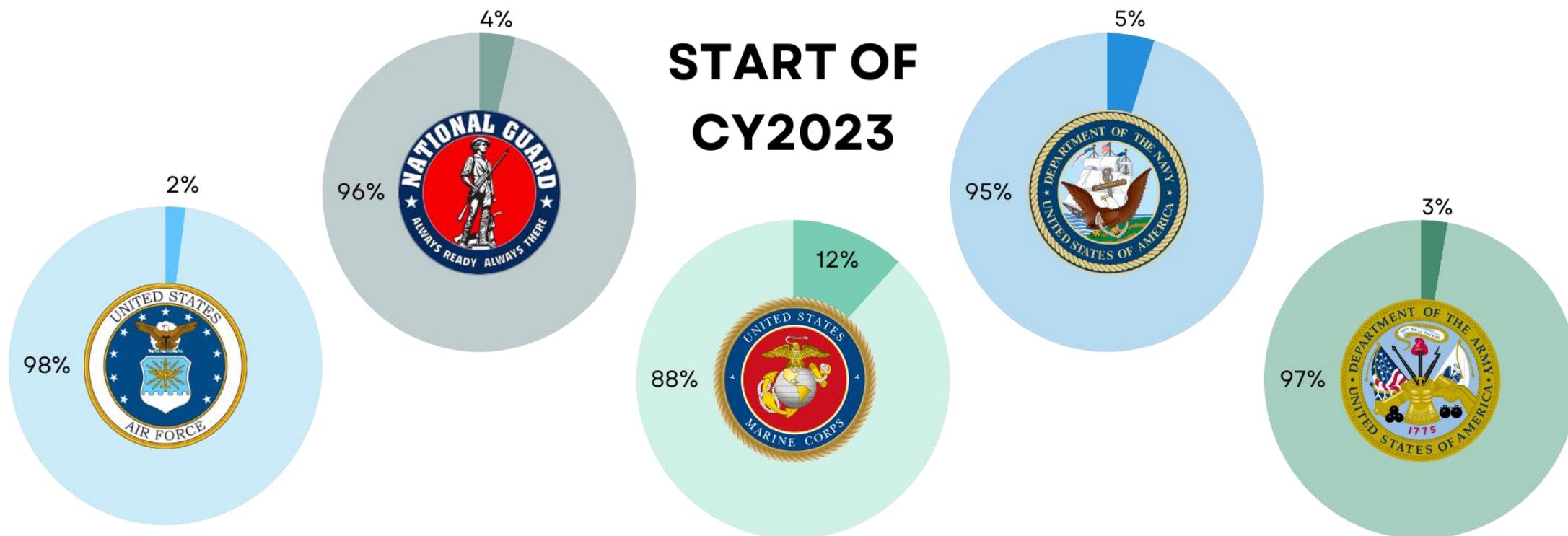
Protocol Id	Protocol Name	Protocol Type	
BI_S_V_BI	BLRA,SORA,VIRA,BLTA	SecretiveMarshBirdCount	✗
IMBCR_VRPC	Bird Conservancy of the Rockies IMBCR 6 min count	PointCount	✗
SiteConditions_FORT_CARSON	Site conditions temperature, wind, sky, noise	SiteConditions	✗
VRPC__10min_2TB	Variable radius point count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

4 rows

PERMANENT STORAGE & ACCESS

341 installations that require Integrated Natural Resources Management Plans

**START OF
CY2023**



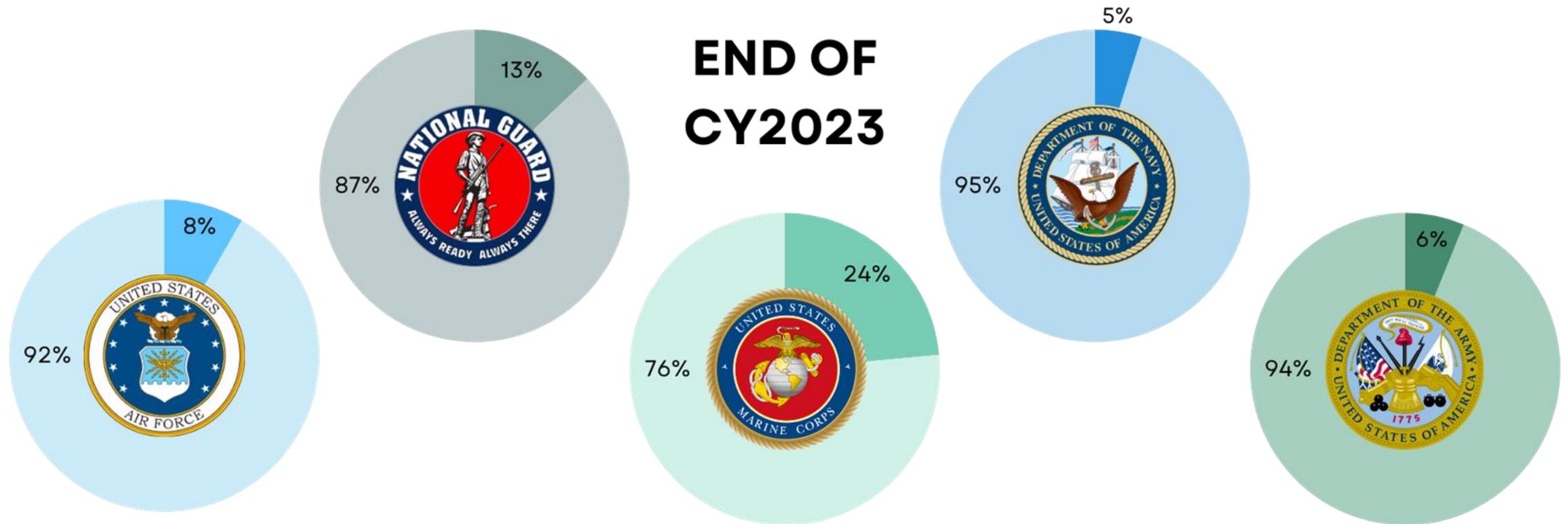
Total Number of Installations: **146** Army, **82** Navy, **96** Air Force, **17** Marine Corps, **54** National Guard states/territories

Dark colors - Installations with Contemporary Data

Light colors - Installations without Contemporary Data

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

**END OF
CY2023**



Total Number of Installations: **146** Army, **82** Navy, **96** Air Force, **17** Marine Corps, **54** National Guard states/territories

Dark colors - Installations with Contemporary Data

Light colors - Installations without Contemporary Data



CAN YOU LOG IN?

Biologists:

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 installation's specific projects, data needs, and issues.



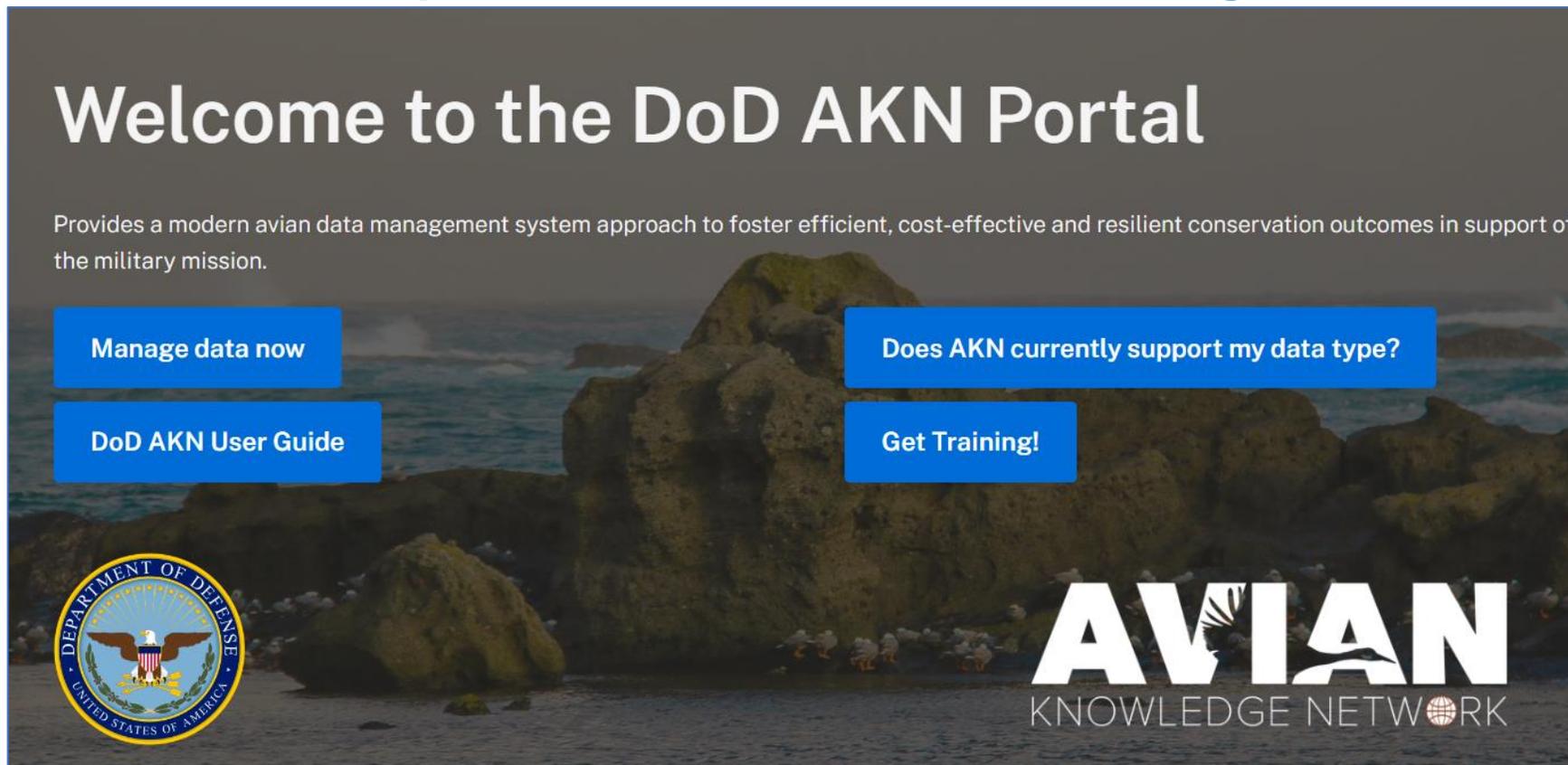
AKN PROJECT DATA 101





DoD AKN PORTAL

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

A screenshot of the DoD AKN Portal homepage. The background is a dark, moody image of a rocky coastline with waves crashing against the rocks. In the foreground, there are several blue buttons with white text. The main heading is "Welcome to the DoD AKN Portal" in large white font. Below it is a paragraph of text: "Provides a modern avian data management system approach to foster efficient, cost-effective and resilient conservation outcomes in support of the military mission." There are four blue buttons: "Manage data now", "DoD AKN User Guide", "Does AKN currently support my data type?", and "Get Training!". In the bottom left corner is the Department of Defense Avian Knowledge Network logo, and in the bottom right corner is the "AVIAN KNOWLEDGE NETWORK" logo in white text.

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](#)

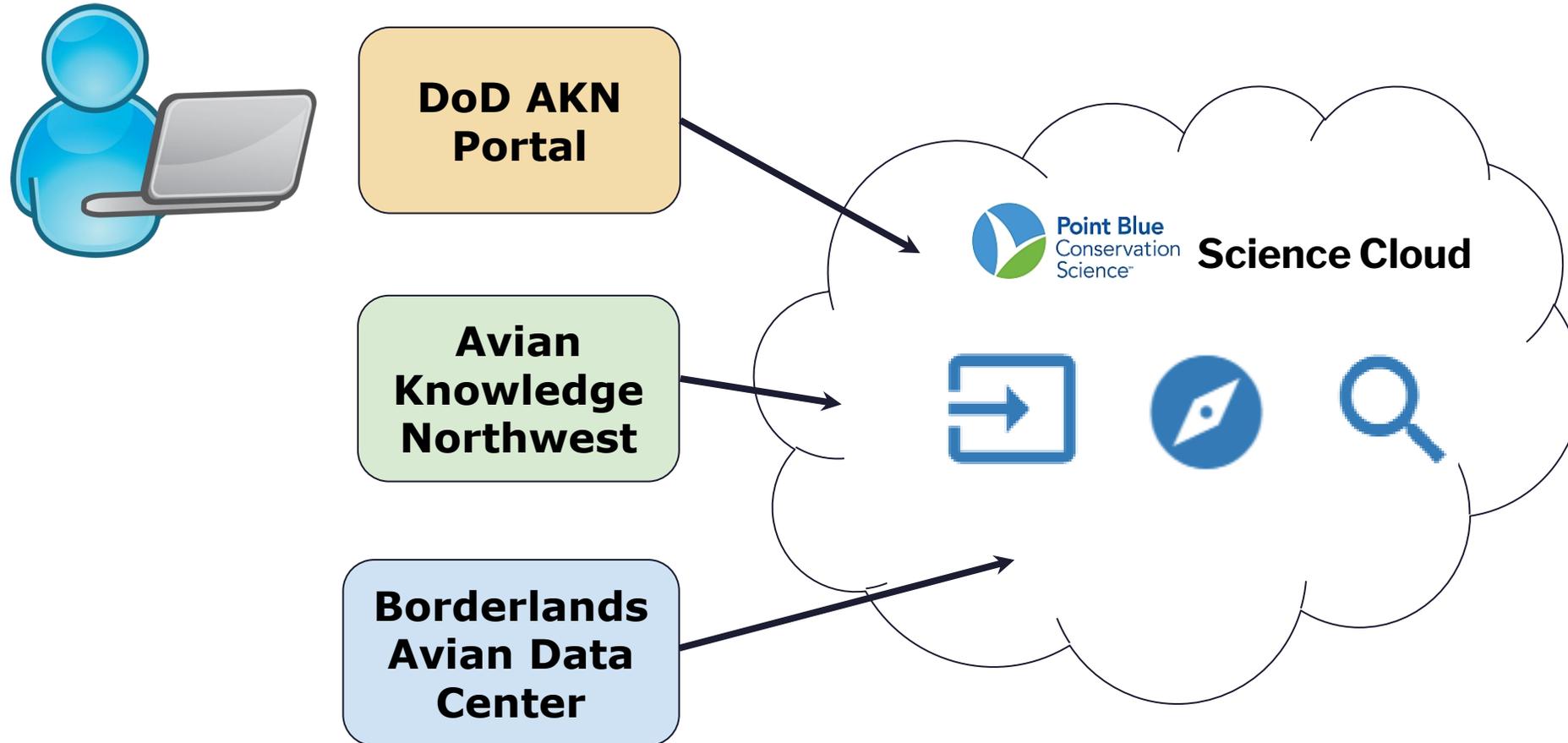
[Does AKN currently support my data type?](#)

[Get Training!](#)





AKN: COMMON CLOUD TECHNOLOGY





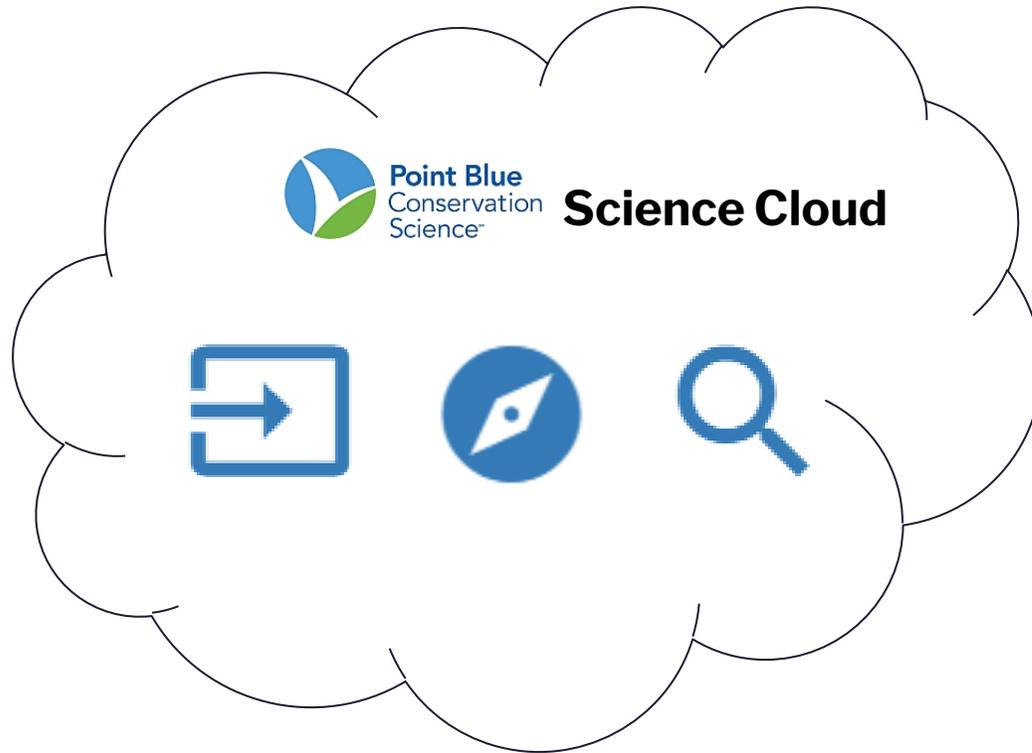
FOCUS FOR THIS TRAINING

How do we represent protocol-based science?

How do you get data in?

How do you get your data & information out?

What conservation questions can you answer?





MA ARMY NATIONAL GUARD

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





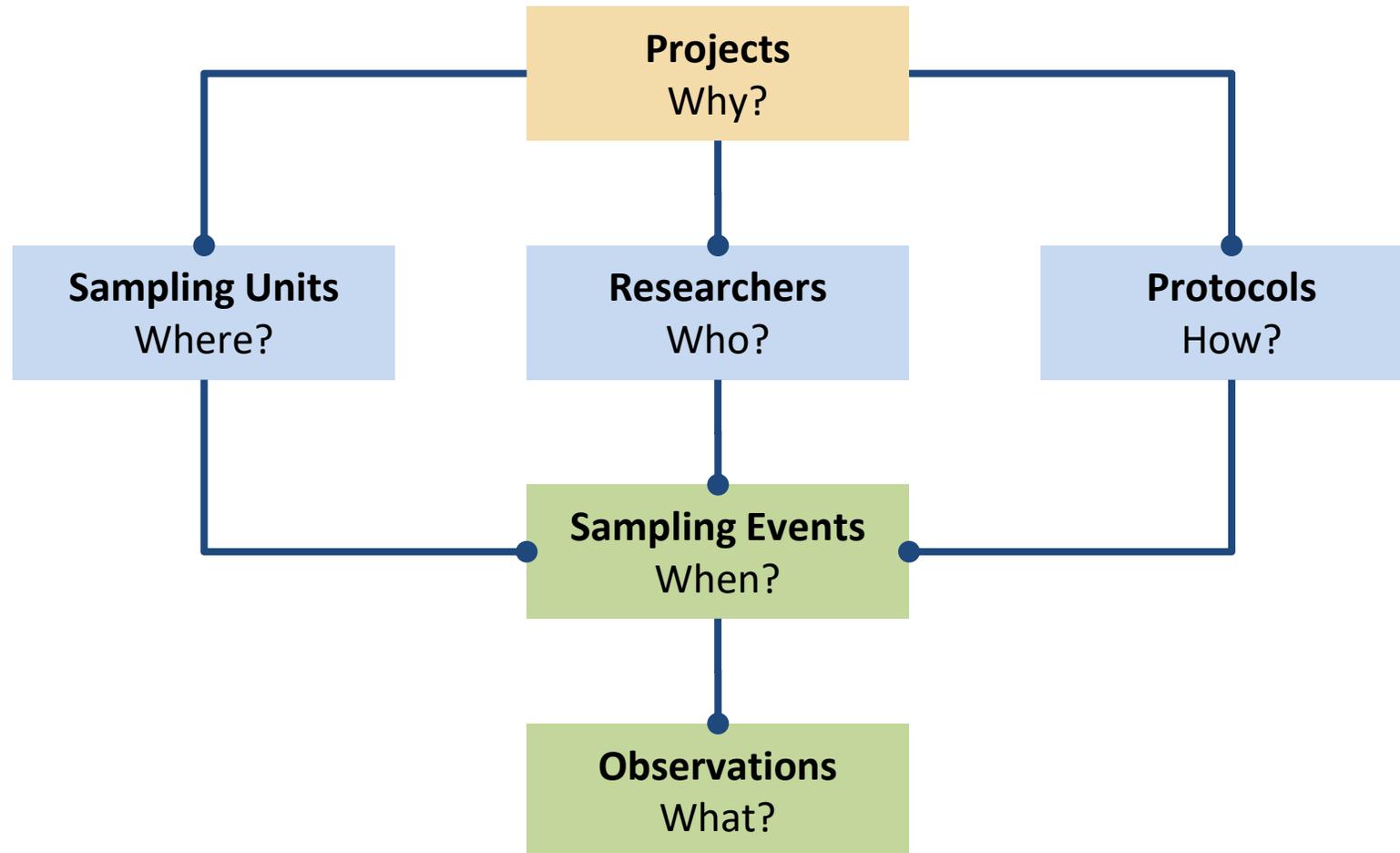
AKN PROJECT DATA 101

1. The parts of a Project Database

2. The workflow for creating and managing a Project

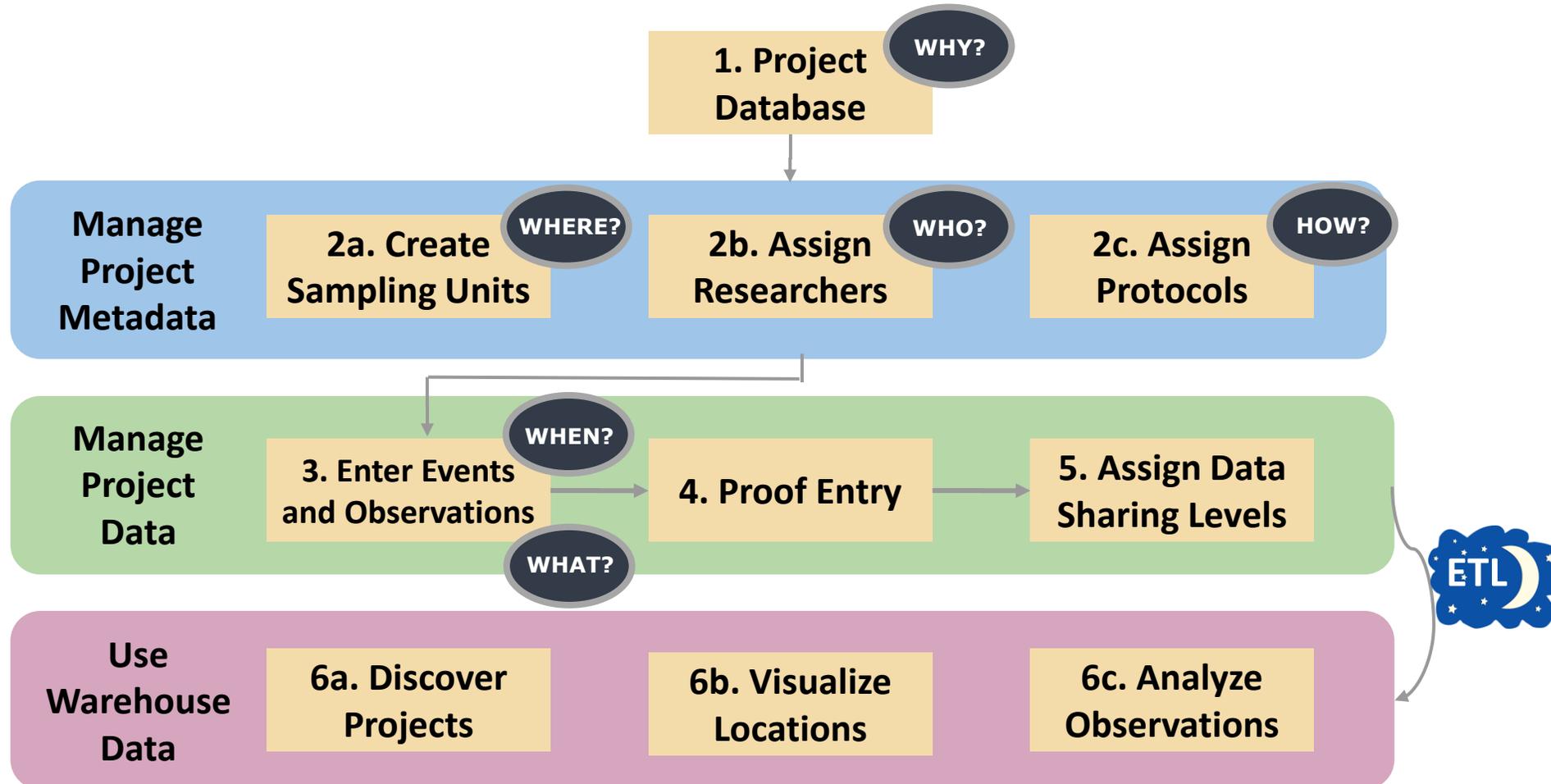


THE PROJECT DATABASE



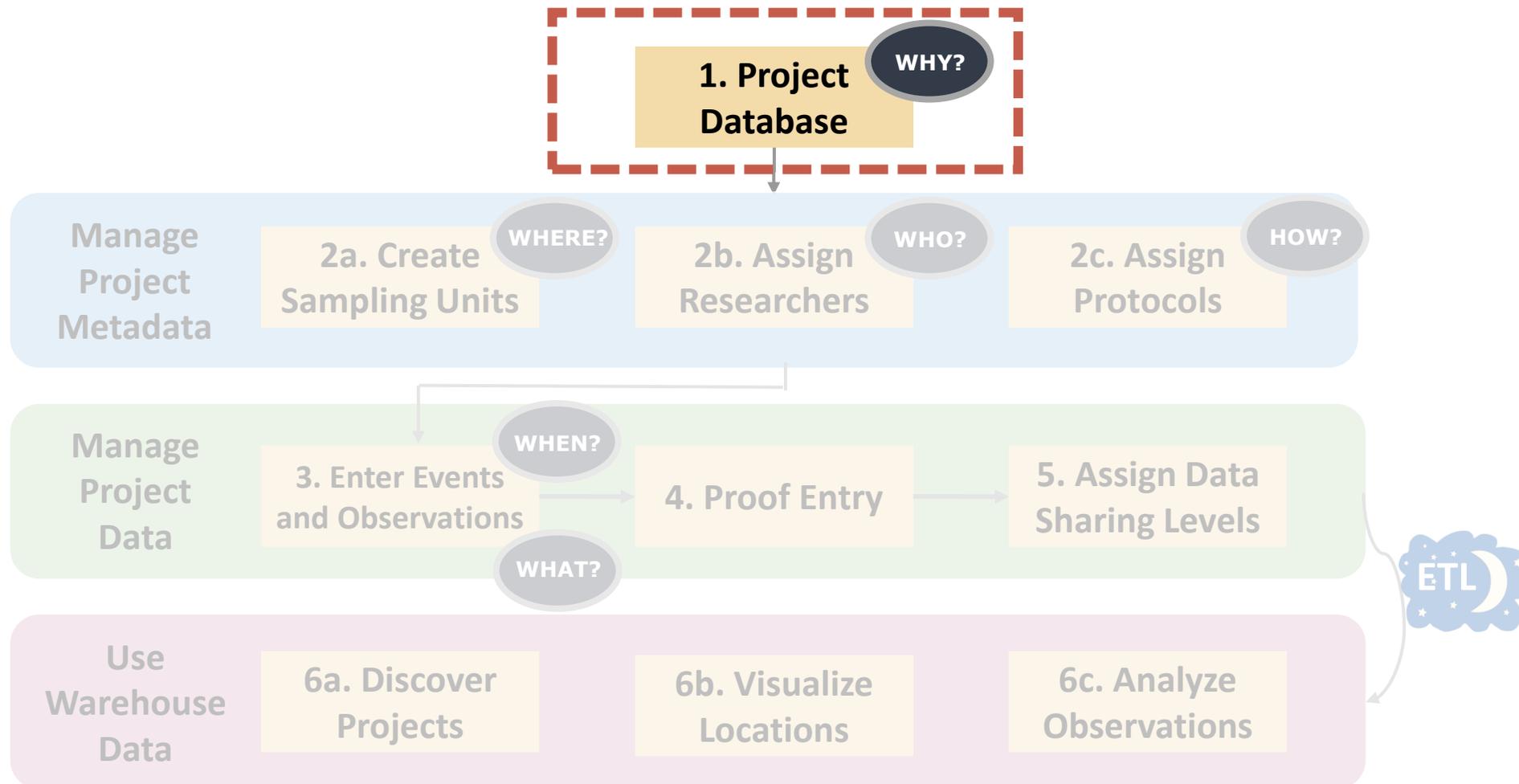


WORKFLOW FOR MANAGING A PROJECT





WORKFLOW FOR MANAGING A PROJECT



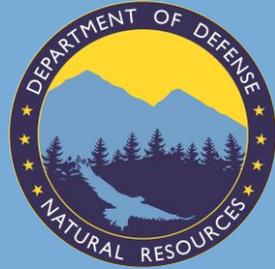


PROJECT

Container for Event and Observation data

Many ways to organize

For DoD: Project = Installation*



DoD Program Structure



Air Force Subprogram 

Installation Project Databases

Army Subprogram 

Installation Project Databases

Navy Subprogram 

Installation Project Databases

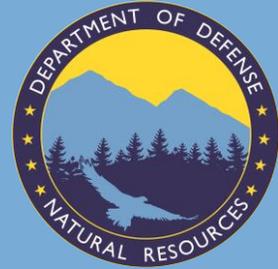
Marine Subprogram 

Installation Project Databases

National Guard Subprogram 

Installation Project Databases*

*National Guard Projects = State Installation = Study Area



DoD Program Structure



**Air Force
Subprogram**



Installation Project
Databases

**Army
Subprogram**



Installation Project
Databases

**Navy
Subprogram**



Installation Project
Databases

**Marine
Subprogram**



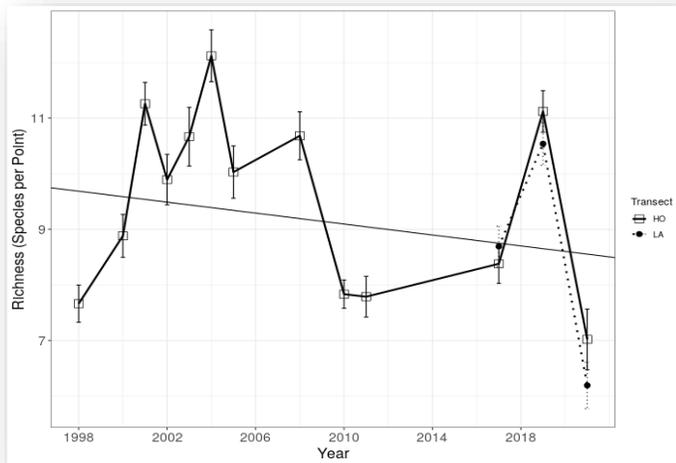
Installation Project
Databases

**National Guard
Subprogram**



Installation Project
Databases

Vandenberg Space Force Base Project
Riparian Richness





DoD Program Structure



**Air Force
Subprogram**



Installation Project
Databases

**Army
Subprogram**



Installation Project
Databases

**Navy
Subprogram**



Installation Project
Databases

**Marine
Subprogram**



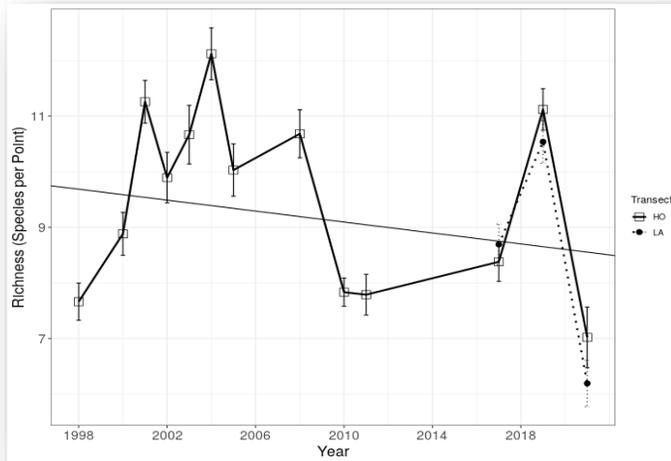
Installation Project
Databases

**National Guard
Subprogram**

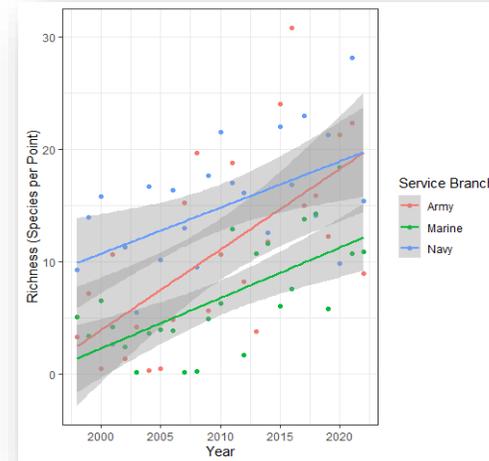


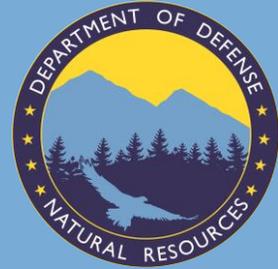
Installation Project
Databases

Vandenberg Space Force Base Project
Riparian Richness



Service Branch Program Riparian
Bird Richness





DoD Program Structure



Air Force Subprogram



Installation Project Databases

Army Subprogram



Installation Project Databases

Navy Subprogram



Installation Project Databases

Marine Subprogram



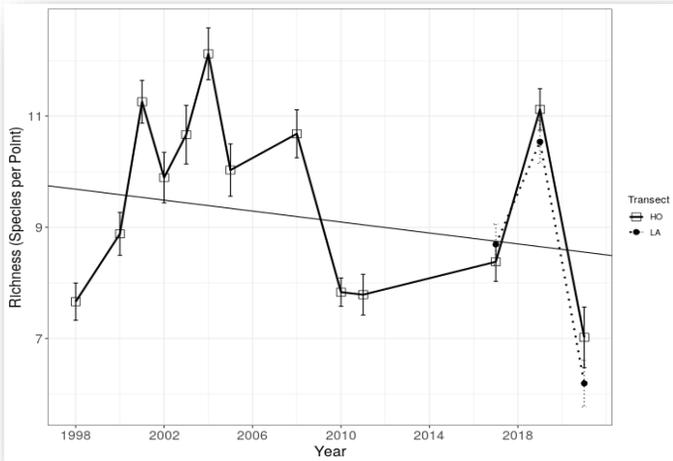
Installation Project Databases

National Guard Subprogram

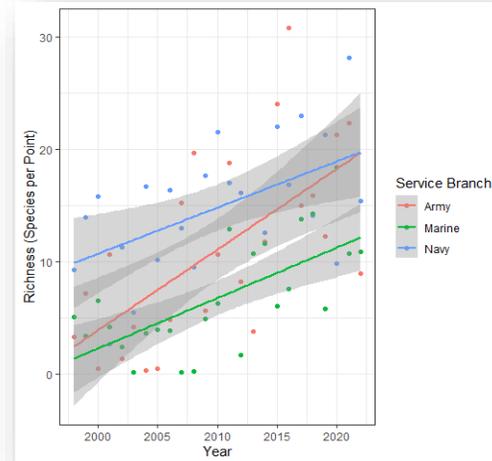


Installation Project Databases

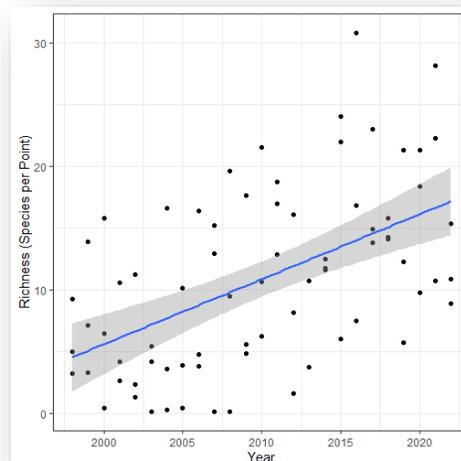
Vandenberg Space Force Base Project Riparian Richness



Service Branch Program Riparian Bird Richness



DoD Program Riparian Bird Richness





CASE STUDY:

BARRY M. GOLDWATER RANGE (BMGR), AZ

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



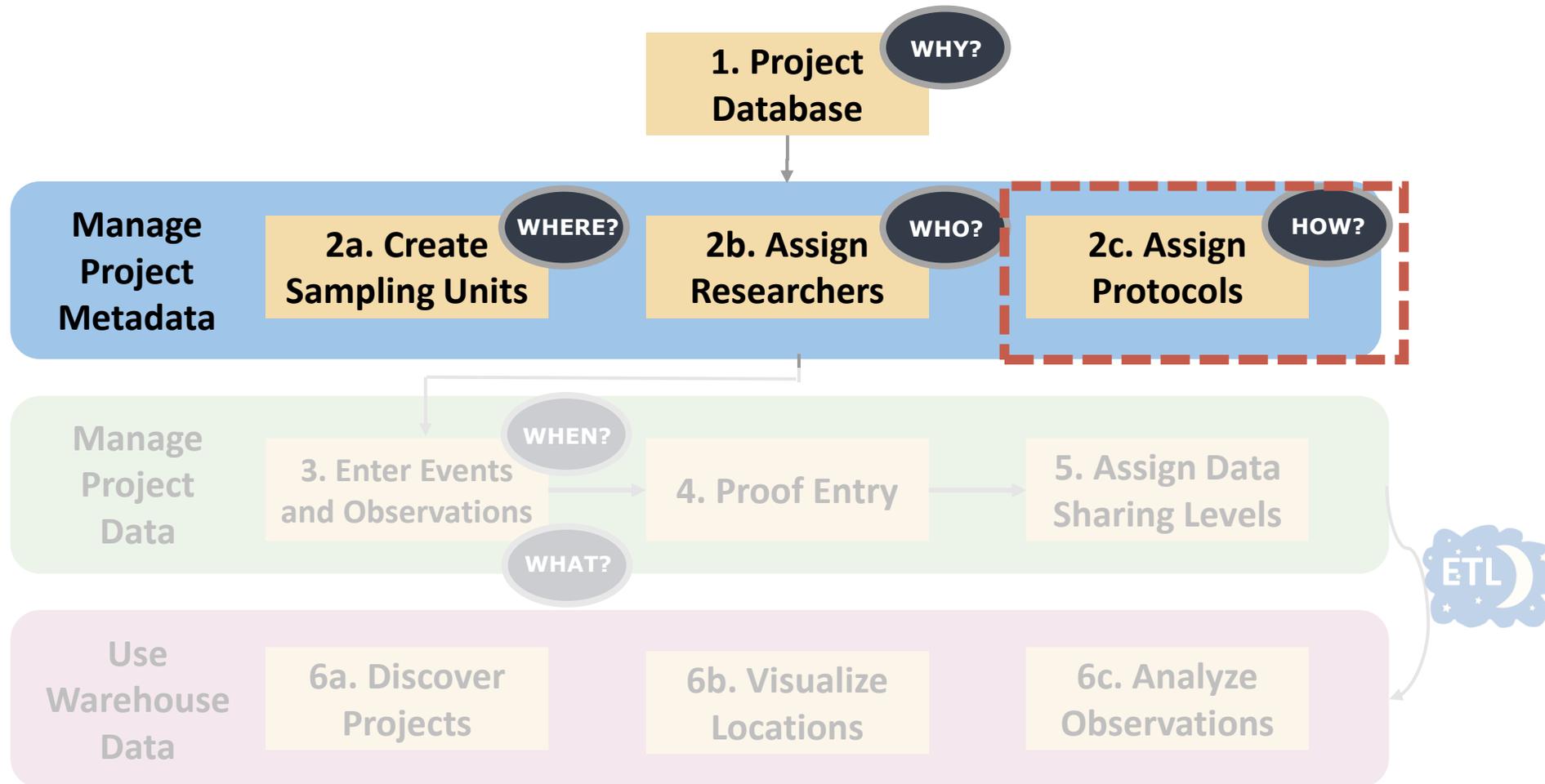
BREAK (5 MINS)

NEXT: PROJECT PROTOCOLS





MANAGING A PROJECT: PROTOCOLS





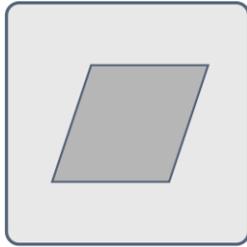
PROTOCOLS

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

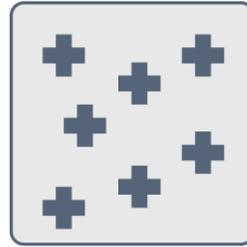
Should provide enough information for researcher 20 years from now to understand the methods you used



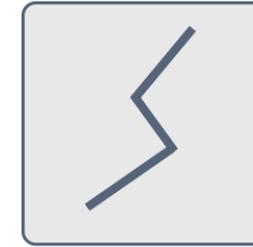
PRIMARY PROTOCOL TYPES



Area Search



Point Count



Linear Transect



Secretive Marshbird



Site Conditions



DISCUSSION ABOUT PROTOCOL TYPES



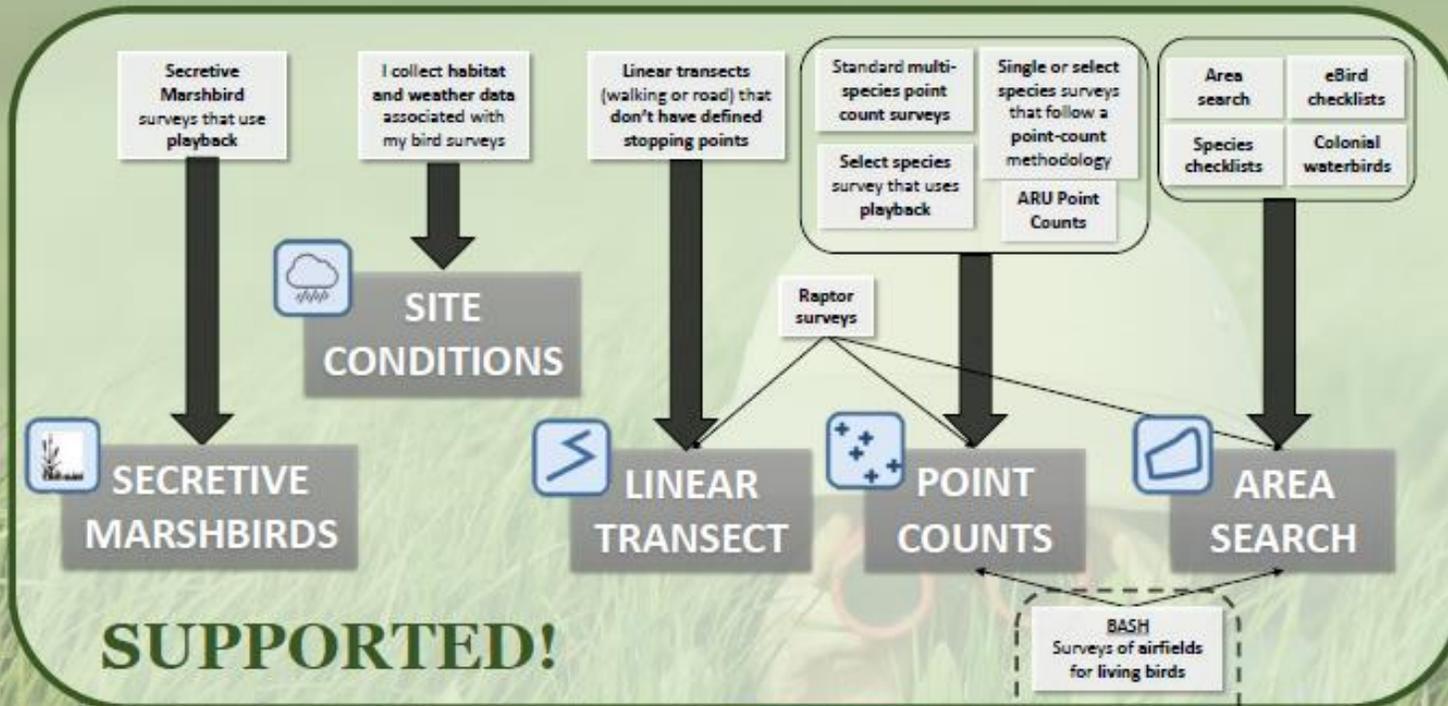
Point Counts



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:

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

[Point Blue protocol](#)

[KBO protocol](#)

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





ASSESSING RAIL RESPONSE TO MANAGEMENT: THE CHALLENGE

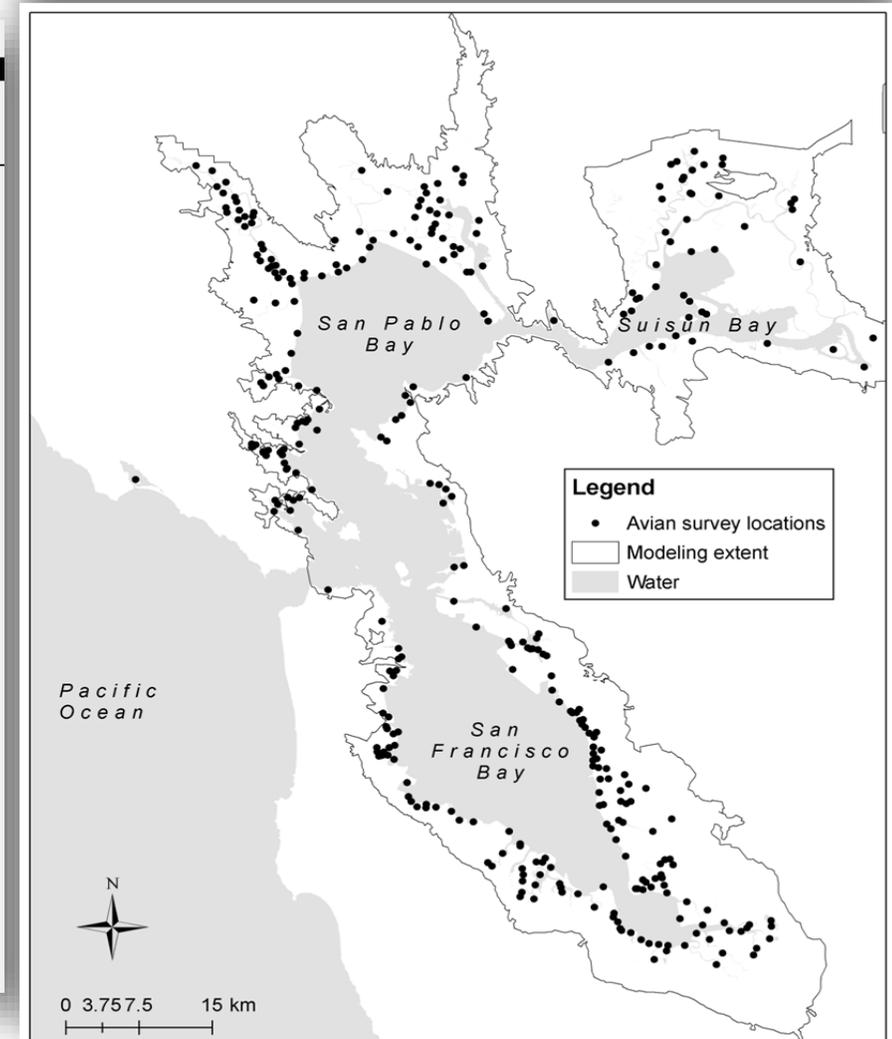
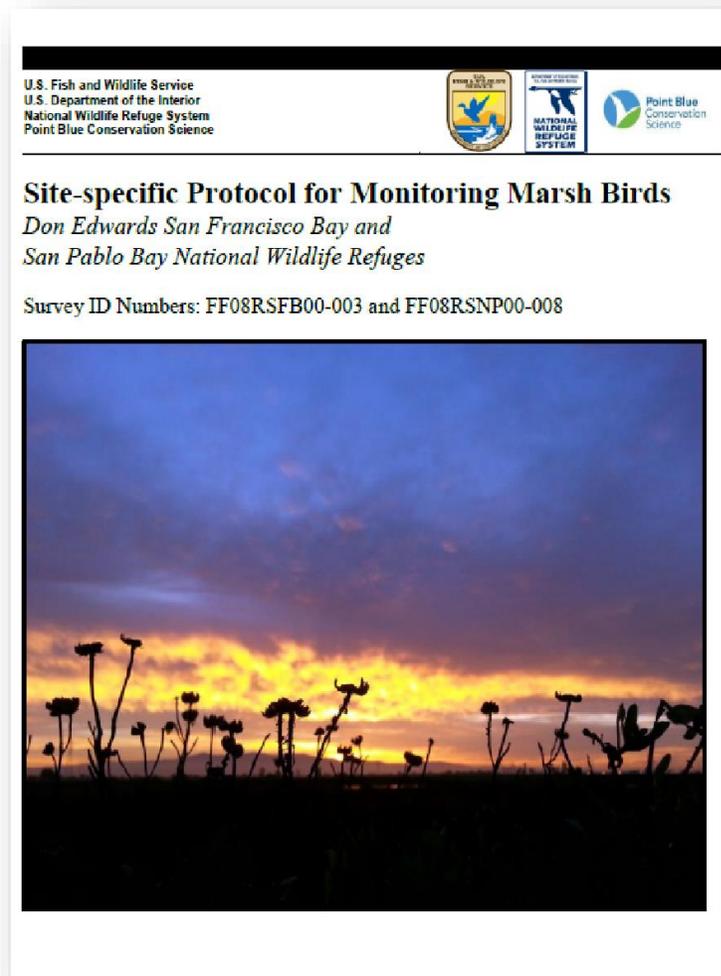


Multi-partner Effort



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)

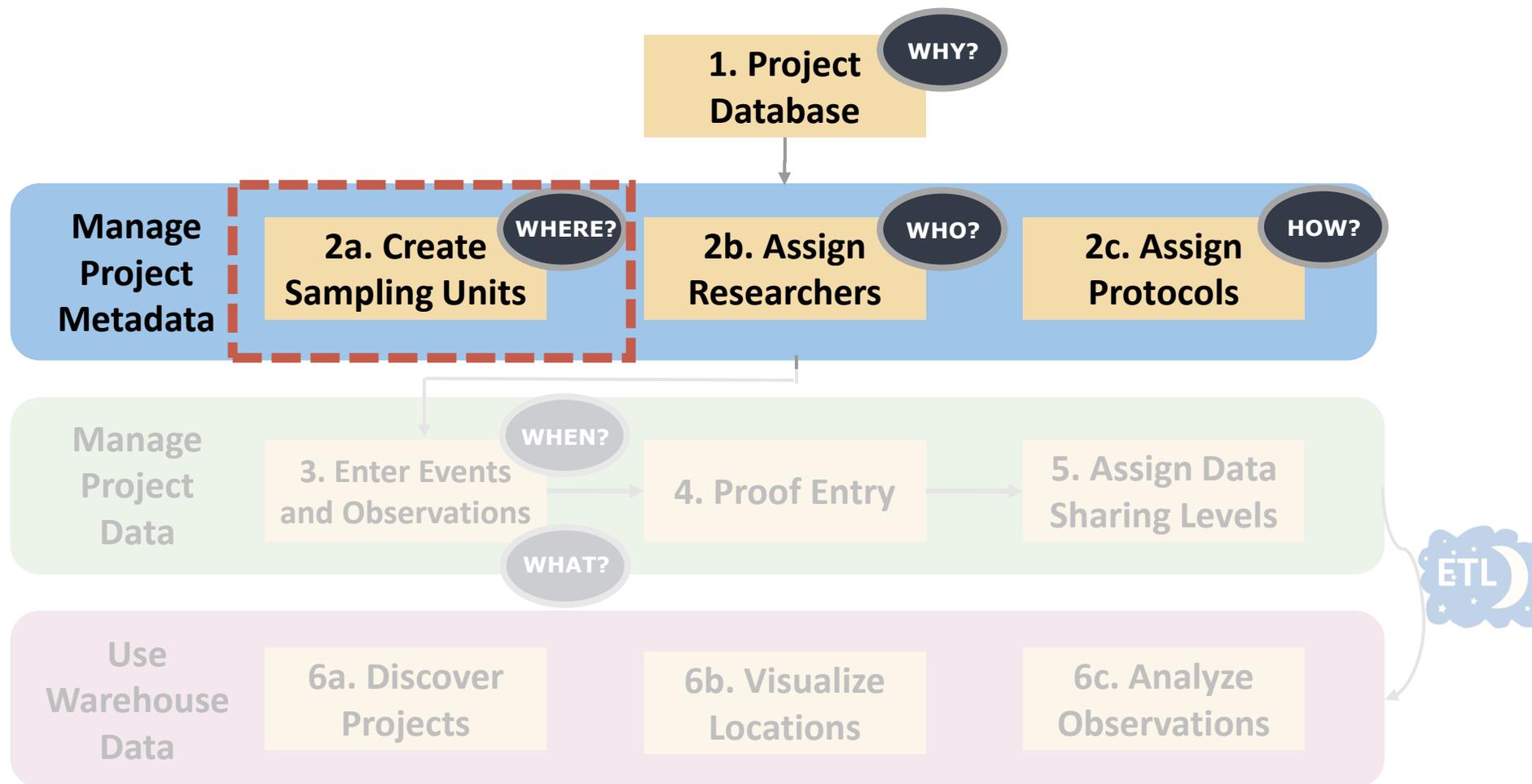
Goal: select Point Count and Site Conditions protocols that match data sheet

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

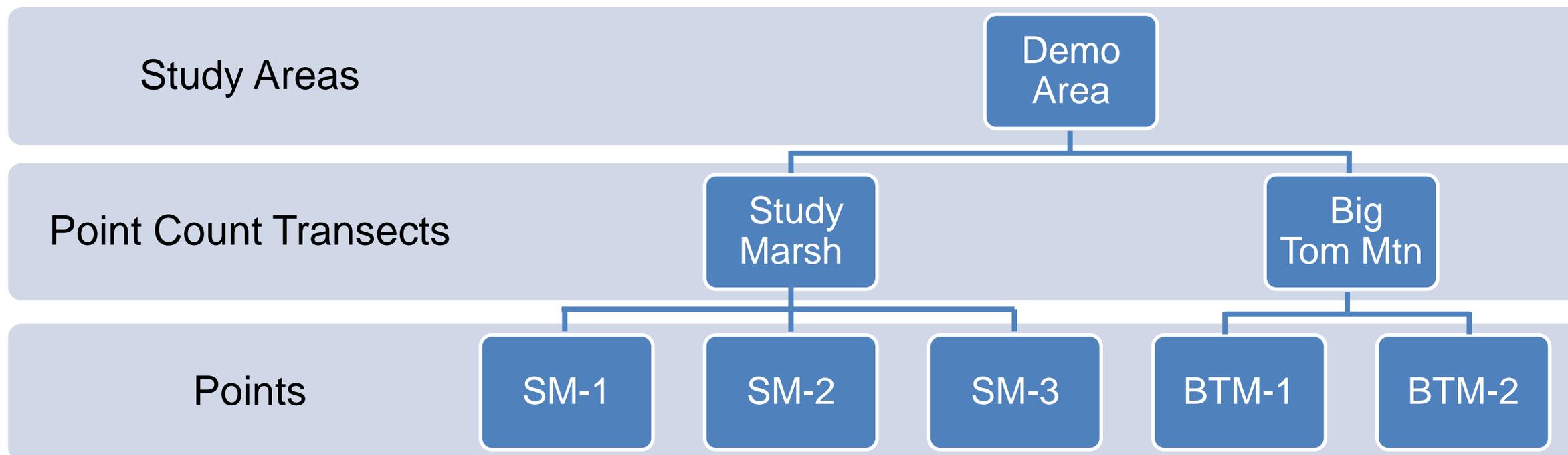
Can have Point/Line/Polygon



SAMPLING UNIT TYPES FOR POINT COUNTS



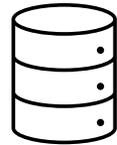
Project: DOD_DEMO



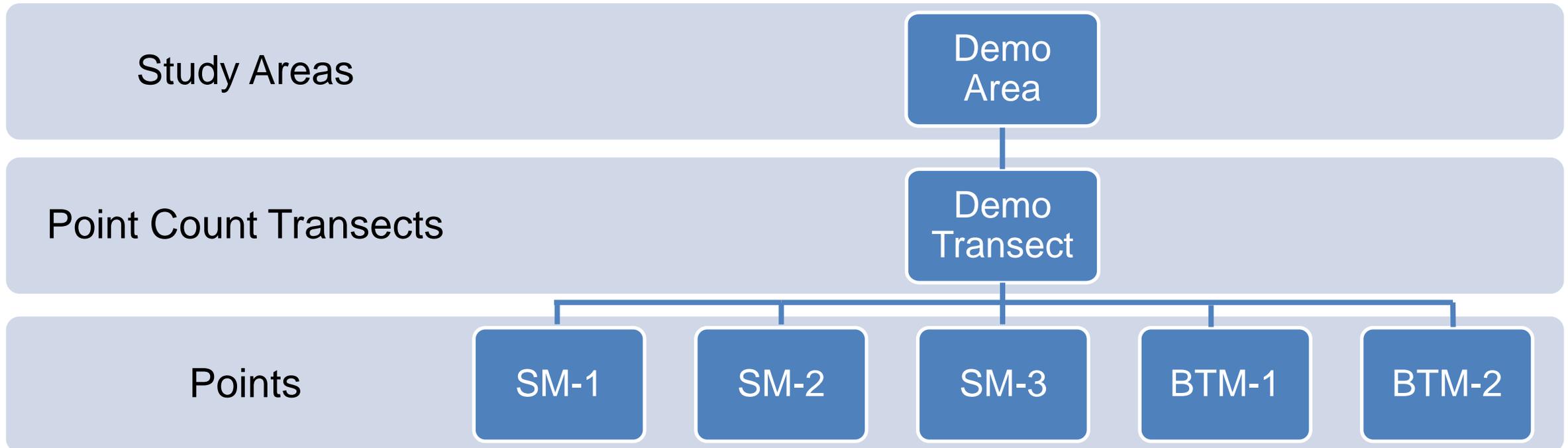
Replicates or independent points?
What questions are you asking?



SAMPLING UNIT TYPES FOR POINT COUNTS



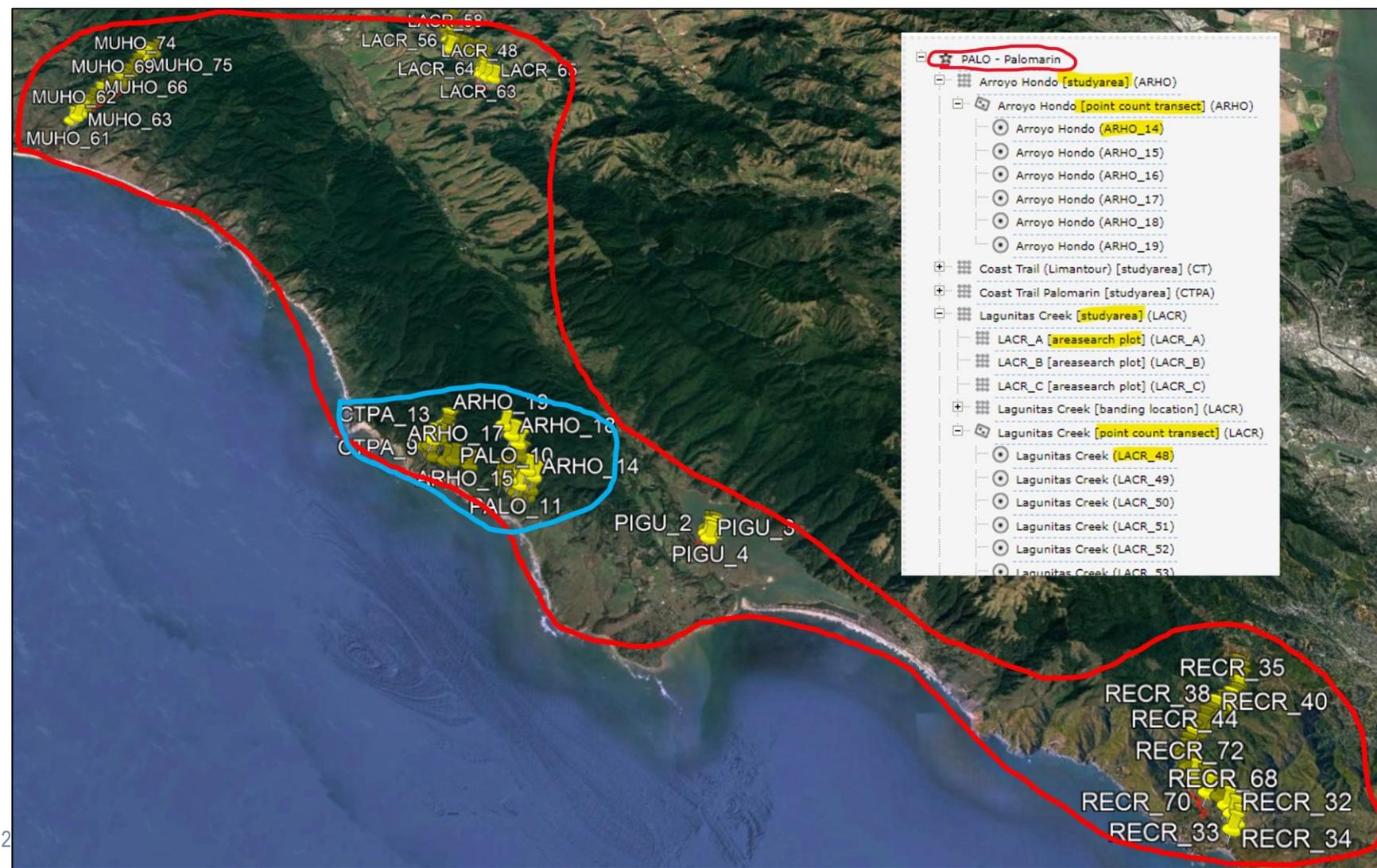
Project: DOD_DEMO



Replicates or independent points?
 What questions are you asking?



SAMPLING UNIT TYPES FOR POINT COUNTS





SAMPLING UNIT TYPES FOR POINT COUNTS





MANAGING PROJECT METADATA

EXERCISE 1: CREATE SAMPLING UNITS



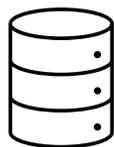


CREATE SAMPLING UNITS

EXERCISE 1

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

Goal: Create a new point count transect with one point under your service branch's Study Area (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: burrowing owl surveys
 - Only group points together in the same transect if they are part of the same survey (geographically grouped and collected on the same day)
 - Consider how you might name your study locations based on geographic features and numbers. (e.g., Emerald Hills 1, Alpha Maneuver Area 3)
 - Remember the hierarchy for point counts is
Study Area → Transect → Point(s)
- We will be building on this exercise later! Think about how your naming strategy can scale as you add surveys and points.



CREATE SAMPLING UNITS

EXERCISE 1

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.

select all
clear all

- DOD_DEMO - DoD Demonstration Project
 - 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](#)



EXAMPLE: FORT CAVAZOS (HOOD), TX

- Both the Adaptive and Integrative Management Team and Endangered Species Team utilizing system in one installation project
- Structured sampling units for differing survey types

Project Protocols

open new project FORT_HOOD - [DOD_ARMY] Fort Hood

add one

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

4 rows

1. Select sampling units from the tree below.

select all clear all

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



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



BREAK (15 MINS)

NEXT: DOWNLOADING SAMPLING UNITS





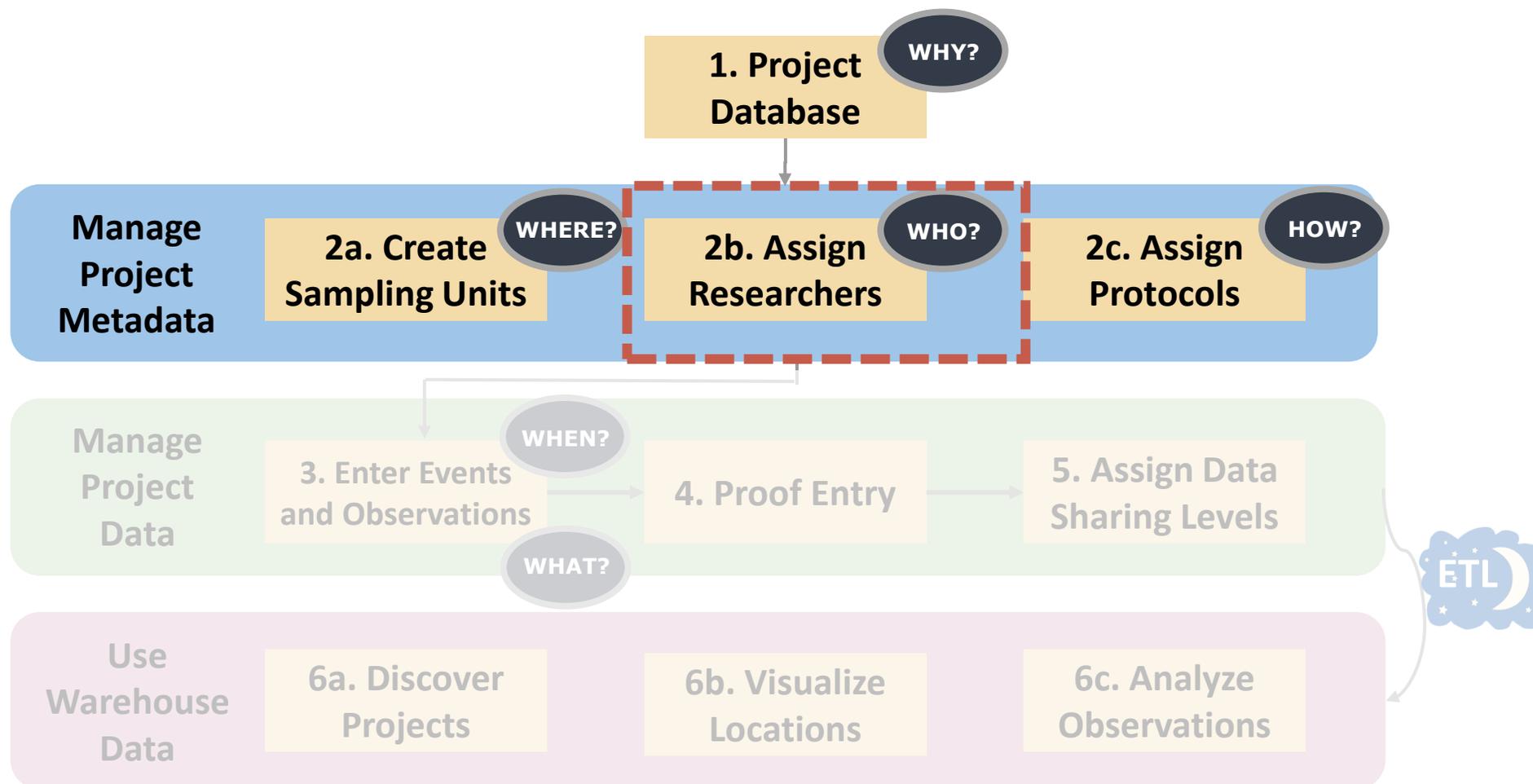
DOWNLOAD SAMPLING UNITS DEMONSTRATION

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

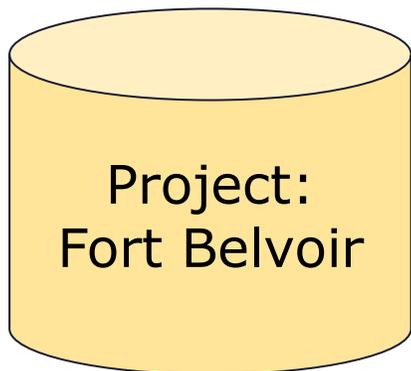
Project Leader: the data owner, has full control over data, metadata, and who gets Project access

Biologist: can enter and review data in the Project

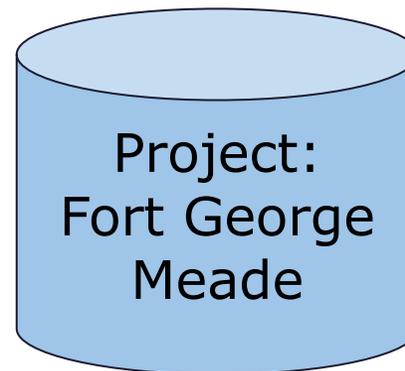


RESEARCHERS & PROJECT ACCESS

Access Project assigned by Project Leader



Jane: Project Leader
 Mike: Biologist
Pat: Biologist



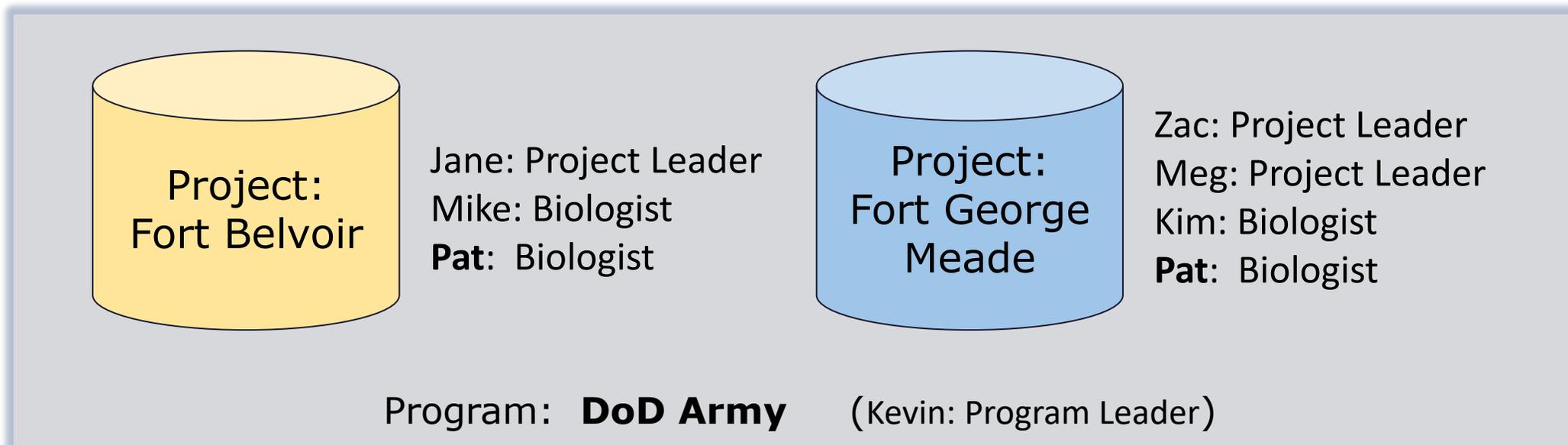
Zac: Project Leader
 Meg: Project Leader
 Kim: Biologist
Pat: Biologist



RESEARCHERS & PROJECT ACCESS

DoD will also have a Program Leader

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



2b. Assign
Researchers

WHO?



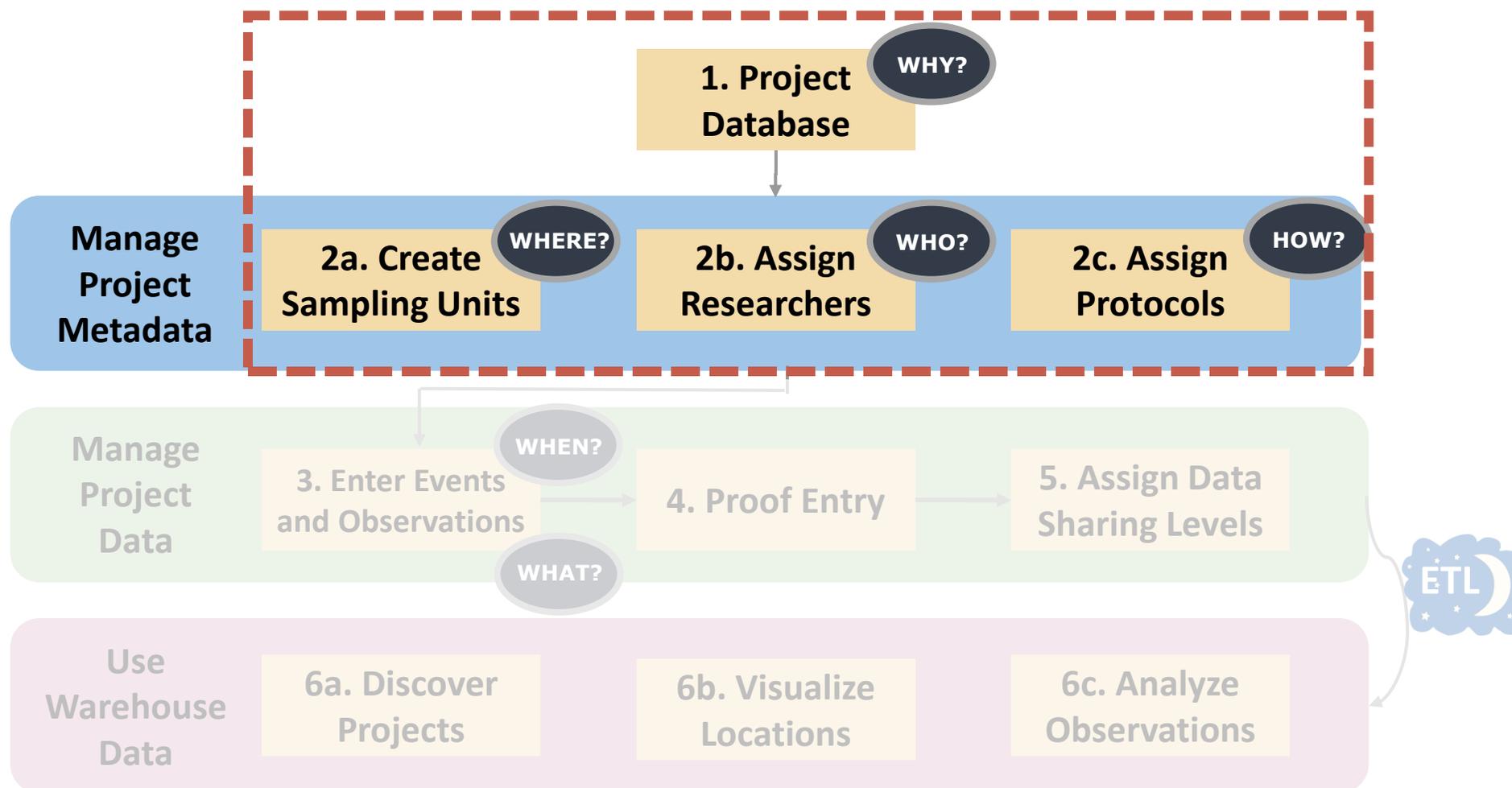
ADDING RESEARCHERS DEMONSTRATION

Tools:

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



QUESTIONS ON MANAGING PROJECT METADATA?



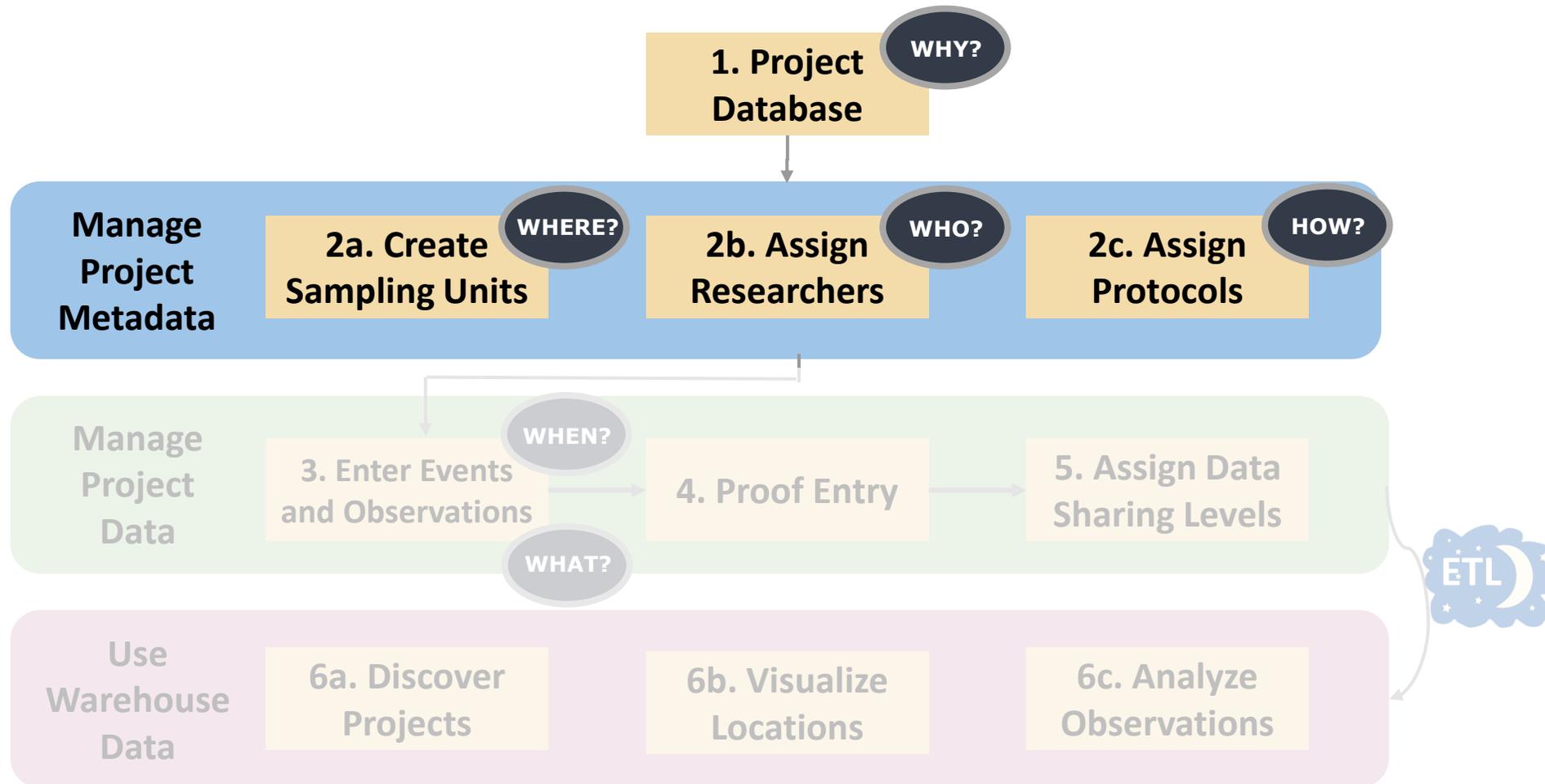


MANAGING OBSERVATION DATA



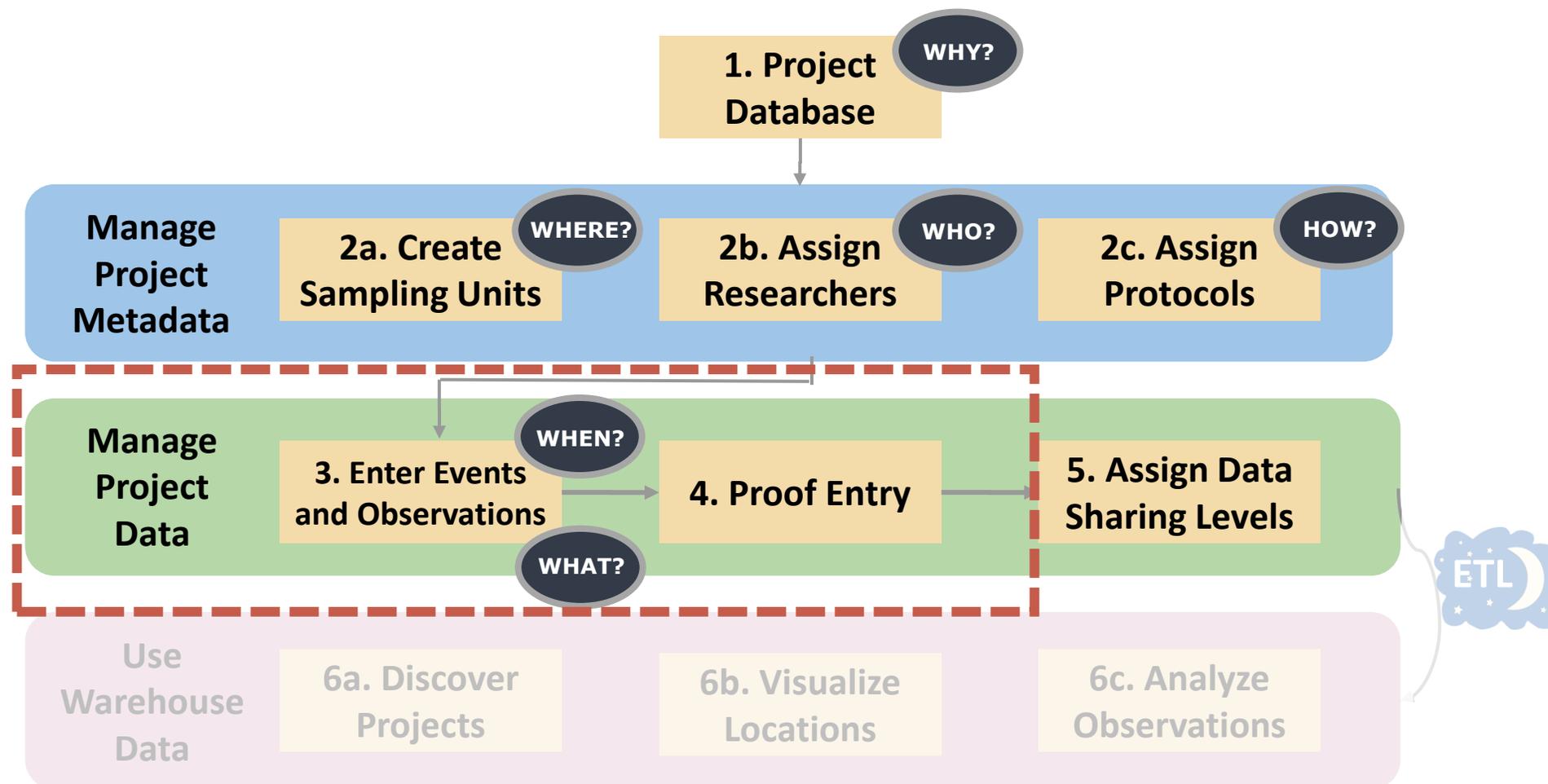


WORKFLOW FOR MANAGING A PROJECT





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

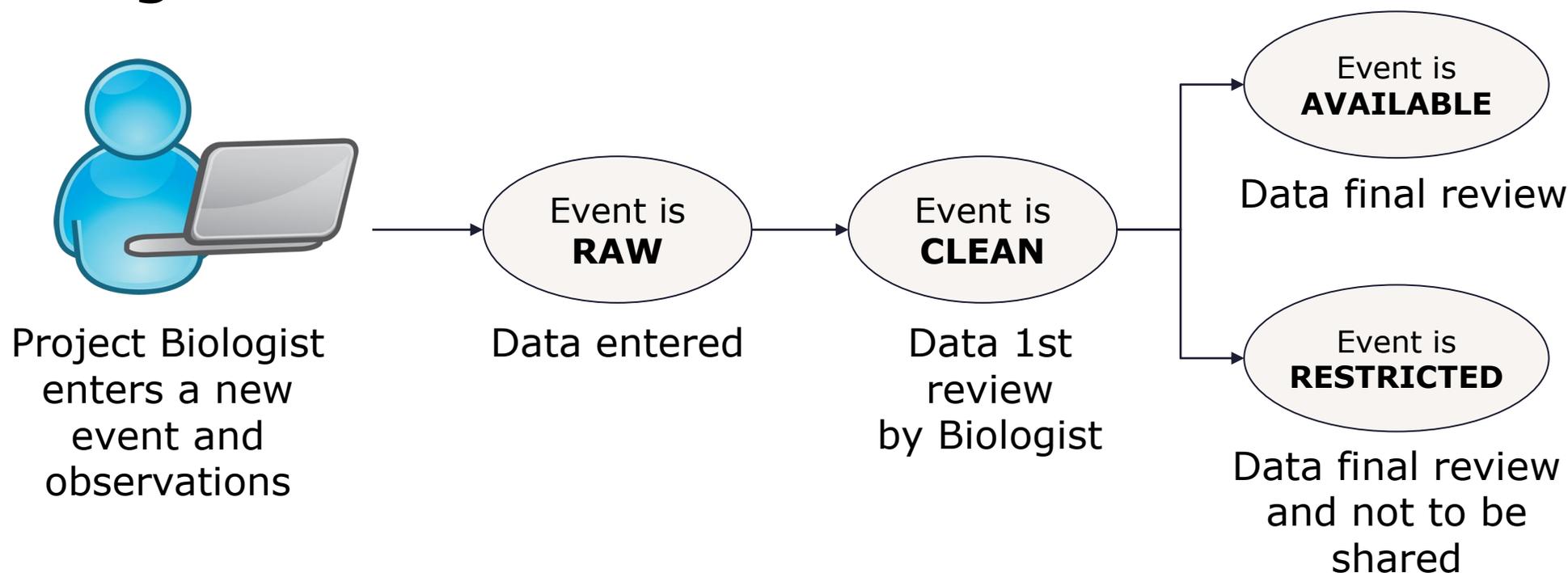
WHEN?

WHAT?



REVIEW LEVELS FOR EACH EVENT

Steps to enter and review data in preparation for sharing





MANAGING OBSERVATION DATA

EXERCISE 2: ENTER & PROOF POINT COUNT EVENT



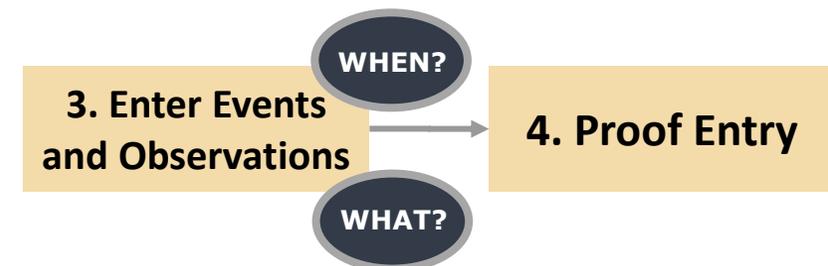


ENTER & PROOF POINT COUNT EVENT

EXERCISE 2

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

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

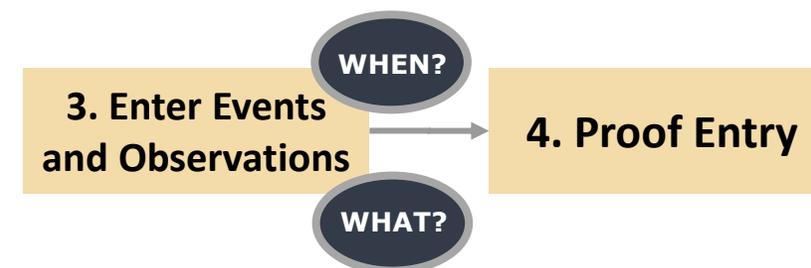




ENTER & PROOF POINT COUNT EVENT

EXERCISE 2 (*THINKING AHEAD*)

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

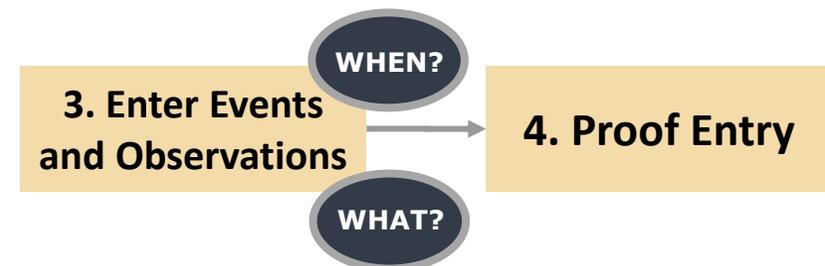




ENTER & PROOF POINT COUNT EVENT EXERCISE 2

Exercise 2 instructions

- It is okay not to follow data sheet exactly





DOWNLOAD POINT COUNT OBSERVATION DATA FROM PROJECT DEMONSTRATION

Tools:

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



LUNCH





BULK UPLOADING METADATA & OBSERVATION DATA INTO A PROJECT





BULK LOADING DATA

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

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



BATCH PROCESSING

Bulk Uploader v2 - Beta

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

First, select the Project you want to bulk load into

FORT_HOOD - (IDOD_ARMY) Fort Hood

Next, select the Tool you want to use

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

[Add Researchers](#)

[Add Sampling Units](#)

[Add Observations](#)

[Add Protocol](#)

[Batches](#)

Results:

Batches for project FORT_HOOD

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

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

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

Results:

Errors:

Error line 744: Value not allowed for weatherwinddirectioncardinal: East Northeast
 Error line 1055: The count field is required.

Add Observations Summary: CSV Rows Reviewed: 1054

Batch ID 451
 AddObservations
 plimptonc@gmail.com

Results:

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



BULK UPLOADING PROJECT DATA

EXERCISE 3: BULK UPLOADING SAMPLING UNITS





BULK UPLOADING SAMPLING UNITS

EXERCISE 3

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

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



BULK UPLOADING SAMPLING UNITS

EXERCISE 3 (*THINKING AHEAD*)

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



BULK UPLOADING SAMPLING UNITS

EXERCISE 3

Exercise 3 instructions

- okay not to follow instructions exactly

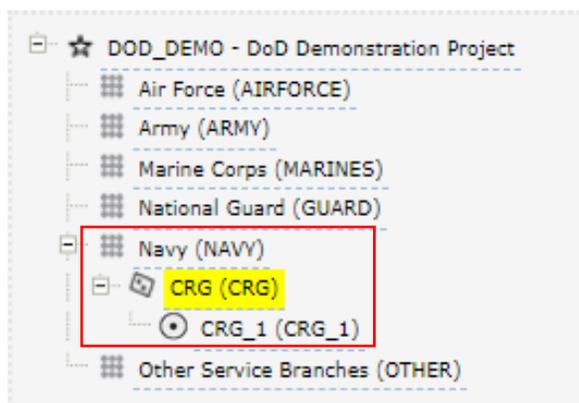


BULK UPLOADING SAMPLING UNITS

EXERCISE 3

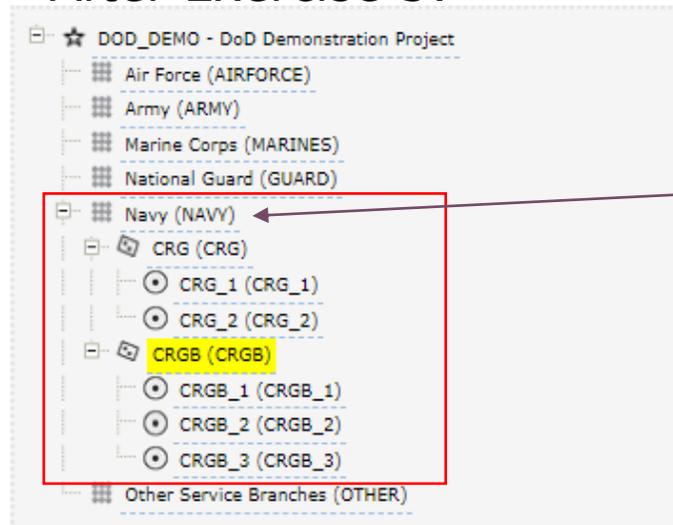
Tip: Go back to Project Leader (Sampling Units-> Create and Manage) and take a look at the sampling unit you already created in Exercise 1. In this exercise, we'll create a new point under the existing transect, plus add a new transect with new points.

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) 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**
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- **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**
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LONG NAME VS SHORT NAME: WHAT'S THE DIFFERENCE?

EXAMPLES (any of these would be correct):

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



EXAMPLE: FORT 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.

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??](#)

- 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_LYTLT)
- 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)

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_PJIA	Area search survey standard protocol from the PJIA 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_PJIA	Site Conditions PJIA protocol developed by the PJIA 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

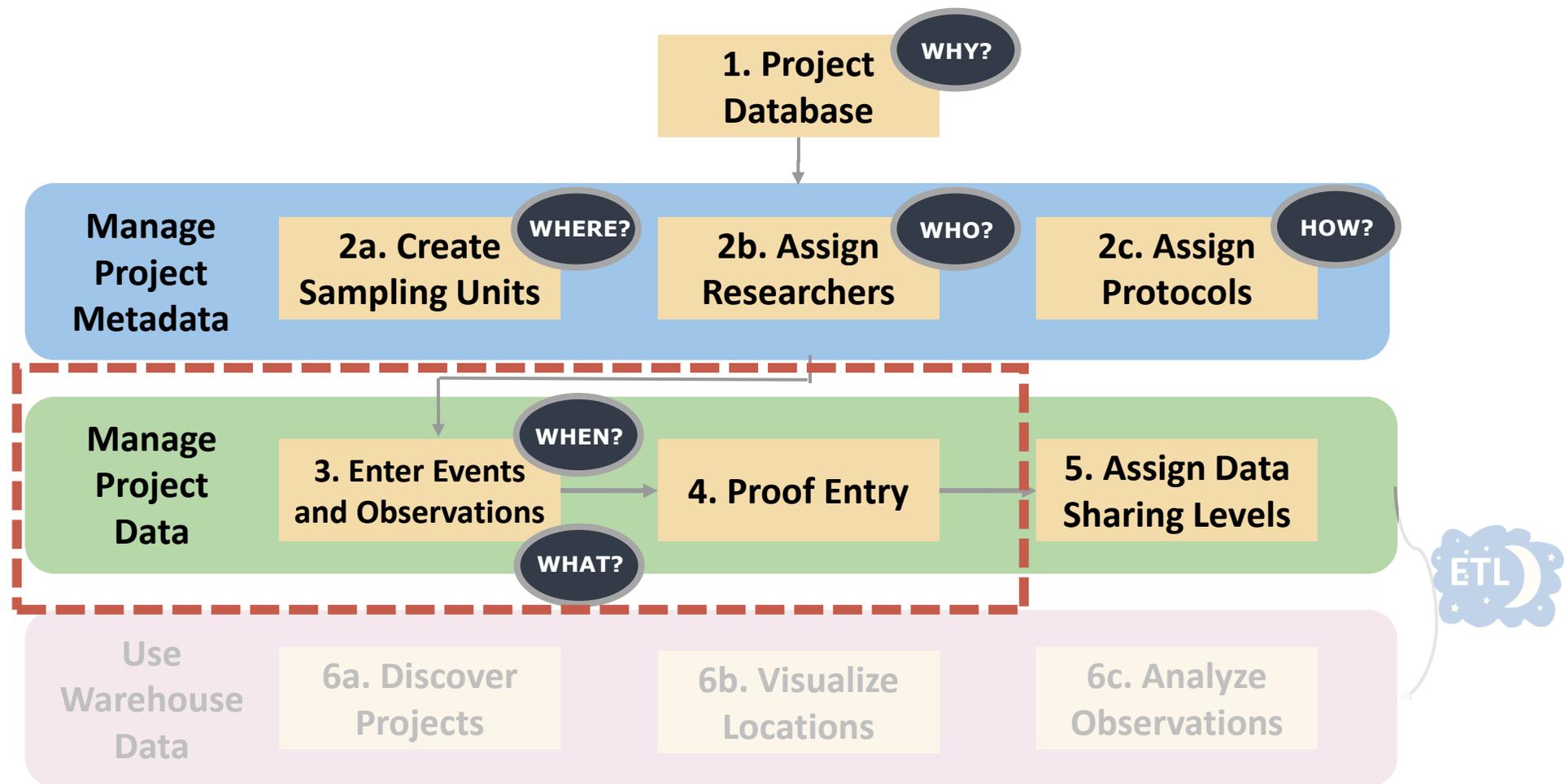
Sign-up sheet up front for in-person office hours tomorrow and Thursday.



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



ANY QUESTIONS ON MANAGING PROJECT DATA?





MCBH PRESENTATIONS





FIELD EXERCISE INTRODUCTION & LOGISTICS FOR TOMORROW





FIELD EXERCISE: POINT COUNT PROTOCOL

- 5-minute surveys
- Unlimited-radius point count w/ distance sampling
- Observations recorded per 1-minute intervals





FIELD SITES





FIELD EXERCISE: POINT COUNT PROTOCOL

- Collect data **every minute**
- Use **4-letter bird codes**
- Record **# of individuals** in same location
- **Distance** to nearest meter (*try practicing your distance estimations with a range finder!*)
- **Detection Type (DT):**
 - S=Song; C=Call; D=Drum; V=Visual; W=Wing; F=Flyover
- **Prev** (Previously Detected Individuals)
 - Use "P" if individual was detected at a previous **point**
- **Breed** (Breeding Status)
 - Use "S" to indicate if bird sang during count but was not detected another way

Point #	Start Time	Minute	Species Code	Count	DT	Distance	Prev	Breed	Po
01	7:45	1	GRSP		S	32			
			MODO		S	18			
			WEME		S	84			
			WEKI		V	22			
		2	HOLA		C	31		S	
			CORA		C	102			
		3	GRSP		S	52			
			RNEP		C	205			
			AMRO		V	30			
		4	RTHA		V	72			
			BARS	2	V	24			
		5	NONE						





FIELD EXERCISE: IN THE AKN

What you'll do:

- Learn how to **download a sampling unit** shapefile from your project
- Learn how to **create sampling units** by uploading shapefiles
 - You'll re-upload the shapefile you just downloaded while renaming the points so that you have your own unique sampling units for your point count data
- **Enter data**
- Friday: Explore your own data using the **Analyst Tool**



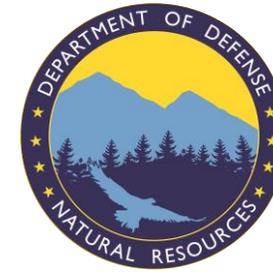


PLUS/DELTA

DAY 1 WRAP-UP

Reminder: Bring lunch tomorrow!





END OF DAY 1





AVIAN
KNOWLEDGE NETWORK

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

*DoD OCONUS Training
21 – 23 February, 2024*

Marine Corps Base Hawaii Kanohe Bay, HI

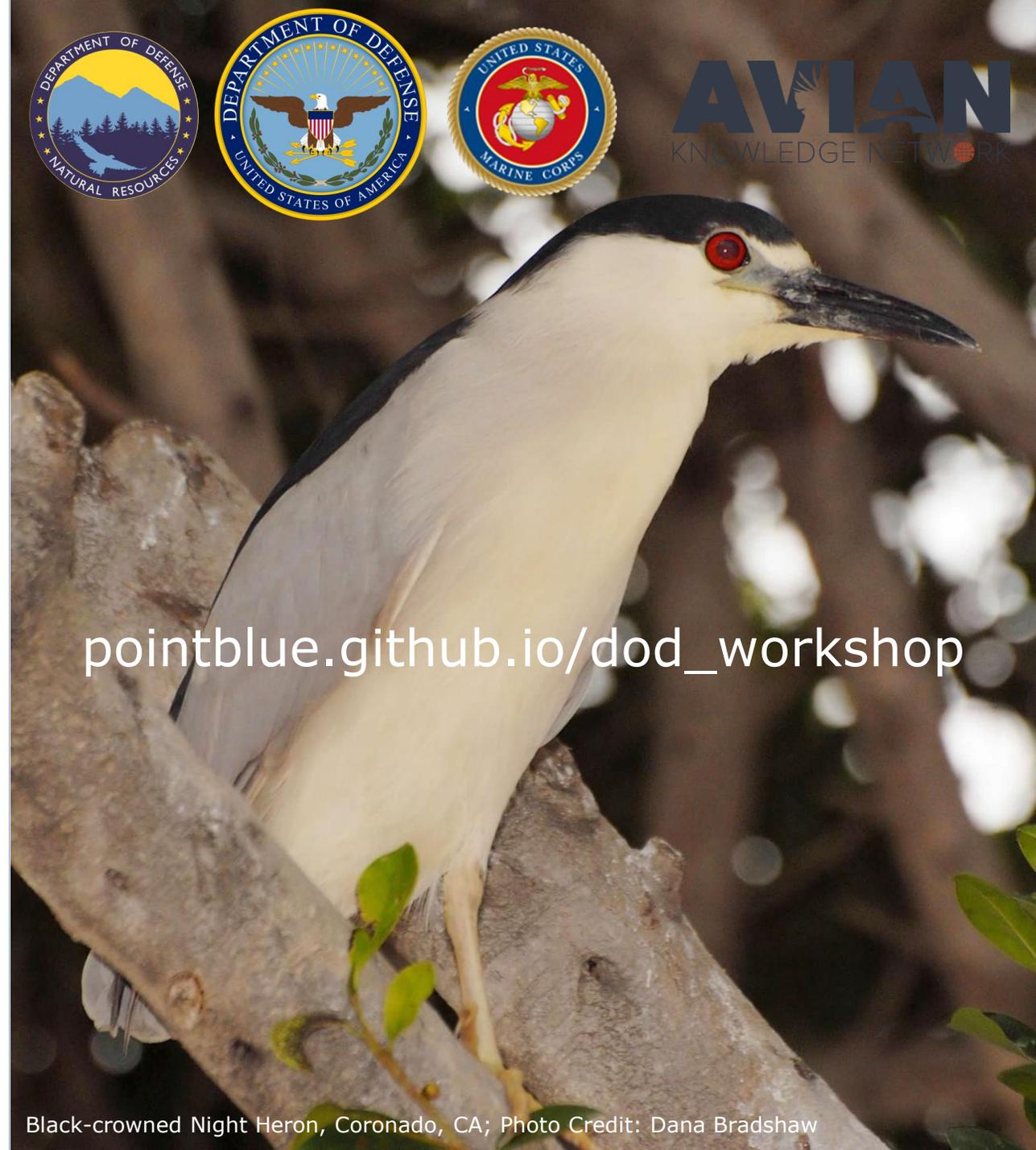
Sam Veloz
Dianne Miller

Elizabeth Neipert
Zoe Duran

John Alexander
Caitlyn Gillespie



pointblue.github.io/dod_workshop



Black-crowned Night Heron, Coronado, CA; Photo Credit: Dana Bradshaw

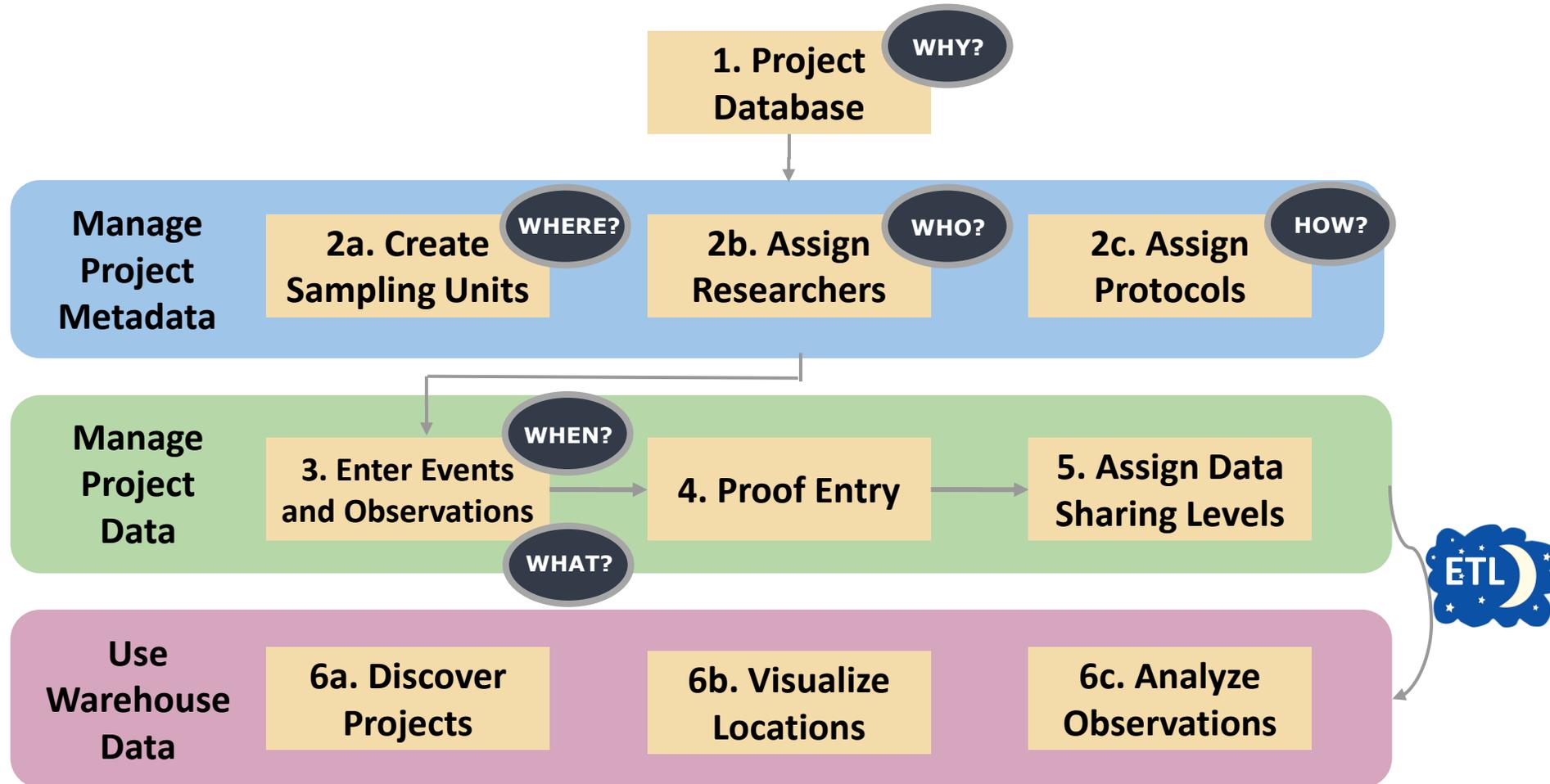


AKN WAREHOUSE DATA 101



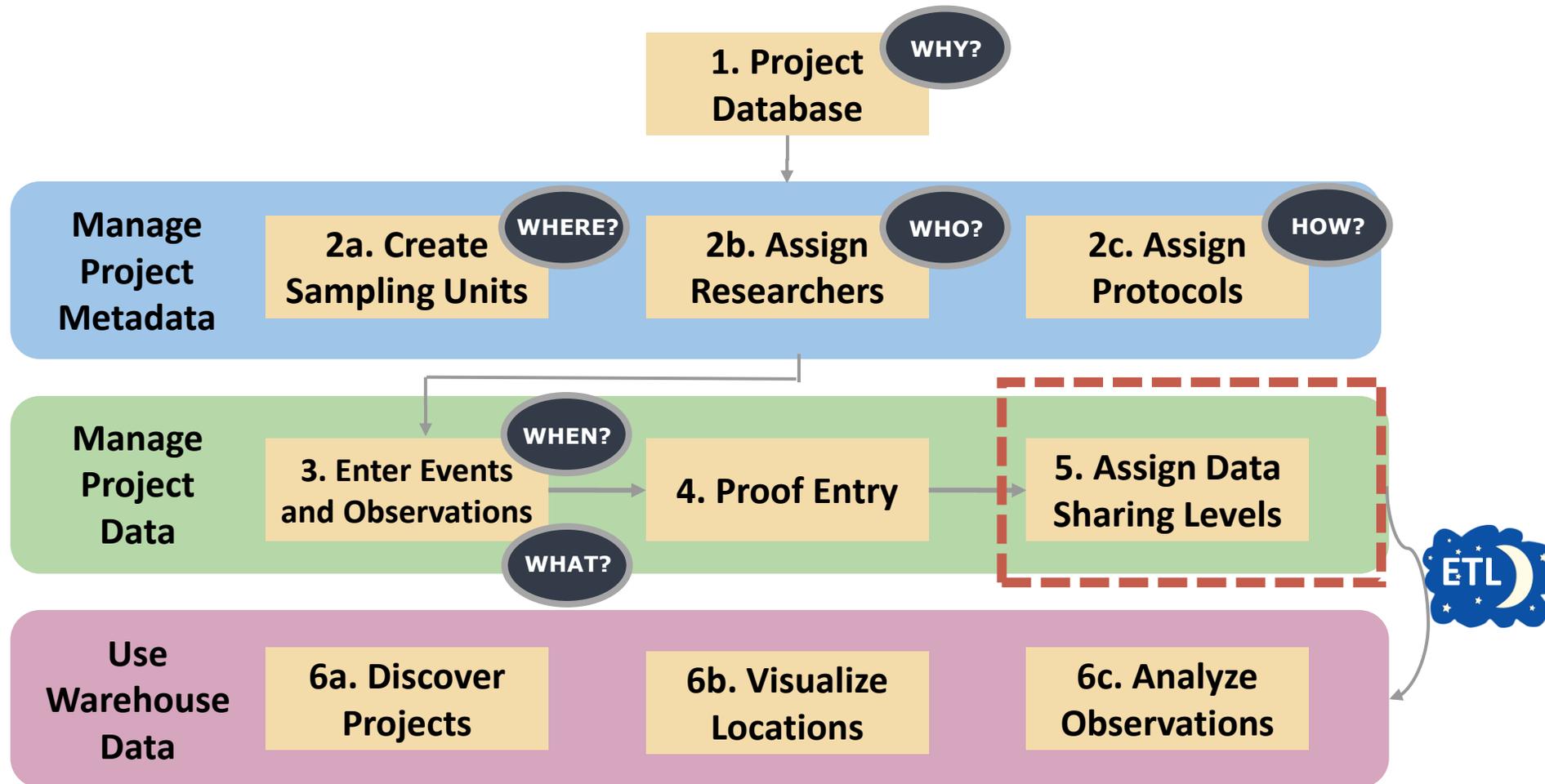


WORKFLOW FOR MANAGING A PROJECT





MANAGING A PROJECT: DATA SHARING LEVELS





DATA SHARING LEVELS

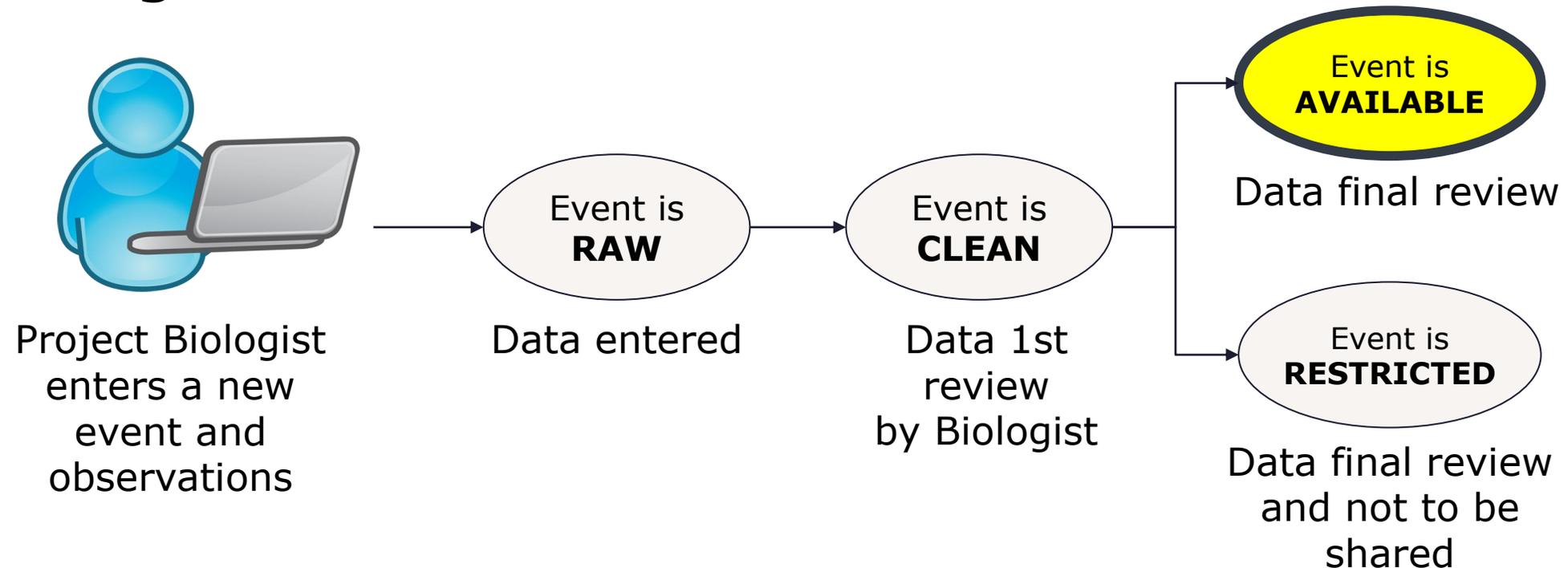
Defines how visible each observation is for querying, summarizing, visualizing, and analyzing.

Controlled by the Project Leader within each Project



REVIEW LEVELS FOR EACH EVENT

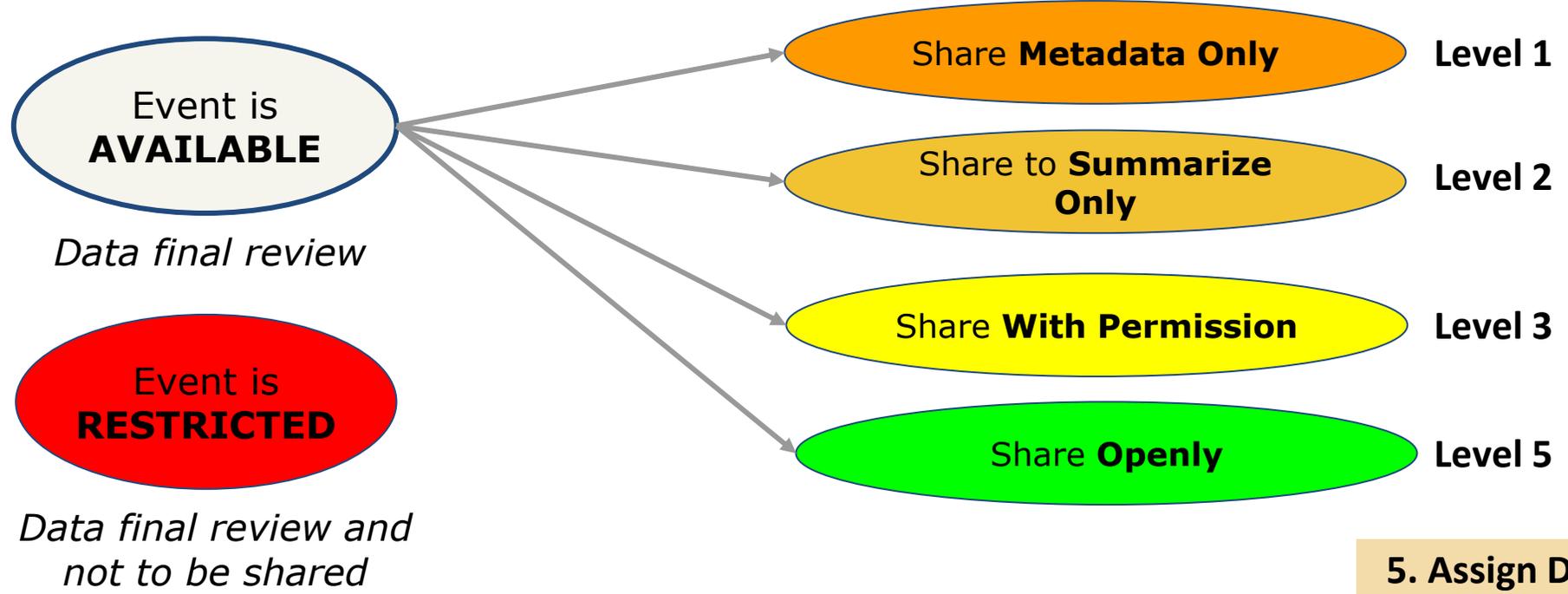
Steps to enter and review data in preparation for sharing





DATA SHARING LEVELS FOR EACH EVENT

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

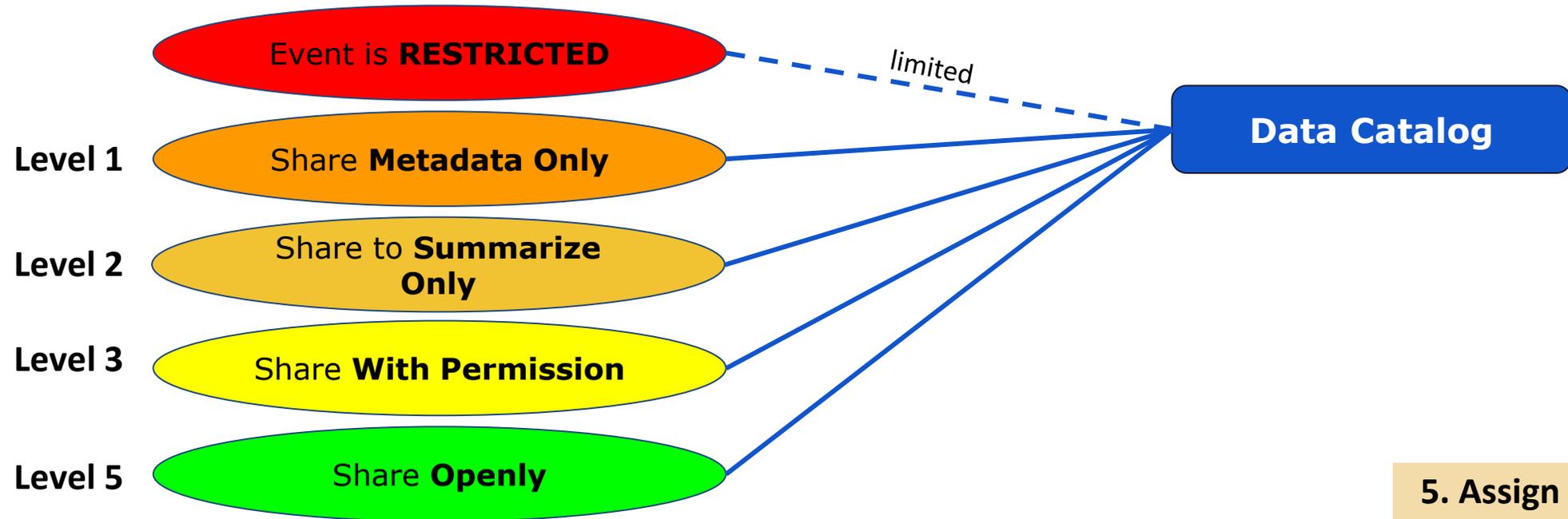


5. Assign Data Sharing Levels



DATA SHARING AND TOOL ACCESS

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

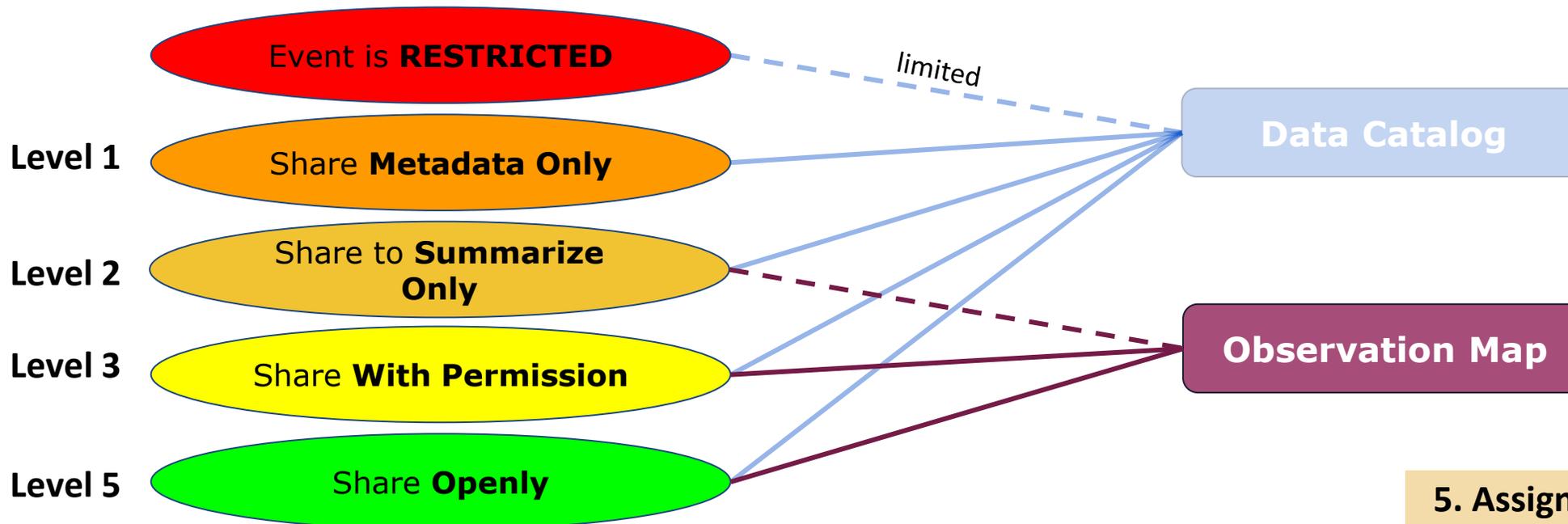


5. Assign Data
Sharing Levels



DATA SHARING AND TOOL ACCESS

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



**5. Assign Data
Sharing Levels**



DATA SHARING LEVEL MOTIVATION

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

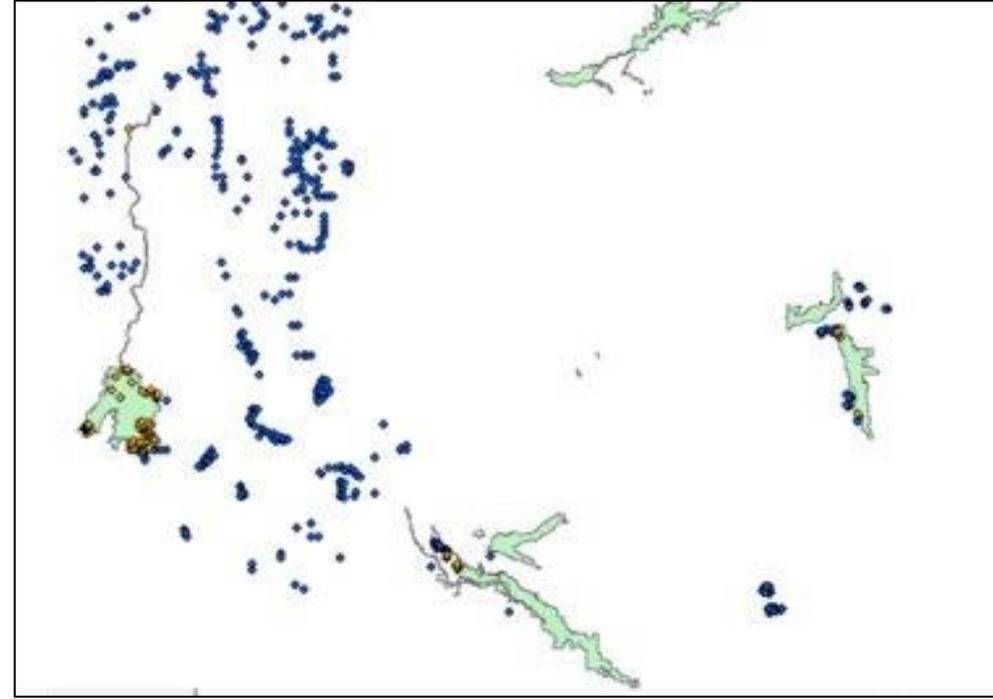
**5. Assign Data
Sharing Levels**



EXAMPLE: USACE-WILLAMETTE VALLEY PROJECT, OR

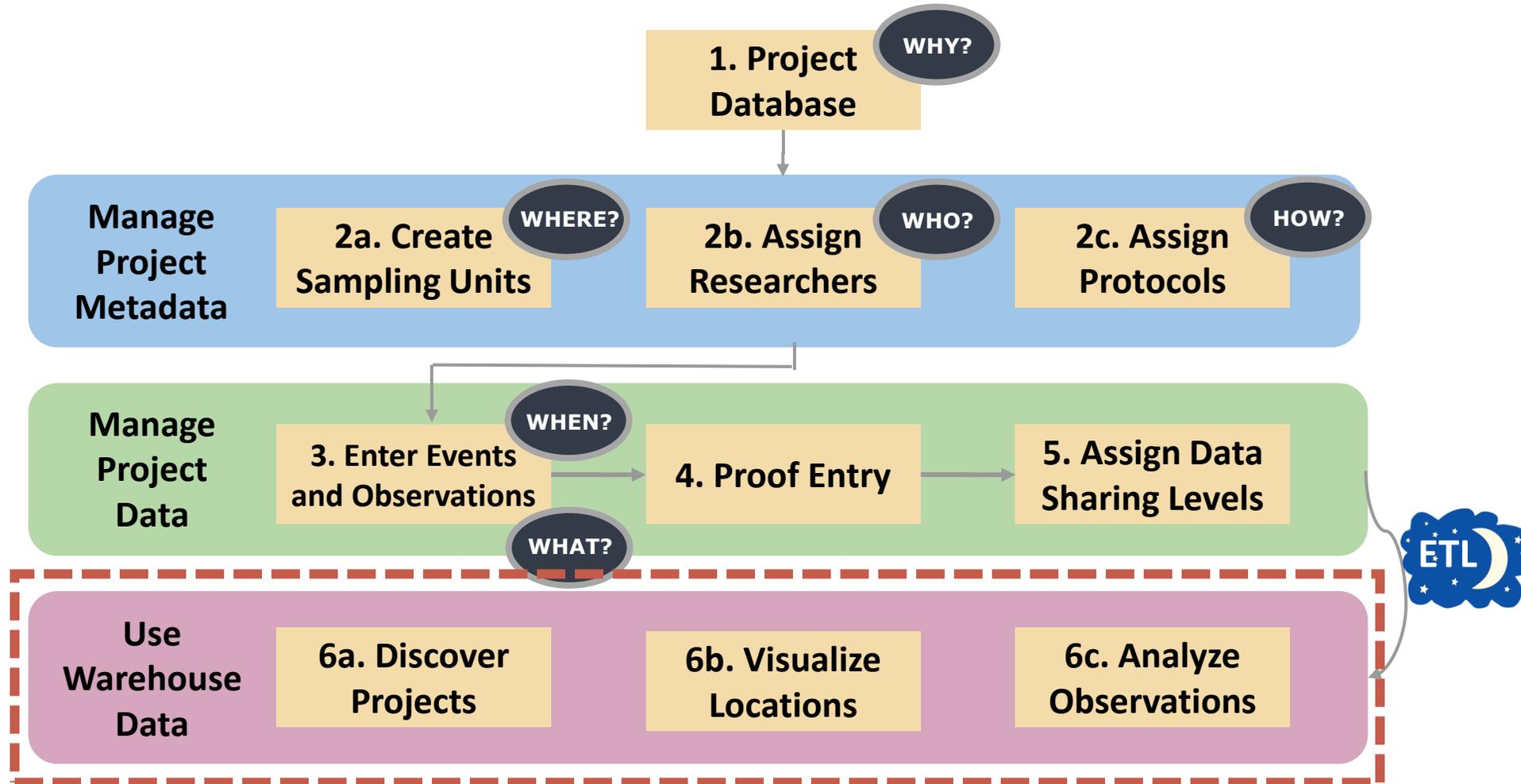


- New biologist took DoD AKN training at NMFWA
- Worked with DoD AKN Team to ID data within boundary
- Data was both USACE and partner data
- Created USACE WVP within USACE enterprise
- Gained access to USACE-owned data
- Reaching out to partners about sharing data within boundary





MANAGING A PROJECT: DATA WAREHOUSES

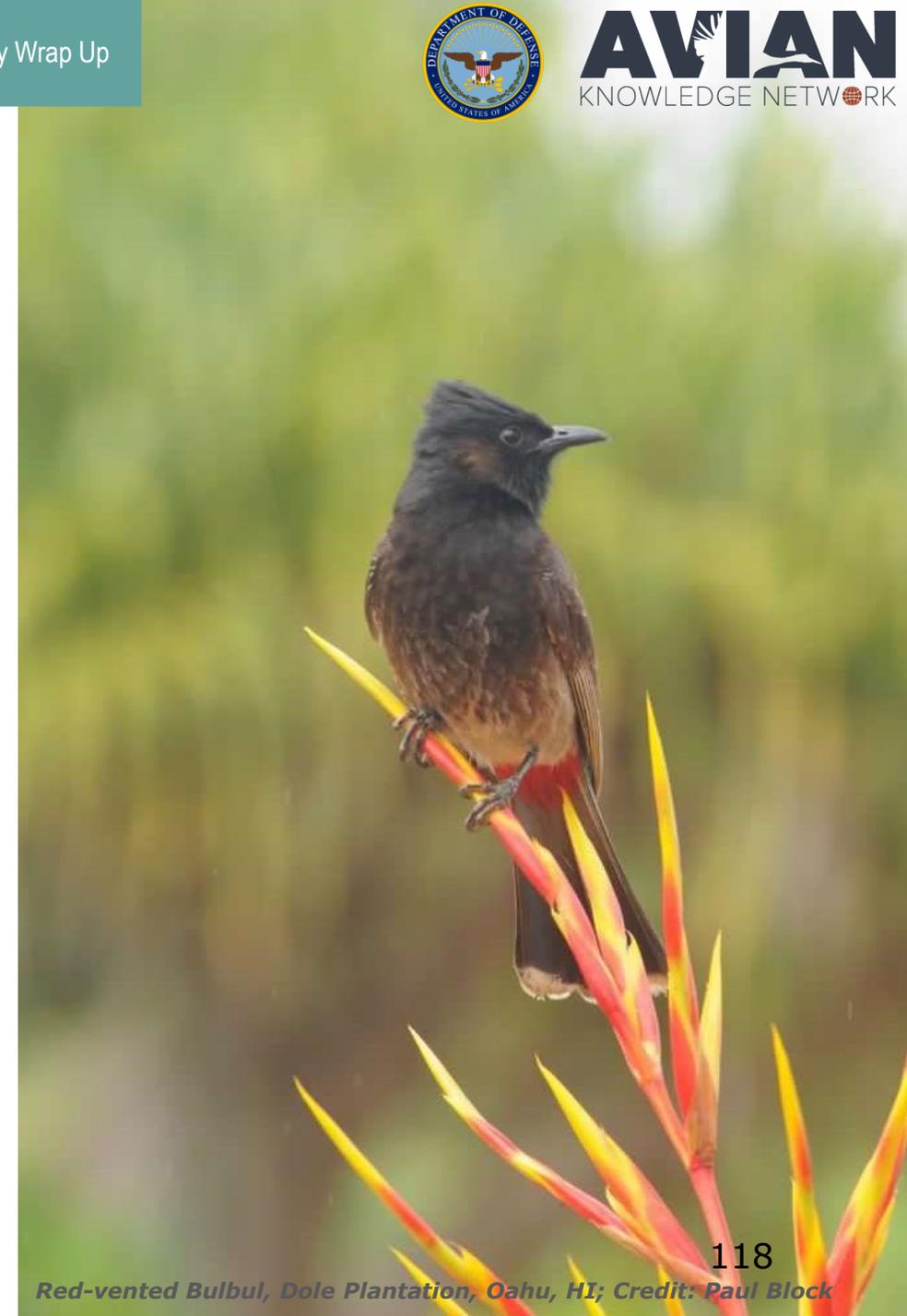




DATA WAREHOUSES

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

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





PROJECT DATA VS. WAREHOUSE DATA

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

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

Project Database Version

Warehouse Version

GlobalUniqueIdentifier	ProjectCode	ProjectName	LocalityID	StudyArea	Transect	TransectName	Point	SamplingU	ParentSam	Sam
URN:catalog:PRBO:LITTLERIVERNWR.300600.PointCount.3_5_10m25_50_100MFLyByTm.329406.1	LITTLERIVERNWR	Little River NWR	LITTLERIVERNWR:COMP_5	Little River NWR	COMP_5	Compartment_5	164	300600	348115	Point
URN:catalog:PRBO:LITTLERIVERNWR.300600.PointCount.3_5_10m25_50_100MFLyByTm.329406.2	LITTLERIVERNWR	Little River NWR	LITTLERIVERNWR:COMP_5	Little River NWR	COMP_5	Compartment_5	164	300600	348115	Point
URN:catalog:PRBO:LITTLERIVERNWR.300600.PointCount.3_5_10m25_50_100MFLyByTm.329406.3	LITTLERIVERNWR	Little River NWR	LITTLERIVERNWR:COMP_5	Little River NWR	COMP_5	Compartment_5	164	300600	348115	Point
URN:catalog:PRBO:LITTLERIVERNWR.300600.PointCount.3_5_10m25_50_100MFLyByTm.329406.4	LITTLERIVERNWR	Little River NWR	LITTLERIVERNWR:COMP_5	Little River NWR	COMP_5	Compartment_5	164	300600	348115	Point

DecimalLat	DecimalLon	Visit	ProtocolCode	Observat	Year	Collec	Month	Day	JulianDa	JulianDay	P Time	Collec	ScientificN	CommonN	SpeciesCor	Phylogent	DistanceFr	Flyc I	I Detectic	E Observa	NoObs	Record	Permissions
33.9699705	-94.70262	1	3_5_10m25_50_100MFLyByTm	6/3/2019	2019	6	3	154	75	8:01:00	DA	Setophaga	Pine Warb	PIWA	1696	37.5	NR	1	0	AVAILABLE	LEVEL 5		
33.9699705	-94.70262	1	3_5_10m25_50_100MFLyByTm	6/3/2019	2019	6	3	154	75	8:01:00	DA	Myiarchus	Great Cres	GCFL	1254	75	NR	1	0	AVAILABLE	LEVEL 5		
33.9699705	-94.70262	1	3_5_10m25_50_100MFLyByTm	6/3/2019	2019	6	3	154	75	8:01:00	DA	Geothlypis	Kentucky	KEWA	1718	75	NR	1	0	AVAILABLE	LEVEL 5		
33.9699705	-94.70262	1	3_5_10m25_50_100MFLyByTm	6/3/2019	2019	6	3	154	75	8:06:00	DA	Molothrus	Brown-he	BHCO	2015	75	NR	1	0	AVAILABLE	LEVEL 5		



PROJECT DATA VS. WAREHOUSE DATA

Point Count Data

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

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



CASE STUDY:

USFS REGION 8, MULTI-PARTNER

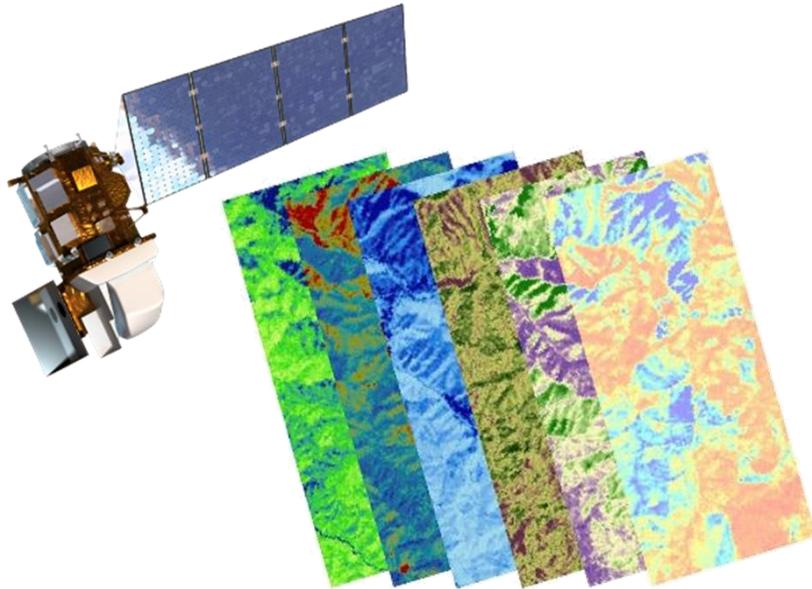


- 30-year dataset at-risk -- 13,664 sampling locations
- 1,121,654 point count observation records saved (!!)
- 364,574 site condition records archive
- Innovated -- XML scripts to capture all data field
- Data has been uploaded and a data entry system has been created



CASE STUDY: SPECIES-CENTERED HABITAT MODELING

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

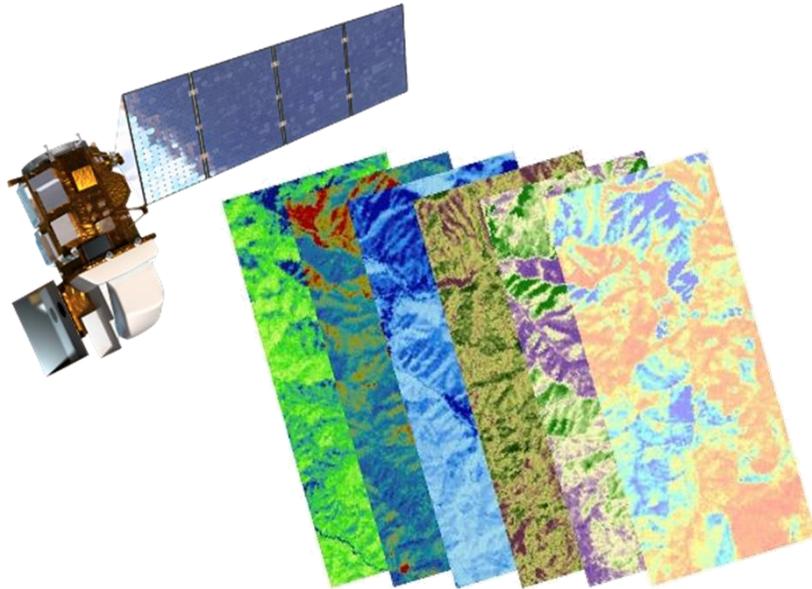




CASE STUDY:

SPECIES-CENTERED HABITAT MODELING

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

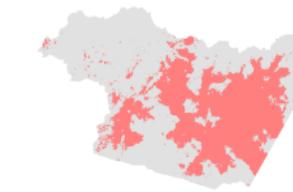
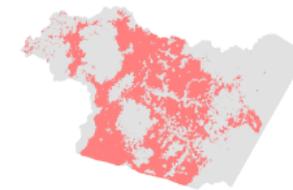
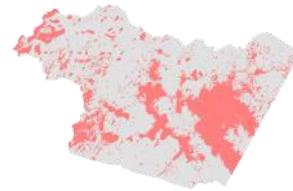
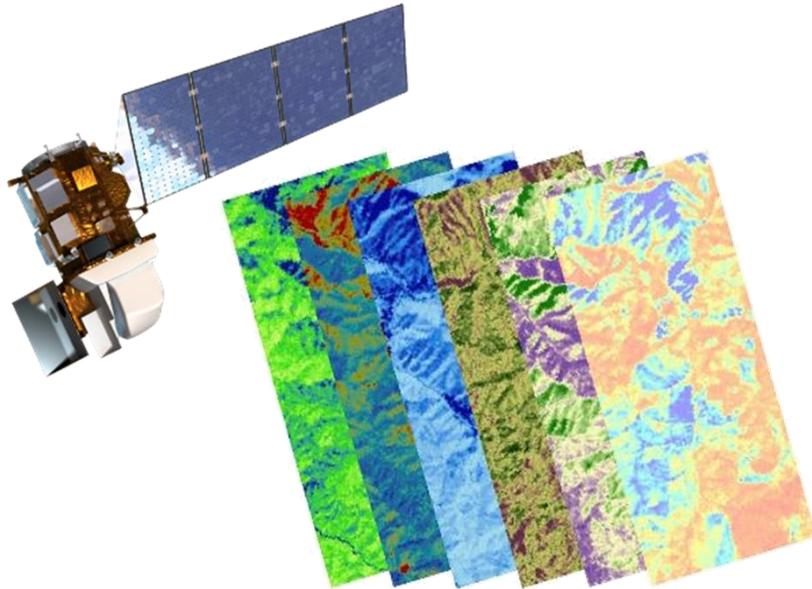




CASE STUDY:

SPECIES-CENTERED HABITAT MODELING

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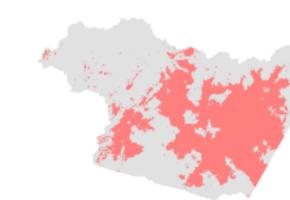
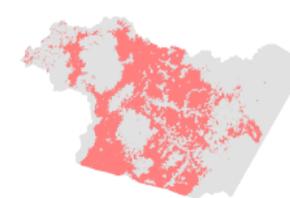
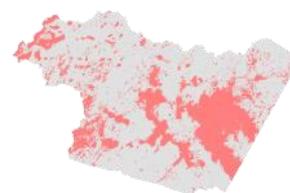
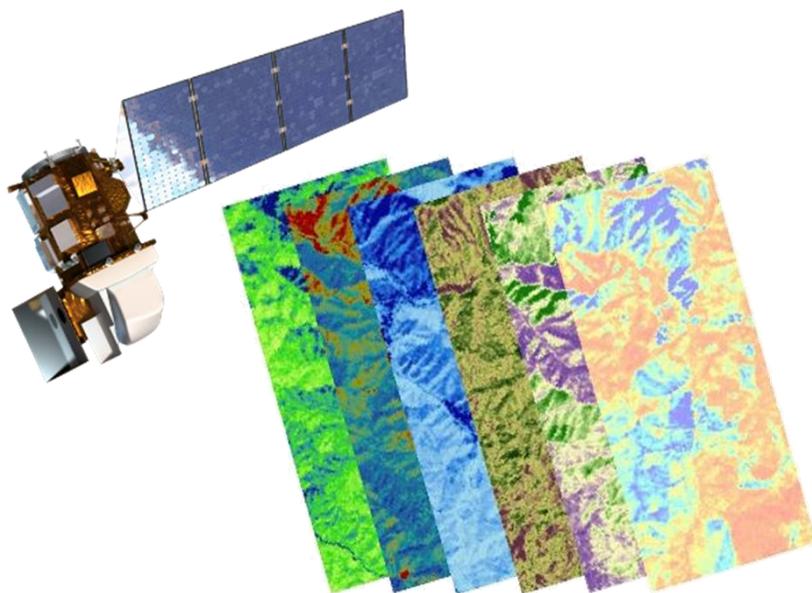




CASE STUDY:

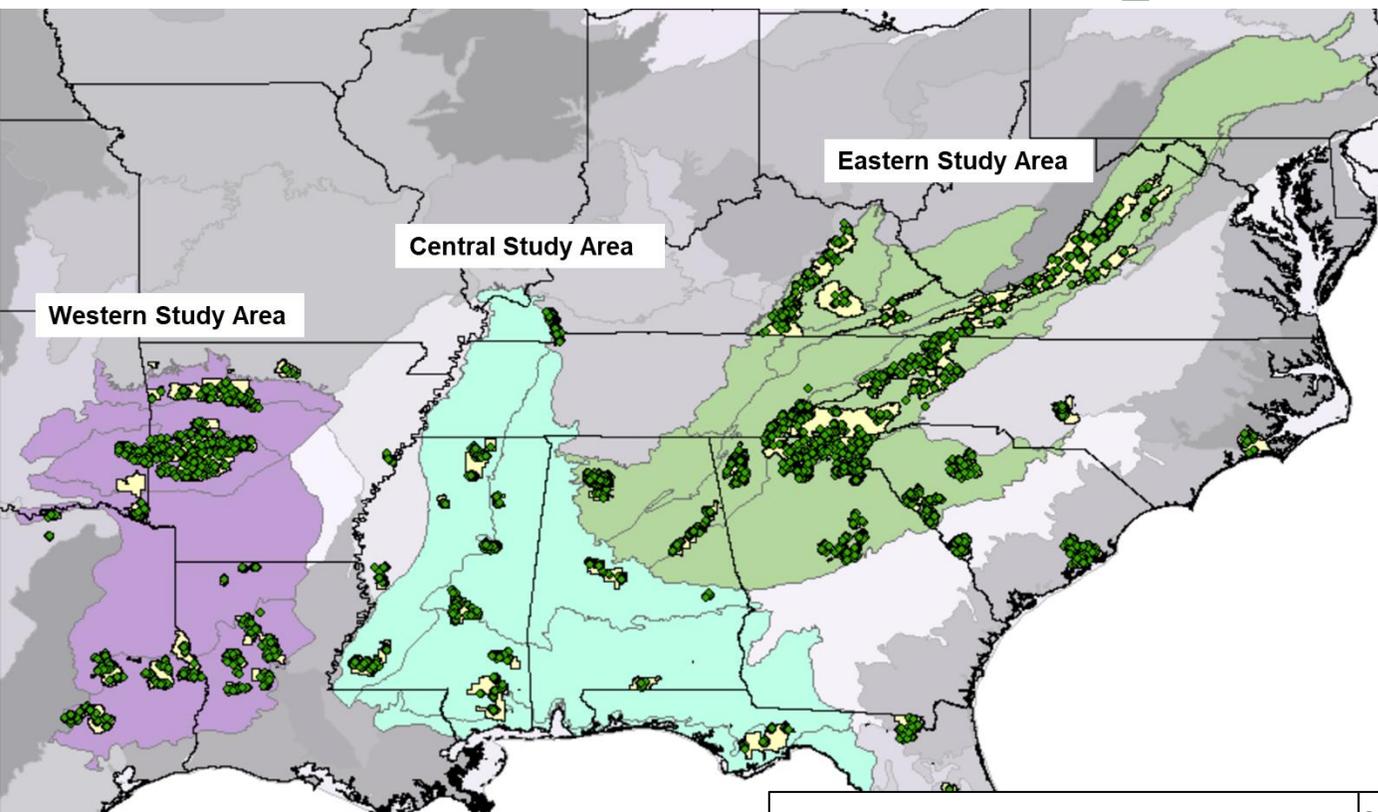
SPECIES-CENTERED HABITAT MODELING

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



Compared to Land Cover Derived Models:

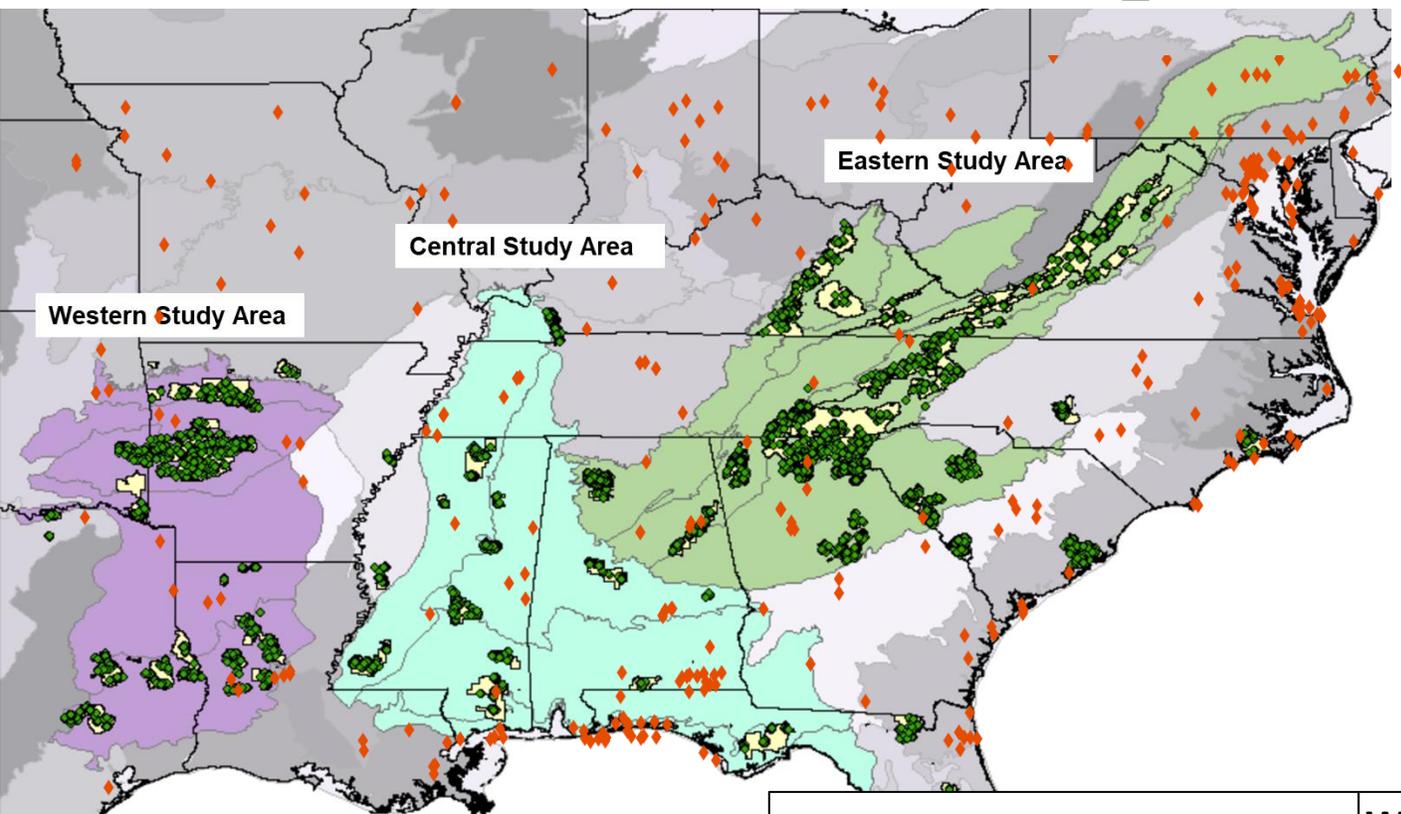
- High prediction ability
- Wider temporal range
- Avoid uncertainty:
 - misclassification of habitats
 - omission of fine-scale features
 - subtle changes in vegetation



CASE STUDY: SPECIES-CENTERED HABITAT MODELING

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

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

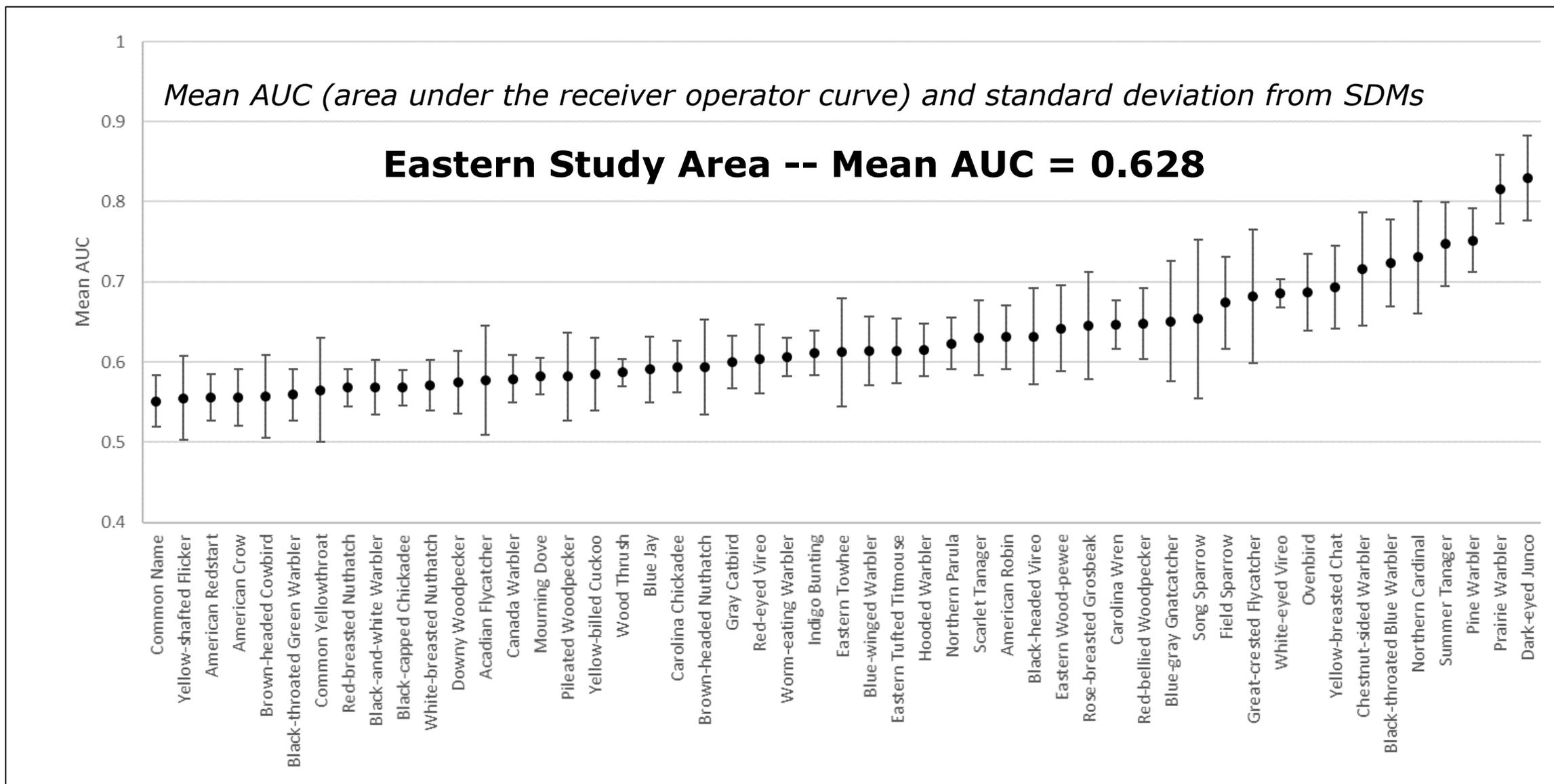


DoD Installation

CASE STUDY: SPECIES-CENTERED HABITAT MODELING

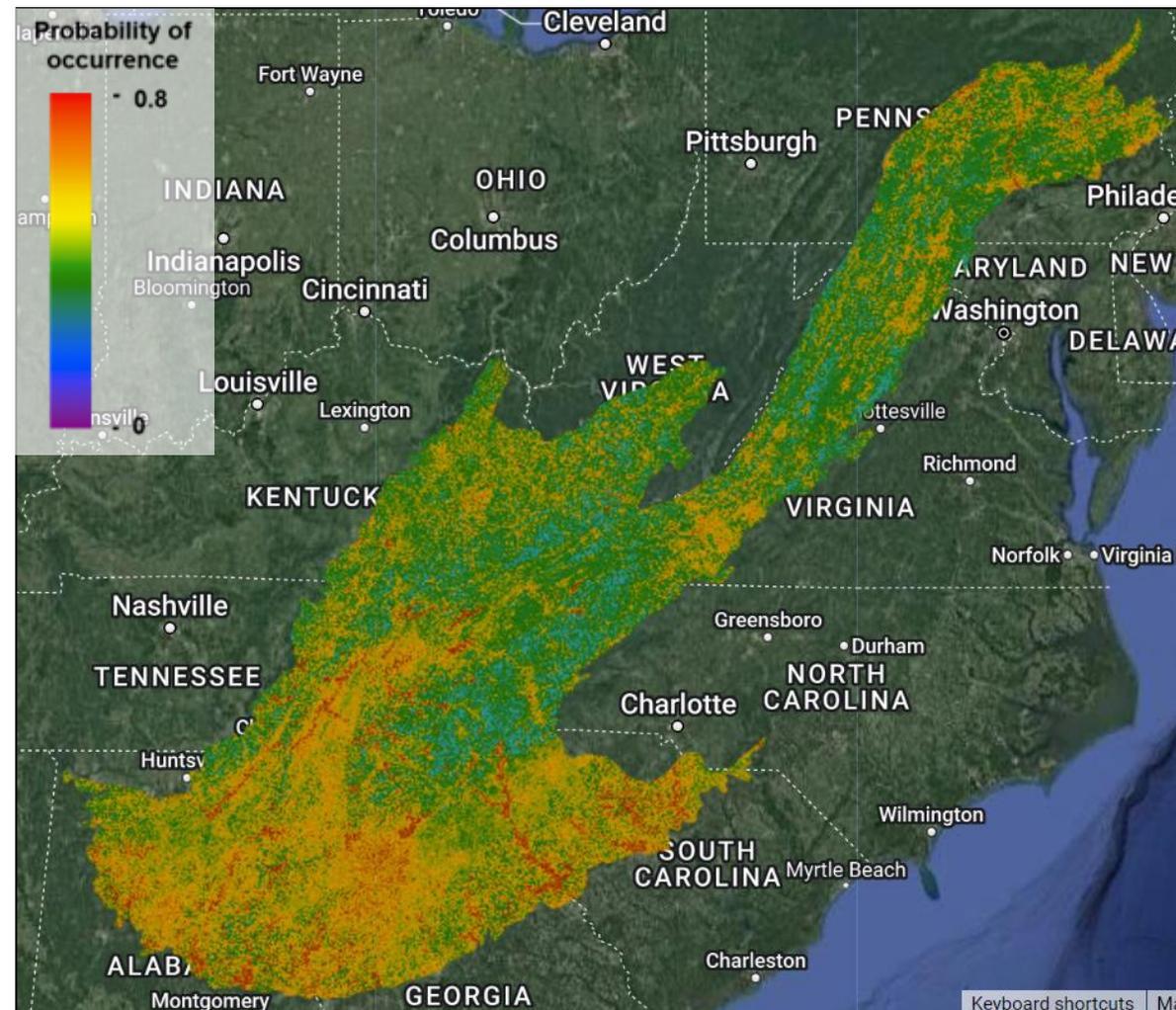
(Shirley et al 2013, Betts et al 2014,
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Mean AUC for final models	0.628	0.630	0.628
St. dev. AUC for final models	0.054	0.073	0.067





CASE STUDY: PINE WARBLER HABITAT DISTRIBUTION -- 2019





DATA SHARING GUIDELINES / POLICIES AND AGREEMENTS



DATA OWNERSHIP AND CONTROL

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

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





PARTNERSHIPS AND CONTRACTORS

Partner / Contractors

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

DoD

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

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



CONTRACTORS & TRAINING

MICHIGAN ARMY NATIONAL GUARD (MIARNG)



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



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_P1 (1-1-1_P1)
 - 1-10-33 (1-10-33)
 - 1-2-24 (1-2-24)
 - 1-2-25 (1-2-25)
 - 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)
 - 1-10-10 (1-10-10)

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: [HTML](#)
- Sampling Unit heirarchy for entire project: [Text file](#) [HTML](#)

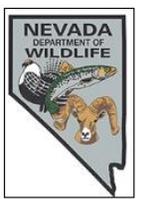


CASE STUDY

Western Asio flammeus Landscape Study (WAfLS)

Short-eared Owls

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





WAFLS Project Web Pages at AKN

TRAINING

This Identification Guide provides some helpful hints for

[READ MORE >](#)

PROTOCOLS AND DATA SHEET

Full protocol and data sheet available for future projects.

[READ MORE >](#)

WAFLS MENU

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

WEATHER

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

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

HOURS AND MILEAGE

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

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

VEGETATION COVER CLASSIFICATION (RECORD TO NEAREST 10%)

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

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

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

WAFLS Tool

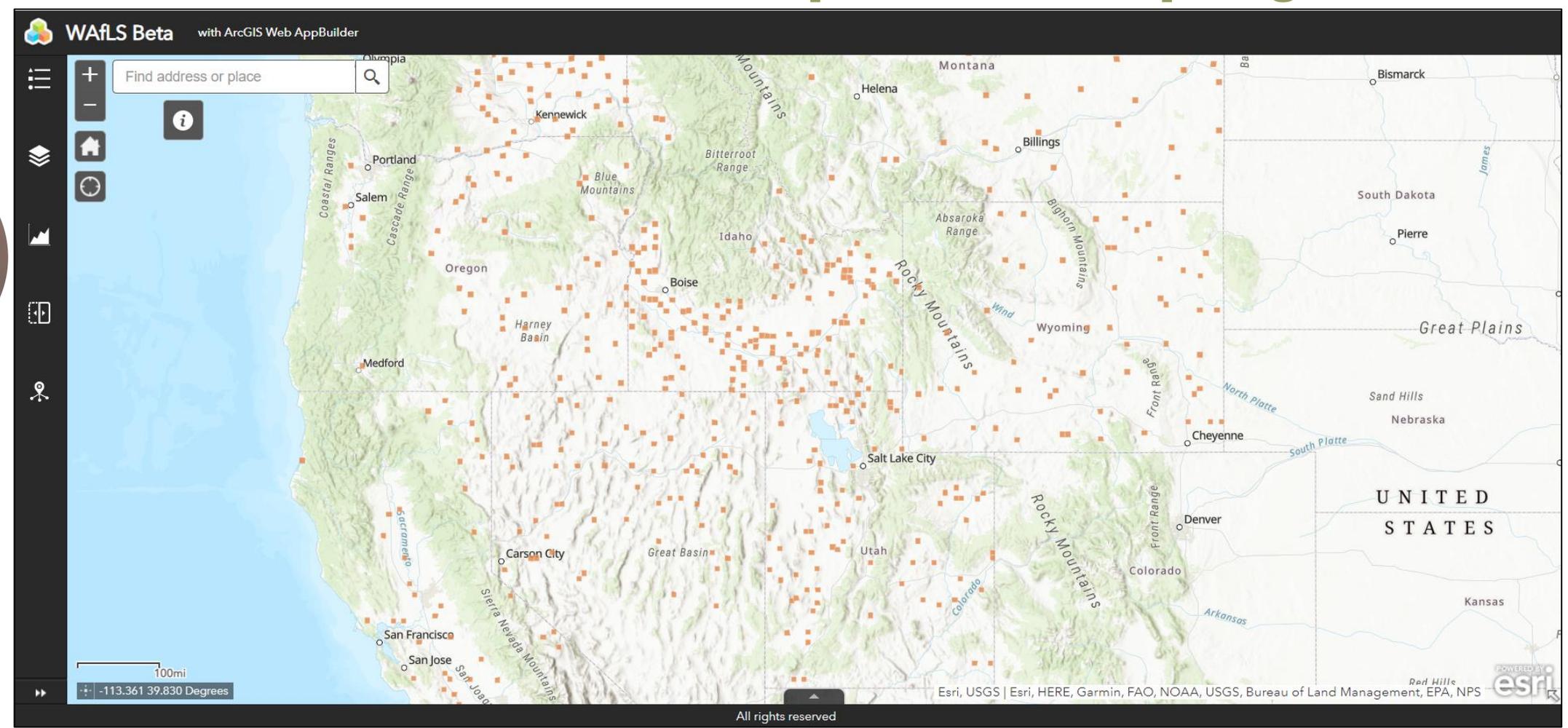
WAFLS Protocols

WAFLS Facebook

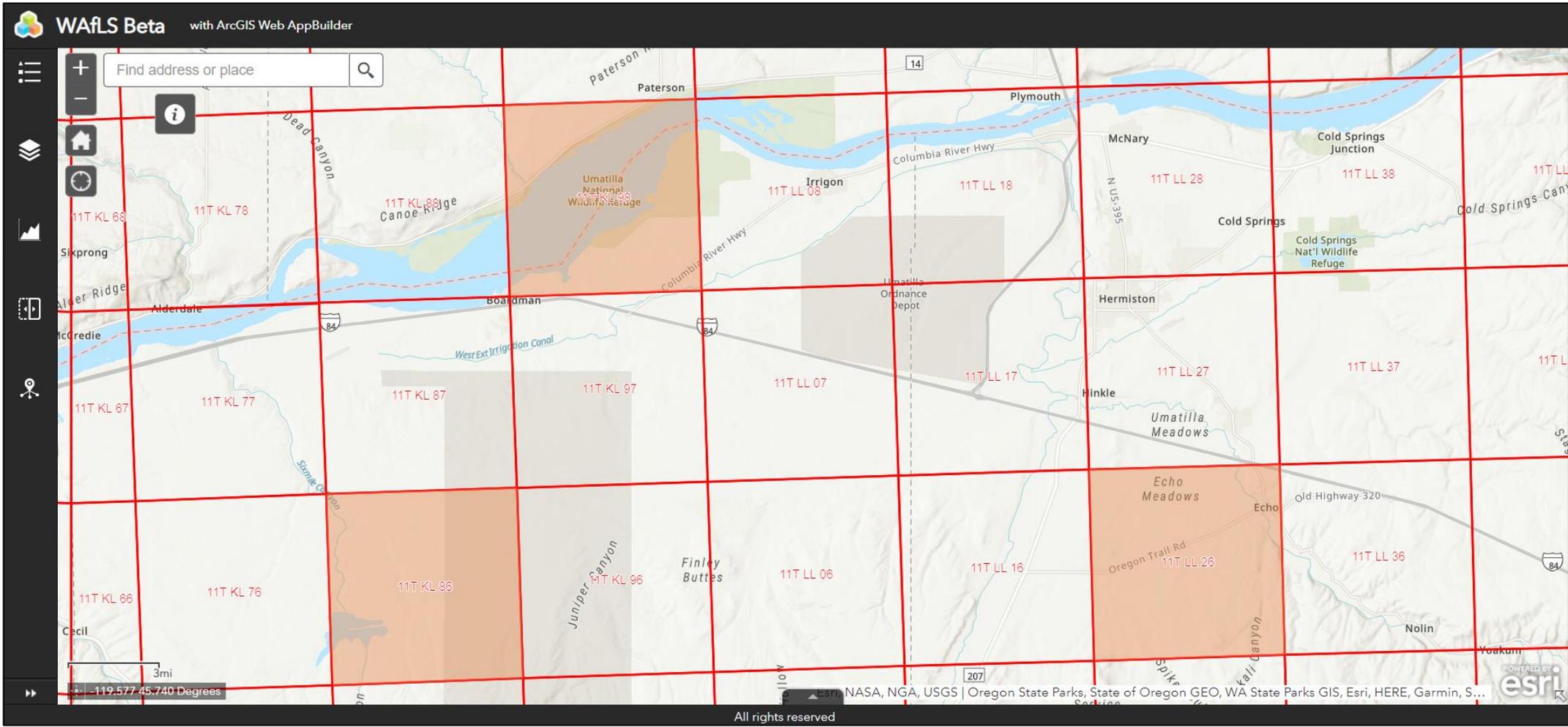
WAFLS Contact



Data Explorer – sampling frame

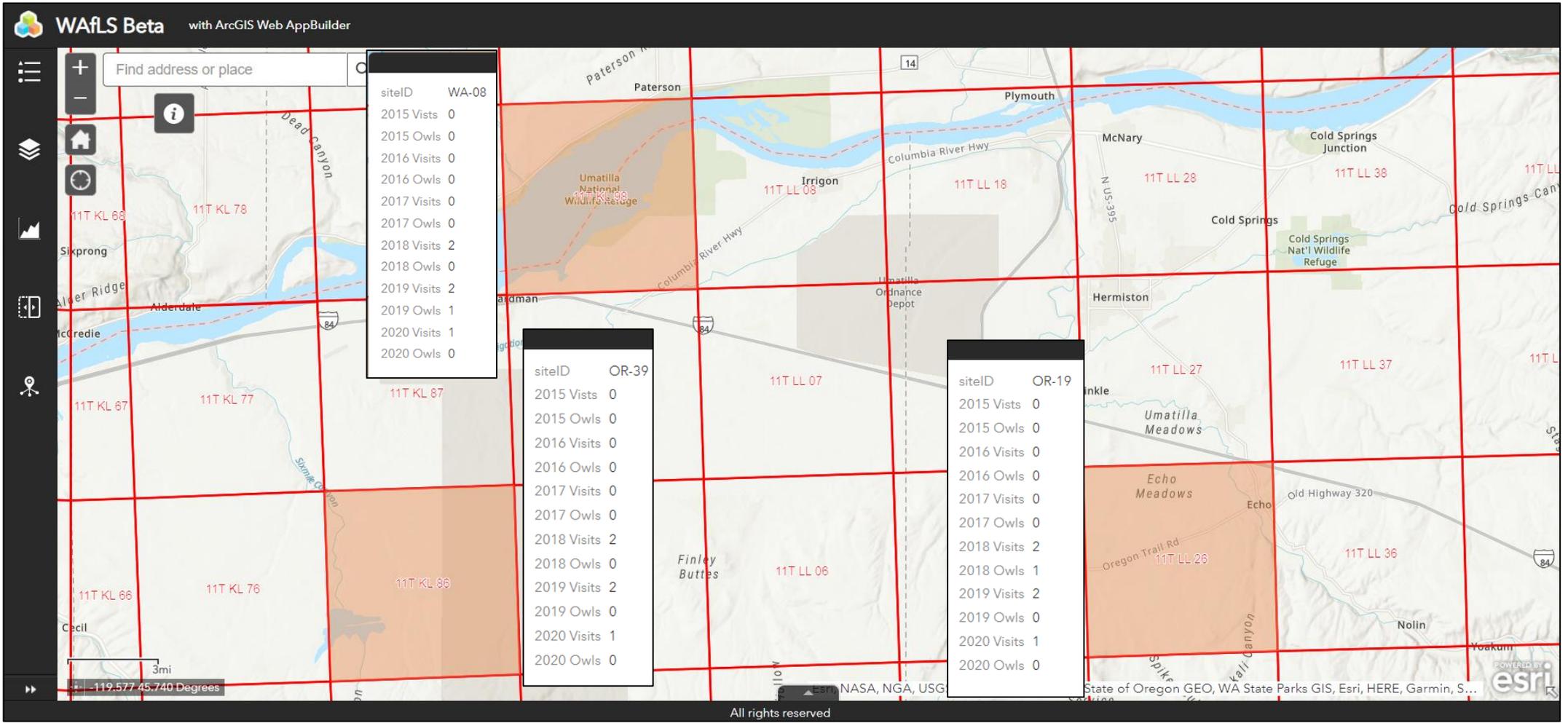


Data Explorer – sampling frame





Data Explorer – effort & observations



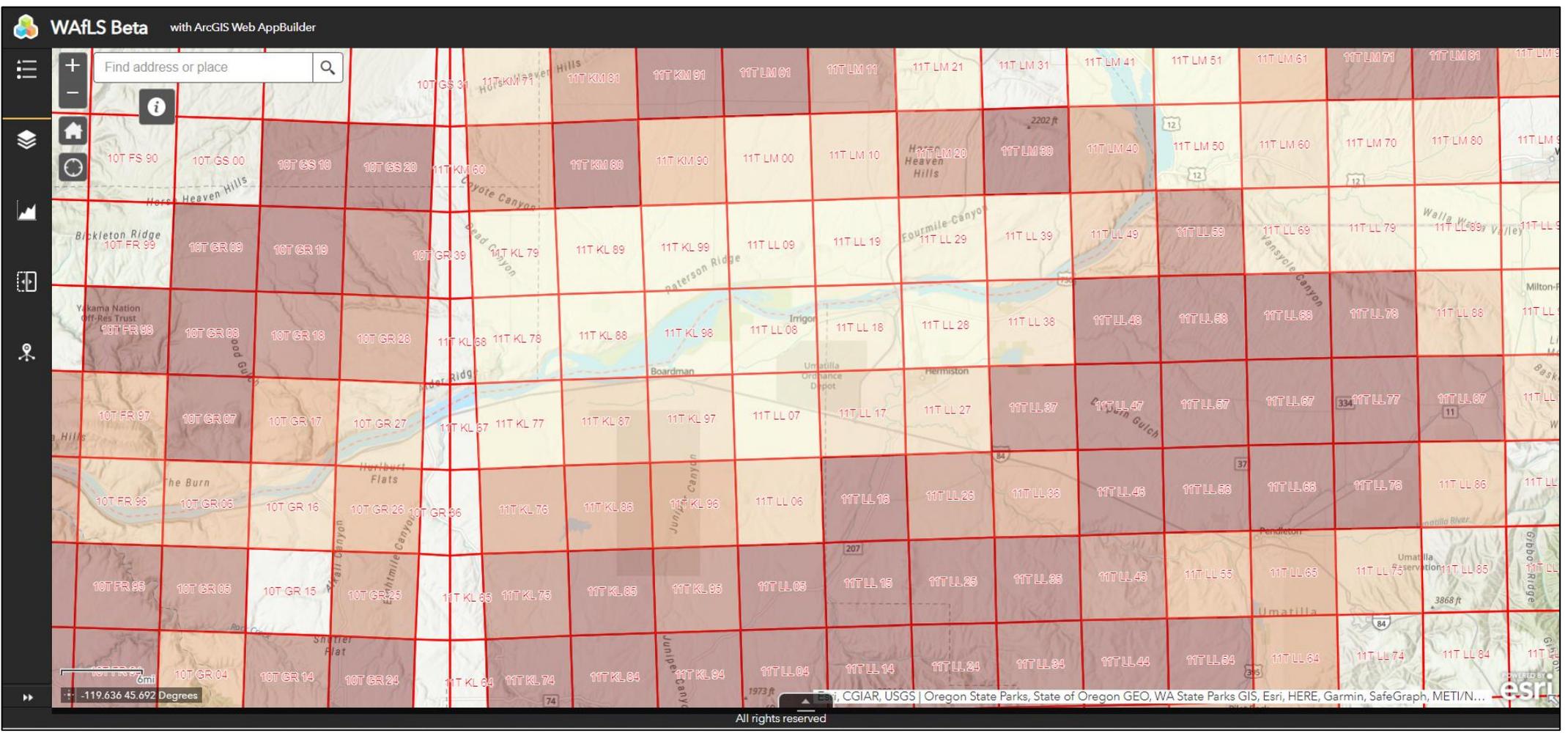
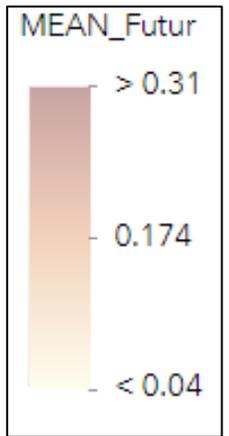


Data Explorer – current occupancy





Data Explorer – future occupancy



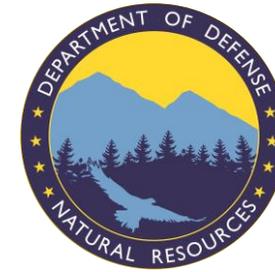


RESOURCES

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

■ WAFLS MENU

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



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/>

 Make Decisions



R.A.I.L. tool
(Rapid Avian Information
Locator)

Identify the set of birds that occur within specific geographic regions and their conservation status and population trends.
No account required.



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

South Oakwood Road
Enid
Meadow Lake Park
Highway-49
Topo
Satellite
West Spourgate Road
Enid
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

Traynor Ranch Airport

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

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

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

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



EXAMPLE: R.A.I.L. TOOL

VANCE AIR FORCE BASE, OK

Filter Species Results

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

CLEAR ALL FILTERS CANCEL APPLY

Rapid Avian Information Locator (RAIL)

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

Type a species...

Selected species

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

 **Bald Eagle**
Haliaeetus
leucocephalus

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

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

Alpha Code
Alpha Code¹: Not yet available

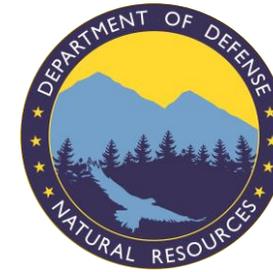
Physical Details
Weight²: 3000 - 6300 g
Length²: 71 - 96 cm

Habitat
Habitat Category²: Forests
Primary Breeding Habitat⁴: Wetlands, Generalist

Population Information
Global Population³: 200,000
% Population Estimate USA³: Not yet available
Lower 95% Bound USA³: Not yet available
Upper 95% Bound USA³: Not yet available
Continental Population Trend⁴: Significant large increase
Regional Population Trend⁴: BCR19 - Significant large increase
% BCR Population³: BCR 19 - 0.00%
Lower 95% Bound BCR³: BCR 19 - null
Upper 95% Bound BCR³: BCR 19 - null
% State Population³: OK - 0.00%
Lower 95% Bound State³: OK - null
Upper 95% Bound State³: OK - null

Biology
Food Category²: Fish
Behavior Category²: Soaring (raptor)
Nesting Category²: Tree
Incubation Period²: 34 - 36 days
Clutch Size²: 1 - 3 eggs
Number of Broods²: 1
Egg description²: Dull white, usually without markings.
Egg length²: 5.8 - 8.4 cm

Conservation Status
Continental Importance⁴: Not yet available
Half Life⁴: Not yet available
Federally Threatened⁶: No
Federally Endangered⁶: No
State Threatened⁷: MA, CT, NH, NY, TX
State Endangered⁷: NJ, VT, CA
Migratory Bird Treaty Act⁸: Listed
Bird of Conservation Concern⁹: No



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





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

EXERCISE 4

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

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

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

6c. Analyze
Observations



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

EXERCISE 4

Exercise:

- [Exercise 4 instructions](#)





BREAK (15 MINS)

NEXT: LOOKING FOR TRENDS





DOWNLOAD POINT COUNT DATA FROM WAREHOUSE DEMONSTRATION



Tools:

- [Data Downloader](#)



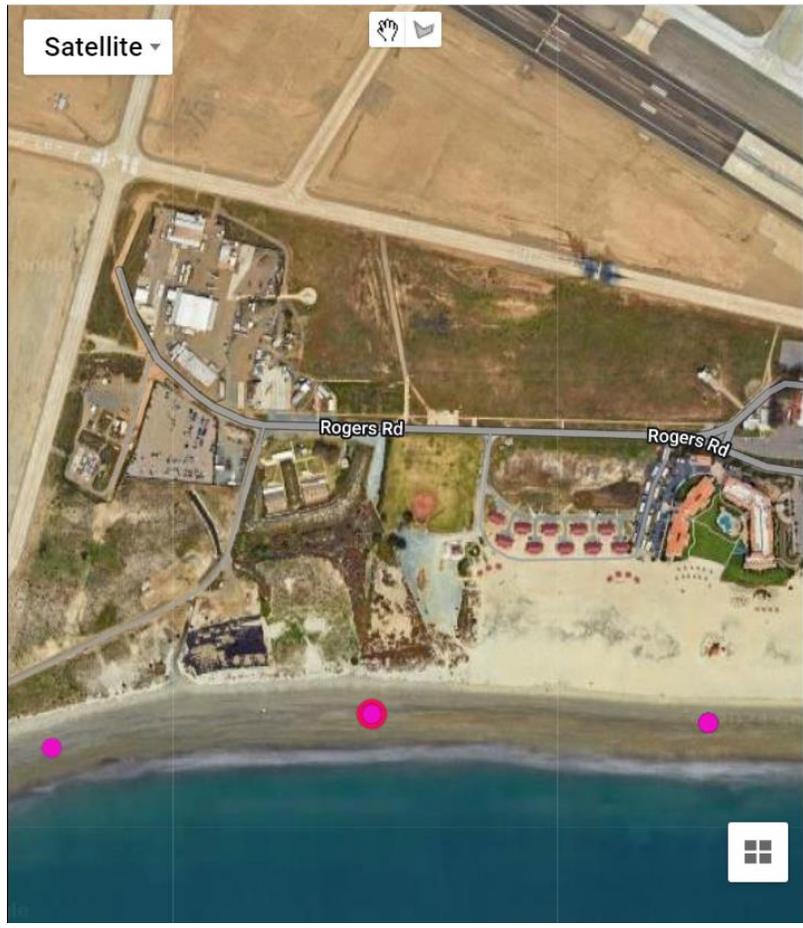
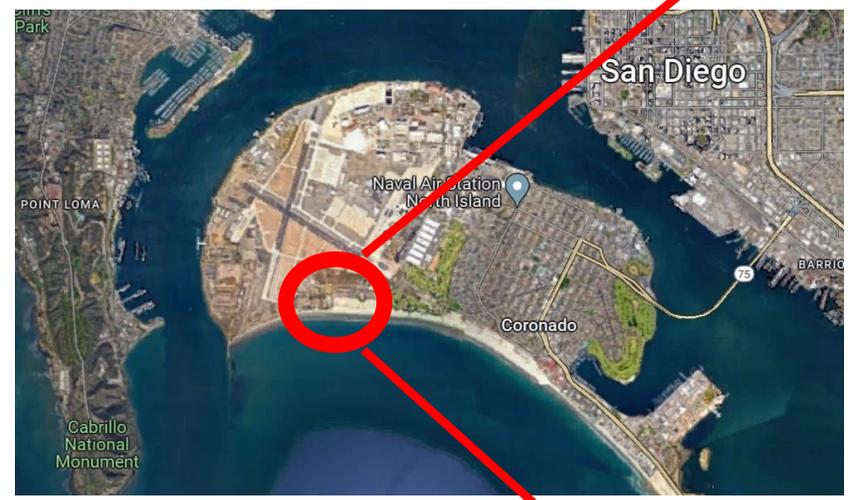
CASE STUDY: MIGRATORY SHOREBIRD PROJECT

- 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





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)

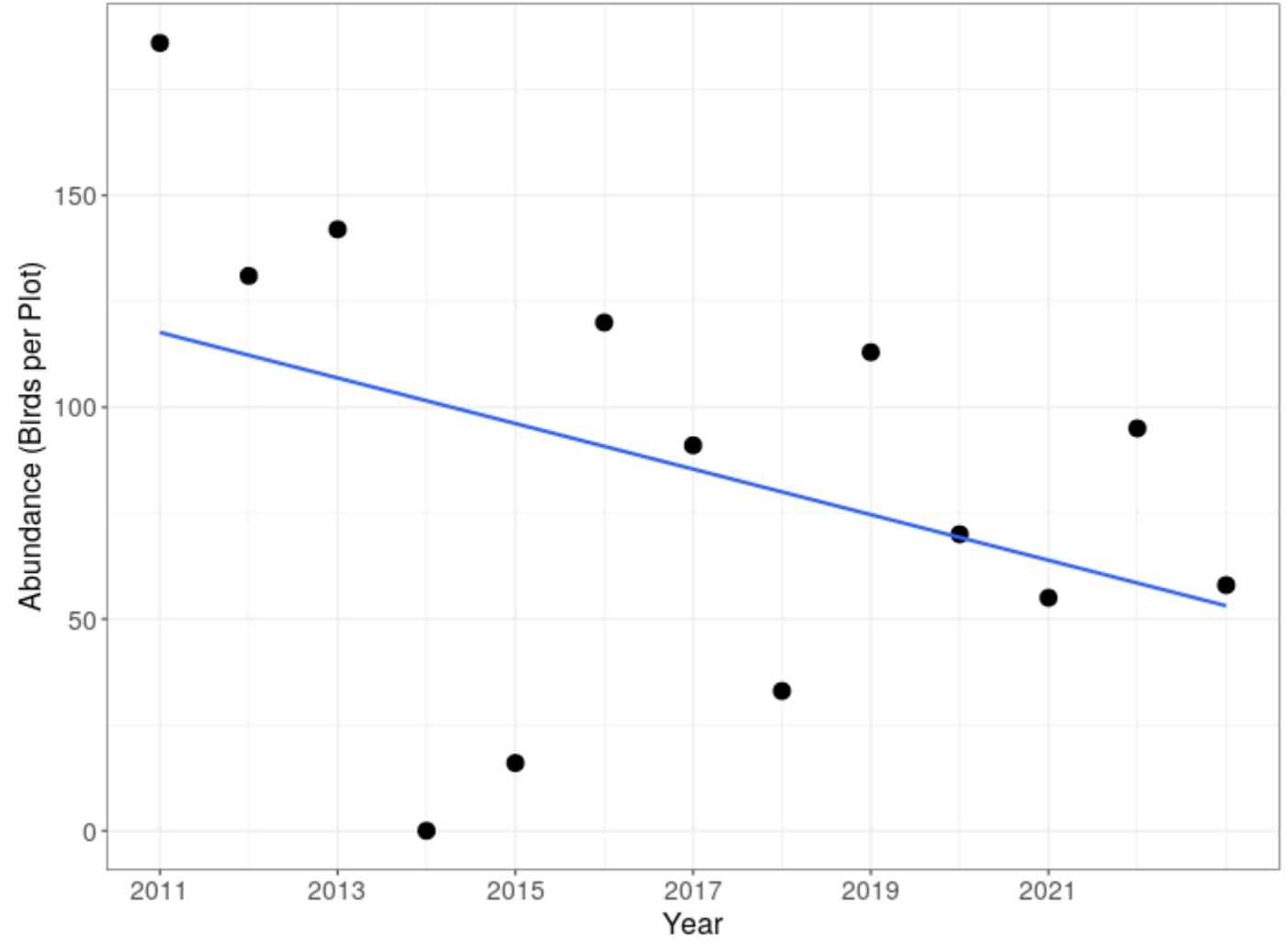


CASE STUDY: MIGRATORY SHOREBIRD PROJECT

North Island Coronado Beach Black-bellied plover abundance



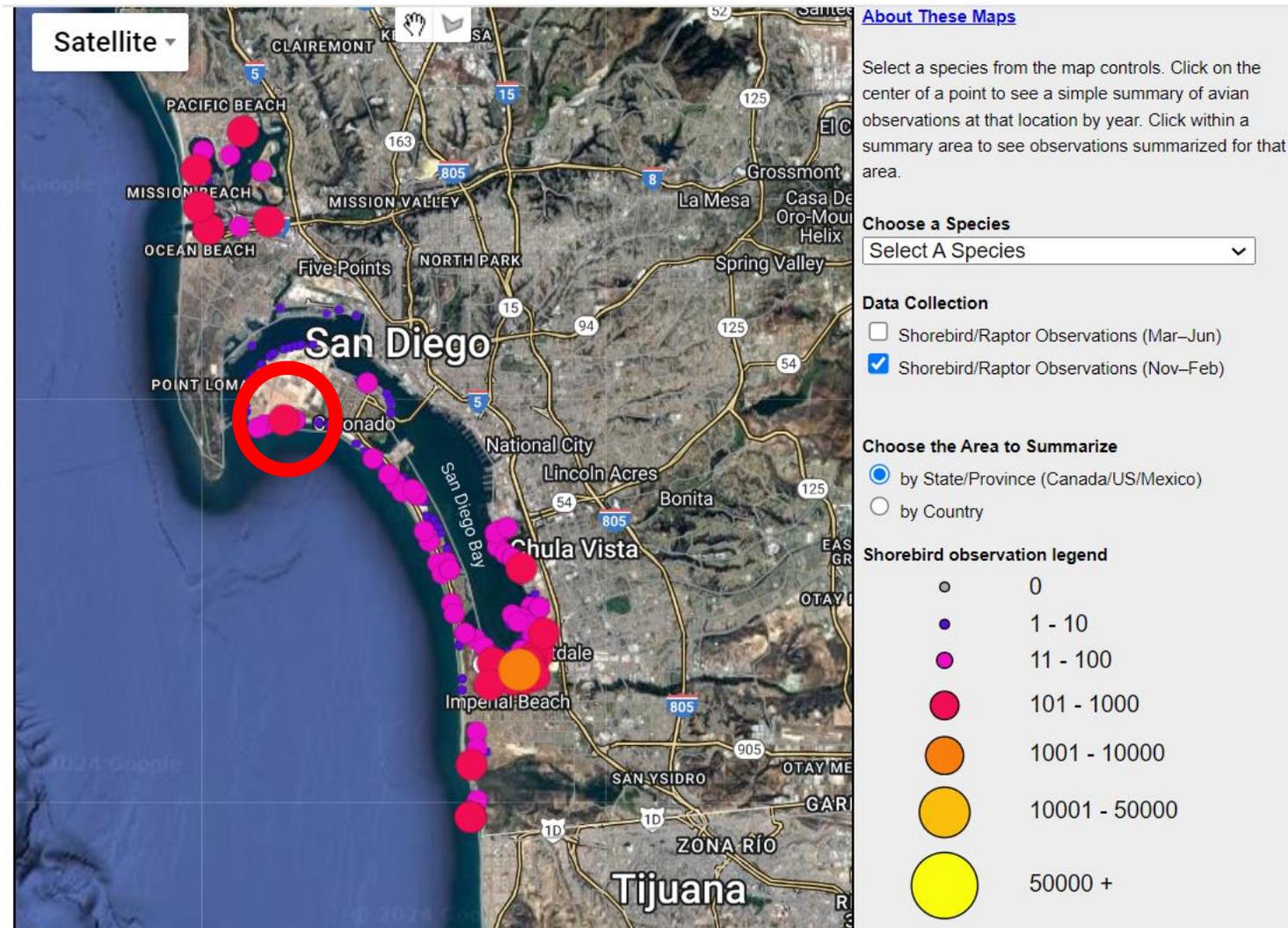
Photo Shea Vavra





CASE STUDY: MIGRATORY SHOREBIRD PROJECT

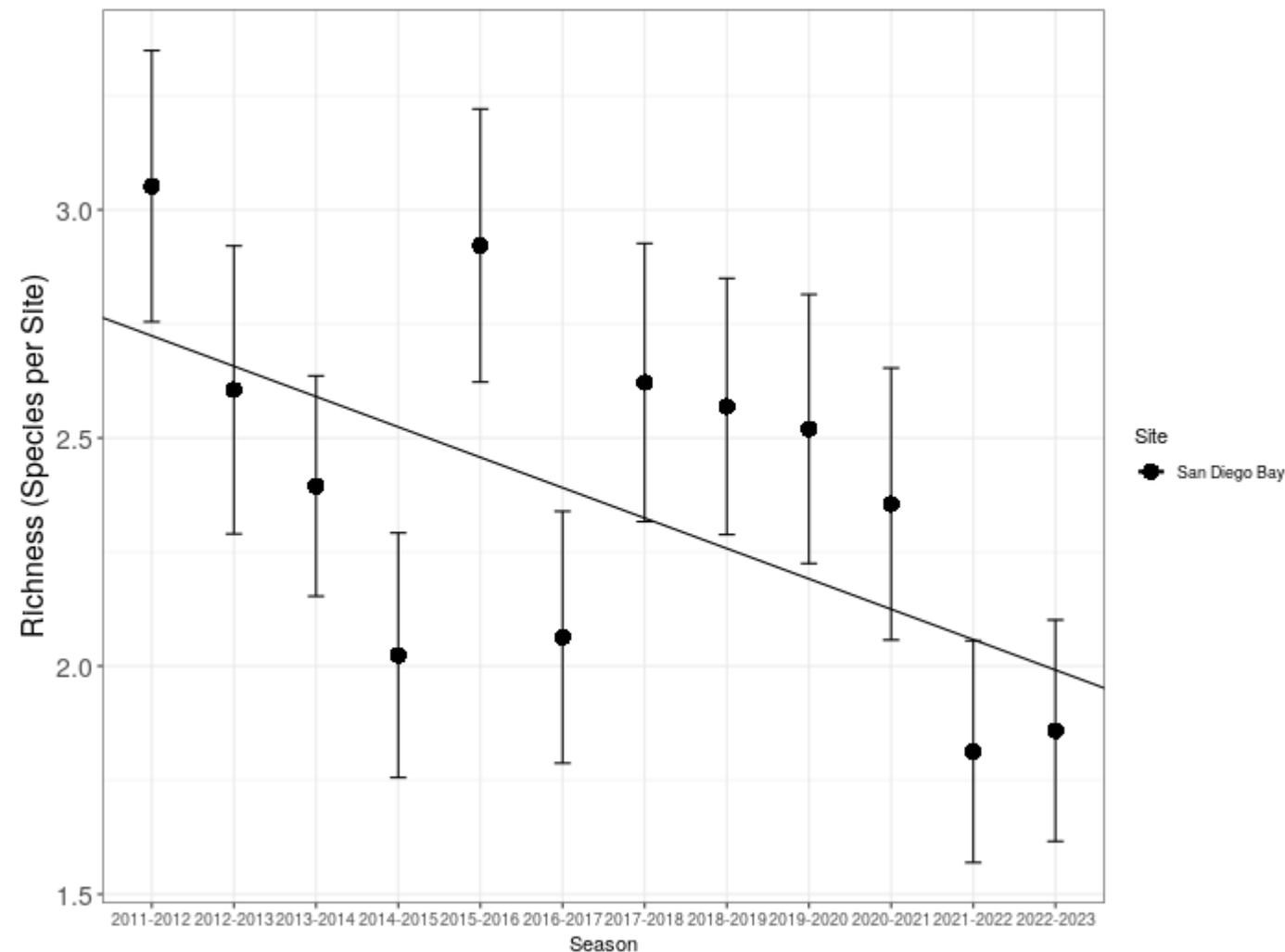
- Data collected between November and December every year since 2011
- <https://migratoryshorebirdproject.org>





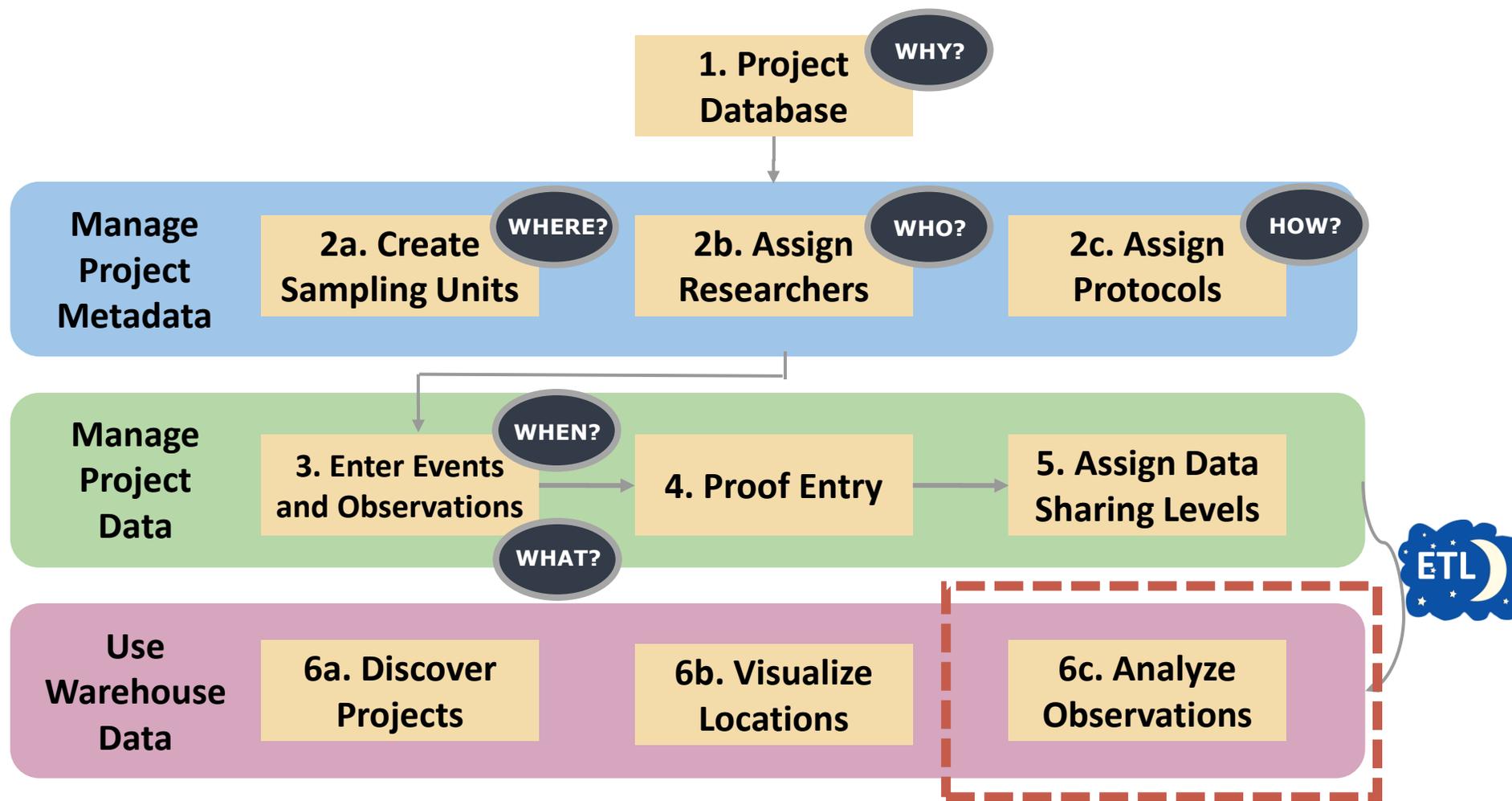
CASE STUDY: MIGRATORY SHOREBIRD PROJECT

San Diego Bay: Wintering shorebird species richness





MANAGING A PROJECT: LOOKING FOR TRENDS



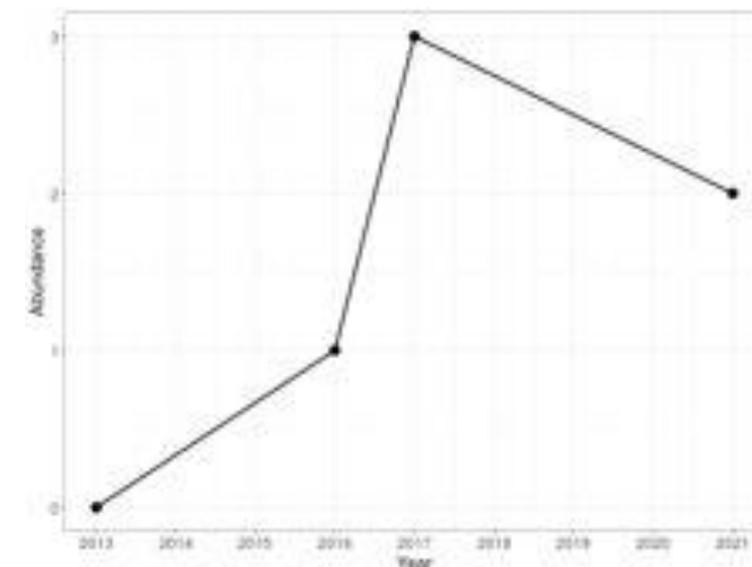


USING THE ANALYST TOOL DEMONSTRATION

Tools:

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

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





LOOKING FOR TRENDS

EXERCISE 5





LOOKING FOR TRENDS

EXERCISE 5

Purpose: Introduce you to more data exploration and discovery tools

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

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

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



LOOKING FOR TRENDS

EXERCISE 5

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

Use
Warehouse
Data

6a. Discover
Projects

6b. Visualize
Locations

6c. Analyze
Observations



CLASS PICTURE!!



Klamath Bird Observatory





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





LEGAL DRIVERS

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



DOD AKN STRATEGIC APPROACH

- DoD AKN Program Management Plan
- OSD and Military Services Support
- Status of DoD Data
- Data Initiatives
- DoD-Specific and AKN Tools
- Priority Tasks for FY24



DoD 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



DoD-Specific Requirements

Ex. user guides, DoD 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



MILITARY SERVICE ACTIONS

Air Force

- ✓ One virtual and one in-person training
- ✓ USDA BASH data workflow
- ✓ GIS data workflow
- ✓ MSS Tool
- ✓ Implicit/explicit zero data
- ✓ Priority data uploads/support
- ✓ Methodology consulting for INRMP objectives



Navy

- ✓ Data prioritization
- ✓ Project creation
- ✓ Data support and upload

National Guard

- ✓ ARNG-specific training, held 23-25 May, hosted by ORARNG
- ✓ Data Discovery Survey
- ✓ Work with states for other tasks



Marine Corps

- ✓ Funding for Program Enterprise
- ✓ Initial funding for:
 - Contractor Role
 - MSS Query Tool
- ✓ Data Discovery Survey
- ✓ MSS monitoring & data support
- ✓ Historical & contemporary data support
- ✓ Training at OCONUS site

Army

- ✓ Data Discovery and Training Survey – *in progress*
- ✓ Building a 5-year plan

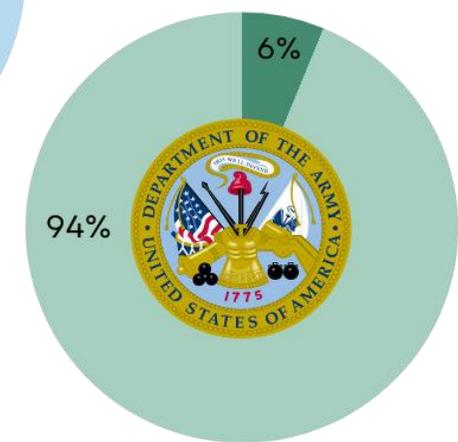
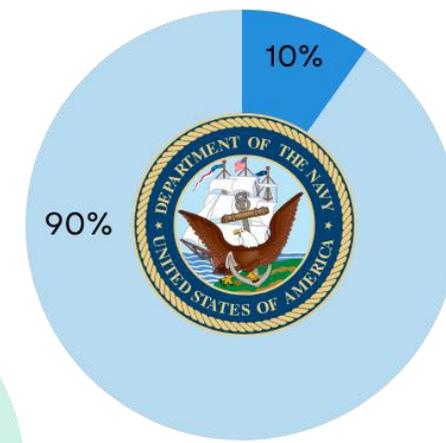
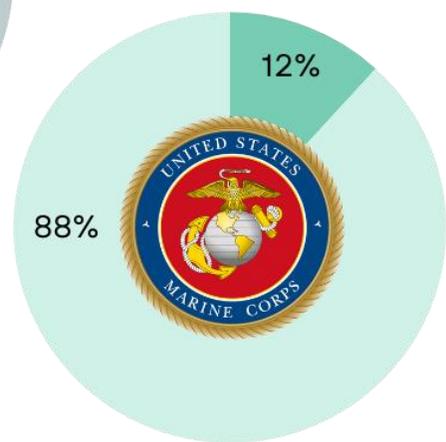
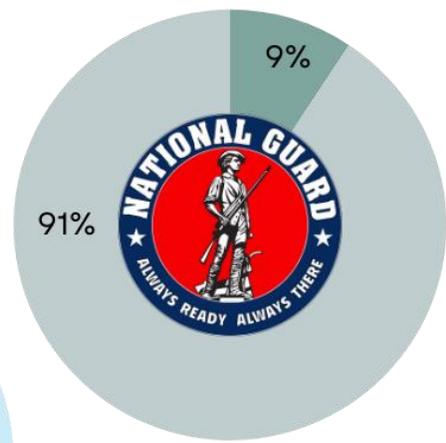
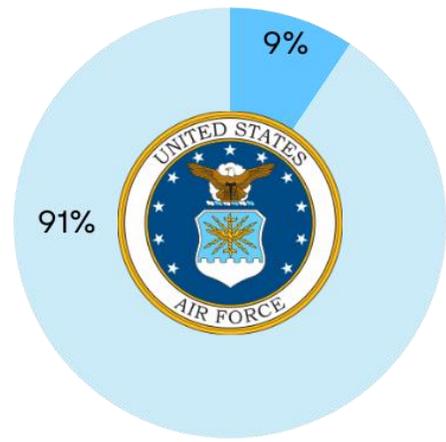




MILITARY SERVICE PROGRESS

Installations with Active Projects by Service Branch

**START OF
CY2023**



Dark colors - Installations with Active Projects

Light colors - Installations without Active Projects

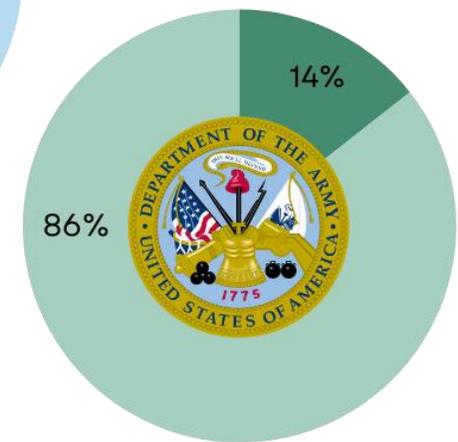
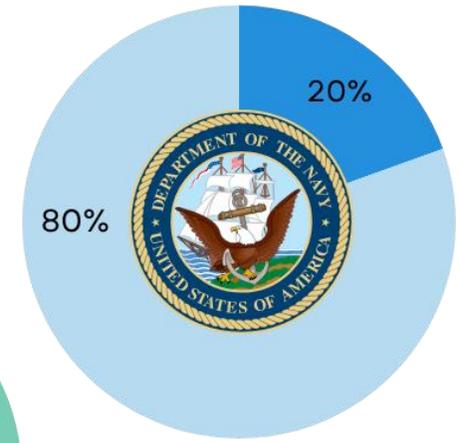
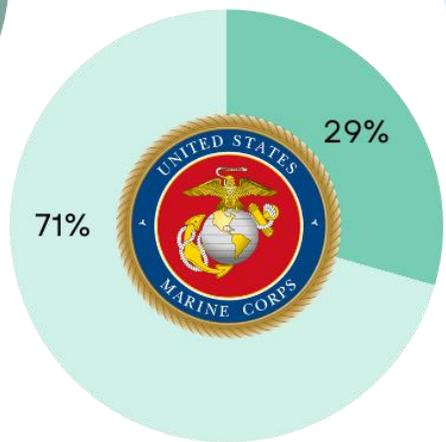
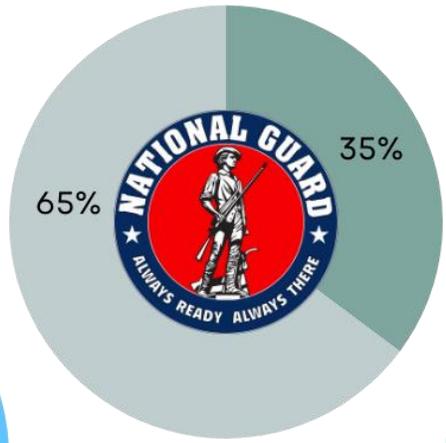
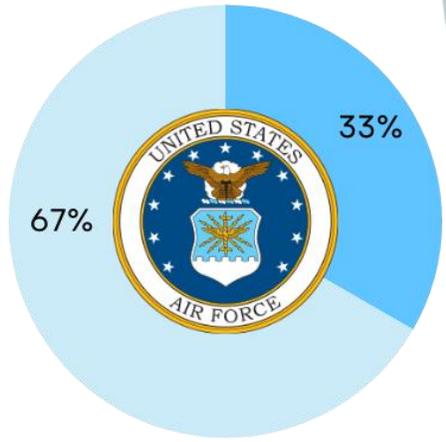
341 installations that require **Integrated Natural Resources Management Plans**



MILITARY SERVICE PROGRESS

Installations with Active Projects by Service Branch

**END OF
CY2023**



Dark colors - Installations with Active Projects

Light colors - Installations without Active Projects

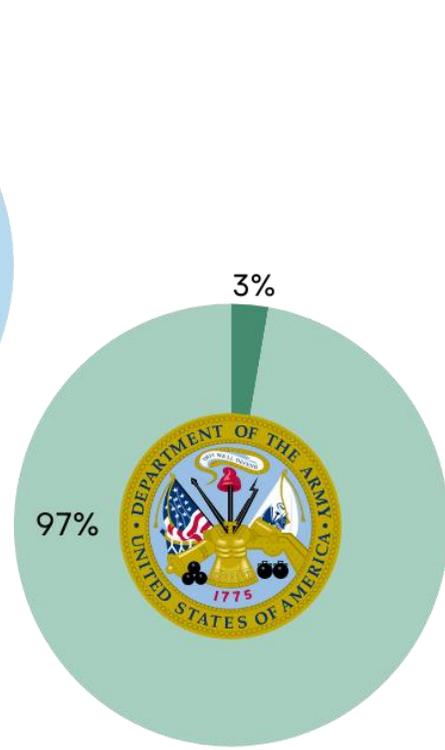
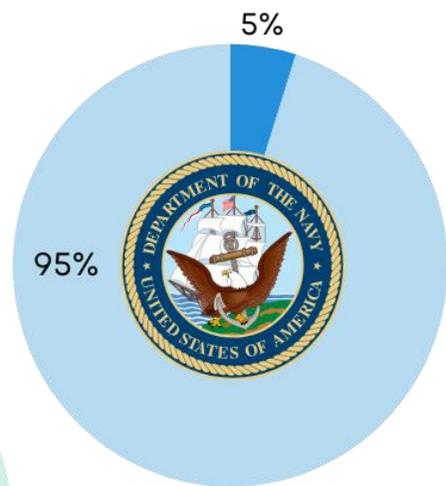
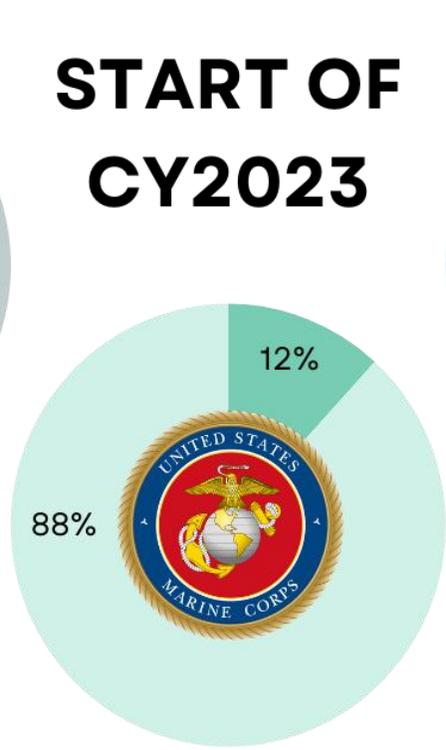
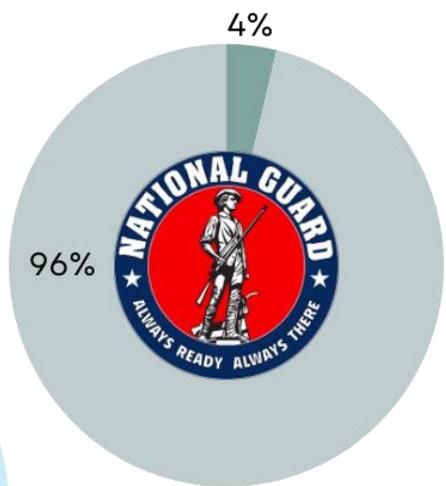
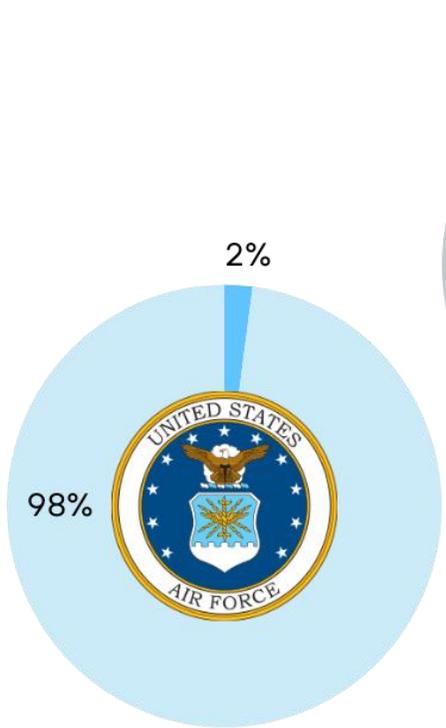
341 installations that require **Integrated Natural Resources Management Plans**



MILITARY SERVICE PROGRESS

Installations with Contemporary Data by Service Branch

**START OF
CY2023**



Dark colors - Installations with Data Records

Light colors - Installations without Data Records

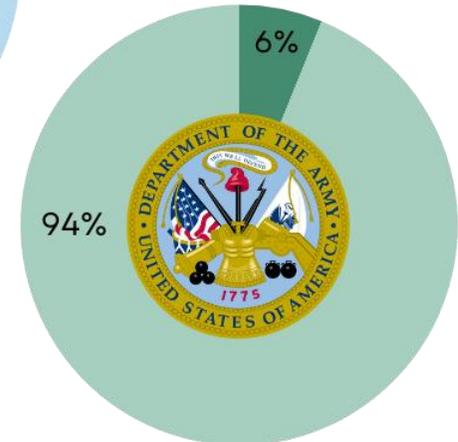
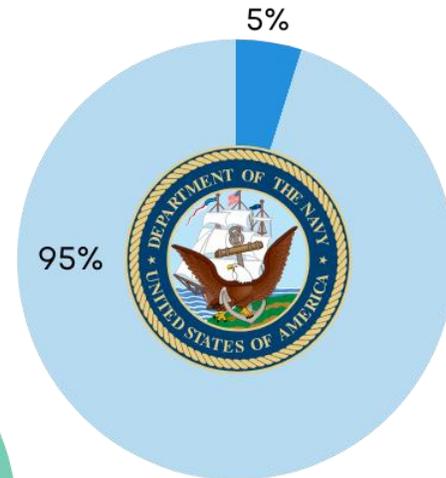
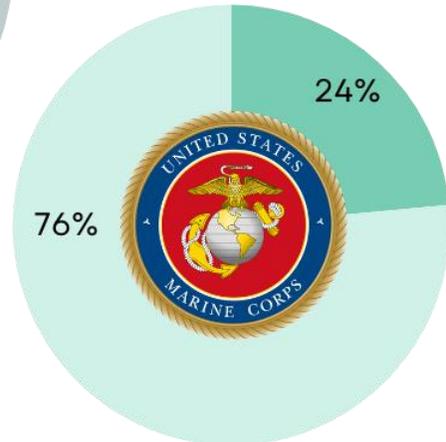
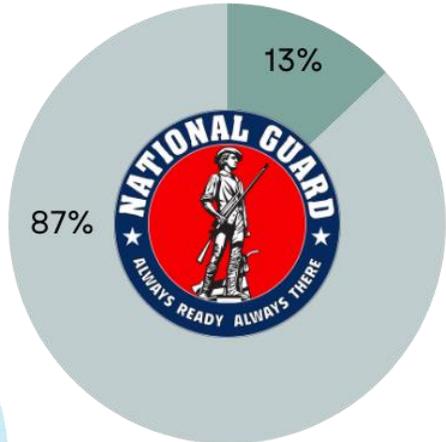
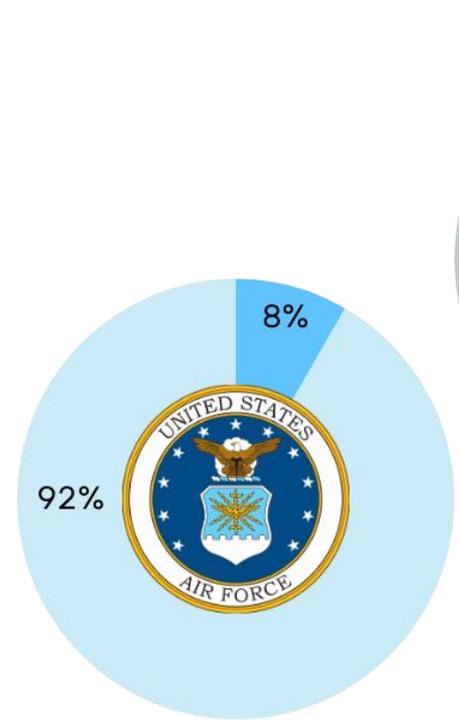
341 installations that require **Integrated Natural Resources Management Plans**



MILITARY SERVICE PROGRESS

Installations with Contemporary Data by Service Branch

**END OF
CY2023**



Dark colors - Installations with Data Records

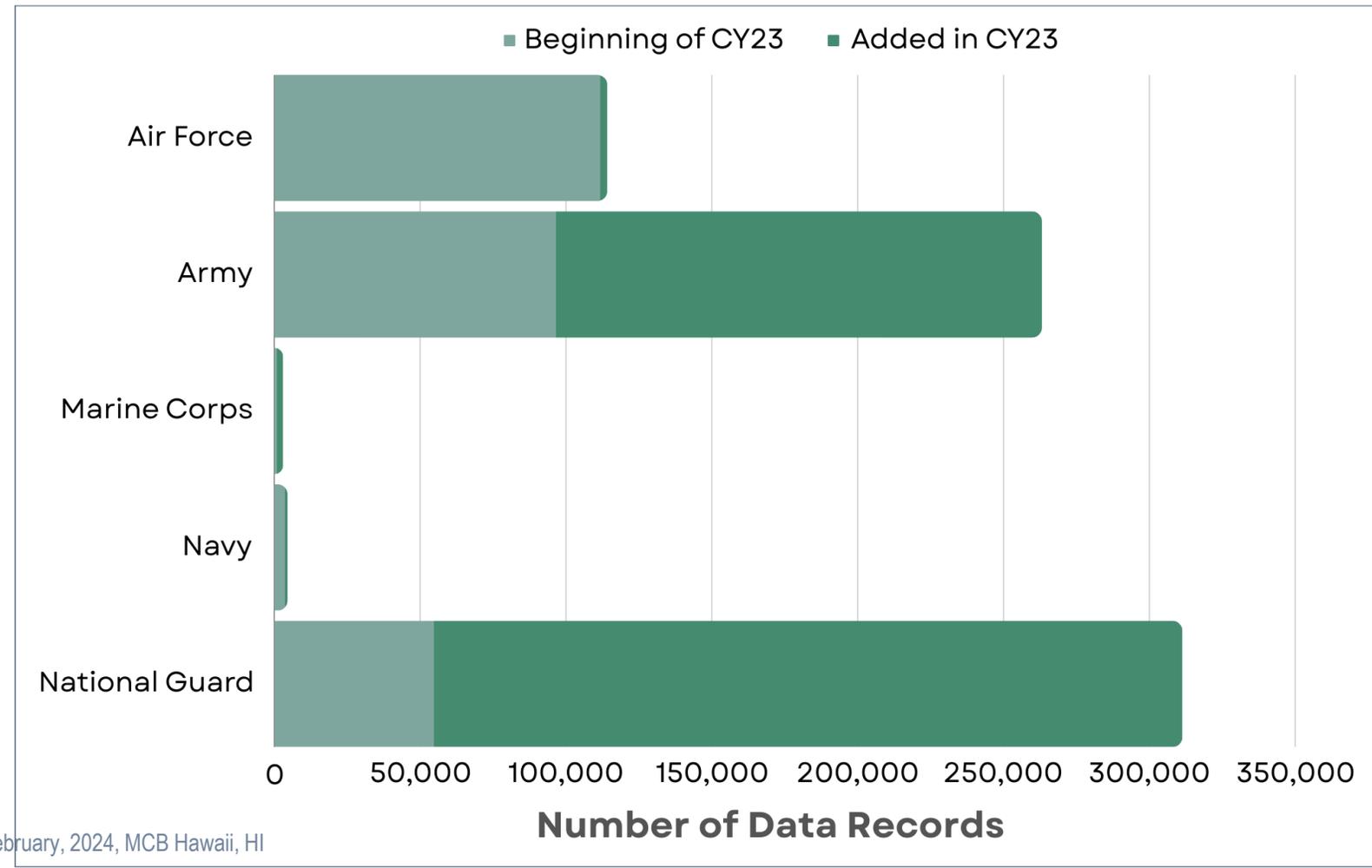
Light colors - Installations without Data Records

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



MILITARY SERVICE PROGRESS

DoD Data Records in AKN by Military Service





DOD TOOLS

Data Discovery Survey & Training Questionnaire

DoD AKN Navy Survey

Welcome to the DoD Avian Knowledge Network (AKN) Navy Survey

The Department of the Navy seeks to continue facilitating a coordinated and comprehensive approach to implementation of the DoD's participation in the Avian Knowledge Network (AKN) that directly supports the DoD Bird Conservation Strategic Plan. Specifically, the Navy desires to improve the quality and effectiveness of bird conservation on their installations by using the data and tools within the AKN.

The Navy requests your participation in a short online survey to 1) gauge interest in virtual AKN training sessions and 2) determine what avian survey datasets exist that should be prioritized for upload into the AKN database.

Survey should take 5-10 mins to complete

1. Please give us the following information about yourself

Your name

Your Installation name

Your current position

Your work email address

2. Where have you heard about the Avian Knowledge Network (AKN) efforts across DoD and the Navy?

- DoD Partners In Flight (PIF)
- Legacy Program Fact Sheets
- NMFWA seminar or presentation
- Internal email
- From other DoD staff
- I haven't heard anything about AKN at DoD or Navy

6. We are planning to offer training classes to Navy staff on using the AKN web tools. Are you interested in any of the following training:

- How to load historical data into the system
- How to enter data interactively for future surveys
- How to see what data is available across the AKN
- How to use the AKN for data management, curation, and sharing
- How to use the AKN for rapid NEPA-type assessments at your installation using existing AKN data
- How to analyze trends of avian populations on your installation with your data

7. If you are interested in the virtual training in the next 12 months, select which times of year you would prefer to have a training.

- August/ September/ October 2022
- November / December 2022 / January 2023
- February/ March / April 2023
- May/ June / July 2023
- I'm not interested in or cannot attend a training in the next 12 months.

8. What region of the country would you prefer for an in-person training?

- Northeast
- Southeast
- Midwest
- Southwest
- West

10. In the future, select which avian surveys you plan to conduct at your installation.

- Point Count
- Area Search
- Transects
- Aerial Surveys
- Banding / [Monitoring Avian Productivity and Survivorship \(MAPS\)](#)
- Nest Surveys
- Colony Counts
- [Breeding Bird Survey \(BBS\)](#)
- [Christmas Bird Count \(CBC\)](#)
- Airfield / Bird Air Strike Hazard (BASH)
- Other (please specify)
- My installation has no plans to conduct avian surveys in the foreseeable future.

11. Do you use a field methodology where data are collected about a single individual multiple times within a count? (e.g. record an individual detected in minute 1 and minute 3.)

- Yes
- No

12. Do you use a field methodology that documents only a limited set of species, as opposed to all species present?

- Yes
- No



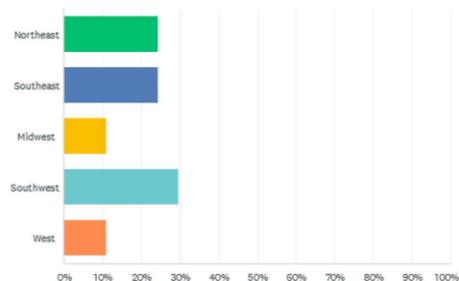
DOD TOOLS

Data Discovery Survey & Training Questionnaire

DoD AKN Navy Survey

Q8 What region of the country would you prefer for an in-person training?

Answered: 37 Skipped: 2

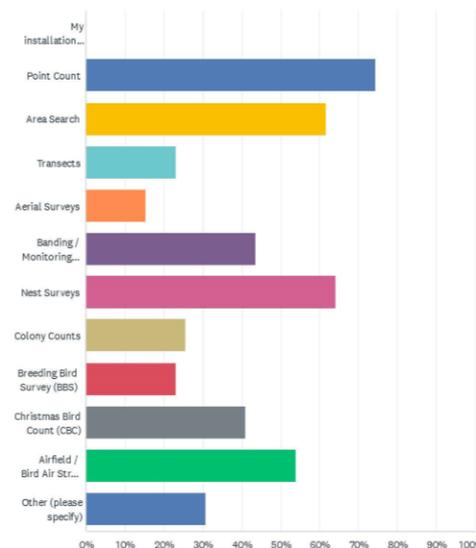


ANSWER CHOICES	RESPONSES	Count
Northeast	24.32%	9
Southeast	24.32%	9
Midwest	10.81%	4
Southwest	29.73%	11
West	10.81%	4
TOTAL		37

DoD AKN Navy Survey

Q9 Please select the avian survey type(s) your installation has conducted and has either current or historical data available.

Answered: 39 Skipped: 0

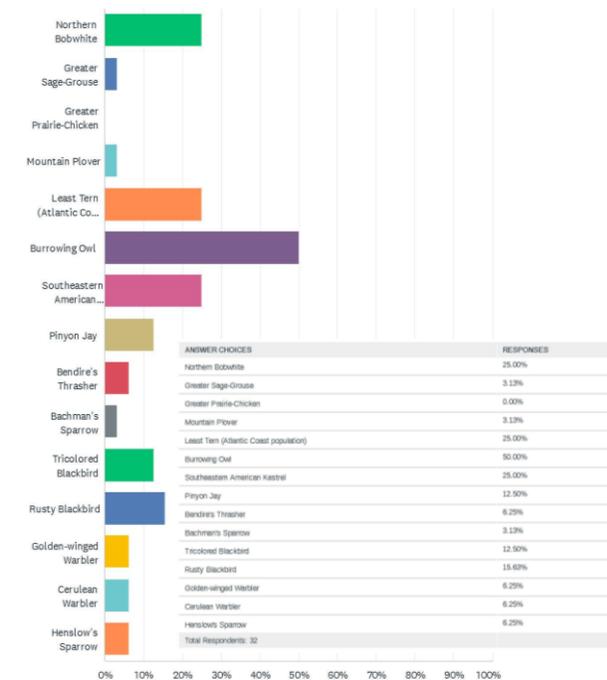


ANSWER CHOICES	RESPONSES	Count
My installation does not have any past avian data surveys	0.00%	0
Point Count	74.36%	29
Area Search	61.54%	24
Transects	23.08%	9
Aerial Surveys	15.38%	6
Banding / Monitoring Avian Productivity and Survivorship (MAPS)	43.59%	17
Nest Surveys	64.10%	25
Colony Counts	25.64%	10
Breeding Bird Survey (BBS)	23.08%	9
Christmas Bird Count (CBC)	41.03%	16
Airfield / Bird Air Strike Hazard (BASH)	53.85%	21
Other (please specify)	30.77%	12
Total Respondents: 39		

DoD AKN Navy Survey

Q15 Which DoD Mission Sensitive Species occur on your installation?

Answered: 32 Skipped: 7



ANSWER CHOICES	RESPONSES	Count
Northern Bobwhite	25.00%	8
Greater Sage-Grouse	3.13%	1
Greater Prairie-Chicken	0.00%	0
Mountain Plover	3.13%	1
Least Tern (Atlantic Coast population)	25.00%	8
Burrowing Owl	50.00%	16
Southeastern American Kestrel	25.00%	8
Pinyon Jay	12.50%	4
Bendire's Thrasher	6.25%	2
Bachman's Sparrow	3.13%	1
Tricolored Blackbird	12.50%	4
Rusty Blackbird	15.63%	5
Cerulean Warbler	6.25%	2
Henslow's Sparrow	6.25%	2
Total Respondents: 32		



DOD TOOLS

Standardized Sampling Methods

- Survey DoD personnel to identify the most common bird monitoring questions
- Promote standardized data collection methods across DoD
- Provide appropriate protocol selection based on management or research needs

SPECIES CHECKLIST

<https://www.dodakn.org/resources/dod-akn-standard-sampling-methods/#SPCH>





DOD MISSION-SENSITIVE SPECIES



Northern Bobwhite



Greater Sage-grouse



Mountain Plover



Greater Prairie Chicken



Burrowing Owl



Least Tern (Atlantic Coast)



Cerulean Warbler



Golden-winged Warbler



Pinyon Jay



Southeastern American Kestrel



Henslow's Sparrow



Rusty Blackbird



Bendire's Thrasher



Tricolored Blackbird



Bachman's Sparrow



DOD MISSION-SENSITIVE SPECIES

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

DOD AKN MSS 4-PRONGED APPROACH

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

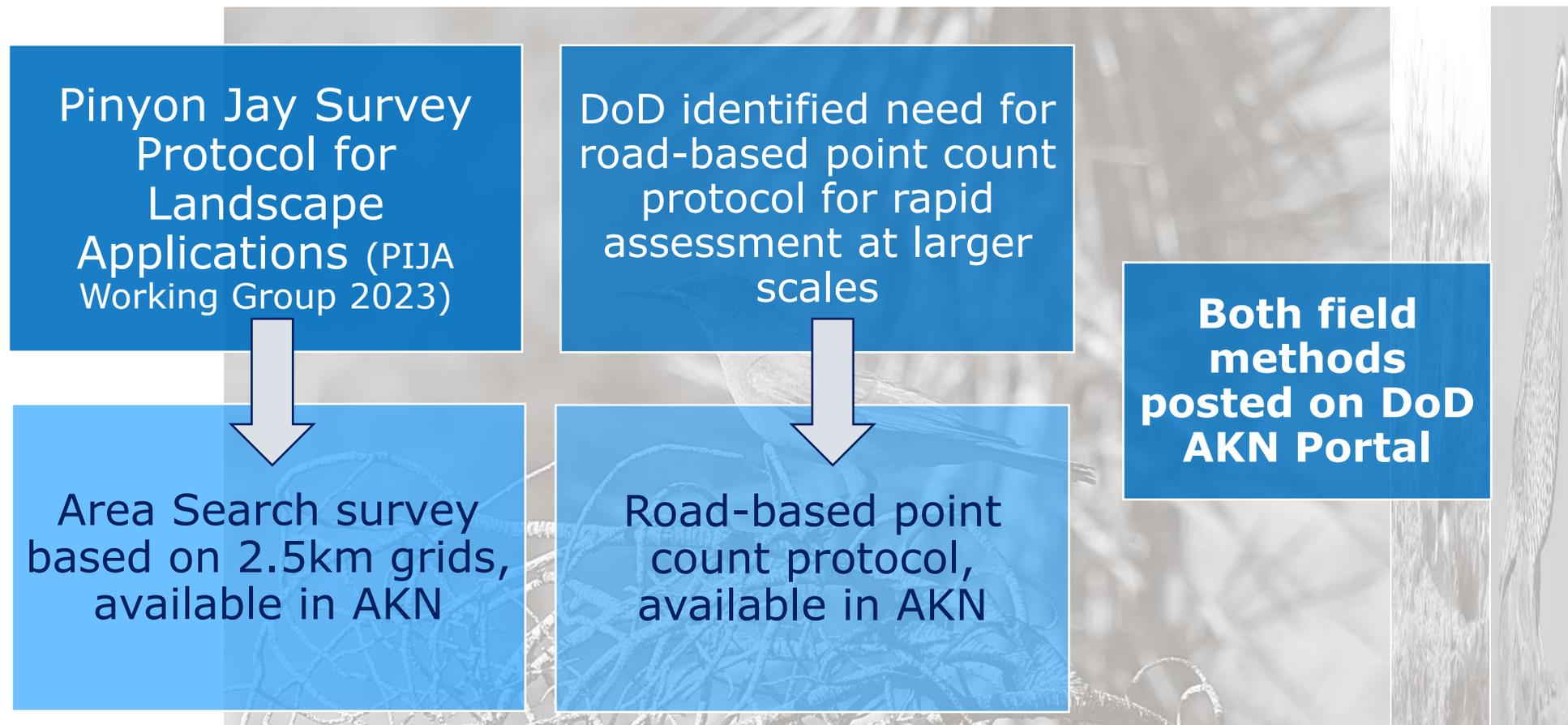


DOD MISSION-SENSITIVE SPECIES





DOD MISSION-SENSITIVE SPECIES



https://www.dodakn.org/resources/mss/#MSS_PIJA



DOD 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*

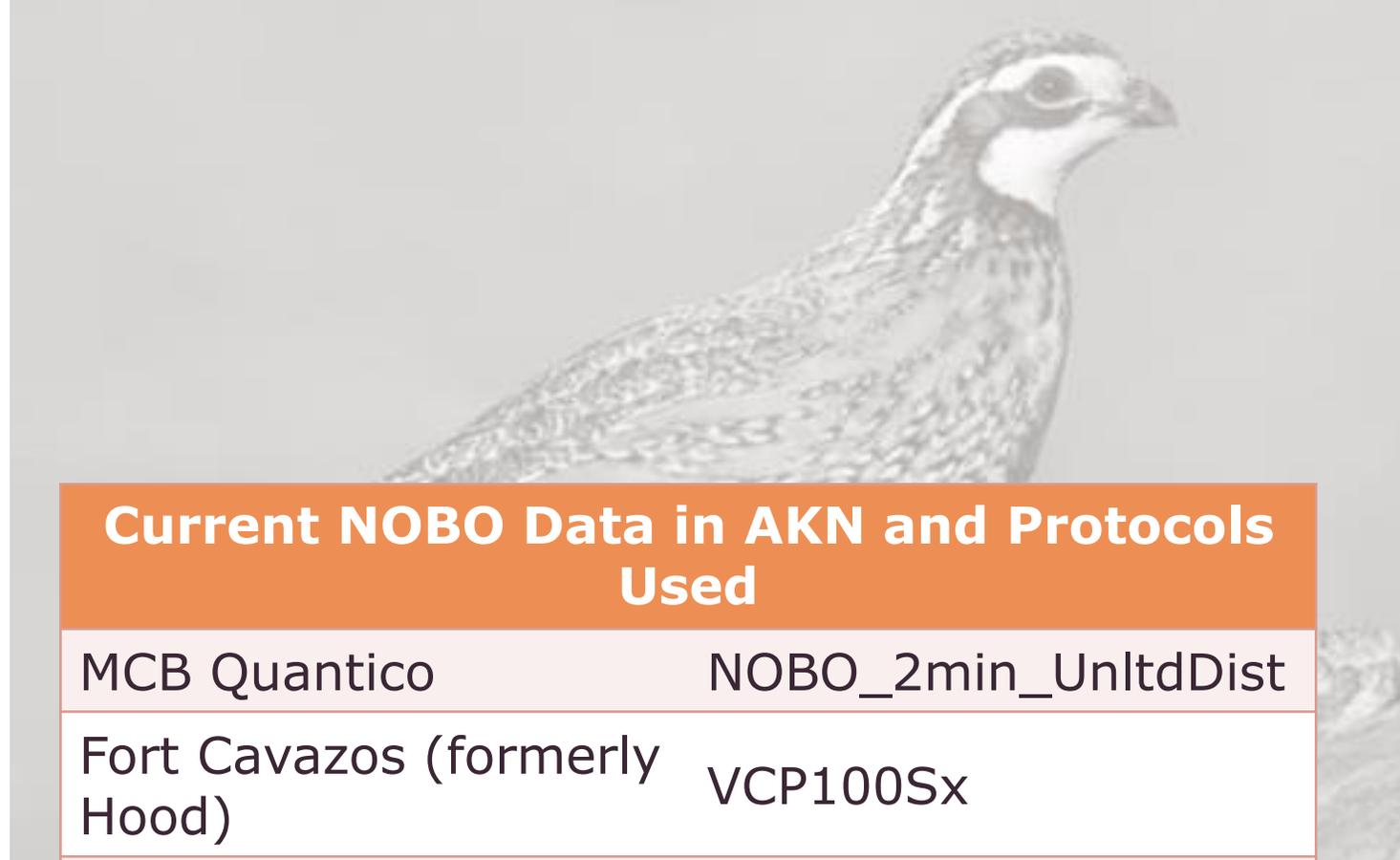
Kevin Warner, *Idaho Army National Guard*

Colin Leingang, *JBLM Yakima Training Center*

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



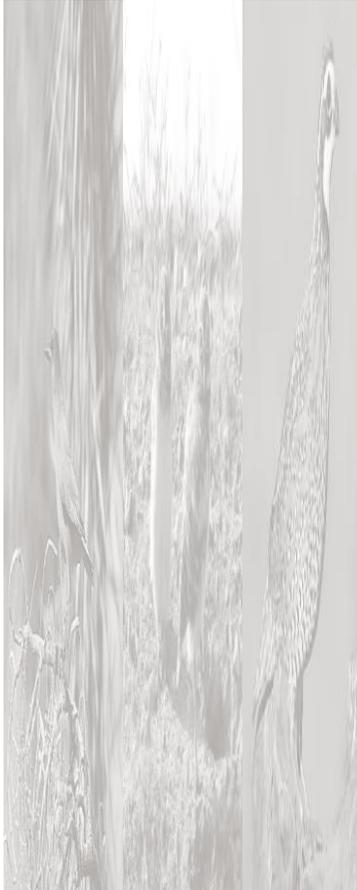
DOD MISSION-SENSITIVE SPECIES



Current NOBO Data in AKN and Protocols Used	
MCB Quantico	NOBO_2min_UnltdDist
Fort Cavazos (formerly Hood)	VCP100Sx
Fort Riley	FortRiley_VR250m



DOD MISSION-SENSITIVE SPECIES





DoD DATA NEEDS

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



SCOPE OF WORK LANGUAGE

for Contracts, Cooperative Agreements and Interagency Agreements



AVIAN
KNOWLEDGE NETWORK

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

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

Introduction

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

Following are details to be included in the "Statement of Work" section of a service contract, grant, or 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 (Researchers and Users), where (Sampling Units), when (Sampling Events), and what (Sampling Event Observations) data are collected. For DoD, each installation has its own project.

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

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

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

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

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

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

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



AVIAN
KNOWLEDGE NETWORK

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

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

Statement of Work Language

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

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

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

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

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

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

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

- SOW LANGUAGE:** Contractor/Cooperator will provide sampling methods with associated field forms and a link to the associated Sampling Protocol Definition here <https://data.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

DoD AKN Guidance:

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



DOD AKN USER GUIDE

**Detailed Step-by-step Instructions for DoD Use;
Supplements Training**



Getting
Started

Managing
Project

Getting
Data In

Getting
Data Out

Exploring
Data

DoD
Glossary



CASE STUDY:

POTENTIAL LEAST BELL'S VIREO APPROACH



- Dedicated partnership across multiple governmental and non-governmental organizations
- Survey and recovery data in multiple formats
- Lack of visibility on species data and numbers range-wide



Least Bell's Vireo, NWS Seal Beach Detachment Fallbrook, CA; Photo credit: USN



Potential LBVI Project/Program Structure

DoD Subprogram

Installation
LBVI data

USACE Subprogram

Project
LBVI data

USGS Subprogram

Drainage
LBVI data

California
LBVI data

FWS Section 7
LBVI data

ABC
LBVI data



DATA FORMATS AND SOURCES

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

2019 Annual Data Summary



Prepared for:

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

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

LEAST BELL'S VIREOS AND SOUTHWESTERN WILLOW FLYCATCHERS IN PRADO BASIN OF THE SANTA ANA RIVER WATERSHED, CA

By

James Pike, Loren Hays, and Richard Zembal

and

Bonnie Johnson
Habitat Restoration Manager

David McMichael
Senior Environmental Specialist

Cameron MacBeth
Environmental Specialist

Patience Falatek
Field Investigator

Natalia Doshi
Field Investigator

Orange County Water District
P.O. Box 8300
Fountain Valley, CA 92728

ABSTRACT. Multiple partnerships have led to a program of resource management in southern California's largest coastal watershed. Annual grants and a perpetual endowment built with mitigation money have paid for 500 acres of habitat restoration, through control of invasive giant reed (*Arundo donax*) in part and successful management of beleaguered species. Populations of endangered least Bell's vireos (*Vireo bellii pusillus*) and southwestern willow flycatchers (*Empidonax traillii eximius*) were studied and managed for the thirty third consecutive year in the Prado Basin and environs during the 2019 breeding season. Data were taken on status, distribution, breeding chronology, reproductive success, and nest site characteristics. Additionally, brown-headed cowbirds (*Molothrus ater*) were surveyed and removed from vireo and flycatcher territories. Two hundred eighty three of the 606 territorial male vireos detected in 2019 were found to be paired, producing a minimum of 523 fledglings. This compares with 301 pairs recorded in 2018, 218 pairs recorded in 2017, and just 19 pairs in 1986. Six hundred and fifty six cowbirds were removed from vireo and flycatcher habitat during the nesting season, following the fall and winter removal of 6,005 cowbirds from adjacent cattle operations. To date, in excess of one hundred thousand cowbirds have been removed from the Basin. The cowbird parasitism rate of vireo nests was 3%, no parasitism was documented in 2016. Seventy six percent of 172 vireo nests were placed in willows (*Salix* spp. – three species) and mulefat (*Baccharis salicifolia*). For just the fourth time since studies began, no territorial southwestern willow flycatcher was detected in the Basin. Following the discovery in 2011 of one federally-threatened western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) for the first time in the Basin in ten years, none were found in 2012-2019. Numerous other sensitive avian species have benefited from the habitat restoration and management efforts. For example, a minimum of 2,000 pairs of yellow warblers (*Setophaga petechia*) were estimated in the 4,500 ha (11,120 ac) study area in 2013.

SURVEY REPORT

Record Id 10700
 County Los Angeles
 Survey 2009
 Transient willow flycatcher(s) detected, subspecies uncertain.
 LBN (+) CAGN (+)
 Sp. Ret. Date: Dec 3/3/10
 L+R 7-17:K.. 5-24-10



THE STATUS OF THE LEAST BELL'S VIREO AND SOUTHWESTERN WILLOW FLYCATCHER AT LOS ANGELES COUNTY DRAINAGE AREA SITES IN 2009



Least Bell's vireo nestlings one day before fledging.





Potential Hawaii Program Structure (e.g., biennial waterbird survey)

DoD Subprogram

Installation Data

DNLR Subprogram

Waterbird data

USFWS Subprogram

Waterbird data

NPS Subprogram

Waterbird data

USFS data

University data

Various NGOs

NGO

NGO

NGO



AKN TOOLS

New System User Roles

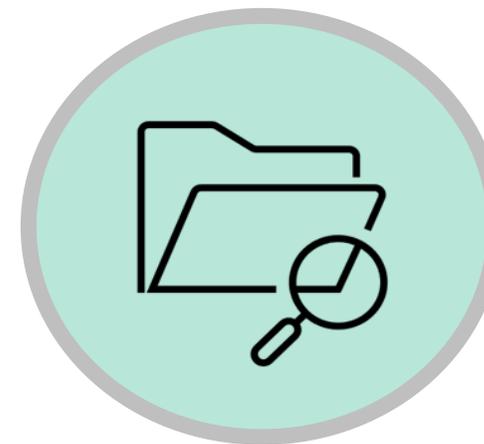
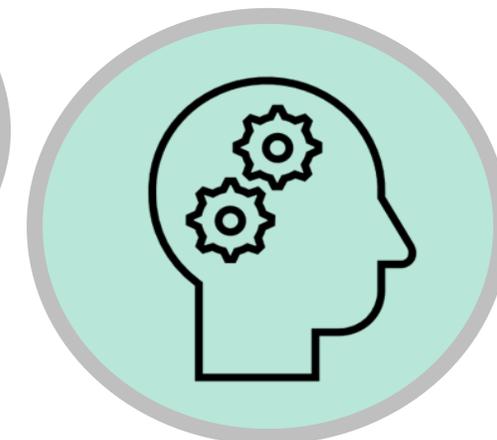
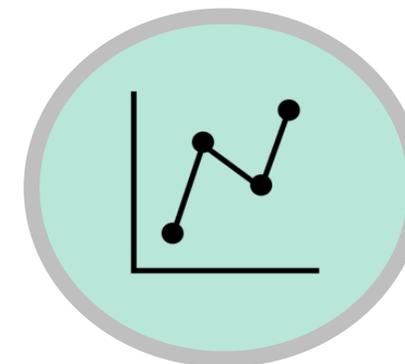
Need: Roles in the system that meet requirements for data entry and/or analysis for portions of AKN projects

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 on my installation?
2. What species have the potential to occur on my installation?
3. What species may occur/persist on my installation in the future?
4. How are species “doing” (population metrics) on my installation? (AKA "Is my INRMP effective?")
How are species doing across the military? (AKA "Is the DoD conservation program effective?")
5. What is driving population trends on my installation? Are there conservation measures/actions within my INRMP that are working more than others to reach identified conservation objectives?
6. What is the relative conservation responsibility of avian species on military installations?



Questions for Consideration

Budget Planning and Priorities
What would you like to see?
What are your Service/installation priorities?

Military Service Progress
Who will lead next quarter, next year?
Incentives for getting data in?

Trainings – In-person
Qtr 4 – DC area or somewhere in SE
Where would you like to see a training?
Would you like to host a training?
Timing of trainings?

Data Initiatives - MSS
What MSS should we focus on next?

AKN Tools – Program Enterprise
With all DoD avian survey data in the same database, what would you like to ask/see, e.g. what installations have XX species?
What other features would you like to see across Military Services or DoD, e.g. ability to share certain data with partner initiatives?

Partnerships
Who are your partners?
Do you collect data that is part of a larger effort/initiative?



FY24 PRIORITY TASKS

Base Support

- Program Coordination
- Installation Consulting (Office Hours)
- Back-end Technical Support
- Customer Data Support
- Reporting: Annual, Qtrly & Factsheets
- Annual Support Costs (Science Cloud)

Training

- Regional Training (4x/year)
- Service-specific Trainings
- Manager Training Modules
- Expanded Methodology Training
- Training Videos

AKN Tools (Partner Initiatives)

- Enterprise Support for Programs
- Creation of Contractor Role
- Creation of Analyst Role
- New Analyst v3 in Shiny

Data Initiatives

- MSS Protocols & Data
- Banding Data in Science Cloud
- BASH Data in Science Cloud
- Machine/sensor-collected Data
- Decision-support Tools & Publications

DoD-Specific Tools

- DoD User Guide
- Progress Dashboard
- Standardizing DoD Bird Monitoring
- Mission-sensitive Species Tools
- Climate Resilience Tool

Military Services & Installation Support

- Historical/Contemporary Data Support
- Custom Data Outputs
- Direct Data Initiatives
- Case Study Development



DOD MISSION BENEFITS

- Secure database to input/upload, curate, and manage DoD field data
- Empowers historical data
- Assess status of birds on/near installations
- Monitor trends at multiple scales
- Data sharing and integration with partners
- Advanced data analysis and visualization tools
- Access to data that contributes to more technically and scientifically sound INRMPs, 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



NEXT STEPS FOR YOU





SIGN-UP FOR DoD 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/>



ONGOING SUPPORT

▪ **Monthly Virtual Office Hours**

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



▪ **Other Opportunities**

- Training videos on AKN YouTube Channel
(https://www.youtube.com/channel/UCi9in_tC9uTZa9Bo3HgnY1Q/featured)
- Funded data initiatives from Military Services

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

DoDAKN@erdc.dren.mil



END-TO-END PROCESS TO REGISTER A NEW USER

DEMONSTRATION



STEP 1: NEW USER REQUESTS AN ACCOUNT

New User Registration

First Name * Last Name *

Email Address *
to sign-in and register.

Password *

Re-enter Password *

Your Organization *

Street Address

City

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 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 cadc_webmaster@pointblue.org 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 15-02-202

Subject: Please confirm your registration with DOD_DEMO

Confirm Your Registration with DOD_DEMO

DOD_DEMO User Name: cifiko3815@fahih.com

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=__tmpr65ce50a4cb79f&hs=YjRMUTg2RkNjL2FVc&deju_nextPage=nu-confirm

If you have any problems or questions, please contact us at cadc_webm

My CADC Applications

Email confirmation

Please use the button below to complete your email confirmation.

My CADC Applications

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

THIS IS WHERE YOU COME IN

The screenshot shows an Outlook window with the following content:

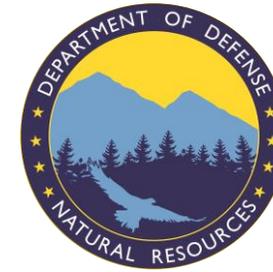
- Subject: OCADC new user request to join DOD_DEMO
- From: datasolutions@pointblue.org (Dianne Miller)
- Date: Thu 2/15/2024 10:02 AM
- Body text: "CADDC new user request to join DOD_DEMO. The following person is requesting access: Name: TestUser, DoD Email: cifiko3815@fahih.com Project: DOD_DEMO. To approve or deny this request, click on this link: https://data.pointblue.org/apps/projectleaders/index.php?page=appr-new-p&deju_registration_host=cadc&deju_pr=DOD_DEMO"
- Signature: "All the best, Your Avian Data Center"



STEP 3: PROJECT LEADER APPROVAL

THIS IS WHERE YOU COME IN

The screenshot shows the 'Project Leader' interface for 'Approve New User Request'. The breadcrumb trail is: Home > Sampling Units > Field Observations > Project Definition. The request details are: Project: DOD_DEMO, Requestor: TestUser, DoD, Email: cifiko3815@fahih.com. The question is 'Which Approval should you choose?' with a help icon. Five buttons are visible: 'Approve as Citizen Scientist', 'Approve as Biologist', 'Approve as Project Leader', 'Approve as Analyst', and 'Deny Access'. The 'Approve as Biologist', 'Approve as Project Leader', and 'Deny Access' buttons are highlighted with black boxes.



OPEN FORUM





PLUSES AND DELTAS

FINAL DAY WRAP-UP





AVIAN
KNOWLEDGE NETWORK



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

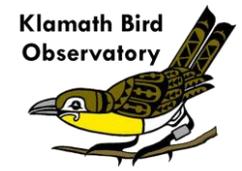
DoD OCONUS Training
21 – 23 February, 2024
Marine Corps Base Hawaii Kanohe Bay, HI

Reach out anytime:
DoDAKN@erdc.dren.mil

Sam Veloz
Dianne Miller

Elizabeth Neipert
Zoe Duran

John Alexander
Caitlyn Gillespie



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