DoD Environmental Planning and Conservation Webinar Series

Department of Defense's Participation in the Avian Knowledge Network

October 5, 2022

Please mute your phones

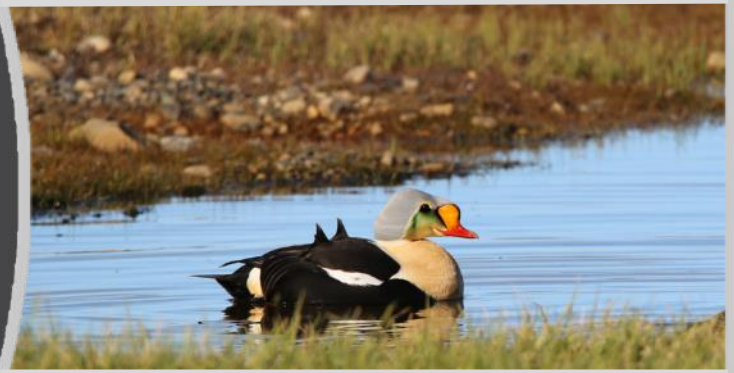
Audio Dial-In: 800-300-3070

Participant Code: 642-508-534

www.denix.osd.mil/nr/

Twitter: @DoDNatRes

Department of Defense's Participation in the Avian Knowledge Network



Hosted by: DoD Environmental Planning and Conservation Webinar Series

Elizabeth Neipert
Research Wildlife Biologist
US Army Engineer Research and Development Center
Environmental Lab, Ecological Resources Branch
Technical Coordinator, DoD Partners in Flight
Program Director, DoD AKN Program
Chair, National AKN Steering Committee

05 October 2022

US Army Corps of Engineers

AVIAN KNOWLEDGE NETWORK

ERDC ENGINEER RESEARCH & DEVELOPMENT CENTER

Unclassified

AGENDA

DoD's coordinated and strategic approach to the AKN

Background/Context

- Need for avian database
- What is the AKN
- How did DoD get involved
- AKN Data Enterprise System
  - Data Management Solution
  - Decision Support Tools

DoD AKN Program

- DoD endorsement and mandate
- Team & Partners
- Program Management Plan
- OSD & Military Service Actions

Tasks, Tools & Training

- Data Discovery Survey
- DoD AKN Portal
- Contract Language
- Mission Sensitive Species Initiative
- Training and Support

DoD Case & Use Studies

Next steps

Wrap-up

AVIAN KNOWLEDGE NETWORK

Why? Migratory Bird Responsibilities

DoD, as 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) and Executive Order (EO) 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds". In accordance with EO 13186, the DoD has also established a Memorandum of Understanding with the US Fish and Wildlife Service outlining the management and stewardship activities DoD will implement for migratory bird conservation.

Data and information from ongoing surveys, inventories and monitoring are essential to make informed management decisions, to efficiently and effectively meet regulatory requirements, 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.

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Why? Legal Drivers and Policies

- 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**

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Why? DoD Data Issues

DoD holds large amounts of avian data but faces significant challenges to fully utilize and optimize these data.

These challenges include:

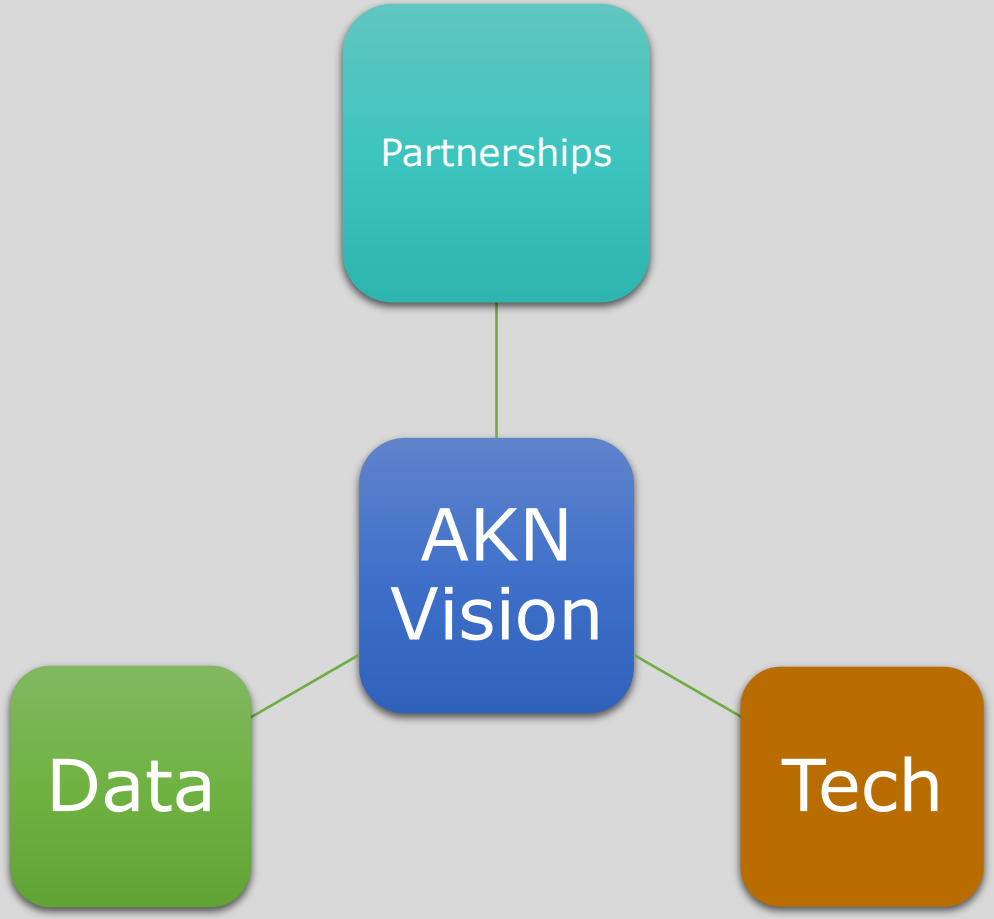
(1) inefficient access to data for regulatory requirements, environmental analyses, and planning

(2) a lack of visibility on avian species population trends and management across the Military Services and broader landscapes

(3) a lack of a centralized, secure data repository resulting data loss during personnel turnover.

AVIAN KNOWLEDGE NETWORK

What? Avian Knowledge Network



AKN Mission

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

AVIAN KNOWLEDGE NETWORK

What? Avian Knowledge Network

Current sponsors, partners and hosts of the AKN

Arizona Game & Fish
Audubon Rockies
Bird Conservancy of the Rockies
Bird Studies Canada
Bureau of Land Management
Bureau of Ocean Energy Management
Collaborative Forest Landscape Restoration Program
Colorado Parks and Wildlife
Colorado State Land Board
Conabio
Cornell Lab of Ornithology
Federal Highway Administration
Four Forest Restoration Initiative
Great Basin Bird Observatory
Great Northern Landscape Conservation Cooperative
Great Plains Landscape Conservation Cooperative
Integrated Waterbird Management and Monitoring
Intermountain Bird Observatory
Kansas Department of Wildlife, Parks, and Tourism
Klamath Bird Observatory
Lesser Prairie-Chicken Initiative
Montana Fish, Wildlife and Parks
Montana Natural Heritage Program
National Fish and Wildlife Foundation
National Park Service
Nebraska Game and Parks Commission
New Mexico Game and Fish
North Dakota Game and Fish Department
Northern Great Plains Joint Venture
Oaks and Prairies Joint Venture
Oklahoma Department of Wildlife Conservation
Oregon Department of Fish & Wildlife
Pacific Birds Habitat Joint Venture
Pacific Flyway Council
Partners in Flight
Pheasants Forever
Point Blue Conservation Science
Pronatura
Ricketts Conservation Foundation
Rio Grande Joint Venture
RiversEdge West
Sage Grouse Initiative
Sonoran Joint Venture
South Dakota Game, Fish and Parks
Tennessee Wildlife Resources Agency
Texas Parks and Wildlife Department
The Dolores River Restoration Partnership
Tracy Aviary
United States Department of Defense
United States Farm Service Agency
United States Fish & Wildlife Service
United States Forest Service
University of Montana Avian Science Center
USDA Natural Resource Conservation Service
Utah Division of Wildlife Resources
Warren Resources, Inc.
Washington Department of Fish & Wildlife
Western Association of Fish & Wildlife Agencies
World Wildlife Fund
Wyoming Game and Fish Department
Wyoming Natural Diversity Database

What? AKN Data Solutions

Through a series of **data analysis** and **decision-support tools** AKN offers DoD real-time data solutions by

(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.

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How? Federal Agency Partnership

1. Sponsored by Council for the Conservation of Migratory Birds – 32 federal agencies that participate under Executive Order 13186 on the Responsibilities of Federal Agencies to Protect Migratory Birds

2. Federal Avian Data Center created a National-scale AKN thematic node providing data aggregation and delivery portal, as well as a repository for reporting tools, for Council member agencies.

3. Initial and continuing supporters include US Fish and Wildlife Service, Department of Defense, Bureau of Land Management, National Park Service, US Forest Service, Bureau of Ocean Energy Management, and Federal Highway Administration

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AKN Tool Types

Group Name	Description	Example Tools
Get Data In	General tools that get your data into the AKN and help you manage those data	Biologists (data entry), Project Leaders (management)
Discover Data	General tools that let you discover what data sources are available across the AKN	Data Catalog, Data Downloader
Explore Data	General tools that let you explore, query, and analyze AKN data	Observation Map, Phenology, Analyst
Make Decisions	Tools leveraging AKN data for specific users, research, or decision support	RAIL, Pacific NW Climate Change, Avian Vul, SNMIS, PLUMA

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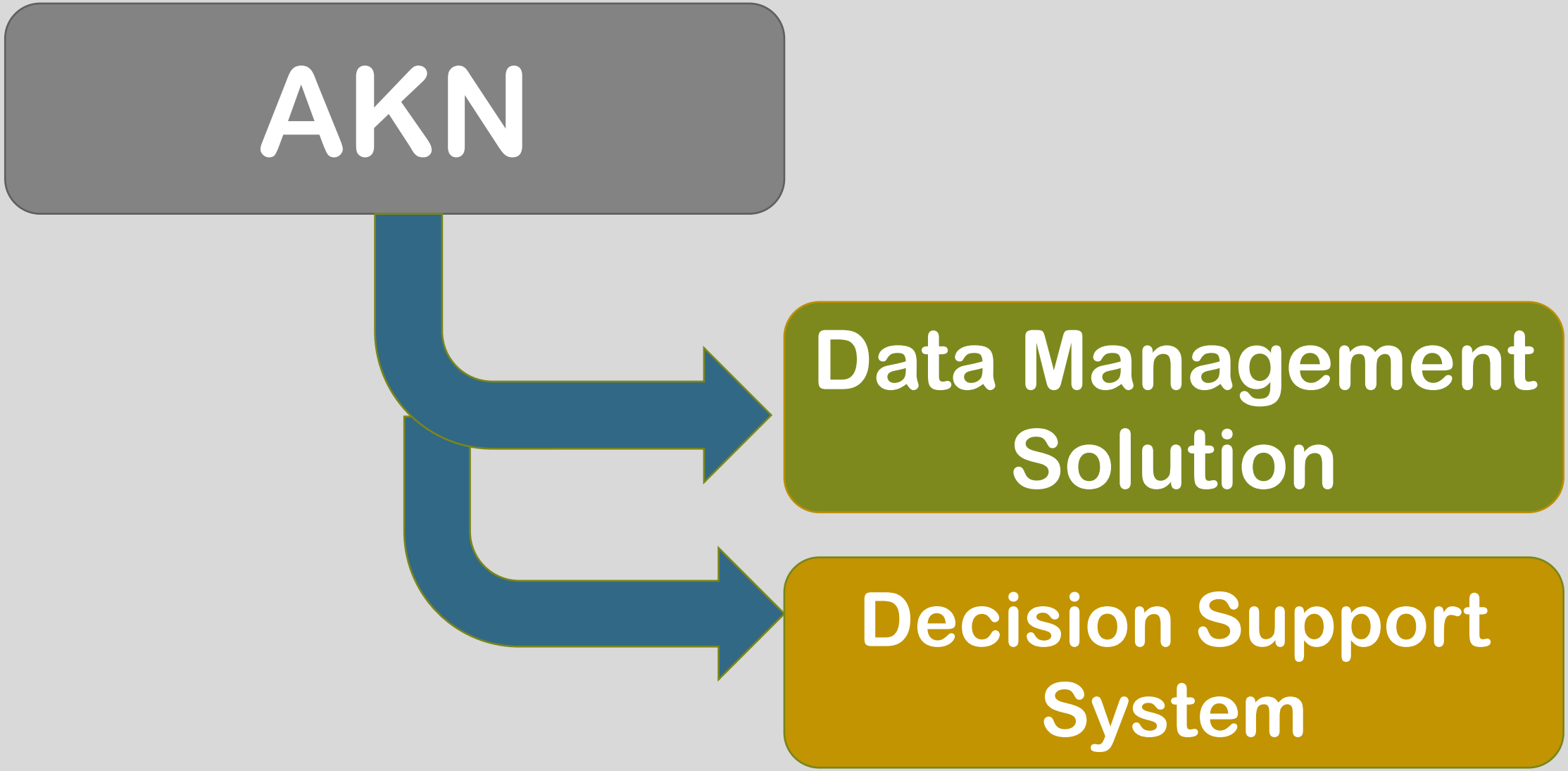

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Data Types

Today:

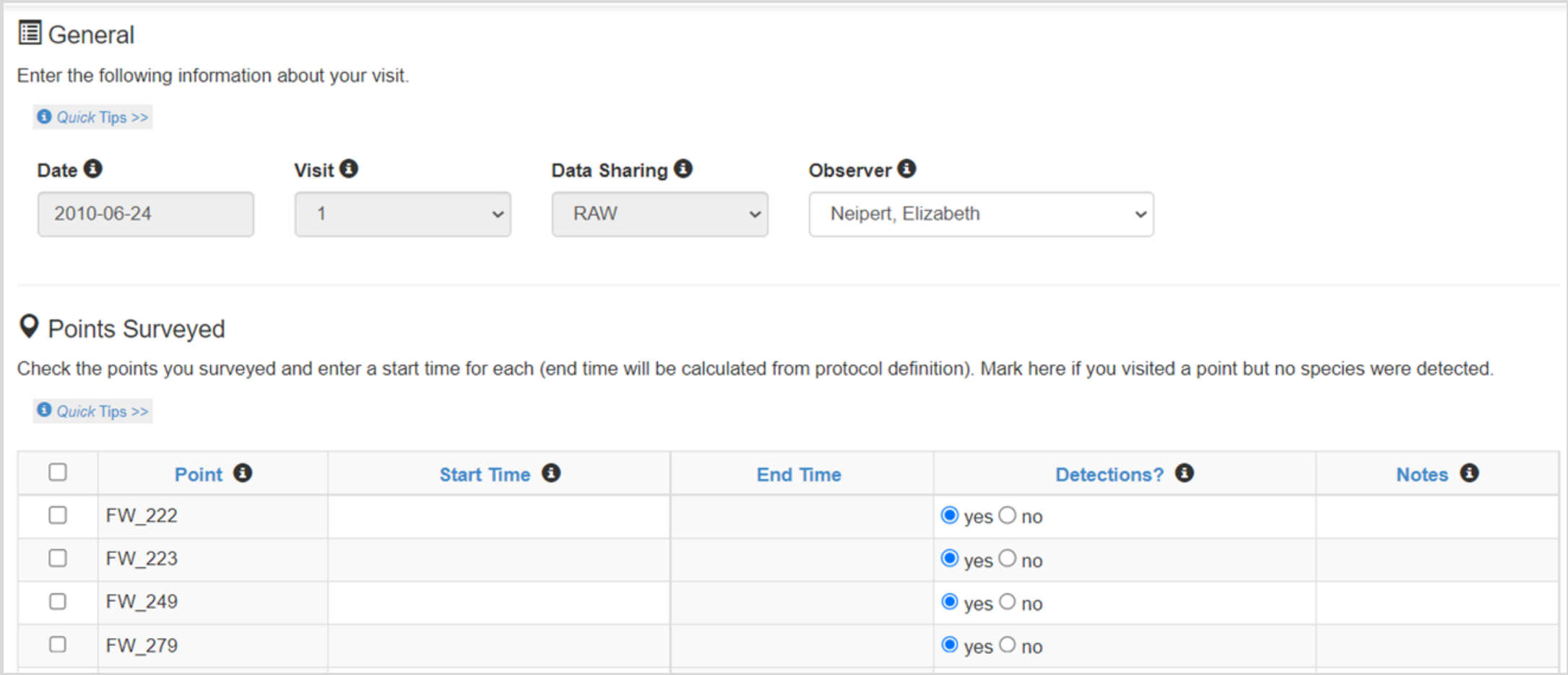
- Point Count
- Linear Transects
- Area Search
- Secretive Marshbird
- Colony Counts
- Other specialty surveys

Future:

- BASH
- Banding
- Nest
- Sensor and machine-collected data
- Others - based on partners and funding

AVIAN KNOWLEDGE NETWORK

DATA ENTRY AND UPLOAD



General

Enter the following information about your visit.

Quick Tips >>

Date	Visit	Data Sharing	Observer
2010-06-24	1	RAW	Neipert, Elizabeth

Points Surveyed

Check the points you surveyed and enter a start time for each (end time will be calculated from protocol definition). Mark here if you visited a point but no species were detected.

Quick Tips >>

	Point	Start Time	End Time	Detections?	Notes
☐	FW_222			◉ yes ○ no	
☐	FW_223			◉ yes ○ no	
☐	FW_249			◉ yes ○ no	
☐	FW_279			◉ yes ○ no	

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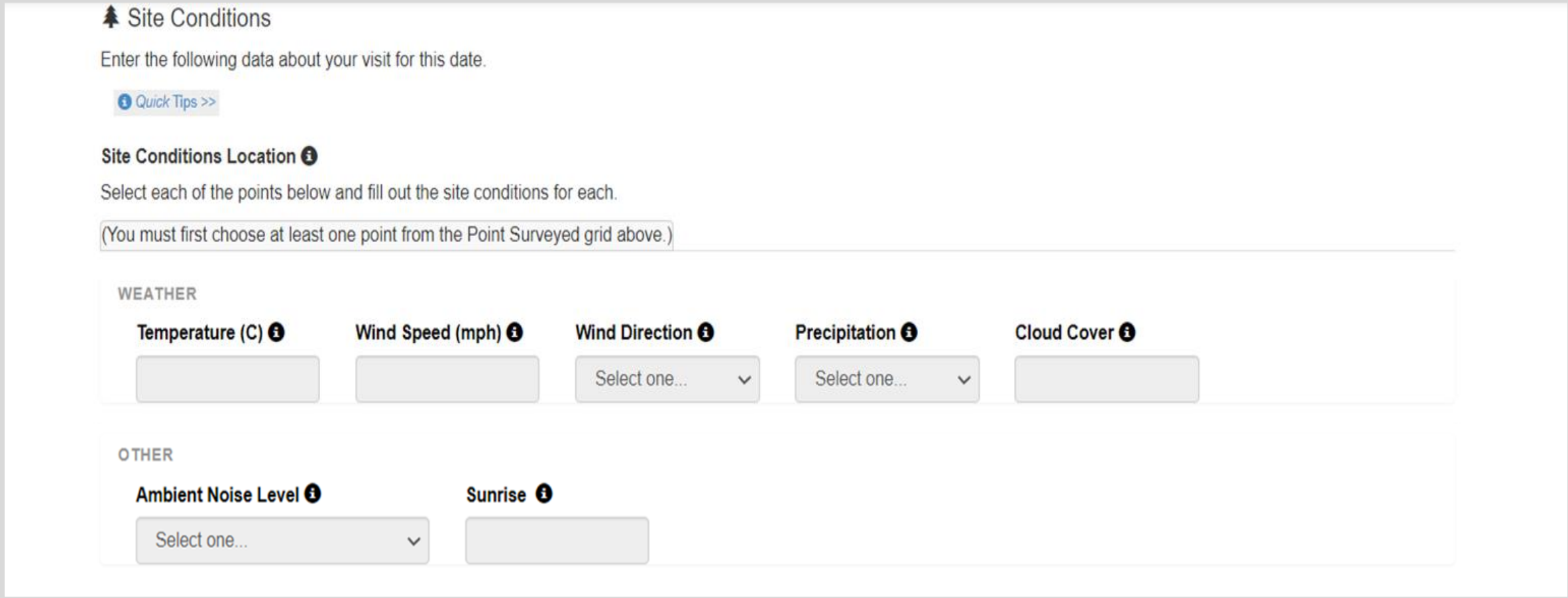
DATA ENTRY AND UPLOAD



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DATA ENTRY AND UPLOAD

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)

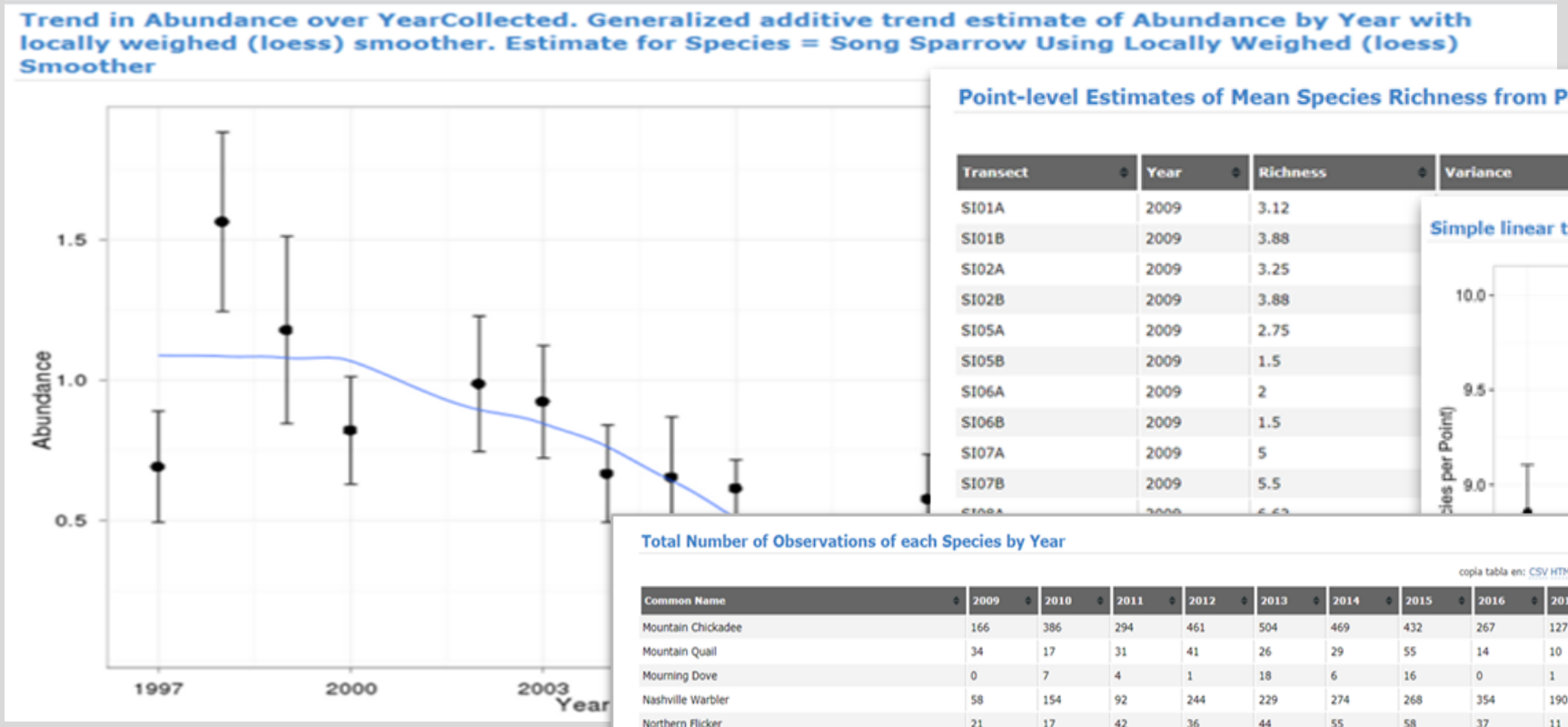
Observation Protocol: VCP100Sx
Total Birds Counted: 7

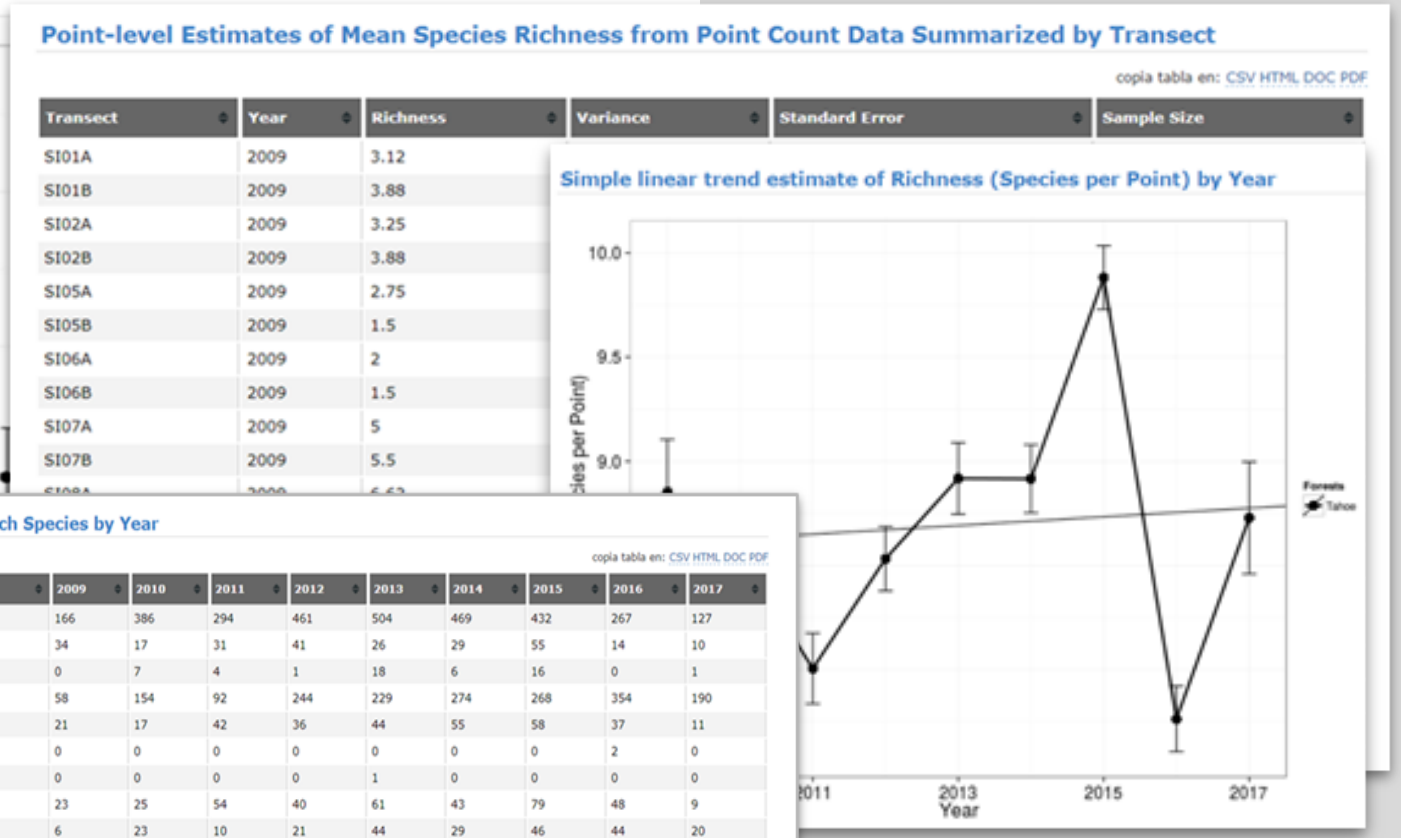
Download CSV

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			

AVIAN KNOWLEDGE NETWORK

TOOLS IF YOU HAVE DATA IN AKN





Point-level Estimates of Mean Species Richness from Point Count Data Summarized by Transect

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Transect	Year	Richness	Variance	Standard Error	Sample Size
SI01A	2009	3.12			
SI01B	2009	3.88			
SI02A	2009	3.25			
SI02B	2009	3.88			
SI05A	2009	2.75			
SI05B	2009	1.5			
SI06A	2009	2			
SI06B	2009	1.5			
SI07A	2009	5			
SI07B	2009	5.5			

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

Total Number of Observations of each Species by Year

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Common Name	2009	2010	2011	2012	2013	2014	2015	2016	2017
Mountain Chickadee	166	386	294	461	504	469	432	267	127
Mountain Quail	34	17	31	41	26	29	55	14	10
Mourning Dove	0	7	4	1	18	6	16	0	1
Nashville Warbler	58	154	92	244	229	274	268	354	190
Northern Flicker	21	17	42	36	44	55	58	37	11
Northern Rough-winged Swallow	0	0	0	0	0	0	0	2	0
Oak Titmouse	0	0	0	0	1	0	0	0	0
Olive-sided Flycatcher	23	25	54	40	61	43	79	48	9
Orange-crowned Warbler	6	23	10	21	44	29	46	44	20

Data Analyst

https://data.pointblue.org/apps/authentication/pb_login.php?returnURL=https%3A%2F%2Fdata.pointblue.org%2F%2Fapps%2Fanalysts%2F&app=Analysts+Toolbox

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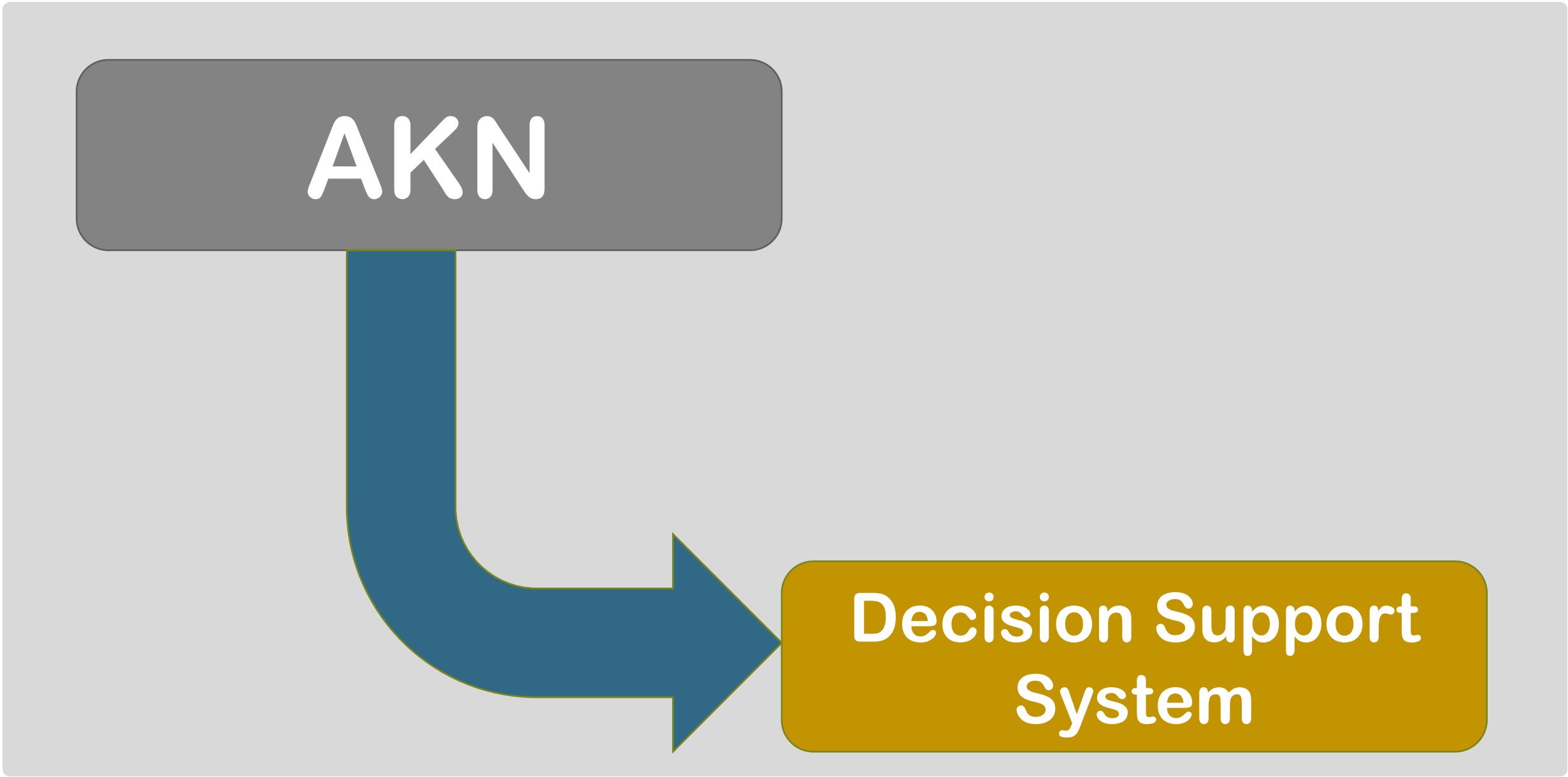

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DECISION SUPPORT TOOLS

	AKN – FADC	AKN – RAIL	IPaC
System Owner	AKN Partners	AKN Partners	USFWS
Species Covered	All Birds	All Birds	Birds of Conservation Concern (BCC) All Endangered Species
Scale	Specific to selected geographic area	Variable scales can be selected	Specific to selected geographic area
Information Available	Year round presence/absence for all species Tools for trend data Resources for managing project impacts	Species Conservation status Species-specific life history trait Population estimates at multiple scales	List of BCC/ESA species in footprint Year round presence/absence data General species information
Unique Benefit	Visual access to wide range of bird data	Integrates population estimates from Avian Conservation Assessment Database (ACAD)	Allows 1 stop for regulatory compliance

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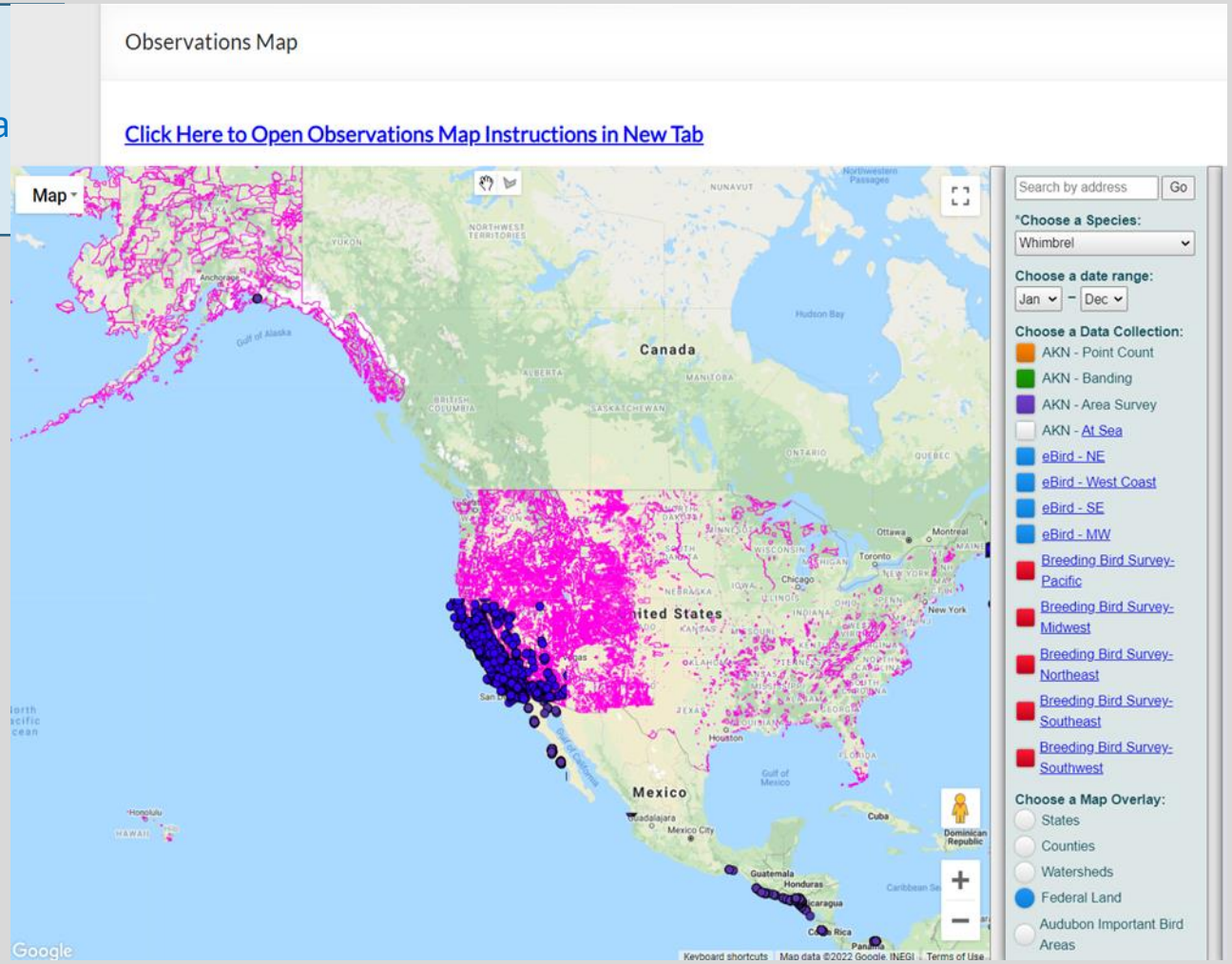
TOOLS AVAILABLE IF YOU DO NOT HAVE DATA IN AKN

Observations Map

https://avianknowledge.net/index.php/observations-ma



Data Catalog & Downloader

https://avianknowledge.net/index.php/phenology-tool/

Phenology Tool
RAIL (Rapid Avian Info Locator)

https://avianknowledge.net/index.php/phenology-tool/
https://data.pointblue.org/apps/rail/#

AVIAN KNOWLEDGE NETWORK

TOOLS AVAILABLE IF YOU DO NOT HAVE DATA IN AKN

Observations Map

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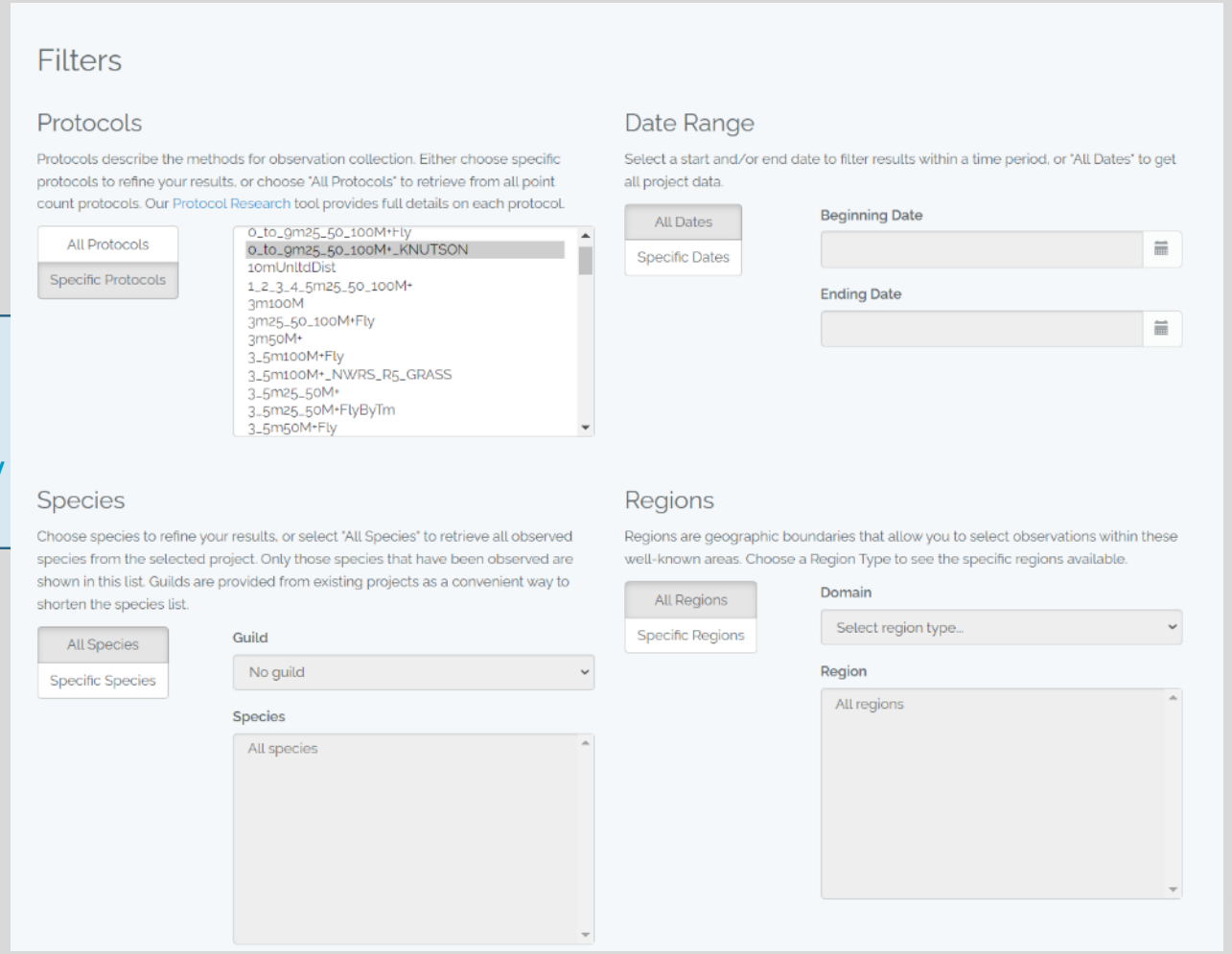
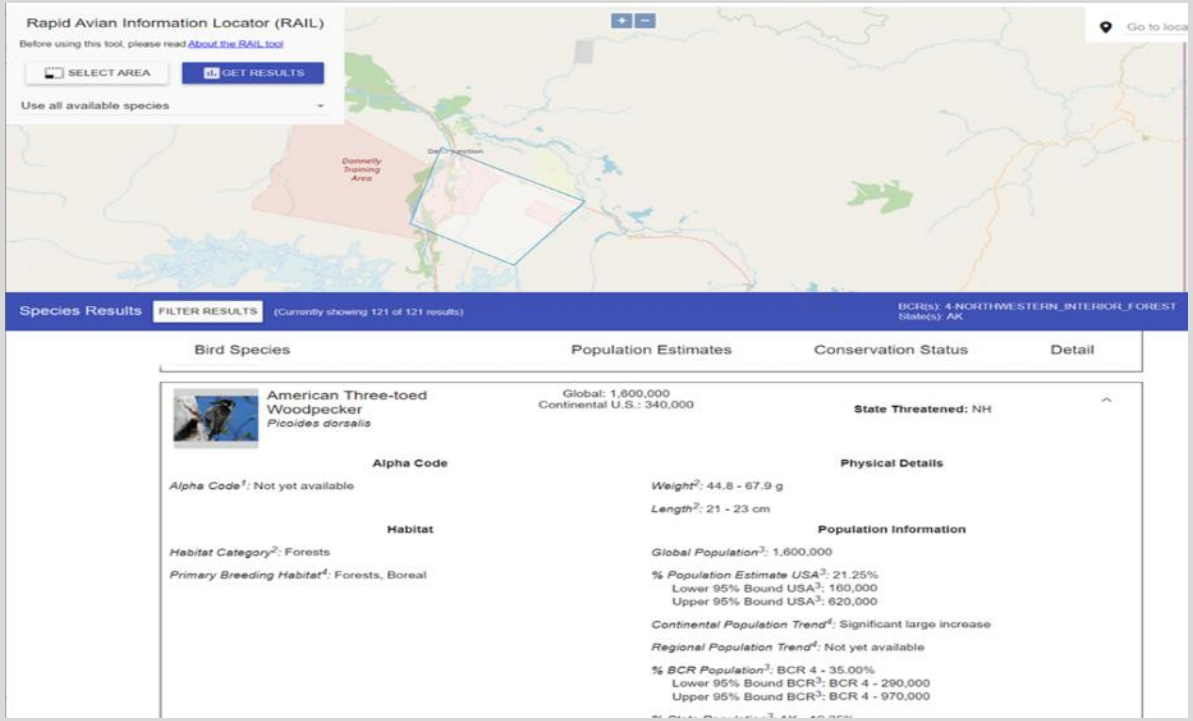
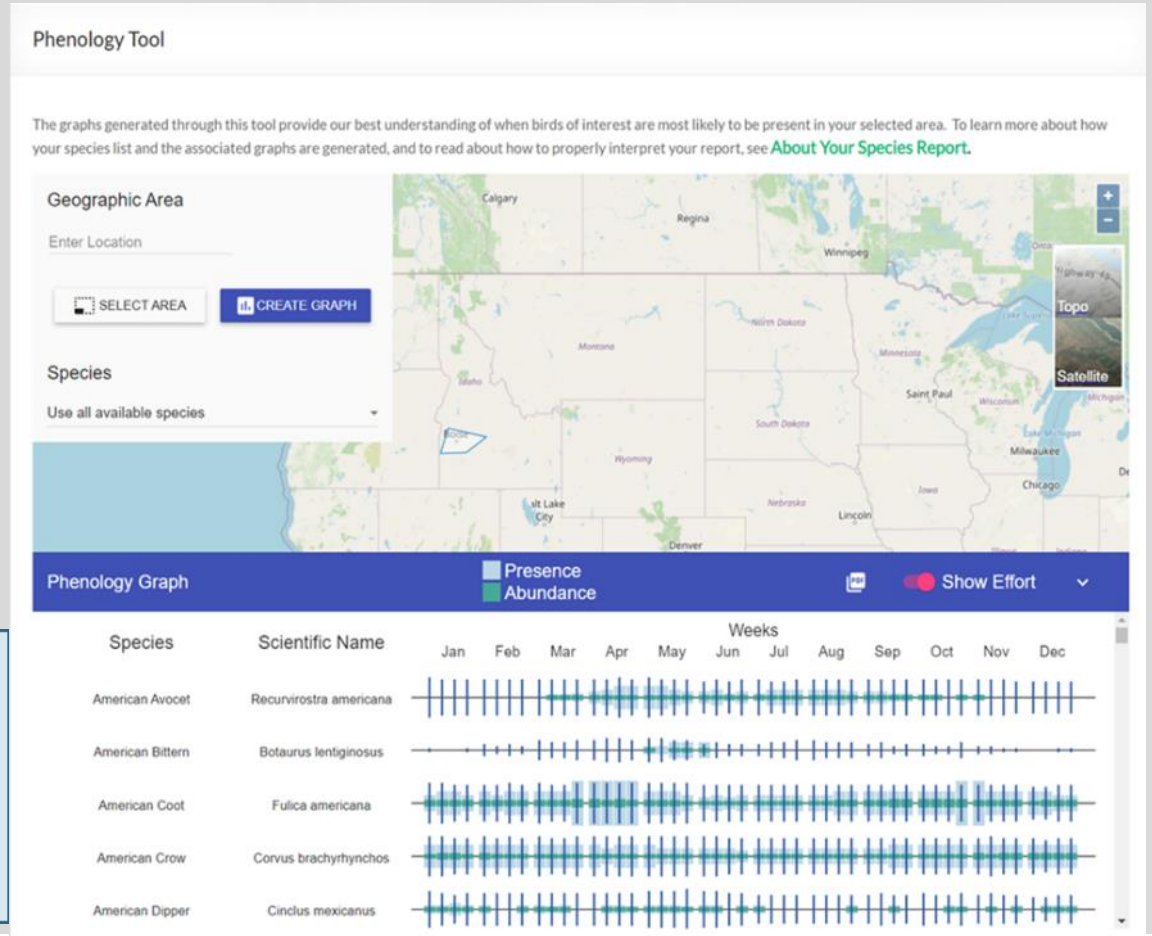


AVIAN KNOWLEDGE NETWORK

TOOLS AVAILABLE IF YOU DO NOT HAVE DATA IN AKN





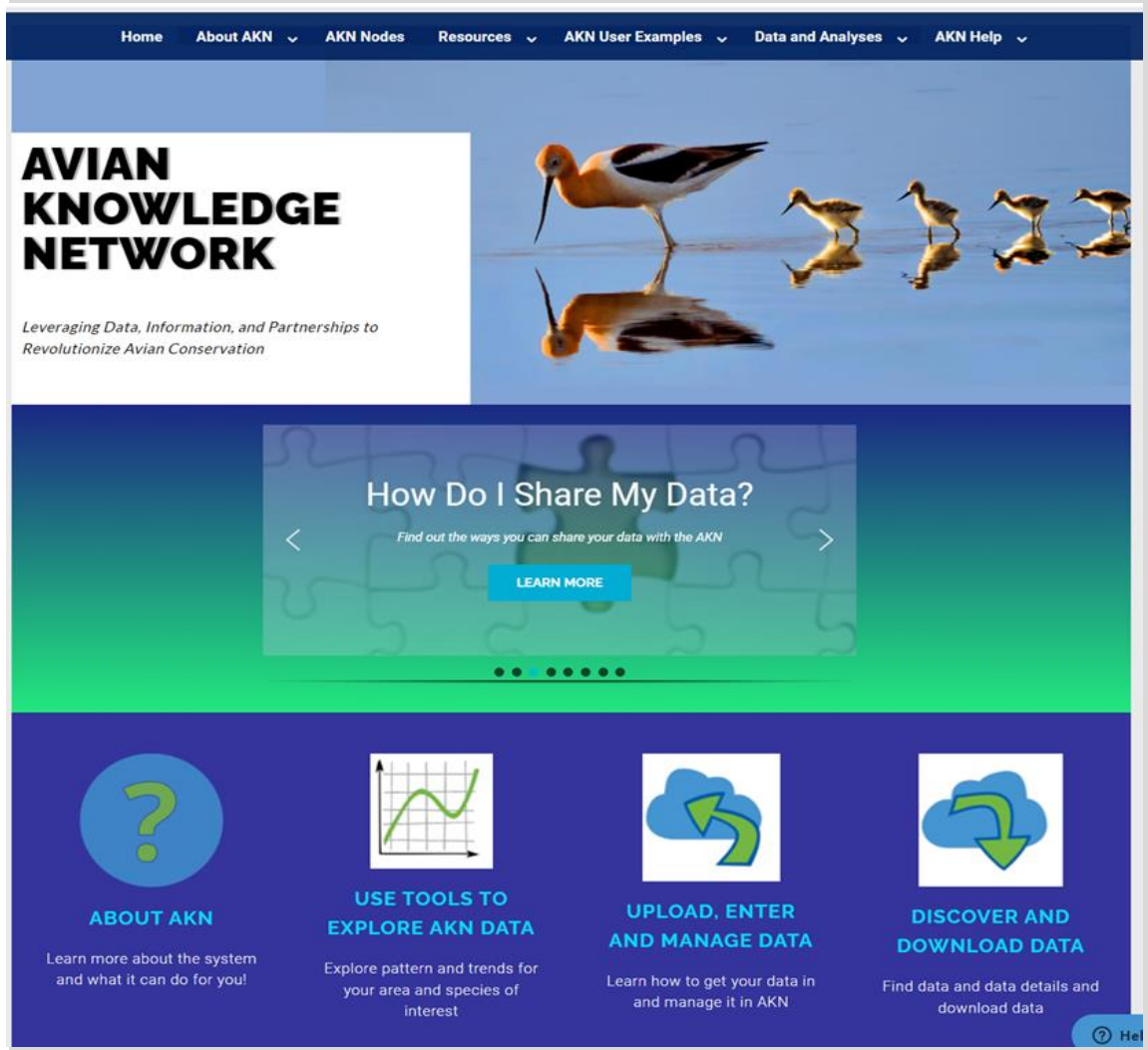
Phenology Tool

RAIL (Rapid Avian Info Locator)

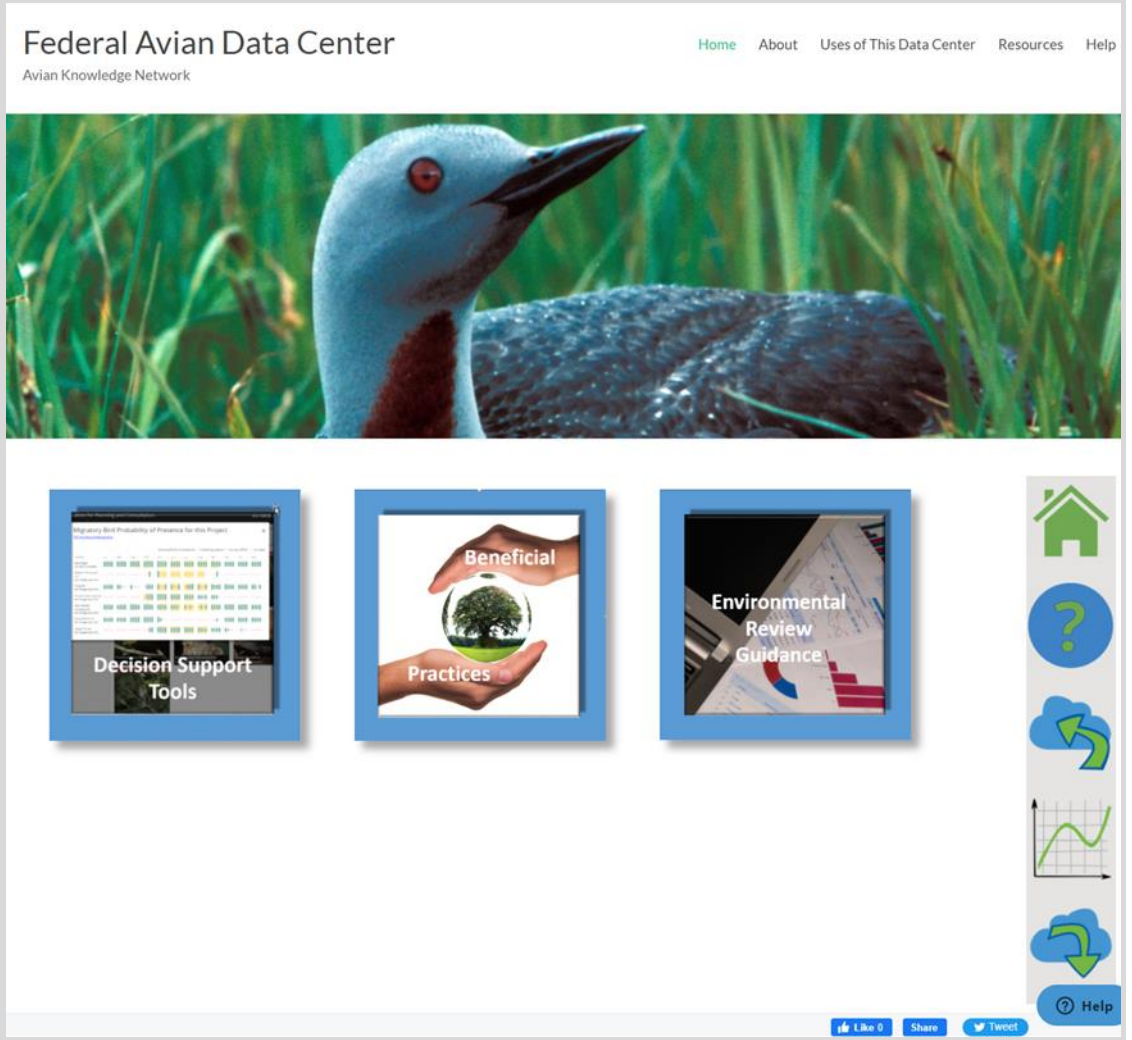
https://avianknowledge.net/index.php/phenology-tool/

https://data.pointblue.org/apps/rail/#

AVIAN KNOWLEDGE NETWORK



ACCESS



https://avianknowledge.net/

https://data.pointblue.org/partners/fedadc/

AVIAN KNOWLEDGE NETWORK

DoD AKN Program

DoD Mandate Memo

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

ENERGY, INSTALLATIONS, AND ENVIRONMENT

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

SUBJECT: Department of Defense Avian Knowledge Network Program

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

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

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

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

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

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

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Date: 2022.06.24 11:39:54 -04'00'

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

AVIAN KNOWLEDGE NETWORK

DoD Program Structure

Air Force Subprogram

Installation Project databases

Army Subprogram

Installation Project databases

Navy Subprogram

Installation Project databases

Marine Subprogram

Installation Project databases

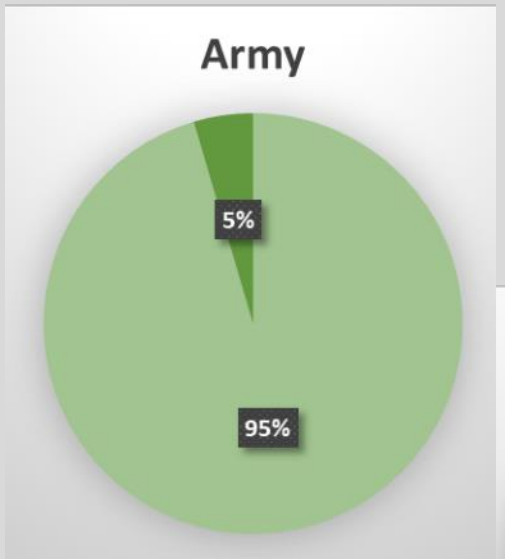
National Guard Subprogram

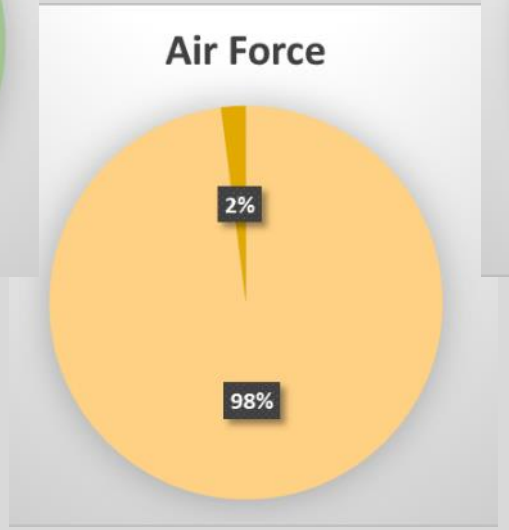
State Project databases

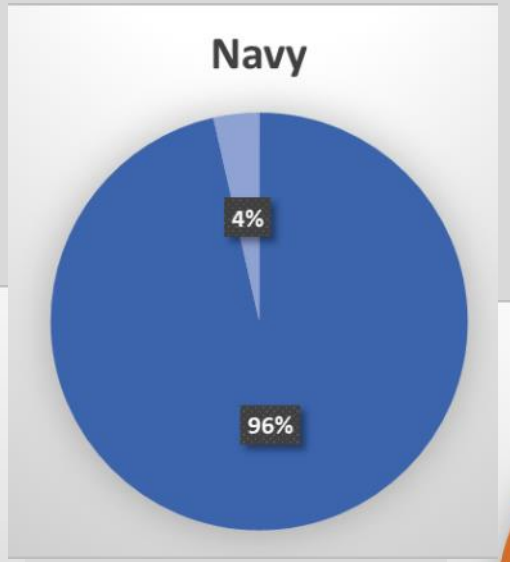
AVIAN KNOWLEDGE NETWORK

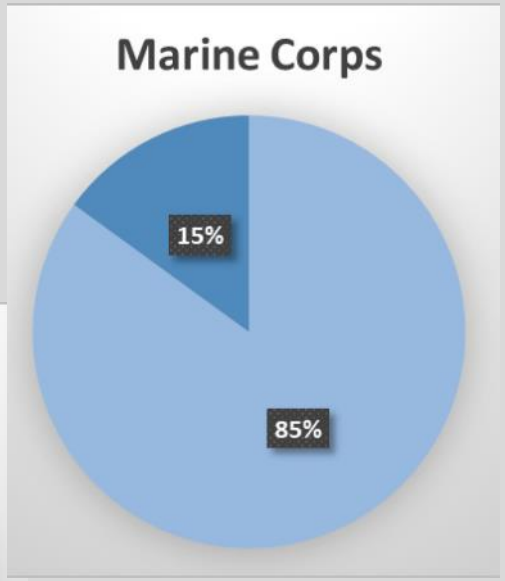
Military Service Progress

341 installations that require Integrated Natural Resources Management Plans









146 Army, 82 Navy, 96 Air Force, 17 Marine Corps installations plus 54 National Guard states/territories

AVIAN KNOWLEDGE NETWORK

DoD AKN Program Team

Ms. Elizabeth Neipert, Program Director and Technical Lead

Ms. Liz Galli-Noble, Program Director, Legacy Resource Management Program; providing oversight for program cooperative agreement and MIPRs

Partners

Point Blue Conservation Science (Point Blue): Lead-Sam Veloz

Project Delivery Team- Michael Fitzgibbon, Diane Miller and Martine Magana

Klamath Bird Observatory (KBO): Lead-Dr. John Alexander

Project Delivery Team-Caitlyn Gillespie and Ellie Armstrong

AVIAN KNOWLEDGE NETWORK

Partners and Roles

Point Blue Conservation Science

Klamath Bird Observatory

- Create and present training material
- Build or improve features and analytic tools within AKN
- Partner cost-share tools
- Assist with historical and contemporary data federation
- On-going technical support

- Assist in training and instruction
- Bulk uploading support
- Mission-sensitive Species data initiatives
- Assist with data standards and streamlining monitoring protocols
- On-going data support

AVIAN KNOWLEDGE NETWORK

OSD and Military Services Support

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

AVIAN KNOWLEDGE NETWORK

DoD AKN Program Management Plan

- Outlines plan and strategy for DoD and AKN
- Provides background and work-to-date
- Outlines goals and objectives for Program and data solutions
- Describes 5-year needs for new tools and tasks; includes rough budgets and potential cost-share
- Approach and work plan for each task
- Agencies and organizations involved and responsibilities
- Utilized for funding AKN Cooperative Agreement via WHS (established in Jun 21)

AVIAN KNOWLEDGE NETWORK

DoD AKN Program Management Plan *(Continued)*

5-Year Needs/Initiatives

Training

- Instructor-led training courses
- Create video trainings for common actions (continuing)
- Monthly “Office Hours”

DoD-Specific Tools

- DoD AKN Portal page
- DoD user guide
- DoD data standards
- Scope of work language for contracts

Data Initiatives

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

AKN Tools (partner initiatives)

- Program query tool
- New user roles “Contractor” & “Analyst”

On-going Support

- Program management
- Historical data updates
- Technical support
- Annual maintenance

AVIAN KNOWLEDGE NETWORK

OSD Funded Actions

- Base support for Point Blue and KBO partners
  - Project coordination
  - Back-end technical support
  - Installation consulting and data support, *Office Hours*
  - Four regional trainings
  - Annual support for Science Cloud
- MSS protocol-Pinyon Jay
- DoD AKN Portal development and maintenance
- Enterprise support for Programs (partial)
- New system user roles (partial)
- DoD data standards and monitoring protocols (partial)

AVIAN KNOWLEDGE NETWORK

Military Service Actions

Air Force

- Two virtual trainings (Nov 30-Dec 1 & TBD)
- Initial training videos; available on AKN YouTube Channel - *COMPLETE*
- Data discovery survey and data prioritization, upload data sets – survey *COMPLETE*
- Four MSS Initiatives, BUOW first
- DoD AKN User Guide

Navy

- Data discovery survey and data prioritization; *will be released soon*
- SOW language for contracts - *DRAFT*

Army

- Initial steps for data discovery survey for informed decisions

Marine Corps

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

National Guard

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

AVIAN KNOWLEDGE NETWORK

DoD-wide AKN Cooperative Agreement

Need: mechanism to move project funds from various sources (Military Services and installations) to project partners

- Washington Headquarters Services
- Five-year Master Cooperative Agreement in place starting June 2021
- Quarterly or monthly modifications

Benefits to DoD

- Allows coordination of all AKN actions
- Cost-share; enables Military Services and installations to empower smaller amounts of $$
- Allows MIPR for funding DoD AKN Program partners (Point Blue and KBO)

AVIAN KNOWLEDGE NETWORK

Task, Tool & Training Updates
FY 23

DoD-Specific Tools

Data Discovery Survey & Training Questionnaire

AVIAN KNOWLEDGE NETWORK

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?

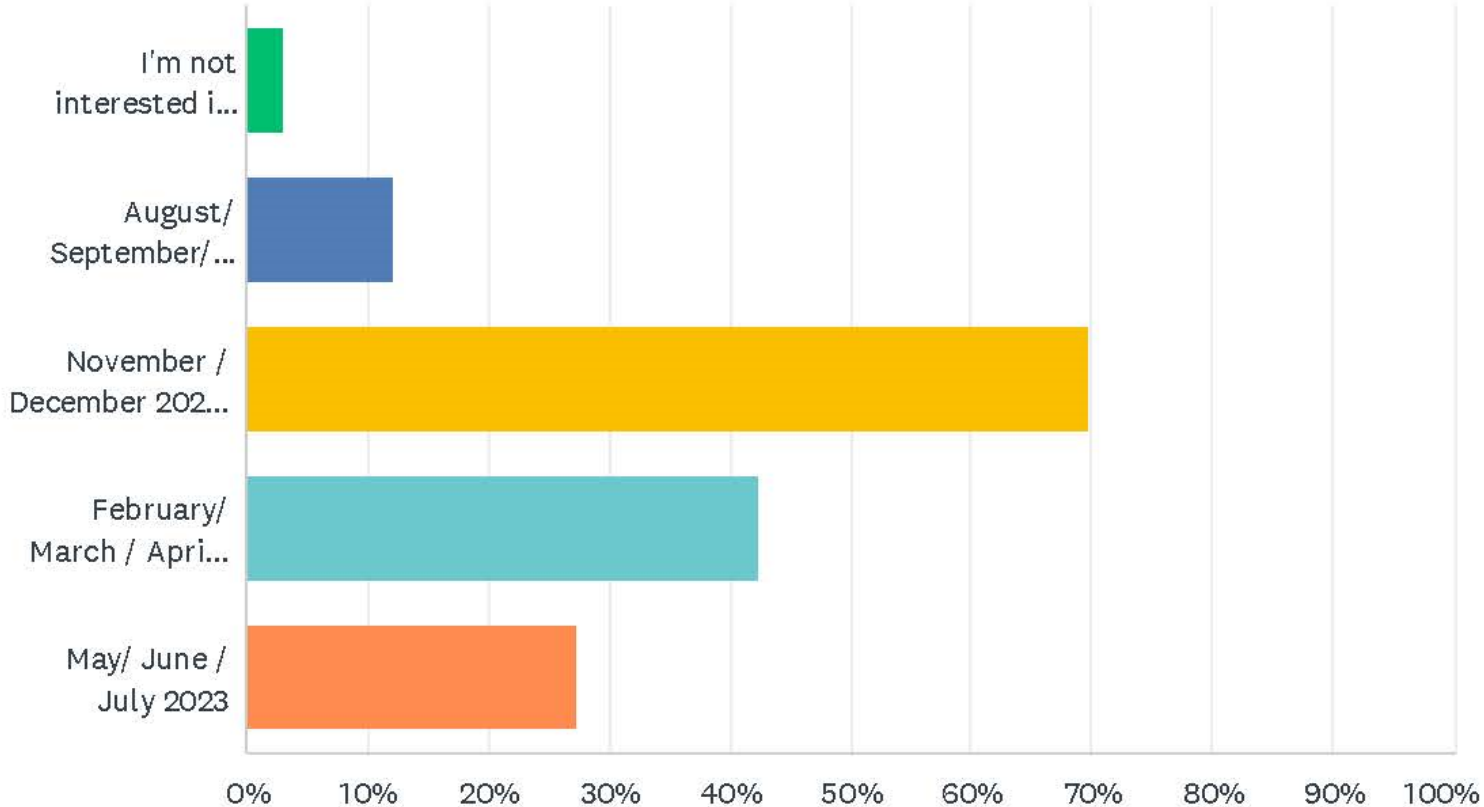
- ○ Yes
- ○ No

AVIAN KNOWLEDGE NETWORK

Air Force
Data Discovery Survey & Training Questionnaire

Q8 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.

Answered: 33 Skipped: 0

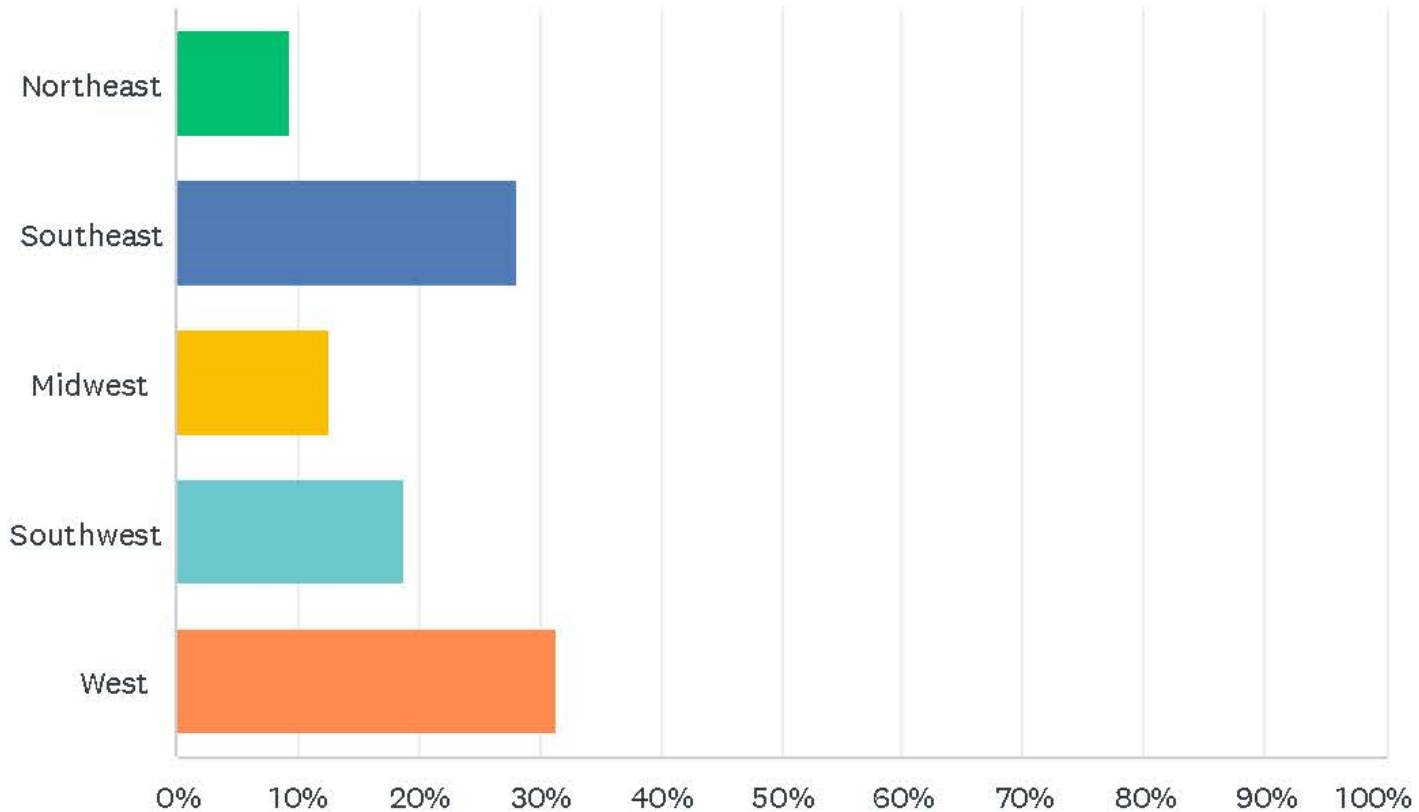


AVIAN
KNOWLEDGE NETWORK

Air Force
Data Discovery Survey & Training Questionnaire

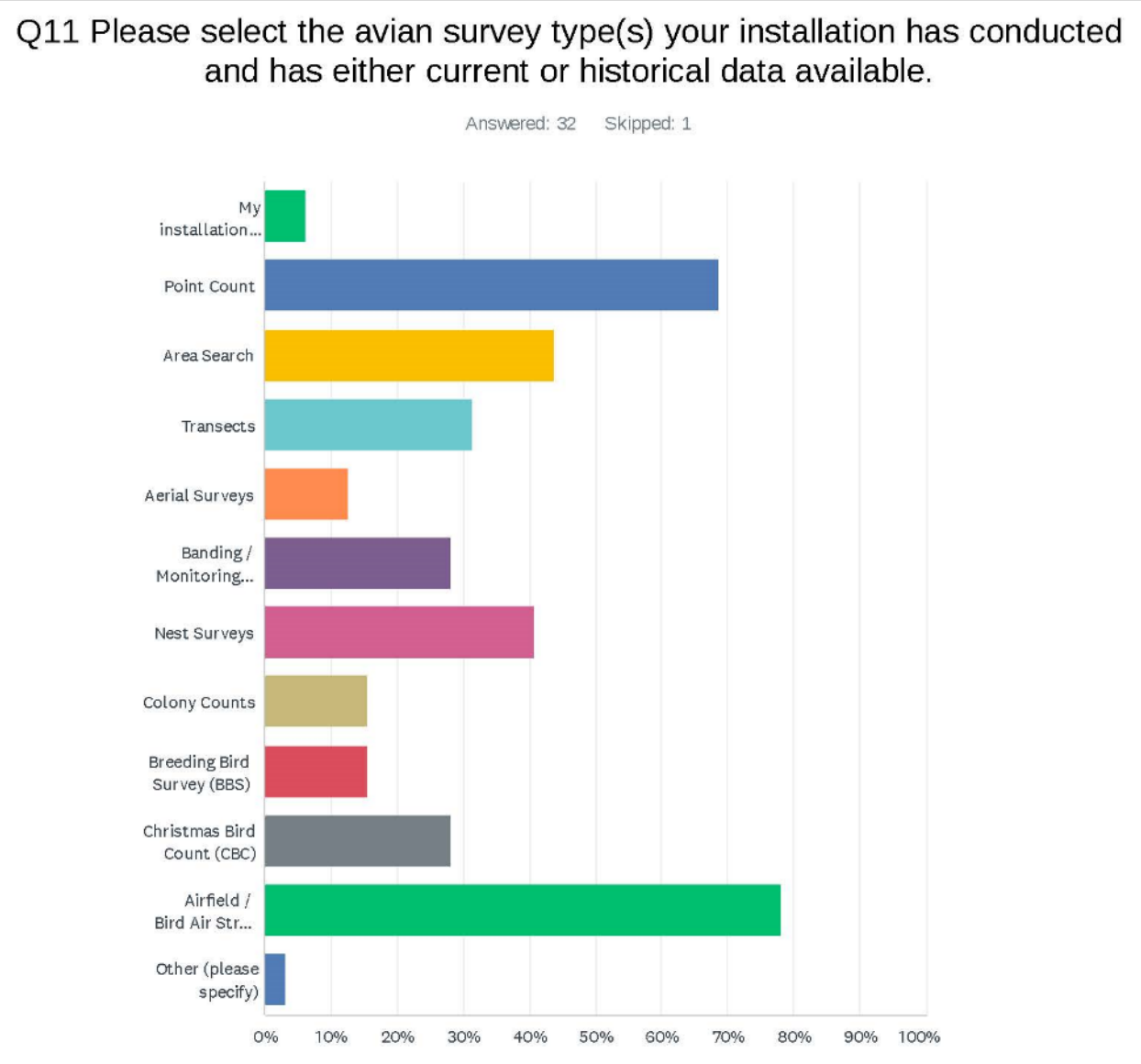
Q10 What region of the country would you prefer for an in-person training?

Answered: 32 Skipped: 1



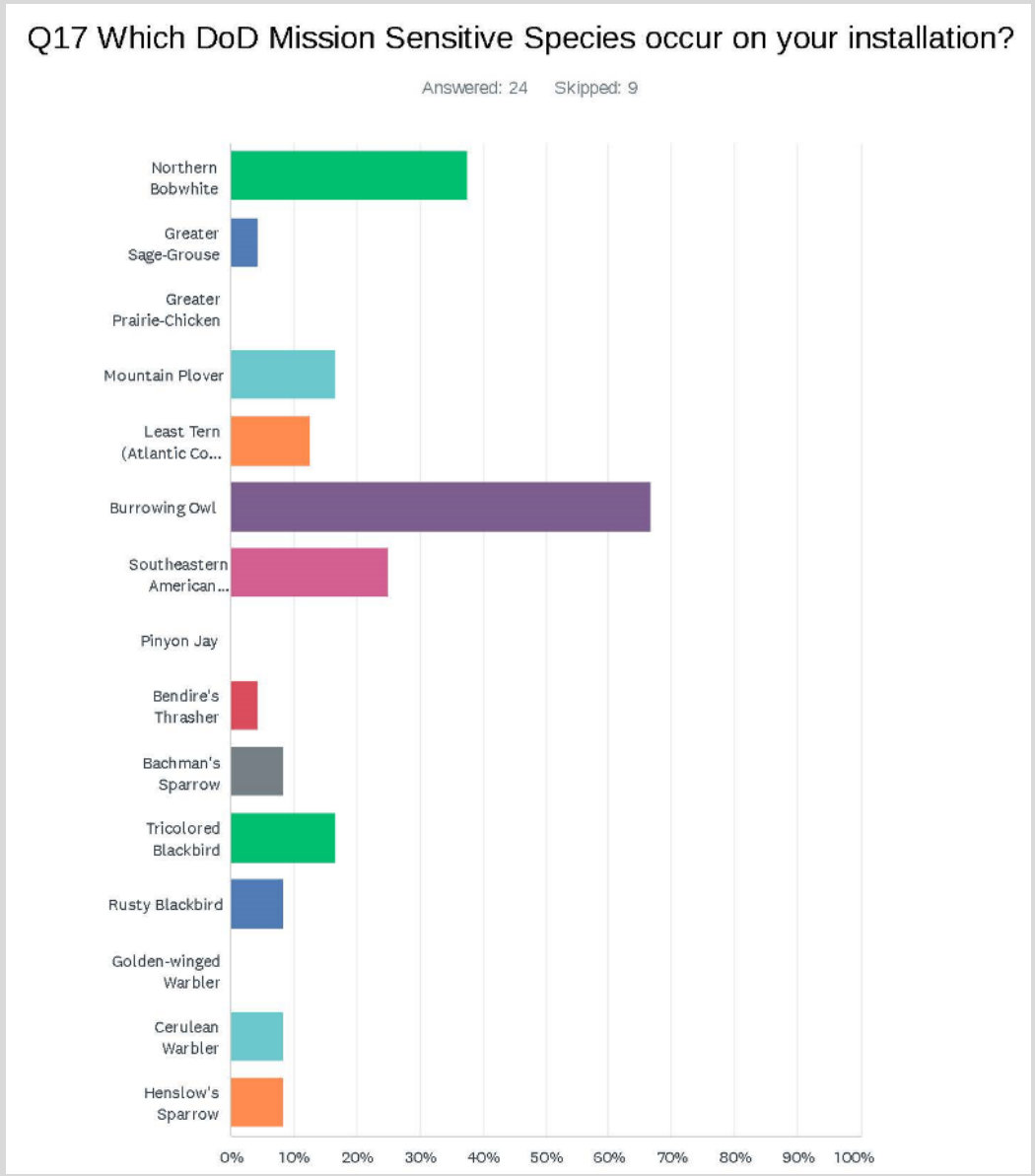
AVIAN KNOWLEDGE NETWORK

Air Force
Data Discovery Survey & Training Questionnaire



AVIAN KNOWLEDGE NETWORK

Air Force
Data Discovery Survey & Training Questionnaire



AVIAN KNOWLEDGE NETWORK

Military Service Survey Progress

Air Force-Survey and questionnaire disseminated and results received, need to prioritize datasets

Navy-Survey and questionnaire complete, to be released soon

Army-Survey and questionnaire drafted, awaiting dissemination plan

National Guard-Initial survey drafted, awaiting specific questions

Marine Corps-To be drafted soon

AVIAN KNOWLEDGE NETWORK

DoD-Specific Tools

DoD AKN Portal

AVIAN KNOWLEDGE NETWORK

DoD-Specific Tools

DoD Portal into the Federal Avian Data Center of AKN

- Current AKN and Federal Avian Data Center (FADC) websites do not meet DoD user requirements
- Create landing page for DoD users with pertinent information:
  - ✓Clear identification that users are in the correct space
  - ✓All AKN tools readily available
  - ✓Contacts
  - ✓Sign up for *Office Hours*
  - ✓Training announcements & host sign ups
  - DoD instructions, data standards, and guidance
  - Compliance dashboard
- Live last week

AVIAN KNOWLEDGE NETWORK

DoD AKN Portal

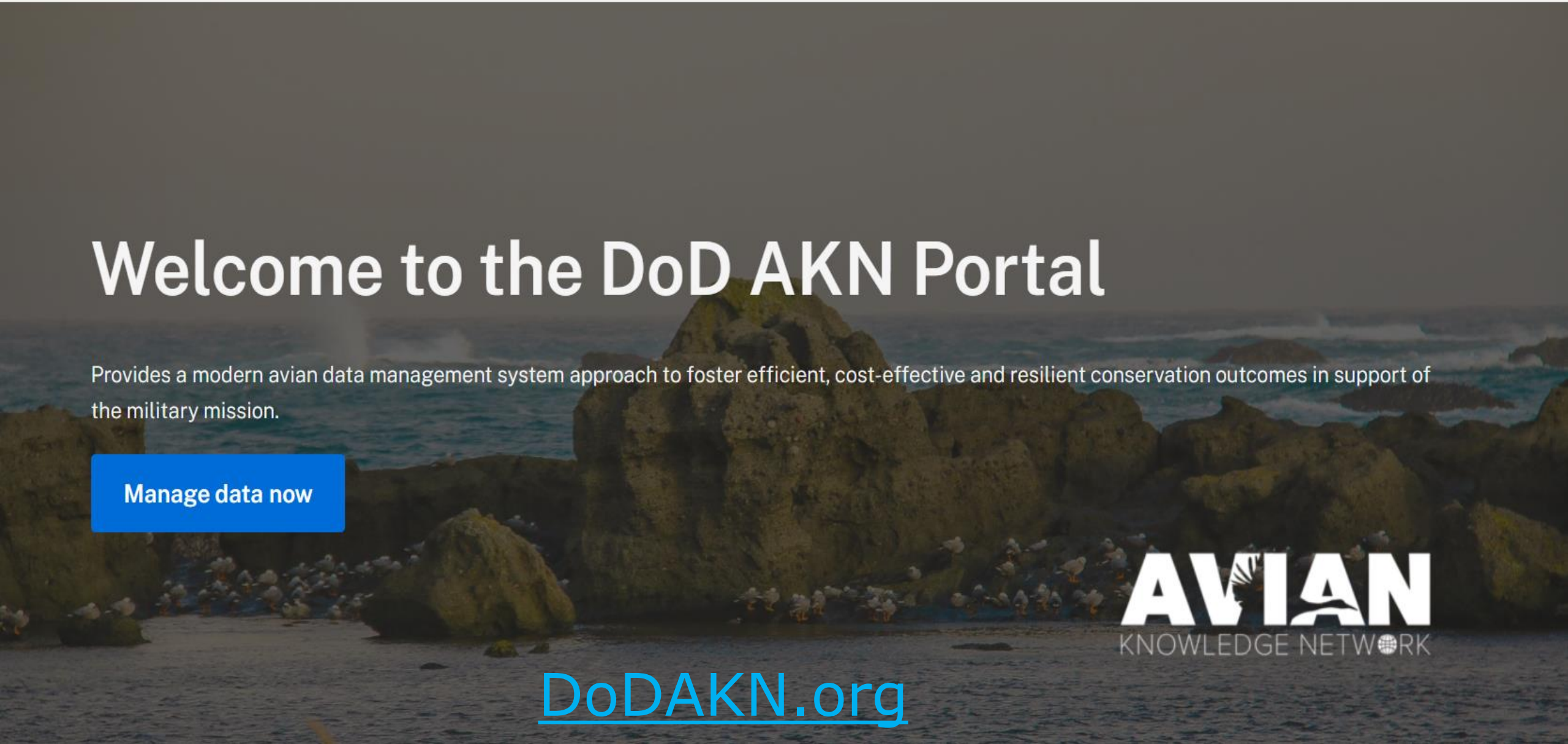
Department of Defense's one-stop-shop for all things Avian Knowledge Network

Manage Data Resources

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.

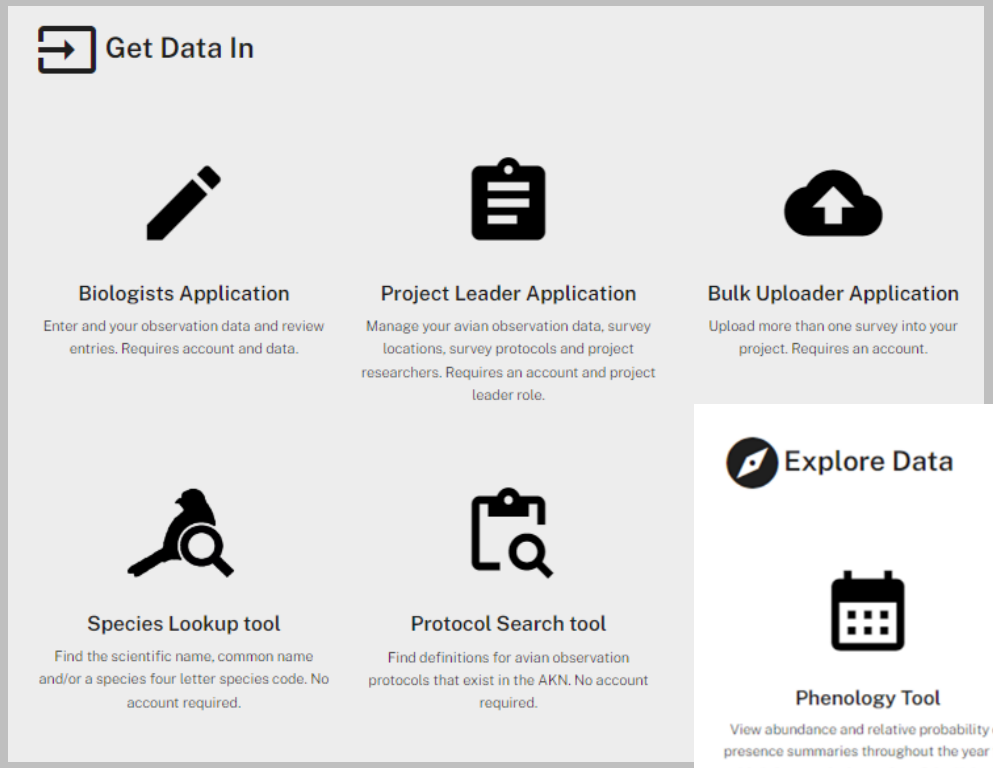
Manage data now

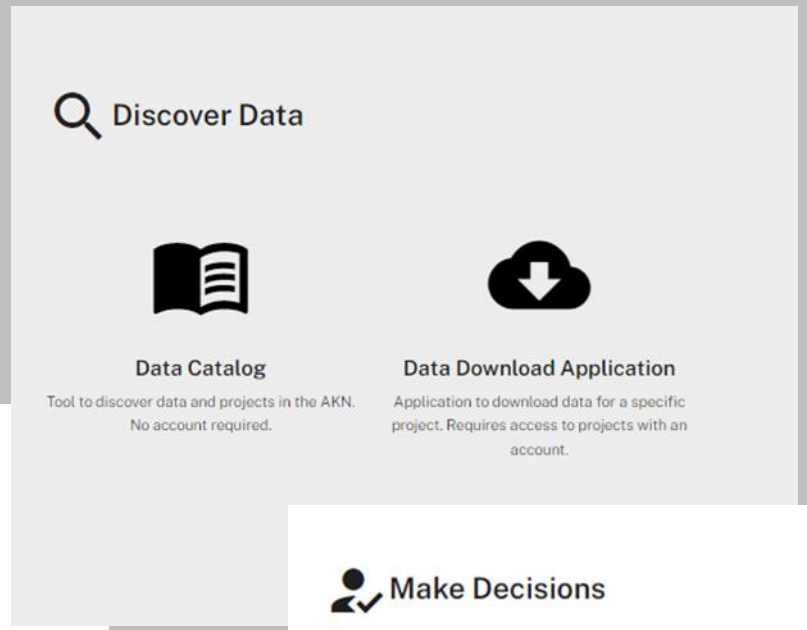


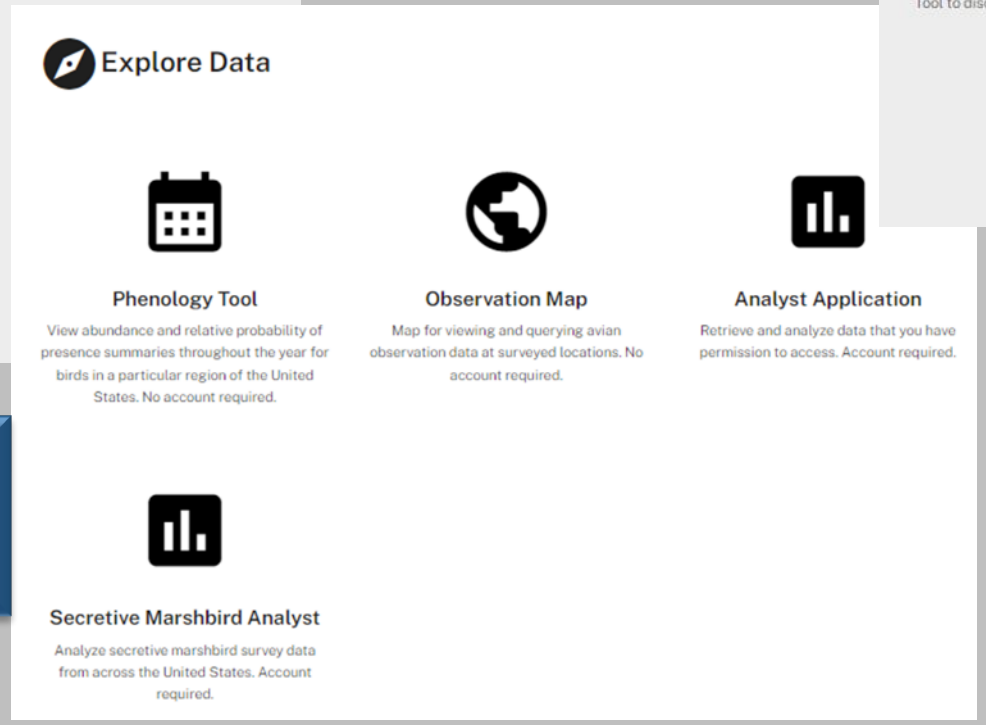
DoDAKN.org

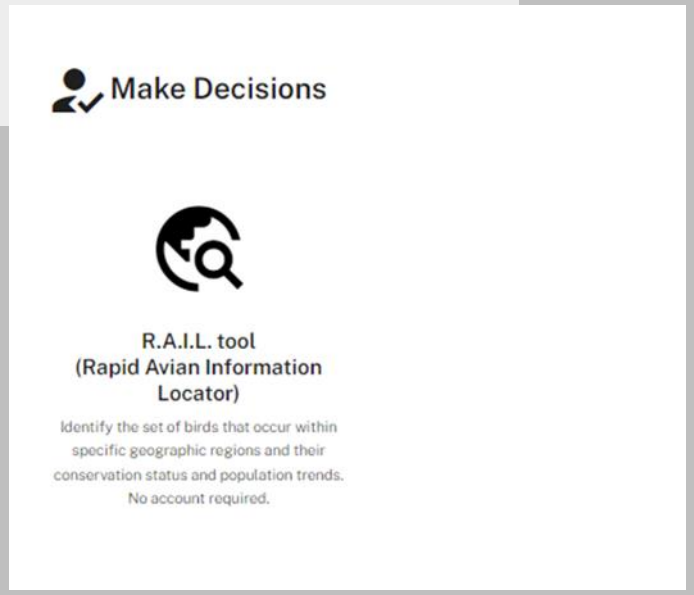
DoD AKN Portal

DoDAKN.org









All tools available on one page

DoD AKN Portal

How to get started

1 Find your project name

In this first step, you'll submit a request to a support person who will find your specific project based on your military service branch and installation name.

2 Create a new account

After you've completed step 1, a **project code** will be emailed to you. This is the **required** code to create a new user account.

Use the button below to complete and submit the new user registration form, remembering to provide your **project code** when prompted.

Create new user account

DoD-Specific Tools

Contract/SOW Language

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DoD-Specific Tools

Scope of Work Language

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

AVIAN KNOWLEDGE NETWORK

Data procurement and ownership issues

Partner / Contractors

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

DoD

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

We want data collected on DoD installations in DoD Projects in AKN

AVIAN KNOWLEDGE NETWORK

DoD-Specific Tools

Guidance on how Contractors and Cooperators will use the AKN in DoD Service Contracts, Grants, and Cooperative Agreement

Checklist of options with detailed attachments

- Contractor/cooperator will put avian observation data in a DoD-owned AKN Project Database or ready format
- Data provided must be raw observation data as collected (not summarized)
- Data must be fully described per DoD AKN Data Standards
- DoD will have permanent access to all data collected:

  DoD owns and will have permanent access to all data collected for the agreement. Data provided must be raw observation data as collected (not summarized). Data may be shared with the Contractor/Cooperator following AKN Data Sharing Guidelines with specifics outlined in an AKN Data Sharing Agreement.

DRAFT

AVIAN KNOWLEDGE NETWORK

DoD-Specific Tools

Guidance on how Contractors and Cooperators will use the AKN in DoD Service Contracts, Grants, and Cooperative Agreement *(continued)*

- **Data Collection: Specify whether DoD or the Contractor/Cooperator will choose the sampling methods (CHECK ONE)**
  - ❑ DoD will specify the sampling methods to be used [FIELD METHOD WITH CITATION]
  - ❑ Contractor/cooperator will specify sampling methods to be used with associated field forms and a link to the associated Sampling Protocol Definition following the process outlined in DoD AKN Standards: Describing Field Methods.
- **Sampling Locations: Specify whether DoD or the Contractor/Cooperator will choose the sampling locations (CHECK ONE)**
  - ❑ DoD will specify sampling units to be visited and will provide a digital copy of the sampling locations for upload into a Global Positioning System (GPS) device.
  - ❑ Contractor/cooperator will specify sampling units to be visited following DoD AKN Standards: Describing Sampling Design and will upload Sampling Units outlined in DoD AKN Standards: Format for AKN Compatible Sampling Units.
- **Data Entry/Upload: Specify whether the Contractor/Cooperator will enter data directly into the AKN or whether they will supply data files ready for bulk uploading by DoD Designee (CHECK ONE)**
  - ❑ Contractor/Cooperator will enter data directly into the AKN following procedures provided in DoD AKN User Guide: AKN Data Access and Entry.
  - ❑ Contractor/Cooperator will provide digital data files using the process outlined in DoD AKN Standards: Preparing Data for Submission.

DRAFT

AVIAN KNOWLEDGE NETWORK

DoD-Specific Tools

Guidance on how Contractors and Cooperators will use the AKN in DoD Service Contracts, Grants, and Cooperative Agreement *(continued)*

Attachments include:

- Definition of AKN terms used
- DoD AKN Standards
  - Sampling Protocol Definitions
  - Sampling Unit Format
  - Data Submission

AVIAN KNOWLEDGE NETWORK

DoD Data Initiatives

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DoD Mission-Sensitive Species (MSS)

AVIAN KNOWLEDGE NETWORK

Mission-sensitive Species Initiative within AKN

DATA

- Locate historical and contemporary data – data discovery survey
- Identify and prioritize datasets and projects for AKN integration; Service-specific

FIELD METHODS

- Identify SMEs for each species and categorize acceptable and appropriate survey methodologies
- Work with our project partners at Point Blue and KBO along with DoD PIF Research & Monitoring and MSS Working Groups

DATA ENTRY PROTOCOL

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

MSS QUERY TOOL IN AKN

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

AVIAN KNOWLEDGE NETWORK

Installations and MSS Present

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

OSD funded the one species, PIJA

Air Force funded work four more species, BUOW and three-TBD

AVIAN KNOWLEDGE NETWORK

MSS Initiative within DoD AKN: *Burrowing Owl*

Data Survey

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

DoD Focus Group of SMEs

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

AKN Data Protocols

- Bulk upload
- Data entry user interface

Science Delivery

- Custom queries and analyses
- Decision support tools

AVIAN KNOWLEDGE NETWORK

MSS Initiative within DoD AKN: *Burrowing Owl*

Field Methods Review

- Standardized Monitoring Strategies for Burrowing Owls on DoD Installations (Garcia et al 2008)
- Burrowing Owl Survey Protocol and Mitigation Guidelines (California Burrowing Owl Consortium 1993)
- Guidelines and Recommendations for Burrowing Owl Surveys and Mitigation (New Mexico Department of Game and Fish (2007)
- New Mexico Burrowing Owl Working Group
- Species Conservation Measures and Permitting Guidelines: Florida Burrowing Owl
- Species Detection Survey Protocols (Fish and Wildlife Branch Technical Report No. 2014-05)(Saskatchewan Ministry of Environment. 2014)

AVIAN KNOWLEDGE NETWORK

MSS Initiative within DoD AKN: *Pinyon Jay*

Data Survey

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

DoD Focus Group of SMEs

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

AKN Data Protocols

- Bulk upload
- Data entry user interface

Science Delivery

- Custom queries and analyses
- Decision support tools

AVIAN KNOWLEDGE NETWORK

MSS Initiative within DoD AKN: *Pinyon Jay*

Field Methods Review

Data Standards and Survey Protocol for Pinyon Jays Version 1.0 (Pinyon Jay Working Group 2021)

Guidance for Locating Pinyon Jay Nests and Confirming Breeding (Pinyon Jay Working Group 2021)

Pinyon Jay Survey Methods webinar, Kristine Johnson et al. UNM, May 2020

Pinyon Jay Community Science Data Collection Manual (Great Basin Bird Observatory)

Pinyon Jay Monitoring Program for New Mexico (Petersen et al 2014)

AVIAN KNOWLEDGE NETWORK

DoD Data Initiatives Programmed

- BASH Data, specifically data collected by USDA-WS
- Banding data including MAPS
- Nest data
- Sensor and machine-collected data
- Survey 1,2,3 cross-walk directly into AKN

AVIAN KNOWLEDGE NETWORK

AKN System-wide Tools

AVIAN KNOWLEDGE NETWORK

AKN Tools

Enterprise Support for Programs

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

Solution: AKN-wide structure allowing multiple Project grouping via Programs. Program Enterprise for selection of a Program anywhere the system currently allows selection of a Project

Plan: Add ability to create/manage Programs appropriately based on rights, especially for query and download of project data, user access management, protocol assignment, data sharing level. Requires design and tech research phases to determine the appropriate solution.

Status: Completed the program enterprise warehouse feature preliminary research phase and are moving on to the prototype phase, where we will attempt our first successful build of a program warehouse. Also developing a data download feature that will allow users to download protocol specific data from any project within their program. We have completed preliminary research phase of this data download tool and will start prototyping the first week of October.

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AKN Tools

Updated User Roles

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

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

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

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

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

AVIAN KNOWLEDGE NETWORK

Upcoming System-wide Updates and Tools

- **Expanding availability of regional tools**
  - Climate smart planning tools
  - High-resolution species centered habitat modeling
  - Training modules and case studies
- **Expanded data types** **(including banding data extension)**
- **Improved navigation & updated websites**
  - AKN and FADC Sites
  - Agency-specific landing pages

AVIAN KNOWLEDGE NETWORK

DoD AKN Training

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DoD Personnel Trained To-Date

DoD Participation in the Avian Knowledge Network: the Who, What, Where, When, Why, and How

- Initial training at NMFWA on 09 March 2020 : 23 personnel trained
- Virtual training at NMFWA on 12 March 2021: 27 personnel trained
- Third iteration at NMFWA on 14 March 2022: 30 personnel trained

AVIAN KNOWLEDGE NETWORK

DoD Training Plans FY23

DoD-wide Quarterly Regional Trainings

- Three, long format trainings: 3-day training, 2 days of classroom instruction & project support and 1 day of field practicum & data upload
  - January 24-26, 2023 – White Sands Missile Range, NM; limited 25 people, registration will open soon on DoD AKN Portal
  - Spring 2023 – Camp Lejeune, NC; dates and class size TBD
  - Third iteration, date and location TBD

- One, short format: 1-day training with Office Hours on subsequent day at NMFWA in St. Louis, 20 March 2023

AVIAN KNOWLEDGE NETWORK

DoD Training Plans FY23

Service-specific

- Air Force funded two virtual trainings (consists of two, 4-hour days per training)
    1. Nov 30 and Dec 01, registration open on DoD AKN Portal
    2. Dates TBD, check for email updates
- National Guard approved, 3-day training hosted by ORARNG – Spring 2023
- Other Service-specific trainings in the works and will be announced

AVIAN KNOWLEDGE NETWORK

AVIAN KNOWLEDGE NETWORK

Department of the Air Force is host
DoD Avian Knowledge
ming

https://forms.office.com/pages/responsepage.aspx?id=HtsxAS9Y6U-Wn9H8Q-SPX8uJdQgobDtPi6xswVyjcfxUOVVaSzQ4S0ZPOUhHOUMwTzRaUFVLMFUxSi4u

Two half-days

Nov 30 & Dec 01

1200-1600 EST

0900-1300 PST

Look for registration details from AFCEC soon!

For any questions, please email DoD AKN Program Director, Elizabeth Neipert at elizabeth.s.neipert@erdc.dren.mil

Point Blue Conservation Science

ERDC ENGINEER RESEARCH & DEVELOPMENT CENTER

Klamath Bird Observatory

On-going Support

Monthly “Office Hours” third Tuesday of the month and following Thursday, 0900-1300 PST

- Announcements sent to trained personnel
- Calendar and sign-up now available on DoD AKN Portal

AVIAN KNOWLEDGE NETWORK

COME AND JOIN US DURING OUR MONTHLY

DoD Avian Knowledge Network (AKN)

"Virtual Office Hours"

The DoD AKN Team will be holding "Virtual Office Hours" monthly to assist personnel who have taken a DoD AKN Training with their individual data questions and needs.

18 & 20 OCT

0900-1300 PDT

To sign up for a time slot, please email DoD AKN Program Director at

ELIZABETH.S.NEIPERT@ERDC.DREN.MIL

Klamath Bird Observatory

Point Blue Conservation Science

ERDC

Point Blue Conservation Science

ERDC ENGINEER RESEARCH & DEVELOPMENT CENTER

Klamath Bird Observatory

On-going Support – Monthly Office Hours

Monthly “Office Hours”, third Tuesday of the month and following Thursday, 0900-1300 PST, open to trained personnel

AKN Training – Office Hours

The DoD AKN Team holds monthly Office Hours to assist trained DoD NR staff with their surveys and data within the AKN. Find out when the next Office Hours are scheduled and sign up.

View Office Hours and Sign-up

DoDAKN.org

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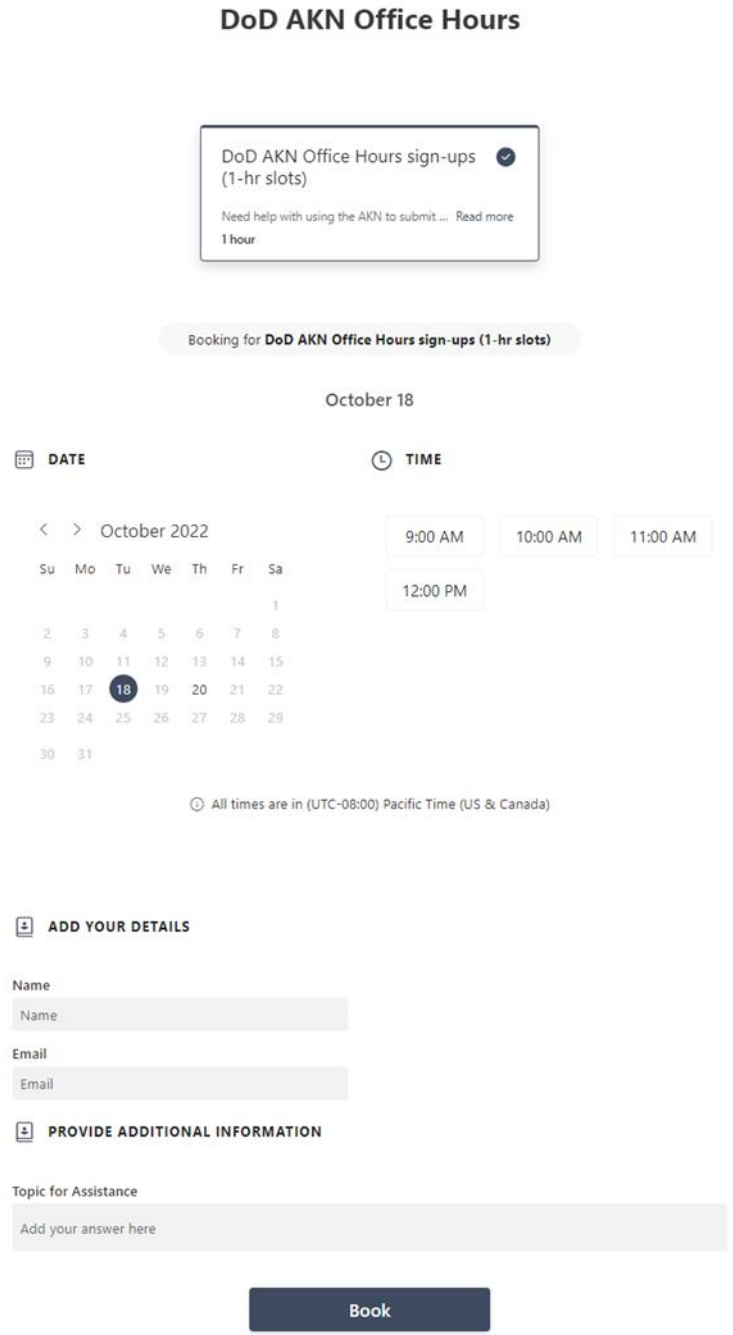
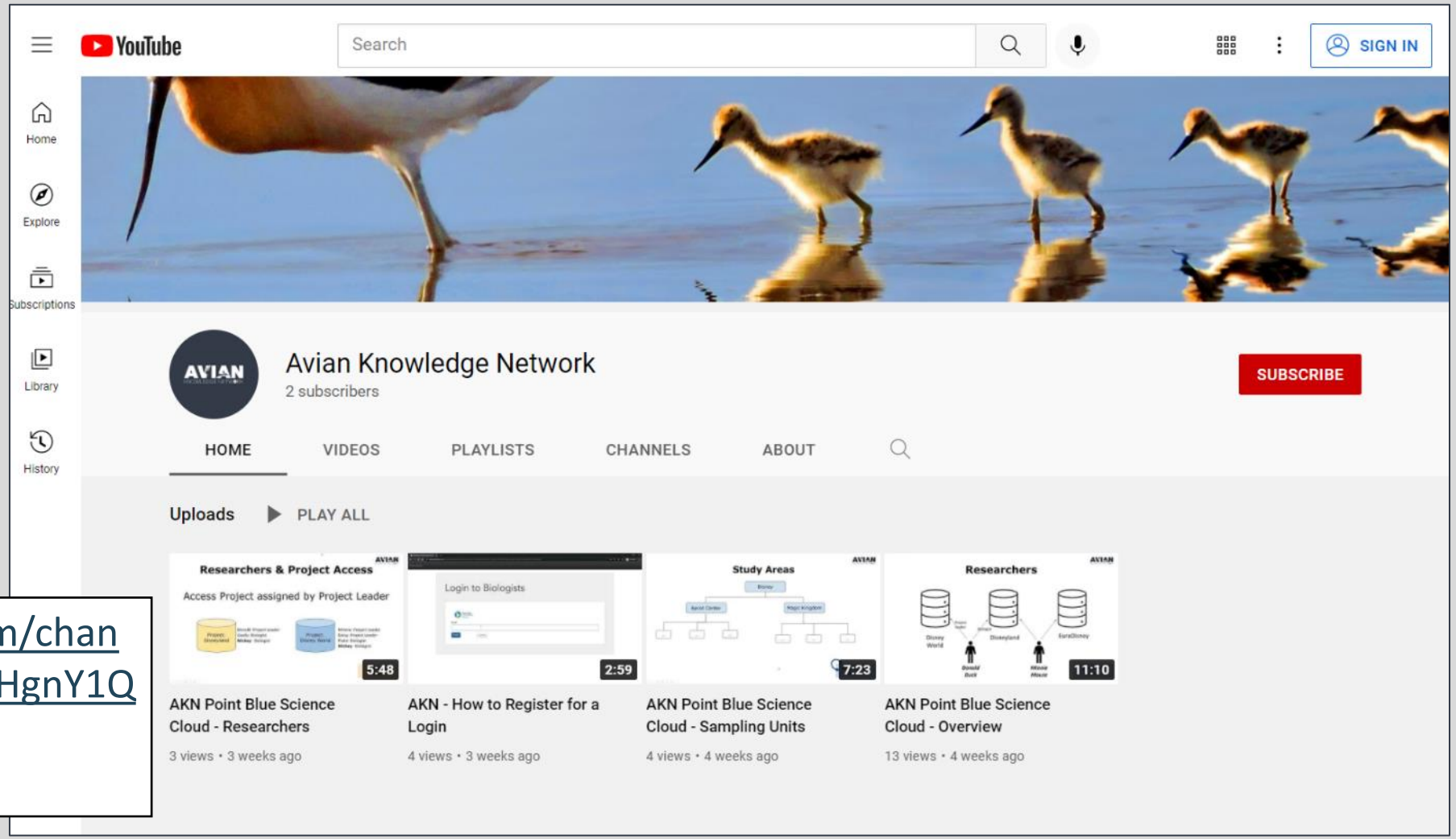


TRAINING MATERIALS



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

AVIAN KNOWLEDGE NETWORK

Examples of DoD Use and Case Studies

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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

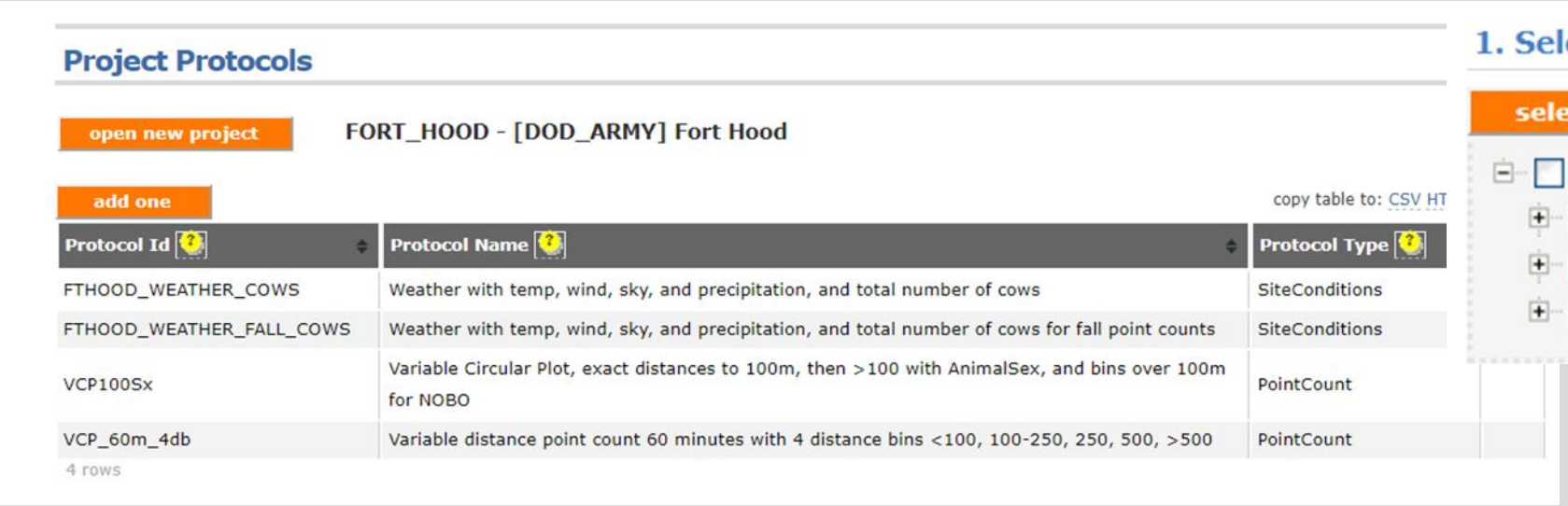
Photo by Chrissy Kondrat-Smith

https://borderlandsbirds.org/projects/desert-thrasher/

AVIAN KNOWLEDGE NETWORK

Fort Hood, TX

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



Project Protocols

open new project | FORT_HOOD - [DOD_ARMY] Fort Hood

add one | copy table to: CSV HT

Protocol Id	Protocol Name	Protocol Type
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)

AVIAN KNOWLEDGE NETWORK

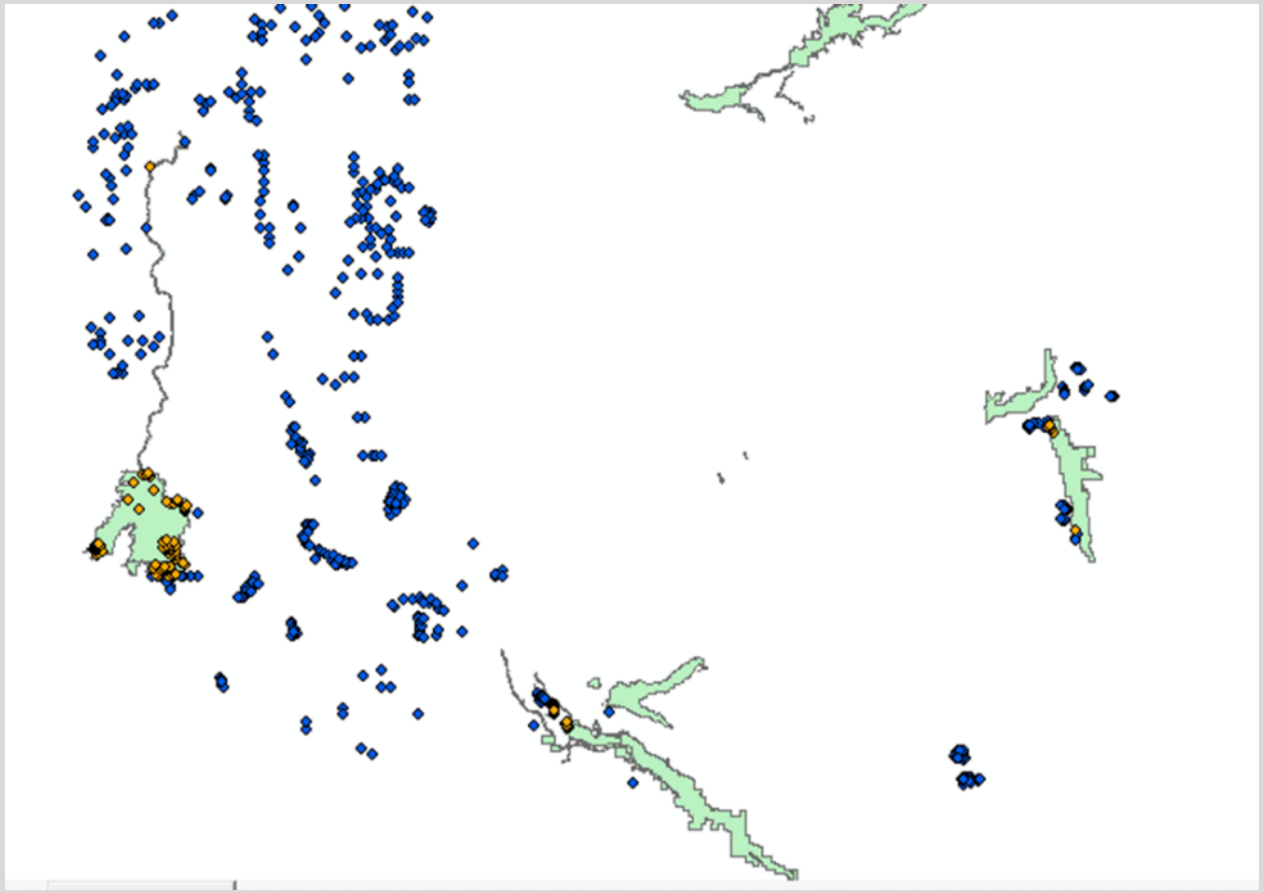
Massachusetts Army National Guard

- 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

AVIAN KNOWLEDGE NETWORK

USACE-Willamette Valley Project, OR

- New project 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



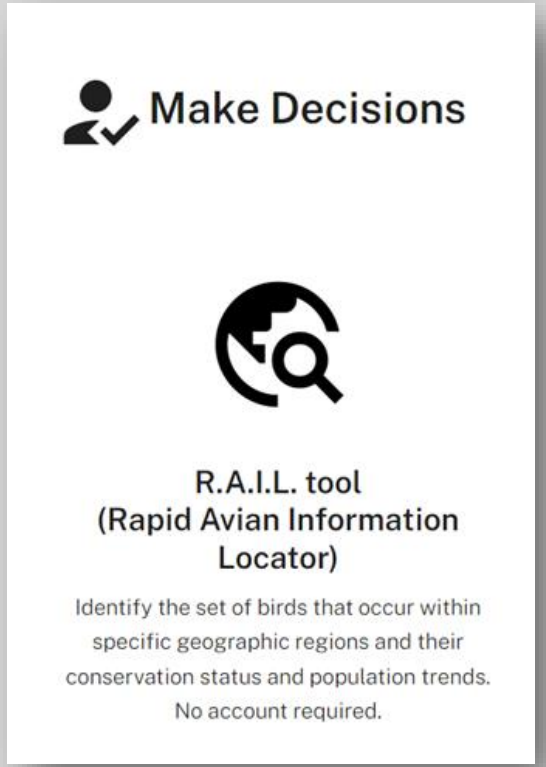
AVIAN KNOWLEDGE NETWORK

Vance AFB, 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

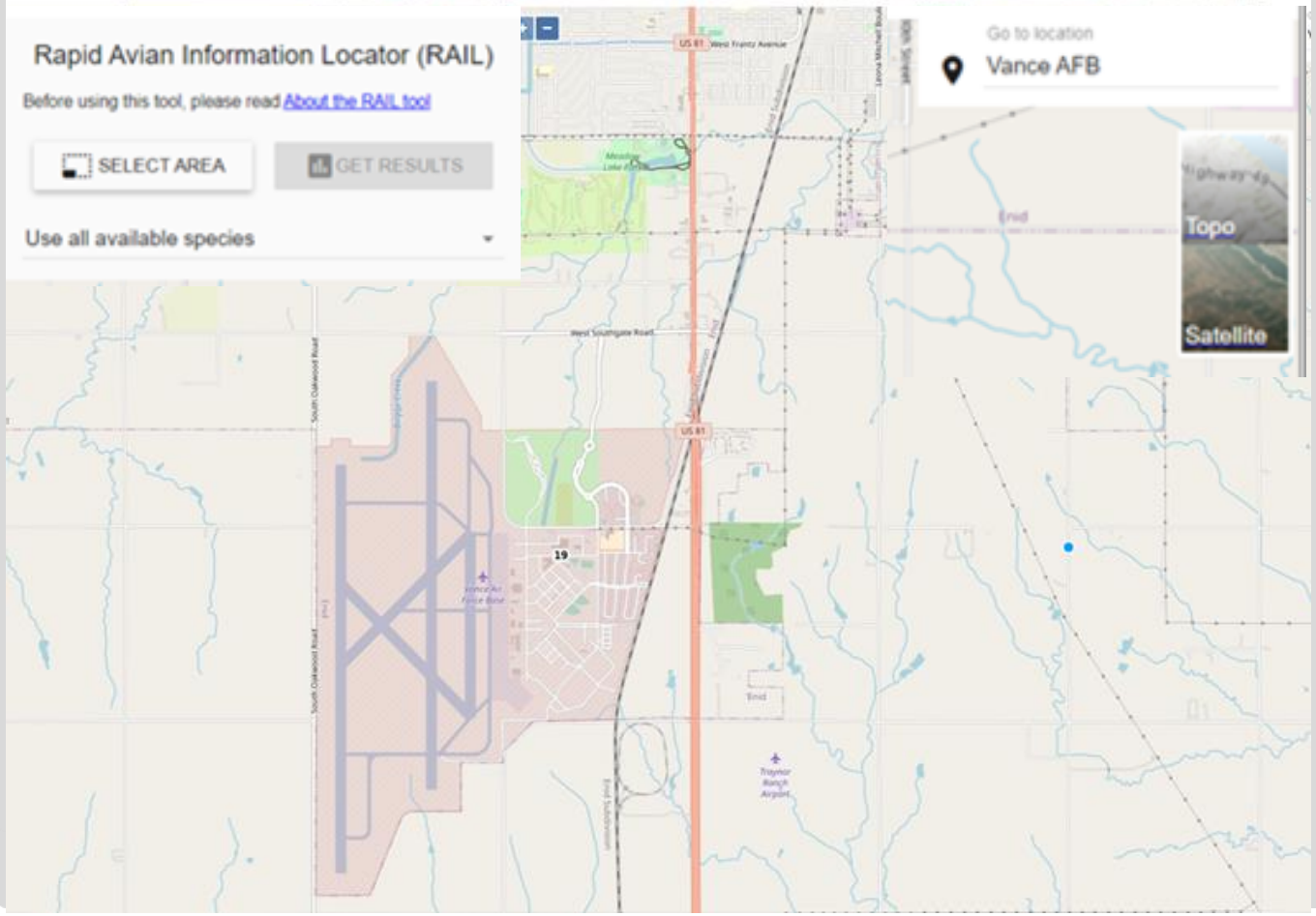
  Integrates data from AKN, Partners in Flight, US Fish and Wildlife, Breeding Bird Survey, eBird, All About Birds, and the Macaulay image library at Cornell.

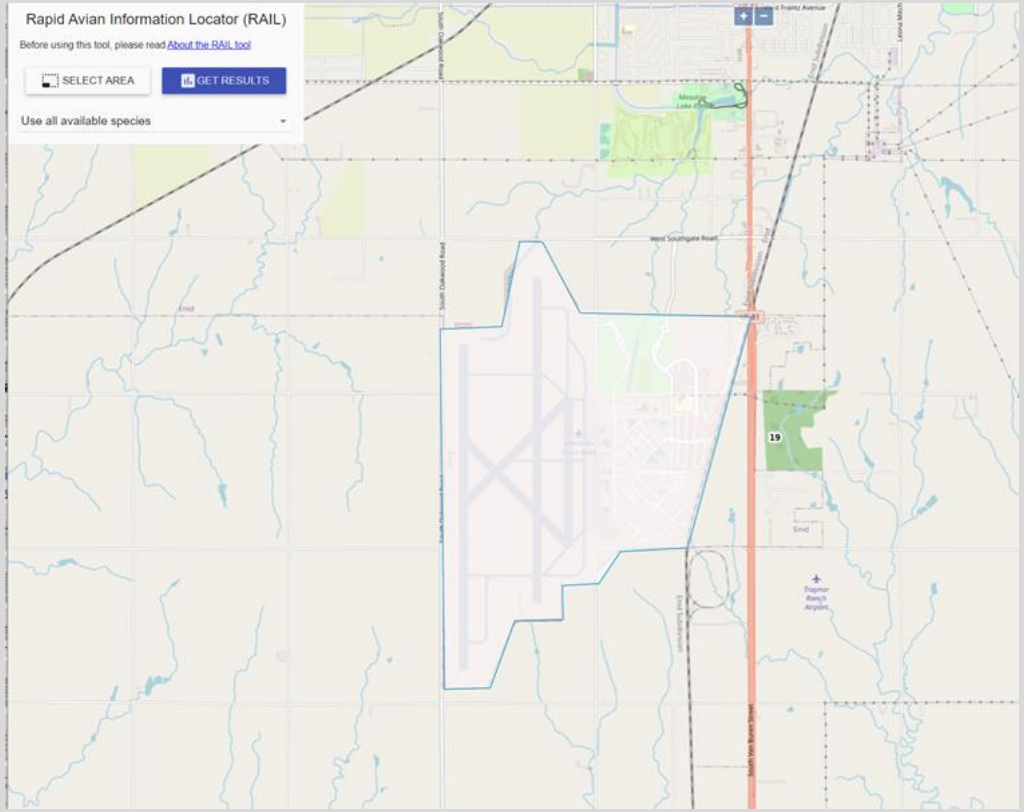
https://data.pointblue.org/apps/rail/



AVIAN KNOWLEDGE NETWORK

Vance AFB – R.A.I.L





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

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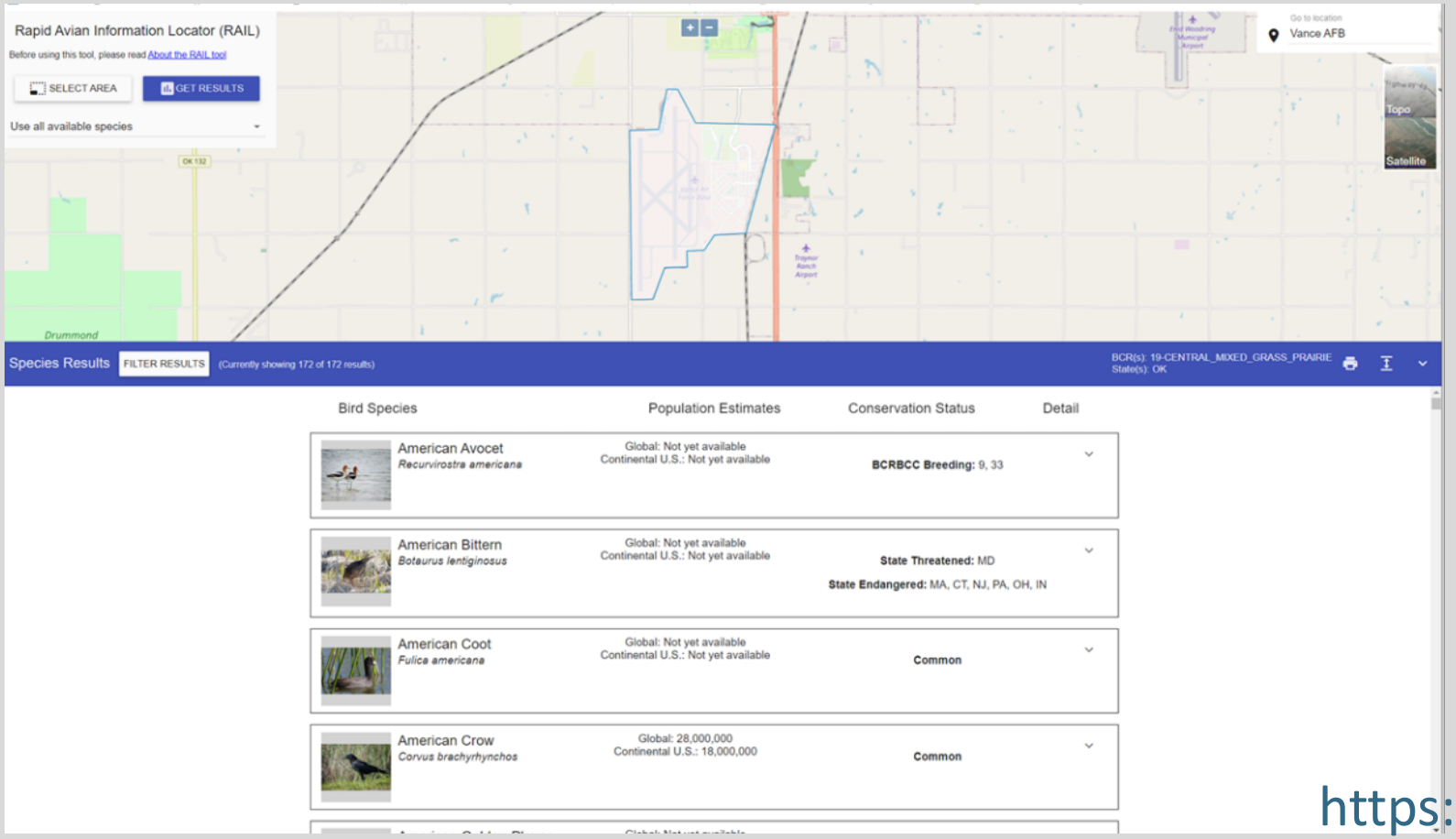

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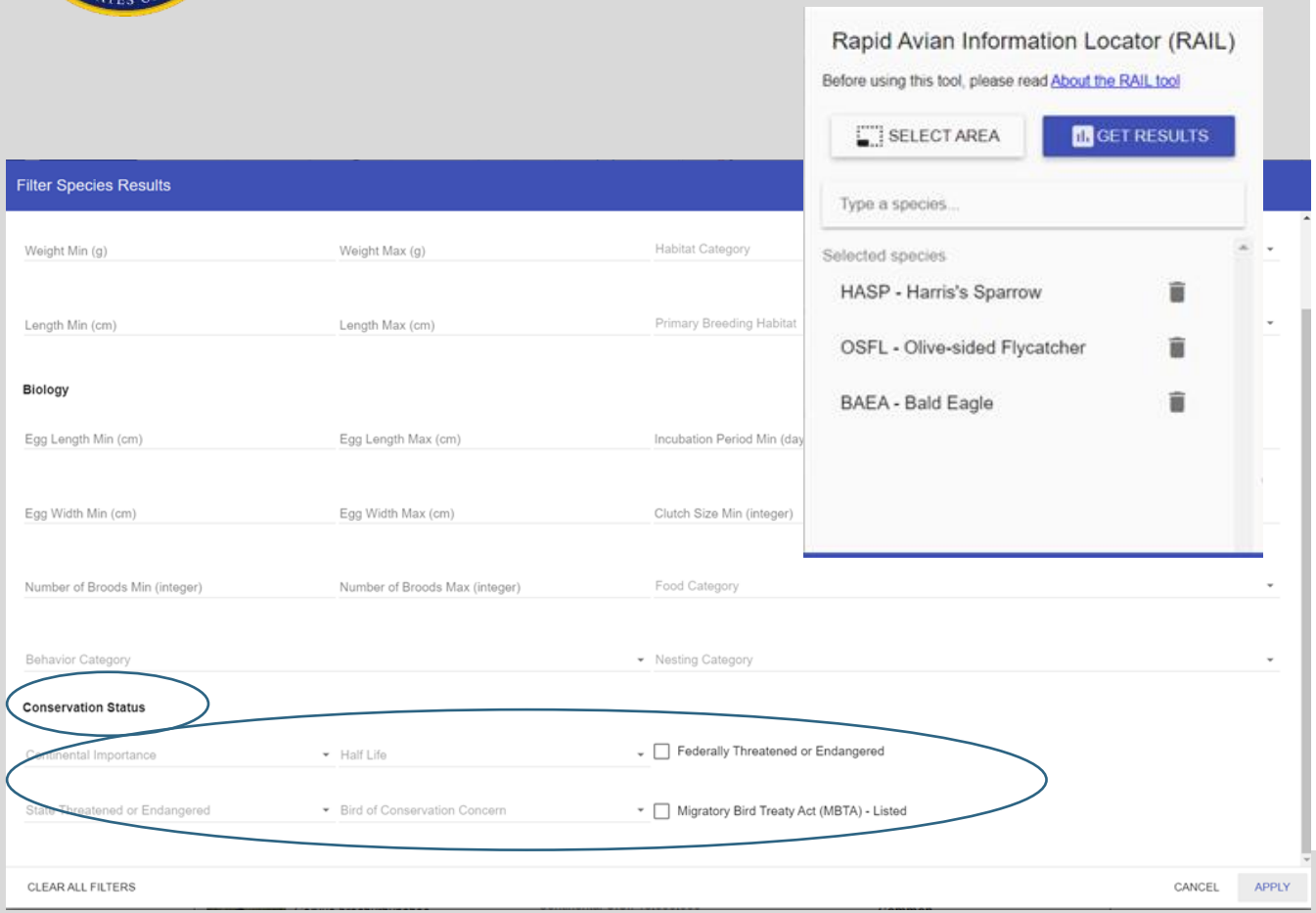
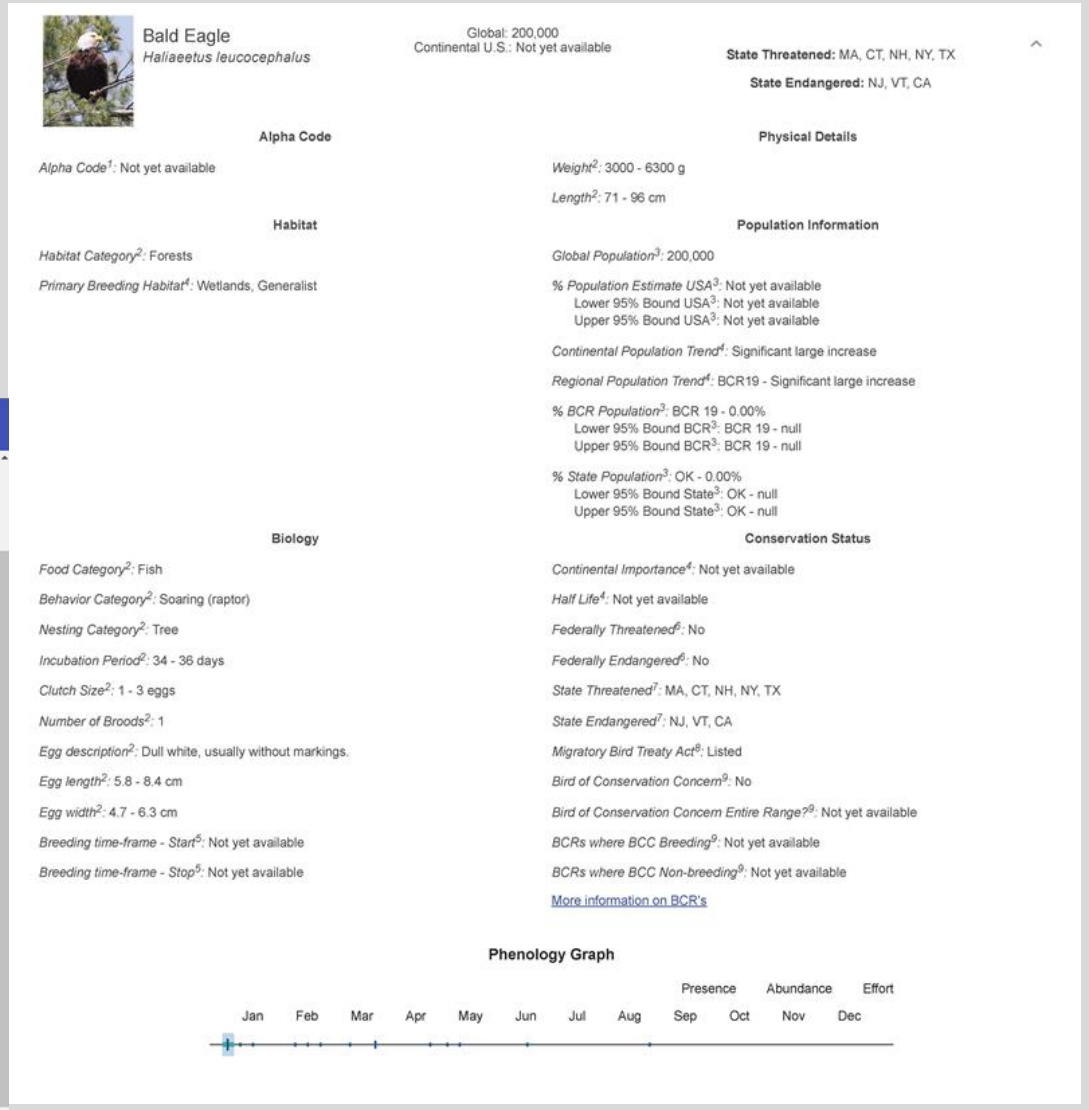
Vance AFB – R.A.I.L





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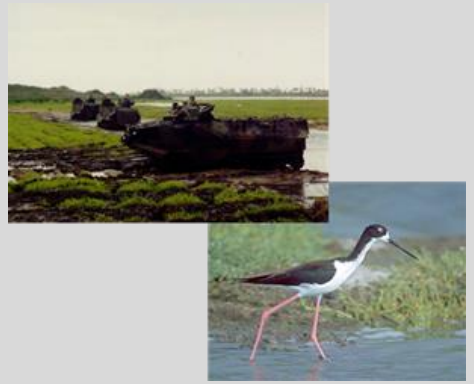
AVIAN KNOWLEDGE NETWORK

DoD Mission Benefits

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



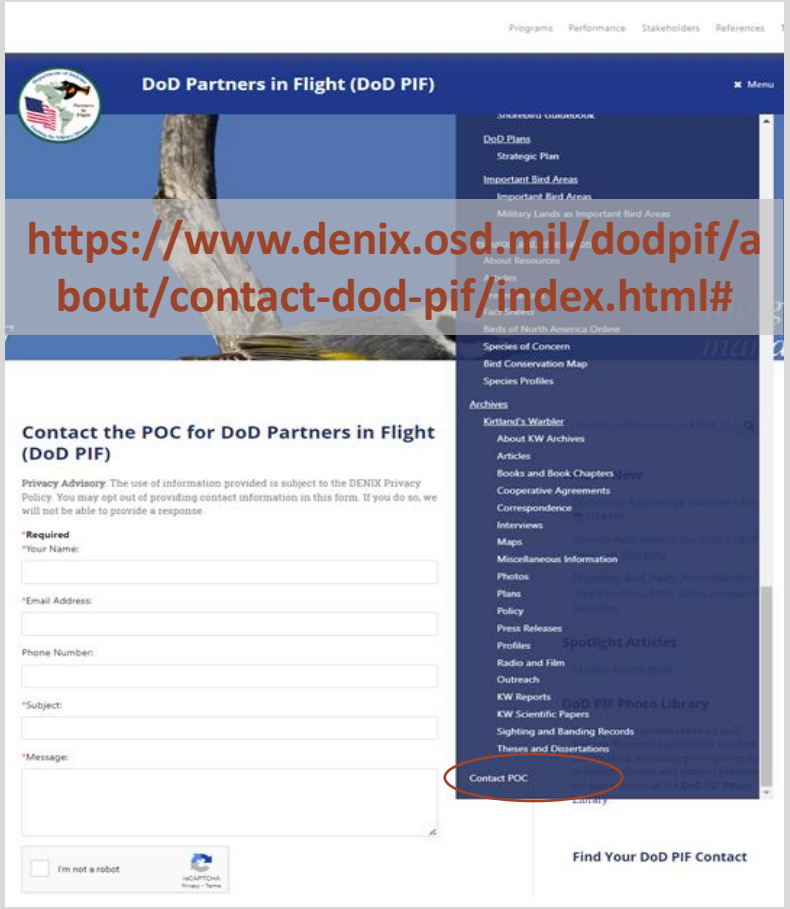
- Access to data that contributes to more technically and scientifically sound INRMPs and NEPA environmental reviews
- Contributes directly to proactive conservation, monitoring and management of priority bird species

Enabling the Mission, Defending the Resources

AVIAN KNOWLEDGE NETWORK

Sign up for DoD AKN updates

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



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NEXT STEPS

- ✓Sign up for DoD AKN updates
- ✓Bookmark DoD AKN Portal
- ✓Look for Service-specific email with Data Discovery and Training Survey
- ✓Participate in comprehensive training program
  - Sign up for DoD-wide or Service-specific training
  - Attend *Office Hours* for data and survey support
- ✓Military Services and installations think about their needs and interests
- ✓Start discussions with DoD AKN Program about tasks/needs and possible funding

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Thank you!!!

- Attendees for taking the time to learn more about DoD and AKN
- OSD and the Legacy Program
- Military Service leads
- DoD PIF Steering Committee
- NMFWA
- Project partners Point Blue Conservations Science and Klamath Bird Observatory

Point Blue
Conservation science for a healthy planet.

Klamath Bird Observatory

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Questions?

Department of Defense's Participation in the Avian Knowledge Network

Hosted by

DoD Environmental Planning and Conservation Webinar Series

Elizabeth Neipert
Technical Coordinator, DoD PIF
Program Director, DoD AKN Program
Chair, National AKN Steering Committee
Elizabeth.S.Neipert@erdc.dren.mil

AVIAN KNOWLEDGE NETWORK

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