

The Data Life Cycle in the Midwest Avian Data Center

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Advancing the **conservation** of birds, other wildlife, and ecosystems through science, **partnerships**, and outreach.

- Reduce the impacts of environmental threats incl. climate change, promote nature-based solutions for wildlife and people, on land and at sea
- **Provide technology solutions** that support AKN nodes.
- Working in all 4 Flyways **across Western Hemisphere**

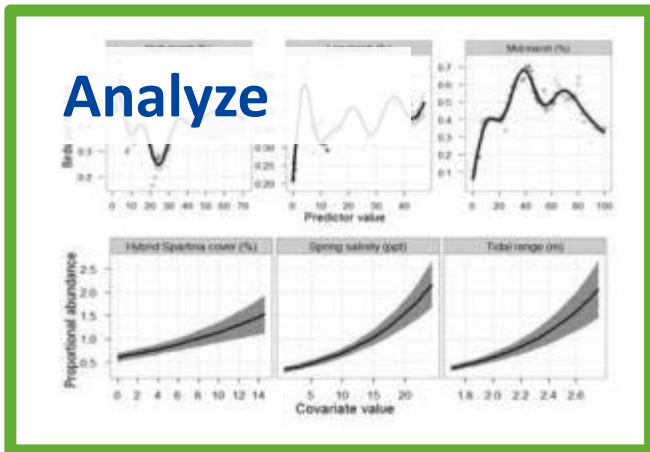
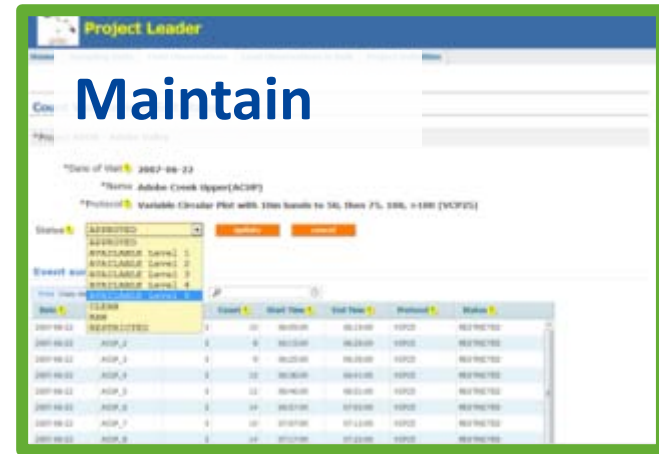
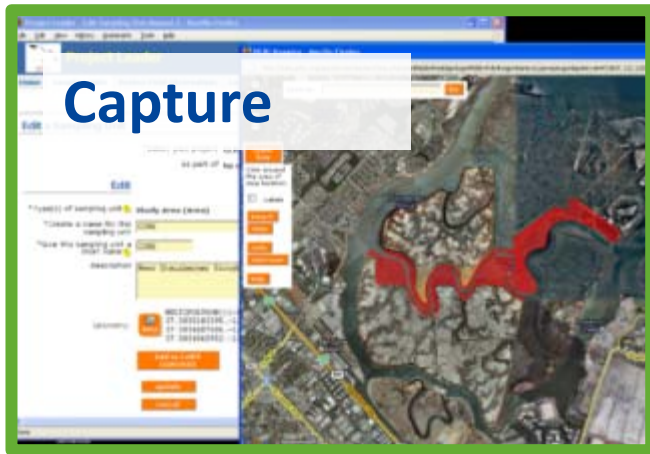


Managed Data	850 Projects	140K Locations	10M Observations	125M Birds
Warehoused Data			65M Observations	Over a Billion Birds

Contents

- Review the AKN data life cycle
- **Why share your data through MWADC?**
 - The data life cycle at MWADC
 - Review upcoming AKN developments
 - MWADC and GLC projects:
 - Current status and plans for data management
 - Developing data visualizations
 - Parting thoughts on MWADC – GLC integration

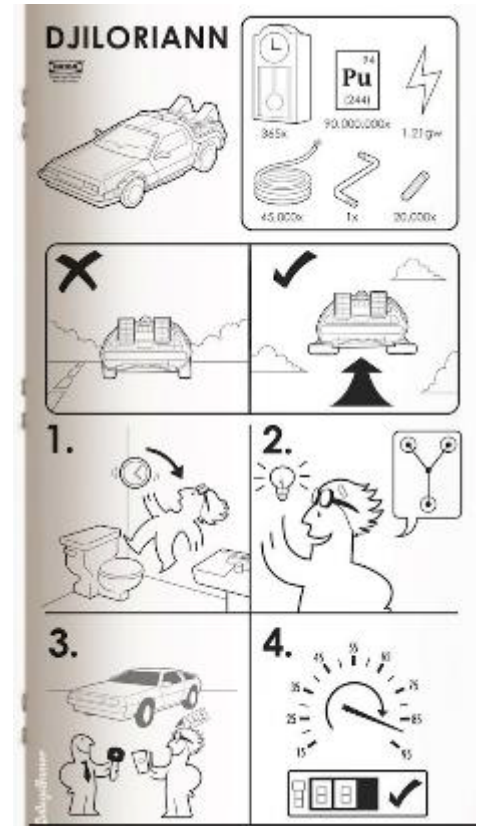
AKN Data Life Cycle



Data life cycle in MWADC

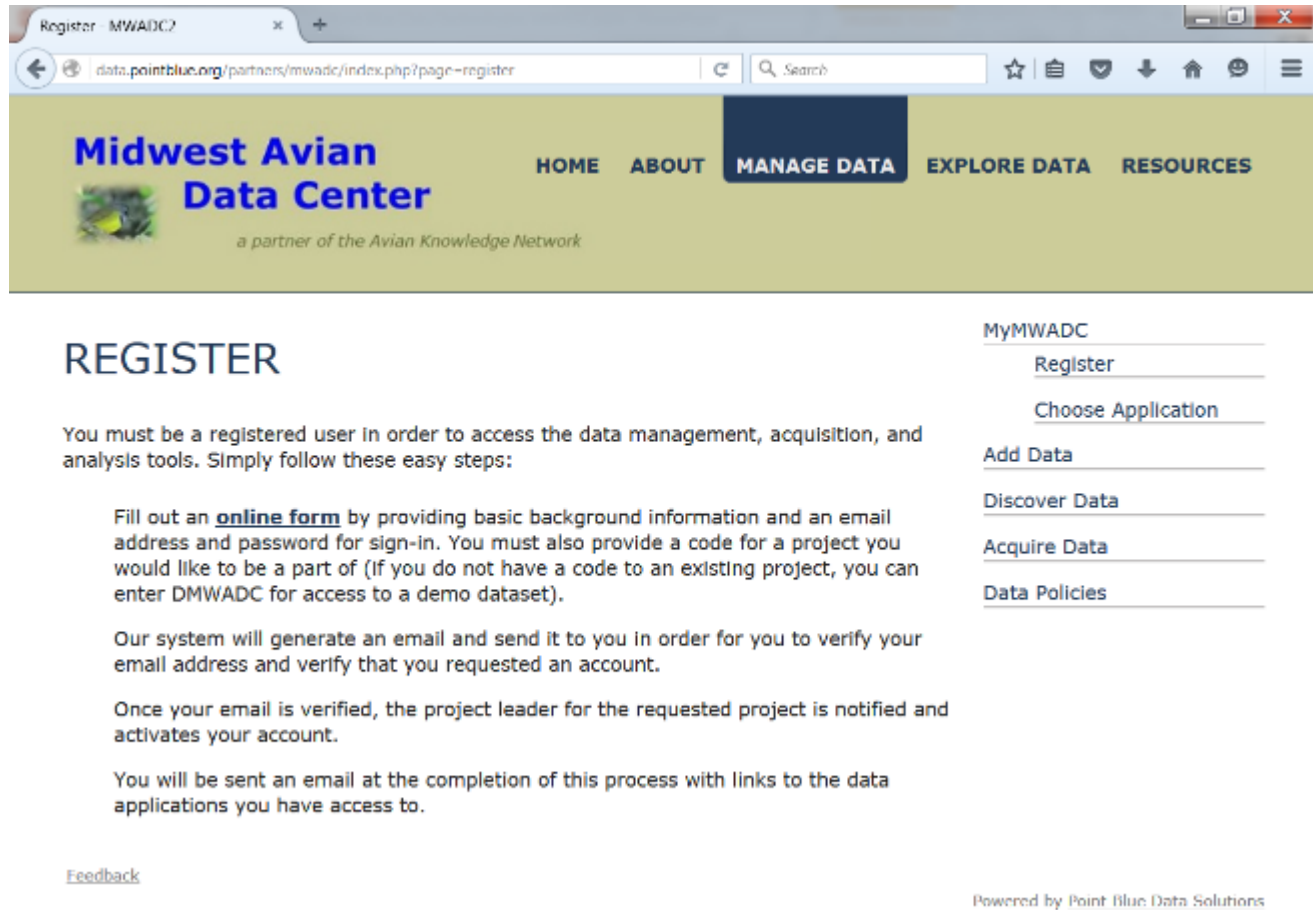
Steps to managing your project's data in MWADC:

- 1) Create a project
Then use project management toolset to...
- 2) Describe data collection protocols*
- 3) Describe researchers and roles
- 4) Describe the sampling locations
- 5) Enter/upload data
- 6) Edit data
- 7) Visualize data



Data life cycle in MWADC

Step 1: Register



The screenshot shows a web browser window with the URL `data.pointblue.org/partners/mwadc/index.php?page=register`. The page header features the "Midwest Avian Data Center" logo, a navigation menu with "HOME", "ABOUT", "MANAGE DATA" (highlighted), "EXPLORE DATA", and "RESOURCES", and a tagline "a partner of the Avian Knowledge Network". The main content area is titled "REGISTER" and contains instructions for new users. A sidebar on the right lists links: "MyMWADC", "Register", "Choose Application", "Add Data", "Discover Data", "Acquire Data", and "Data Policies". The footer includes a "Feedback" link and the text "Powered by Point Blue Data Solutions".

REGISTER

You must be a registered user in order to access the data management, acquisition, and analysis tools. Simply follow these easy steps:

Fill out an [online form](#) by providing basic background information and an email address and password for sign-in. You must also provide a code for a project you would like to be a part of (If you do not have a code to an existing project, you can enter DMWADC for access to a demo dataset).

Our system will generate an email and send it to you in order for you to verify your email address and verify that you requested an account.

Once your email is verified, the project leader for the requested project is notified and activates your account.

You will be sent an email at the completion of this process with links to the data applications you have access to.

[Feedback](#)

Powered by Point Blue Data Solutions

Data life cycle in MWADC

Step 1

You need

[http://](http://data.pointblue.org/partners/mwadc/index.php?page=register)

You need

Or:

The screenshot shows two overlapping windows. The background window is a web browser displaying the 'Midwest Avian Data Center' registration page. The page has a header with the center's name and logo, followed by a 'REGISTER' section. The text in this section explains that users must be registered to use analysis tools and provides instructions on how to register via an online form. A red circle highlights a 'Feedback' link at the bottom of the page. The foreground window is an email client titled 'MWADC Feedback - Mes...'. It shows a new email being composed to 'mwadc webmaster user' with the subject 'MWADC Feedback'. The email body contains the text: 'Hi, I need help describing my data into MWADC. Thanks! Leo'.

Register - MWADC?

data.pointblue.org/partners/mwadc/index.php?page=...

Midwest Avian Data Center
a partner of the Avian Knowledge Environment

REGISTER

You must be a registered user in order to use the analysis tools. Simply follow these easy steps:

Fill out an online form by providing your email address and password for sign-in. You would like to be a part of (If you do not have an account, enter DMWADC for access to a demo account).

Our system will generate an email at the time you register and verify that you received it.

Once your email is verified, the project manager will activate your account.

You will be sent an email at the completion of the registration process and the applications you have access to.

[Feedback](#)

MWADC Feedback - Mes...

FILE MESSAGE INSERT OPTIONS FORMAT TEXT REVIEW

Paste Basic Text Names Include Tags Zoom Apps for Office Add-ins

To... mwadc webmaster user

Cc...

Subject MWADC Feedback

Hi,

I need help describing my data into MWADC.

Thanks!

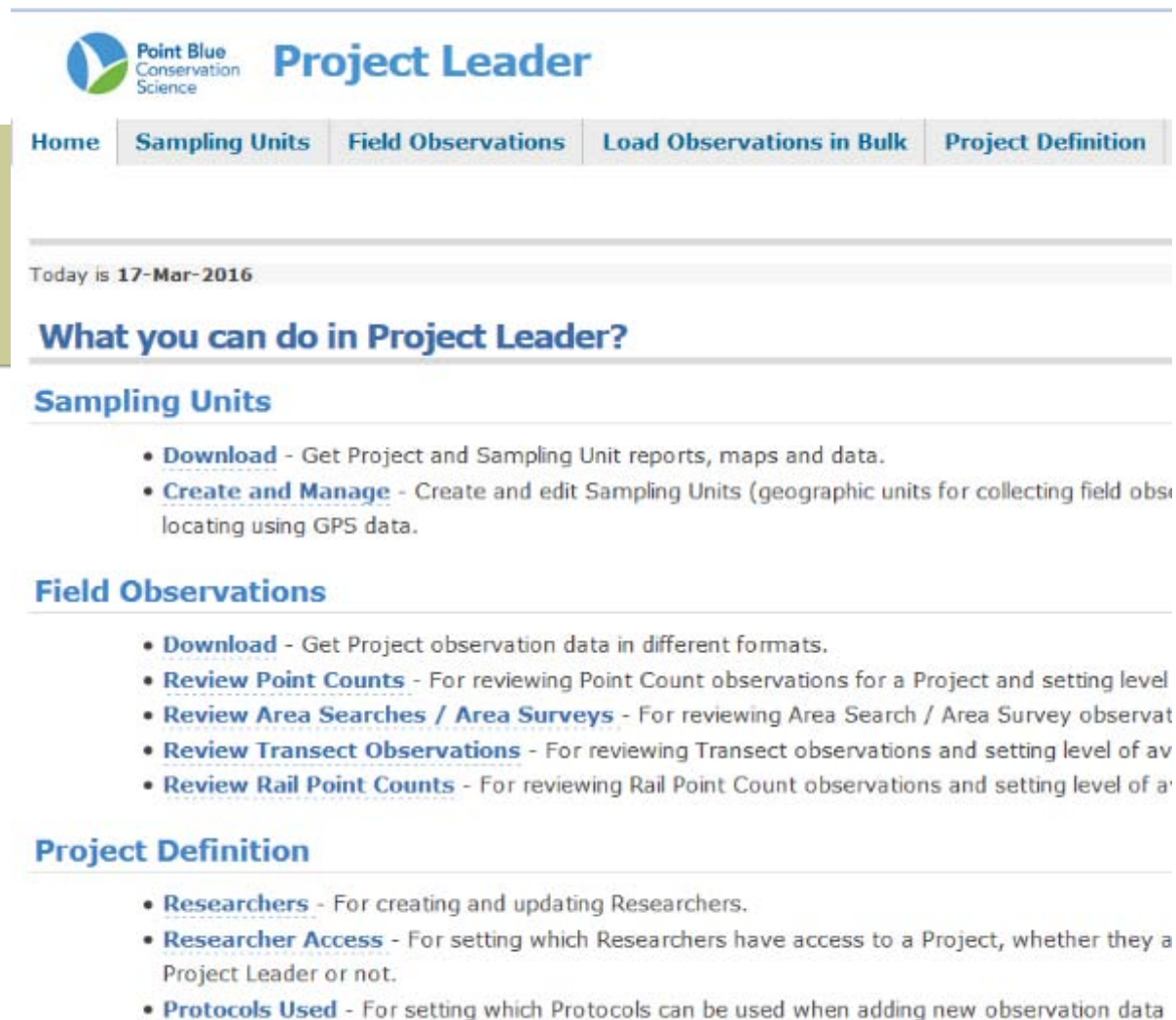
Leo

See more about mwadc webmaster user.

Data life cycle in MWADC

Steps 3 & 4:
Researchers
& Roles

Sampling units



The screenshot shows the 'Project Leader' web application interface. At the top left is the 'Point Blue Conservation Science' logo. To its right is the title 'Project Leader'. Below this is a navigation bar with five tabs: 'Home', 'Sampling Units', 'Field Observations', 'Load Observations in Bulk', and 'Project Definition'. The 'Sampling Units' tab is currently selected. Below the navigation bar, a status bar indicates 'Today is 17-Mar-2016'. The main content area is titled 'What you can do in Project Leader?' and is divided into three sections: 'Sampling Units', 'Field Observations', and 'Project Definition'. Each section contains a list of actions with brief descriptions.

Point Blue Conservation Science **Project Leader**

Home Sampling Units Field Observations Load Observations in Bulk Project Definition

Today is 17-Mar-2016

What you can do in Project Leader?

Sampling Units

- [Download](#) - Get Project and Sampling Unit reports, maps and data.
- [Create and Manage](#) - Create and edit Sampling Units (geographic units for collecting field observations using GPS data).

Field Observations

- [Download](#) - Get Project observation data in different formats.
- [Review Point Counts](#) - For reviewing Point Count observations for a Project and setting level of review.
- [Review Area Searches / Area Surveys](#) - For reviewing Area Search / Area Survey observations and setting level of review.
- [Review Transect Observations](#) - For reviewing Transect observations and setting level of review.
- [Review Rail Point Counts](#) - For reviewing Rail Point Count observations and setting level of review.

Project Definition

- [Researchers](#) - For creating and updating Researchers.
- [Researcher Access](#) - For setting which Researchers have access to a Project, whether they are Project Leaders or not.
- [Protocols Used](#) - For setting which Protocols can be used when adding new observation data.

Data life cycle in MWADC

Steps 5 & 6:

Enter/edit
your data

The screenshot shows a web browser at the URL `data.pointblue.org/science/biologists/index.php`. The page title is 'Biologists' and the project is 'Project: KYFISHANDWILDLIFE (Biologist)'. The main heading is 'Welcome to AKN Biologists', followed by a description: 'AKN Biologists is an application for entering and reviewing field observations in support of the Avian Knowledge Network, hosted by Point Blue Solutions'. There are two main sections: 'Projects' and 'Project Observation Types'. The 'Projects' section asks 'What project do you want to work in?' and lists several projects, with 'KYFISHANDWILDLIFE - KY Fish and Wildlife' highlighted. The 'Project Observation Types' section asks 'What type of observations would you like to work on?' and lists 'Point Count Surveys' and 'Site Conditions'. At the bottom, there is a footer with links for 'Feedback', 'Release Information', 'Help', 'User: Isalas@pointblue.org', 'Logout', and 'Powered by Point Blue'.

data.pointblue.org/science/biologists/index.php

Biologists Project: KYFISHANDWILDLIFE (Biologist)

Welcome to AKN Biologists

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

Projects

What project do you want to work in?

[Quick Tips >>](#)

- KENSINGTON_WMA - Kensington WMA
- KISSIMMEECHAINOFLAKES - Kissimmee Chain of Lakes
- KOOTENAINWR - Kootenai NWR
- KRSS - Kern National Wildlife Refuge
- KUEHNLE_POND - Kuehnle Pond
- KYFISHANDWILDLIFE - KY Fish and Wildlife**
- KYFISHANDWILDLIFEMARSHBIRDSURVEY - KY Fish and Wildlife
- LACREEKNWR - Lacreek NWR
- LADDMARSHWILDLIFEAREAODFW - Ladd Marsh Wildlife Area, O
- LAEN - Lands End
- LAFO - Lassen Foothills Oak

Project Observation Types

For project: KYFISHANDWILDLIFE

What type of observations would you like to work on?

[Quick Tips >>](#)

- [Point Count Surveys](#)
- [Site Conditions](#) ▶

Locations and Sampling Units

- [Get GPS files or maps for Project](#) ▶

[Feedback](#) | [Release Information](#) | [Help](#) | [User: Isalas@pointblue.org](#) | [Logout](#) Powered by Point Blue

Data life cycle in MWADC

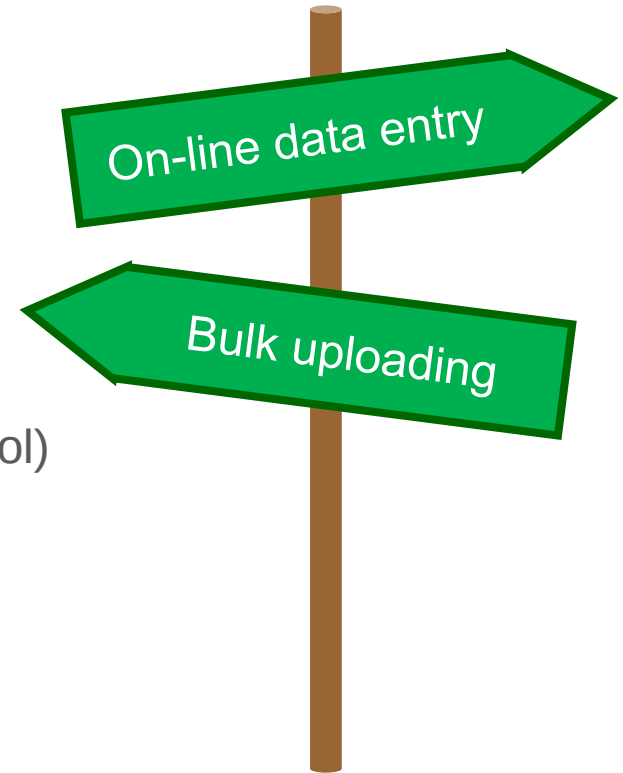
Steps 5 & 6 – more...

Current on-line data entry capacity:

- Point counts
- Area search
- IWMM surveys
- Secretive Marshbird (North American Protocol)
- Site conditions data

Bulk uploading:

- Top priority development in current FY
- Any protocol described in the system



Data life cycle in MWADC

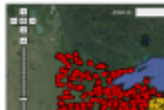
Current visualizations in MWADC

Step 7:
Visualize
your data

**Midwest Avian
Data Center**
a partner of the Avian Knowledge Network

HOME ABOUT MANAGE DATA **EXPLORE DATA** RESOURCES

EXPLORE DATA

Interactive Map


The **MWADC Map Tool** provides a quick and easy way to visualize, query, and investigate data at surveyed locations. It also allows users to identify which data sets are available for further inquiry and analyses.

Histogram


The **MWADC Histogram Tool** shows the temporal distribution of a given species or set of species over the course of a year. You can look at distributions of birds using various data collections, choosing to filter by species, county, state, or custom shapefile.

Demographic Model

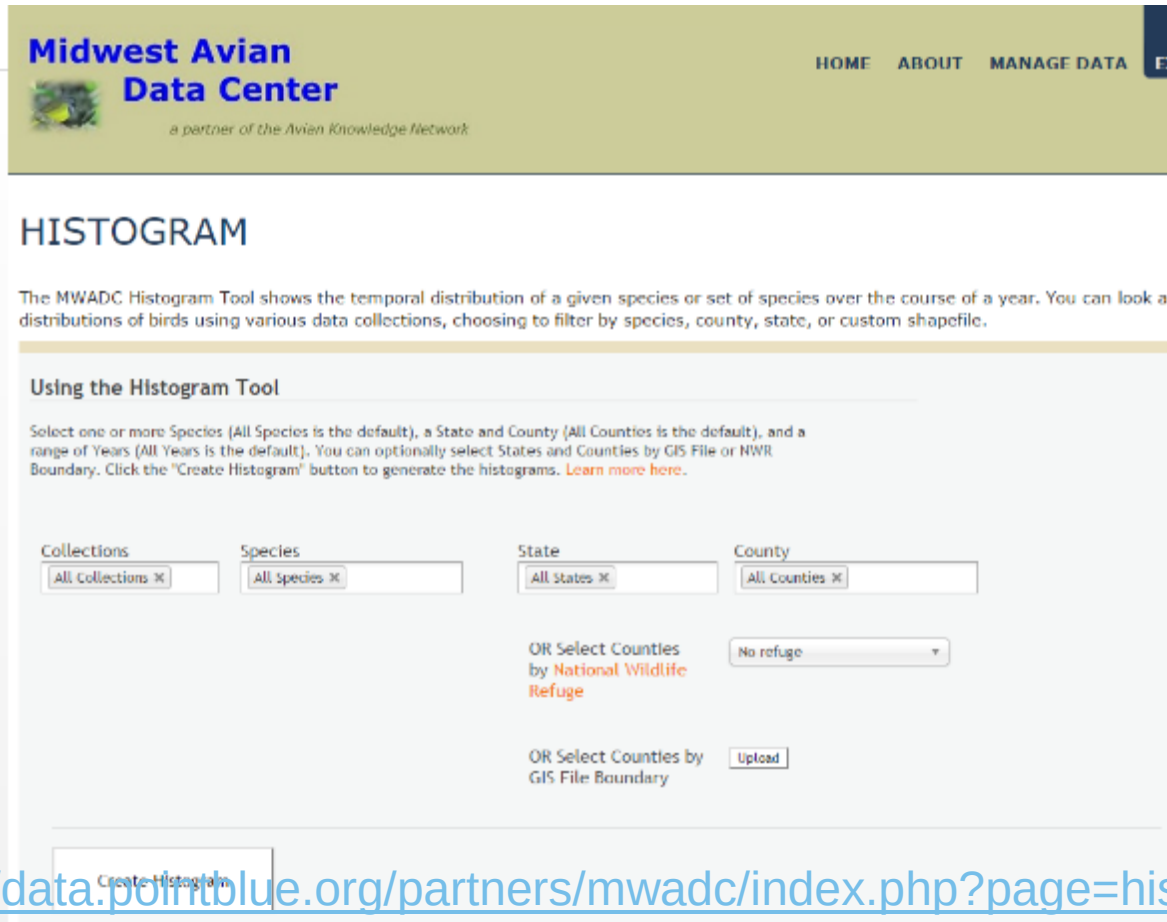

The **MWADC Demographic Model Tool** offers several useful products: 1) baseline demographic parameter estimates

Map
Histogram
Demographic Model
Analyze Data
Additional DSTs

Data life cycle in MWADC

Current visualizations in MWADC

Histogram
tool:

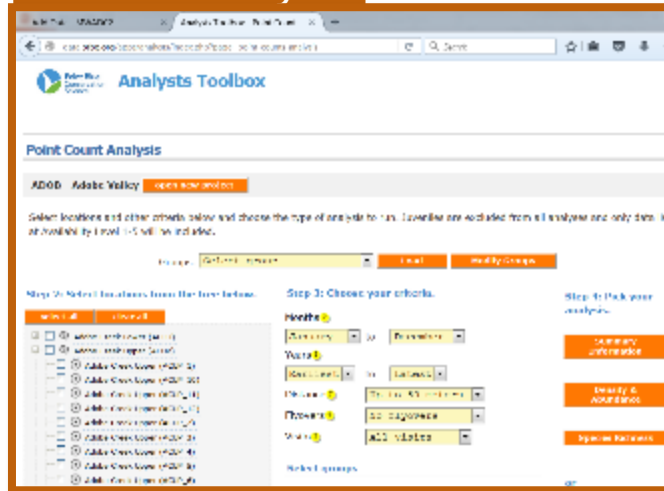


The screenshot shows the 'Midwest Avian Data Center' website. The header includes a logo, the text 'a partner of the Avian Knowledge Network', and navigation links: HOME, ABOUT, MANAGE DATA, and a partially visible 'FX' link. The main heading is 'HISTOGRAM'. Below it, a paragraph explains the tool's purpose: 'The MWADC Histogram Tool shows the temporal distribution of a given species or set of species over the course of a year. You can look at distributions of birds using various data collections, choosing to filter by species, county, state, or custom shapefile.' A section titled 'Using the Histogram Tool' provides instructions: 'Select one or more Species (All Species is the default), a State and County (All Counties is the default), and a range of Years (All Years is the default). You can optionally select States and Counties by GIS File or NWR Boundary. Click the "Create Histogram" button to generate the histograms. [Learn more here.](#)' The form contains four input fields: 'Collections' (All Collections X), 'Species' (All Species X), 'State' (All States X), and 'County' (All Counties X). Below these, there are two alternative options for selecting counties: 'OR Select Counties by National Wildlife Refuge' with a 'No refuge' dropdown, and 'OR Select Counties by GIS File Boundary' with an 'Upload' button. At the bottom of the form is a 'Create Histogram' button. The URL at the bottom of the screenshot is <http://data.pointblue.org/partners/mwadc/index.php?page=histogram>.

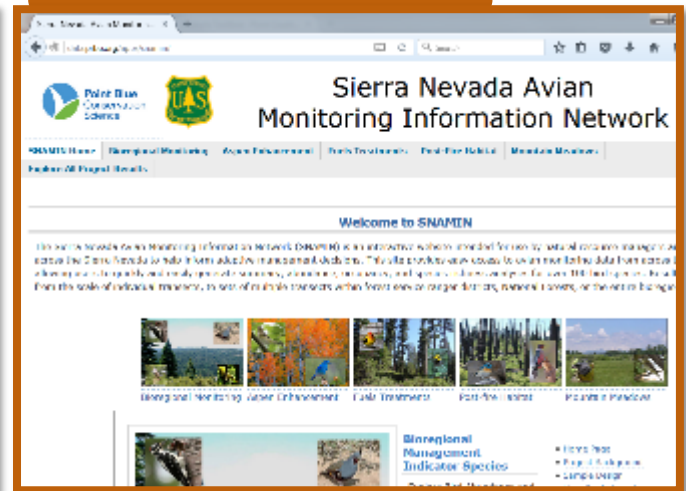
Data life cycle in MWADC

Step 7:
Visualize
your data

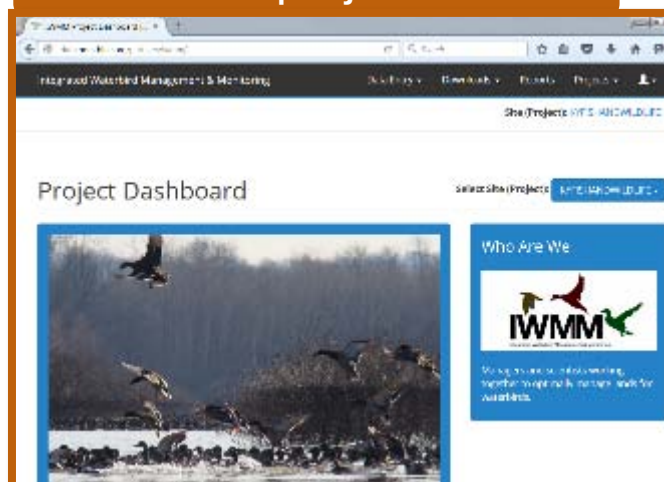
Basic: Analyst



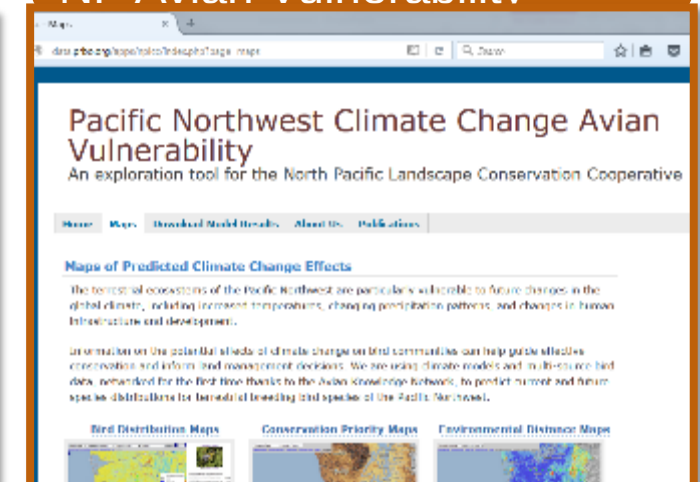
Multi-scale: SNMIN



m-scale m-project: IWMM



m-scale m-proj. m-protocol: NP Avian Vulnerability



Security, integration



Your Data in Our Databases

Metadata	Observations	Species	Sharing
		Corvus corax	Level 3



User Access Control



↓ copied

Analysis Databases (Data Warehouses)

Point Count Warehouse	Species	Sharing
	Corvus corax	Level 3



Interlude

The importance of describing and aggregating data

<http://data.prbo.org/apps/nplcc/index.php?page=maps>

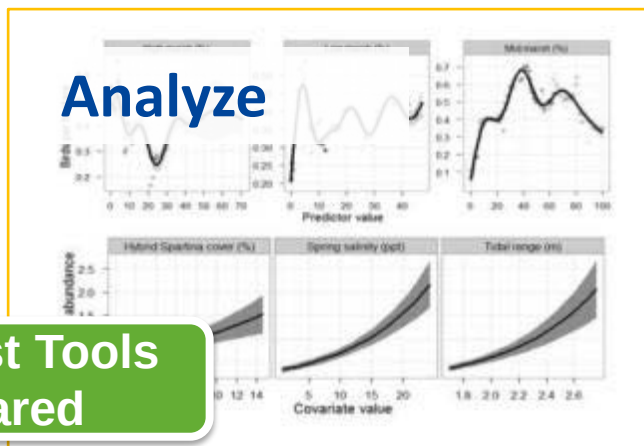
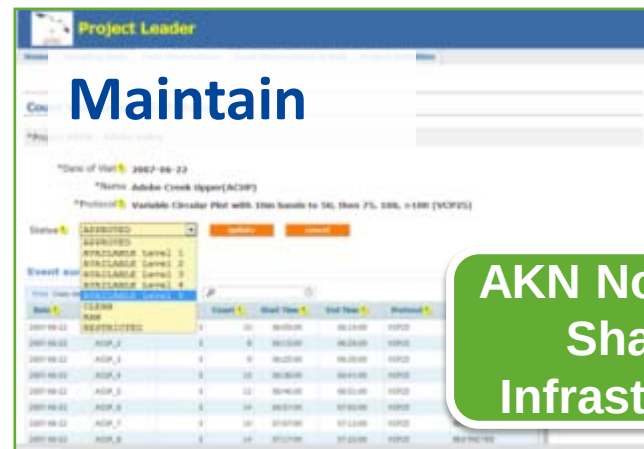
- 99 different projects
- 47 different point count protocols
- 3m records

AKN & The Council for the Conservation of Migratory Birds: Upcoming developments

- Increase capacity for avian data management and decision support among federal agencies, primarily through regional AKN nodes
- Aggregate data (bird monitoring and spatial) from across the AKN and provide them to inform national scale or multi-regional decisions
- Facilitate consistent format and availability of the best digital migratory bird monitoring and geospatial datasets, as well as decision-support tools
- Ensure quality of service, scalability, extensibility, and server-client web connectivity

AKN Data Life Cycle

Upcoming developments

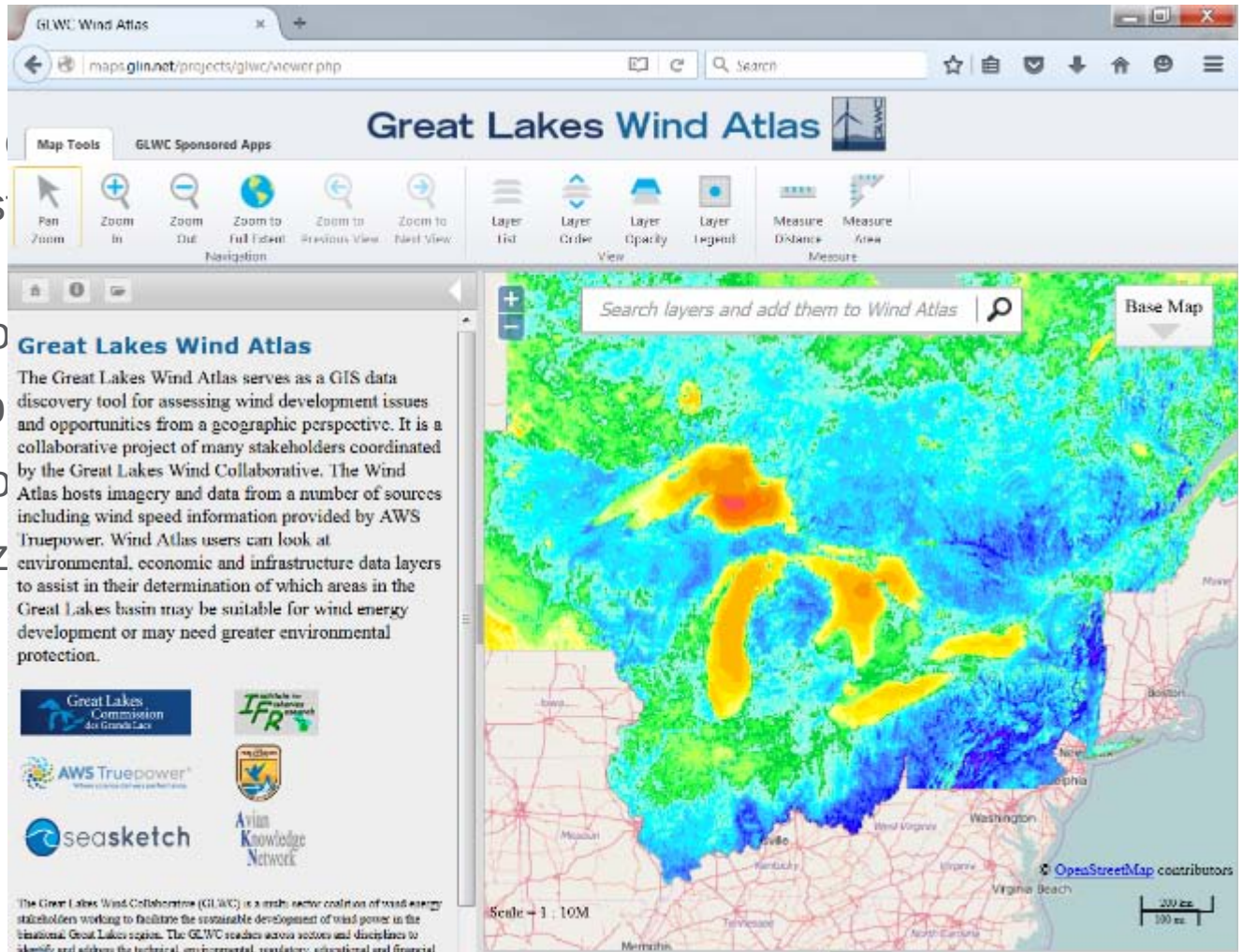


MWADC and the GLC

Current status

- Current: His
- New:

- Protocol
- Bulk up
- Wareho
- Visualiz



MWADC and the GLC

Protocol descriptors:

Sampling Protocols Sampling Protocol: MIGOV_AE...

data.pointblue.org/science/biologists/php/protocolsearch.php?protocol=MIGOV_AE Search

Biologists Protocol: MIGOV_AERIALTR_6.5HRS

Sampling Protocol Definition

Protocol: MIGOV_AERIALTR_6.5HRS

Description	Michigan Gov 6.5Hrs Aerial Transect Survey
URL	No URL
Duration	not specified
Protocol type	FixedTransect
Other characteristics	Binned distance protocol

Detection Cues

Summary: NR (Not Recorded), V (Visual)

Cue	Description
NR	Not Recorded
V	Visual

Distance Bins

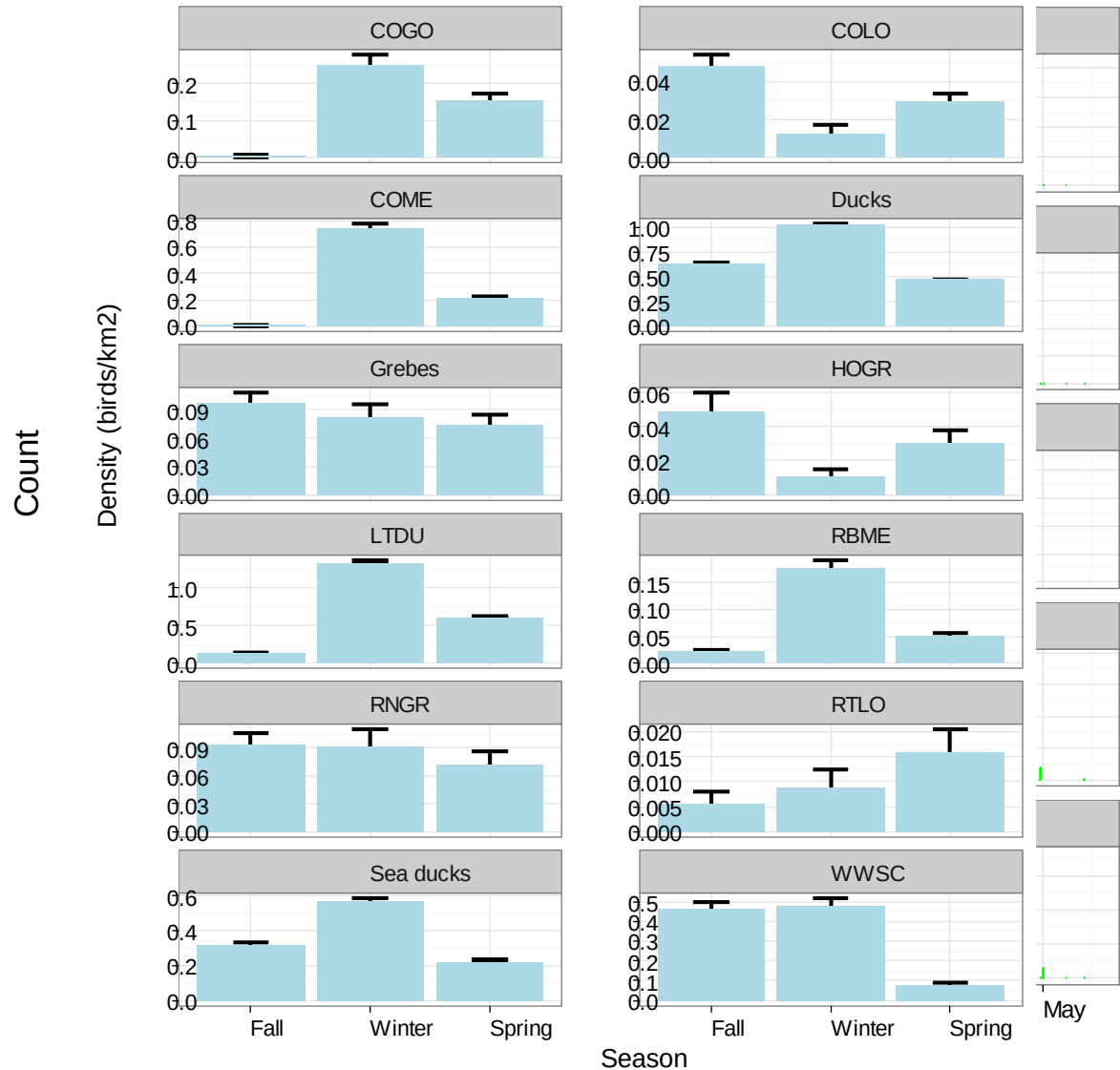
Summary: 25 (<50), 87.5 (51-125), 175 (126-225), 325 (226-450), 625 (451-800), na (<)

MWADC and the GLC

- Bulk uploading:
 - Protocols already described
 - Bulk uploading tool is top priority development for this FY (ETA: March 2017)
- Warehouse and visualizations:
 - Warehouse design under way (ETA: September 2016)
 - Visualizations:
 - Elicitation of visualizations from partners (ETA: August 2016)
 - Visualization development (ETA: December 2016)

MWADC and the GLC

Visualizations:
(just ideas)



MWADC and the GLC

Data visualizations via URL

- Data are shared at levels 3-5 = visualizations are possible
- Example call (hypothetical):

[http://data.prbo.org/callRavian/glcviz/aerialtransects/?analysisName=SummaryReport&startDate=2015-10-21&endDate=2016-02-29&areaext=\(42.34535 -83.372425, 42.4358643 -83.38535, ...\)&species=REDH&projects=MichGov](http://data.prbo.org/callRavian/glcviz/aerialtransects/?analysisName=SummaryReport&startDate=2015-10-21&endDate=2016-02-29&areaext=(42.34535 -83.372425, 42.4358643 -83.38535, ...)&species=REDH&projects=MichGov)

- Pass WKT polygon, species, date ranges
- Return agreed-upon visualizations
- ETA: March 2017

Summarizing...

- Review the AKN data life cycle: Capture, Maintain/Edit, Visualize, Share
- **Why share your data through MWADC?**
 - Can manage and visualize data in MWADC!
 - Your data can help larger-scale projects, PARTNERSHIPS!
 - Upcoming AKN developments: BULK UPLOADING!

Summarizing...

- MWADC and GLC projects:
 - Protocol descriptors ready
 - Warehouse design under way (Fall 2016)
 - Data visualizations:
 - soon to elicit scope (Summer 2016)
 - visualizations ready (Fall 2016)
- MWADC – GLC integration:
 - Visualization requests via URLs (Spring 2017)

Thank you



Questions?

Color Palette Reference Guide

Please use this page as a visual reference only for choosing colors from your custom color palette. This page is not editable.

Primary Palette



Bright Blue

Green

Dark Blue

Bright Blue, Green, and Dark Blue are the primary colors and take priority over the secondary palette.

Secondary Palette



Lichen

Poppy

Light Grey

Dark Grey

Lichen, Poppy, Light Grey, and Dark Grey are used minimally and when you need more colors than the Blues and Green.