Case Study: Avian Knowledge Network

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Butterfly Monitoring Workshop

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Avian Knowledge Network

The goal of the AKN is to understand the patterns and dynamics of bird populations across the Western Hemisphere.

Observations	**116,029,962**
Locations	**1,033,080**
Taxa	**11,655**
Partners	**51**

AKN Data Access Changes On The Horizon

This is a notification that we will be revising some of the AKN data access services in the coming months. As part of a general website overhaul, the AKN will be streamlining its functionality and data services. Most datasets will be bundled annually and available for download. If you are currently using the AKN 'database query tool' to access data, please let us know (email Marshall Iliff at mji26@cornell.edu for more information). Our goal is to get a better sense of what data resources are being used, and for what purposes. Moving forward, we hope to provide improved data accessibility by engaging with our user community to build better tools. Read on »

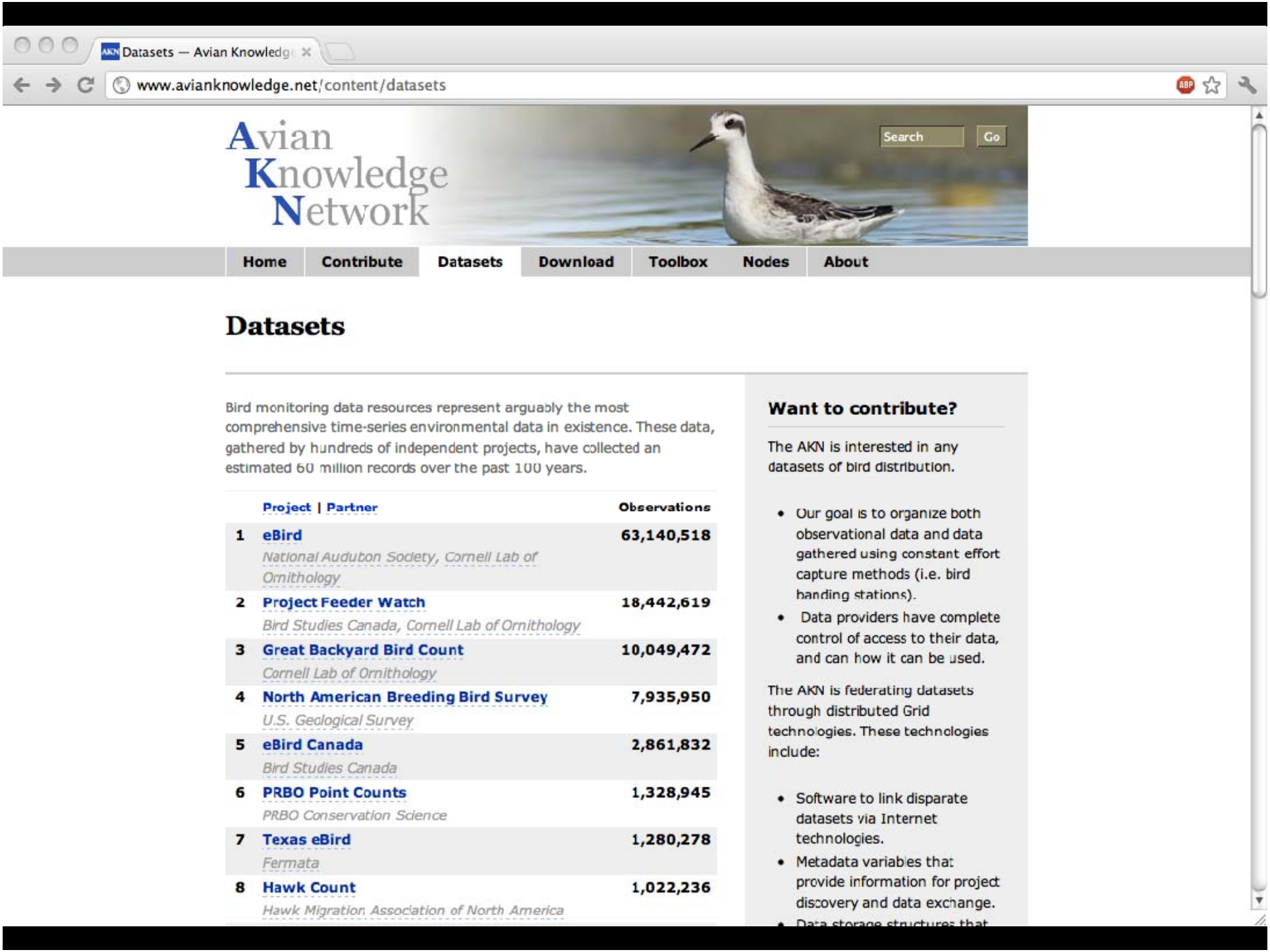
See All Features »

eBird Reference Dataset (3.0) released!

eBird Reference Dataset (2.0) released!

The eBird Reference Dataset

AKN Featured Application: CADC's - Modeling Bird Distribution Responses to Climate Change


Datasets — Avian Knowledge
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Datasets
Bird monitoring data resources represent arguably the most comprehensive time-series environmental data in existence. These data, gathered by hundreds of independent projects, have collected an estimated 60 million records over the past 100 years.
Project | Partner
Observations
1 eBird
National Audubon Society, Cornell Lab of Ornithology
63,140,518
2 Project Feeder Watch
Bird Studies Canada, Cornell Lab of Ornithology
18,442,619
3 Great Backyard Bird Count
Cornell Lab of Ornithology
10,049,472
4 North American Breeding Bird Survey
U.S. Geological Survey
7,935,950
5 eBird Canada
Bird Studies Canada
2,861,832
6 PRBO Point Counts
PRBO Conservation Science
1,328,945
7 Texas eBird
Fermata
1,280,278
8 Hawk Count
Hawk Migration Association of North America
1,022,236
Want to contribute?
The AKN is interested in any datasets of bird distribution.
Our goal is to organize both observational data and data gathered using constant effort capture methods (i.e. bird banding stations).
Data providers have complete control of access to their data, and can how it can be used.
The AKN is federating datasets through distributed Grid technologies. These technologies include:
Software to link disparate datasets via Internet technologies.
Metadata variables that provide information for project discovery and data exchange.

PRBO Conservation Science -- Point Counts

Data Owner

PRBO Conservation Science

Data Access: Level 5

The data are freely available to all interested in accordance with PRBO's data-sharing policy.

Metadata download: sgml html txt

Data download: Full Dataset or Database Query Tool

Abstract

In many countries, point counts are the main method in monitoring the population changes of breeding landbirds. With the point count method it is possible to study the yearly changes of bird populations at fixed points, differences in species composition between habitats, and abundance patterns of species. The point count method is probably the most efficient and data-rich method of counting birds. It is the preferred method in forested habitats or difficult terrain. Point counts involve an observer standing in one spot and recording all the birds seen or heard at either a fixed distance, or unlimited distance. This method can be conducted one or many times at a given point. The North American Breeding Bird Survey of the U.S.D.I. Fish and Wildlife Service is such a method.* These data come from PRBO point count locations throughout the western

Project Stats

Observations	1,328,945
Locations	10,195
Taxa	394
Date Range	Jun 1200 to Jun 2008

	Occurance Map	Seasonal Distribution Map	Presence/Absence	Relative Abundance	True Abundance	Temporal Pattern of Abundance	Demographics
datasource	✗	✗	✗	✗	✗	✗	✗
protocol	✗	✗	✗	✗	✗	✗	✗
location	✗	✗	✗	✗	✗	✗	✗
species	✗	✗	✗	✗	✗	✗	✗
date		✗	✗	✗	✗	✗	✗
no. of individual observation		✗	✗	✗	✗	✗	✗
effort-time				✗	✗	✗	✗
effort-space				✗	✗	✗	✗
breeding evidence		✗					✗
count precision				✗	✗	✗	✗
distance from bird					✗	✗	✗
observer confidence					✗	✗	✗
sampling id						✗	✗
age/sex							✗
individual recognition							✗
productivity							✗
disease							✗

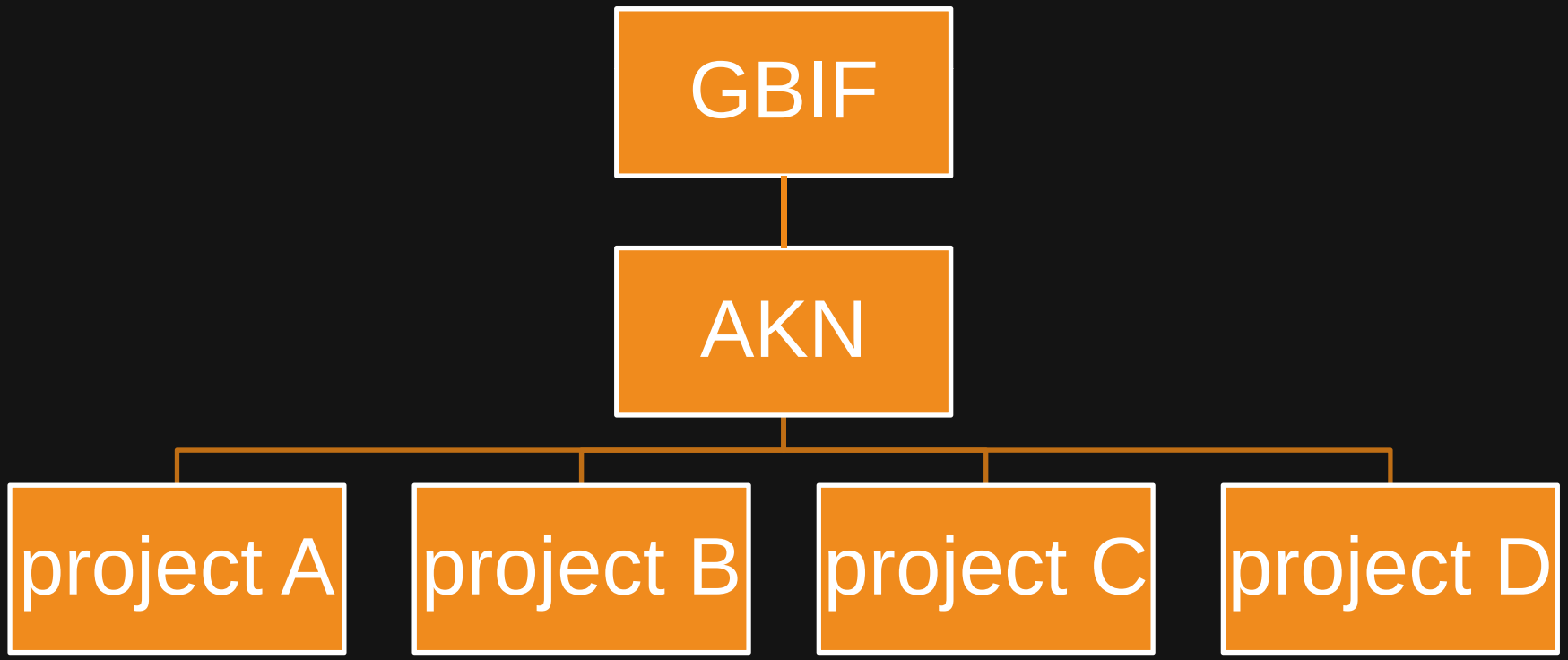
Process

1. individual contact
2. publish agreement – access level
3. map/convert data to BMDE structure
4. ingest
   - data transfer
   - data validation → corrections
   - data interpolation
   - metadata preparation
5. publish

Data Access Levels

- Level 1 – archived only; no access
- Level 2 – used in visualizations; no direct access
- Level 3 – available upon request & approval
- Level 4 – made available to upstream federators (e.g., GBIF)
- Level 5 – open access

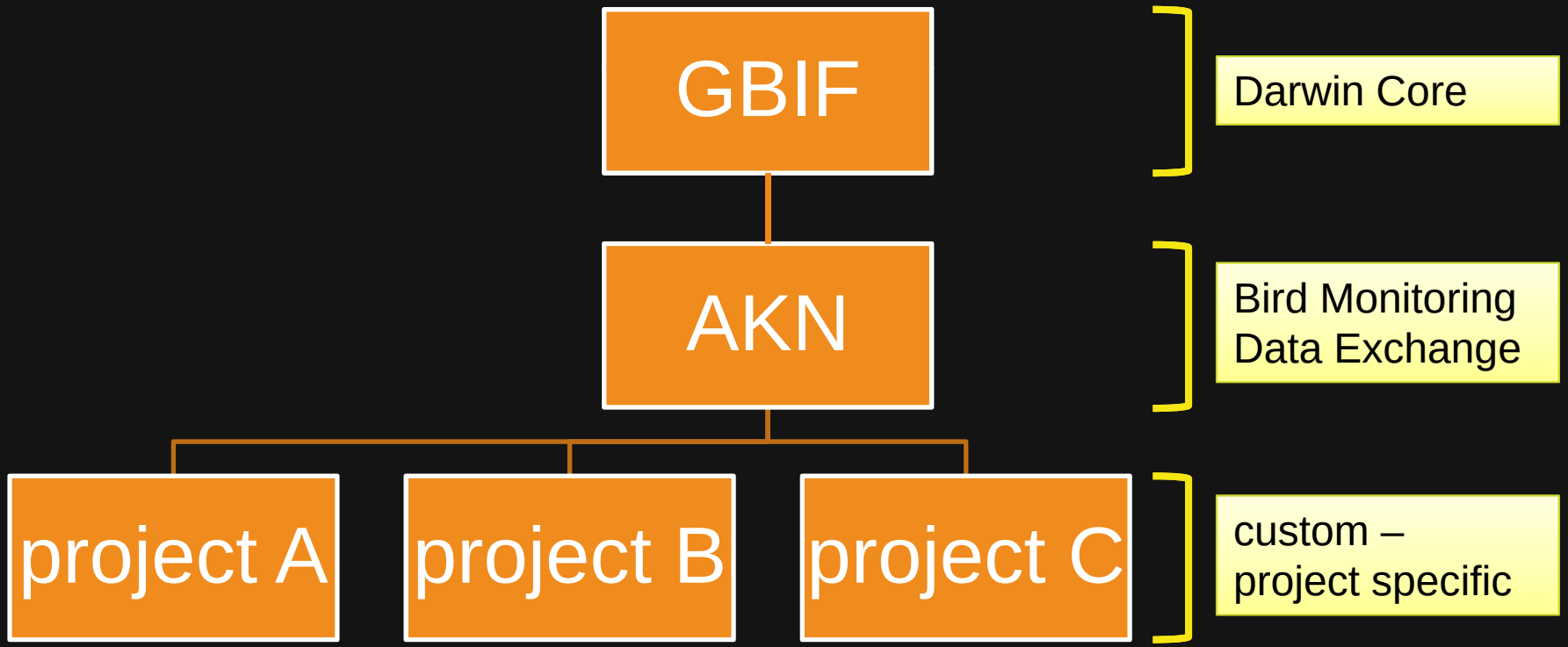
Organizational Hierarchy



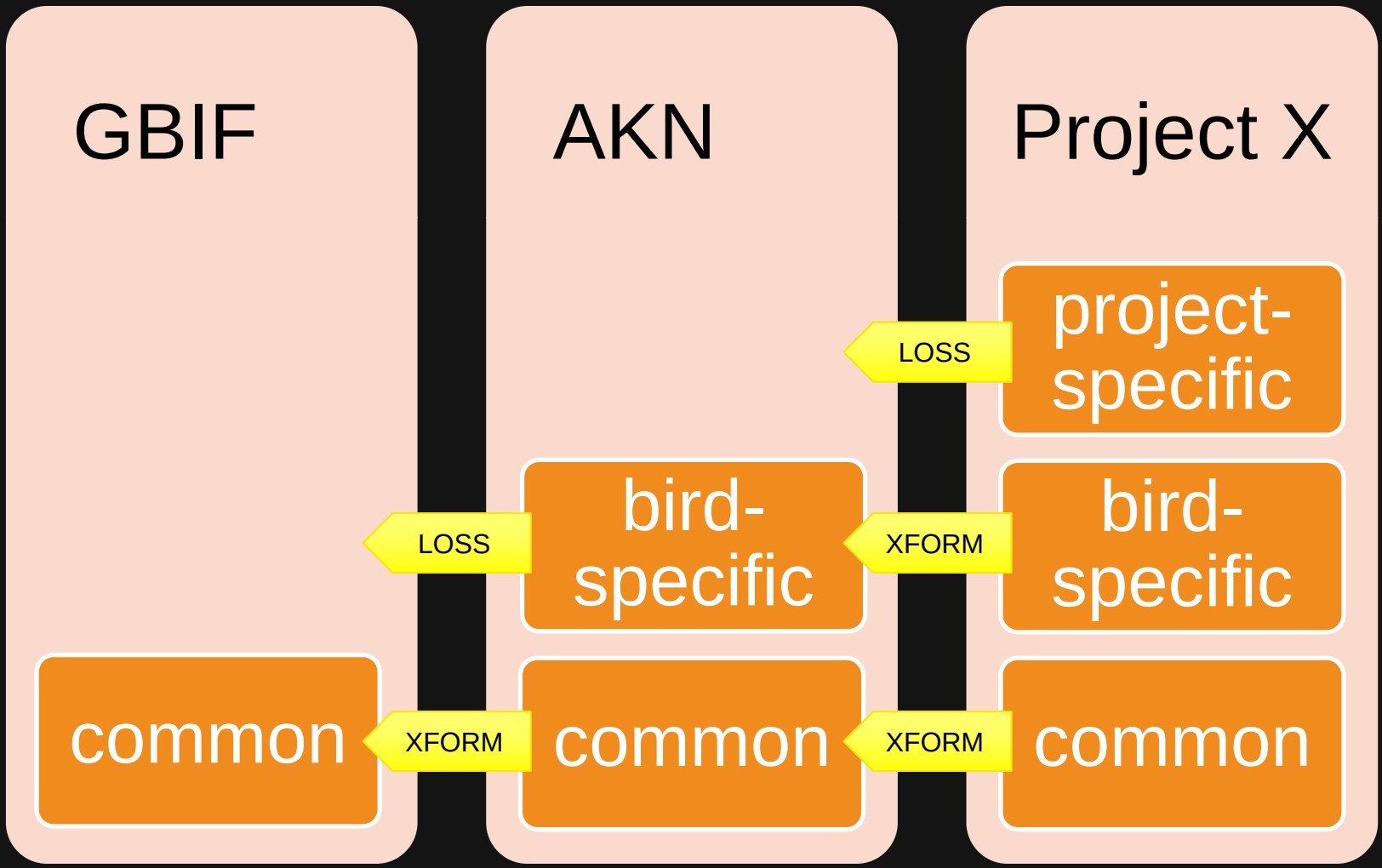
Metadata

- Dublin Core
- Darwin Core metadata
- BMDE
  - bird monitoring data exchange format
- Banding data extension to BMDE

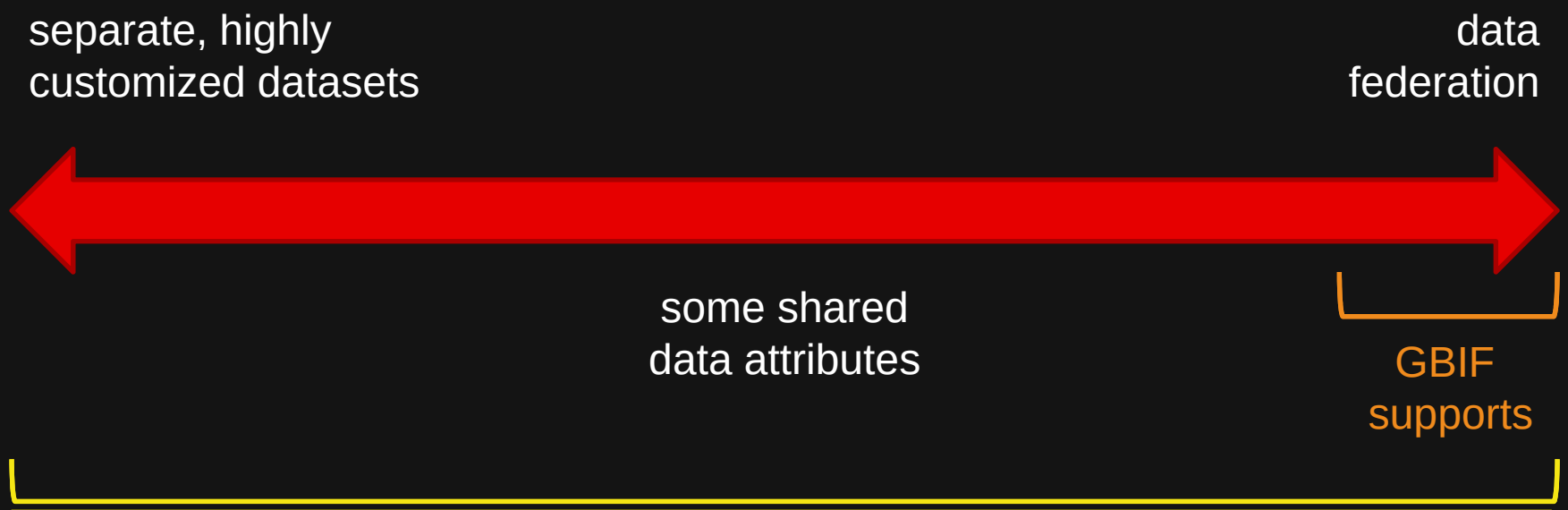
Data Richness



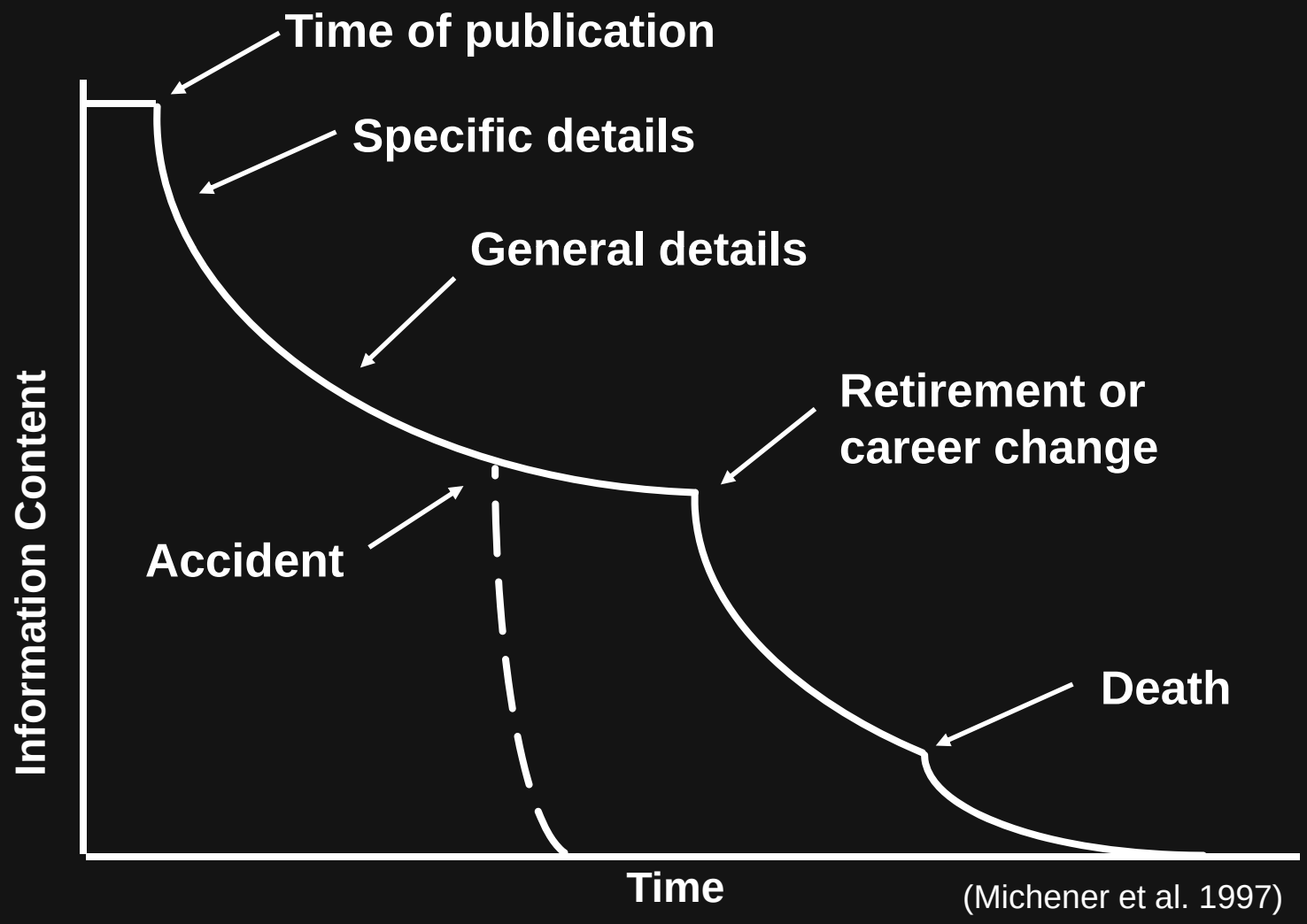
Data Federation Reduces Specificity



Curating Big Data



DataONE – Data Entropy



(Michener et al. 1997)

TheCornellLab of Ornithology

www.dataone.org

Depositing Data with DataONE