Data Workshop
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Goals of workshop

- Draft a requirements document for aggregators that describes information and services that are crucial to the success of biodiversity informatics.
- Writing group sessions
  - Discussion of issues for plenary
- Plenary session
  - Discussing issues from the perspective of
    - Providers
    - Users
Draft list of issues for discussion

- Full record-level information discovery and delivery
- Metadata harvesting protocols
- GUID per record with persistence
- Attribution metadata with all data records
- Media information ala Audubon Core
- Bi-directional portal
- Feedback from data users to providers (e.g. data quality)
- Usage analytics
- Attribution to providers from analysis
- Annotation management
- Active repository technology (incremental updates)
Plenary Discussion Summary

• Providers need
  • Attribution for data use
  • Help with managing taxonomy
  • Feedback from determination and data cleaning
    • The effort required to process feedback will be considerable
    • Tools are needed to help providers with feedback
  • Details about determinations and geolocations
  • Help with identifiers
  • Registries for people and localities

• Users need
  • Good global information discovery services
  • Assessments of data quality, per record or dataset
  • Data cleaning services
  • Feedback for data cleaning so that improvements are made by providers
  • Tools to find related data, e.g. sequences
  • Tools to aid in integration of data from multiple sources
Information Integrity and Attribution

• Provenance tracking
  • Keep track of source of information
  • Ensure information is not changed
  • Control versions

• Attribution
  • Keep track of delivery of information
  • Make attribution information available to providers
  • Provide mechanism for users to report
    • Publications
    • Derived data
    • Evaluation and corrections
Identifier and identifier services

- Encourage identifiers for objects
  - Require stable identifiers
    - Provider must commit to consistent use of identifiers
  - Strongly suggest that providers maintain GUIDs
  - Aggregator should add GUIDs as necessary
    - E.g. Don’t export a record without occurrence ID

- Identifier services
  - Return metadata document upon request
    - Any known identifier can be used to fetch document
  - Discover and maintain relationships among identifiers
    - E.g. If a provider changes the identifier, the aggregator must record that the old and new identifiers are equivalent
Search and Discovery

- Search by common properties
- Discover across object types
  - E.g. Find image by scientific name or geography of specimen
- Provide for download in common formats
- Provide APIs for search and download
Taxonomic services

- Assumption
  - Provider sends scientific name and possibly higher classification

- Externalize taxonomic names and classifications
  - Participate in shared services

- Allow discovery beyond name string
  - Synonyms
  - Common names
  - Higher taxa
Dealing with extended schema

- Assumption:
  - Providers will have important information that is not Darwin Core Properties
- Properties
  - Keep track of properties and evaluate new data sets for new properties
  - Allow both literal- and resource-valued (relationship)
- Transformations and normal forms
  - Maintain information content when changing formats
  - Transform or coalesce properties according to community standards
- extending schemas
  - traits, measurements, interactions
- property similarity with respect to discovery
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  - Robert Whitton (GNA, Bishop)
  - Paul Flemons (Biodiversity Info Manager, Au)
  - James Macklin (Biodiversity Info Manager, Can)

- Plenary Group
  - Joanna McCaffrey (iDigBio)
  - Deb Paul (iDigBio)
  - Neil Evenhuis (GNA, Bishop)
  - Shelley James (Bishop, Macro Algae)
  - Michael Thomas (Biodiversity Informatics Manager, U. Hawaii)
  - Chris Neefus (Macro Algae)
  - Matt Goodale (data management/IT supervisor, NTBG)
  - Tom Schils (Biodiversity Informatics Manager, Botany, phycology, UOG)
  - Aubrey Moore (Biodiversity Informatics Manager, Entomology, UOG)
  - Ryan Caesar (IT Manager/programmer, Entomology, U. Hawaii)

- Others?