**Vision for a BIEN User Interface**

**SCOPE**

**USERS:**

* Scientists
* Consultants (payment?)
* Conservation/NGO
* Education
* Data providers (e.g., serve maps back to MO, NY)

**ARCHITECTURE:**

* Two layers
* Inner layer (api) supporting all key functionality
* Outer layer (html) for non-expert browser interface, built on API
* Single entry point – not separate lines of development

**FUNCTIONALITY & FEATURES**

**"NICE-TO-HAVE" BUT OUT OF SCOPE:**

**Data entry and correction**

* best leave to others
* Interim solution: expose schema to others who wish to build their own data entry and management tools
* Main route into BIEN should be via import/replace of complete datasets

**IN SCOPE (ESSENTIAL?) FUNCTIONALITY:**

**Provenance tracking and reporting (1)**

* Proximate data provider
* Ultimate data owner

**Authentication (2)**

* Users/passwords
* Use federated rather than building own

**Content access and control (3)**

* Authenticated content access (3a)
* Limit access to controlled datasets
* Log IP, date, user, dataset
* Reporting detail of data access to data owner (3b)
  + View text log
  + View online (html) after login
  + Email upon each access
  + Email periodic access digest
  + Control notification settings, opt-in, opt-out
* Control of access by data owner (3c)
  + For protected data, interact with user making request
  + Authorize or block access to specific datasets for specific users
  + Receive automated requests for data access
  + Receive invitations for co-authorship
* Non-authenticated content access?
  + Not sure. Will there be any?
  + Range maps? IUCN threat levels?
  + After IPR embargo expires

**Data loading (5)**

* Authenticated
* Data upload (5a)
  + Provide file template (based on published schema) with instructions
  + User maps data to template (e.g., in Excel)
  + Import is accepted or rejected on import, with error reports
  + User can accept successful import, or try again if error rate to high, or any fatal errors
  + Save customized schema (map.csv) for later reuse and modification
  + User complete additional metadata (contact information, data access levels)
* Data refresh (5c)
  + Replace entire dataset (5.c.i)
  + Append new data to existing dataset (5.c.ii)
  + Data refresh/upload UI requires information to allow identification of individual plots owned (5.c.iii)
* Reporting: (5b)
  + Initial loading report (done)
    - log file (did import succeed, fail, etc.) (done)
  + Upload and validation error reporting: (5.b.i)
    - error report (details of each failure)
    - error table (joinable via ID to original data)
    - html display
    - email message alerting providers of availability of report(s)
  + Successful data upload report (5.b.ii)
    - html report or pdf summarizing number of records, species, etc.
  + Save report documents in user profile (5.b.iii)
  + Save details of all imports & refreshes by all users in database (schema modification needed) (partly done)
  + Monitoring of upload status (initial validation, staging, core, complete) (5.b.iv)

**Search/Discovery (4)**

* Query interfaces:
  + API – Brian McGill (4a)
  + Html UI (4b)
* Adding new functionality always involves adding functionality to api, then html (which talks to api, not directly to BIEN)
* Filter queries location, taxonomic, temporal, trait, habit plot vs specimen, methodological, climate:
* Ability to build custom queries, add them together, save them for reuse (And's vs Or's )
* Save Queries: View and Run past queries

**Quality control / crowdsourcing**

**(6? May not need to do any of this if already done by Map of Life)**

* User feedback
* True crowdsourcing or human-mediated?
* Mechanism for manual filtering of individual records (over-ride of crowdsourcing)
* Interact with derived data products, report errors, rank accuracy of results
* Annotate products: maps, downloaded datasets (issues problems)