

# EcoBase: a repository solution to gather and communicate information from EwE models

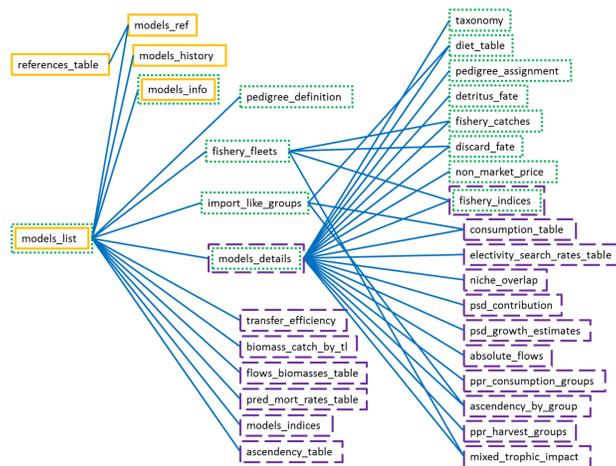
## Context

- ✓ Project supported by the Ecopath Research & Development Consortium: Repository WG
- ✓ Main goals are:
  - Gather published EwE models
  - Communicate on EwE modelling research
  - Facilitate meta-analyses based on EwE models
- ✓ EwE models gathered from three pre-existing databases developed by Drs. Lyne Morissette, Luís Antonio Salcido-Guevara and Francisco Arreguín-Sánchez, and Villy Christensen + literature review



## 1. Structure of EcoBase

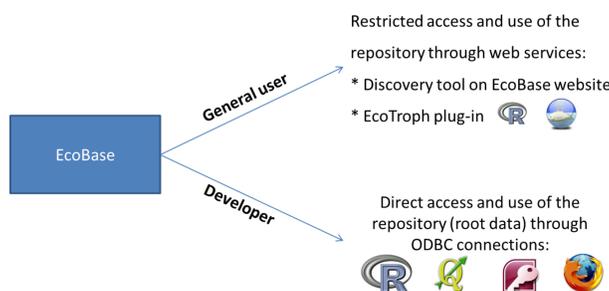
- ✓ Designed to store all data coming from Ecopath (not accounting for Ecosim/Ecospace data)
- ✓ Three types of data: metadata, inputs, outputs
- ✓ PostgreSQL database: database server with powerful capabilities



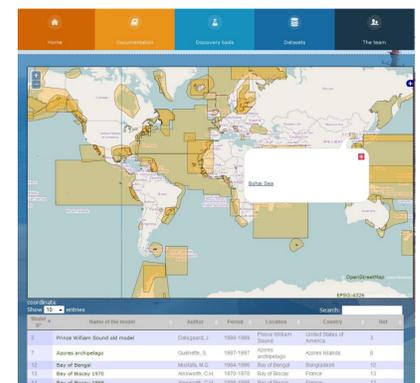
- ✓ **Metadata:** author, units, used plug-ins, objectives, history, references, modelled ecosystem (location, characteristics)...
- ✓ **Inputs:** all inputs coming from Ecopath (basic input, diet, fishery...) + pedigree and taxonomy data
- ✓ **Outputs:** all outputs coming from Ecopath (basic estimates, key indices...) + statistics and network analysis

## 2. EcoBase capabilities

- ✓ EcoBase structure enables powerful capabilities to share services linked with the repository content
- ✓ Database administrators and expert users can directly use the repository to manage structure and access, or perform analyses
- ✓ General users need more elaborated and controlled pathways to access data via web services



- ✓ Several web services have already been developed, such as the online discovery tool (<http://sirs.agrocampus-ouest.fr/EcoBase>):



## 3. EcoBase: current state and future developments

- ✓ 563 models registered in EcoBase... but some are duplicates (same model but differences in parameters)
- ✓ 435 distinct Ecopath models:
  - 132 with publications only
  - 303 with a collected Ecopath model (Access file)
- ✓ All available metadata encoded for all models, but not all inputs and outputs

Feature	Grade	Comment
Structure	A	Structure is in place for storing metadata and Ecopath input/output data. Note: no Ecosim or Ecospace data considered yet.
Metadata	A	Metadata encoding is completed and metadata are accessible and usable. Remaining missing metadata was not provided in the references.
Data	D	Data encoding is not completed and data are not accessible or usable. Requires completion of items 4 and 5.
Links with the EwE software	C	No link between EcoBase and the EwE software is currently available, but feasible to develop such linkages. Several options are under consideration.
Open-access	C	Several options are under consideration. Requires a consensus within the ERDC.
Website and web services	B	Website partially completed: some functionalities already implemented such as models browser; some still missing such as fill-in forms for adding models.
Short-term maintenance	A	Mathieu Colléter and Jérôme Guittou are in charge of the maintenance in the short term.
Long-term maintenance	D	Modalities of the maintenance in the long-term still have to be defined.

1. Improve and validate the existing database: need to validate all models by getting back to the authors
2. Complete the existing database: complete all tables, especially inputs necessary to rebuild Ecopath models
3. Define access rights: encourage open-access, guaranty to authors the possibility to define themselves the access rights, define a code of good practices
4. Develop web services, and maintenance procedures to build a social network of EwE developers sharing with the community

## Conclusions

- ✓ EcoBase: a tool that helps gathering and communicating information from EwE models through data compilation and sharing
- ✓ One data source enabling reproducible and collaborative analysis
- ✓ Useful tool to apply for funding, create partnerships, and develop powerful meta-analyses → Making EcoBase alive!



Email: [m.colleter@fisheries.ubc.ca](mailto:m.colleter@fisheries.ubc.ca)

Ecopath 30 years Conference, Session 6 "What next?", Barcelona, 12 November 2014

Colléter M., Valls A., Guittou J., Morissette L., Arreguín-Sánchez F., Christensen V., Gascuel D., Pauly D. 2013. EcoBase: a repository solution to gather and communicate information from EwE models. Fisheries Centre Research Report (FCRR) 21(1)