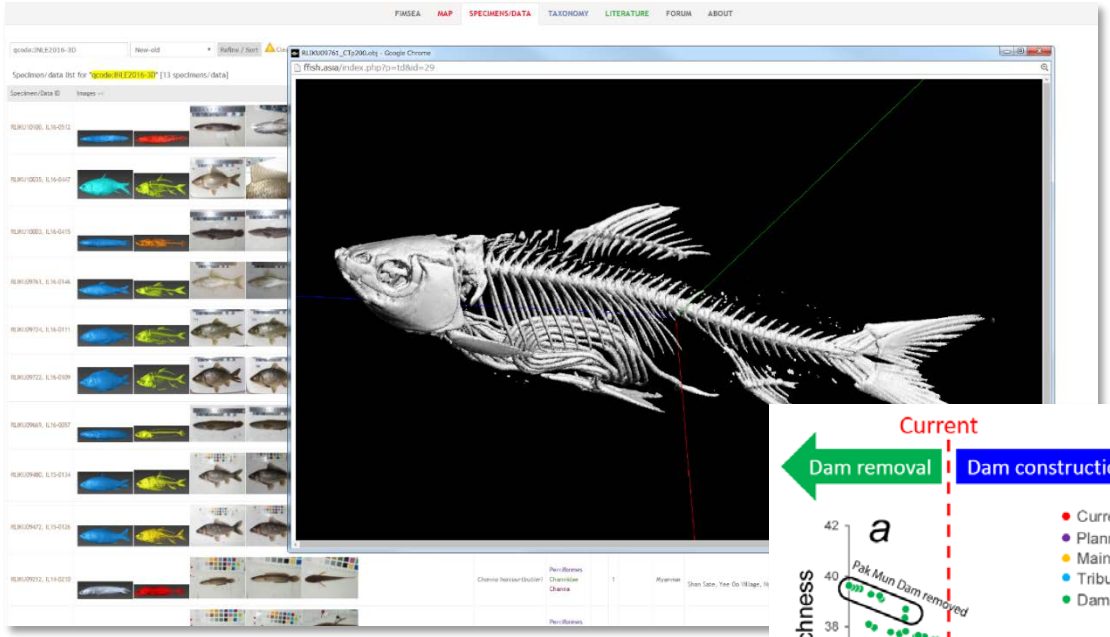
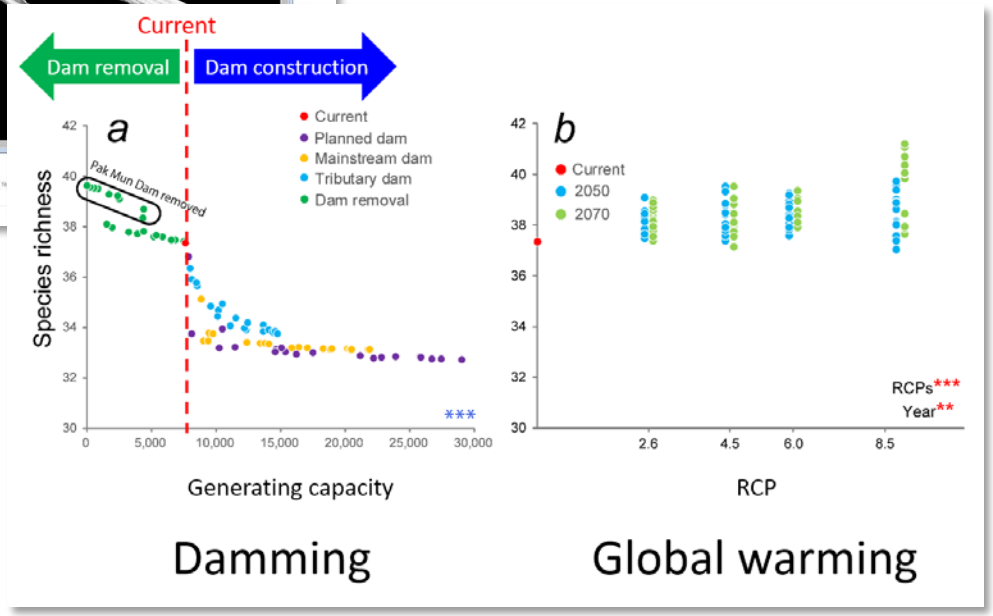
Database of freshwater fishes in SE Asia and its contributions

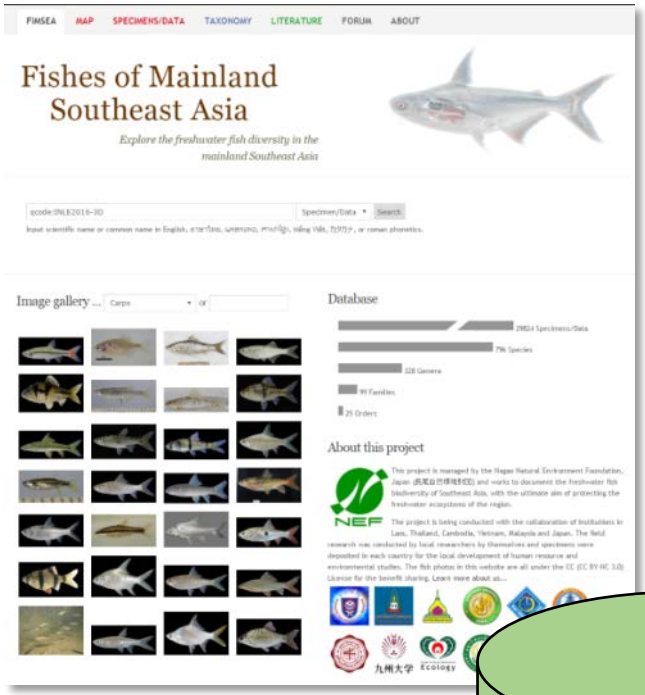




Yuichi Kano, Kyushu University

http://ffish.asia

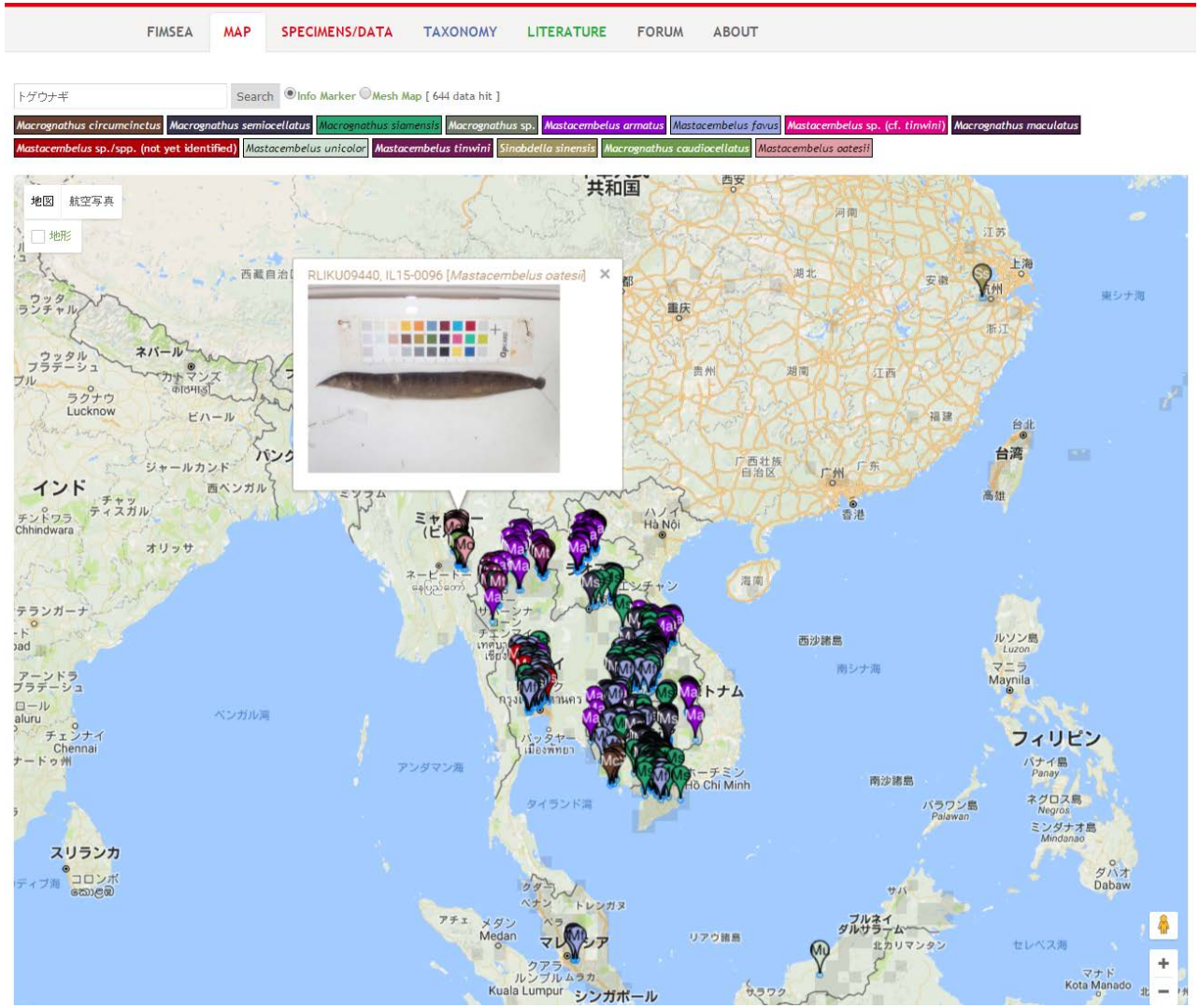
From 2013~



ffish.asia

Object: freshwater fish
Scale: SE Asia
Contents: distribution, photo images, 3D models, literatures

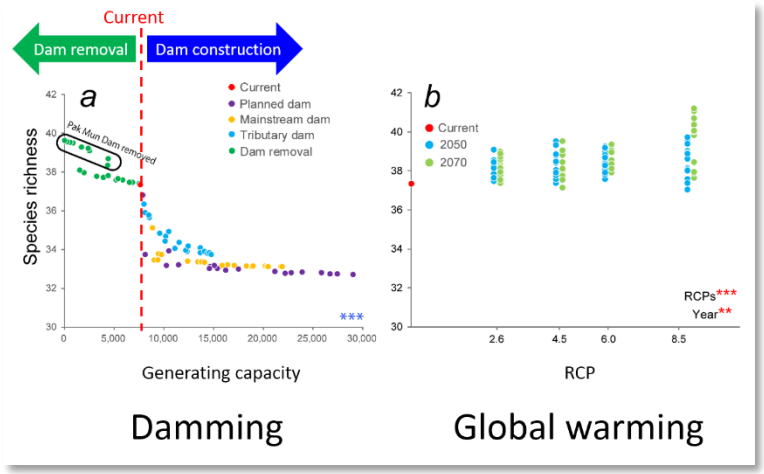
Spatial extent: Cambodia, Thailand, Vietnam, Malaysia, Myanmar



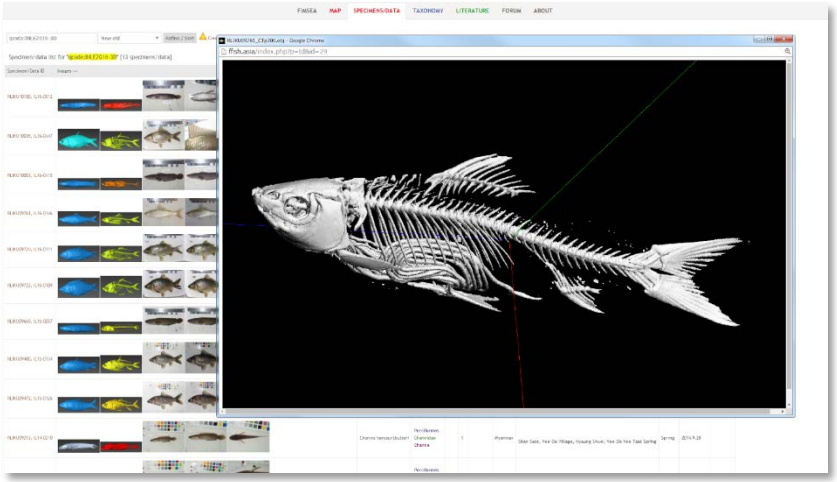
e.g. Search result for “spiny eel”

Two recent contributions using our database

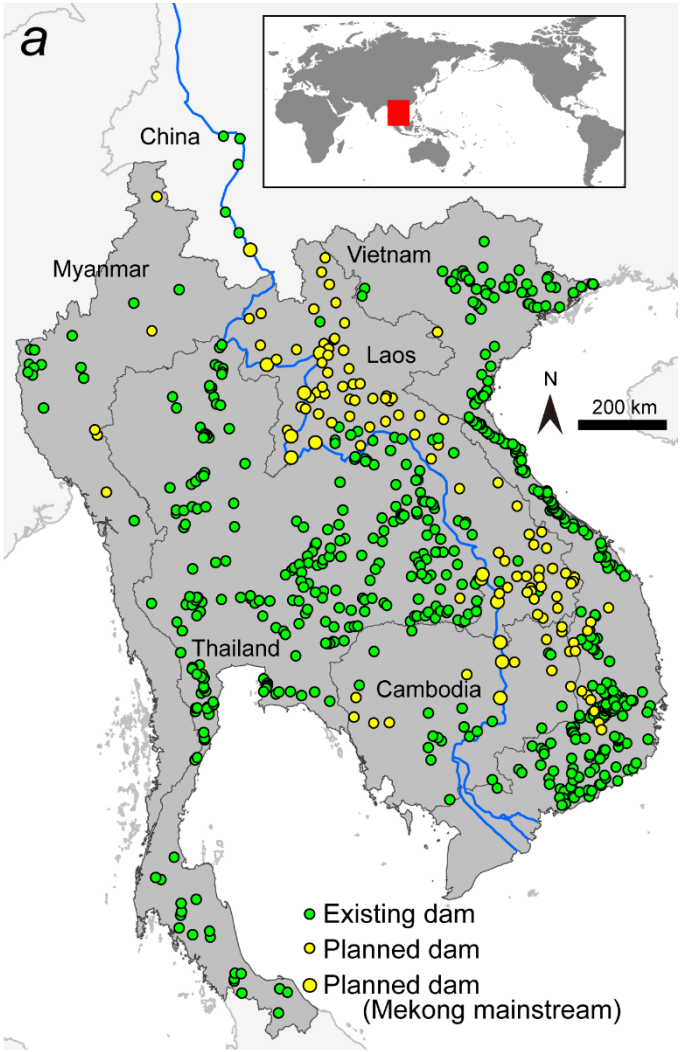
1) Impacts of dams and global warming around the Mekong River



2) Fish fauna of Inle Lake was elucidated for the first time in 100 years



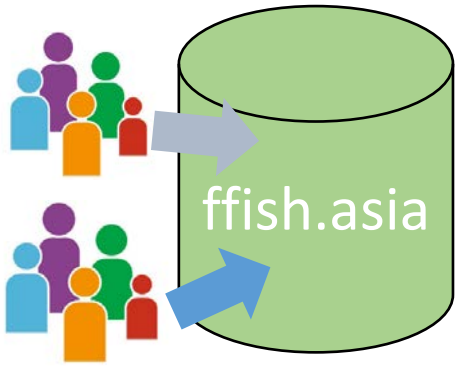
Recent contribution 1: SDM analysis using data of the database in Mekong-Chaophraya



Hydropower dam issues

Global warming

Database

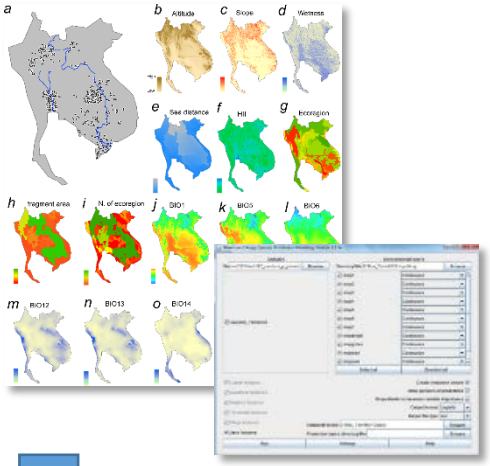


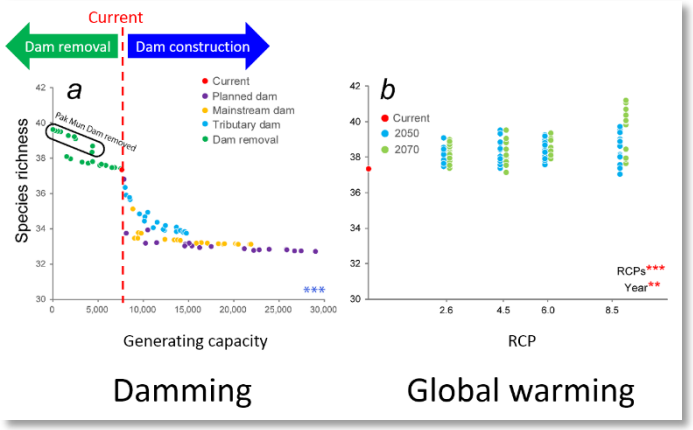
Local researchers

Distribution data

	A	B	C
1	species	x	y
2	Acantho co	99.66258	19.27219
3	Acantho co	98.36644	17.78086
4	Acantho co	98.37061	17.75889
5	Acantho co	99.47934	18.77903
6	Acantho co	99.48483	18.83153
7	Acantho co	99.50324	18.81019
8	Acantho co	99.45561	18.40189
9	Acantho co	100.4084	19.89428
10	Acanthops	104.0988	15.34289
11	Acanthops	99.98547	14.96239
12	Acanthops	106.9807	13.66463
13	Acanthops	104.9923	15.47739
14	Acanthops	105.0176	14.69972
15	Acanthops	105.4225	14.70178
16	Acanthops	104.4034	15.13538
17	Acanthops	104.1582	15.33678
18	Acanthops	104.0025	15.14557

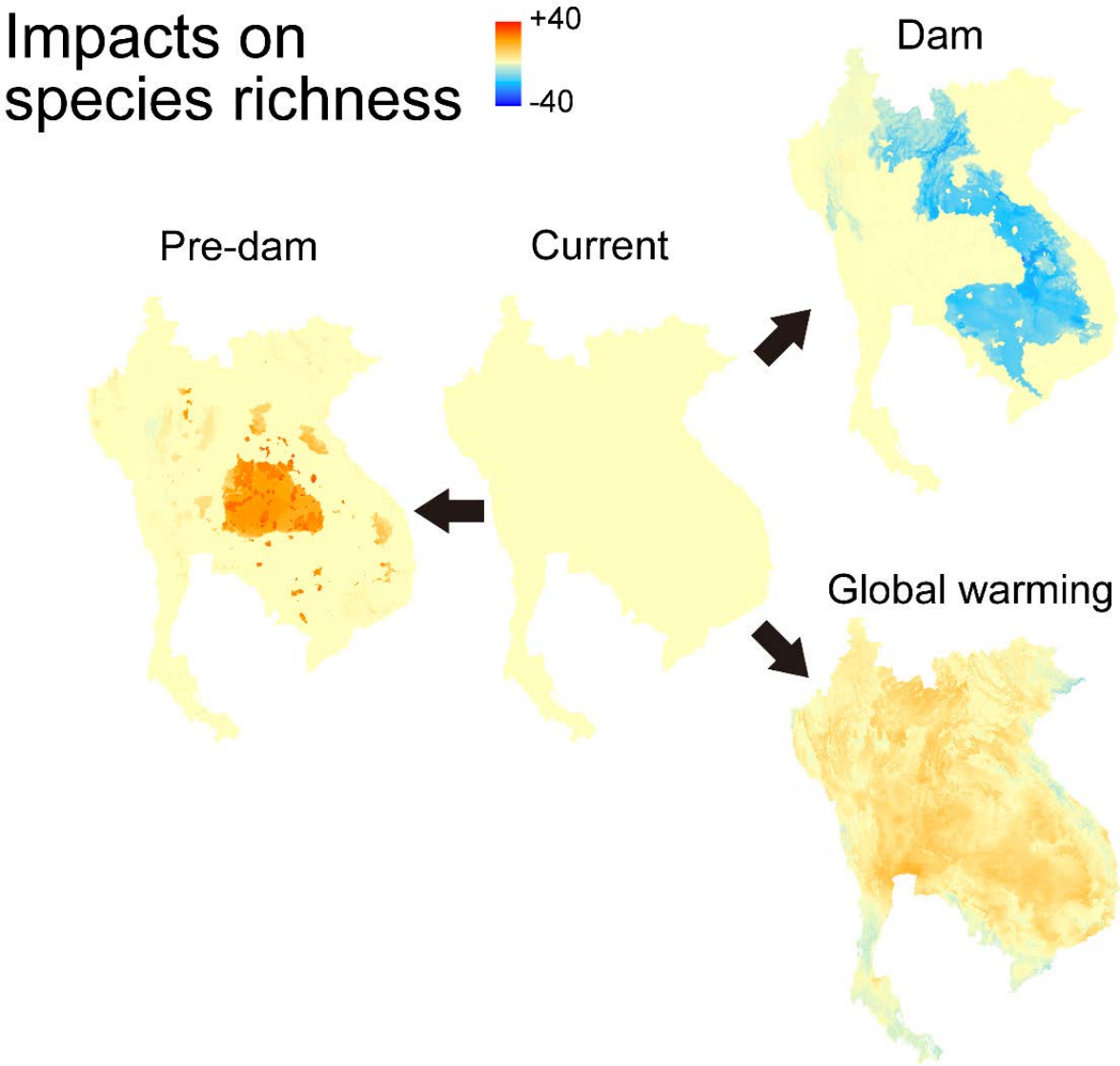
Maxent Analysis

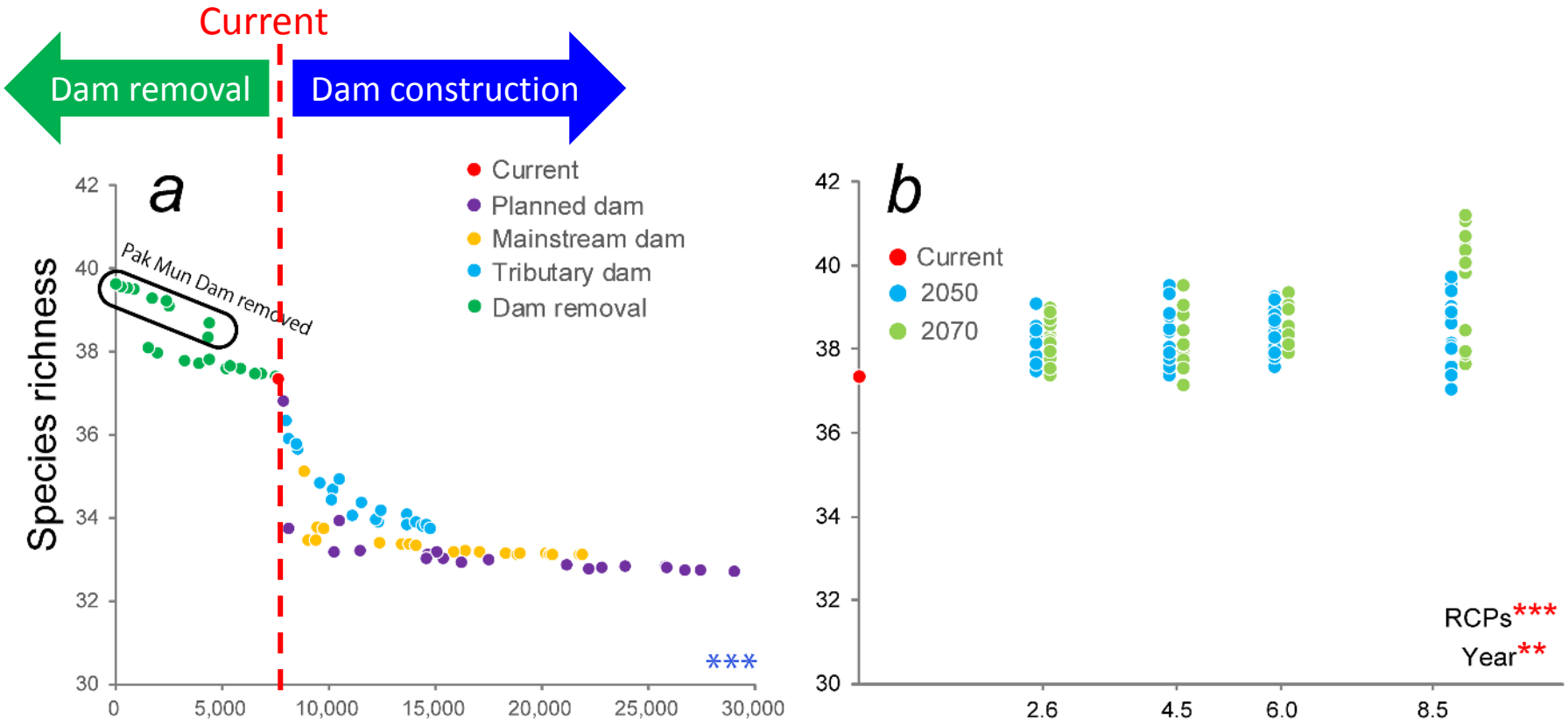




Simulate impacts of dams and global warmings

Publication of scientific paper (Kano et al., 2016)


Impacts on species richness
+40
-40
Dam
Pre-dam
Current
Global warming



Generating capacity

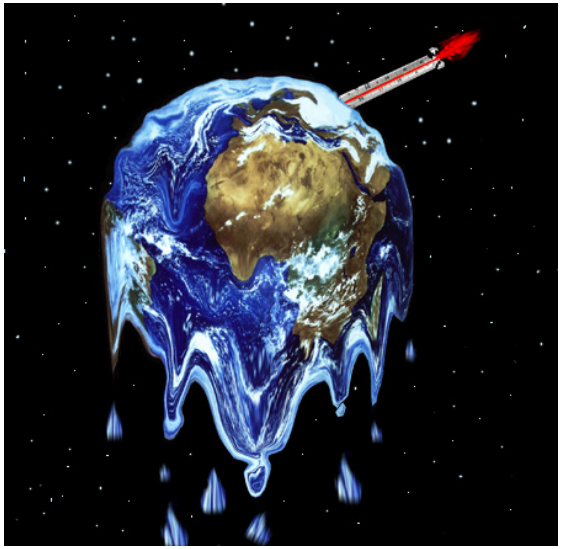
Damming

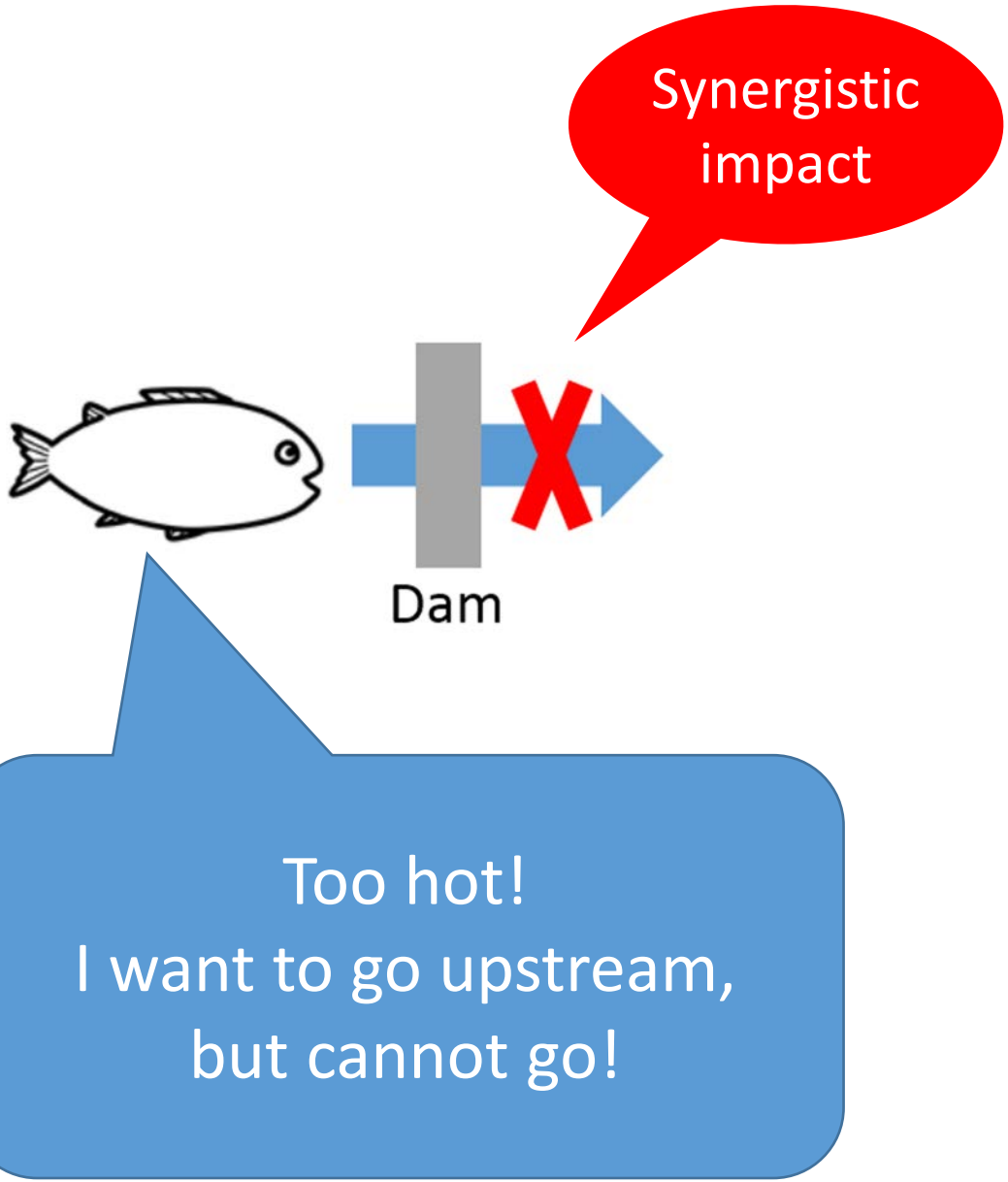
RCP

Global warming

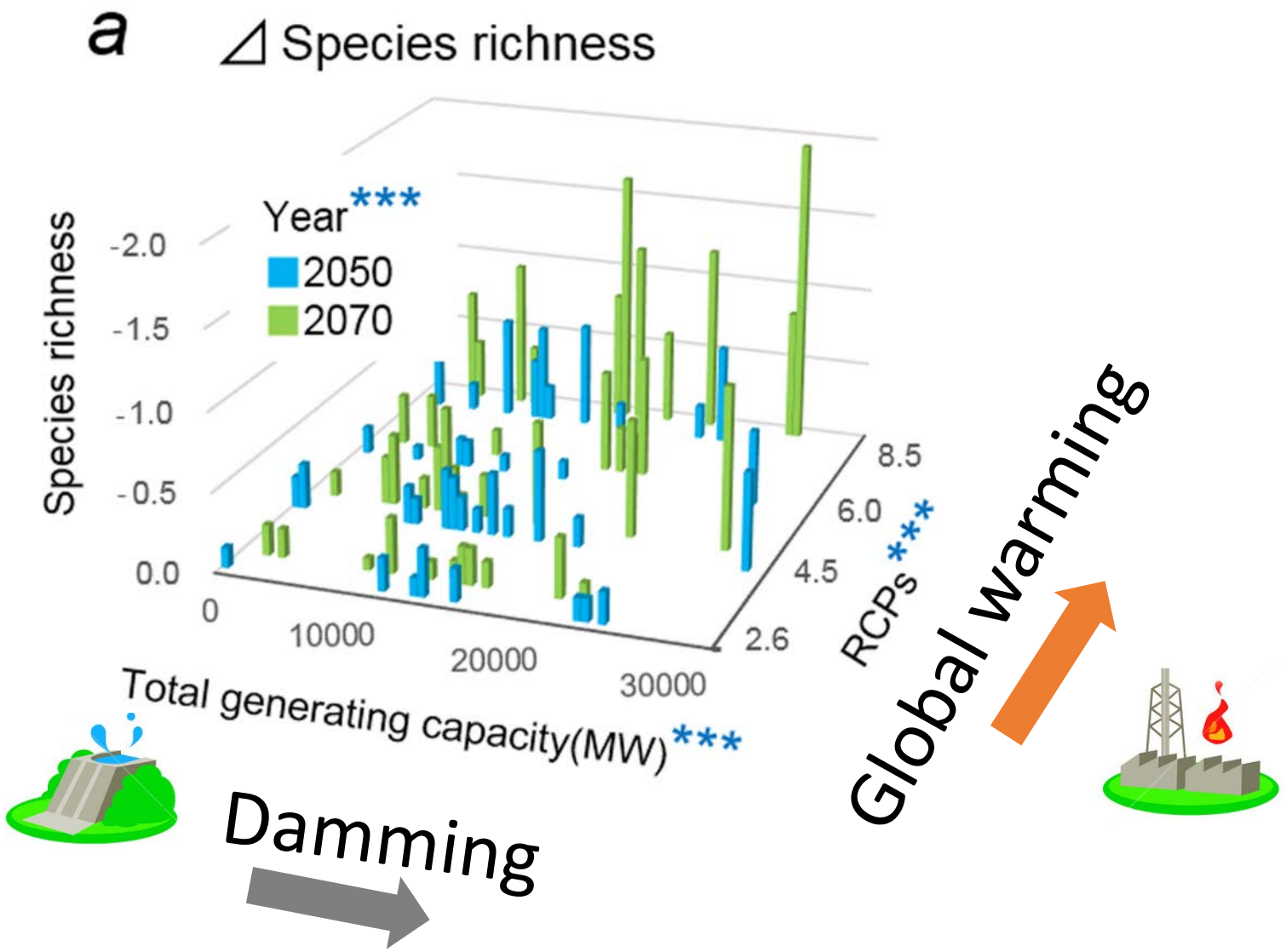
Impacts of damming and global warming are not independent....

Global warming

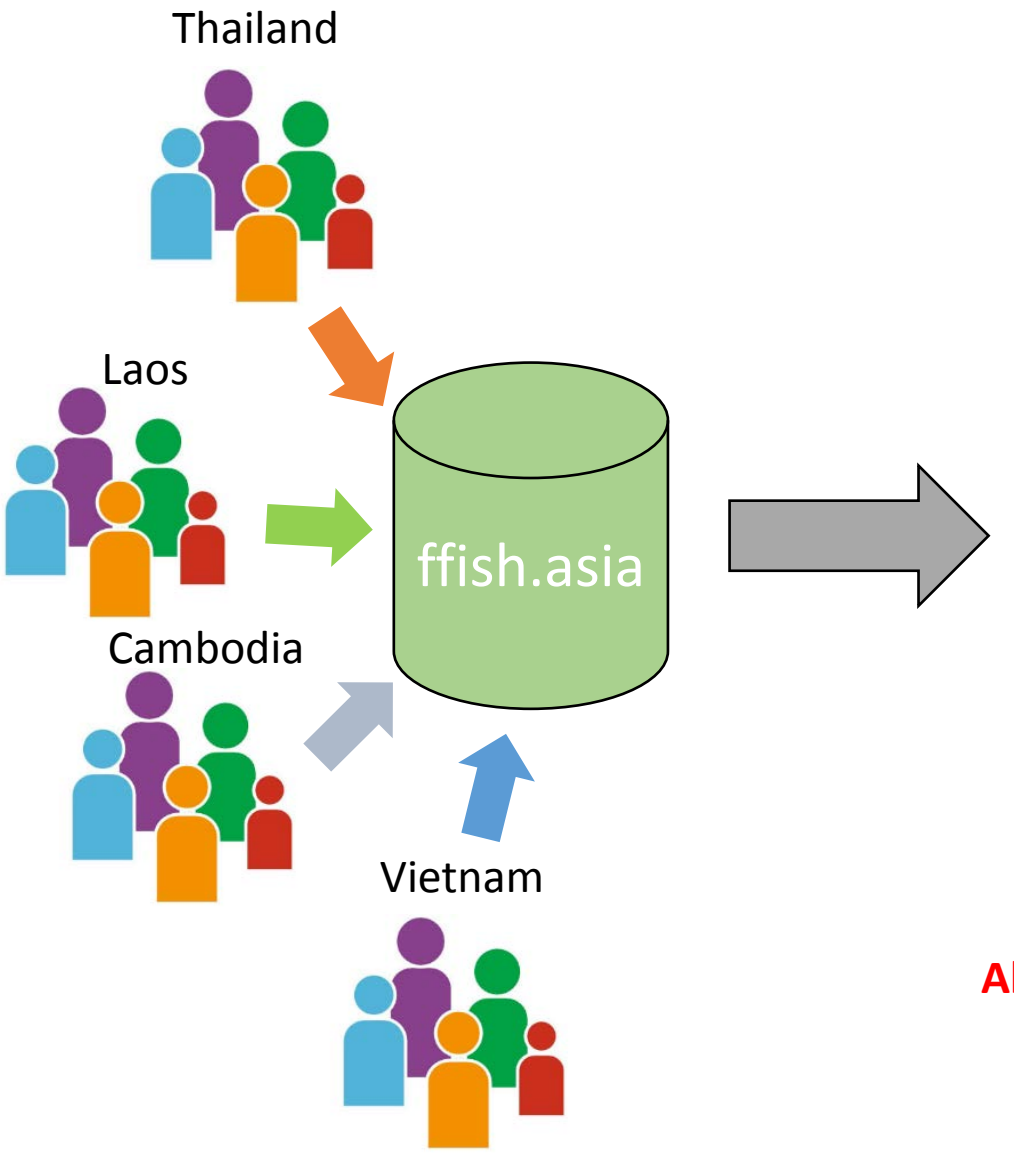


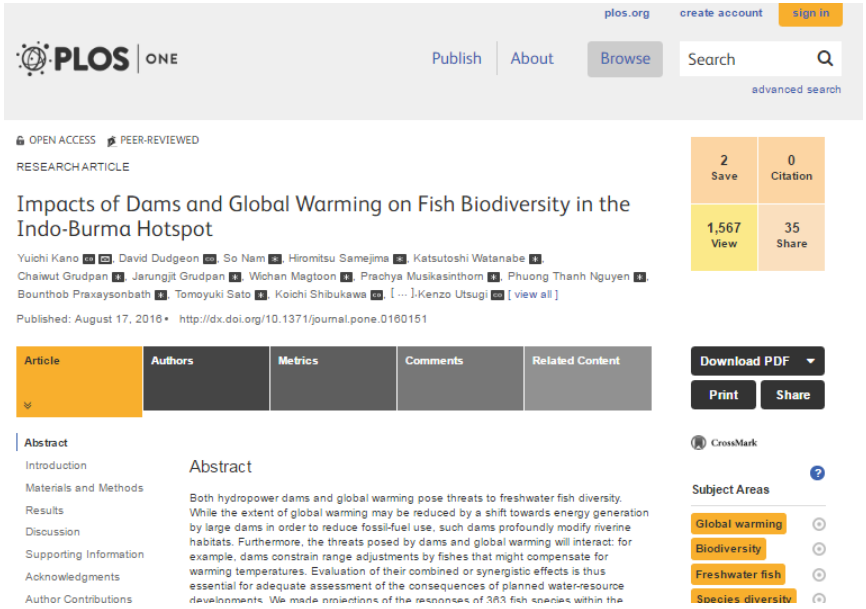


Synergistic impact



One of a typical contribution of a local database



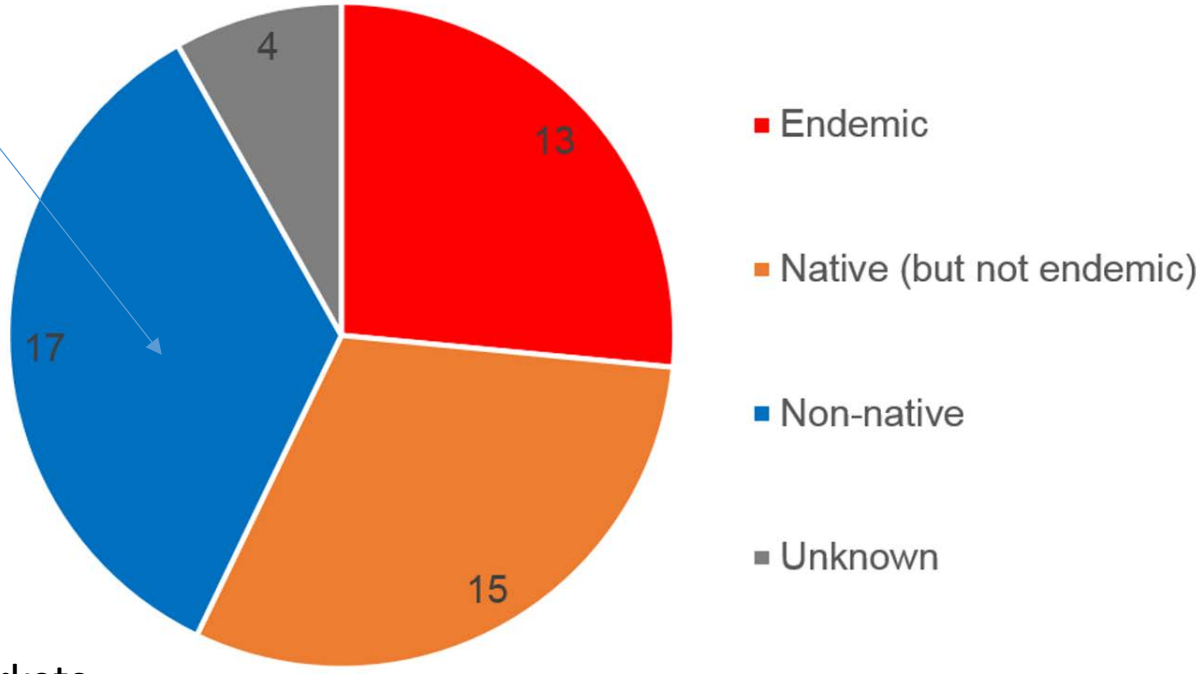


All the stakeholders included as co-authors

Recent contribution 2: Fish fauna of Inle Lake

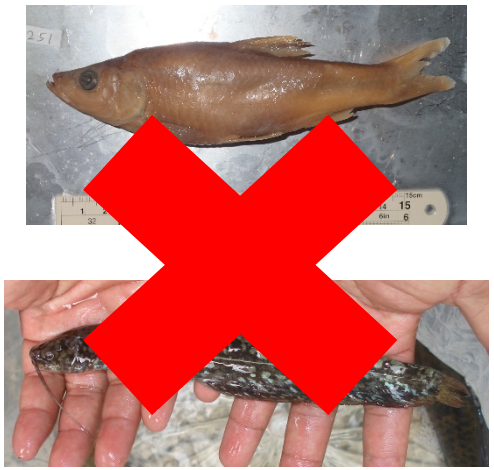
An ancient lake of Myanmar:
No records of the fish fauna have been reported since Annandale (1918)

35 % of the fish fauna was introduced species



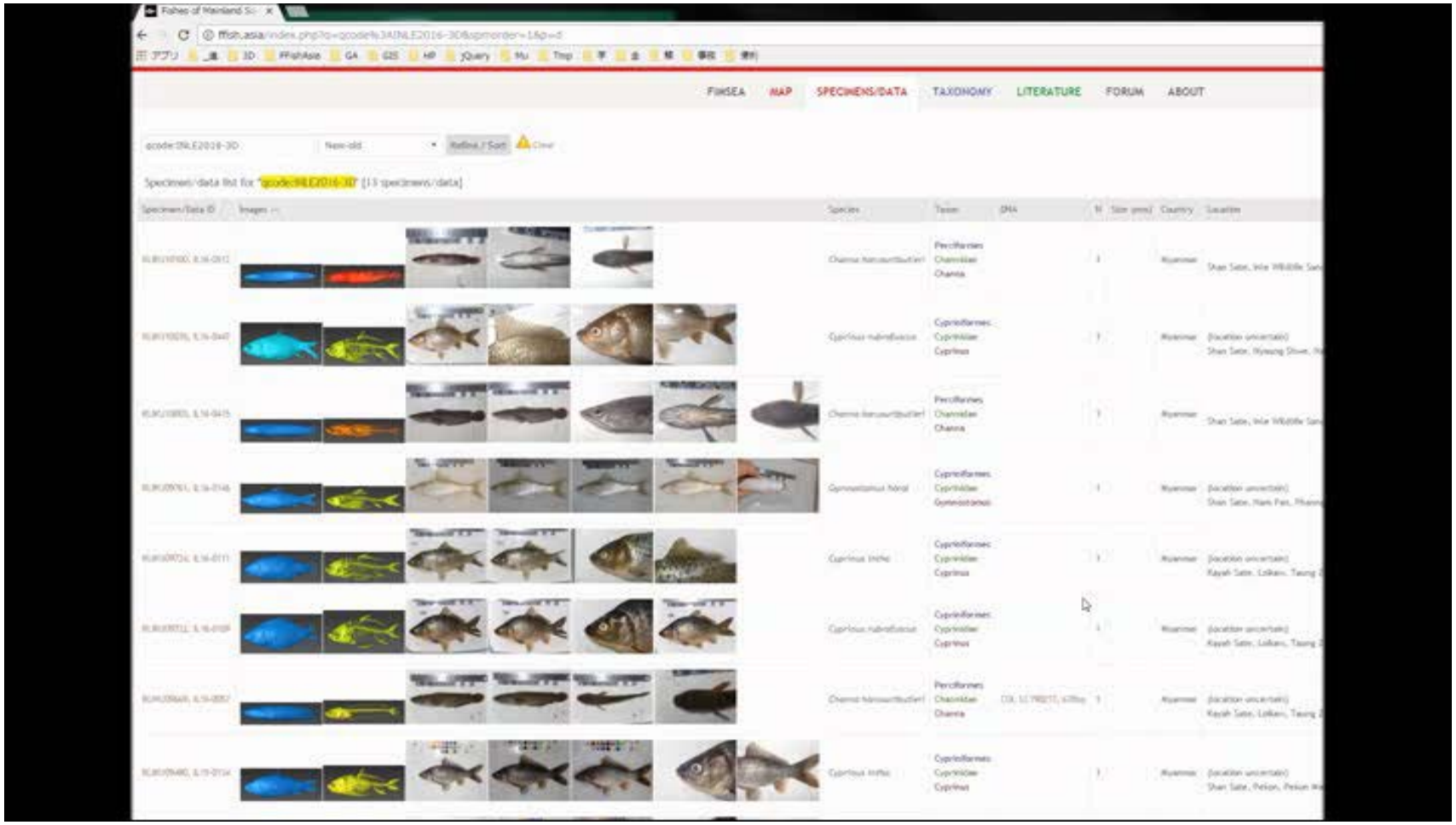
In local markets

In biomass, > 50% is Nile Tilapia



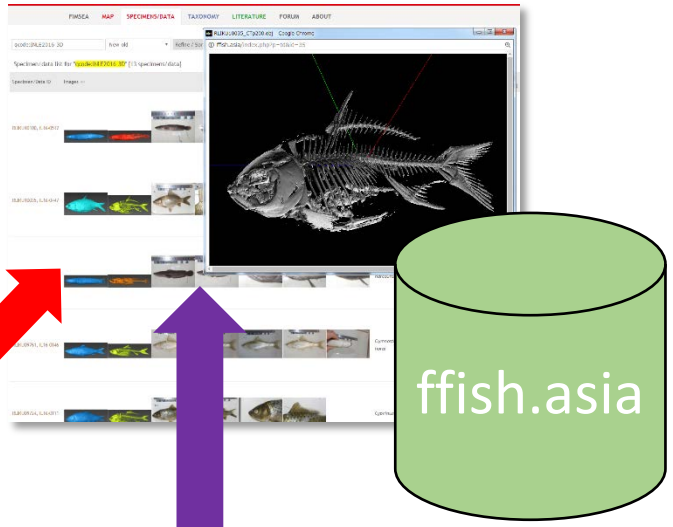
Two endemic species may be extinct

Challenge of publishing 3D models of specimens on the browser

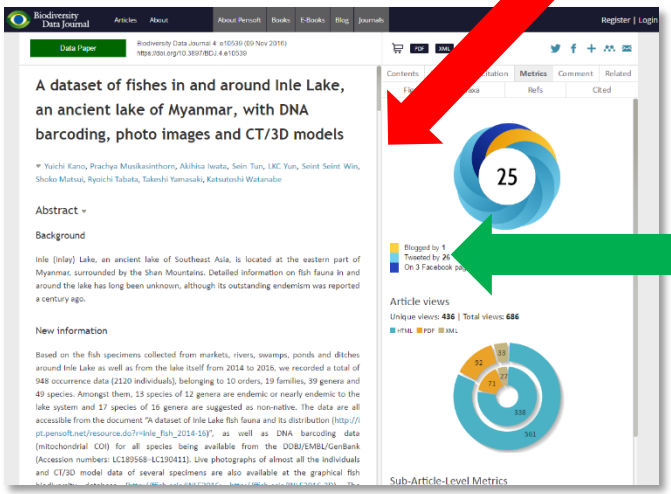


Collecting data and specimens in Inle Lake

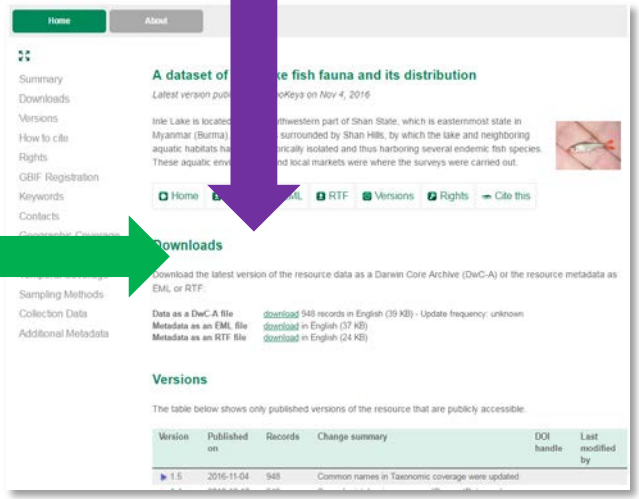
Regsiter the data, photo images and 3D models into the DB



Publication of a data paper



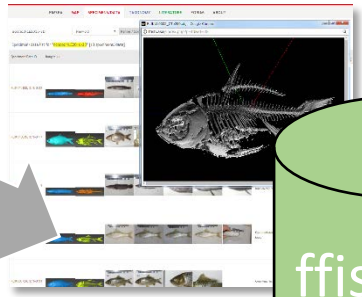
Regsiter the data to GBIF and GeneBank



The system of our local dastabase

Open Science

original contents



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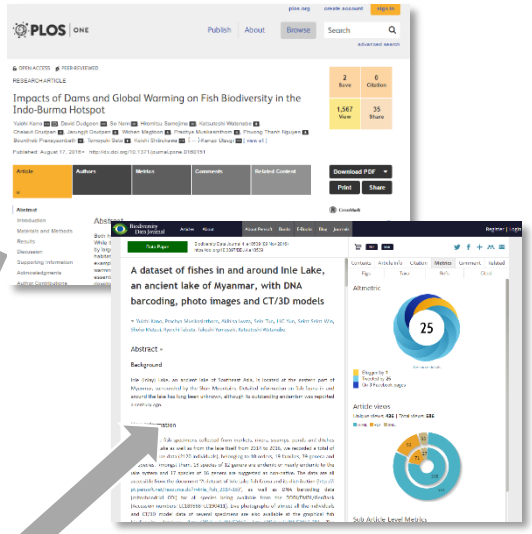
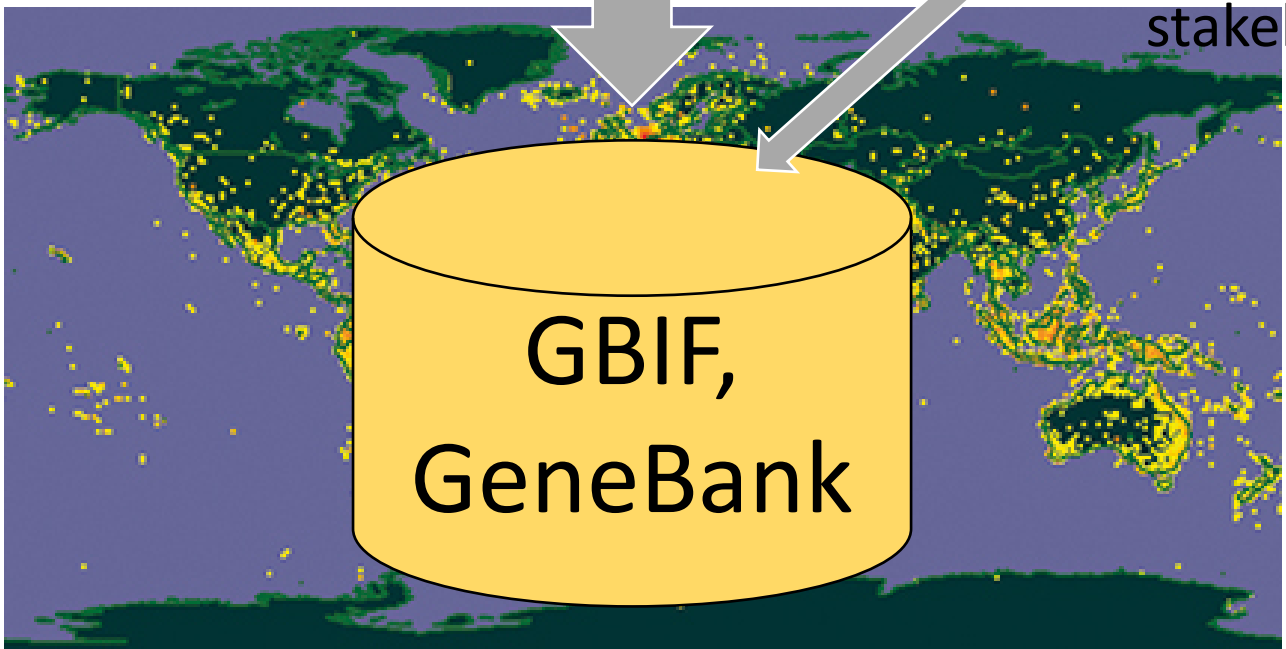
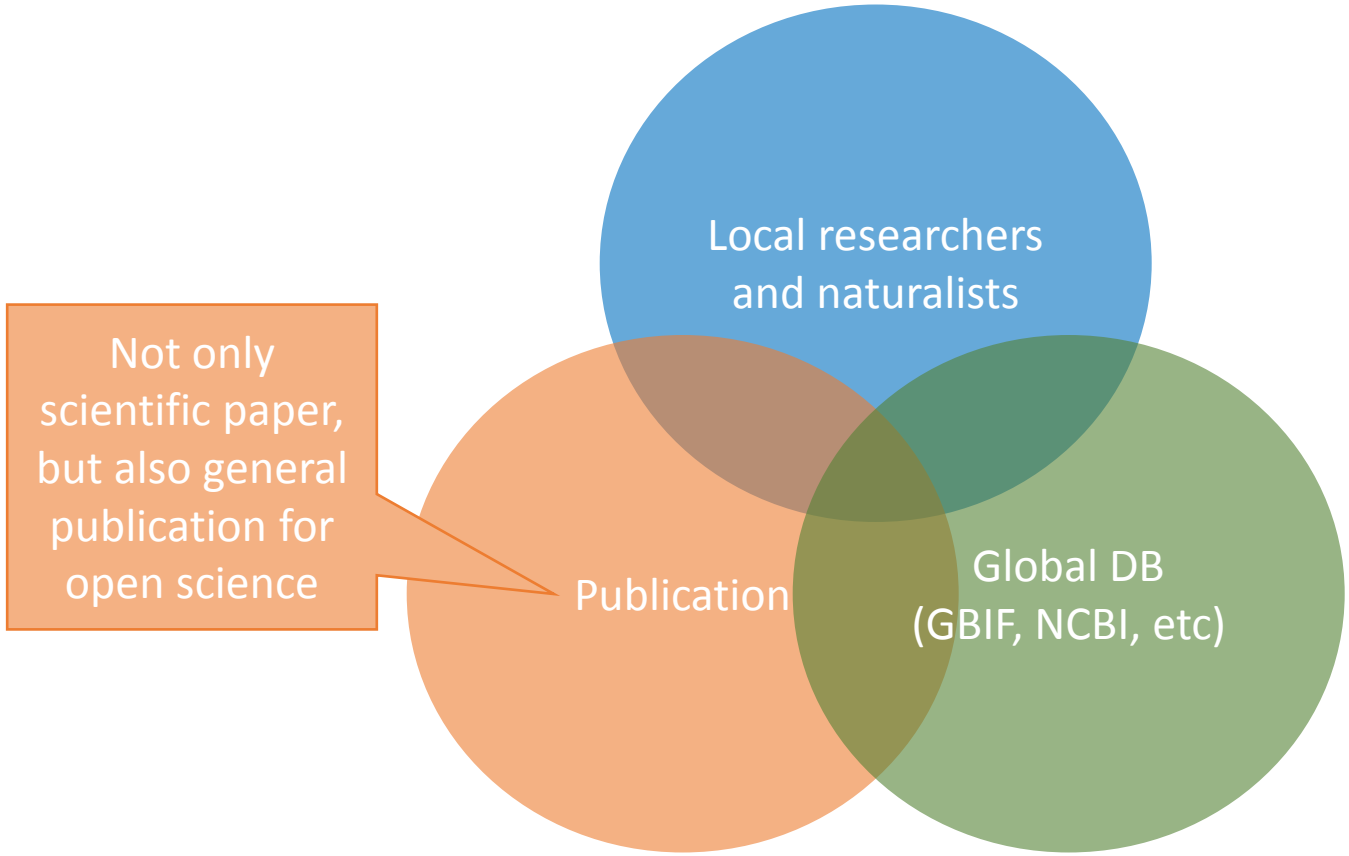


Publication with stakeholders

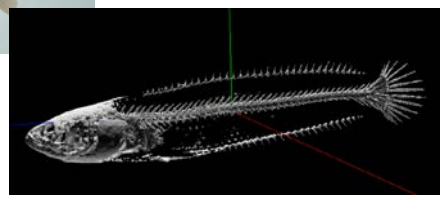


GBIF,
GeneBank

The roles of our local dastabase is to connect



as well as archiving dejital objects such as



One of the answers of AP-BON?