
INCOFISH Progress Report for April 2007

Coordinator's Report (by Rainer Froese)

-- I gave several interviews on overfishing to German TV (SWF, ARD, Nano) and radio (Bayern 2, Radiowelt). I have the impression that at least in Germany this string of interviews and similar actions by NGOs show some impact on public opinion and media. I am aware of several canteens (e.g. Studentenwerke Schleswig-Holstein and Niedersachsen) that made press releases declaring that they will from now on only serve fish from sustainable fisheries. The fish traders that I have visited with the media in tow (sigh) are well aware of the issues and do not offer the smallest legal size class of fishes.

-- We have the first seasonal maps, see example for *Mola mola*. Note that strays in the Baltic were found in winter, and occurrences in the Gulf of Mexico are restricted to spring.

http://fishbase.sinica.edu.tw/tools/aquamaps/receive_pointmap.php?SpecID=Fis_23639

-- I spent most of April writing two major proposals for the EC Framework 7 program (SpeciesBase and OceanSummits), both due on 2nd of May. SpeciesBase will be the ultimate extension of our Species Information System, aiming to cover, eventually, all species on earth. Ocean Summits will carry on many of the ideas we have developed in INCOFISH. Let's cross our fingers that both proposals succeed against strong competition.

-- Alexei Orlov from Russia visited Kiel in April and entered lots of data from Russian publications. This will be used by WP Indicators and WP Biomapping (point data for Russian species).

Project Support Team (by Silvia Opitz)

-- Finalized and distributed report of 3rd Project Steering Committee Meeting

-- Finalized and distributed Mid-Term Workshop report

-- Continued with the refunding of workshop costs to participants and finally managed to settle the hotel bill in La Paz.

-- Contributed to preparation of Ocean Summits proposal in the scope of the first call of the 7th EU Frame Work Program.

-- Advised participants on various project matters.

WP 1 Data, Tools and Outreach (by Lotta Jarnmark)

IncoFish portal development:

Added new labels (5) for translation in search page.

- Eschmeyer (Species)
- Eschmeyer (Genera)
- Invasiveness
- SeaFood advisory
- Match names

Met with N. Bailly on April 3 to discuss the 4th draft of the FB prototype page (Home, Support FB, FB Services and Make a Donation page). Comments and suggestions were gathered: revised page design and new draft was approved. CSS style will be applied to standardize look across browsers, as suggested by Mr. C. Elloran (J.Glorioso).

International Seafood Guide: Work on-going on assigning probable species names to the guides that do not provide more than one common name and with specific localities. About 1,200 records need valid species name assigned to these or a comment on possible species (G.Pablico).

Processing of the FAO status data into ISFG (International Seafood Guide) is on-going, including discussions with L.Jarnmark and A.Stern-Pirlot on implementation (J.Rius).

WP1 Data, Tools and Outreach:

Finalized Global warming Flash file for Aquamaps promotion(J.Glorioso)

WP2 Shifting Baseline:

Database search engine still under development (C. Elloran).

WP2 research highlights uploaded. (C.Jarnmark).

Preparations for workshop 2.2 in Galapagos, July 2007 (E.Agbayani).

WP2 - Development on Shifting Baselines includes, Webpages, Graphs and Databases (C.Elloran). Discussed with L. Jarnmark the development plans for the Hake diagram flash file for WP2, a new task for INCOFISH (J.Glorioso).

WP3 Biodiversity mapping

(C.Jarnmark):

Uploaded several Aquamaps to portal:

www.incofish.org/results/maps.php

(E.Agbayani):

Continued development of AquaMaps: <http://www.aquamaps.org/>

1. Finished beta version of seasonal maps

2. Change in functionality, system now:

- use of bottom or surface parameters for temperature and salinity.

this means that if a species is pelagic (pelagic field=yes) then use the surface parameter for temp (HCAF!SSTANmean) and salinity (HCAF!SalinityBMean),

- a new formula for sea ice to avoid exclusion of species from all non-ice has option to ignore distance to land.

WP6

CTAM II under development (A. Atanacio, E. Agbayani)

Participated in meeting with WP6 in Thailand (A. Atanacio, E. Agbayani)

Web Site Development (E.Agbayani):

Continued development of Coastal Transects Analysis Model (CTAM) phase 2. Not yet available publicly but already being tested by WorkPackage 6 on-line, <http://fishbase.sinica.edu.tw/report/t/ModelsList.php>

Created data entry forms for following tables:

- Existing habitats/resources
- Existing fishing activities
- Existing fishing gears for respective fishing activity
- Existing coastal activities

WP7 Sustainability Indicators:

Coordinated production of a high quality Senegal Fishruler with L. Jarnmark, R. Atanacio, M. Bimbao, printer (SignHaus51) and B. Samb of WP7 (J.Glorioso). WP9 - Worked on Criteria and Indicators (C&I) to Monitor and Evaluate the Impact of Ecotourism in Marine Protected Areas. Development includes, Webpages, Graphs and Databases. (On going development) (C.Elloran).

WP9 Impact of Ecotourism:

D9.2 Ecotourism indicator tool development started (E.Agbayani, J. Rius)

Statistics:

Unique visitors	Number of visits	Pages	Hits	Bandwidth
1804	3690	30506	43990	503.13 MB

WP 2 Shifting Baselines (by David Starkey/John Nicholls)

Management Activities

Preparations and organisation for the Workpackage 2 Workshop to be held in the Galapagos Islands is underway. Scheduled for early July 2007, the workshop will concentrate primarily on finalisation of data submission issues, publication of scientific/historical papers, interaction with other workpackages, and devising strategies for achieving final deliverables.

Research

Research continues as in previous months with efforts being directed primarily at final data submissions, and the scientific/historical papers and related efforts that will accompany the data.

MEI's Henn Ojaveer has continued guest co-editing of the special volume of Fisheries Research. By now, in total 6 papers are accepted and 9 under revision. In April, the following paper co-authored by Henn Ojaveer, was accepted in the special volume: Gaumiga, R., Karlsons, G., Uzars, D. and Ojaveer, H. Gulf of Riga (Baltic Sea) fisheries in the late 17th century.

CEFAS's John Pinnegar has, in preparation for the WP2 Galapagos workshop, started to work on a paper in which he 'forces' Steve Mackinson's 1880s Ecopath model for the North Sea (see www.seaaroundus.org/report/impactmodels/NorthSea.pdf) using time series of seawater temperature and NAO data, as well as information on fishery catches for the region over the past 100 years. He will then compare the model trajectories with fish stock assessment estimates for

the same period to see whether it has been possible to 'recreate' what really happened. In addition, the forward-projected estimates using the 'forced' historic model will be compared with the outputs from a newly constructed model of the North Sea in the 1990s (prepared under INCOFISH WP3).

UNAL continue with their efforts of interviewing fishermen. Their work of compiling historic data continues as well, and they are constructing a data base with references not only of scientific literature but also of grey literature. They have presented a poster that highlights the research effort they are carrying out in terms of shifting baselines. A copy of this poster, in Portuguese, will shortly be available on the INCOFISH website. (www.incofish.org) Reference details for the poster are as follows: Caldas, J.P. y García, C.B. 2007. Cambios históricos en la composición de especies de peces en el área de Santa Marta, Caribe Colombiano: una aproximación a partir del conocimiento tradicional. Libro de Resumos XII Congresso Latino Americano do Ciências do Mar. Abril, Florianópolis, Brasil, pg. 342. This work is also being processed in a joint UHULL and WP1 process to be included as a Workpackage 2 Highlight that will be published in animation form on the INCOFISH website.

IMARPE continue their work in conjunction with their WP7 colleagues. Their recent submission of a special "highlight" presentation that will be used to promote the WP2 shifting baselines concept is being developed in a joint UHULL and WP1 process to be included as a Workpackage 2 Highlight that will be published in animation form on the INCOFISH website.

RUC's Bo Poulsen continues his work with the maritime museum in Skagen where he has been investigating the archives of 18th – 19th century oyster fisheries in the Danish Kattegat area, which nowadays is a forgotten fishery. The preliminary results indicate the existence of a fishery catering for the Copenhagen market and the Royal Danish Court from the 1750s onwards. As early as the 1830s the possibility of fishing down these oyster banks was discussed in parliament, and we are currently investigating the timing as well as possible reasons for the later disappearance of this fishery. Working hypotheses focus on competition from other oyster fisheries in Northern Europe, stock depletion and impacts of environmental changes.

UNIABDN's Cristina Pita and Graham Pierce have contributed to the development of a series of highlight features that will be used to promote the WP2 shifting baselines concept. This work is also being processed in a joint UHULL and WP1 process to be included as a Workpackage 2 Highlight that will be published in animation form on the INCOFISH website.

UHULL continues its data management activities (see below) and is continuing its efforts in organising the WP2 Workshop to take place in July in the Galapagos Islands. Together with WP1 developments are underway to prepare at least three published animations that will highlight the activities of WP2 and provide an outreach element for the project.

Data management

UHULL: The data management process is proceeding with the close cooperation of WP1. The online Toolset is being developed, and is scheduled to be unveiled at the WP2 workshop in July 2007 in the Galapagos. A preview of the online Toolset was presented at the INCOFISH Mid-term Workshop (La Paz, Mexico) early in March 2007 and was well received. Discussions with WP3 team lead (Jonathan Ready) are continuing with a view to providing a reciprocal agreement between the two workpackages: WP3 will provide a mapping and GIS element for WP2's datasets, and WP2 will provide WP3 with reliable and validated time series (before/after) data

from our datasets. A full report on these activities will be presented at the Galapagos Workshop in July. WP3 will provide a 'hands-on' interactive training session at the Galapagos Workshop for each of the WP2 delegates with a view to providing them with GIS/mapping applications for future use with their datasets.

WP 3 Biodiversity Mapping (by Jonathan Ready)

NRM – Planned reorganization of AquaMaps pages (especially before/after maps and seasonal maps) layout and flow. Final model data prepared and run through of statistics with A. South (CEFAS)*, and work on publication from this. Provided contacts to WCS with aim of getting survey data into GBIF. Arranged attendance at WP2 meeting at beginning of July to help with data visualization and develop a link between WP's regarding use of before/after maps tools for a publication. Provided advice to WP1 staff regards choice of areas to provide zoomed maps for using the c-squares mapper.

CDF – Data collection and processing for seasonal variation series continued.

CEFAS – Visit to NRM to run statistics testing AquaMaps against other modelling methods*. Transfer of information from P. Eastwood to A. South.

DINARA – On survey vessel.

WCS – Discussion with GBIF regarding input of occurrence data, processing occurrence data for submission, then out in field.

*AquaMaps appears to perform at least as well as other modelling systems with the number and quality of input data available for most marine organisms.

WP 4 Ecosystem Modelling (by Paco Arreguin-Sanchez)

Modelling process

Most partners were involved in the conclusion of base maps for Ecospace modeling, as derived from the Ecospace workshop developed in the last month. This aspect was emphasized because the commitments of taking these base maps and conclude Deliverable 4.3, but also because such maps are the starting point for WP5 to test hypothesis on MPAs.

The deadline we established to receive individual reports of basemaps for Ecospace was end of April, and then to proceed with their integration in a report. Such report is under preparation and will be uploaded on the Incofish portal, and will be sent to the coordinator of WP5 to proceed with MPAs work.

Advances on Deliverables

Models considered for Deliverable 4.3 and for MPAs guided by WP5 comprises 11 models by Incofish partners, one from CENSOR project and five more Ecospace models constructed by invitees to Ecospace workshop who expressed their interest to continue working in association with WP5 and WP4 (see the list below):

Partner	LME Ecosystem	model
UNIConcepcion *	Humboldt current	Spatial analysis of some prey-predator interactions and fishing in central Chile
CRODT *	Senegambian system	Modélisation spatiale de l'écosystème Sénégalogambien
UNIPAD *	Adriatic Sea	Modeled ecosystem: Northern Adriatic sea (Italy, Slovenia, Croatia).
UNIABDN *	Moray System	n.d.
CEFAS *	North Sea	A spatial modeling for the North Sea
ECNU *	East China Sea	Spatial Modelling of fishing protected area and fishing closure in the
USP *	Southern Brazil Bight	South Brazil Bight (Brazil, Southeastern Brazil Shelf until 100m isobath)
CICIMAR *	La Paz Bay	1.- Evaluating the role of an MPA on La Paz Bay, Baja California Sur, Mexico
CICIMAR *	Campeche Bank	Spatial model for the Campeche Bank
CICIMAR *	Northern Gulf of California	Spatial model involving a reserve of the biosphere
SAMS *	Northern Benguela (Namibia current)	Ecospace modelling of the northern Benguela
CENSOR Project	Humboldt current	Bahía Sechura, northern Peru
UDG-CEC		Trophic model of a continental shelf ecosystem from central Mexican Pacific
CICIMAR	California current	Ecosystem: Gulf of Ulloa, BCS, México (25°N-26°N/112°W-113°W, ~10,000 km ²)
CICIMAR	Caribbean Sea	Exploring Effects of MPA's in the Gulf of Salamanca, Colombian Caribbean Sea
CICIMAR	Southern Gulf of California	Spatial model for the continental shelf of Sinaloa southern Gulf of California, Mexico
CICIMAR	La Paz Bay	Spatial model for La Paz Bay, on the southern Gulf of California, Mexico

* Incofish models

Three models are not going to approach Ecospace, as programmed, namely: the integrated model for the North and Central Gulf of California, Mexico (CICIMAR); the integrated model for the

Mexican continental shelf of the Gulf of Mexico (CICIMAR); and the Southern Benguela current ecosystem (MCM DEAT).

Deliverable D4.3 is expected to be finished on the first week of May to be sent to WP5 for continuing on with MPAs exploration, and also to be uploaded on the Incofish portal.

Coordination activities

Most coordination activities have been aimed to meet Deliverable 4.3

Specific activities by partners

UNIPAD

We set up a collaboration with prof. Corrado Piccinetti from the University of Bologna in order to obtain spatial distribution maps for fish and invertebrate biomass in Northern Adriatic sea. Diet and catch composition and length data are also available. All these information are being used to make Ecopath and Ecosim model more robust and to calibrate Ecospace model on “real numbers”. Calibration of Ecospace model is ongoing, and we are particularly focusing on dispersal rate and other parameters depending on habitat preference. We are also using Ecospace model to test some hypotheses about Adriatic (e.g. importance of Tegnue as a refugium habitat for demersals).

Given that some Ecosim calibration data appears to be possibly contradictory (really different trends for biomasses and CPUEs) we are trying to collect data from different sources and find out if this fact could be connected to unreported catch, changes in catchability or other causes.

The time simulation in our opinion appears to be too little sensitive to effort changes, compared to what the system in fact is, so we are checking back effort, catch and diet matrix data to see if the problem could be connected to some erroneous inputs.

CRODT

Bibliographical references are collected for the study of the spatial modelling of the Senegalogambian ecosystem. For that purpose the Ecospace routine of the Ecopath model was used. Different scenarios of management like evolution of fishing effort (increase or decrease of artisanal fisheries; increase or decrease of industrial fisheries) are explored in the framework of Ecospace. The subjects of documentation concern the nature of bottom, the rules on the protected marine areas and the activities related to fishing closure. Fisheries data were also used for the study of the spatial modelling. A document concerning the description of the Senegalogambian model is in preparation

ECNU

Cheng Heqin has attended the 4th workshop of EU FP6 ECOST project as a representative of the INCOFISH project in Guangzhou, China, from 9 to 13 April 2007.

More spatial data and information for East China Sea have been collected according to the guidelines of the last La Paz workshop in order to improve the ECS Ecospace modelling on summer closures and fishery protected area policy; i.e. test some hypothesis about the impacts of fishing closure related to jellyfish bloom and feedback loop using Ecospace.

We are doing the official documentation and procedure's preparation for the joint workshop of WP4 and WP5. Thus far we have finished most of official procedures.

MCM DEAT

Most of the INCOFISH work in April was towards the indicators WP, although several meetings and discussions were held on the modelling front, in particular to plan comparative and collaborative simulation studies of fishing effects on the structure of the Southern Benguela ecosystem. This work will be undertaken with French colleagues, by Kate Watermeyer (of SA) under the supervision of Lynne Shannon, as a direct INCOFISH activity. The work will begin in June and will entail extensive robustness testing prior to simulations, using monte carlo simulations drawing parameter values from observed/estimated ranges (phase 1), followed by simulations (phase 2).

PUBLICATIONS:

A revised version of the manuscript in Chinese entitled “Impact of Jellyfish Bloom on the Pelagic Energy Balance of East China Sea Ecosystem” has been submitted to the journal of Chinese Science Bulletin, and it is under reviewing now.

We are preparing a paper manuscript to review the research progress on spatial modelling and simulations of fishery policy and MPAs in marine ecosystem. The main purpose of this paper is to introduce the utilization of ECOSPACE model on fishery management research on a global scale and in Chinese.

Arreguín-Sánchez, F., M. Ramírez-Rodríguez, M.J. Zetina-Rejón and V.H. Cruz-Escalona. Natural hazards, stock depletion and decision making process of the pink shrimp, *Farfantepenaeus duorarum*, fishery in the Southern Gulf of Mexico. Special publication of the American Fisheries Society (submitted).

WP 5 Marine Protected Areas (by Nick Polunin/Will Le Quesne)

UNEW

-- Developed and tested strategies for model analysis for D5.2 using Ecospace and Ecosed, although teething problems are being experienced with the new Ecosed module made available for Incofish by Villy Christensen.

-- Started implementing the Ecospace MPA testing strategy using the northern Benguela current model.

-- Prepared a proposal for a paper on the analysis of the Ecospace models for internal discussion within WP5.

-- With Sheila Heymans and Paco (WP4) made arrangements for a UBC Fisheries Centre Research Report to be published containing Ecopath model descriptions for models constructed within the Incofish project.

-- Following final corrections had final acceptance for a manuscript submitted to Fish and Fisheries.

-- In conjunction with NIES submitted a paper reviewing the use and objectives of MPAs and spatial management in the East China Sea.

-- Prepared the WP5 2nd annual report.

NIES

-- A manuscript entitled "An overview of spatial management and marine protected areas in the East China Sea", prepared in conjunction with UNEW was submitted.

NIES is also cooperating with ECNU in the following work:

--A revised version of the manuscript in Chinese entitled "Impact of Jellyfish Bloom on the Pelagic Energy Balance of East China Sea Ecosystem" has been submitted to the journal of Chinese Science Bulletin, and it's under reviewing now.

-- A manuscript to review the research progress on spatial modelling and simulations of fishery policy and MPAs in marine ecosystem are being prepared. The main purpose of this paper is to introduce the utilization of ECOSPACE model on fishery management research.

-- More spatial data and information for East China Sea have been collected according to the guideline of the latest La Paz workshop in order to improve the ECS Ecospace modelling on summer closures and fishery protected area policy.

CICIMAR

-- Following the La Paz workshop developed and refined the Ecospace models for analysis in D5.2.

-- Commenced preparing model descriptions for inclusion in the Fisheries Centre Research report.

SAMS

-- Continued ecospace modelling and writing the report for the Ecopath, Ecosim and Ecospace model description for the northern Benguela for inclusion in the Fisheries Centre Research Report.

CEFAS

-- Following the La Paz workshop developed and refined the Ecospace models for analysis in D5.2.

-- Contributed to the development of the D5.2 Ecospace MPA network simulation analysis.

WP 6 Coastal Transects (by Ratana Chuenpagdee)

-- Presentation of CTAM at Sir Wilfred Grenfell College, Corner Brook, Newfoundland on April 3, 2007 as part of a lecture series 'Coastal Matters' (an article about the talk was written by a journalist and published in the 'Western Star', a local newspaper in Corner Brook. See pdf version on the INCOFISH portal <http://www.incofish.org/News/IncoMed.php>).

-- Meeting with Aque and Eli (WP1 and FishBase) with CDC research team in Bangkok to work on CTAM Phase II, April 17-20.

WP 7 Simple Indicators for Sustainable Fisheries (by Amanda Stern-Pirlot)

All WP members have been busy working on their case-study contributions to WP7's first truly joint publication.

Birane Samb at CRODT continued to prepare for the Senegal fish ruler launch, upcoming in Dakar.

Claudia Wosnitza-Mendo, Carlos Benites and others at IMARPE are working on a paper entitled "Trends in mean length-at-maturity of four Peruvian demersal fish species: searching for common indicators."

Some WP7 members were very busy with their contributions to proposals for the EC Framework 7 program. By now, most proposals have been completed and submitted.

Amanda and Rainer have been working with FAO data to assess the statuses of different countries' fisheries in order to assemble a ranking of the top 10 fishing nations in terms of the most and least over fished and collapsed stocks.

Amanda gave a presentation about fisheries sustainability and sustainable seafood purchasing choices to the heads of the University cafeterias of Schleswig-Holstein. As a result, they will only offer sustainably caught seafood at the cafeterias from now on, and they began an awareness campaign, including fish-ruler promotion, at the cafeterias in early May. (or should I say, they will begin... since this is the April report)?

WP 8 Valuation of Coastal Ecosystem Products and Services (by Rashid Sumaila)

-- Ratana, Abbie and Rashid preparing a special session for the upcoming 2007.

-- Rashid attended the 2007 Stakeholder Council meeting of the Marine Stewardship Council (MSC), in Seattle. Participants spent a lot of time trying to find the best way to help developing country fisheries who want to acquire MSC certification.

-- Claire Armstrong and Jannike Falk Petersen worked on an overview of social science indicators and habitat-fisheries interactions. Two papers are submitted;

"A bioeconomic model of non-renewable habitat-fisheries linkages" (V. Kahui and C.W. Armstrong)

"Habitat-fisheries interactions. The missing link" (C.W. Armstrong and J. Falk-Petersen)

-- Publication in press: Sumaila, U.R., D. Zeller, R. Watson, J. Alder and D. Pauly (*in press*). Potential costs and benefits of marine reserves in the high seas. *Marine Ecology Progress Series*.

