



FishBase goes fishing

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BIODATA

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Introduction

FishBase is already known to Bulletin readers (see e.g. this Bulletin Vols. 10(2) June 1998, 11(1) March 1999). November 1999 will see the next official release. It offers an increasingly comprehensive coverage of finfish species with information on over 23,000 species (40,000 synonyms, 80,000 common names, 16,000 pictures, 16,000 references).

Initially mainly designed as a database for scientific use, the most recent version (1998) of FishBase contains different things for different people. For example, fisheries managers will find the largest existing compilation of population dynamics data. Teachers and students will find numerous graphs illustrating basic concepts of fish biology; taxonomists will enjoy access to Eschmeyer's Catalog of fishes databases. Conservationists will use the lists of threatened fishes for any given country (IUCN 1996). Policymakers may be interested in a chronological, annotated list of introductions to their country. Research scientists as well as funding agencies will find it useful to gain a quick overview of what is known about a certain species. Zoologists and physiologists will have the largest existing compilations of fish morphology at their fingertips. Ecologists will likewise use data on diet composition, trophic levels, food consumption and predators as inputs for their models. Aquaculturists, though not the focus of FishBase work so far, will see functional databases on genetic traits and culture experiments, as well as the foundation for a global strains registry. Geneticists will find the largest compilation of allele frequencies.

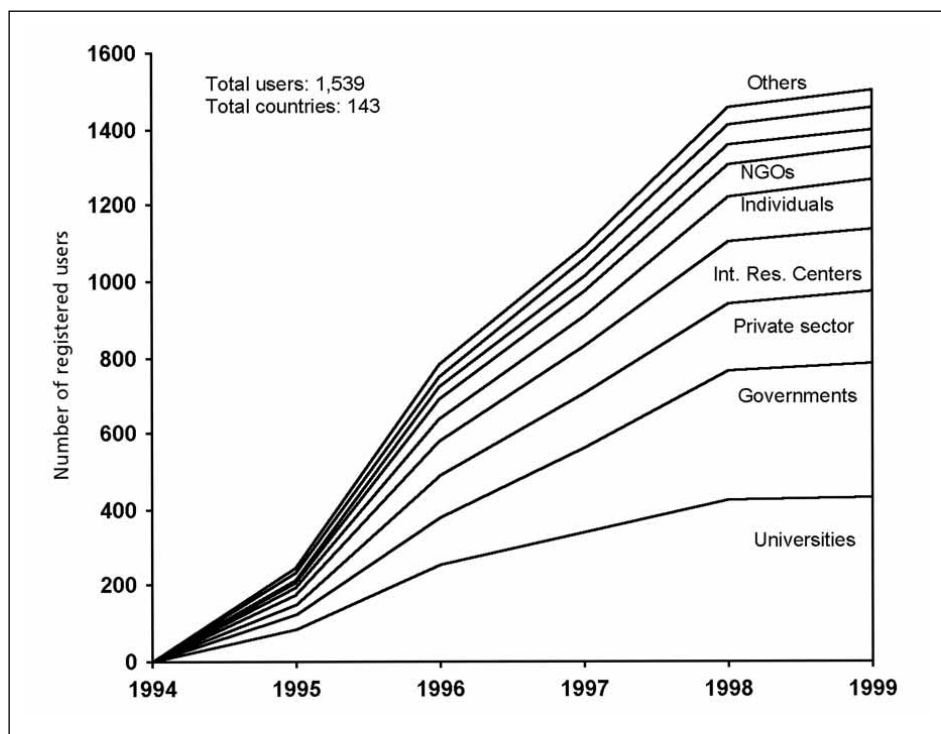


Fig. 1. FishBase 99 (CD ROM) recipients by institution. About 47% of these are from developing countries - FishBase 99 (CD ROM) récipiendaires par institution. Près de 47% de ceux-ci proviennent de pays en développement

The fishing industry will get proximate analyses, as well as processing recommendations for many marine species.

Could it also be used by non-scientists?

Particularly since the major tables of FishBase can be consulted and used for analysis directly on the Internet (<http://www.fishbase.org/>), the numbers and range of users has increased significantly. Users from developing countries, government fisheries departments, decision-makers) and universities are still underrepresented, partially because of the slow penetration of the information infrastructure so far. Most of the FishBase users are still based in universities or other scientific bodies.

The project entitled 'Strengthening fisheries and biodiversity management in ACP countries', which allowed FishBase to be spread more in developing countries through training, equipment and collaboration was established in 1996 and will operate until December 2000, doing its best to address this imbalance. It is thanks to the outreach generated through this project, complementary activities and the open access nature of its website and collaboration at large, that an entirely unexpected application and use of the knowledge in FishBase was enabled.

The use of FishBase in commercially operating companies engaged in the 'fish business' in developing countries as a source of scientifically validated information is not yet common. This article gives an example how one has used FishBase to produce information for clients of



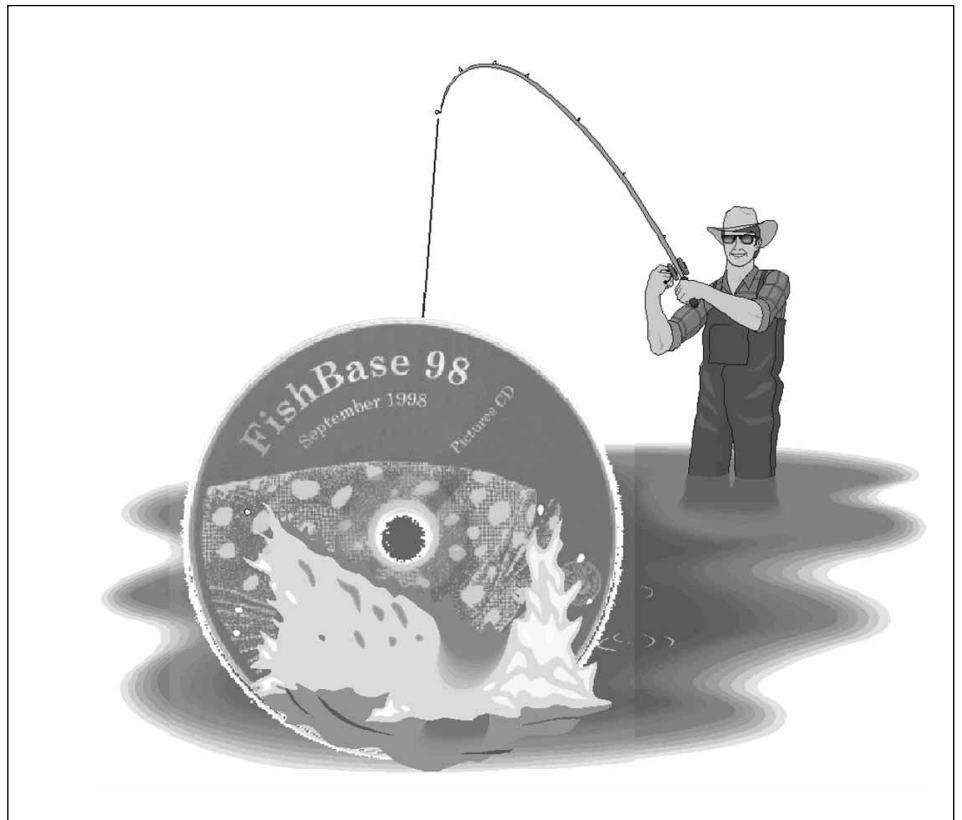
an enterprise and, further down the line, makes investment decisions about the establishment of e.g. new fishing camps. Here is a story about how FishBase meets the angler's world.

A different entry point to FishBase

The German company, 'Andree's Angelreisen' is the oldest and among the largest tour operators for well organised recreational fishing trips world-wide, mainly to Egypt, Yemen, Kenya, Spain, Ireland, Canada and Norway. The company either runs its own comfortable fishing camps and bungalows or has contracts with local companies to provide accommodation and logistics, particularly in the countries mentioned above. Consequently, the firm employs dozens of service personnel at their destinations such as fishing guides, boat drivers, room maids, cooks, and many more, who are mainly recruited from the local work force. Due to the increasing importance of recreational fisheries in western countries the company continuously seeks new sites in order to be able to extend its offers in line fishing. Sites in developing countries with their often rich and still natural fish fauna are an interesting target and may become more popular in the future.

In order to explore the finfish fauna of potentially promising sites, the tour operator was looking for sources of accurate first hand information about abundance of fishes, which are the most sought after by anglers. It was at that point that the second author of this article, who is a destination manager of 'Andree's Angelreisen', stumbled upon FishBase. He instantly recognised the great value for the company's needs as described above and bought a copy of FishBase 98. Initial installation problems and difficulties in proper use of the database for his purposes were discussed and solved with the first author, a German collaborator of Fishbase, contacted in the event. As a result he was able to produce custom-made reports showing for instance the largest fishes in the world or showing the locations, where the largest individuals of a species were found.

Not least the numerous photos and drawings were regarded as helpful in identifying local fish fauna. Some of the photos can even be used in combination with data from FishBase in order to prepare fact sheets, which are handed out to customers when they have booked a certain location. This gives the clients basic information about the local fish fauna (biological data such as spawning periods, preferred depth, maximum size, main food etc.). There is a rumour that the fact sheets thus produced have become very popular with the anglers. These anglers, contrary to a widely held misconception, may be considered as a kind of conservationists.



Give and take

The manager was quite excited about the quantity and quality of the information he found in Fishbase. The firm was therefore ready to offer support for the further improvement and extension of the photo gallery of FishBase. It invited members of the FishBase team to visit the fishing camps at the firm's expense (excluding flights) in order to fish and to take professional photos from the corresponding local fish fauna for the database. Finally, it should be noted that the local teams of the company run FishBase now in the fishing camps for use by their guests.

Perhaps, one day, the anglers themselves can contribute information from the wealth of their empirical observations and thus reciprocate the service received and share it with the worldwide community of FishBase users.

No fear to look for new opportunities

The unexpected conclusion of this story is that FishBase can help to create jobs in the angling business and may be revisited by public administrations and private entrepreneurs in developing countries for its use in identifying and promoting attractive angling sites as a support for economic development.

It should be noted that there is still a great potential for application of FishBase in the field of fishing tour operators in other western countries. The economic importance of sport fishing is often underestimated. Recreational fishing

creates nearly 1.2 million jobs in the U.S. alone. New studies show that annual spending by America's 35.2 million adult anglers (16 years old and older) amounts to a whopping \$37.8 billion. By comparison, if sport fishing were a corporation it would be in thirteenth place on the Fortune 500 list of America's largest businesses, ranking above such global giants at Texaco and DuPont. There is a tendency that more and more anglers spend their money for fishing activities in foreign (developing) countries. Could there be room for more reciprocally useful relations?

Moreover, we discovered that FishBase is in use in several companies dealing with seafood and in the ornamental fish trade. Several of these are interested for instance in local knowledge and in the more than 80,000 common names of fishes together with the language/culture in which they are used and comments on their etymology. It is certainly early days for this and other lines of use; however, it might well become yet another entry to the information society in developing countries and thus support the diversification of their economy. That represents an exciting potential and a step in the direction of the global knowledge community, where everyone is a potential provider and user of information 'fished' from the same pool, but 'packaged' according to differentiated needs.

Bold projections? Perhaps, but in the meantime, these few small cases demonstrate the feasibility and may give early leads to such initiatives. Others may soon follow suit. ■