

Yes fish need to be certified - a reply to Watson.

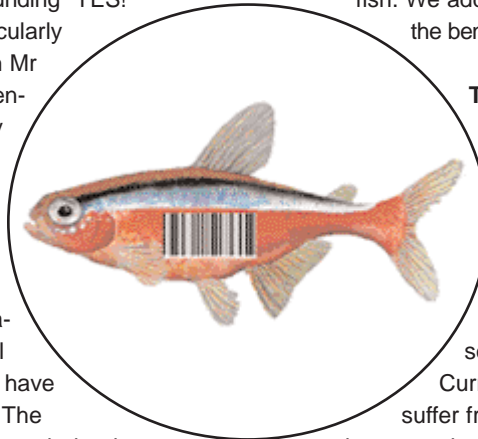
By Michael Tlusty*, Scott Dowd** and Bernardo Ortiz von Halle***

In OFI 49, Ian Watson asks the question "Do fish need to be certified?" to which we answer with a resounding "YES!"

The aspect of his article that we find particularly fascinating is that we do not disagree with Mr Watson's assessment of freshwater ornamental fisheries and certification as it currently stands. He was particularly astute to point out the plethora of certification programmes that have varying and potentially competing goals, and that too many programmes will ultimately confuse the consumer. What we do believe is that in order for a certification programme for freshwater ornamental fisheries to be effective, a new system will have to be created specifically for this industry. The situation in freshwater fisheries is novel enough that it will not lend itself to the application of a pre-packaged programme.

The argument against certification falls into three general categories: the benefits/costs of the programme, the lack of

industry support, and the lack of consumer demand for certified fish. We address these concerns by first considering the benefits and costs of a certification programme.



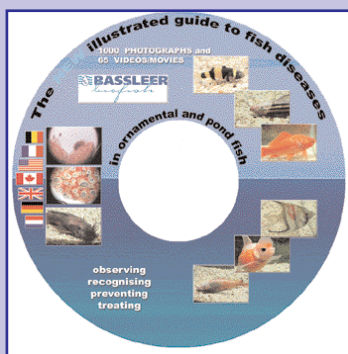
The Benefits of Certification

In the next OFI Journal Dowd, Chao & Lloyd will identify several specific industry trends that represent threats that are likely to have a substantial negative impact on wild harvest fisheries in particular. If these threats go unattended, they could cause fishery collapse and subsequent socio-economic and environmental crises.

Currently, freshwater ornamental fisheries suffer from a lack of interest and respect within the general customer base. There is no negative publicity campaign intentionally smearing the industry, rather, other sectors are being vocal promoting themselves, and the ornamental fisheries have lagged behind. First is the Marine Aquarium Council's (www.aquariumcouncil.org) programme to certify reef fish. They have come out with a very strong message that the marine ornamental fisheries use destructive harvest methods that are ruining much of the fishes' native habitat. MAC was right to do so because the methods not only harmed the reefs, but would often stress the fish so that they would perish soon after being purchased by a hobbyist. However, the message that fishing is bad, coupled with other messages from seafood watch groups about the ills of fishing, have created a negative concept of wild harvest for all fish species. The growth of the aquaculture industry has only helped this concept.

There have been a few notable successes in the ornamental aquaculture industry that have been used as a cause celebre, notably the Banggai cardinal fish and Asian arrowanas. The commercial production of Banggai cardinals and Asian arrowanas provide positive examples showing that aquaculture does have an important role in the preservation of species at risk (Tlusty 2002). However, when coupled with an anti-fishing message, it is difficult to get customers to believe that a fishery is benign, particularly when there is no work advocating a positive message. This results in a general public perception that wild capture of aquarium fish is bad and that wherever possible, aquarium fishes should be sourced from farmed stock to minimise the environmental impact. However, the Amazonian

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freshwater ornamental fishery is very selective and benefits from virtually no bycatch, and no bycatch mortality of non-target species; this is one of the benefits that could be highlighted in a marketing campaign surrounding certification.

The other benefit of this industry is that it provides economic incentive and livelihood alternatives that result in the preservation of large tracts of rivers, waterways, and flooded forests (Tlusty 2002). The fishermen and exporter's greatest fear currently is that the system of production will shift to ex situ, creating an economic vacuum in the harvesting regions that will be replaced by incomes derived from environmentally (e.g. mining, unsustainable forestry practices, and agriculture) and socially unsustainable sources. These fisheries are basically the only low environmental impact extractive activity in the region. The elimination of these fisheries can have dire social and economic consequences, thus the certification programme would be aimed at protecting an activity for its environmental and social benefits. This broad scale impact is an often overlooked benefit of freshwater ornamental fisheries, and one that could also be emphasized in a certification programme. Therefore:

Market Chain						
	Piabeiro →	Buyer →	Exporter →	Importer →	Wholesaler →	Retailer
\$ Difference		100%	900%	160%	150%	200%

The chain of custody and cost difference (sold / buy) associated with Cardinal Tetras being produced in Barcelos, AM Brazil, exported from Manaus to Miami, and sold in Boston.

Benefit #1 - improve public perception about environmental impacts of freshwater ornamental fisheries.

The second public perception issue is that rural communities are not being fairly compensated. This is a difficult perception to dismiss, particularly because there are huge mark-ups between what is paid to the fishers, and what is paid by the customer. A cardinal tetra "piabeiro" in Amazonas, Brazil, receives US \$0.005 for each fish, whereas the consumer will pay US \$1.99.



A fishing canoe. Fish are transported in the plastic lined baskets.

Photo M. Tlusty

This markup is in part because the fish are often handled many times, with each intermediary taking their cut. However, if one considers a simple trade chain of cardinal tetras, there are four main intermediaries between the fishermen and the consumer, and not all intermediaries have the same markup in price.

In this trade chain (adapted from Prang, 2001), it is clear that it is the exporter that has the most significant markup. This is partly because the exporter has to hold the fish in quarantine for 45 days, and the costs of holding (facility, staff technicians, fish transport, water pumping costs, food, and medicine) are significant. As part of holding the fish, those that are of poor quality will perish, at a loss to the exporter. Thus, the exporter's economic bottom line can be improved by improving the quality of fish that are delivered. The quality of fish can be improved directly through the establishment of 'Best Handling Practices' and 'Industry Standards' components of a certification programme. Thus, a critical element of an effective certification programme should be the relationship between the exporter and the fishermen. An increase in the level of care given in capture, field transport and holding of fish coming into the exporter's facility would mean that more money could be returned to the buyer and piabeiro. In addition, the exporter would suffer fewer

losses, require less medication and conditioning, and thus sell more fish at higher quality. Improved handling and the resulting decrease in exporters' losses would keep the initial economic benefits close to the fishermen. If the initial economic benefit begins with the consumer,

then there is a long path before it reaches the fishermen. The close association of the exporter and fishermen will give more weight to the economic incentives. Ian Watson pointed out that one of the benefits of certification is to improve the longevity of the fish. However, we feel that a more immediate and consequential impact is to have the certification system reduce the mortality associated with harvest and transport prior to reaching the end consumer. Therefore, the certification programme should initially focus on the chain of custody below to exporter. In addition, certification programmes can help organise the fishermen so that they are trained and are given rewards from that training. Part of Project Piaba's goal in Brazil has been to help organise the piabeiros so that they can receive benefits during the closed season, as well as when they retire. Therefore:

Benefit #2 - improve the quality of fish harvested in the wild fishery.

Once the certification programme is in place between the Fisherman and Exporter, it can be advertised and target-marketed to the Consumer. Here a small retail price increase can pay for the cost of marketing, as well as development of a web-based traceability programme where interested consumers can enter data about the fish they bought, and follow links to information about where it was caught, the fishermen that caught it, and the community in which the fishermen resides. This link will emphasize the social benefits of freshwater fisheries, mainly that it provides for livelihoods in remote locations that often help to preserve traditional customs,



A Piabeiro with all supplies for catching ornamental fish.

Photo M. Tlusty

and discourage environmentally damaging alternatives and out-migration to urban centres. Therefore:

Benefit #3 - improve public perception about social impacts of freshwater ornamental fisheries.

While the freshwater ornamental fisheries provide large economic benefits globally, it is still a relatively small industry. Freshwater fisheries account for 10% of fish species entering the ornamental pet trade. The 90% of the industry that is produced via aquaculture makes up just 22% of the wholesale value of the global aquaculture industry (cite?). Sometimes small can be good. Because of the lower stocking densities used by freshwater ornamental fish farms in the United States, they do not have to adhere to the same environmental monitoring guidelines as do food fish production farms. However, there are cases where ornamental fish fall under the scope of general laws governing fish transport, but should not be. An example of this is the standards being developed by the World Organisation for Animal

Health (OIE, www.oie.int) which states that all fish (including ornamentals) must be tested for specific diseases (see Box 1) before importation into the EU. This policy is having an impact on some South American exports as some European countries have discontinued direct imports that cannot provide disease screening documents. There is a general lack of clarity as to exactly how these standards apply to Amazon ornamental exports as the region has no natural occurrence of the diseases of concern (as they are specific to carps and salmonids, cold water fishes which are not endemic to this region). Solving this problem is not as simple as having any certified lab test the fish. A programme has to be put forth that will clarify the real and appropriate requirements for aquatic pathology laboratory testing protocols so it will be the most effective application of resources. A certification programme, particularly one that is supported by the government can help clear the

confusion regarding disease testing and exports and compliancy with all domestic and international legislation. Therefore:

Benefit #4 - define criteria for disease and pathogen and quality testing, and help to define accepted testing protocols.

All of these benefits will help to create marketing opportunities for the fish, add value and maximise benefits to the trade chain. However, there will need to be publicity and advertising to help make the consumers aware of the benefits of certified fish. The Forestry Stewardship Council (www.fsc.org) has worked diligently to spread the positive message of sustainably harvested forest products, and has already laid much of the groundwork for certification, traceability and tracking product, and creating a positive market message. South American freshwater ornamental fish are a logical continuation of the FSC's programme for Non-timber Forest Products, and the success of FSC needs to be closely studied to ensure maximal benefits to a freshwater ornamental (forest) fish certification programme. Therefore:

Benefit #5 - improve market demand for fish from freshwater ornamental fisheries.

We agree with Mr Watson that "certification is a desirable goal for the industry" and that "In an ideal world, a certification scheme for the ornamental trade would provide fair distribution of benefits through higher prices to collectors, ensure that the resources on which the collector rely are protected from over-exploitation, and ensure the best possible practice in the handling and shipping of the fishes." Our aim here was to provide a framework on how to structure a freshwater ornamental fishery certification programme. Coupled with Mr Watson's warning of how not to proceed, we hope the industry will continue to work toward the development of certification programmes. We also feel that the costs incurred by the industry will not be as significant as Mr Watson estimates. But regardless of the cost, is it not important to guarantee the longevity of this industry? Ultimately, it is not as much of a question of what will certification

Box 1.

The following diseases of fish are listed by the OIE in their Aquatic Animal Health Code – 2005 (www.oie.int/eng/normes/fcode/en_sommaire.htm):

- o Epizootic haematopoietic necrosis
- o Infectious haematopoietic necrosis
- o Spring viraemia of carp
- o Viral haemorrhagic septicaemia
- o Infectious pancreatic necrosis*
- o Infectious salmon anaemia
- o Epizootic ulcerative syndrome
- o Bacterial kidney disease (*Renibacterium salmoninarum*)*.
- o Gyrodactylosis (*Gyrodactylus salaris*)
- o Red sea bream iridoviral disease
- o Koi herpes virus disease**.

* Delisting of this disease is under study.

** Listing of this disease is under study.



A remote fishing village in the Amazon.

Photo M. Tlusty

cost the industry, but will the industry survive without certification? It is clear that in coming years the ornamental fish aquaculture industry will have the capacity to supply the world demand for the cardinal tetra, a popular aquarium fish. Farmed stock will not bear the burden of public perception issues. They will be of domesticated strains and ready for market. They will be produced on farms that are closer to the markets and have well established product distribution routes. Disease screening and quality assurance has been long provided by the corporations. Certification may be the means by which some fisheries are able to maintain a position in the market by distinguishing their attributes and assuring to trade members, industry regulators and consumers that the trade in these labeled fishes results in a net benefit to the environment and the human populations that depend on the resource. Developing a certification programme for freshwater ornamental fisheries is central to assuring their continued successes, as well as continued preservation of a rural way of life and an intact, healthy ecosystem.

The discussion of benefits also assisted in addressing the concern that there is no consumer demand for such product. Given the net benefit of a certification programme for freshwater ornamental fish, and consumer interest, we feel that the industry will take a positive view of certification. There is evidence that the industry is already viewing certification positively. A general discussion of certification programmes was presented in August to the South American industry at the workshop "Freshwater aquarium fish trade, habitat conservation and socio-economic implications: a South American challenge" convened by WWF/TRAFFIC South America (Bogotá, 24-26 August, 2005). The participants, representing five tropical Latin countries, had many common concerns regarding their industry in relation to current trends in the global trade. They are beginning to consider the benefits of certification as a means to help their industry retain its market share and in essence, survive. Furthermore, the industry in general does not always demonstrate

the best foresight. When discussing any fish certification programme, one must consider the recent evolution of thought within the seafood industry. In 1997, an attitude of "If you're a seafood company, you don't crawl under the covers with greenies" was published by Seafood Business Magazine, and was pervasive throughout the industry. By 2004, Seafood Business Magazine stated that the "market demand for sustainable, or environmentally responsible, fish is crossing over from a niche to the mainstream" while IntraFish observed that "The sustainable seafood movement is here to stay. Make no mistake about that." Part of this change was brought about by pressure from consumers and environmental groups. However, such drastic change can only come about when the industry itself changes. Now attitudes such as "If we do not use those resources in such a way that they are

going to be here for our children and our grandchildren, we're not serving our shareholders and other stakeholders well, and we're not serving the broader world community well" (G. Williams, Senior VP of Government and Environmental Affairs, Darden Restaurants, Seafood Business Magazine, October 2004), can be found in the industry. It turns out that the seafood industry assessed the situation, and decided that there was a benefit to environmental certification programmes, and that even with a cost, these programmes were better to instill, than to lose the industry all together. Or as J. Pollock, Director of Seafood Merchandising puts it; "We need to know we are ensuring generations of supply of Sysco and its customers, How am I supposed to grow my business if the supply isn't there?" (Seafood Business Magazine, October 2004).

We conclude by going back to the original question: Do fish need to be certified? We believe that the case presented here clearly demonstrates an affirmative answer. However, we believe the equally important question What will happen if we don't? also needs to be addressed. We argue that a properly designed certification programme can not only categorically and effectively address these threats but result in increased benefits to fishing communities, the environment, participating members of the trade chain and finally the fish themselves.

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