

Flotsam and Jetsam

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Nils E. Stolpe

“Flotsam is floating wreckage of a ship or its cargo. Jetsam is part of a ship, its equipment, or its cargo that is purpose-fully cast overboard or jettisoned to lighten the load in time of distress and that sinks or is washed ashore” (<http://en.wikipedia.org/wiki/Flotsam>). They are used together to indicate potentially valuable materials floating on the seas’ surface.

I use this title for periodic FishNets in which I address several issues that should be of value to anyone with an interest in oceans and fisheries in a somewhat abbreviated manner.

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First off, a *mea culpa*

In the last FishNet, which was distributed in early October, I referred to *“the most recent cod assessment (or actually an almost-assessment).”* It was pointed out to me, and rightfully so, that this could have left readers with the impression that this was somewhat less accurate and/or reliable than a “real” assessment of the cod stock. I was assured that this wasn’t the case and was provided with a wealth of information demonstrating that it wasn’t, so I’ll to take this opportunity to put things right. I also must point out, however, that there are groups and individuals associated with the New England groundfish fishery who take exception to the results of this assessment.

“Anecdotal Information” is what the professional fisheries people call it, usually dismissively.

*“In addition to the economic benefits of an expanded fishery industry, the fisheries science and management culture benefited from the private, public, academic partnership, **increasing the level of trust amongst stakeholders and respect for the expertise of partners.** Through this approach, the project has demonstrated that taking input from all aspects of the community can leverage scientific capabilities with the applied ecological expertise of the commercial fishing industry.”*(IOOS’s - Integrated Ocean Observing System’s - **Modeling Advancing Fisheries Management and Improving Butterfish Population Assessments** at http://www.ioos.noaa.gov/ioos_in_action/stories/maracoos_butterfish.html).

If things were as they should be in fisheries management, there would be no reason for IOOS to include the words underlined above in their announcement of one of the more successful cooperative research programs that has taken place in the mid-Atlantic. Unfortunately, that isn’t the case, and much – though certainly not all – of the reason for that is the fact that fisheries managers and fisheries scientists generally discount most of what working fishermen have to say about the status of particular fisheries, about the

ocean ecosystem or anything else that has to do with successfully harvesting fish or shellfish. I suspect that in large part this has to do with fishermen's paychecks depending on them catching those fish which they are telling the managers and/or scientists about, which is a kind of scary way of looking at things. Consider the many financial transactions, ranging from buying a newspaper to buying a house, that you are regularly a part of. In the majority of these transactions you are dependent on the honesty of the other party or parties in the transactions and more often than not one or all of the parties are in a position to "profit" from acting dishonestly. Does this make them – or what they have to say about the transaction – immediately suspect? If that were the case an awful lot of transactions would never be transacted.

What brought this subject up was the article *A review of the past, the present, and the future of fishers' knowledge research: a challenge to established fisheries science* by Edward J. Hind at the School of Political Science and Sociology, National University of Ireland, Galway, Ireland that was published in the issue of the ICES (International Council for the Exploration of the Sea) Journal of Marine Science in October, 2104.

According to the author, "*documented to be approaching at least a century old, fishers' knowledge research is an approach to fisheries science that to date has struggled to take a place at the top table of fisheries science. Its focus is the study of the experiential knowledge of marine and freshwater environments that fish harvesters accumulate while operating in their respective fisheries. Those who seek in different guises to achieve greater consideration for this experiential knowledge in mainstream fisheries science and management can be considered fishers' knowledge researchers.*" Yet, according to him, and according to many – and I was tempted to say most – of us who observe and/or participate in the fisheries management process from the fishermen's perspective, after these 100 plus years "*the profile of fishers' knowledge research compared with established approaches towards conducting fisheries science can currently be described as marginal.*"

Scientists are never going to know for certain how many fish are in a given area, how long those that are in that area are going to remain there, what factors will have an effect on where they are, how successful next year's spawning will be, what the larval, juvenile and adult mortality rates will be over the life span of the species, or much of anything else above and beyond what the few specimens that they are immediately observing are doing.

It seems like a successful fisherman must have a broader perspective than a fisheries scientists. Fishing success depends on observing what's going on today and knowing enough history to put today's observations into their proper context. And successful fishermen generally have a community of fishermen that they share their observations with. It might be done with the precision that a fisheries scientist or manager thinks is necessary for legitimacy, but it's done precisely enough for the fishermen to put fish in the hold and food, fuel in the boat and food on the table.

Below are a quotes from Hind's paper that I think are particularly relevant:

"As with any knowledge system, the picture LEK (Local Ecological Knowledge) produces will be partial. However, we have found that LEK can be an invaluable addition to scientific and historical archival resources that are also partial. Harvesters are and were the central human actors in these social ecological systems and their observations and interpretations can contribute significantly to our efforts to understand the interactions in these systems." (Murray, G., Neis, B., Schneider, D. C., Ings, D., Gosse, K., Whalen, J., and Palmer, C. T. 2008a. Opening the black box: methods, procedures, and challenges in the historical reconstruction of socio-ecological systems. In *Making and Moving Knowledge: Interdisciplinarity and Community-*

Based Research in a World on the Edge, pp. 100–120. Ed. by J. S. Lutz, and B. Neis. McGill-Queens University Press, Montreal, Kingston, Canada.)

“Finding ways to make comparisons between fishers’ observations and data drawn from more traditional scientific sources could improve the potential for more informed and more accepted decisions on stock status and management.” (Neis, B., Schneider, D. C., Felt, L. F., Haedrich, R. L., Fischer, J., and Hutchings, J. A. 1999. Fisheries assessment: what can be learned from interviewing resource users? Canadian Journal of Fisheries and Aquatic Sciences, 56: 1949–1963.)

“It is suggested that analysis of approximate data, quickly acquired at low cost from fishers through interviews, can be used to supplement other data-recording systems or used independently to document the changes that have occurred in the resource base over a lifetime of fishing. The results can be used to guide the assessment and management of resources to conserve ecosystems and livelihoods.” (Teshfamichael, D., Pitcher, T. J., and Pauly, D. 2014. Assessing changes in fisheries using fishers’ knowledge to generate long time series of catch rates: a case study from the Red Sea. Ecology and Society, 19. Available at: <http://dx.doi.org/10.5751/ES-06151-190118> (last accessed 15 May 2014).

Hind closes by presenting three possible futures for fishers’ knowledge research. The first suggests that *“fishers knowledge research could become obsolete.”* The second suggests that *“fishery-dependent data research may be the only approach mainstreamed in fisheries science”* and the third is that *“multiple approaches to fishers’ knowledge research may be mainstreamed in fisheries science.”* Considering the wealth of multi-generational knowledge that is resident in our coastal fishing communities, let’s hope that the first possible future is unthinkable, that the second is recognized as automatically limiting the value of fishermens’ contributions to the management process and that, as suggested in the last approach, Fishermen’s input is finally recognized as being a critical part of the management process. He follows this with *“the warning of Robert Johannes’ et al. (Johannes, R. E., Freeman, M. M. R., and Hamilton, R. J. 2000. Ignore fishers’ knowledge and miss the boat. Fish and Fisheries, 1: 257–271.) to any fisheries scientist who continues to ignore all or some dimensions of fishers’ knowledge is still pertinent. The sizeable literature reviewed in this paper includes many examples of where referencing fishers’ knowledge did prevent or could have prevented further fish stock declines when mainstream fisheries science had failed to provide answers. It is likely that future fishers’ knowledge literature will provide further examples of how the consideration of fishers’ knowledge could complement existing biological, ecological, and economic approaches to fisheries science to deliver better management outcomes. With the fisheries paradigm unstable and under increasing criticism, can such information be ignored?”*

We can only hope that the people in the fisheries management process those words to heart.

When you’re used to those big bucks you’ve gotta keep ‘em coming in

It’s hard to imagine that anyone reading this has managed to avoid one of the anti-fishing clique’s most recent declarations of disaster/calls to arms (and for donations) campaigns, the one dealing with the misidentification of various species of fish. According to the usual plethora of reports and press releases and the usual uninformed and extensive media coverage that those reports and releases generated, unscrupulous members of the fish and seafood industry (in the various foundation-funded campaigns are

there any other kind?) were mislabeling not-so-valuable ocean critters as much more valuable critters, pricing them accordingly and raking in even more tainted profits.

Needless to say this was reported as a significant and growing threat and needed to be stopped immediately. And the principal way of stopping it was by increasing the administrative burden placed on an already overburdened fish and seafood industry by requiring its members to identify where, when and how their fish and shellfish were caught. Traceability, it was called.

As a result of all of this alarmism the federal Food and Drug Administration completed a study involving the DNA testing of 696 samples at the domestic wholesale distribution chain prior to retail sale. Limited samples were also taken at the point of import. The species sampled were those with a history of being misidentified. Samples were taken in Alabama, California, Connecticut, Florida, Illinois, Louisiana, Massachusetts, Maine, Mississippi (if any FDA people read this, please note that Mississippi has four s's), New Hampshire, Rhode Island, Tennessee, Vermont and Washington. The fish that were sampled were cod, haddock, catfish, basa, swai, snapper and grouper. There were three series of samples.

Imagine my surprise – yea, right! – when I read that “*the three sampling projects found that the fish species was correctly labeled 85% of the time.*” In total 174 lots of samples were tested and 26 were found to be incorrectly labelled, but 25 of those 26 were in the snapper and grouper categories (the remaining sample was *Pangasius hypopthalmus* mislabeled as *Pangasius bocourti*). However, 14 of the 18 mislabeled snapper samples were different species of snapper than what they were identified as, as were 4 of the 7 mislabeled grouper. That’s about like the difference between Angus, Hereford and Longhorn beef.

Only 7 out of 174 samples could be said to have been egregiously mislabeled (for those of you who had – a still remember – Biology 101, identified incorrectly at the Family level or above). That’s not much of a crisis in seafood labeling, and it surely doesn’t require any additional legislation or any additional administrative burdens inflicted on fish and seafood businesses.

What it does require is beefed up seafood inspection at the federal, state and local levels, something that the industry has been seeking for years.

From the breakout of the results of the samples tested by the FDA:

For fish for which 5 or more samples were collected and tested (85% labeled properly)

- 100% (5 out of 5) of the catfish samples were labeled properly
- 100% (15 out of 15) of the cod samples were labeled properly
- 89% (57 out of 64) of the grouper samples were labeled properly
- 100% (11 out of 11) of the haddock samples were labeled properly
- 63% (31 out of 49) of the snapper samples were labeled properly
- 100% (20 out of 20) of the swai samples were labeled correctly

For fish for which fewer than 5 samples were collected and tested (90% labeled properly)

- 0% (0 out of 1) of the basa samples were labeled properly
- 100% (1 out of 1) of the mackerel samples were labeled properly
- 100% (1 out of 1) of the mahi mahi samples were labeled properly
- 100% (1 out of 1) of the monkfish samples were labeled properly
- 100% (3 out of 3) of the orange roughy samples were labeled properly
- 100% (1 out of 1) of the swordfish samples were labeled properly
- 100% (2 out of 2) of the tilapia samples were labeled properly

It sure seems like the foundation-funded ENGOs are beating another empty drum, protecting neither the fish nor the consumers from anything they need protecting from, but keeping that cash flow flowing. Unfortunately, for most of them it appears as if that's what it's all about. And for them the fact that fishermen and fishing dependent businesses are going to pay for it probably makes it that much better.

Great news on Atlantic bluefin tuna

As reported by Rich Ruais, executive director of the American Bluefin Tuna Association, in the November issue of Commercial Fisheries News and distributed as an ABTA press release (available at <http://www.savingseafood.org/management-regulation/new-bluefin-stock-assessment-show-stunning-reversal-in-abun.html>), the Standing Committee on Science and Research of the International Commission for the Conservation of Atlantic Tunas at its meeting on September 29 to October 3 determined that overfishing is not occurring in the bluefin tuna stock in the western Atlantic. This rebuilding has supposedly taken place in four years following an unsuccessful campaign to have Atlantic bluefin tuna listed as endangered through the Convention on International Trade in Endangered Species.

From Rich Ruais' column, "*the really good news from the ICCAT science meetings and new evidence is that the western bluefin biomass is now more than twice the size suggested in previous assessments and a new, higher estimate of maximum sustainable yield (MSY) – 3,050 mt – has been reported. The western Atlantic bluefin stock biomass is more than rebuilt.*" I strongly recommend that for a fuller understanding of the Western Atlantic bluefin tuna situation you follow the link above and read it in its entirety.

I can add, however, that the anti-fishing claque's response to it has proven to be nothing more than even more beating of their fisheries crises drums. They're still so wrapped up in their "fishing is bad" agenda that they've started to argue that even if the new and improved science shows that there are a lot more bluefin tuna in the western Atlantic than was previously believed, precaution demands that the quotas remain where they are, because the scientists might not be right. But why wouldn't they? The future of the foundation-funded claque depends ostensibly on there being crises to fix, and if there aren't any real crises, why not manufacture one or several, 'cause that's what keeps the dollars rolling in.

Of course the drum beating fails to realize that bluefin tuna assessments, or for that matter any fish assessments automatically come with precaution built in. Obviously, assessing fish stocks is a highly inexact science. Fish aren't evenly distribute in the oceans, either horizontally or vertically. Many species are seasonally migratory (in fact bluefin tuna are classified as highly migratory species, ranging entire ocean basins in their annual travels). Their migratory routes can, and do, vary significantly from year to year and over even longer time frames, driven by currents, water temperatures, prey availability, and etc.

Hence estimating populations is a matter of a relatively small amount of sampling coupled with a really large amount of statistical manipulation. After this manipulation a range – in number or weight of fish at particular sizes/or ages – is determined, the uncertainty involved is taken into account, and the quota is set (actually, under Magnuson management the permissible level of removals is determined and then another bunch of fish is subtracted from that "just because"). In recent years I doubt that a fishing quota has ever been set based on the maximum estimated size of the stock. But it seems that quota is always too large for the crisis mongers.

(On the subject of tuna and of manufactured crises, Hawaiian commercial fishermen have negotiated an arrangement with the governments of the Commonwealth of the Northern Mariana Islands, American Samoa and Guam to harvest some of their quota of bigeye tuna. This is with the blessings of the National Marine Fisheries Service, which has issued assurances that everything is in compliance with international tuna management and protected resource regulations. Mike Tosatto, regional administrator for the National Marine Fisheries Service, said “everything we have put in place is consistent with international law.” However, Bret Yager at West Hawaii Today (<http://westhawaii.com/news/local-news/environmental-groups-oppose-ahi-increases#sthash.3xOrdGWF.dpuf>) reports that several foundation-funded ENGOs are taking steps – including threatening to go to court - while employing the kind of overblown hyperbole that is now part and parcel of any ENGO dialogue, to keep the fishery from taking place.)