

FISHBYTES

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DFO, the FC, and BC Salmon

By Melanie Power and Maria Morlin

The Pacific Region of the Department of Fisheries and Oceans (DFO) has engaged in a consultation process regarding its new Wild Salmon Policy (WSP) and the Salmon Enhancement Program (SEP). The consultation process involves two components: invited (closed) stakeholder meetings, and public (open) forums. In mid-May, we attended a session as representatives of the Fisheries Centre.

The meeting took the better part of a day, and involved presentations on and discussions about both WSP and SEP. Other invited participants represented 'like-minded' organisations, and we understand that other invited

sessions were designed to hear from individuals from similar backgrounds or organisations. Apparently, no invited 'multi-stakeholder' meetings were planned.

The WSP document outlines six principles regarding wild Pacific salmon:

1. Wild Pacific salmon will be conserved by maintaining the diversity of local populations and their habitats.

2. Wild Pacific salmon will be managed and conserved as aggregates of local populations called 'conservation units'.
3. Minimum and target levels of abundance will be determined for each conservation unit.
4. Fisheries will be managed to conserve wild salmon and optimise sustainable benefits.
5. Salmon cultivation techniques may be used in strategic intervention to preserve populations at greatest risk of extirpation.
6. For specified conservation units, when genetic diversity and long-term viability may be affected, conservation of wild salmon populations will take precedence over other production objectives involving cultivated salmon.

As representatives of the Centre, we raised several points regarding the document. Firstly, Melanie raised the concern that the document is almost entirely about salmon biology, with no integrated framework for management. As well, she questioned how DFO can honestly cite the United Nations Convention on the Law of the Sea (UNCLOS) as a basis for the WSP when Canada has not yet bothered to ratify this essential agreement. Melanie felt it was disingenuous to use UNCLOS to DFO's benefit but not assume the responsibility of ratification.

Maria raised an issue on the first principle of the WSP, noting the tendency to overemphasise habitat conservation. The document states that the implementation of Principle 1 "will be guided by the Policy of the Management of Fish Habitat." Maria stressed that habitat should not be a major focus because habitat exists but is empty due to low marine survival and over-exploitation of salmonids. Maria also raised concern about using estimates of productive capacity to determine reference points for conservation, since such estimates are usually unreliable. Also, she and other members of the group expressed consternation over the use of salmon cultiva-

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Give a Man a Fish...

By Daniel Pauly

Clichés are the oil that keeps many conversations moving, and much of our thinking as well. Just like the oil used for machinery, clichés, however, do tend to harden up and to end up blocking meaningful exchanges in conversations, and even thinking.

Take for example the cliché implied in my title: “give a man a fish, and he will eat tomorrow, but teach a man how to fish, and he will have food forever”. (This is often attributed to some Chinese sage).

In the 1970s, when I first saw it, it was on the masthead of the newsletter of a charitable NGO, busy (at the time) with motorising small-scale fisheries in remote parts of Southeast Asia. This led to massive, if localised overfishing in most of the coastal areas concerned. Clearly, the sage who first came up with the idea of teaching a man to fish could obviously not anticipate the impact on coastal fish populations of a dedicated motorisation scheme.

Apples vs. Oranges....

Another cliché is that you can't compare apples with oranges. Yet it is easy to make meaningful comparisons between apples and oranges: we can compare their price, vitamin or water contents, their colour spectrum, lots of things. In fact there are even references on this topic (Downing 1991, plus a paper in the Journal of Irreproducible Results).

Yet, when I lecture on meta-analyses of fisheries or ecosystems, there is always somebody in the audience who says that you can't compare apples with oranges.

“For example in my country....”

Here is another annoying bit (though not a cliché): the notion that

one's country invariably produces the best counterexample to inter-country generalisations. Thus, my students earlier often started objections to some generalisation of mine by “for example in my country...”.

Suspecting that starting a sentence this way is (often) a manner of saying: “I have not really thought about much the issue at all, but being from there, I should know better, and will thus object”. I have asked my students, in discussions, to provide examples from countries other than their own.

The results, although not yet fully tabulated, so far suggest that this approach not only enlivens conversation, but also actually encourages reading about other countries, always a good thing. In fact, the approach has been so successful that it is time to name it.

The obvious choice is to build on W. Pauli's Exclusion Principle (which states that no two electrons, protons, or neutrons in a given system can be in states characterized by the same quantum number). So let's call it D. Pauly's Exclusion Principle: when seeking to refute an inter-country comparison, use any country but your own as counterexample.

And don't say you can't compare countries, either: they are no more difficult to compare than fruits. Also: don't teach people how to fish. Teach them land-based trades, such as growing apples, or oranges.

Reference

Downing J.A. 1991. Comparing apples with oranges: methods of intersystem comparisons. p. 24-45 In: J. Cole, G. Lovett, and S. Findlay (eds.). Comparative analysis of ecosystems. Springer Verlag, New York.

New Consultant Executive Director

By Tony Pitcher
Director, Fisheries Centre

We are all fortunate that the Fisheries Centre at UBC is, by and large, a pleasant place in which to carry out research, and the amount of co-operative team work has increased in recent years. But, as we get larger, it becomes more important to pay attention to liaison and co-ordination among our team if we are to minimize potential delays, disruptions and abrasions, both from outside and within, that may impede our progress. I have been looking for a way to keep an expanded Fisheries Centre a happy and productive place to work without inventing unnecessary bureaucracy.

Therefore, I am pleased to be able to report that, prompted by Ian Robertson's discussions both within the Centre and across campus, and after some reflection on the structure and operation of the Fisheries Centre and the increasing amount of work borne by the Director, the Dean strongly supports the appointment of Nigel Haggan as Consultant Executive Director of the Centre.

As Consultant Executive Director, Nigel will have a special brief for project proposals, co-ordination among existing research projects, and the logistics and development of research support facilities, including paid student work in the Centre. He may, on occasion, deputize for me on these issues. Nigel maintains his Research Associate role of liaison with Aboriginal and community fisheries initiatives. Note that academic matters, including the signatory role, will continue to be dealt with by the Director, or a Faculty Member as Acting Director in my absence.



Marine Conservation in the Galapagos

(FishBytes has recently an update on the status of marine conservation efforts in the Galapagos, from Robert Bensted-Smith and Rodrigo H. Bustamante, of the Charles Darwin Research Station. An abbreviated version of the update follows.)

In order to achieve marine conservation in the Galapagos region, a zoning scheme has been developed as the primary management tool. The zoning scheme for coastal and nearshore areas includes three main types of zones: (a) strict no-take and no-go-zones, where only scientific use is allowed; (b) no-take zones, used mainly for tourism, recreation and education; and (c) extraction zones, under traditional fisheries management regimes.

Located in the eastern Pacific corner, 1000 km off the coasts of Ecuador (0 lat - 90W long), the Galapagos Marine Reserve includes more than 130 large (up to 130 x 40 km) and small islands and islets spread over a surface of 133,000 km². The total coastline of all the islands is approximately 1,800 km.

Following negotiation with the Junta de Maneja Participativo (Participatory Management Board, or PMB), an agreement was finally reached on the zonation nearing midnight, Friday, March 10, 2000. Some details on delimitations are to be defined in the field and the Galapagos' Inter-institutional Management Authority (IMA) has to consider the PMB's proposal. Rejection by the IMA is thought to be unlikely after such efforts. This is the beginning of the end of almost 3 years of battles and negotiations among local and national stakeholders.

The main features of the consensus-based zoning are as follows (note that the percentages have not yet been completely finalised):

About 20% of the coastline will be no-take zones (only non-consump-

tive tourism will be allowed, and only in designated sites), out to a distance of 2 nmiles from the shore (1 nmile = 1.854 km).

Part of the 20% is in large blocks (up to 12 nmiles of no take area coastline) on each biogeographic region (6 blocks), surrounded by a network of 1-2x2 nmiles smaller blocks (up 18+ in number) of visitor sites with a buffer areas of 0.5-1.0 nmiles along either side.

In some no-take zones with small pocket beaches, fishing for lisa (mullet) will continue to be permitted, until a compensation scheme is developed for phasing-out fishers into diving and small-scale tourism.

Of the remaining 80%, some 5% is in areas close to the main ports, which are to have a kind of mini-zoning scheme involving the community, and these will also include some smaller demonstrative no-take areas and tourist sites too.

The rest of the coast and all deep water is regulated using traditional fishing strategies (gears, sizes, season, quotas, permits, etc.).

The fishermen will be assisted to develop economic alternatives, including deep water fishing (to free up the coastline) and preferential access to new permits for marine tourism activities.

Regulations to control fishing effort, which has grown rapidly in recent years, will be introduced.

After certain conditions relating to economic alternatives for fishermen have been met, (i) access to beaches for mullet will cease in certain areas, and (ii) the two northern islands, Darwin and Wolf, will become no-take zones in their entirety.

In the authors' view, this is an impor-

tant step forward. If the no-take zones succeed, it could be considered a breakthrough. And if the whole thing works, and Darwin and Wolf become 100% no-take zones in a couple of years' time, that would realise the dreams of many a diver (Galapagos was elected the number 1 diving site among the best 100 in the world, according to *Scuba Diving Magazine*, Feb. 2000).

A daunting amount of work must be done: to demarcate, protect, and monitor all of this and to work on the management of the fisheries; carry out the pilot plan for deep water fishing; research by-catch problems; etc., etc. And there will surely be plenty more arguments to come about the acceptable limits of artisanal (small-scale) fishing in deeper waters, sea urchins, sea cucumber, and lobster fisheries, the pressure to give more permits for fishing boats, who really is a fisherman or boat owner etc.... aahhh, and do good science too! Bensted-Smith and Bustamante write "But if we do not blow a fuse then we will stick at it."



2001 Larkin Lecture Named!

Mark your calendars for the next Larkin Lecture, to be held Thursday, February 22, 2001!

The Fisheries Centre is pleased to announce that the fifth Larkin Lecture will be presented by Dr. Lee Alverson, of Natural Resources Consultants, Inc., Seattle, USA.

Details, including the topic of the lecture, will follow in FishBytes as they become available.

Cannery Row, BC

Four years ago, BC Packers ceased cannery operations along Steveston's Fraser River Cannery Row. Fewer than ten canneries remain of the 42 that had once lined the river's shores. In a May 1, 2000 editorial, *The Vancouver Sun* wrote that, "Now the fishing industry, in what was once called 'the salmon capital of the world', has been reduced to small catches sold off the boats moored at the government dock and the question of what to do with the century-old remnants of our Cannery Row has split the community into two camps."

Not surprisingly, BC Packers would

most prefer to tear down the remains to redevelop the area – for housing, commercial, and maritime-related business. *The Sun* quoted the value of the area as \$20 million as an industrial site, but \$60 million once redeveloped.

The Steveston Fisheries Alliance (SFA), a local non-profit group, would prefer to purchase a part of the area for restoration. It envisages the site to be used for a public fish auction, market and tourist attraction, similar to that at Vancouver's Granville Island.

Steveston falls under the municipal

jurisdiction of Richmond – and Richmond's city council is split regarding BC Packers' proposal. The SFA has made an exploratory bid of \$16 million to the company, an offer which has been rejected. Furthermore, the site is not yet officially for sale.

In September, Richmond council is expected to give fourth reading of the redevelopment proposal and also to hear the proposal from the SFA. *The Sun's* editorial suggests that both parties should work together to jointly develop and restore the site.



WSP/SEP - Continued from page 1

tion techniques to be used in "strategic intervention to preserve populations at greatest risk of extirpation," because intervention of cultivated salmon does not induce restoration of wild salmon populations.

Principle 4 requires that 'harvest rules' be set. Melanie enquired of the DFO representatives whether, given the increased emphasis on terminal fisheries, co-management with local stakeholders would be pursued. After all, such genuine co-management has been implemented – successfully – on the Atlantic coast. The response was that they were already co-managing – that DFO asks stakeholders what they think and then DFO makes a decision, because someone has to make a decision in the end.

In light of the WSP, comments on SEP's focus and direction were invited from participants. Maria suggested that education efforts, such as school programs, should not be about hatcheries, but rather about wild salmon conservation. Furthermore, the target population of education should include commercial and recreational fishing industries. SEP is considering a user-pay approach to

fund SEP initiatives. However, Maria expressed the opinion that user pay would put authority into private interests over a public resource.

Public forums have been scheduled throughout BC. Each public forum is scheduled to begin around noon and continues through 9:00 pm, and, according to the DFO website, includes presentations, time for discussion, and an open house approach. We would encourage anyone with an interest in Pacific salmon to attend these meeting – the schedule can be found at www-comm.pac.dfo-mpo.gc.ca/wsp-sep-consult/locations.htm. You may also call (604) 666-6614 for information on venues.

For more information on WSP/SEP and the consultation process, visit www-comm.pac.dfo-mpo.gc.ca/wsp-sep-consult/, email pacdfocommunications@pac.dfo-mpo.gc.ca, call (604) 666-0384, or fax (604) 666-1847. Feedback may also be submitted through the website. We were told that, eventually, the facilitators' report will be posted on the DFO website.

Melanie Power is a PhD student with Tony Pitcher. Maria Morlin has recently defended her MSc with Carl Walters.



Cod Farming

Marks & Spencer's, that great British department store (and institution), has begun to sell commercially farmed cod, according to Globefish (FAO, Rome). Ten tonnes are being sold in 30 outlets of the store, and are priced at £10.39/kg for skin-on boneless fillets – the same price as Icelandic boneless cod at M&S. It seems as well that the product is labelled only as West Coast Scottish Cod – with no mention of its cultivated origins.

This comes as part of a £450,000 (about \$1 million Canadian), three-year project, begun in September 1997, involving M&S, Cavaghan & Gray (fish processors) and the Sea Fish Industry Authority (Seafish). The project "...aims to achieve demonstration output of 50 tonnes of cultivated cod by the end of this year. This total is expected to grow to 2,500 tonnes by 2005 and 7,500 tonnes by 2010." This is also expected to reduce the UK's reliance on imports to meet its annual demand of 170,000 tonnes of cod. Furthermore, "The project also aims to show that cod cultivation can be viable and complement existing salmon farming operations."



News and Notes - Lots of good news at the Centre!



Congratulations to **Maria Morlin** who successfully defended her M.Sc. thesis "A comparison of land use and coho salmon abundance in the Georgia Basin, British Columbia" on April 14,

2000. Maria is working on the Sea Around Us project this summer, putting her GIS skills to work. In September, Maria will begin her Ph.D. with Daniel Pauly to study the ecology of fishes of the Amazon flooded forest and investigate the effects of deforestation on that ecosystem.

Congratulations to **Dorothee Schreiber**, who defended her M.Sc. in April. Dorothee was a student of Bill Neill, and her thesis was in the field of zooplankton ecology. For the summer, she is working with the Sea Around Us project and learning Rapfish, and in September she will begin Ph.D. work with Tony Pitcher, studying the impact that Individual Transferable Quotas (ITQs) for Pacific halibut have had on coastal communities in BC, as part of the new "Coasts Under Stress" project. (Stayed tuned for more on this project in an upcoming issue of *FishBytes*!)

David Preikshot is saddened to announce the passing away of his M.Sc. ("An interdisciplinary assessment of tropical small-scale fisheries using multivariate statistics"). The thesis was successfully defended May 12, 2000 after a long and arduous life. The thesis was born almost five years ago during the heady summer of 1995 in the offices of the UBC Fisheries Centre. The thesis had many friends throughout its maturation who helped it grow to almost monstrous implications. Many Fishery Centre students will remember how Dave's MSc was inscrutable, irascible, and at times absurd. The end was thankfully swift. Despite being attended to by four doctors at

the defence nothing could be done to prolong the thesis' life. It shall be missed by all. Dave's thesis is survived by Tony Pitcher, Jackie Alder, Melanie Power and many other foolhar,.....er,.... intrepid researchers going down the garden path of interdisciplinarianism (say that fast once!). In lieu of flowers please buy yourself a scotch and toast Dave's reincarnation as a Ph.D. student (which shows the Hindus are right in that you come back as a lower form of life if you lead an unworthy existence).

Congratulations to **Sylvie Guénette**, who successfully defended her Ph.D. thesis in June. A student of Tony Pitcher, Sylvie's thesis was entitled *Marine Reserves for the Northern Cod*. Sylvie is working as a post-doctoral fellow on the Sea Around Us project.

Congratulations again to **Stephen Watkinson**, who has been awarded a scholarship from the Aboriginal Fisheries Commission. Stephen is a member of the Kitkatla Band, and an M.Sc. student with Daniel Pauly.

Farewell to **Lore Ruttan**, who has accepted a post-doctoral position at Indiana University's Workshop in Political Theory and Policy Analysis.

New Members

Teresa Ryan has joined us from the University of Washington, where she has recently completed her M.S. Teresa is Tsimshian from Metlakatla, and, amongst many other things, dances with the Tsimshian Haayuuk North Coastal dance group, and has had the honour of dancing for and meeting Nelson Mandela (visit 192.251.219.162/photos/photo.asp?SubID=21&PhotoID=235). Teresa's research will focus on fisheries along the North Coast, especially eulachon and

herring. She is currently working with the Sea Around Us project, and in the fall will begin Ph.D. studies with Tony Pitcher as part of the 'Coasts Under Stress' project.

In the last little while, a number of people have joined the Fisheries Centre to work on the Sea Around Us project. Welcome to: **Shawn Booth, Wilf Swartz, Lilian de la Pena, Cam Ainsworth, Bridget Ferriss, and Achmed Gelchu!**

Larkin Room

Anybody who has visited the Fisheries Centre in the last few months will have noticed a couple of developments: 1) we've expanded into a second hut, and 2) our digs (old and new) have been spiffed up. The main office area has been renovated, as have other office facilities. Part of a hallway has even been painted!

To celebrate the new office and reading room facilities in Hut B-6, a reception and Grand Opening will be held there on Wednesday, July 19, 2000. At this time, the new room will be dedicated as the Larkin Room, in honour of Peter Larkin. Helen Hahn will be organising an exhibit of Larkin memorabilia, including stunning salmon prints from the inauguration of the Salmon Enhancement Program.

All are welcome!

New Website!

Please note that the Fisheries Centre web address has changed! We are now found at www.fisheries.ubc.ca. The page at fisheries.com will automatically forward to this new address. Eventually, our email addresses will be changing as well, but they too will automatically forward during the transition period.

News and Notes - Things to read and do

Alaska's Aquatic Ecosystems

Many *FishBytes* readers will know that the Fisheries Centre has been actively working on several research projects regarding Alaska's ecosystems. This CD-ROM has been produced by Cindy Young and Tom Okey under a project led by Daniel Pauly, UBC Fisheries Centre and funded by the Exxon Valdez Oil Spill Trustee Council, in Anchorage, Alaska. The primary purpose of this CD-ROM is to make available a new computer model of the Prince William Sound and three other Alaskan ecosystems. It contains information on the marine and freshwater ecosystems of Alaska and resources for a variety of users. The information is also available on our website, at www.fisheries.ubc.ca/projects/PWSound/AlaskaEco/Alaska.htm. The CD is available for the cost of mailing, for \$3.00 (Canada and US addresses) or \$5.00 (elsewhere) – contact Gunna Weingartner at (604) 822-0618 or by email at events@fisheries.com.

Additionally, Tom Okey has recently published an article about his research experience in Alaska in the online E-Magazine. The article may be read at www.e-magazine.com/may-june_2000/0500feat2.html.

Conference Calls

Economics of Marine Protected Areas – to be hosted by the Fisheries Centre, Vancouver, July 6-7, 2000. Contact Dr Ussif Rashid Sumaila at UBC Fisheries Centre, 2204 Main Mall, Vancouver, British Columbia, V6T 1Z4, or visit www.fisheries.ubc.ca.

Coastal Zone Canada 2000 – Saint John, New Brunswick, September 17-22, 2000. Contact Coastal Zone Canada 2000 Secretariat, c/o NB Department of Fisheries

and Aquaculture, P.O. Box 6000, Fredericton, New Brunswick, E3B 5H1, (506) 462-5961, fax (506) 453-5210, email cacacc2000@gov.nb.ca, visit www.gov.nb.ca/dfa/czc-zcc2000.htm.

The **Third William R. and Lenore Mote International Symposium** – Sarasota, Florida, USA, October 31-November 2, 2000. Contact Felicia Coleman, Institute for Fishery Resource Ecology, Department of Biological Science, Florida State University, Tallahassee, Florida 32306-1100, (850) 644-2019, email coleman@bio.fsu.edu, visit <http://www.fsu.edu/~biology/mote.html#international>. Note that Tony Pitcher, Daniel Pauly, and Carl Walters are included among the keynote speakers.

The **19th Lowell Wakefield Symposium: Crab 2001 – Crabs in Cold Water Regions: Biology, Management, and Economics** – Anchorage, Alaska, January 17-20, 2001. Contact Brenda Baxter, Coordinator, Alaska Sea Grant College Program, University of Alaska Fairbanks, PO Box 755040, Fairbanks, Alaska, USA, 99775-5040, phone (907) 474-6701, fax (907) 474-6285. Visit www.uaf.edu/seagrant/Conferences/symposia.html.

Publications

The **Salmon Migration Game** teaches kids about the life cycle of salmon. Contact the Alaska Sea Grant College Program, University of Alaska Fairbanks, PO Box 755040, Fairbanks, Alaska, USA, 99775-5040, (907) 474-6707 or (888) 789-0090, fax (907) 474-6285, email fypubs@uaf.edu.

Courses

Malaspina University-College, in Nanaimo BC, offers a number of summer courses through its Fisheries and Aquaculture Extension Program. Call (250) 741-8708 for details.

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Opinions expressed in this newsletter do not necessarily reflect those of the Fisheries Centre or its members.

Be sure to visit the Fisheries Centre's website, www.fisheries.ubc.ca, and follow the links to *FishBytes*. There, you'll also find details on Fisheries Centre projects, publications, faculty and students, as well as information on upcoming Fisheries Centre events.

