

## NEWS

## New salmon research project to study collapse of BC coho stocks

The Pacific Salmon Foundation, based in Vancouver, BC, has put together a broad-based, five-year, research project to determine why coho and chinook salmon stocks in the Strait of Georgia collapsed two decades ago. One likely avenue of investigation will be whether it had anything to do with salmon farms in the region.



Brian Riddell.

The Salish Sea Marine Survival Project, which is much more holistic than anything any government has undertaken on the issue, will also seek to determine what can be done to restore the runs.

A spokesperson for the foundation under president and CEO Dr. Brian Riddell, confirmed that the study, launched some 20 years after the collapse, has managed to garner close to 75% of the required \$10 million budget from individual philanthropists, concerned corporations, foundations and non-profit organization. All as a result of efforts Riddell has made to get answers to why and how it happened.

Riddell, who took on the leadership of PSF after retiring from the federal Department of Fisheries and Oceans, said the research department he had headed at DFO had long wanted to do this kind of broad-scope project, but was never able to obtain funding.

Riddell said the Salish Sea project will try to “pull the entire picture together” by looking for “the missing pieces of the puzzle” and by “looking at everything at once.”

Among the financial supporters are Ross Beaty, who runs Alterra Power, described as Vancouver’s largest clean-energy company; Rudy North, president and chief executive of North Growth Management; the Ritchie Family Foundation; and the Sitka Foundation.

Beaty is quoted as saying that many people support “people things” like schools and hospitals but few think to support “those vital things around us that have no voice – the natural world that gives sustenance to humans in so many ways.”

Beaty is quoted as supporting the project for that reason alone, and because, as a native of Vancouver, he grew up fishing for salmon and has been very concerned about their collapse during his lifetime. He believes the reason for their collapse is “overfishing of both the salmon and their pelagic feedstock, like the herring and herring roe, habitat degradation, and industrial and urban pollution into our waterways... This is not rocket science, and it’s reversible if we change these destructive habits.”

Riddell concurred with that, but added that the study is needed to pinpoint exactly what went wrong with the stocks, and lead to the development of management policies that will restore them.

The Pacific Salmon Foundation has already begun testing equipment in the waters off Cowichan Bay on Vancouver Island.

– Quentin Dodd ■

## Seaweed culture slow to grow in western world

Worldwide, seaweed culture is large. However, 98.9% is concentrated in seven Asian countries, and little is produced in the western world.

At the Aquaculture Association of Canada (AAC) meetings recently held in St. Andrews, New Brunswick, Thierry Chopin of the Canadian Integrated Multi-Trophic Aquaculture Network (CIMTAN), University of New Brunswick, brought this to the delegates’ attention.

If aquaculture is to make a major contribution to future food supplies, phyco-culture must be developed in a more evenly distributed manner throughout the world, he stressed. At present some 23 million tonnes, worth US\$6 billion are cultivated and harvested annually (the wild harvest is just over 1 million tonnes). About 220 species are cultivated with six genera including *Saccharina*, *Udnera*, and *Porphyra* providing 98.9% of the production and 98.8% of the value.

Three species are grown in Canada: *Ascophyllum*, dulse (*Dilsea edulis*) and Irish moss (*Chondrus crispus*),



The lion’s share of seaweed culture takes place in Asian countries and has been very slow to catch on in the west.

but Canadian seaweed culture (at sea or land-based) remains small.

Chopin suggests that Integrated Multi-Trophic Aquaculture (IMTA) offers an opportunity to reposition the value and roles seaweeds have in coastal ecosystems. In particular the utilization of nutrients otherwise lost from cage culture of fish.

Western, animal-biased aquaculture has to recognize and take advantage of the environmental-economic- and societal benefits, and ecosystem services that these extractive species can provide (nutrient bio-mitigation, oxygen provision, carbon sequestration and reduction of ocean acidification), which could be valued through a system of nutrient trading credits. These, he says, would be incentives to reverse historical challenges and lead to success stories based on a gradual implementation strategy for research, development and commercialization.

– David Scarratt ■



## Climate change and aquaculture discussed at Canadian conference

One of the feature sessions at the Aquaculture Association of Canada (AAC) conference held last month at St Andrews, New Brunswick, focused on the issue of climate change and how it is already affecting, and will continue to affect aquaculture.

Dr. Keith Brander of National Institute of Aquatic Resources – DTU Aqua, Denmark, gave a keynote introduction to the session. He noted that the impacts of climate change on aquaculture have been a major concern for many years and have been considered in several IPCC reports, including the most recent. Obvious effects include changes in growth and development rates, feeding, seasonal timing, disease incidence and spread of pathogens, but not all responses are disadvantageous: some species or locations may benefit from changed conditions.

Rising sea-level and increased incidence of extreme events (precipitation, flooding, storms) are affecting infrastructure and extreme storms have already damaged sites.

There have also been rapid increases in water temperature with well-documented concurrent shifts in species distribution. Problems in the shellfish industry on the West coast of North America have been linked to decreased pH linked to increased upwelling in the north-

eastern Pacific ocean. But there remains some uncertainty: at the moment, detection is easier than attribution.

Brander discussed the value of attributing extreme events, such as hurricane Katrina and the 2003 heat wave in Europe to climate change, and agrees that even in the absence of clear attribution, studying such events, and the responses taken would help in planning for future extreme events.

Preparation for and adaptation to climate change need to be considered at all timescales, he added. This should include adaptations to both policy and management, as well as forward-looking changes in selective breeding for tolerant strains, feed formulations, site selection, integrated water use, etc.

Responses to extreme events can be designed to link to effective short-term forecasting; seasonal forecasts can be used to plan harvest strategies and parasite treatments; strategic planning of species that could be grown, and individual sites should take long-term climate projections into account. However, climate is only one of a number of factors that are likely to change over future decades and an integrated overview is needed.

– David Scarratt ■

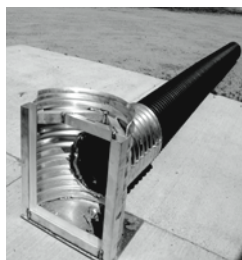
## WISCONSIN FLOWGATE & CULVERT

YOUR SOURCE FOR ALL YOUR WATER CONTROL NEEDS

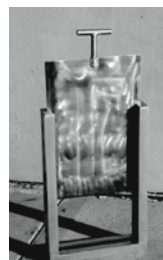
50 years  
experience



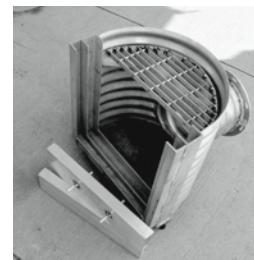
DUAL PURPOSE SLIDE GATE



ALUMINUM FLOWGATE ON PLASTIC CULVERT



FISH / SHRIMP GATE – OPEN



ALUMINUM FLOWGATE, STOPLOGS & SAFETY STEP

### MARINE GRADE ALUMINUM:

Custom Aluminum Fabrication, Aluminum Flowgates, Slide Gates, Fish Ladders, Bottom & Top Draw Gates, Aluminum Stoplogs, Screens, Frames And More.