

Salmon and Eulachon in Ecosystem Space and Time *A Plea for Wider Collaboration and Data Integration*

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ABSTRACT

Aboriginal people developed *Integrated Ecosystem-Based Management* long before European contact in the 1750s. Ecosystem knowledge contributed the lion's share of pre-contact wealth. Fisheries drove the early British Columbia economy, but now account for <0.5% of GDP. Even though West coast research shows that pre-contact ecosystems could sustain many times current catch value, this still would not weigh heavily against other economic sectors. Single species management has failed to avert the depletion of many fisheries; hence we now hear calls for '*ecosystem-based management*' as opposed to *integrated management* (used in reference to managing multiple sectors such as fisheries, farmed salmon, oil and gas, as well as climate change). We suggest that re-integrating ecosystem-based and integrated management necessitates the cooperation of other ocean sectors in generating the information necessary to monitor and restore ecosystems while ensuring that their own operations are sustainable. Currently there are a number of scientific initiatives, ocean and biological observing platforms and high powered models to help develop new management regimes. We consider how this new technology could help to understand the collapse of eulachon (*Thaleichthys pacificus*). Eulachon are of great importance to Native peoples, but could well be described as the 'forgotten anadromous fish' of the research community. It is important that both industry and governments recognize the importance of maintaining the long term viability of these important tools and invest appropriately to ensure sound ecosystem management practices into the future.

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