

Integrating fishers knowledge in data-limited fisheries assessment: a case study using productivity-susceptibility analysis (PSA) of small-scale arctic charr fisheries in Canada's Arctic.

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In remote and data-poor situations such as those encountered in Arctic regions, traditional and ecological fishers knowledge is a significant and valuable information source. Small-scale arctic charr (*Salvelinus alpinus*) fisheries play an important role in the subsistence and market economies of Canada's Arctic territories. Arctic charr fisheries development is key to economic growth and food security in Arctic communities, however, management is complicated by data paucity; by the widespread distribution and biological complexity of arctic charr stocks; by growing uncertainties related to climate change impacts on Arctic fish and ecosystems; and by the lack of adapted, data-poor stock assessment tools permitting to link Inuit traditional knowledge with the existing fishery science. A productivity-susceptibility analysis (PSA), scaled to the observed range of life history diversity in arctic charr populations, provides an efficient tool for sustainability ranking of arctic charr stocks. Sustainability scores can inform the definition of precautionary total allowable catch (TAC) levels and serve to better focus fishery sampling and monitoring effort. In this presentation, we demonstrate how PSA can also be tailored to provide a platform for scoring and integrating fishers knowledge in the evaluation of stocks relative vulnerability to fishing in the context of ongoing climate change.

Theme session F: Small-scale fisheries under data-limited scenarios. Paper contribution.