The 71st Canadian Conference for Fisheries Research held in Edmonton, Alberta, Canada, January 4-7, 2018, had three talks of special interest to the Walleye Technical Committee, by Stephen C. Spencer, Mike G. Sullivan, and C. L. Cahill.

Stephen C. Spencer

A DECADE OF SPECIAL LICENSES TO HARVEST WALLEYES; A FISHERIES MANAGEMENT TOOL THAT BRIDGES OPEN-ACCESS TO LIMITED-ACCESS FISHERY

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When compared to other jurisdictions, Alberta has been described as a pressure point for fisheries management. Alberta has relatively fewer waterbodies, lower productivity, an expanding human population, and fish with high catchability. These limitations have resulted in several province-wide fishery collapses including local extirpations. Fisheries Managers experimented with 'passive' management tools such as shortened fishing seasons, adjustments to bag and size limits, with minimal success attributed to overwhelming angler effort. With the recovering fish populations, Alberta needed a management tool to provide harvest while protecting fish populations. The Special Harvest License program allows for

tags identified through surveys for abundant fish by size category while accounting for other sources of mortality. Initially, this program was not well received by stakeholders, but recent license sales have indicated acceptance. However, there are considerations including the effects on other species in the fishery, additional costs to management and stakeholders, and indications that the Special Harvest License program will not provide sufficient protection with increasing catch and release mortality.

SS8. Recreational fisheries management and science: balancing conservation with angler preference

Mike G. Sullivan

ALBERTA'S CHALLENGING FISHERIES: A RESPONSIBILITY TO MAKE SYSTEMS WORK

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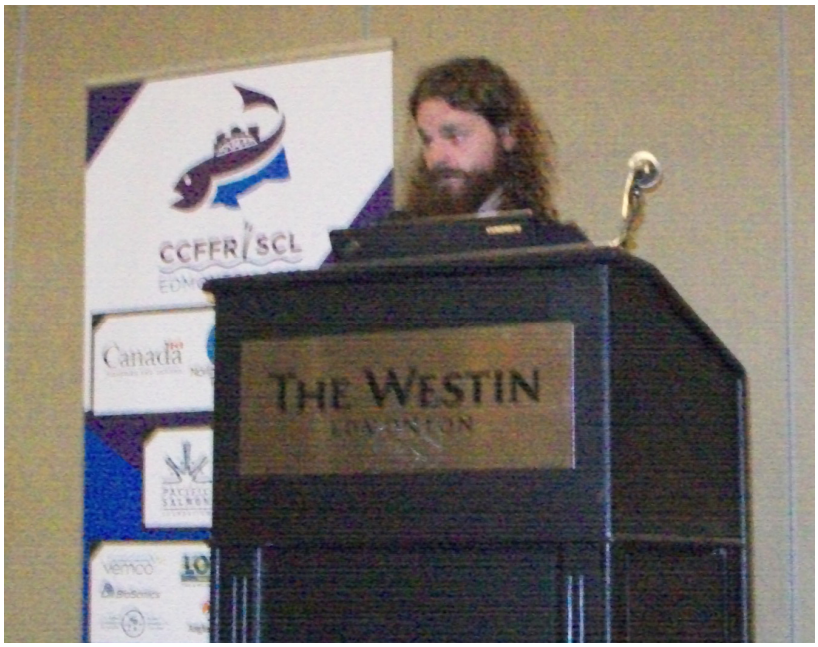
Fisheries managers in Alberta face a uniquely difficult problem; low fisheries productivity and high threats from cumulative effects, including climate change. Alberta's short history of fisheries management began in the 1960s and focussed on maintaining harvest opportunities, but was ineffective in mitigating increasingly severe overharvest and ecosystem changes. By the 2000's, major declines in fish populations had resulted in Species-at-Risk Act interventions, infringement of Indigenous fishing rights, declines in fiscal and social benefits of recreational fishing, and the economic collapse of Alberta's freshwater commercial fisheries. These losses forced a paradigm shift in fisheries management; integrating cumulative effects modelling with quantitative fisheries science. Using a data-driven system of assessing stocks, and quantifying and mitigating cumulative effects, realistic fishery goals are now being planned and achieved. Case studies on recovery of Walleye (*Sander vitreus*), adaptive management of Bull Trout (*Salvelinus confluentus*), and Species-at-Risk planning for Athabasca Rainbow Trout (*Oncorhynchus mykiss*) demonstrate the success of this systems-based approach.



C. L. Cahill

TRENDS IN ALBERTA'S WALLEYE FISHERY DURING 2000-2016

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Monitoring to detect temporal trends in fish populations is a key step in fisheries management. Trend determination is important because it enables the evaluation of management actions, such as whether a population has recovered to a specific level within a given timeframe, and because knowledge of a system's previous dynamics can be used to inform structured decision-making programs. Unfortunately, time-series data from monitoring surveys are typically noisy and short in length (i.e., < 20 years), and thus determining trends using standard statistical methods is challenging. Alberta's Walleye *Sander vitreus* populations were monitored using a standardized Fall Walleye Index Netting (FWIN) sampling protocol from 2000 to 2016. Lakes were sampled sporadically with respect to year, and hence lake-specific time-series have both missing and unequally spaced data. We attempt to overcome some of these issues using hierarchical models, and discuss general patterns in the Alberta FWIN data.

SS8. Recreational fisheries management and science: balancing conservation with angler preference