OMF | Ocean Modeling Forum

INTEGRATING GOVERNANCE IN QUANTITATIVE FISHERIES MANAGEMENT

WHAT IS GOVERNANCE?

Governance refers to the ways institutions and social interactions shape cultural preferences, inform who can make decisions about natural resources, and influence what will be considered acceptable politically, economically, and environmentally. However, governance is rarely included in quantitative predictions and outcomes of fisheries management.

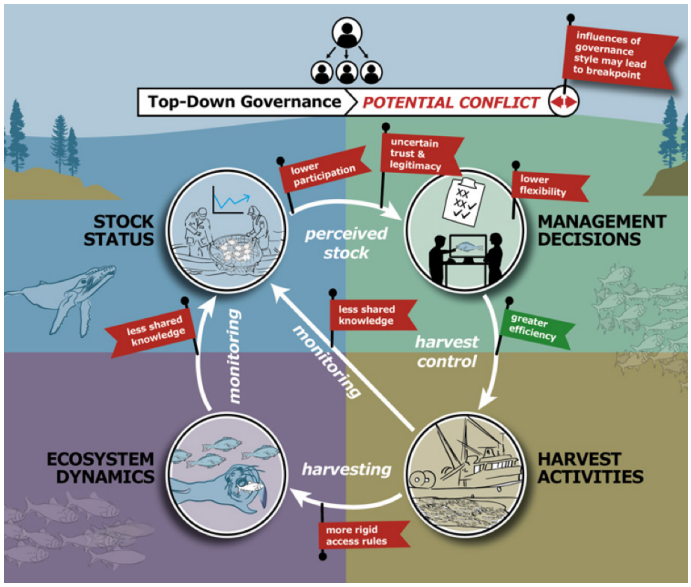
INCORPORATING GOVERNANCE IN FISHERIES MODELS

The Ocean Modeling Forum (OMF) included governance was included in a fishery management scenario based on the herring fishery at Haida Gwaii, British Columbia, using two sample features of governance: compliance and inertia.

- *Compliance* - the degree to which resource harvesters are willing to follow the rules.
- *Inertia* - the failure of resource managers to adapt their rules in response to new information or changing conditions.

Poor governance decreases compliance or increases inertia, OMF research reveals this leads to unanticipated ecological and social trade-offs like the frequency of fishery closures. Inadequate governance can greatly reduce the effectiveness of otherwise good management strategies

Other governance attributes could be added to further expand and refine fisheries models including the legitimacy of the decision process. "Outcomes that are perceived 'illegitimate', or that undermine trust among harvesters, Indigenous peoples and coastal communities, scientists and decision makers, are far more likely to limit opportunities to identify desired outcomes."



RECOMMENDATIONS

Governance attributes can affect the success of fisheries management, and should be explicitly included in quantitative fisheries approaches. Doing so will require directly connecting governance with important parameters inertia, compliance, among others.

Armitage et al. (2019). Integrating governance with quantitative evaluation of resource management strategies to improve social and ecological outcomes Manuscript in preparation.

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