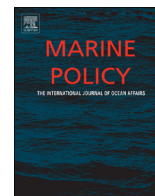




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## Neoliberal and neo-communal herring fisheries in Southeast Alaska: Reframing sustainability in marine ecosystems

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## ABSTRACT

The transformation of Pacific herring (*Clupea pallasii*) fisheries from communal to commons to neoliberal regulation has had significant impacts on the health and sustainability of marine ecosystems on the Northwest Coast of North America. Due to their abundance, seasonality, and sensitivity in disturbance, herring were carefully cultivated and protected by coastal Tlingit, Haida, and Tsimshian communities. The early industrial fishing era undermined this communalist approach in favor of an unregulated commons for bait and reduction fisheries, attracting non-local fleets and leading to conflicts with local Natives and tragedy of the commons style overexploitation of herring stocks by the mid-twentieth century. Since the 1970s, a re-regulated neoliberal sac roe fishery for Japanese markets has provided new opportunities for limited commercial permit holders, but with further depredations on local spawning populations. This paper uses frame theory and historical and political ecology to show how this transformation was justified by three critical but dubious (re)framings of Southeast herring populations under modern scientific management: (1) a reductionist framing of single species productivity models, expressed as herring “biomass,” within space and time (baseline scale framing); (2) the selective framing and privileging of human industrial predation under maximum sustainable yield (MSY) within a dynamic ecosystem of multiple predator populations (actor relations framing); and (3) the strategic framing of spawning failure events and policy responses to those events by professional fisheries managers (event-response framing). Finally, the paper argues for a new social-ecological systems approach, based on aboriginal models of herring cultivation, to sustain a commercial, subsistence, and restoration economy for the fishery.

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[I]t's mind boggling to think how herring survive. From the time they spawn, the crows, the ravens, the seagulls, the eagles, sculpins, the trout .... You name it, they're all feeding on it. And when they hatch, then the ducks and everything else are—you know it's surprising how any can come back at all. They're just so important to the total food chain ... every animal ... in the sea. They feed everything. They feed everything. They're important to everything .... [W]e didn't like the idea of commercial fishermen coming in and taking them on a large scale because they're very important to our salmon and especially king salmon, you know. And they feed our seals and stuff like that. Things that we're depending on.

-Harold Martin (Tlingit Elder, in [4]).

### 1. Introduction

Modern fisheries management is, as Mansfield suggests, “a political process ... [that] imposes a particular, culturally specific vision of what nature is, who should control it, how people should use it, and who should benefit” [1]. In commercial herring and salmon fisheries in the twentieth century, this vision was driven by the quest to maximize the yield of a perceived superabundant resource through de-legitimation of indigenous communal rights, industrial intensification, territorial extension of “commons” fishing, and expanded commodification of fishing products.

In Alaska and British Columbia, this industrialization led to a classic “tragedy of the commons” [2] situation, wherein open access and new, more efficient capture technologies resulted in the over-exploitation of key salmon and herring fisheries by the mid-1900s. It was also during this period that “scientific management,” based on calculations of maximum sustainable yield (MSY), was first imposed. Managers sought to define a harvestable surplus of fish from the estimated population. This MSY regime, in turn, evolved into the present neoliberal management system, beginning in the 1970s,

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where a limited entry system of tradable permits was established to privatize access to fish quotas – the harvestable surplus – within discrete management areas (selected for their commercial viability), thus limiting competition, spatial expansion, and total catch in order to maintain “sustained yield” fisheries (a constitutional mandate in Alaska; see Alaska Statute Sec. 16.05.020).

Pacific Herring (*Clupea pallasii*) fisheries in the United States and Canada have followed this trajectory from indigenous communal management of local marine systems primarily for fish eggs, to development of a common property resource regime (over)exploited for bait, oil and meal, and finally to today’s neoliberal regime, imposing a privatized, limited-entry marketable permit and quota system for harvest of sac roe, a valuable global commodity exported primarily to Japan and sold as *kazunoko*, an expensive delicacy. Today Southeast Alaska is managed in units designed to facilitate the commercial extraction of herring (see Fig. 1) in a fishery that, in the eyes of many, exemplifies the worst attributes of a neoliberal system of “accumulation by dispossession” [3]. That is, a system in which seascapes of plenty, cultivated according to sustainable communal protocols and practices, have been appropriated and transformed into sites of commodification and privatized extraction, supported by the state.

The MSY paradigm is presently under attack for failing key constituencies that are under-represented in the management process, particularly subsistence gatherers of herring eggs—who are largely indigenous Tlingit, Haida and Tsimshian people. Representatives of these groups dispute both the conduct and impacts of the sac roe fishery, which, they submit, not only subverts their subsistence priority but also undermines the abundance of herring needed to support the web of life that is dependent upon these foundation forage fish. This web includes seabirds, marine mammals, and salmon and humans (as referenced in the above

quotation from Tlingit elder Harold Martin; see also [4,5]). In addition, Aboriginal peoples regard herring as a cultural keystone species [6], characterized by: (1) intensity of cultivation (on introduced substrate) and multiplicity of use; (2) rich linguistic terminology and (3) cultural–ecological associations; (4) persistence in memory and use despite cultural change; (5) a unique and irreplaceable role in social–ecological systems; and (6) value in providing opportunities for resource acquisition beyond the home territory (e.g., through exchange). In some Tlingit communities herring are still used by up to 95% of households [7,8], serving as a crucial subsistence food during the critical spring shoulder season before salmon return. Herring is richly represented in traditional knowledge concerning its life cycle, ecosystem values, vulnerabilities, and cultural associations. Herring eggs are a featured ceremonial food. Finally, herring eggs are widely traded throughout Tlingit country and beyond, including to places as far away as Barrow, Alaska, Whitehorse, Yukon, and even Washington DC.

Alaska Fisheries managers maintain that they are managing the herring fishery conservatively, in accordance with MSY principles, and that the overall spawning population and biomass have been increasing since scientific management principles were imposed in the 1970s [9]. Because the state frames all Southeast Alaska herring as one meta-population, they are less concerned with local fluctuations in spawning schools than with long-term and overall biomass trends in the region. A similar logic has been applied in managing herring fisheries in British Columbia, where First Nations have likewise expressed concern that such an approach leads to overexploitation and the potential disappearance of local spawning stocks, which are of vital cultural and ecological importance [10].

In the spring of 2012 things came to head in Southeast Alaska, when herring returns for the commercial sac roe fishery fell well

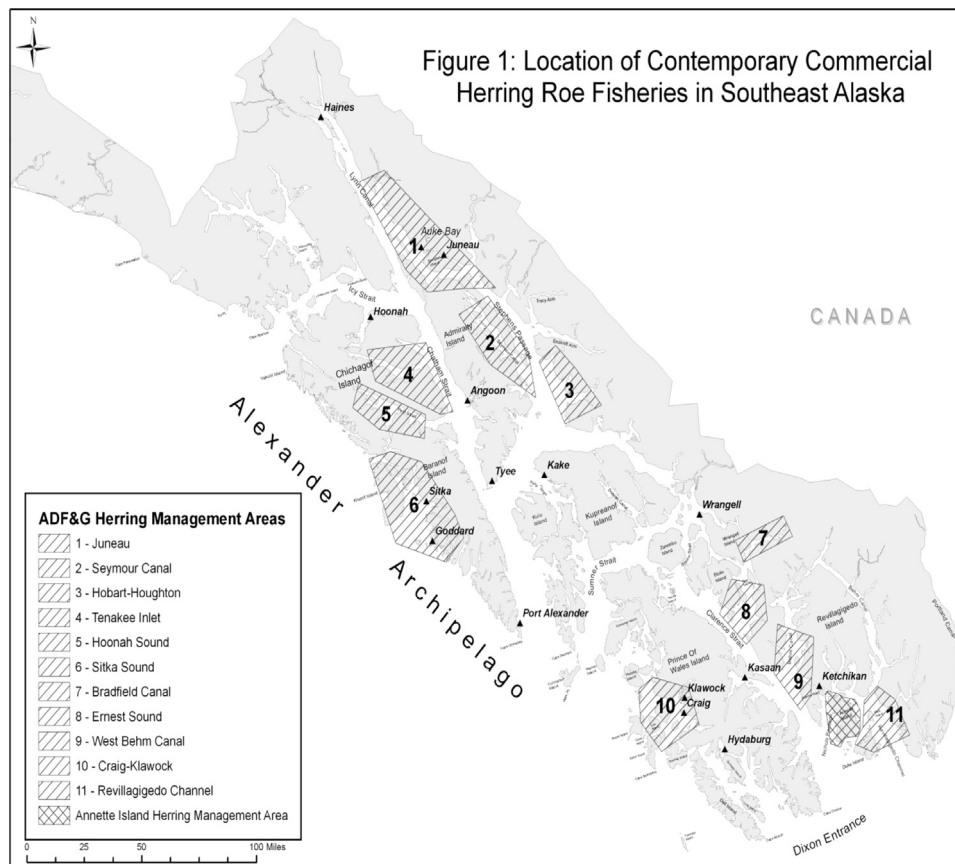


Fig. 1. Location of contemporary commercial herring Roe Fisheries in Southeast Alaska (source: ADF&G).

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