

Valuing the wild salmon fisheries of Scotland: The social and political dimensions of management



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ABSTRACT

The wild Atlantic salmon which spawns in Scottish waters is valued by a multitude of stakeholders. Present wild Atlantic salmon stocks are decreasing, resulting in conflicting perspectives on rights to exploitation and access by angling and net fisheries, forcing government, management and conservation agencies to react and mitigate. Interviews were conducted with key representatives actively involved in the management, conservation and utilisation of the wild salmon of Scotland to investigate the social and political dimensions of the fisheries. All stakeholders noted that a key concern impacting on the wild Atlantic salmon survival was at sea mortality and the risk from the propagation of the aquaculture industry on the west and north coasts. The encouragement given by the Scottish Government for the continual development of fish farms has led to stakeholders feeling dissatisfied with the value given to the Scottish wild salmon fishery. Stakeholders felt distrusting of the Government's commitment for creating legislative measures which will adequately protect wild salmon populations. Furthermore, different resource users have differing values attached to salmon and therefore competing perspectives on fair access and entitlement for the activity. Government must be respectful of actors differing perspectives to gain the trust of stakeholders in order to guide management and conservation practices efficaciously for the sustainability of the wild salmon fisheries in Scotland.

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1. Introduction

The dire situation of most of the global commercial fish stocks, suggests there are major problems currently existing within fisheries management for achieving sustainability [1]. The wild Atlantic salmon (*Salmo salar*) of Scotland are not exempt from the present situation of stock decline and fishery management difficulties. The rate of salmon returning to their spawning grounds in Scotland has decreased from 25% in the 1960s to less than 5% in 2012, with the International Council for Exploration of the Seas (ICES) noting that since the 1970s, the at sea Pre Fishery Abundance (PFA) of salmon has declined from ~8.5 million fish to ~3.6 million [2]. Because of their anadromous life cycle, salmon are a difficult species to manage. They extend their movements over varying spatial scales, encompassing differential and convoluted

ecological and political systems of both inland freshwater and marine habitats. They are harvested by commercial net fisheries, recreational rod and line fishers and subsistent fishers, as well as unintentionally by pelagic fisheries as a bycatch [2]. Growing scientific evidence suggests the effect of climate change altering ocean temperatures and therefore habitat quality further contributes to high mortality rates of the species out at sea [3–7].

Fisheries provide millions with vital sustenance, mould and define cultures, transform ecosystems and support a plethora of coastal industries and economies [8]. Stakeholders involved in fisheries may perceive and value resources differently from one another which can instigate/increase conflicts of interests in how different actors may interact with one another [9]. The continued privilege given to techno-scientific aspects to mitigate conflicts of interests or deficiencies in management decisions needs to expand [10]. Emphasis is increasingly being placed in engaging, just as readily, with the social and political dimensions of fisheries as is typically done with the natural sciences [10–13]. This includes accounting for stakeholders' different experiences and based knowledge perspectives within fisheries governance to aid in decision making process and management outcomes [12,14–16].

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The research presented in this paper aims to examine the perspectives of stakeholders involved in the management, protection and utilisation of wild salmon fisheries in Scotland about the social and political aspects of the fishery. The study brings together opinions from various stakeholders on pressures, actions, and their attitudes and concerns, which may help to understand how they are organized in the use of the wild Atlantic salmon, the conflicts they have and the capacity of the governance structures to resolve them. The analysis of these elements is essential in the process of establishing sustainable fisheries of this species in Scotland.

2. Wild Atlantic salmon fisheries in Scotland

2.1. Scottish salmon fisheries

As displayed in Fig. 1, commercial salmon fisheries (fixed engine and net and coble fisheries, i.e. total net) catches are now one tenth of their peak in the late 1960s and are currently at historically low levels [17]. Across the whole time series since 1952, annual rod catch (salmon caught by rod and line, also known as angling) has increased and is presently at the high end of the observed range (fishing effort is not known for rod and line fisheries) [17]. Whilst angling fisheries can continue to operate by voluntarily adopting no kill regulations (catch and release), many commercial net fisheries have become economically unviable and have been forced to close due to marine mortality severely reducing the returning number of salmon [17]. The closures and explicit decline in the netting industry of Scotland have acted like a buffer in sustaining rod catches as marine survival declines [18]. With these changes, both biological and social, the ever present disparate views between each harvester's right to fish and their perceived inequities or injustices have greatly been heightened.

One major anomaly to the management of salmon fisheries in Scotland is that there is no one overall management framework or central governance body for the country's freshwater fisheries. To this day, much of Scotland's fresh water and land resources are owned by private individuals, the Crown Estate or non-statutory bodies including local councils or environmental and charitable bodies [19]. The Scottish Government's recent Land Reform Report noted "how little progress has been made in improving the management of Scotland's freshwater fish populations" [20]. The most recent report on salmon fisheries commissioned and published by the Scottish Government was the *Scottish Strategic Framework for Freshwater Fisheries* (SSFFF) produced by the Freshwater Fisheries Forum Steering Group in 2008. The report stated that in order to

achieve sustainability, the needs of all stakeholders in Scotland's freshwater fish and fisheries must be considered through a multi-disciplinary approach [21]. The report's vision declared, "Scotland will have sustainably managed freshwater fish and fisheries resources that provide significant economic and social benefits for its people" [21]. Despite numerous attempts by commissions and committees over the past century, seeking to highlight the inadequacies and possible solutions needed for freshwater fisheries management in Scotland, it has been regarded that the recommendations proposed in the Scottish Strategic Framework for Freshwater Fisheries Report have not been implemented [22]. To date most reports concerning wild salmon in Scotland have focused on the economic values of the salmon fisheries, few, if any, have investigated the social, political or cultural aspects surrounding this fishery.

2.2. Management and governance

Salmon fishing rights, under Scottish law, are private heritable titles, either passed down through generations or bought and sold like property. It is not the fish but *the right to fish* within a selected stretch of river, estuary or coast that is owned [19]. Owners of fishing rights must operate within a legislative framework set by the Scottish Parliament with rights registered separately or in conjunction with the local land [19]. Those who own the right to fish, known as upper or lower fishery proprietors (respectively, fishing upstream or downstream), normally only own a particular section or 'beat' of a river. Those regarded as upper proprietors are typically concerned with rights connected to sport fishing whilst lower proprietors, those owning or leasing the right to fish on stretches of river nearer to the mouth of the river or shoreline, will be active or inactive net fishers. In order for proprietors to manage their individual fisheries more effectively and efficiently, some fishery owners collectively set up District Salmon Fishery Boards (DSFB) in the mid-1800s [19]. This recognised the increasing economic benefits and opportunities to be gained from this fishery. Through this, Scotland was divided into 54 statutory salmon fishery districts in recognition of the natural catchment areas of single or groups of rivers. Today 41 are actively managed by DSFBs (see Fig. 2) with the Association of Salmon Fishery Boards (ASFB) overseeing the representation of the interests of the DSFBs. Other organisations involved in national management, conservation and utilisation of the wild salmon (who also partook in this research) was the Scottish Natural Heritage (SNH), Atlantic Salmon Trust (AST) and the Scottish Government policy advisor, represented across all 41 Districts. Representation for Scottish Anglers National Association (SANA) and the Salmon Net Fishing Association (SNFA) is also on a national level although membership varies across the

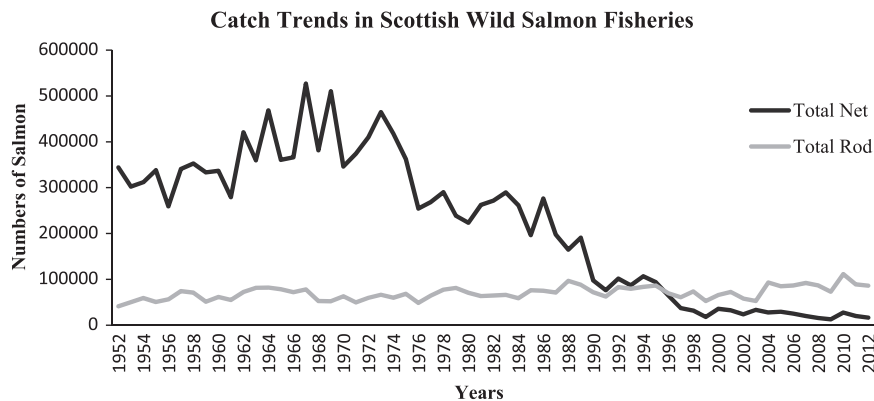


Fig. 1. Catch trends in Scottish Wild Salmon fisheries, by netting methods (total net) (fixed engine and coble nets) and by fish retained and released by the angling sector (total rod) since records began in 1952. (The data used in this figure are Crown copyright, used with the permission of Marine Scotland Science. Marine Scotland is not responsible for interpretation of these data by third parties).

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