Coregonid introductions in Norway: well-intended and successful, but destructive

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with 6 figures

Abstract: The introduction of coregonids, mainly whitefish (Coregonus lavaretus (L.)), into new localities together with the enhancement of existing stocks was actively pursued in southern Norway from around 1850 until the 1960s, with 1875 to 1925 being the most intensive period. According to the official records of the relevant management authorities and other documentation, whitefish were released into approximately 150 localities, mostly in south-east and central Norway. Introductions often led to subsequent (secondary) spreading to downstream localities, and in some cases or at a later stage to other lakes or reservoirs through tunnels constructed in association with hydropower development. The estimated number of native whitefish populations in Norway was approximately 360, while at present time there are approximately 900 populations. Some recipient localities were fishless lakes, while many contained other species such as brown trout (Salmo trutta L.) and Arctic charr (Salvelinus alpinus (L.)). Whitefish were relatively successful in establishing viable and abundant populations in many lakes, sometimes with a quite devastating impact on native fish populations, mainly planktivorous species such as Arctic charr. Vendace (C. albula (L.)) was also introduced into around 16 lakes during the period 1859 to 1890, but only in one of these cases was a viable population established. In this paper we summarize the available information about coregonid introductions in Norwegian lakes, and discuss how it has changed fish diversity. We discuss the factors leading to population establishment or failure and how these introductions have impacted native fish populations, as well as the value of fisheries in some of the lakes. The management policies behind these fish cultivation practices and the historical development of management principles are also discussed.

Keywords: Fish stocking, species distribution, interspecific dominance, population establishment, management goals, fish hatcheries.

Introduction

Moving freshwater fish from lake to lake has been a human endeavor from time immemorial. Fish species favoured as food have been transported and stocked in ponds or fishless lakes, and attractive species have been introduced into lakes with fish to increase the value of the

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