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Proposed Thermal Marks for Salmon from British Columbia for Brood Year 2002

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Proposed Thermal Marks for Brood Year 2002 Salmon in British Columbia

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Abstract

In British Columbia thermal marking is playing an increasingly important role for both research and for fisheries management. In 2002 a total of 37 thermal marks will be applied to chinook, chum, sockeye and coho salmon from 10 hatcheries. The plan is similar to the marking proposal submitted and executed for 2001 except for additional marks being applied to chinook from Gold, Burman and Quinsam stocks.

Introduction

The primary use of thermal marking in British Columbia is to distinguish hatchery-origin chinook and chum salmon from naturally spawned (wild) salmon in terminal fisheries and in spawning populations. Thermal marks on sockeye are being used to assess the success of stock rebuilding. For chum salmon the use of thermal marks has replaced finclips as a means for marking fish at some hatcheries. Thermal marks are also being used to validate information on the harvest and survival of chinook salmon based on coded-wire tag studies. In addition they are being used to identify hatchery fish in studies on early marine distribution and survival, and the interactions between hatchery and wild salmon.

Plan for 2002 brood year stocks

The proposed thermal marking program for salmon in British Columbia for the 2002 brood year is shown in Table 1. The proposal is similar to that submitted for 2001 (Till, J. 2001) except for changes that were made at either the request of the NPAFC or due to operational constraints. Key components of the plan in addition to the regular 'production' marks are as follows.

During the rebuilding of sockeye stocks in Rivers and Smiths Inlets in the Central Coast sockeye are being thermally marked to enable monitoring of migration, timing and contribution to fisheries and escapement. New marks applied to Gold and Burman chinook stocks will be used to assess migration, timing and contribution to fisheries and for management of those fisheries during their current low productivity. Additional marks applied to Quinsam chinook will be used to look at survival rates at different release sites.

The notation used in Table 1 is the RBr system (Munk and Geiger 1998). However, note that the delimiter '+' is used only to separate the thermal bands and is not an indicator of the magnitude of spacing between the bands.

References

Munk K.M.and Geiger, H.J. 1998. Thermal Marking of Otoliths: the "RBr" Coding Structure of Thermal Marks (NPAFC Doc. 367). Alaska Department of Fish and Game, Juneau Alaska 99801-5526 19p.

Till, J. 2001. Proposed thermal marks for salmon from British Columbia for brood year 2001. (NPAFC Doc. 570) 4 p. Fisheries and Oceans Canada, Nanaimo, British Columbia, Canada V9R 5K6.

Table 1 Proposed Thermal Mark Releases from British Columbia for 2002 Brood Year

Brood Year	Species	Facility	Release Site	Proposed Thermal Mark : RBr Code
2002	Chinook	Chilliwack River Hatchery	Chilliwack River	2: 1.7
2002	Chinook	Conuma River Hatchery	Conuma River	2: 1.5
2002	Chinook	Conuma River Hatchery	Sucwoa River	2: 1.3
2002	Chinook	Conuma River Hatchery	Tlupana River	2: 1.3
2002	Chinook	Conuma River Hatchery	Zeballos River	2: 1.3
2002	Chinook	Conuma River Hatchery	Gold River	2: 1.2 + 2.4
2002	Chinook	Conuma River Hatchery	Burman River	2: 1.4 + 2.2
2002	Chinook	Nitinat River Hatchery	Nitinat River	2: 1.2 + 2.3 + 3.2
2002	Chinook	Nitinat River Hatchery	Sarita River	2: 1.3 + 2.2 + 3.3
2002	Chinook	Nitinat River Hatchery	Cheanna seapens (Pedder Bay)	1: 1.4
2002	Chinook	Nitinat River Hatchery	Esquimault Harbour	1: 1.4
2002	Chinook	Nitinat River Hatchery	Sooke	1: 1.4
2002	Chinook	Nitinat River Hatchery	Toquart River	1: 1.4
2002	Chinook	Robertson Creek Hatchery	Stamp River	1: 1.3
2002	Chinook	Robertson Creek Hatchery	Henderson Lake	1: 1.5
2002	Chinook	Robertson Creek Hatchery	Nahmint River	1: 1.3 + 2.2
2002	Chinook	Quinsam River Hatchery	Quinsam/Campbell River	2: 1.2 + 2.2 + 3.2
2002	Chinook	Quinsam River Hatchery	Seapen off Campbell Estuary	2: 1.2 + 2.2
2002	Chinook	Quinsam River Hatchery	Egg Outplants to incubation boxes in Elk Falls	1: 1.3 + 2.4
2002	Chinook	Quinsam River Hatchery	Egg Outplants released to west of estuary.	1: 1.2 + 2.4
2002	Chinook	Quinsam River Hatchery	Egg Outplants released to east of estuary.	1: 1.2 + 2.5
2002	Chinook	San Juan Enhancement Soc.	San Juan River	2: 1.4 + 2.2
2002	Chum	Conuma River Hatchery	Conuma River	2: 1.4
2002	Chum	Conuma River Hatchery	Conuma Estuary (seapen)	2: 1.5
2002	Chum	Conuma River Hatchery	Canton River	2: 1.2 + 2.2
2002	Chum	Conuma River Hatchery	Deserted River	2: 1.2 + 2.2
2002	Chum	Conuma River Hatchery	Sucwoa River	2: 1.2 + 2.3
2002	Chum	Conuma River Hatchery	Tlupana River	2: 1.2 + 2.3
2002	Chum	Nitinat River Hatchery	Klanawa	3: 1.3 + 2.1 + 3.3
2002	Chum	Nitinat River Hatchery	Nitinat River	1: 1.3 + 2.1
2002	Coho	Spius Creek Hatchery	Coldwater River	1: 1.4
2002	Coho	Spius Creek Hatchery	Spius Creek	1: 1.4
2002	Sockeye	Snootli River Hatchery	Rivers Inlet (Owikeno Lake stocks) Wannock	1:1.3+2.5
2002	Sockeye	Snootli River Hatchery	Rivers Inlet (Owikeno Lake **early** stocks)	2: 1.4 + 2.2
2002	Sockeye	Snootli River Hatchery	Smiths Inlet (Long Lake stocks)	2: 1.4 + 2.4
2002	Sockeye	Ouilet Creek Hatchery	Sakinaw Lake	1: 1.3
2002	Sockeye	Shuswap River Hatchery	Lower Adams River	1: 1.3