HIGH SEAS SALMONID CODED-WIRE TAG RECOVERY DATA, 2009

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ABSTRACT

Information on high seas recoveries of salmonids (*Oncorhynchus* spp.) tagged with coded-wire tags (CWTs) has been reported annually to the International North Pacific Fisheries Commission (1981-1992) and to the North Pacific Anadromous Fish Commission (NPAFC, 1993-present). Data from these CWT recoveries are also reported into the coastwide on-line CWT recovery database ([http://www.rmpc.org](http://www.rmpc.org)) maintained by the Regional Mark Processing Center (RMPC) of the Pacific States Marine Fisheries Commission (PSMFC). This document lists recovery data for 34 CWT salmonids that will be reported to PSMFC/RMPC for the first time. These 34 CWTs were recovered from the 2008 U.S. groundfish trawl fishery in the Gulf of Alaska (13 Chinook salmon, *Oncorhynchus tshawytscha*), the 2003, 2006, 2007, and 2009 U.S. groundfish trawl fishery in the eastern Bering Sea-Aleutian Islands (7 Chinook salmon), the 2008 Pacific hake (*Merluccius productus*) trawl fishery in the Northern Pacific Ocean off Washington/Oregon/California (WA/OR/CA, 10 Chinook salmon), the 2008 limited-entry non-hake groundfish trawl off WA/OR/CA (2 Chinook salmon), and 2008 U.S. trawl research in the northern Gulf of Alaska (2 coho salmon, *Oncorhynchus kisutch*).
INTRODUCTION

Since 1981, Pacific salmon (Oncorhynchus spp.) tagged with coded-wire tags (CWTs) have been recovered in commercial fisheries and research programs in the North Pacific Ocean, Gulf of Alaska, and Bering Sea-Aleutian Islands. Data from these high seas CWT recoveries have been reported annually to the International North Pacific Fisheries Commission (Dahlberg 1981-1982; Wertheimer and Dahlberg 1983-1984; Dahlberg and Fowler 1985; Dahlberg et al. 1986-1992; Margolis 1985; Margolis et al. 1989; McKinnell et al. 1991) and to the North Pacific Anadromous Fish Commission (Dahlberg et al. 1993-97; Myers et al. 1998-2005; Morris 2004; Celewycz et al. 2006-08). Data from these CWT recoveries have also been reported into the coastwide on-line CWT recovery database (http://www.rmpc.org) maintained by the Regional Mark Processing Center (RMPC) of the Pacific States Marine Fisheries Commission (PSMFC).

In this document, we list previously unreported data for CWT recoveries from the salmon bycatch of U.S. groundfish trawl fisheries for walleye pollock (Theragra chalcogramma) in the Gulf of Alaska and the eastern Bering Sea-Aleutian Islands, from the salmon bycatch of U.S. groundfish trawl fishery for Pacific hake (Merluccius productus) in the North Pacific Ocean off Washington/Oregon/California (WA/OR/CA), from the salmon bycatch of the limited-entry non-hake groundfish trawl fishery (WA/OR/CA), and from U.S. trawl research in the northern Gulf of Alaska. New recoveries of CWT salmonids are compared to previous recoveries of CWTs reported to the International North Pacific Fisheries Commission (INPFC, 1981-1992) and to NPAFC (1993-present).

RESULTS AND DISCUSSION

This document lists recovery data for 34 CWT salmonids that will be reported to PSMFC/RMPC database for the first time. Of these 34 new CWT recoveries, 13 CWT Chinook salmon were recovered from the Gulf of Alaska trawl fishery in 2008 (Table 1), 7 CWT Chinook salmon were recovered from the Bering Sea-Aleutian Islands trawl fishery in 2003, 2006, 2007, and 2009 (Table 2), 10 CWT Chinook salmon were recovered from the Pacific hake trawl fishery in the North Pacific Ocean off WA/OR/CA in 2008 (Table 3), 2 CWT Chinook salmon were recovered from the limited-entry non-hake groundfish trawl fishery in the North Pacific Ocean off WA/OR/CA in 2008 (Table 4), and 2 CWT coho salmon were recovered from U.S. trawl research in the central North Pacific Ocean (Table 5). Unlike past years, no CWT steelhead were recovered from Japanese gillnet research in the central North Pacific Ocean, although 13 adipose fin-clipped steelhead were examined for the presence of tags.

The geographic locations of new recoveries of CWT Chinook and coho salmon are compared to previous recoveries and are summarized by region, province, or state of origin (Figures 1-9). A recovery in the northern Gulf of Alaska in July, 2008 is a northeastern extension of the known ocean range of a Cook Inlet, Alaska hatchery Chinook salmon (Fig. 2; Table 1, recovery_id 2008091011).
ACKNOWLEDGMENTS

Fishermen, processors, observers, and scientists who participated in the high seas CWT recovery program are gratefully acknowledged. Cathy Robinson dissected salmon snouts, decoded CWTs, and entered CWT recovery data in an electronic database.

LITERATURE CITED


Figure 1. Ocean distribution of Yukon River Chinook salmon from CWT recoveries, 1981-2009.

Yukon River Chinook Salmon

- Previously-reported CWT recoveries (n = 20)
- New CWT recoveries (n = 1)
Figure 2. Ocean distribution of Cook Inlet, Alaska Chinook salmon from CWT recoveries, 1981-2009.
Figure 3. Ocean distribution of British Columbia Chinook salmon from CWT recoveries, 1981-2009.
Figure 4. Ocean distribution of Washington Chinook salmon from CWT recoveries, 1981-2009.
Figure 5. Ocean distribution of Oregon Chinook salmon from CWT recoveries, 1981-2009.
Figure 6. Ocean distribution of Idaho Chinook salmon from CWT recoveries, 1981-2009.
Figure 7. Ocean distribution of California Chinook salmon from CWT recoveries, 1981-2009.
Figure 8. Ocean distribution of Southeast Alaska coho salmon from CWT recoveries, 1981-2009.
Figure 9. Ocean distribution of British Columbia coho salmon from CWT recoveries, 1981-2009.

British Columbia Coho Salmon

- Previously-reported CWT recoveries (n = 50)
- New CWT recoveries (n = 1)
Table 1. Release and recovery information for CWT salmon (*Oncorhynchus spp.*) captured as bycatch in the Gulf of Alaska (GOA) trawl fishery for walleye pollock (*Theragra chalcogramma*). Species: 1 = Chinook salmon; run: 1 = Spring, 2 = Summer, 3 = Fall, 8 = Late Fall Upriver Bright Chinook; rearing type: H = hatchery, W = Wild; release state: AK = Alaska, BC = British Columbia, OR = Oregon, WA = Washington. NMFS_areas are shown in Appendix Table 1.

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1Region: CNAK=Alaska Central, FRTH=Fraser R.-Thompson R., COBC=Coastal British Columbia, GRAY=Grays Harbor, LOCR=Lower Columbia R. (mouth to Bonneville Dam), NOOR=North Coastal Oregon, NWC=North Washington Coast, SOOR=South Coastal Oregon, UPCR=Upper Columbia R. (above McNary Dam; excluding Snake R.), WILP=Willapa Bay.

2Basin (if different than region): COOK=Cook Inlet, GHLC=Grays Harbor, Lower Chehalis R., MNPR=NcNary Dam to Priest Rapids Dam; Walla Walla River / OR, WA; QEQU=Queets R-Quinault R, SIXE=Sixes R.-Elk R.-Floras Cr., UPFR=Upper Fraser River (above Hope + tribs; excluding Thompson R.; WILP=Willamette River; Multnomah Channel; Milton Creek / OR; WILP=Willapa R.)
Table 1 cont.

Agency: ADFG=Alaska Department of Fish & Game, CDFO=Canadian Department of Fisheries and Oceans, CRFC=Columbia River InterTribal Fish Commission; ODFW=Oregon Department of Fish & Wildlife, QDNR=Quinault Department of Natural Resources, WDFW=Washington Department of Fish & Wildlife.
Table 2. Release and recovery information for CWT salmon (*Oncorhynchus spp.*) captured as bycatch in the Bering Sea-Aleutian Islands (BSAI) trawl fishery for walleye pollock (*Thragra chalcogramma*). Species: 1 = Chinook salmon; run: 1 = Spring, 2 = Summer, 3 = Fall; rearing type: H = hatchery; release state: AK = Alaska, BC = British Columbia, OR = Oregon, WA = Washington. NMFS_areas are shown in Appendix Table 1.

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1Region: CNAK=Alaska Central, FRTH=Fraser R.-Thompson R., NOOR=North Coastal Oregon, NWC=North Washington Coast, SOOR=South Coastal Oregon, YUKN=Yukon Territory (Yukon River in Yukon Territory only).

2Basin (if different than region): COOK=Cook Inlet, QEQU=Queets R-Quinault R, SIYA=Siletz R.–Yaquina R; TOMF=Thompson R. (North & South forks); UMPQ=Umpqua R..

3Agency: ADFG=Alaska Department of Fish & Game, FWS=U.S. Fish and Wildlife Service, CDFO=Canadian Department of Fisheries and Oceans, ODFW=Oregon Department of Fish & Wildlife.
Table 3. Release and recovery information for CWT salmon (*Oncorhynchus* spp.) captured as bycatch in the trawl fishery for Pacific hake (*Merluccius productus*) in the North Pacific Ocean off Washington/Oregon/California (WA/OR/CA). Species: 1 = Chinook salmon; run: 2 = Summer, 3 = Fall, 8 = Late Fall Upriver Bright Chinook; rearing type: H = hatchery, W = Wild; release state: BC = British Columbia, CA = California, ID = Idaho, WA = Washington.

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2Basin (if different than region): COWL=Cowlitz R./WA; GSVI=Georgia Strait-Vancouver Island, LWFR=Lower Fraser R. (below Hope + tributaries), PUYA=Puyallup R., SNAKG=Snake R., general, TRIN=Trinity R., UPSN=Headwaters above the Clearwater R.; excluding the Salmon R./ID; WECH= Wenatchee R.-Entiat R.-Lk. Chelan/WA.

3Agency: CDFO=Canadian Department of Fisheries and Oceans, HVT=Hoopa Valley Tribe (CA), IDFG=Idaho Department of Fish & Game; NEZP=Nez Perce Tribe (ID), WDFW=Washington Department of Fish & Wildlife.
Table 4. Release and recovery information for CWT salmon (*Oncorhynchus* spp.) captured as bycatch in the Limited-Entry Non-Hake Groundfish Trawl (CA/OR/WA). Species: 1 = Chinook salmon, 2 = Coho salmon; run: 3 = Fall; rearing type: H = hatchery; release state: WA = Washington, CA = California.

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<th>run_year</th>
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<td>MEOK</td>
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2Basin (if different than region): MEOK=Methow R., Okanogan R. / WA; TRIN=Trinity R..


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</tbody>
</table>

1Region: SEAK=Southeast Alaska; WCVI=Western Vancouver Island.

2Basin (if different than region): SWVI=SW Vancouver Island.

3Agency: ADFG=Alaska Department of Fish & Game, CDOFO=Canadian Department of Fisheries and Oceans.
Appendix Fig 1. U.S. National Marine Fisheries Service (NMFS) statistical areas in the Bering Sea and Aleutian Islands (left panel) and Gulf of Alaska right panel.)