



A brief history of use of Coded Wire Tags with Atlantic Salmon

Application Note APC08

Although best known for their use on Pacific salmon on the West Coast of North America, coded wire tags (cwt) have been used for over 20 years on investigations using Atlantic salmon.

The first large-scale deployment in Europe was undertaken in Iceland, commencing in 1974 (Isaksson and Bergman, 1978). The aim was to evaluate returns from smolt ranching experiments which had hitherto been done using Carlin tags. Ireland commenced their use in 1979 and these two countries have been amongst the largest Atlantic salmon users ever since. By 1984, England and Wales, Scotland and the Faroe Islands were releasing tagged fish, with USA and Canada starting the following year.

Once several countries had started using cwt they began to appear in monitoring surveys of landings in high-seas fisheries at Faroes and West Greenland. A dedicated cwt recovery programme was started at West Greenland in 1985, organised by Danish and Canadian fishery scientists. Between 1986 and 1991 this programme observed an average level of coded wire tagged fish in the catch of 0.48%. In connection with the recovery of cwt in high-sea fisheries ICES (International Council for Exploration of the Seas) commenced an annual compilation of tags and marks applied by each country, including cwt codes. The national total of cwt fish released by each country is shown for 1990-99 in Table 1. Fifteen countries have released a total of over 12.8 million cwt fish over the past ten years. Levels of tagging have been significantly reduced in recent years mainly because of the virtual closure of the Faroes and West Greenland fisheries.

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Totals
Canada	104,713	136,070	50,479	0	0	0	0	0	0	12089	303,351
US	857,306	466,605	623,621	609,805	655,646	0	0	0	0	0	3,212,983
Belgium	0	0	0	0	0	0	877	15,672	16,961	0	33,510
Denmark	0	0	0	0	0	0	7,332	18,167	27,107	0	52,606
England + Wales	250,024	241,544	401,085	212,306	251,125	209,271	226,224	179,291	105,952	9,5344	2,172,166
Faroes	11,820	0	0	0	0	0	0	0	0	0	11,820
France	18,682	21,476	19,188	37,490	16,385	0	2,000	9,000	35,586	0	159,807
Germany	0	0	0	0	0	0	0	0	?	?	?
Iceland	407,660	302,895	352,953	314,147	294,467	342,931	212,444	120,568	150,569	127,203	2,625,837
Ireland	127,663	471,152	299,018	362,854	269,166	298,307	316,710	361,626	261,141	311,272	3,078,909
Northern Ireland	29,875	36,320	23,382	16,335	10,121	40,535	36,888	12,043	37,053	22,363	264,915
Norway	0	0	34,700	66,000	0	0	0	0	0	0	100,700
Scotland	41,390	45,752	38,129	25,452	25,029	20,308	18,876	33,929	20,410	30,929	300,204
Spain	0	38,864	0	0	115,100	127,000	35,500	26,100	45,331	52,580	440,475
Sweden(w.Coast)	0	0	0	0	0	0	0	0	0	46,673	46,673
Totals	1,849,133	1,760,678	1,842,555	1,644,389	1,637,039	1,038,352	856,851	776,396	700,110	698,453	12,803,956

Table 1. Numbers of Atlantic salmon tagged with cwt reported to ICES. Source: “ICES Compilation of microtag, finclip and external tag releases” prepared annually. Baltic excluded.

Most of the fish tagged have been of hatchery origin, but small proportions are wild stocks; in 1999 for example, five countries tagged wild smolts totally 4% of the fish marked.

The main purpose of tagging has been to evaluate ranching and stock enhancement releases, to study high-seas and home water fisheries, and to monitor marine survival. Recoveries of tags employed for other purposes have also contributed to studies on predation (tags recovered from cormorant pellets and otter spraints) and marine migration (tagged post-smolts recovered among samples on the high seas).

References.

Isaksson, A. and Bergman, P. (1978). An evaluation of two tagging methods and survival rates of different age and treatment groups of hatchery-reared Atlantic salmon smolts. *J. Agr. Res. Iceland*, 10.2: 74-99.