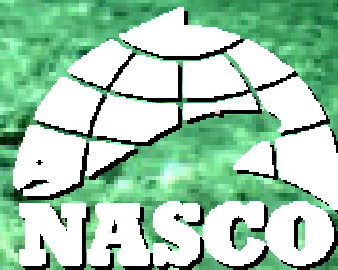


# International cooperation on the conservation & restoration of wild Atlantic salmon – the work of NASCO

*Malcolm Windsor and Peter Hutchinson*

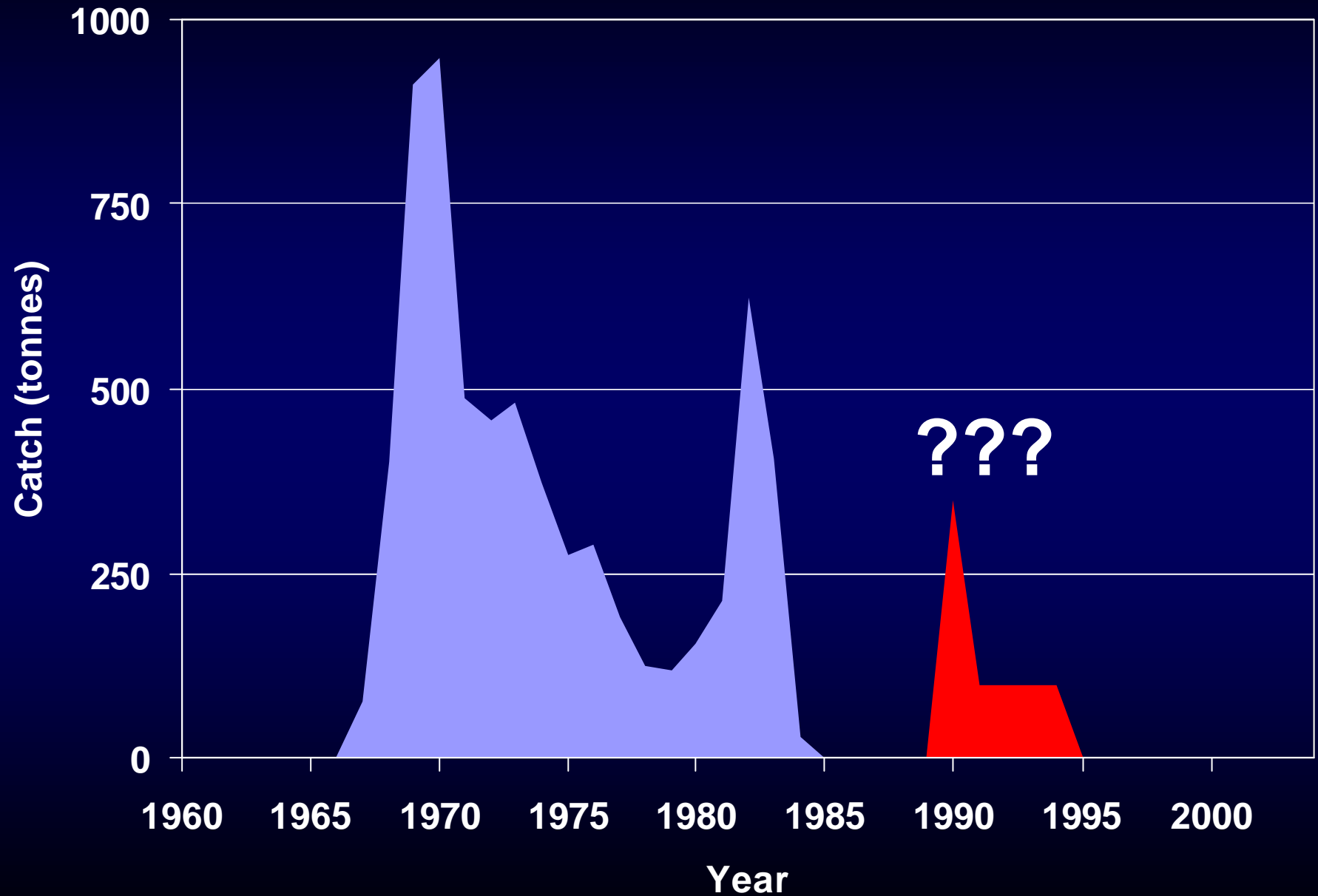


*Photo courtesy of Gilbert van Ryckevorsel*

# The Convention

- entered into force in October 1983
- the objective of NASCO is the conservation, restoration, enhancement & rational management of salmon stocks
- prohibits salmon fishing most areas beyond 12 nautical miles
- created an enormous protected area free of salmon fisheries
- immediately ended the Northern Norwegian Sea fishery

# Norwegian Sea Salmon Fishery



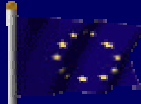
# NASCO's Parties



**Canada**



**Denmark (in respect of the Faroe Islands & Greenland)**



**European Union**



**Iceland**



**Norway**



**Russian Federation**

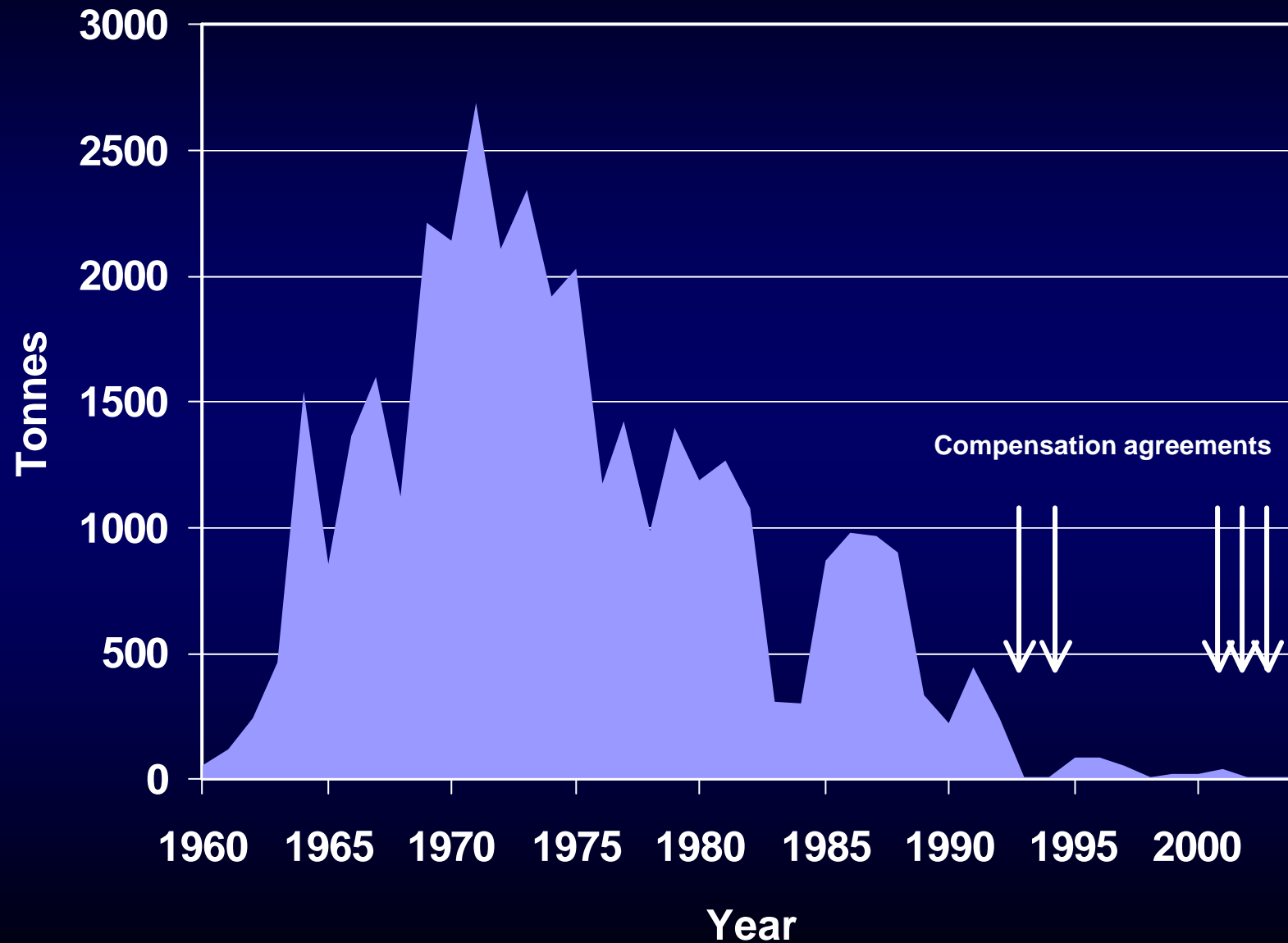


**United States of America**

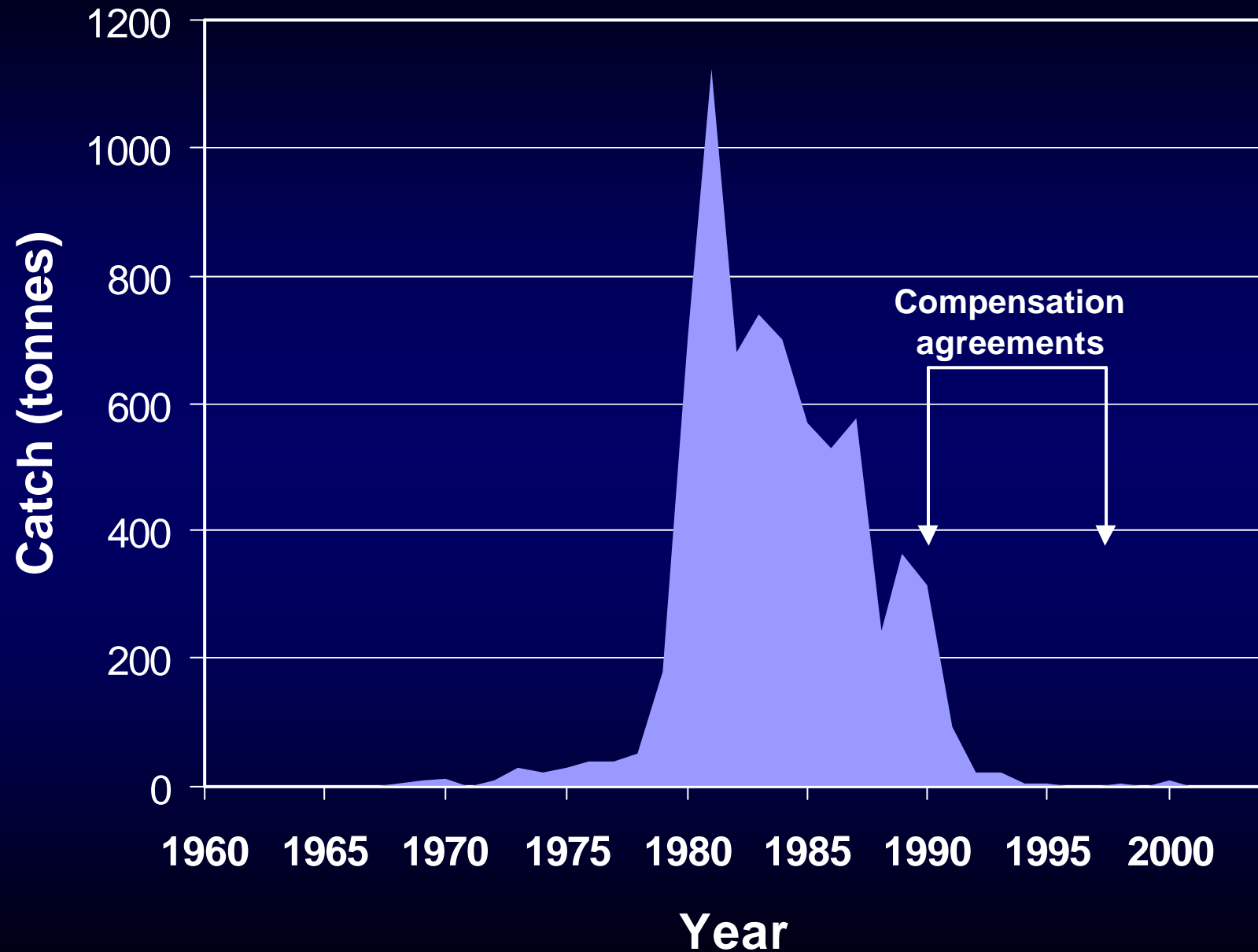
# NGOs

- **admitted >30 accredited organizations including Atlantic Salmon Trust, European Anglers Alliance, Atlantic Salmon Federation and WWF**
- **mutual benefits, NASCO greatly values NGO participation**
- **increasing role of NGOs in NASCO's work**

# West Greenland Salmon Fishery



# Faroese salmon fishery

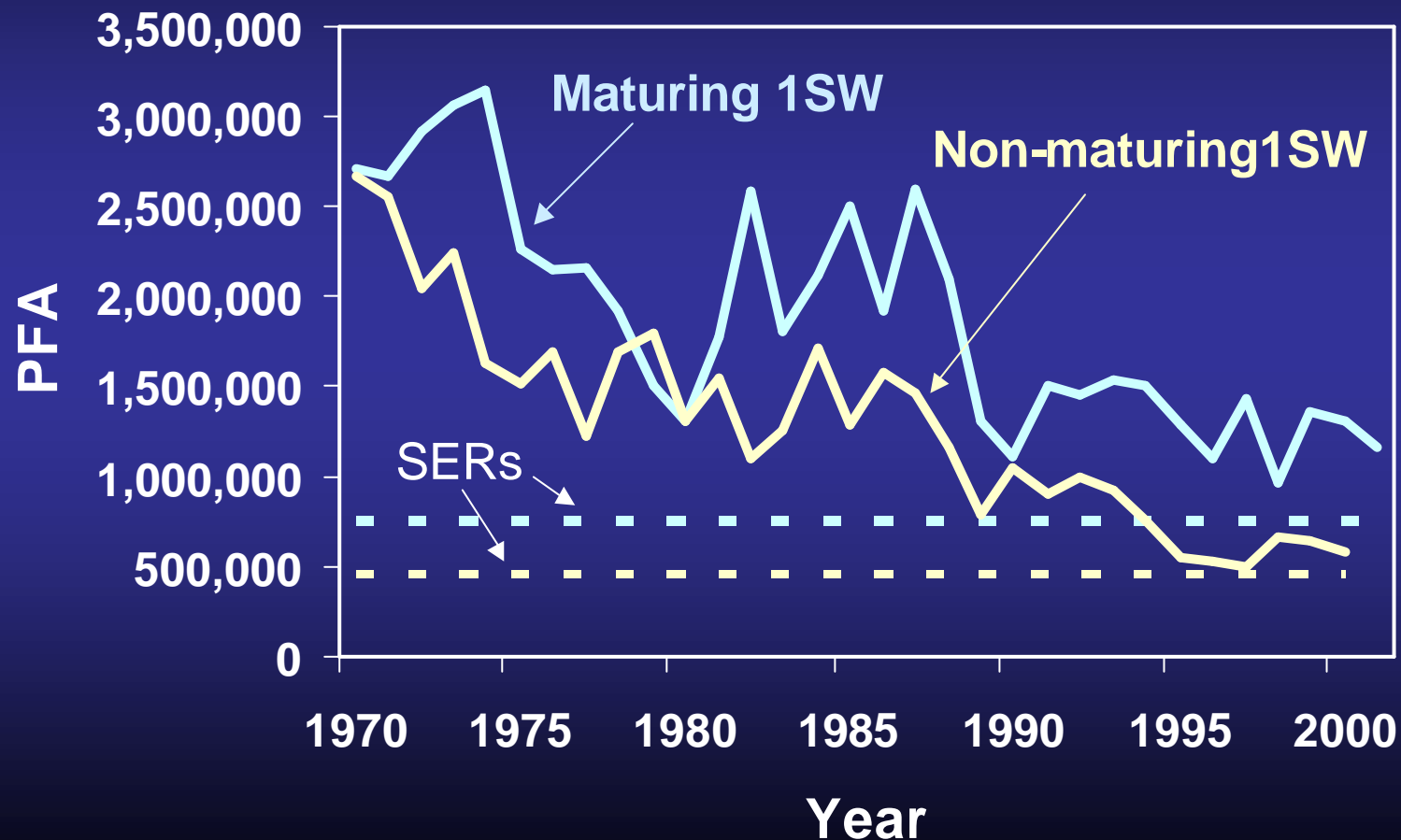


# **Harvest controls - States of Origin**

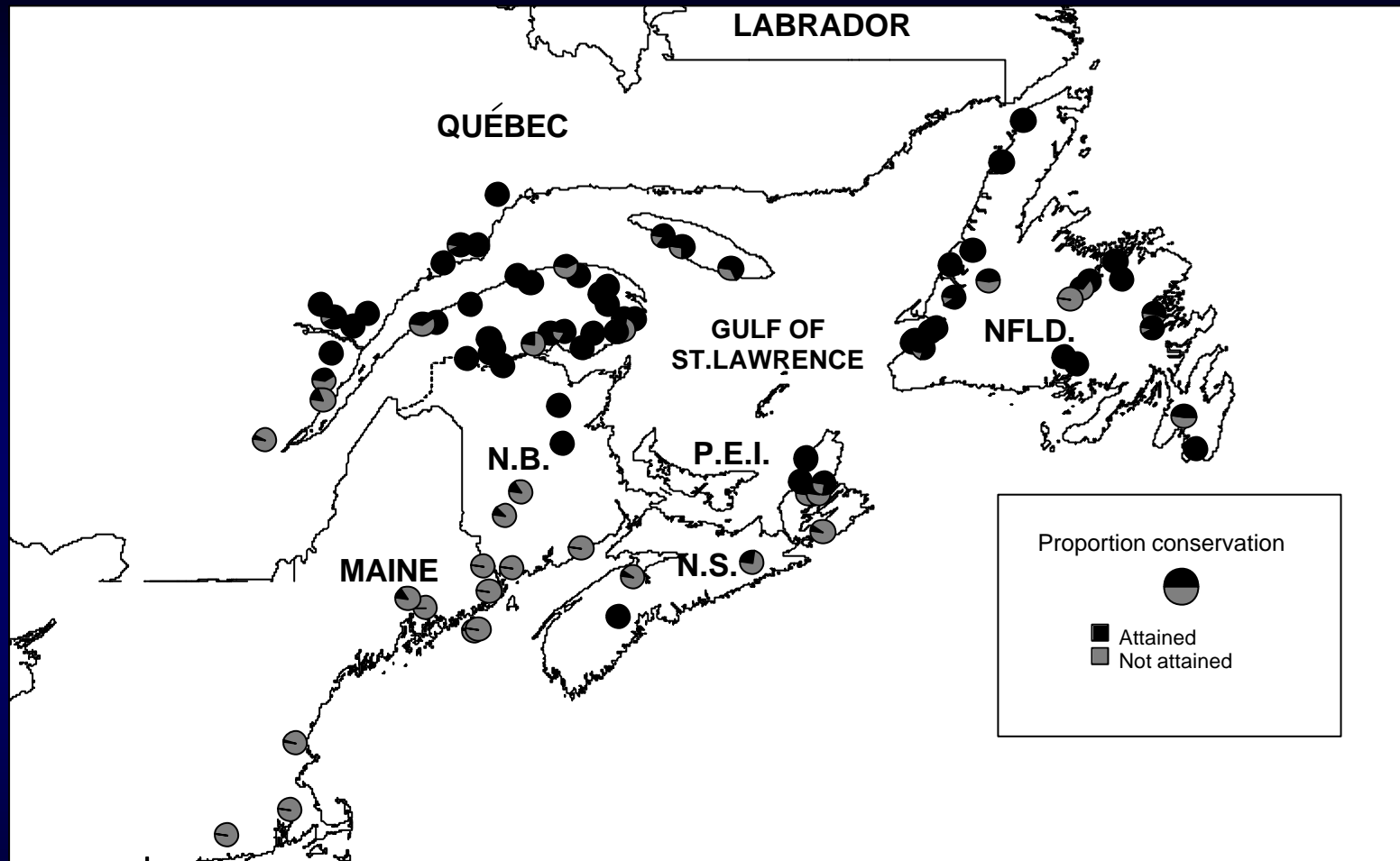
- **closure of all commercial salmon fisheries in Atlantic Canada since 2000**
- **drift net fishery for salmon in Norway ended in 1989, ~70% reduction in fixed gears between 1970–1999 further reductions since**
- **~ 90% reduction in netting effort in Scotland since 1952**
- **phase-out of mixed stock salmon fisheries in England and Wales**
- **reductions in the commercial salmon quota in Ireland of 48% since 2002**
- **increasing use of catch and release**

# Southern European stock status

Mid-point estimates of Pre-Fishery  
Abundance in relation to SER

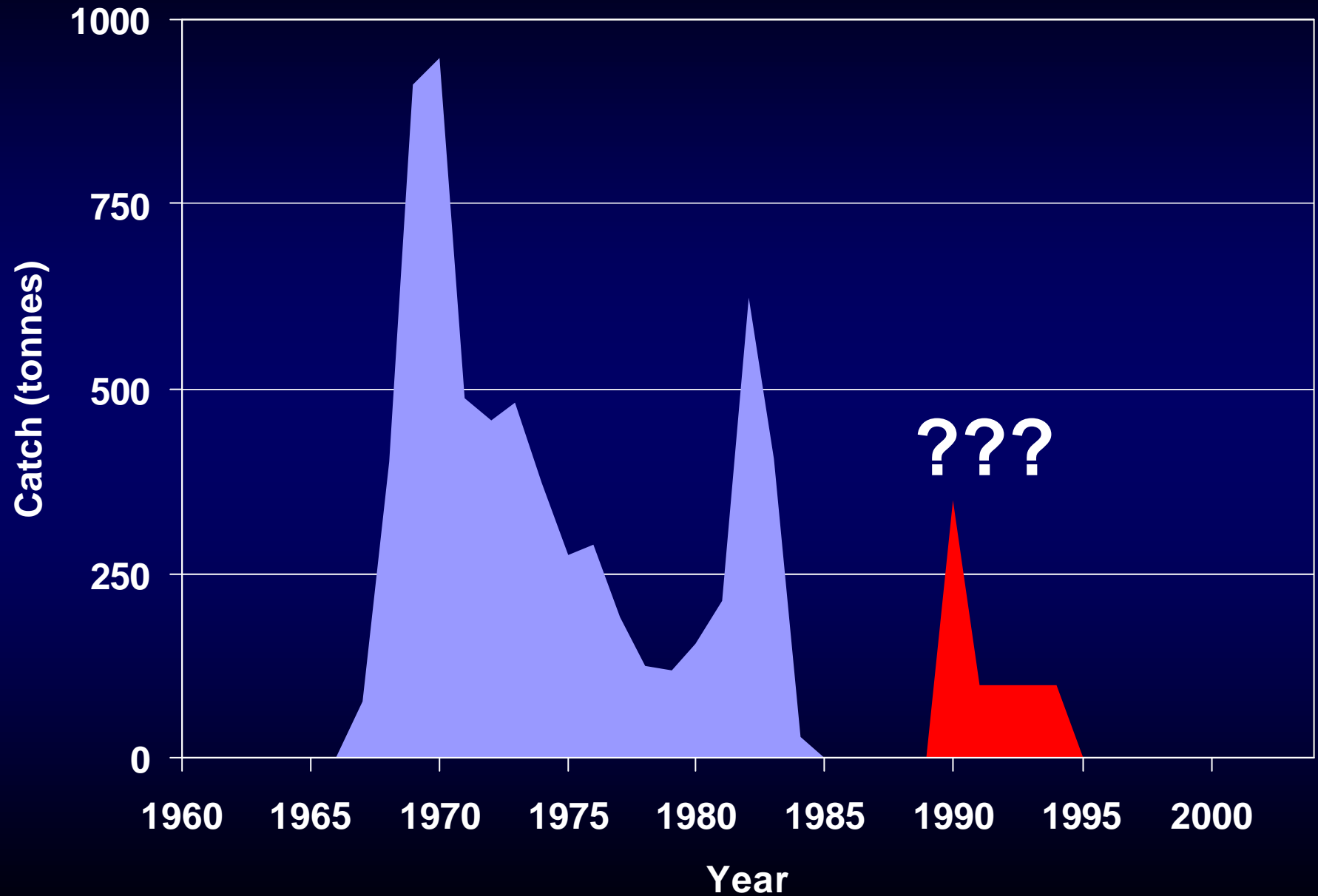


# North American stock status



**In 2004 31% of monitored rivers achieved < 50% of their conservation limit, ICES(2005)**

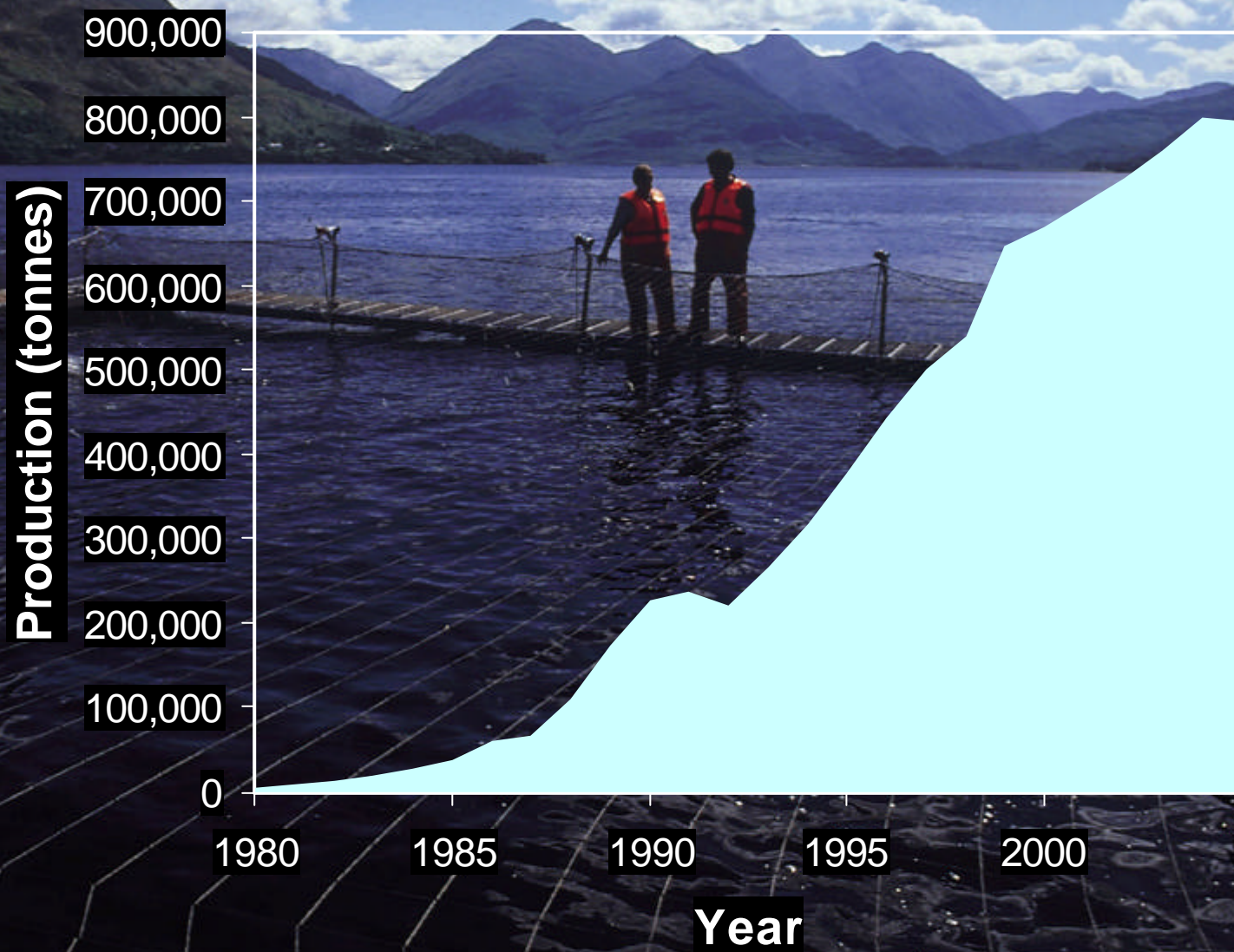
# Norwegian Sea Salmon Fishery



# By-catch in pelagic fisheries

- initial estimates for mackerel trawl fishery suggested extremely high by-catch of post-smolts
- most recent estimates suggest insignificant (<100, observers) to ~150,000 per annum (research survey data)
- stimulated new research & provision of data, seeking advice on by-catch in other fisheries
- encourage adjustment to fishing methods

# North Atlantic Farmed Salmon Production



*Photograph courtesy of Scottish Quality Salmon*

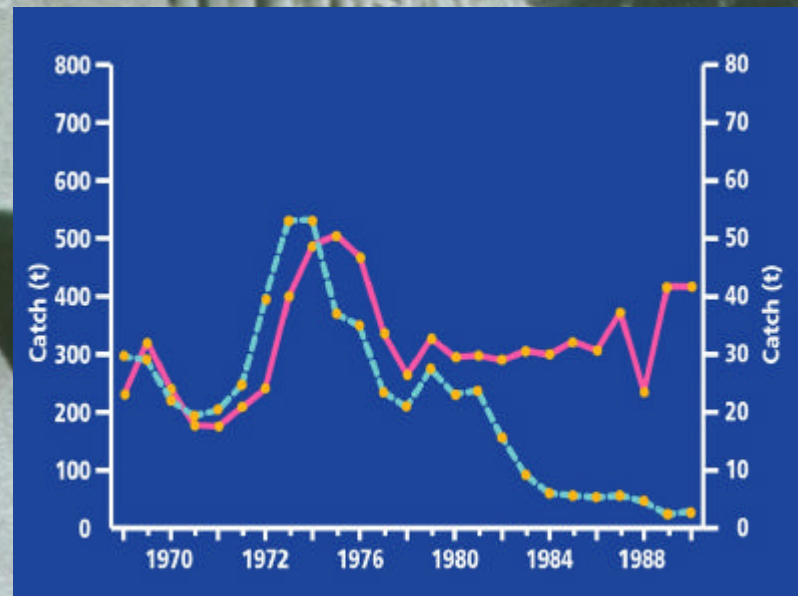
# *Gyrodactylus salaris*

**Infected 45 salmon rivers**

**Parr densities declined by on average 86% in infected rivers**

**25 rivers treated, in 15 parasite eradicated**

**Cost of treatment estimated to be £20 million**



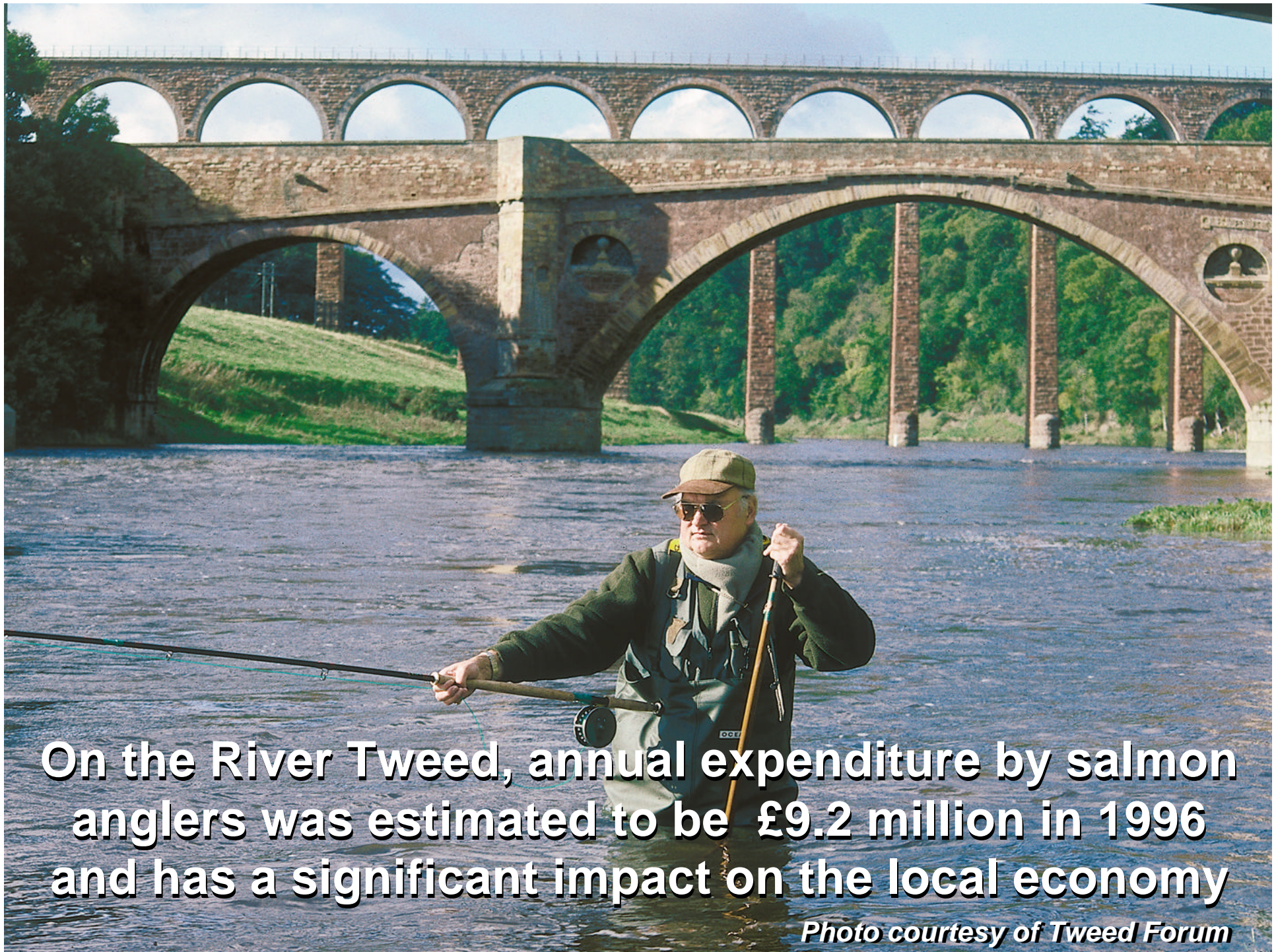
# Transgenic salmon

**advise NASCO of any proposal to permit rearing of transgenic salmonids**

**ensure use confined to secure, self-contained, land-based facilities**

**increase knowledge of impacts of transgenic fish on the wild stocks and their habitats**

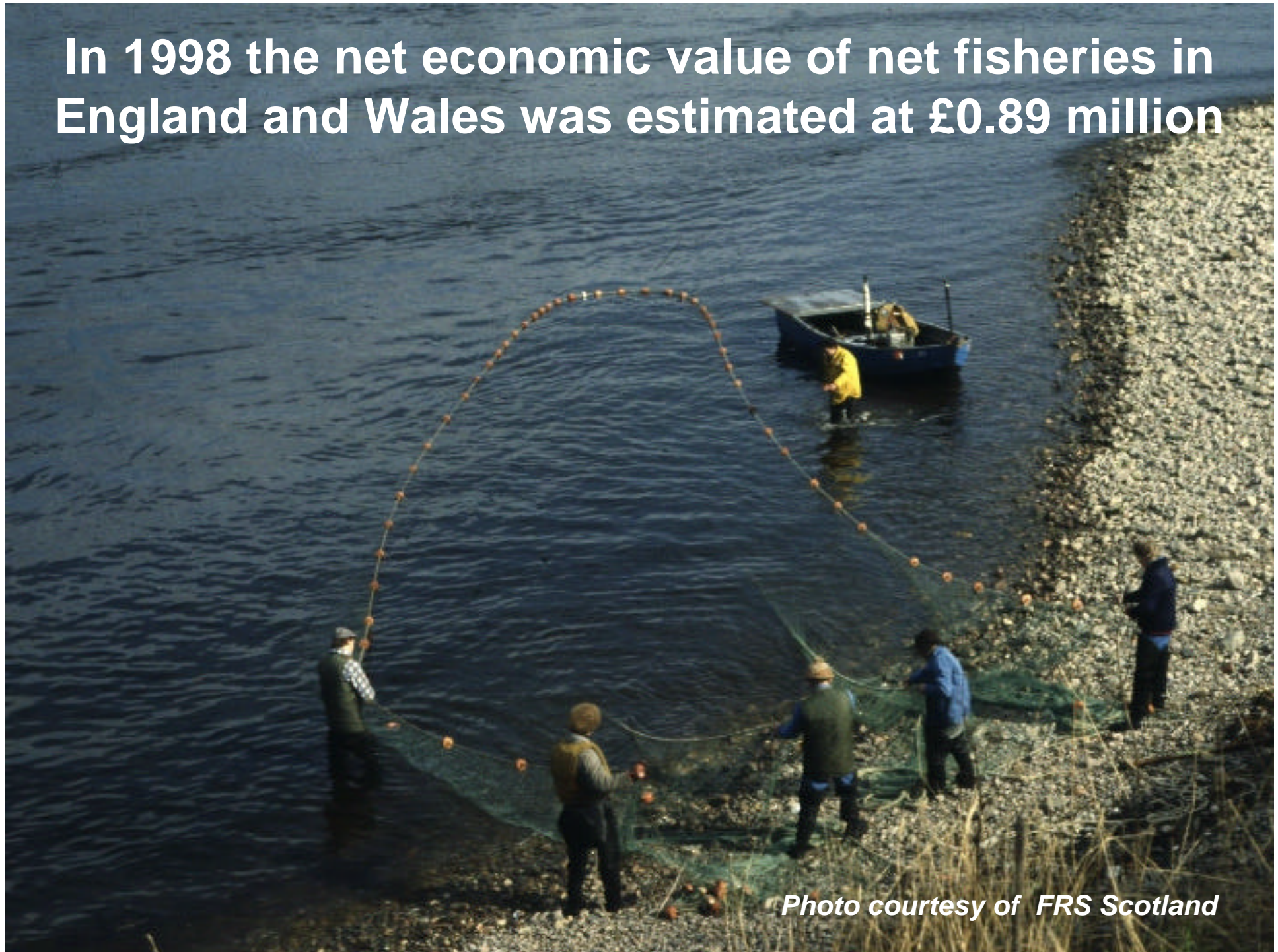




**On the River Tweed, annual expenditure by salmon anglers was estimated to be £9.2 million in 1996 and has a significant impact on the local economy**

*Photo courtesy of Tweed Forum*

**In 1998 the net economic value of net fisheries in England and Wales was estimated at £0.89 million**



*Photo courtesy of FRS Scotland*



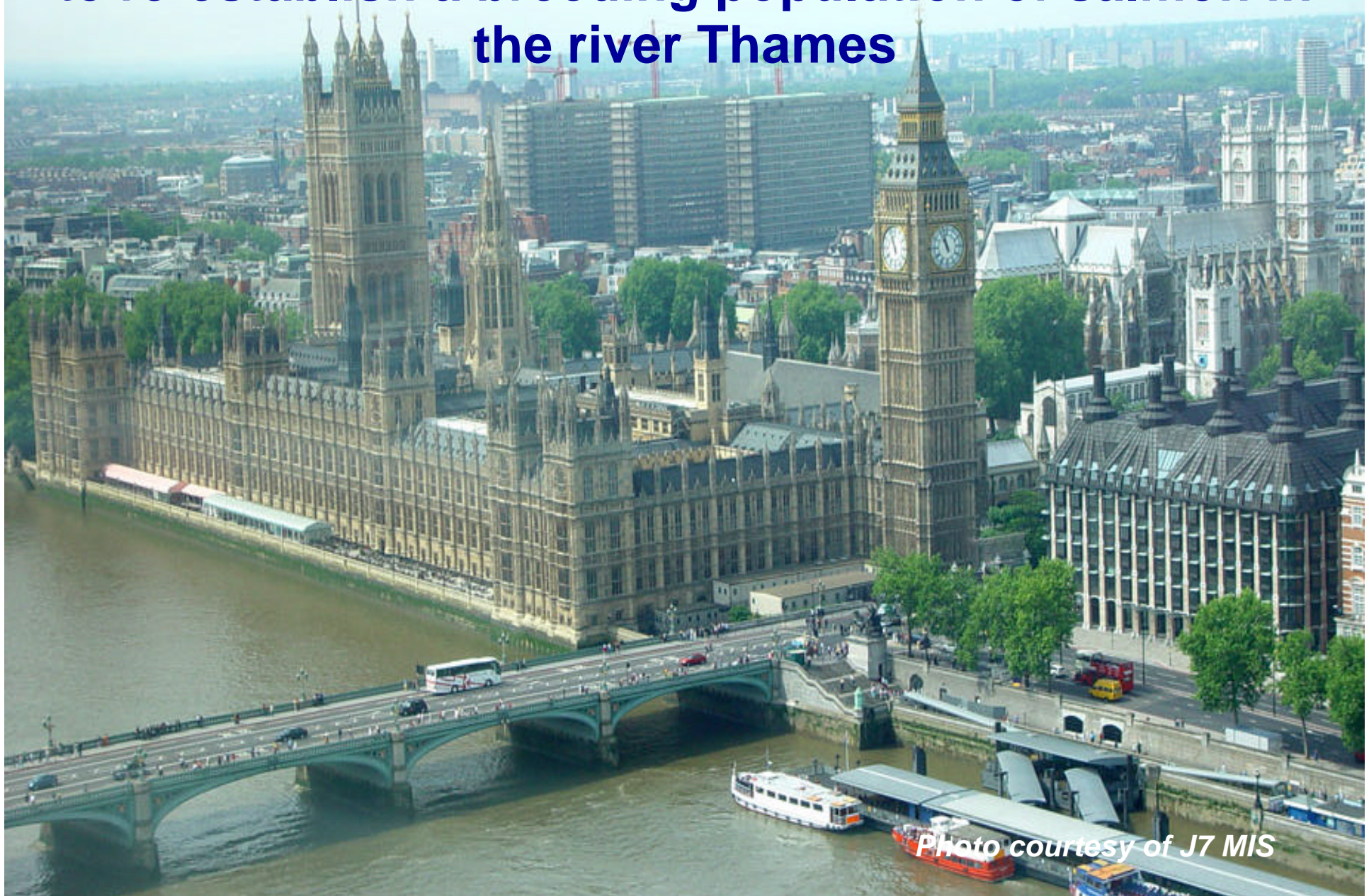
**The communities in Greenland are unwilling to forego the subsistence fishery even though the commercial fishery is closed**

*Photo courtesy of Tim Sheehan, NOAA Fisheries*

**In Canada, after conservation requirements are met, the First Nations' right to fish for food, social & ceremonial purposes has priority over other uses.**



**Londoners are willing to pay £12 million per year to re-establish a breeding population of salmon in the river Thames**

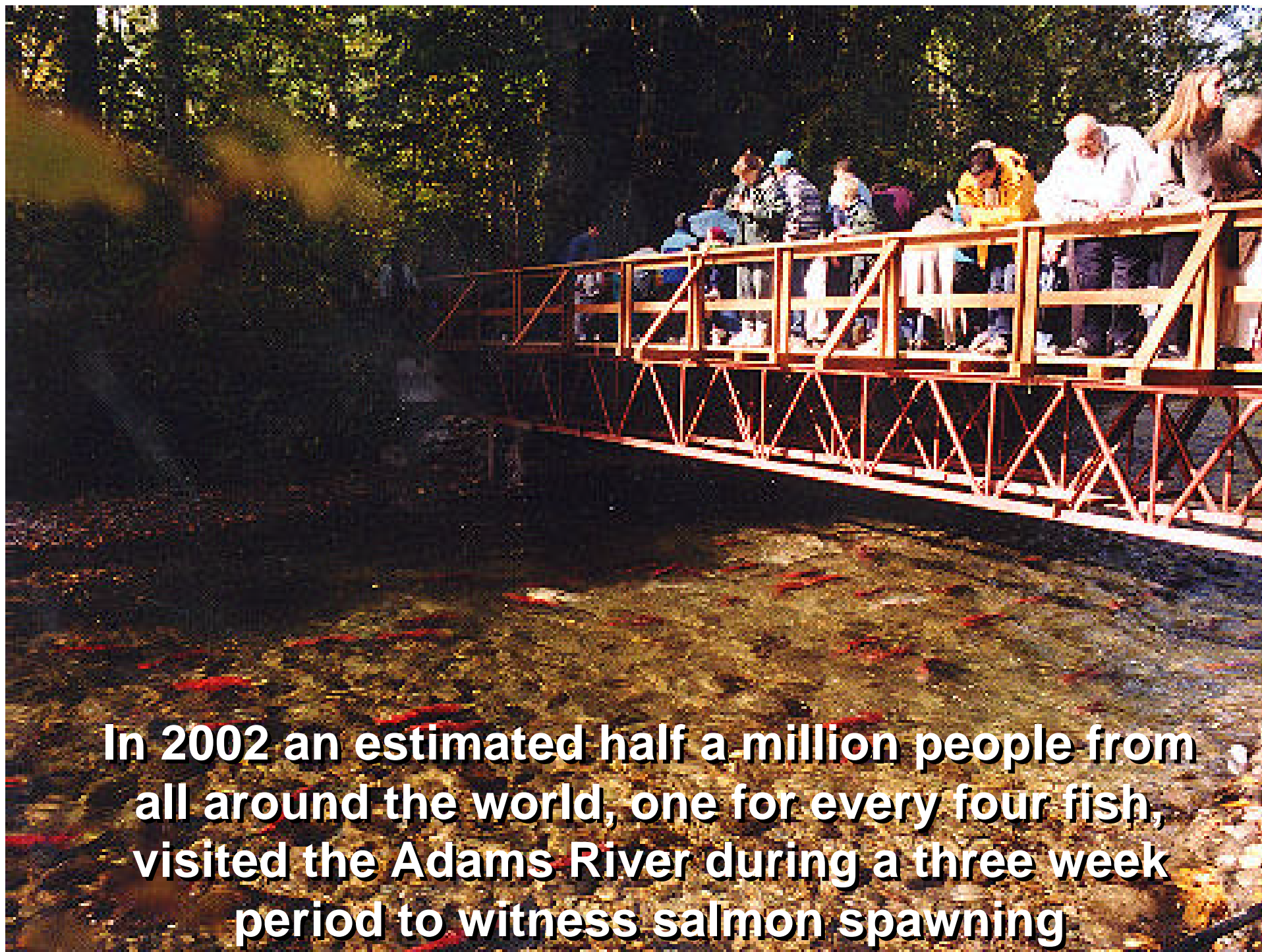


*Photo courtesy of J7 MIS*

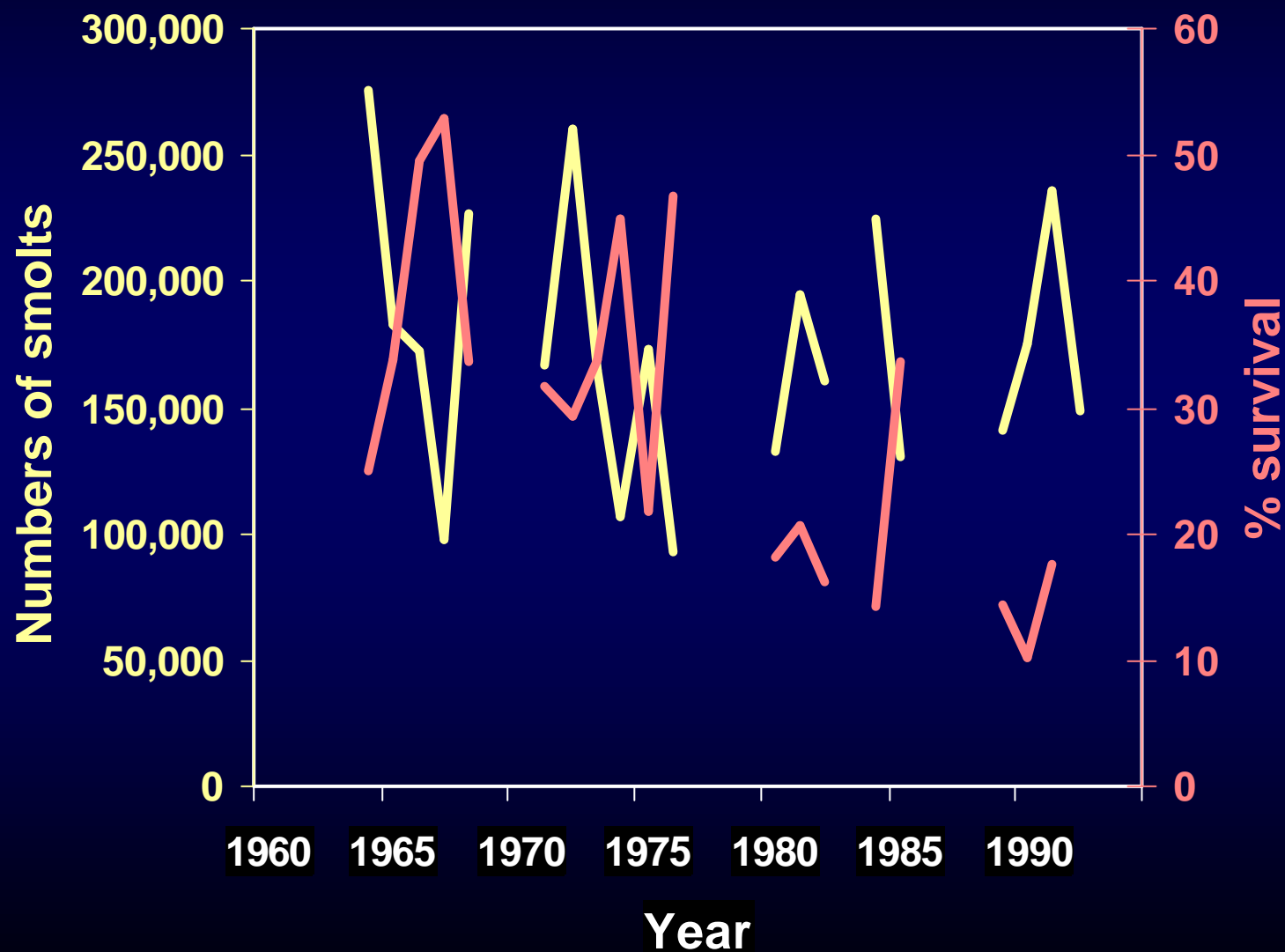
A scenic landscape photograph of a river in Norway. The river flows from the foreground towards the background, where it is flanked by steep, forested mountains. The mountains have patches of green vegetation and exposed rocky areas. In the foreground, three people are swimming in the river, their heads and shoulders visible above the water. The water is dark blue with some ripples. The sky is light blue with a few wispy clouds. A small wooden bridge is visible on the right bank in the middle ground.

**In Norway, sub-aqua tours are organised in  
salmon rivers to view salmon outside the fishing  
season**

*Photo courtesy of Bjorn Moe*

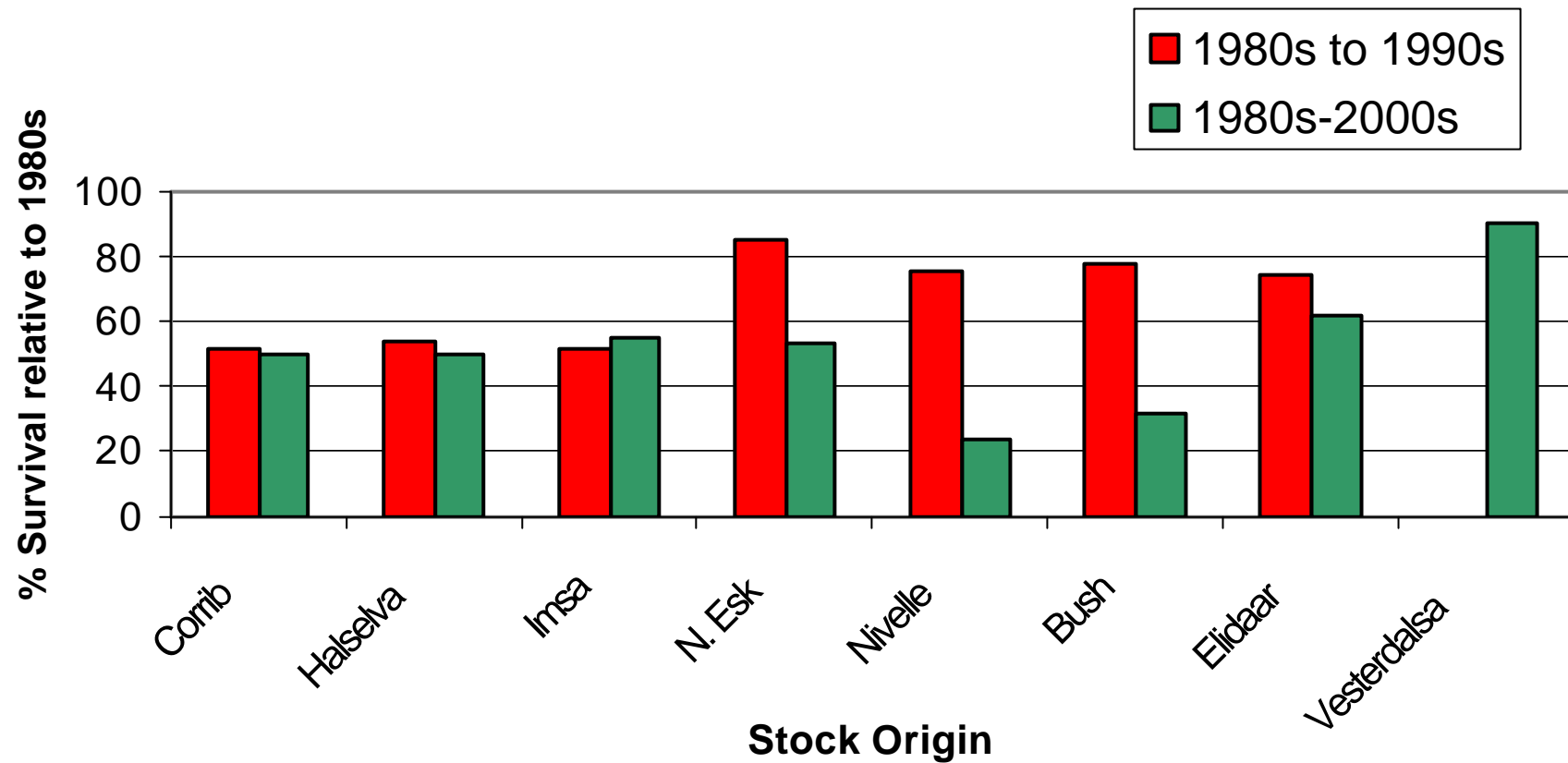


# Smolt production & marine survival N.Esk, Scotland



*Data courtesy of Scottish Executive*

## Survival of 1SW wild stocks relative to survival rate in 1980's



# **International Atlantic Salmon Research Board - *SALSEA***

## **Supporting Technologies**

- **genetic stock identification methods**
- **development of improved research gear**
- **development of scale analysis techniques**

## **Distribution & migration at sea**

- **develop theoretical migration models**
- **plan and conduct a comprehensive North Atlantic-wide marine survey**

*Photo courtesy of Dr R Brown*



[www.nasco.int](http://www.nasco.int)



[www.salmonatsea.com](http://www.salmonatsea.com)