

# **Can research improve the management of sea trout?**

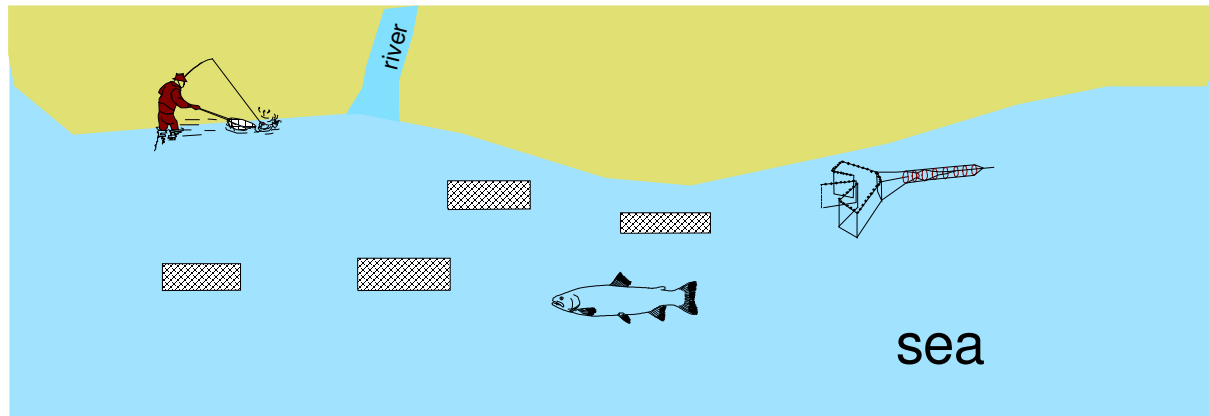
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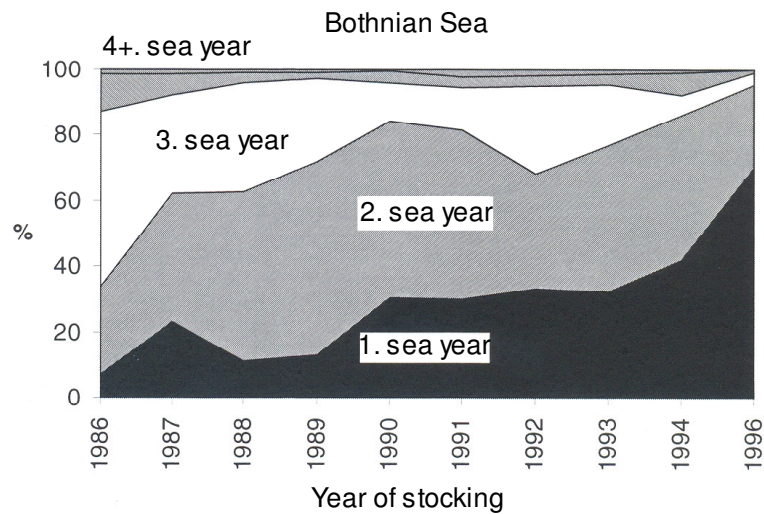
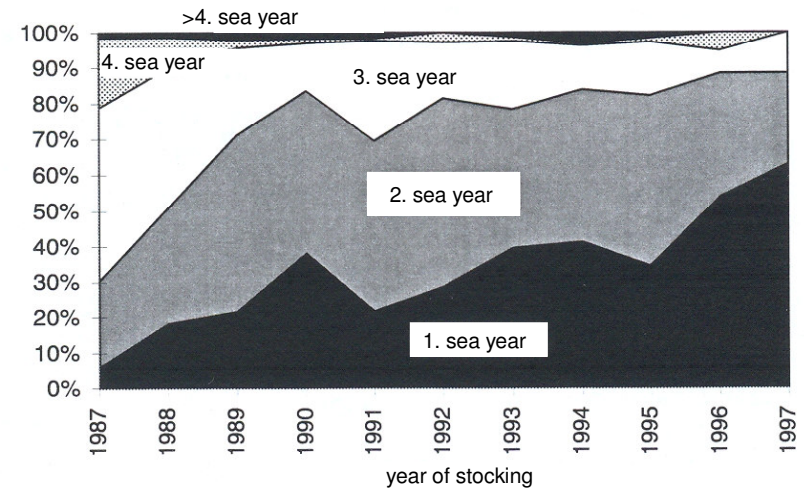
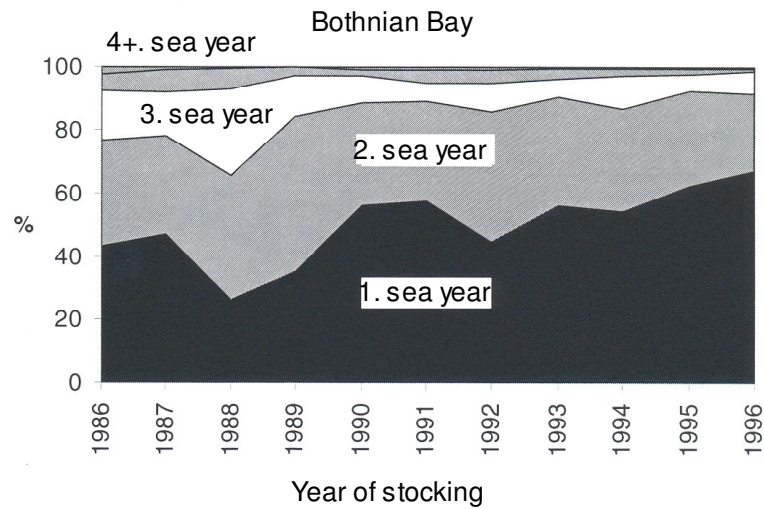
## Some facts about sea trout in Finland

- All wild populations are small
- Natural reproduction is almost nil
- Smolt production is probably carried out at least partly by local brown trout populations
- Quantitative estimates of the total natural annual smolt production are lacking
- About 50 % of trout are caught at the length of <40 cm, which is the minimum legal fishing size
- Fishing is mainly multispecies fishing with gillnets
- Sea trout attain sexual maturity on average at the length of 65 cm and weight 2.5 kg



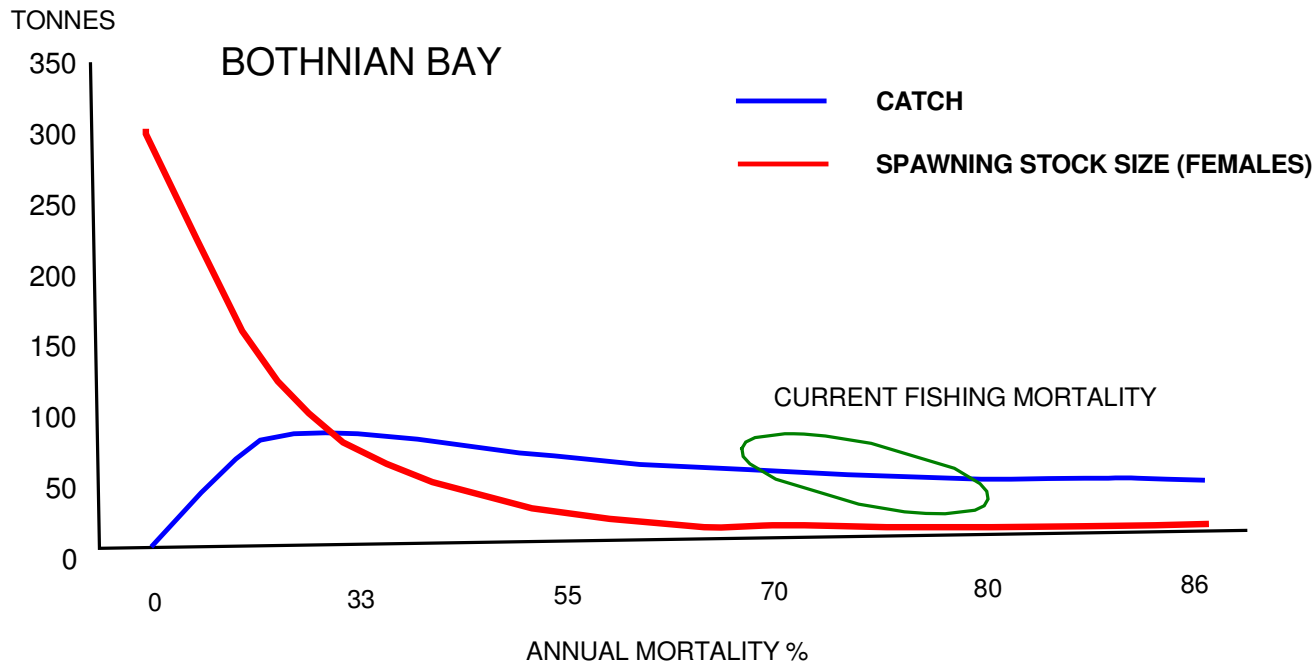
## Major problems of sea trout management in Finland

- Overexploitation
- Small fishing size
- Decreased natural reproduction
- Multispecies fishing
- Decreased survival of stocked trout
- Conflicting fishing regulation measures in different fishing areas

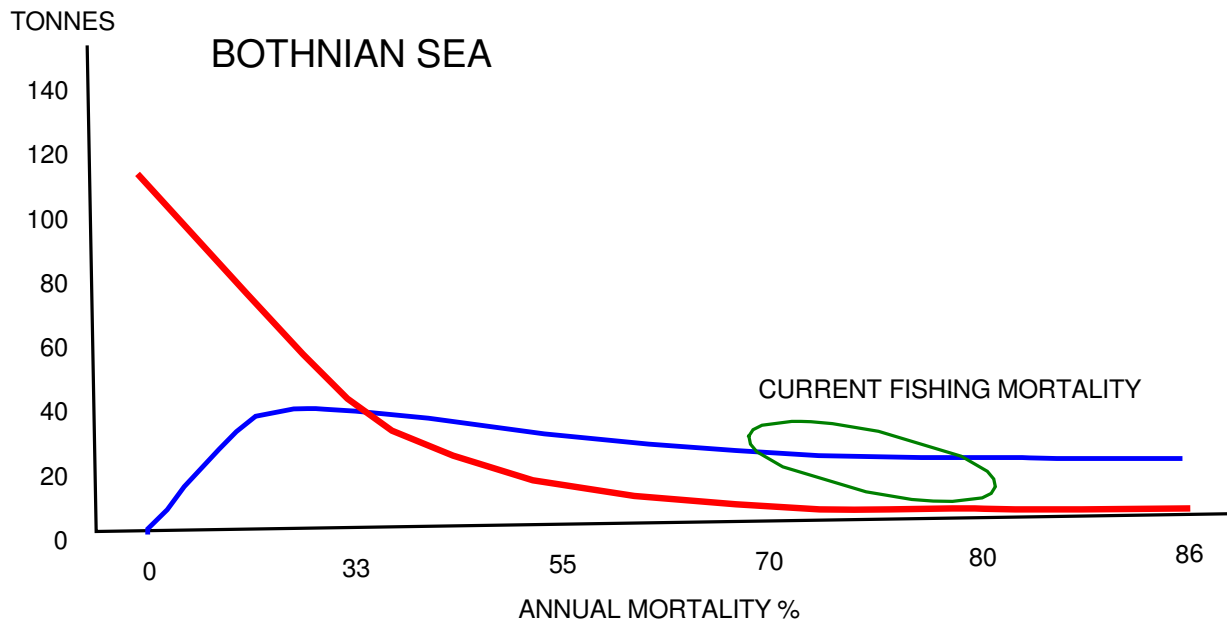


The age composition of sea trout from stockings in the R. Vantaanjoki (Gulf of Finland) N = 2350 (Saura 2001)

The age composition of sea trout catch in the Gulf of Bothnia (Saura 2002)



Yield per recruit (blue) and the size of spawning female population (red) in the Bothnian Bay and Bothnian Sea assuming that the post stocking survival is 20 % and all mortality after that is caused by fishing (redrawn from Saura 2002)



# **Main objectives of management**

- To protect and strengthen still existing sea trout stocks
- To generate genetically diverse and viable populations
- To generate natural reproduction in potential new rivers
- To restore trout populations in former spawning rivers
- To adapt fishing to the general objectives of management
- To rehabilitate potential spawning areas

# Can research improve the management of sea trout?

**Yes!**

At least following studies are needed

- Investigations on habitats and habitat quality modelling
- Develop harvesting models for multispecies fishing - gear selectivity, catchability
- Investigate fish passage requirements, possibility to pass barriers
- Investigations on genetic structure of populations
- Investigation on possible new stocks for introduction to rehabilitated rivers
- Investigate reasons for sea and freshwater survival
- investigate the current state of wild trout stocks – the role of resident trouts?
- etc

## **What should be done to rehabilitate trout stocks on the basis of current knowledge?**

- Limit gillnet fishing in areas where trout catches are high
- Higher minimum size limit (at least 65 cm (TL))
- Higher gill net mesh sizes (>65-80 mm, bar)
- Habitat modifications
- Remove barriers from rivers
- Remove gears from river mouths and rivers during the spawning migration