

# Status of Sea trout in Sweden

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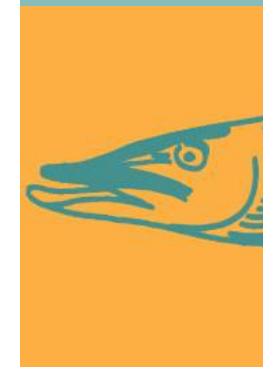
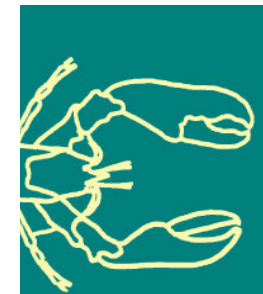
Swedish Board of Fisheries  
Swedish Board of Fisheries



# Catch of Sea trout in Sweden in 2004

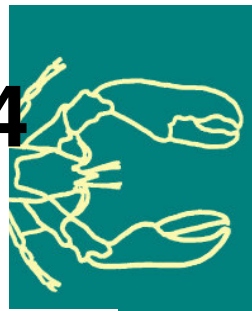
Data from Swedish Board of Fisheries

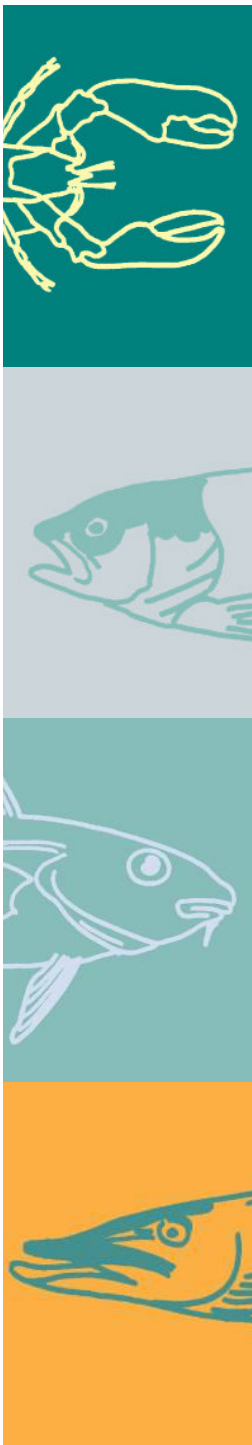
<b>Commercial fishery</b>	<b>33 tonnes (7%)</b>
<b>Sportfishing (rod)</b>	<b>336 tonnes (68%)</b>
<b><u>Non-commercial (net &amp; traps)</u></b>	<b><u>124 tonnes (25%)</u></b>
<b>TOTAL</b>	<b>493 tonnes</b>



# Non-commercial catch (tonnes) in 2004

Area	Sportfishing	Nets & traps	
West Coast	98,6	8,9	(8%)
The Sound	59,7	6,4	(10%)
Main Basin	122,7	58,2	(32%)
Gulf of Bothnia	55,5	50,6	(48%)





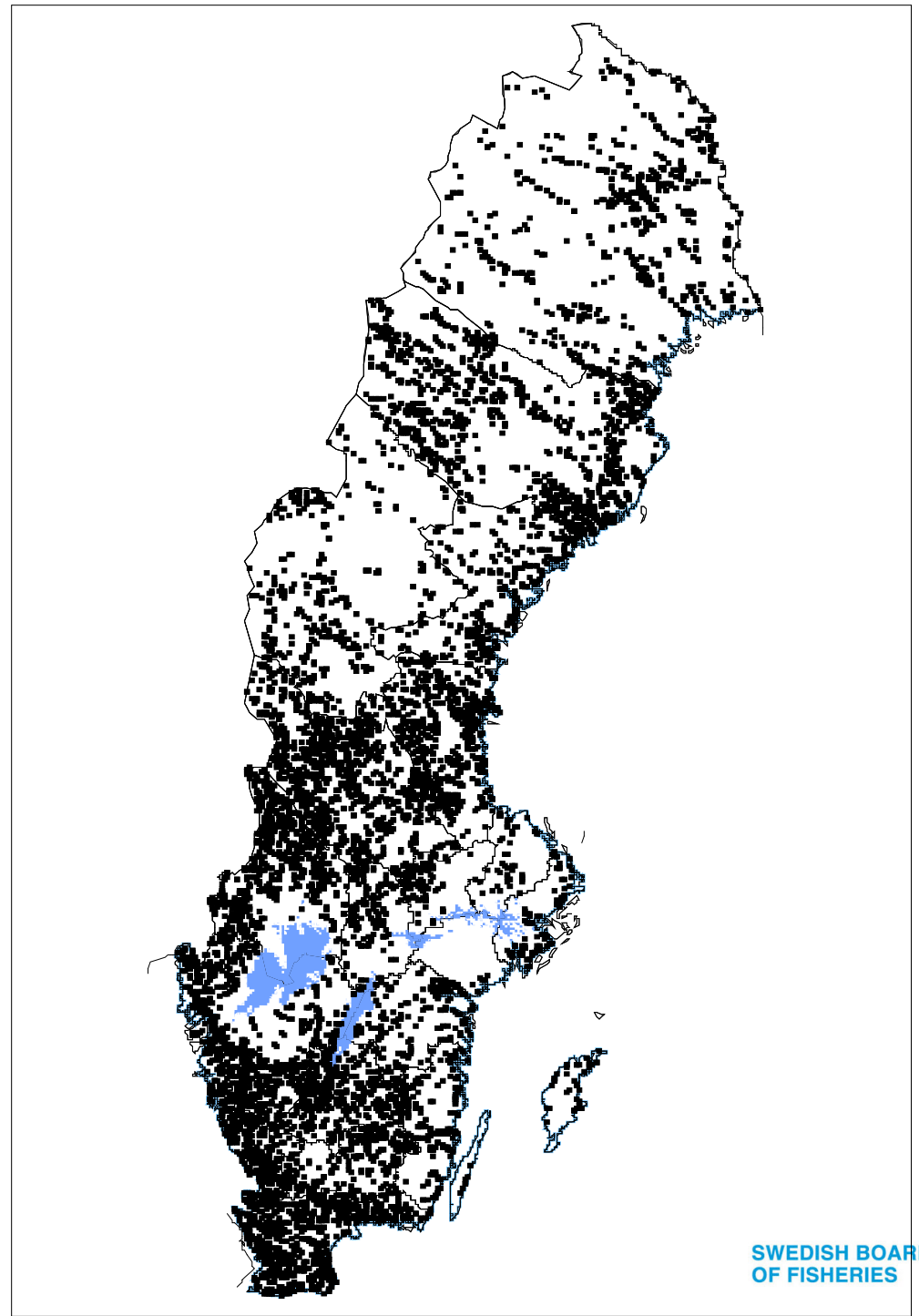
# Status of stocks -parr

**SERS**

**Swedish  
Electrofishing  
RegiSter**

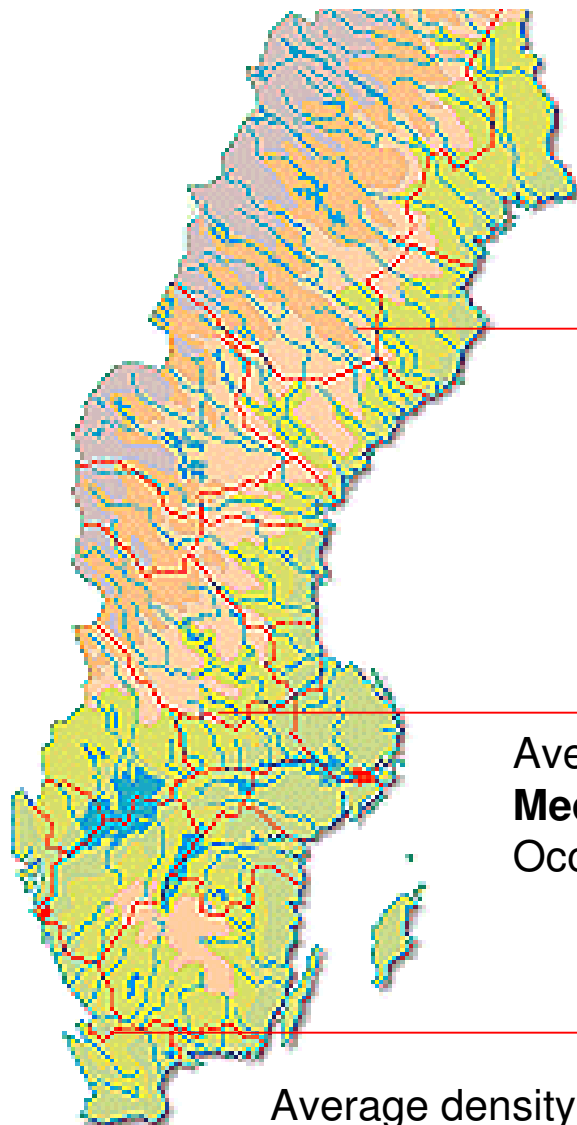
33 500 occasions  
12 500 sites

Institute of Freshwater Research



SWEDISH BOARD  
OF FISHERIES

# Streams with catchment <100 km<sup>2</sup>



Average density 9,0 (no./100 m<sup>2</sup>)  
**Median density 4,3**  
Occurrence 85% of sites  
N= 51 Streams, 261 Occasions

Average density 40,5 (no./100 m<sup>2</sup>)  
**Median density 19,6**  
Occurrence 95% of sites  
N= 124 Streams, 1505 Occasions

Average density 88,7 (no./100 m<sup>2</sup>)  
**Median density 53,8**  
Occurrence 87% of sites  
N= 96 Streams, 561 Occasions

Average density 179,1 (no./100 m<sup>2</sup>)  
**Median density 102**  
Occurrence 86% of sites  
N= 141 Streams, 680 Occasions

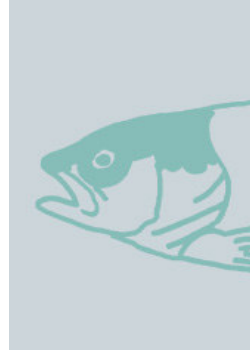
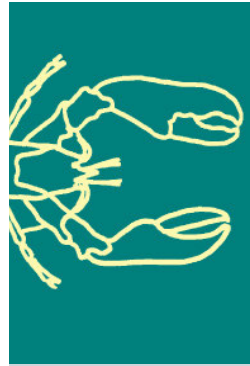
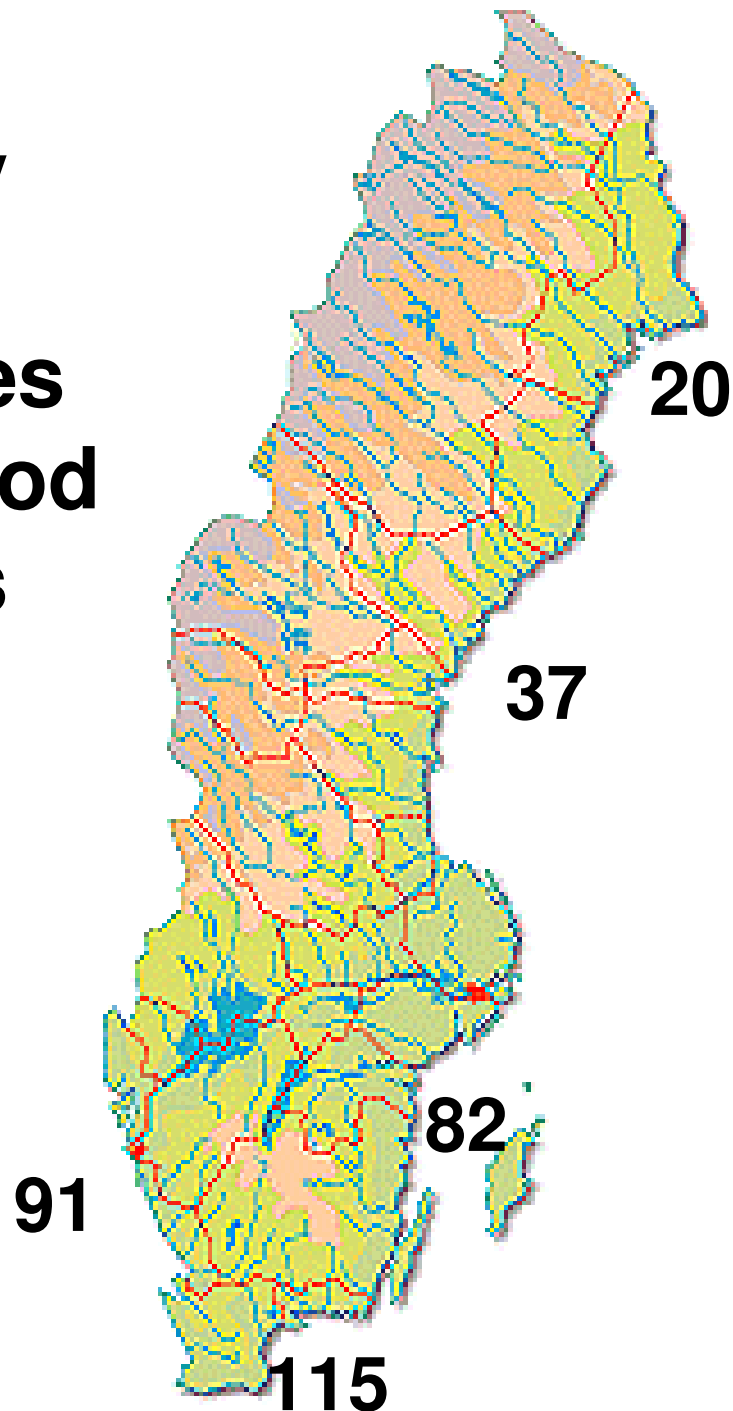


# Expected density at sites with High/Good Ecological Status

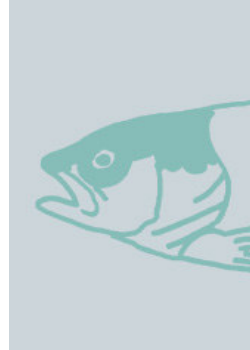
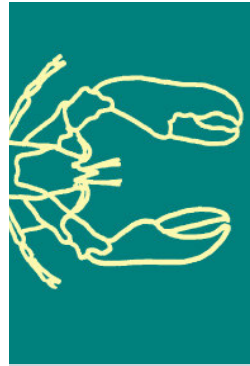
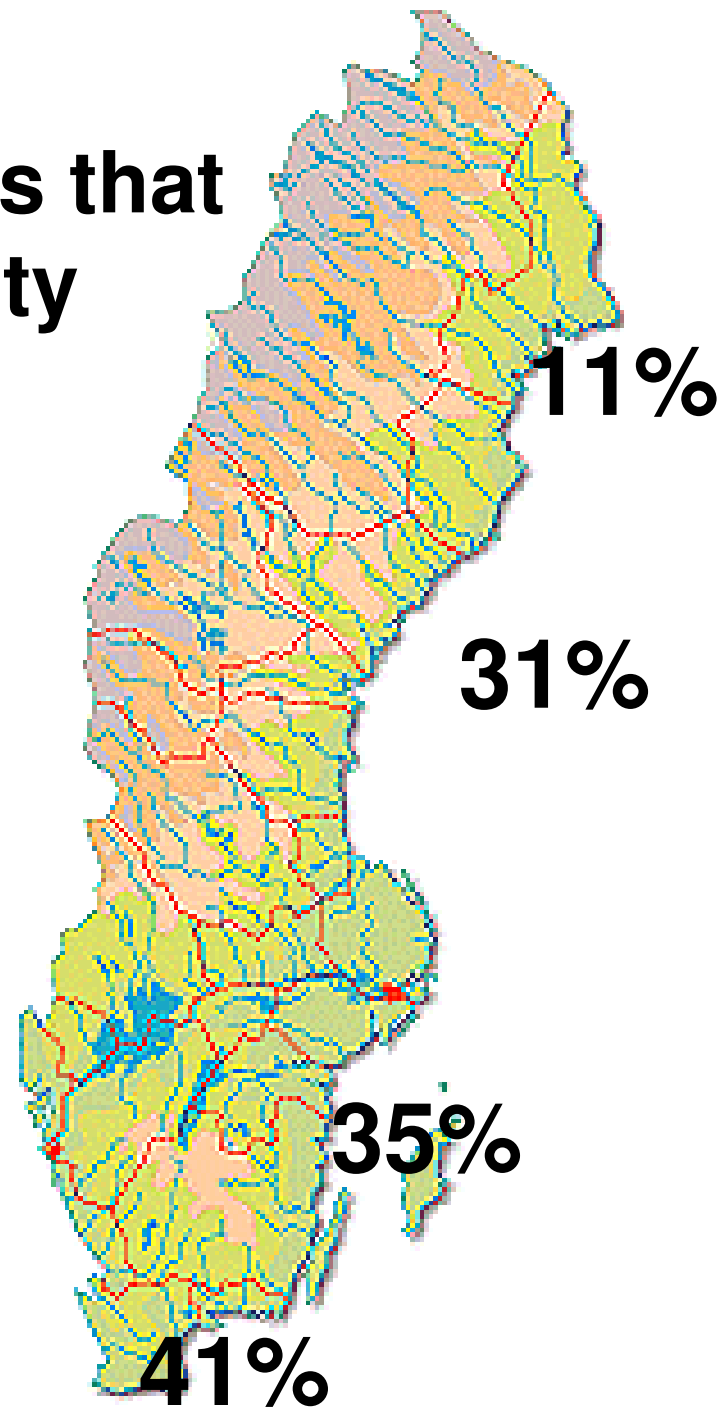
$$\begin{aligned} \text{Lg(Trout)} = & 9.085 - 0.093 * \text{Average air temperature} - \\ & 0.490 * \text{Lg(Width)} - \\ & 0.001 * \text{Altitude} - 0,099 * \text{Latitude} + 0.069 * \text{Slope} - \\ & 0.006 * (\text{Slope})^2 \end{aligned}$$

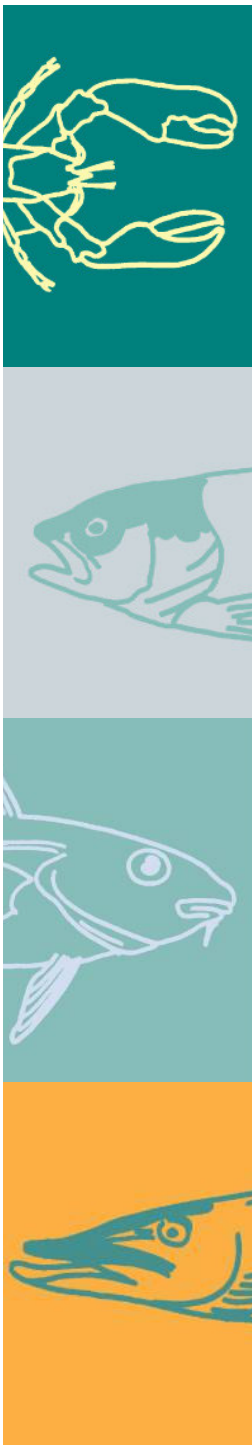
Catchment <100 km<sup>2</sup>  
Dominating substrate gravel or coarser,  
Water velocity >=0,2 m/s.

**Expected density  
(parr/100 m<sup>2</sup>)  
at investigated sites  
if they had high/good  
Ecological status**



# Proportion of occasions that had expected density





# Status of stocks

## -trends in parr density 1995-2005

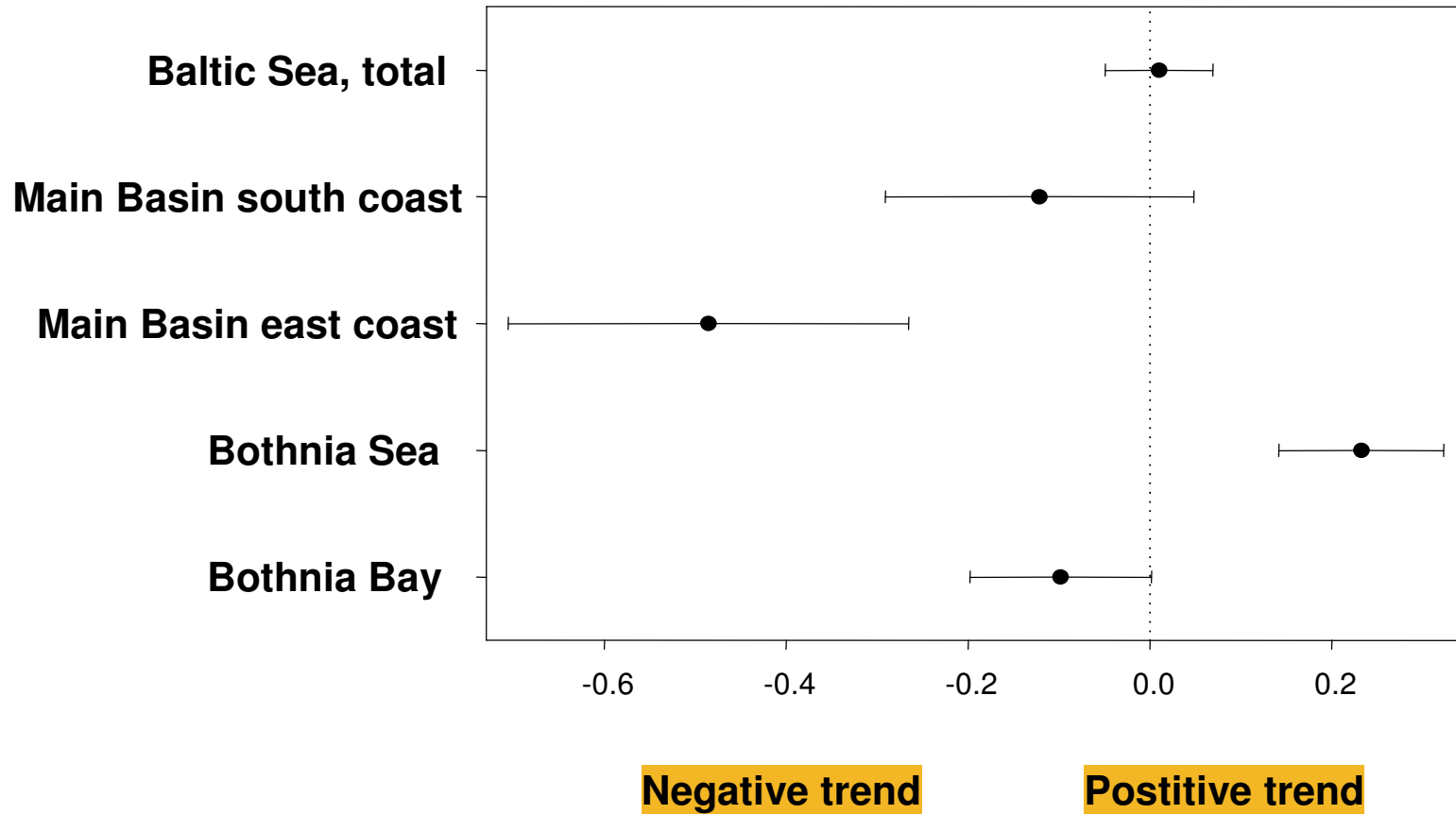
Meta-analysis of partial correlation coefficient

Density =  $k * \text{Year}$ ; compensated for Julian date

N=317 sites



### Trout parr >0+





# Conclusions:

Extremely poor stocks in Bothnian Bay  
-negative trend

Poor-Moderate stocks in Bothnian Sea  
-positive trend

Moderate stocks in Main Baltic East Coast  
-negative trend

Good-Acceptable status i Main Baltic South Coast.  
-no trend



# Causes?

- **Need for stream restoration**
- **Too low minimum size**
- **By-catches**

A vertical decorative bar on the left side of the slide, divided into four colored sections: teal (top), light grey, light teal, and orange (bottom). Each section contains a stylized illustration of a fish or aquatic creature.

## River Kalix älv; 460 km, 2500 ha of Salmon reproduction area

The number of spawning trout females was estimated to 100 in the year 2002.

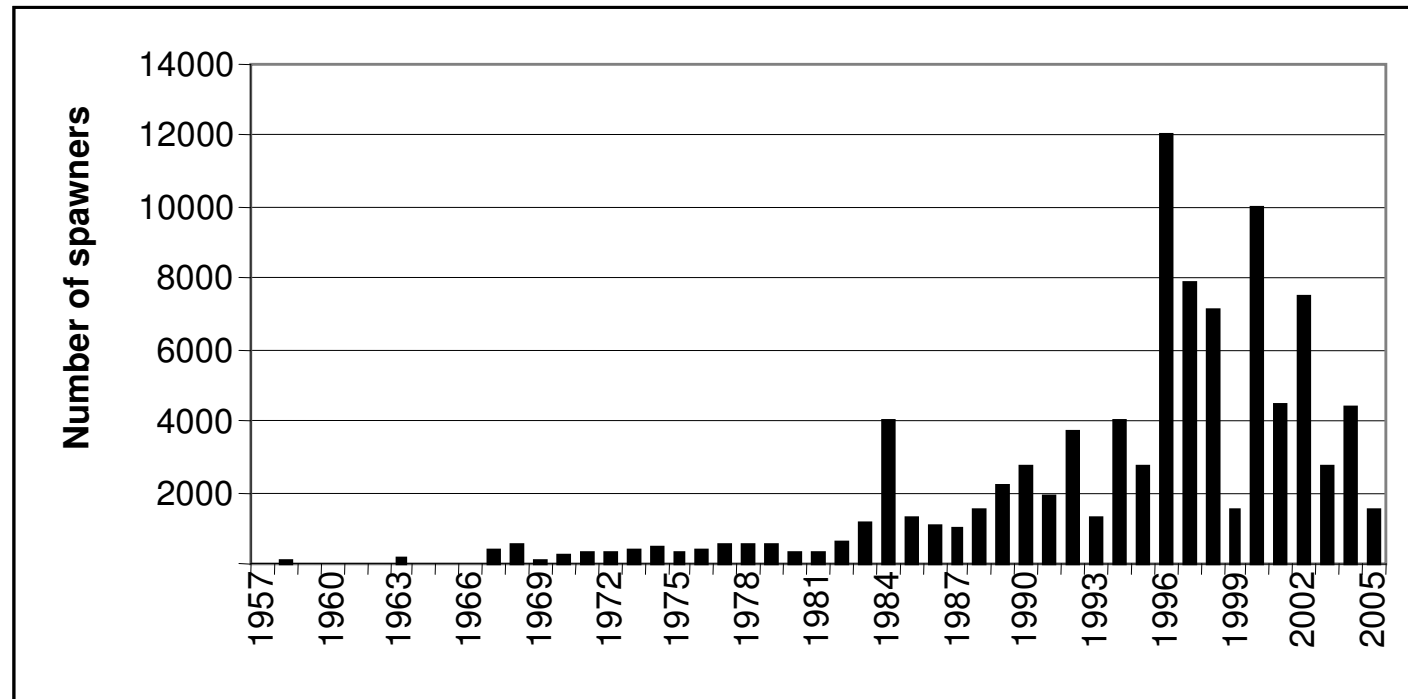
Trout reproduction area unknown:  
Rough estimate = 100- 1000 ha

**One female per 1-10 ha!!!**  
**0,001-0,01 females/100 m<sup>2</sup>**



## Status of stocks

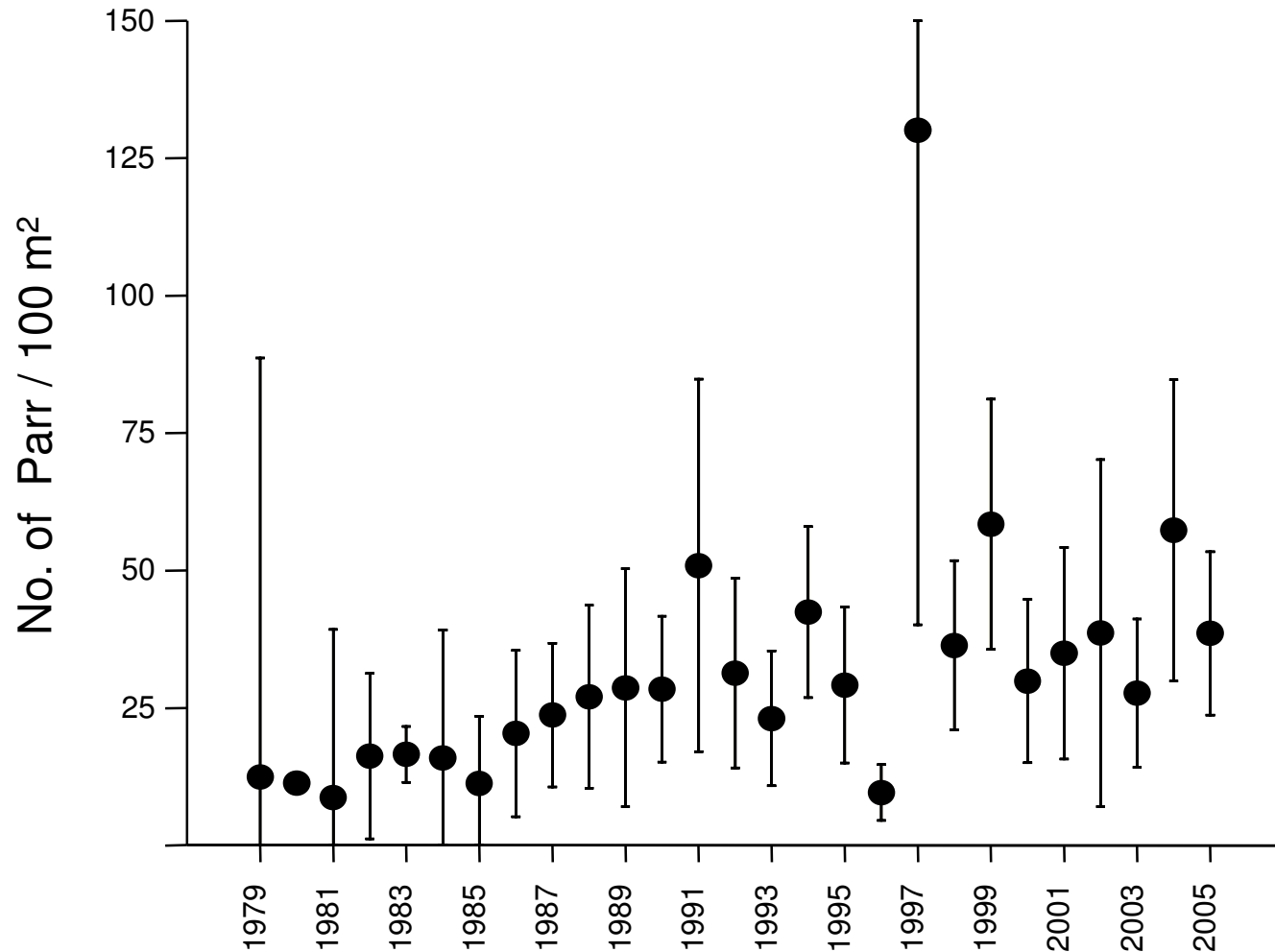
**-Spawners in River Nybroån; Main Baltic (South)  
(Catchment area 316 km<sup>2</sup>, length 31 km)**



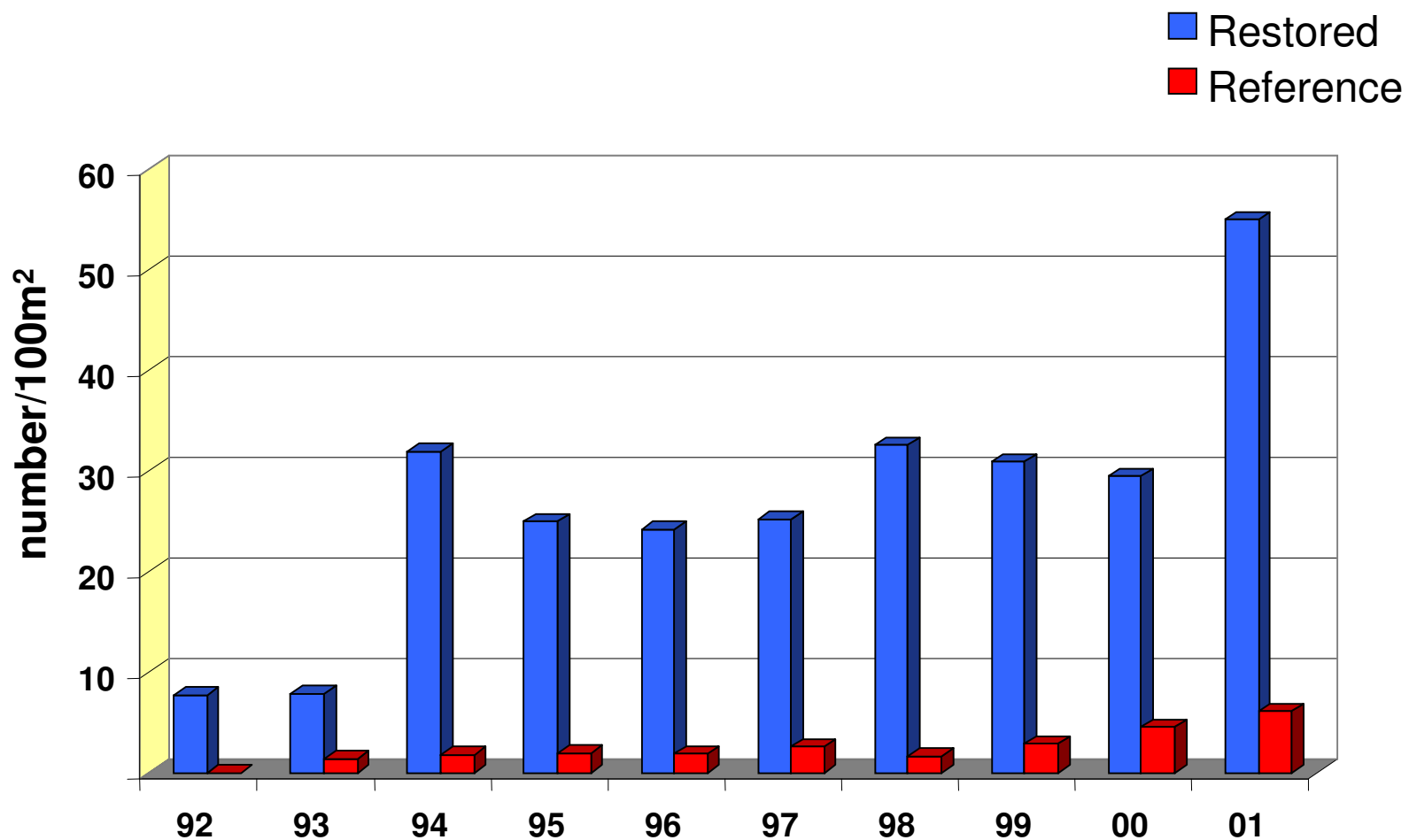
**Estimation; 0,5-3 females/100 m<sup>2</sup>**

# Need for stream restoration

Six limed and restored streams in Bothnian Bay (Västernorrland County)

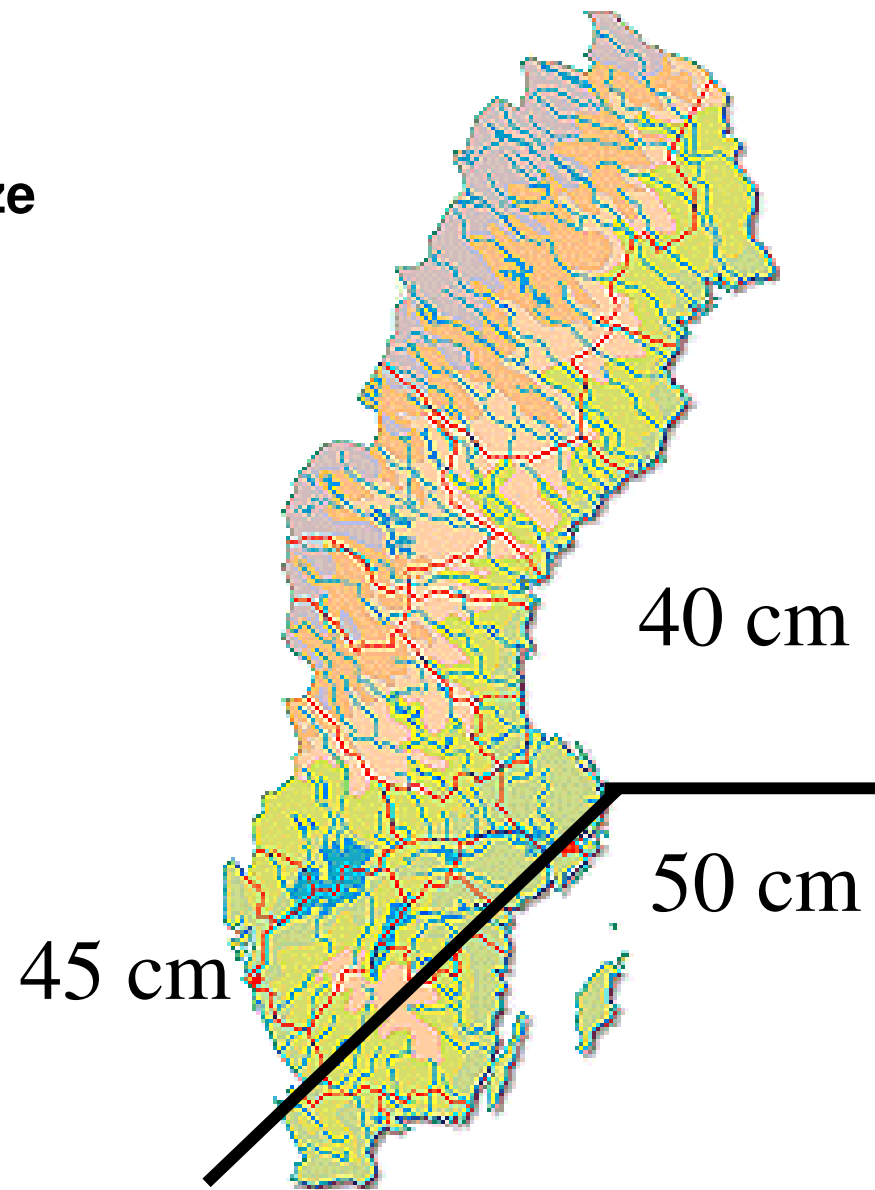


# Hartijoki (River Kalix älv), Bothnia Bay

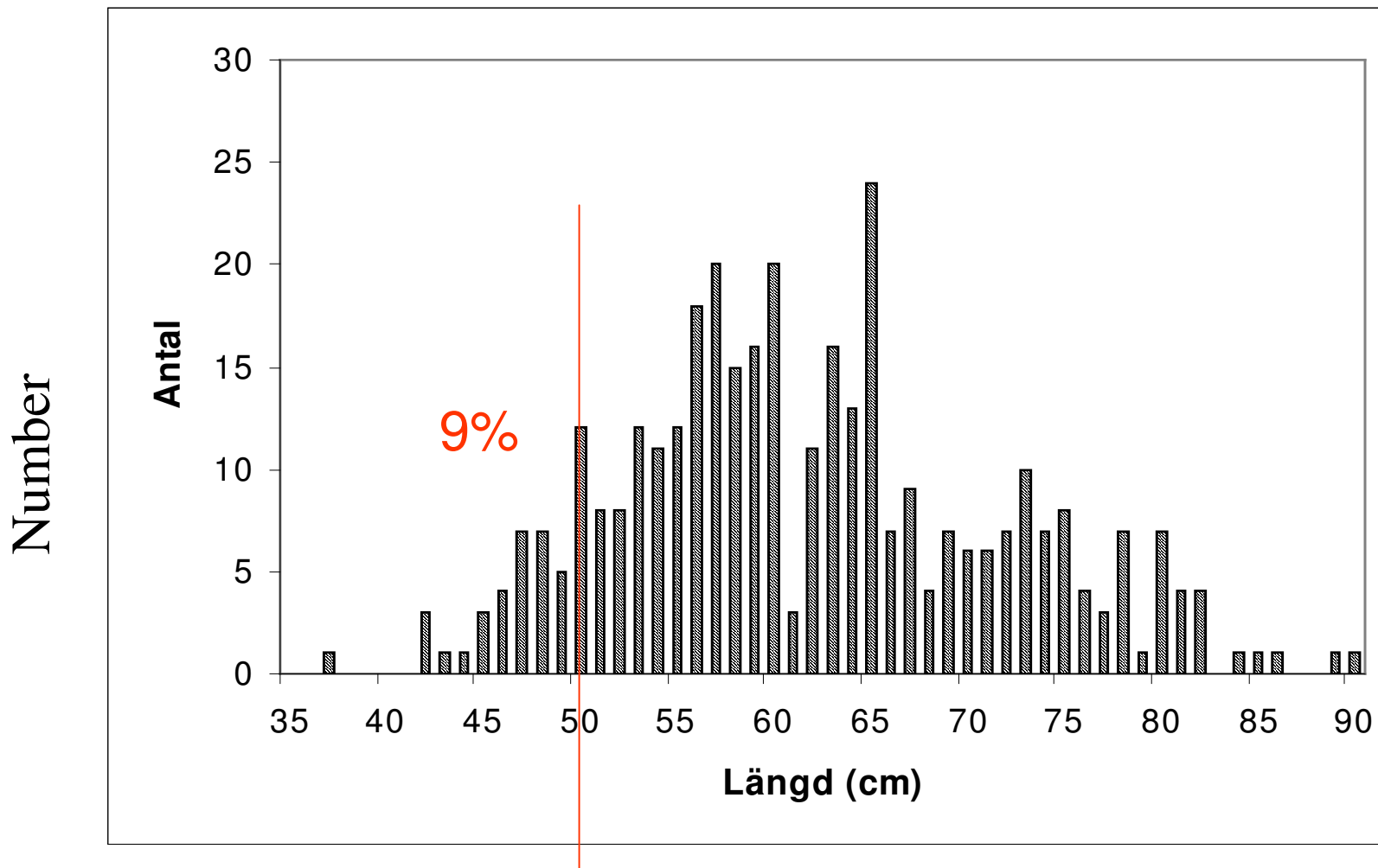




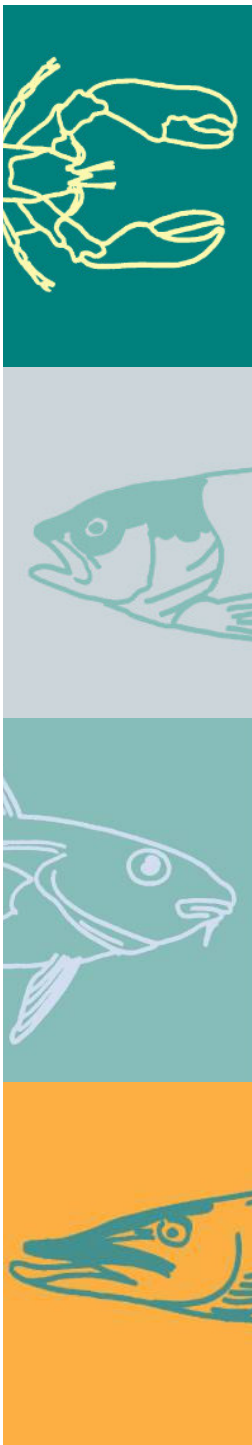
## Minimum size



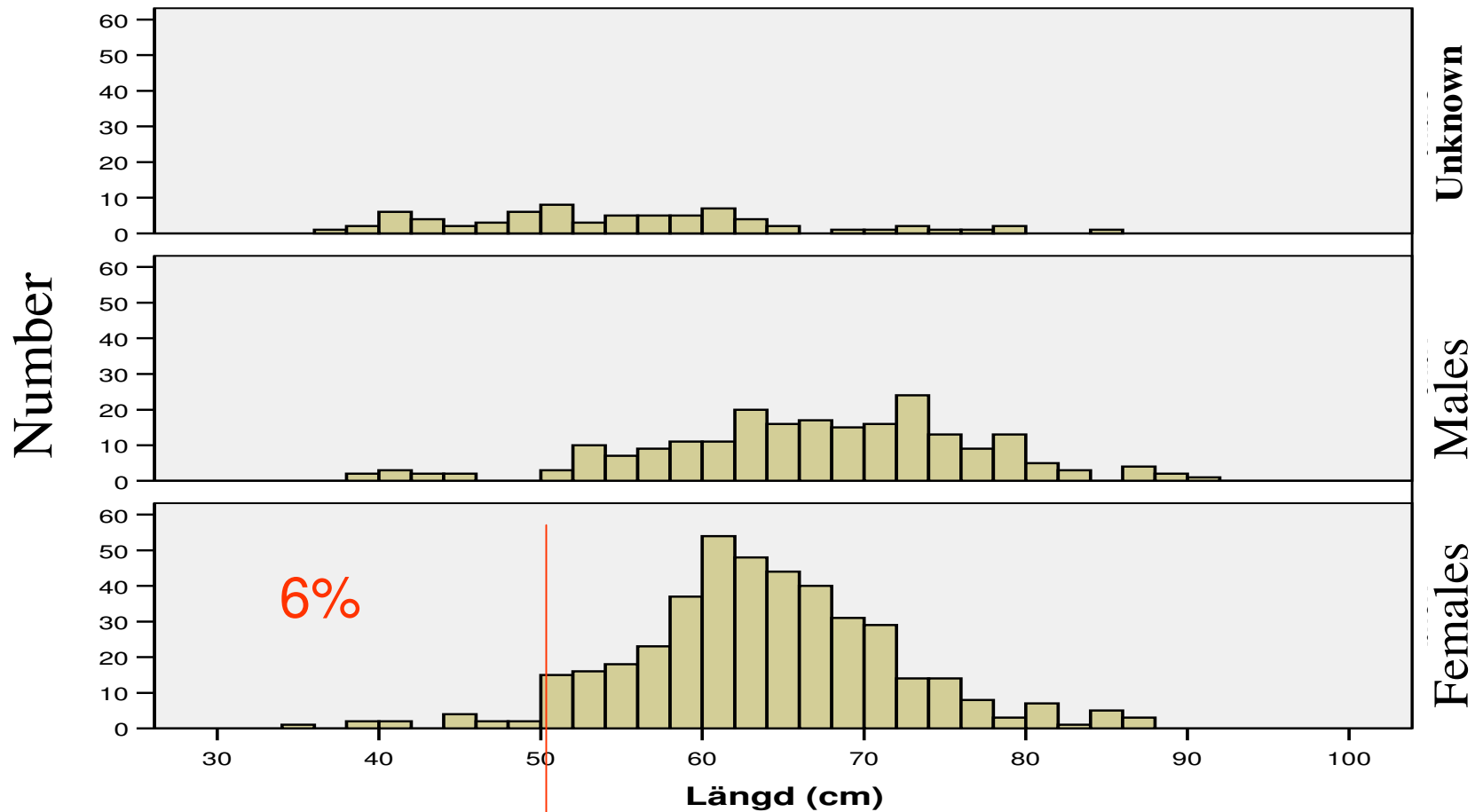
# To low minimum size



Size of ascending spawners in Kävlingeån (Main Basin south coast)



# Size of spawners in River Ume/Vindelälven



# Spawners in tributaries to Moälven, Bothnia Sea (with average stream width of 2-6 m).

