# Abundance and presence maps of coastal fish in test fishing gears

## Methodology:
1. A species may be present in or in vicinity of a sampling area even it was not found in the sampling gears. The most common reasons are:
    a. that the species only occasionally occurs in shallow coastal areas during the sampling period (smelt, sprat).
    b. that the local habitat of the sampling spots are unsuitable (smelt, Baltic herring, sprat).
    c. that the gears are unsuitable to catch a species (pike, flounder, asp).
    d. that the effort is low. The probability to catch rare species increases with increased effort.
2. The catch values presented are collected exclusively from test fishing gears at shallow areas (0 – 6 m depth).
3. The monitoring methods used are targeted to demersal (bottom dwelling) species during the sampling time from late July to early September.
4. Only species whose catches is believed to reflect the true stock sizes are presented with abundance indices at distribution maps. Small species, pelagic species, species that don't appear in coastal waters in August and early September and species with a body shape strongly deviating from the model species perch are excluded, since the catches probably do not reflect the true density.
5. Species found in the test fishing gears, whose catches are believed to reflect permanent occurrence but are not believed to reflect the true stock sizes, are presented with presence maps.
6. Fish of all length categories are included in the presented data.
7. The data used is catch-per-unit-effort per net expressed as numbers (CPUE).
8. Data is collected from two different sampling gears, Coastal Nordic nets and Net series (different gears are used at different monitoring areas). Although the methods possess different catchabilities for different fish species and sizes, no correction between the methods has been carried out.
9. Data from the period 2001 – 2006 is included, both from single/few year investigations and from annual long term monitoring programs.

## The gears
Coastal Nordic nets
This single gillnet is 45 m long, 1.8 m deep, and composed of nine mesh sizes, 10 mm, 12 mm, 15 mm, 19 mm, 24 mm, 30 mm, 38 mm, 47 mm and 60 mm knot to knot (here e.g. 10 mm from knot to knot is equal to 20 mm stretched mesh). The sampling strategy is based on depth-stratified random sampling using approximately 20 stations distributed in the depth strata 0 – 6 m.

Net series
The net series consist of four 30-m long and 1,8-m deep nets; each net is made up of a single mesh size: 17 mm, 21.5 mm, 25 mm and 30 mm knot to knot (here e.g. 17 mm from knot to knot is equal to 36 mm stretched mesh), respectively. Fishing is performed at fixed stations (4 – 10 stations depending on area at 2 – 5 m depth) and repeated over six nights.

**Species presented with abundance maps:**
Bream (*Abramis brama*)
Crucian carp (*Carassius carassius*)
Dace (*Leuciscus leuciscus*)
Ide (*Leuciscus idus*)
Perch (*Perca fluviatilis*)
Pikeperch (*Sander lucioperca*)
Prussian carp (*Carassius gibelio*)
Roach (*Rutilus rutilus*)
Rudd (*Scardinuis erythrophthalmus*)
Ruffe (*Gymnocephalus cernuus*)
Tench (*Tinca tinca*)
White bream (*Blicca bjoerkna*)
Vimba bream (*Vimba vimba*)

**Abundance levels (calculated separately for the different methods)**
Not found
Occasionally found (<0,5% of mean catches)
Regularly found (>0,5% of mean catches)
Commonly found (>5% of mean catches)
Abundantly found (>mean catches)

**Species presented with presence maps:**
Asp (*Aspius aspius*)
Baltic herring (*Clupea harengus*)
Barbel (*Barbus barbus*)
Bleak (*Alburnus alburnus*)
Flounder (*Platichthys flesus*)
Gudgeon (*Gobio gobio*)
Pike (*Esox lucius*)
Smelt (*Osmerus eperlanus*)
Sprat (*Sprattus sprattus*)

**Presence levels**
Not found
Found