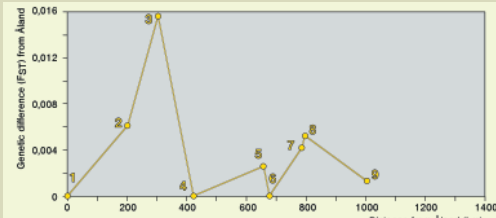
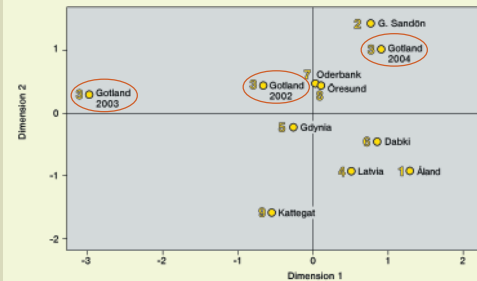
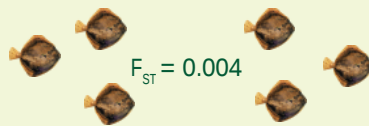


Genetic variation and stock identification of flatfishes in the Baltic Sea



Mean pairwise F_{ST} for turbot samples plotted against nearest waterway distance to Åland. Numbers refers to location in the map. No significant correlation between geographic ($\ln(\text{km})$) and genetic ($F_{ST} / (1 - F_{ST})$) distance.

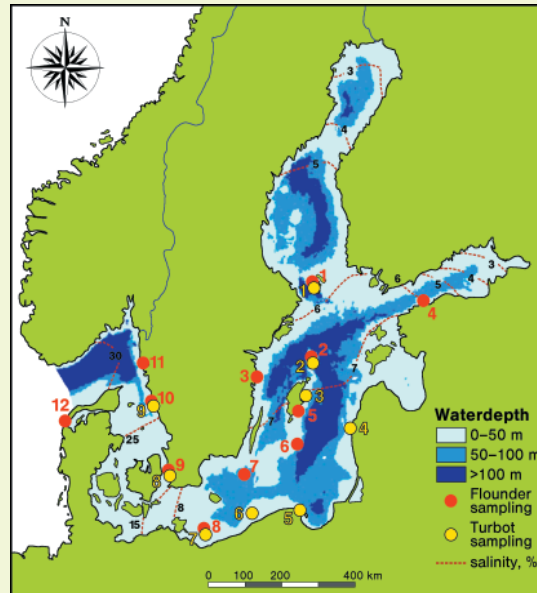
Genetic differentiation in turbot



Multidimensional scaling plot of Nei's genetic distance between turbot samples. Numbers refers to location in the map. 1-dimensional $R^2 = 0.73$; 2-dimensional $R^2 = 0.89$. Samples closer together are more genetically alike.

Results for turbot

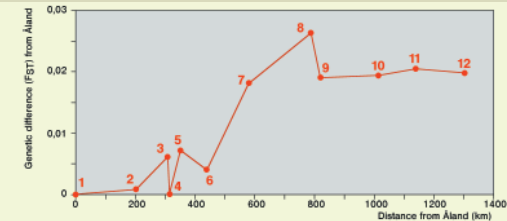
Small genetic differentiation, no isolation by distance, no clear stock structure and temporal variation as large as spatial variation.



Sampling of turbot (*Psetta maxima*) and flounder (*Platichthys flesus*) 2003. Depth data from: Seifert, T., F. Tauber and B. Kayser. 2001*.

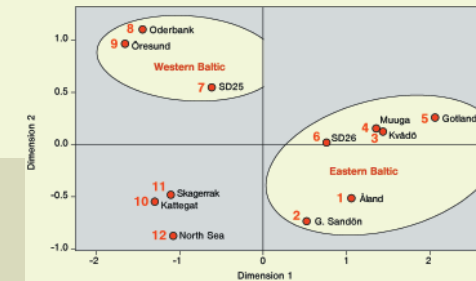
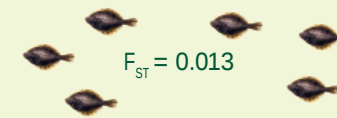
Practical implications:

- Turbot perhaps better managed as a single stock in the Baltic Sea
- Yearly changes in stock composition suggest turbot recruit from different areas in different years
- Flounder in southwestern and northeastern Baltic different, perhaps locally adapted and should be managed separately
- Statistical subdivisions (e.g. ICES SD) not necessarily meaningful management units



Mean pairwise F_{ST} for flounder samples plotted against nearest waterway distance to Åland. Numbers refers to location in the map. Significant correlation between geographic ($\ln(\text{km})$) and genetic ($F_{ST} / (1 - F_{ST})$) distance, $P < 0.01$, i.e. samples further away are more different.

Genetic differentiation in flounder



Multidimensional scaling plot of Nei's genetic distance between flounder samples. Numbers refers to location in the map. 1-dimensional $R^2 = 0.86$; 2-dimensional $R^2 = 0.97$. Samples closer together are more genetically alike.

Results for flounder

Genetic differentiation between samples, evident isolation by distance, suggestion of a transition zone east of the Bornholm basin.



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* A high resolution spherical grid topography of the Baltic Sea - 2nd edition. Baltic Sea Science Congress, Stockholm 25-29. November 2001, Poster #147, www.io-warneemuende.de/iowtopo. Warnemünde.



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