Notes for work done August 3rd - December 2nd 2015

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Notes for lists & keys

Guildlist notes

Asterixes indicate that a guild has been added to the list of feeding guilds in the North Sea Greenstreet et al. (1996).

- * indicates a guild represented in the unedited guild list, but with a synomymous species name. These could easily be added to the synonymous guild

- ** indicates a guild *not* represented in the unedited guild list, and has been added manually, using data from Fishbase.

Gear list

Area key

Data visualisation

Graphs

- Percentages for effort data is calculated in seperate datasets rather than upon load, as it is probably much easier to automate late on, should that become relevant.

- ddply is used to calculate percentages

Automation

- Gear renaming; Gears needs to be grouped by actual gears, without restriction tags ("R-*"), but without overwriting to original data

- Catches needs to be summed by **year**, and grouped with **gears** and **species**, in their respective **ecoregions**, and **sub-regions**. A solution may be to have R read column names, and act based on that.

General notes for data

- Column names can't start with numbers. Remember this; it will cause you trouble later, if you do not adhere by the Data Governing laws of the Almighty R.
  The Almigthy R (praised be its name) is able to interpret raw text-data, without messing it up – just be careful what you write in your `read.delim()`.

- Fleet **capacity** is reported only for some countries, and in *Gross Tonnage (GT)*, as opposed to kilowatts (kW). **Effort** is reported in *kilowattdays (kWd)*.

Caveats for STECF data

Caveats for fleet characterisations:

- Vessel length groups are not the same in the Baltic Sea as in other areas (13-18 m. group is problematic, however only constitutes 7 % of effort 2003-2013)
- Gear designations vary, especially in annex II, categories 3A-C are problematic, cat. 3A covers several gears
- Data about gear use in the North Sea are lacking, as no info is provided for 14 % of effort (2003-2014)
- Data about vessel length is missing for 54 % of vessels in IIB (IIB is not used in the preliminary characterisation, as it contains data for Iberian peninsula only)
- Data is not divided into ICES squares & ecoregions, which makes proper characterisation of each region difficult, e.g. sq. VIIe which contains data from Celtic Seas and NS

Data in *Annex IIC* has been split into NS and CS based on "country codes" (see Table 1)

- Actual vessel numbers are difficult if not impossible to determine, as data only contains summarised vessel data. "Vessel numbers" are actually a measure of how many vessels have been part of a certain activity, i.e. fishing with pelagic trawls in an area for a given year. This means that vessel numbers are grossly overestimated, and "vessel numbers" is more than anything a measure of vessel visitations to a given area.

- There are (too) many gear types, and some of the categories are overlapping. It may be advisable to summarise some of the categories, as the fleet characteristics are not meant to be advice, but to give an idea of how fish are caught, and as such information about restricted gears are not of immediate interest. The type of restricted gear is, however, and usually the general type of gear (e.g. "otter trawl") is present in the datasets in much greater proportions, thus specific and restricted gear designations can easily be included in more general categories without skewing the data too much. However, consolidating the gear types may give a clearer picture of the composition of the fleets.

- Gears may be grouped by different characteristics, e.g. target species (either target species("cod"), or placement in water column("demersal")), catch methods (traps, trawls etc.), movement (active/passive), or simply general gear types (otter trawls, seines etc.), or combinations thereof (when that makes sense; an "active trap", for example, would be a trawl). DCF gear metiers may also be useful, but are even more specific. Maybe a combination of level 4 & 5 (type & target species) is useful?

- There are too many species names to produce anything that is general for each region, while being descriptive. Maybe grouping species by feeding or size guilds, will simplify graphical and generalised data products. There may be a challenge in automating this. A key for assigning guilds to species, by species name, have been produced. (`./key-list/guild.list`)

Code	Country	Ecoregion in sq. VIIe
ENG	England	Celtic Seas
IOM	Isle of Man	Celtic Seas
IRL	Ireland	Celtic Seas
NIR	Northern Ireland	Celtic Seas
SCO	Scotland	Celtic Seas
BEL	Belgium	North Sea
DEN	Denmark	North Sea
ESP	Spain	North Sea
FRA	France	North Sea
GBG	Guernsey	North Sea

Code	Country	Ecoregion in sq. VIIe
GBJ	Jersey	North Sea
GER	Germany	North Sea
LIT	Lithuania	North Sea
NED	Netherlands	North Sea

References

Greenstreet, Simon P. R., Andrew D. Bryant, Niall Broekhuizen, Stephen J. Hall, and Mike R. Heath. 1996. "Seasonal Variation in the Consumption of Food by Fish in the North Sea and Implications for Food Web Dynamics." *ICES Journal of Marine Science* 54 (2). Nature Publishing Group: 243–66. doi:10.1006/jmsc.1996.0183.