UPTAKE NWW CHOKE MITIGATION TOOL IN ICES MIXED FISHERIES ADVICE

Y.Vermard

Centre Ifremer de Nantes, Laboratoire EMH

Development of MIXFISH advice:

- Fleet based approach (2002)
  - **Fleet : group of vessel (same size and using the same gears)**
  - **Métier : same exploitation pattern (same gear targeting the same species)**

- First WS in 2009
  - **Take into account technical interaction using single stock advice**
  - **Show potential inconsistencies in the single species advices**
    - 2 stocks caught together one increasing the other decreasing = conflicting advice

- Idea: we cannot predict fleet behaviour and adaptation so we identify mismatches across stocks' advice and aim to reduce sources of tensions

- Estimation of effort corresponding to single-species TAC advice for each fleet.

- Define some scenarios i.e.

  Stop fishing when first ("min") or last ("max") quota exhausted.

Development of MIXFISH advice:

Mixed fisheries advice for :

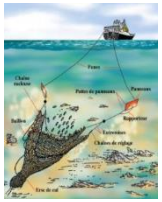
- North Sea : cod, haddock, whiting, saithe, plaice, sole, and Norway lobster *Nephrops norvegicus*
- Celtic Sea : cod, haddock, whiting (*monkfish, hake, megrim, Nephrops)*
- Iberian Waters : hake, anglerfishes, megrims

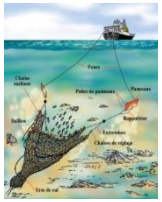
Under development

- Bay of Biscay: Hake, Sole and Megrim

Fcube

Fplaice





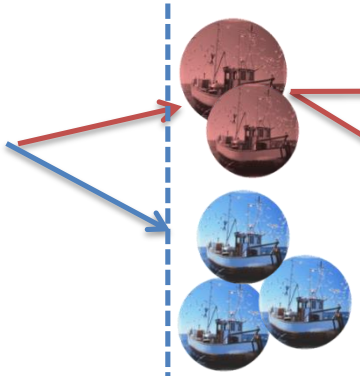
Single stock advice

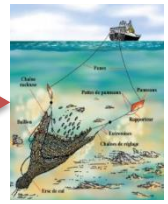
Partial F / fleet

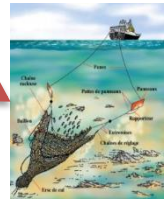
Partial F / métier

Fcube

Fplaice







Single stock advice

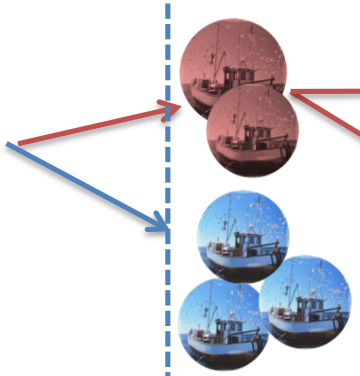
Partial F / fleet

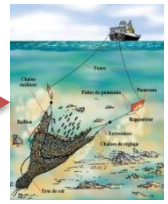
Partial F / métier

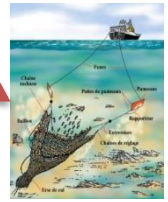
Effort per métier and species

Fcube

Fplaice







Eplaice1

Eplaice2

Single stock advice

Partial F / fleet

Partial F / métier

Effort per métier and species

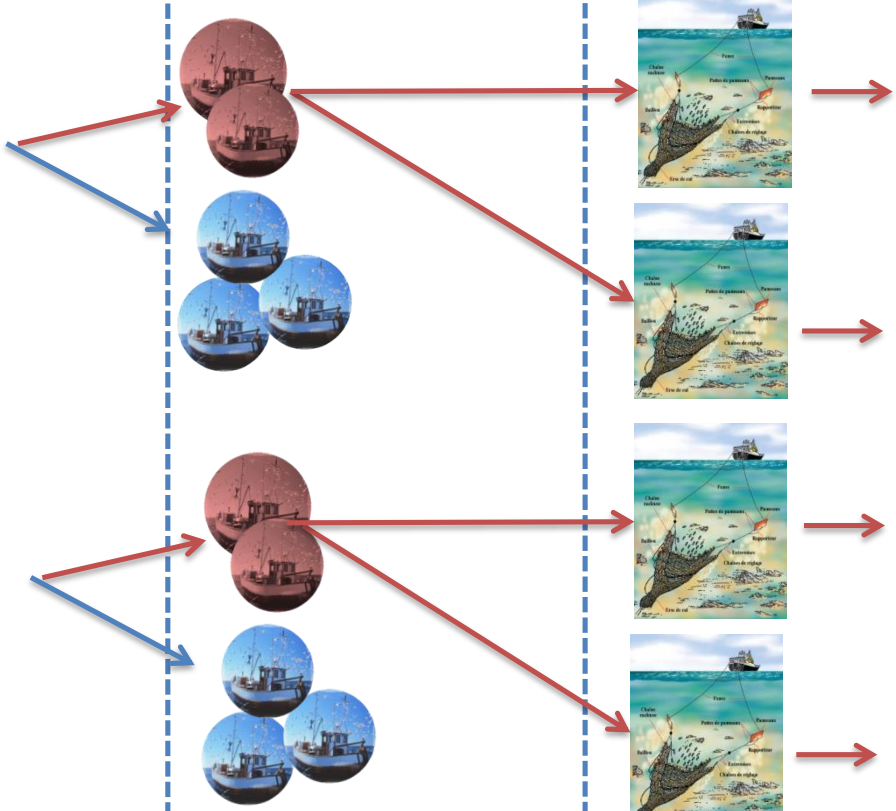
Fcube

Fplaice

Fcod

Fwhiting

Fsole



Eplaice1

Eplaice2

≠

Ecod1

Ecod2

Single stock advice

Partial F / fleet

Partial F / métier

Effort per métier and species

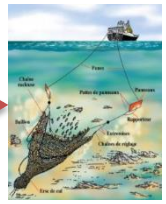
Fcube

Fplaice

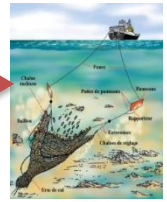
Fcod

Fwhiting

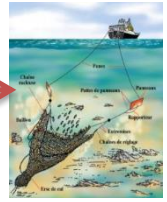
Fsole



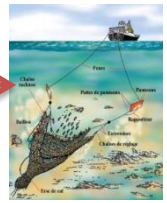
Eple1



Ecod1



Ewhg1



Esol1

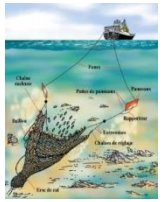
Single stock advice

Partial F / fleet

Partial F / métier

Effort per métier and species

Fcube



Eple1 > Ecod1 > Ewhg1 > Esol1

Max scenario

Min scenario

Fcube

Hypoteses on catches share

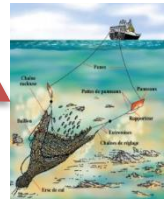
Hypotheses on catchability

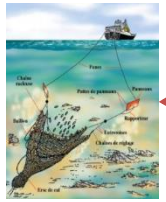
Fplaice

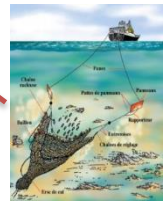
Fcod

Fwhiting

Fsole







Eplaice1

Eplaice2

Single stock advice

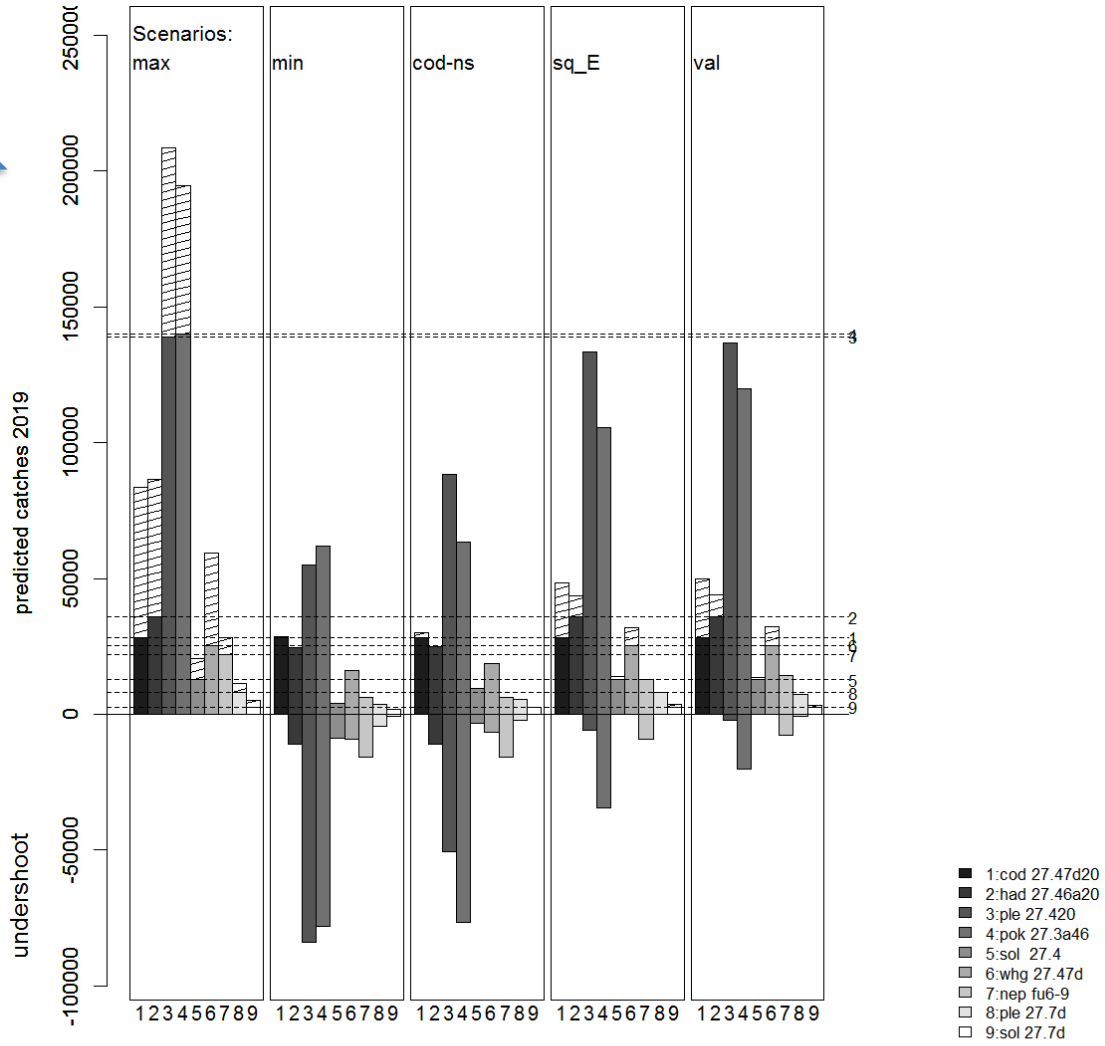
Partial F / fleet

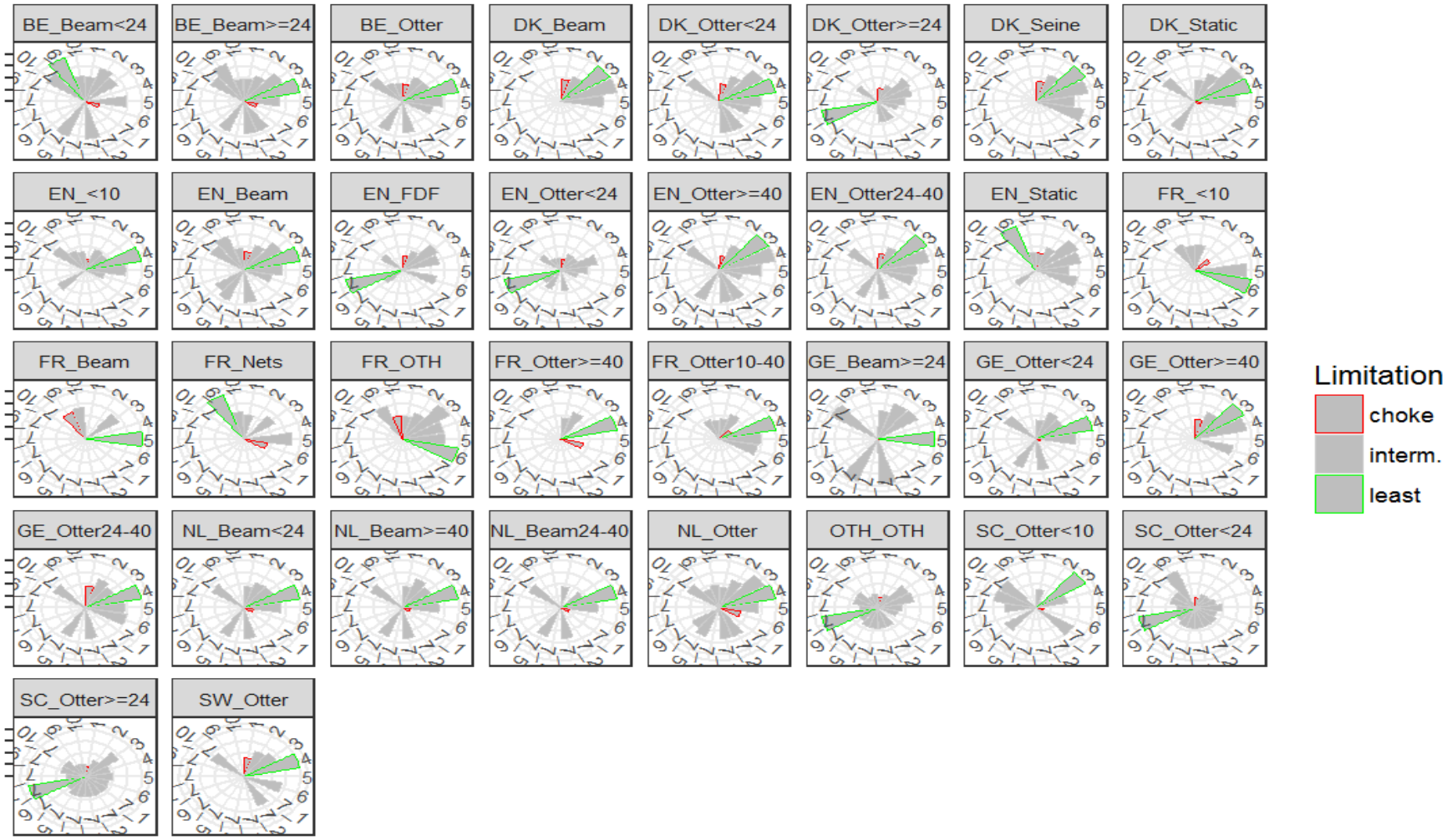
Partial F / métier

Effort per métier and species

TAC overshoot

TAC undeshoot




BE_Beam<24
BE_Beam>=24
BE_Otter
DK_Beam
DK_Otter<24
DK_Otter>=24
DK_Seine
DK_Static
EN_<10
EN_Beam
EN_FDF
EN_Otter<24
EN_Otter>=40
EN_Otter24-40
EN_Static
FR_<10
FR_Beam
FR_Nets
FR_OTH
FR_Otter>=40
FR_Otter10-40
GE_Beam>=24
GE_Otter<24
GE_Otter>=40
GE_Otter24-40
NL_Beam<24
NL_Beam>=40
NL_Beam24-40
NL_Otter
OTH_OTH
SC_Otter<10
SC_Otter<24
SC_Otter>=24
SW_Otter
Limitation
choke
interm.
least

Fcube

Hypoteses on catche share

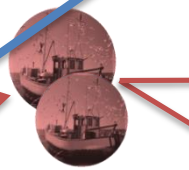
Hypotheses on catchability

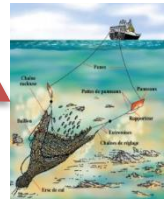
Fplaice

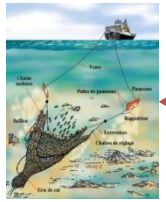
Fcod

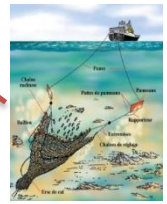
Fwhiting

Fsole









Eplaice1

Eplaice2

Single stock advice

Partial F / fleet

Partial F / métier

Effort per métier and species

Hypotheses on quota share in FCube

Curent procedure:

”relative stability” allocating future opportunities by fleet (e.g. Target partial F in 2019) is based on catch 2017

$$Ffleet2019 = F2019 * \frac{Catchfleet\ 2017}{Total\ Catch\ 2017}$$

Problem:

- if a fleet had low catches (not catching their full quota) in 2017 then low associated target F for 2019
- This species can then become a choke species in the model eventhough in reality the fleet has a high quota and is not limited but just does not catch it

Hypotheses on quota share in FCube

Idea: Include some aspects of countries quota (Choke Category 1: Sufficient quota at MS level but poorly distributed) / Choke Mitigation Tool

$$QuotaShare_{Country}$$

Choke Mitigation Tool calculations were implemented and applied for 2017 using the WGMIXFISH dataset and the TAC and quotas 2017 data obtained from the EU FIDES database, which records the initial and final (after swaps) quota by member state

Hypotheses on quota share in FCube

Idea: Include some aspects of countries quota (Choke Category 1: Sufficient quota at MS level but poorly distributed) / Choke Mitigation Tool

$$F_{Country2019} = F_{2019} * QuotaShare_{Country}$$

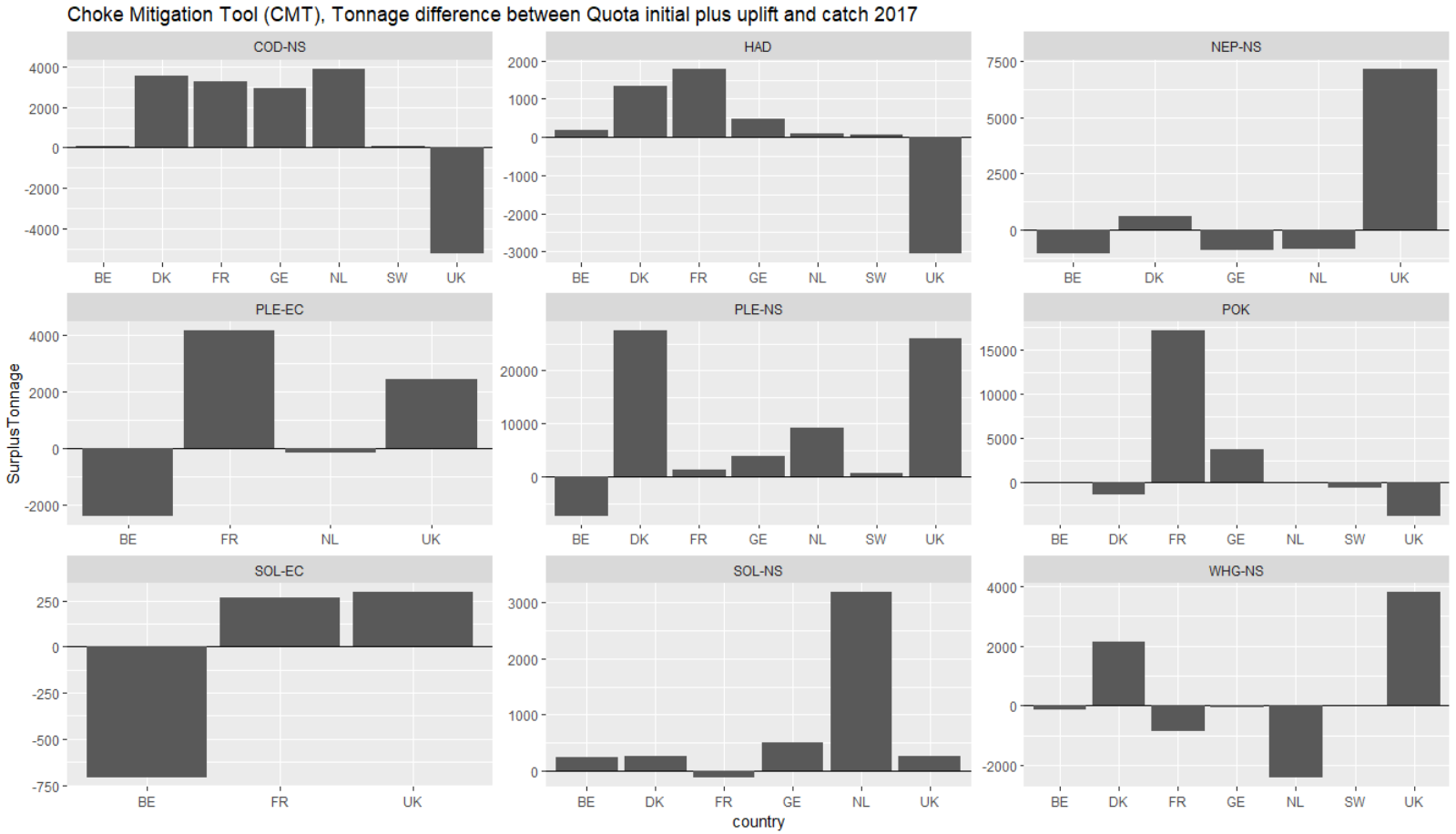
$$PotentialF_{Country2019\ At\ Status} = \sum_{fleet\ country} Effort_{2017} * Catchability_{2017}$$

Decision Rule

If $F_{Country2019} > PotentialF_{Country2019\ At\ Status}$

$then\ the\ stock\ does\ not\ enter\ the$ "min" $scenario\ for\ the\ fleets\ of\ that\ country$

Hypotheses on quota share in FCube



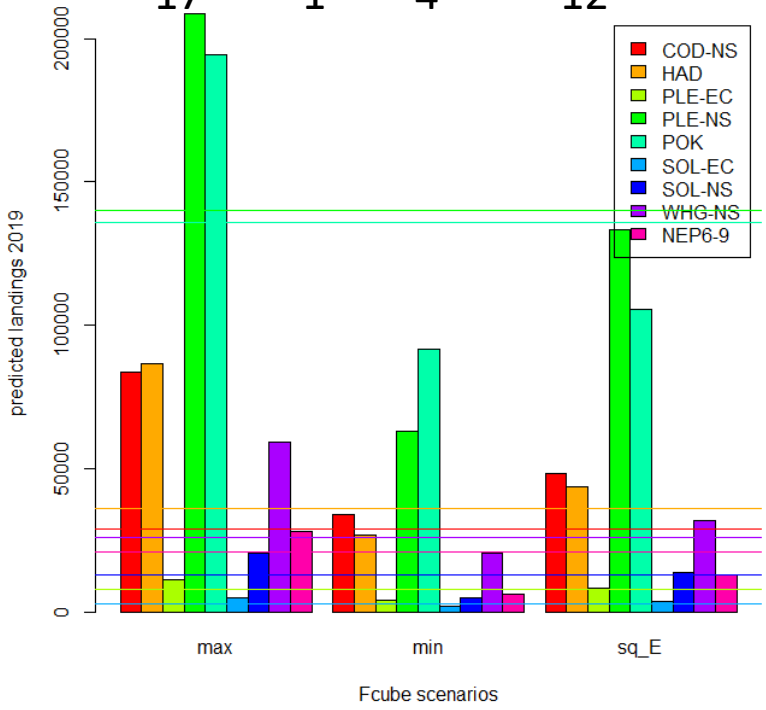
Hypotheses on quota share in FCube

With FIDES

-46.47%

COD-NS HAD SOL-EC WHG-NS

17 1 4 12

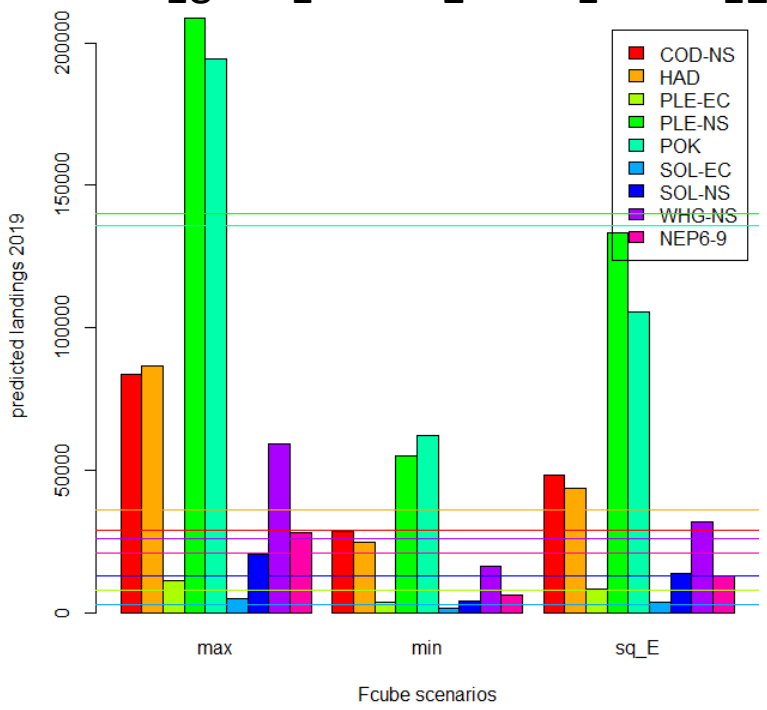


Without FIDES

-49.74%

COD-NS PLE-EC PLE-NS SOL-EC WHG-NS

18 1 2 1 12



Fcube and Mixed fisheries advice

Mixed fisheries advice important in the context of the multiannual plan

Based on hypotheses and scenarios (development of the ″range″ scenario supposed to closest to reality than ″min″ and ″max″)

Hypotheses subject to discussion

Thank You