WKNSCS 2022 summary

With a focus on Northern Shelf haddock and plaice 7fg

NWWAC – 15th March 2022
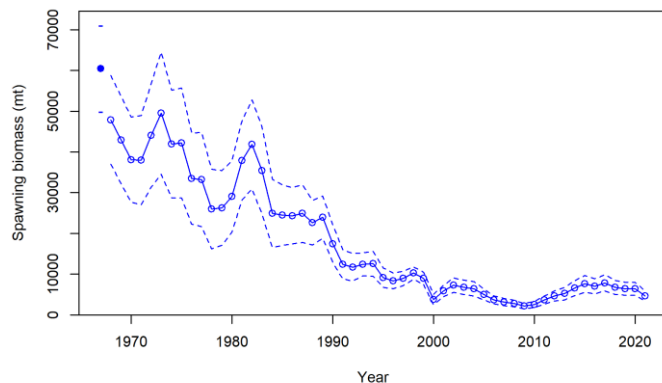Dr Harriet Cole – harriet.cole@gov.scot

ICES WKNSCS 2022

- **7-11 Feb 2022**
  - Chairs: Gudmundur Thordarson and Daniel Duplisea
  - Reviewers: Vanessa Trijoulet and Kristiina Hommik

- **Stocks:**
  - Northern Shelf haddock (27.46a20)
  - Celtic Sea plaice (27.7.fg)
  - Irish Sea cod (27.7.a)
  - North Sea plaice (27.4)
  - Malin Shelf/north of Scotland herring (her.6aN)
  - North of Ireland, west of Scotland herring (her.6aS7bc)

Report not published yet!
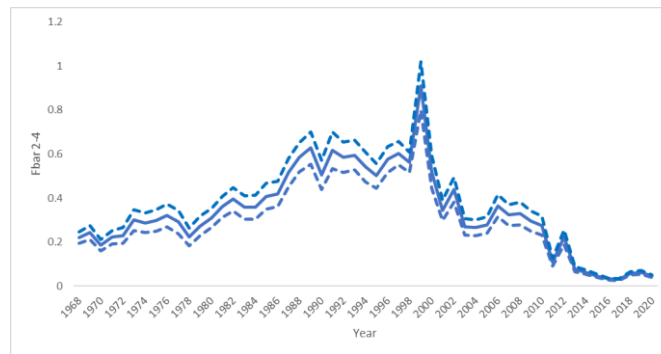
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Irish Sea cod (27.7.a)

- **Main assessors: Pia Schuchert (AFBI), Mathieu Lundy (AFBI)**

  - ASAP model had strong retrospective bias. Downgraded to a category 3 stock as a result
  - Proposed assessment model: SS3 (category 1)
  - Data: inclusion of recreational catches becoming more important, new natural mortality values, several surveys to consider
  - Productivity of this stock is more driven by environment rather than the fishery. Considering the use of F_{ECO} as a reference point.
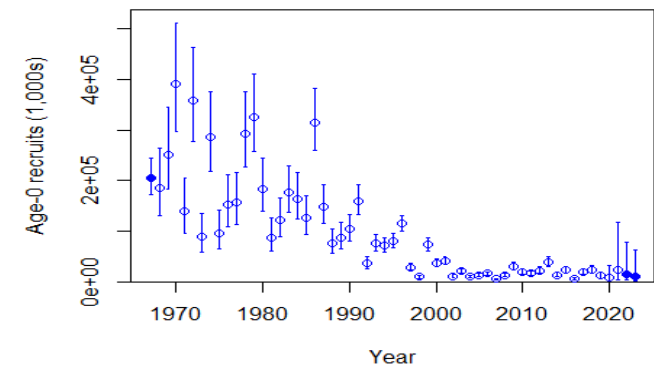 - $SSB_{2021} < B_{lim}$

SSB
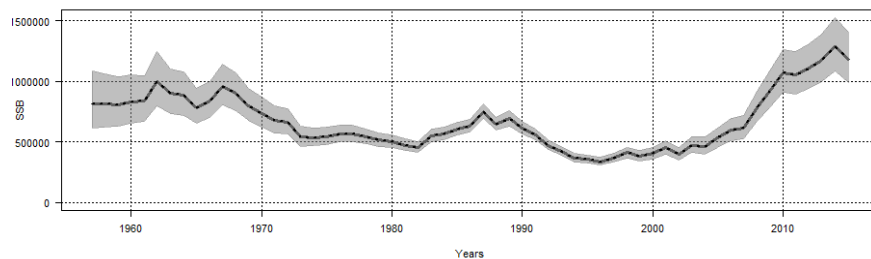

Fishing mortality

Recruitment

North Sea plaice (27.4)

- **Main assessor: Chun Chen (WUR)**

  - AAP model had several issues (age & year effects, plus group)
  - Proposed assessment model: SAM (category 1)
  - Data: Combined survey indices methods, natural mortality.
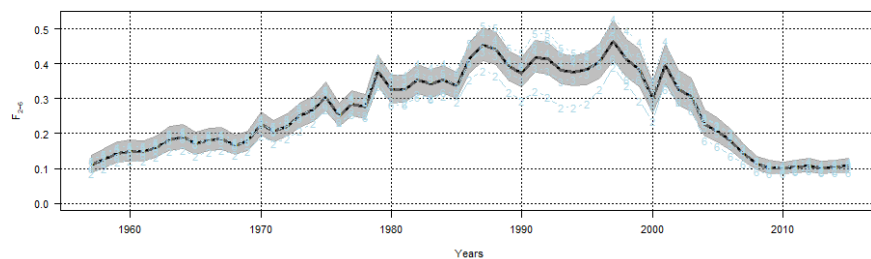 - $SSB_{2021} > MSY\ B_{trigger}$

SSB

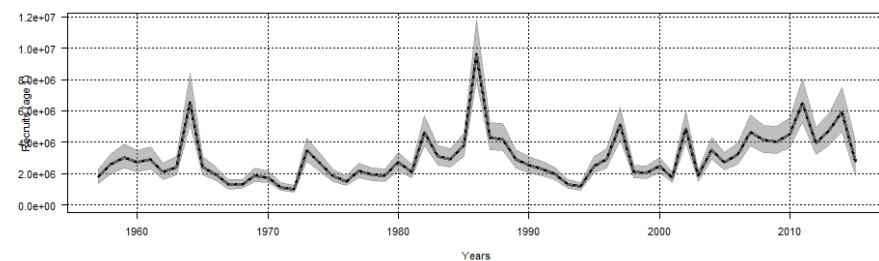## Fishing mortality

Recruitment

Malin Shelf/north of Scotland herring (her.6aN)

- **Main assessor: Eleanor MacLeod (MSS), Neil Campbell (MSS)**

  - Previously was assessed in combination with her.6aS7bc. Genetics now used to split survey data sources.
  - Category 1 SAM assessment was attempted but was rejected.
  - Due to sensitivity to inclusion of particular survey indices and lack of strong justification for choosing particular survey series over others

  - Category 3: Constant Harvest Rate 2021 WKLIFE method
  - CHR is calculated from catch length frequency data
  - Final review by external reviewers is required

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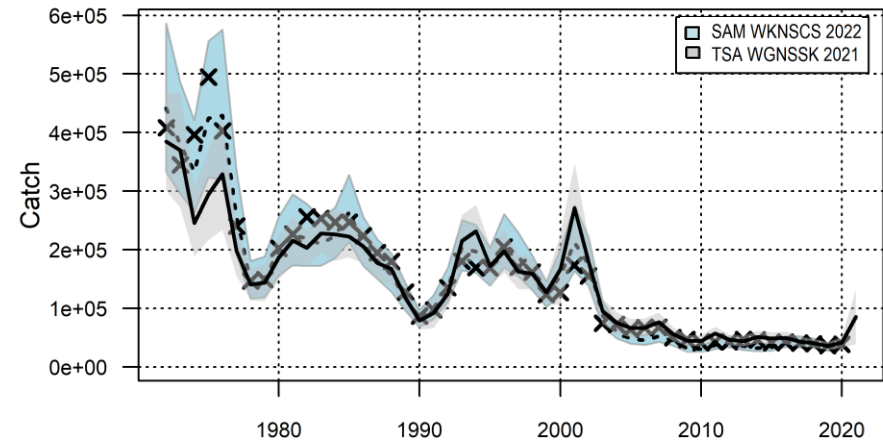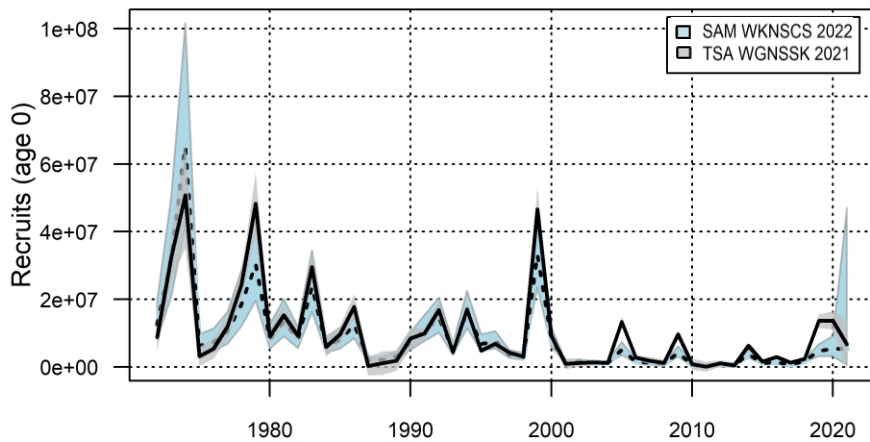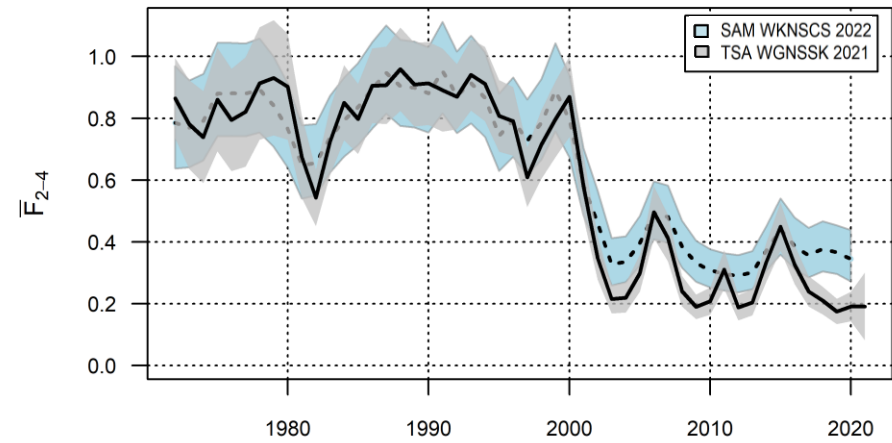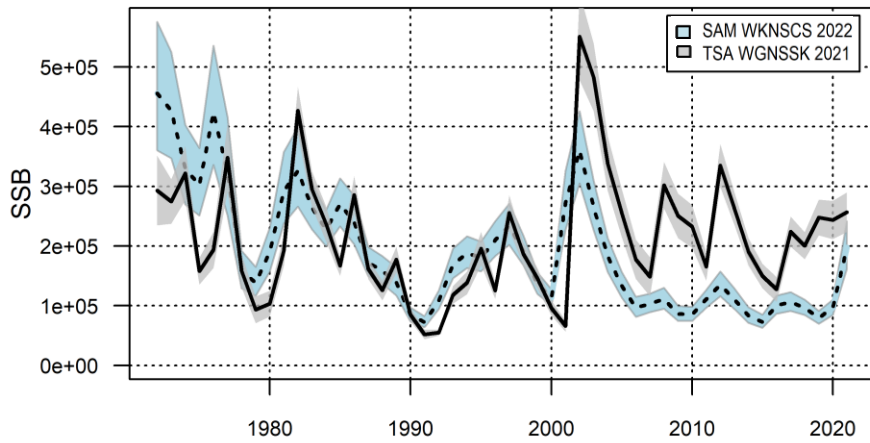# North of Ireland, west of Scotland herring (her.6aS7bc)

- **Main assessor: Afra Egan (MI), Cormac Nolan (MI)**

    – Previously was assessed in combination with her.6aN. Genetics now used to split survey data sources.

    – Category 1 SAM assessment was attempted but was rejected (a number of issues that couldn't be resolved).

    – Category 3: CHR 2021 WKLIFE method

    – Final review by external reviewers is required

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Northern Shelf haddock (27.46a20)

- **Main assessor: Harriet Cole (MSS)**

- **New assessment model needed**
  - Support for TSA soon to be unavailable

- **Propose SAM as new model**
  - TSA and SAM both state-space models
  - SAM run alongside TSA each year at WGNSSK

- **New data (DEWK – Nov 2021)**
  - Maturity ogives, survey indices, mean stock weight-at-age, catch data, natural mortality

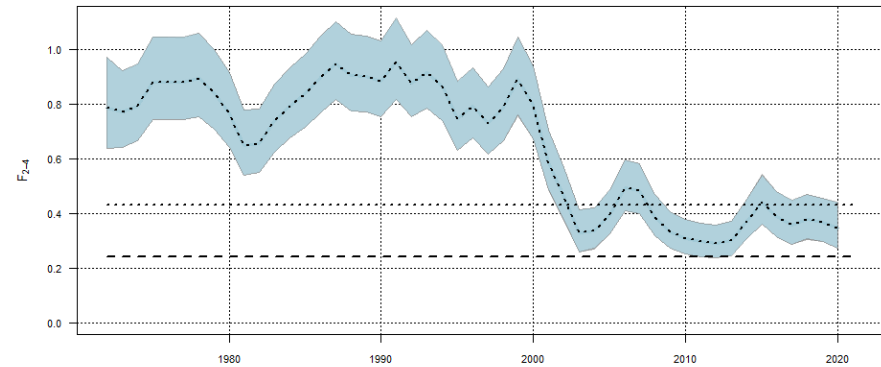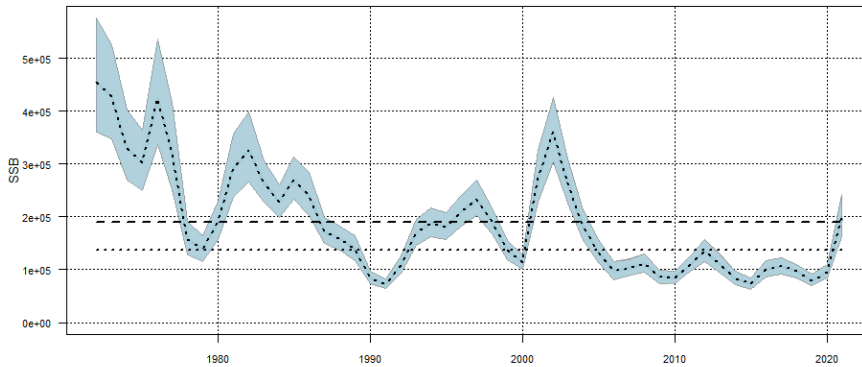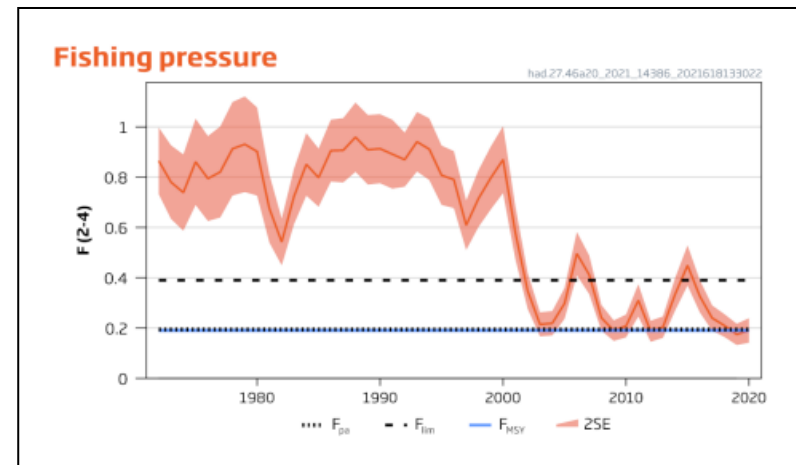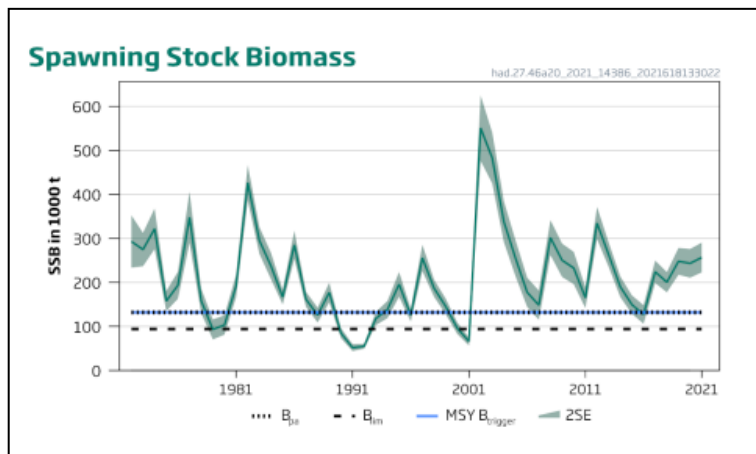marine scotland science

New SAM assessment

Reference points

- Fishing mortality reference points have scaled with rescaling of assessment

- New indices indicate that recent recruitment/SSB is lower than previously thought

- $SSB_{2021} > MSY\ B_{trigger}$ – opportunity to protect large incoming year classes

Celtic Sea plaice (27.7fg)

- **Main assessor: Vladimir Laptikhovsky (CEFAS)**

    – Previously, a category 3 stock – SPiCT assessment

    – Proposed assessment model: SAM (category 1)

    – Data: reconstructed discards prior to 2004 seem to be causing issues

    – This stock assessment was not in a state sufficient to pass peer review by the time of the benchmark workshop. A secondary review was scheduled for after the WKNSCS 2022 meeting.
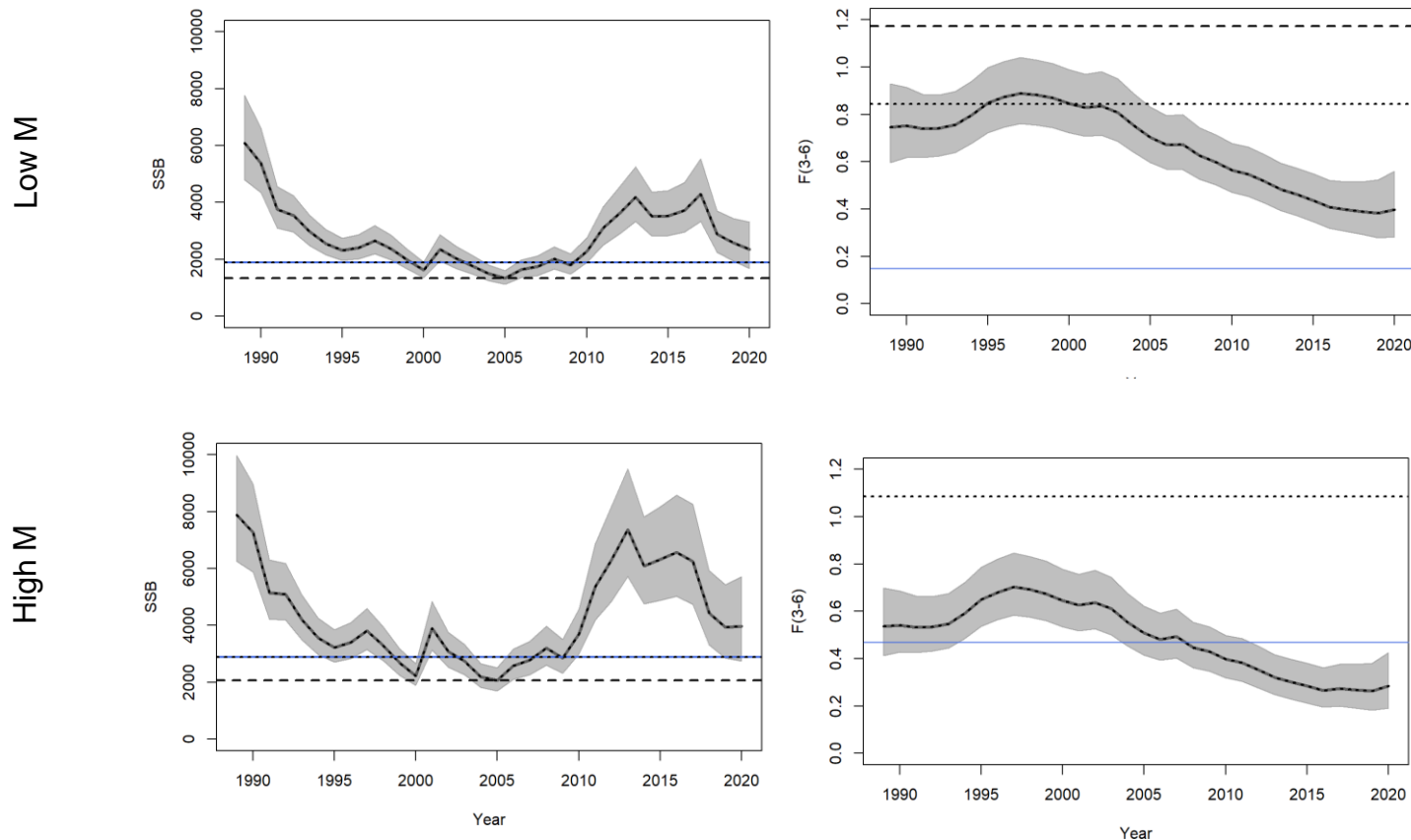
Celtic Sea plaice (27.7fg)

- **SAM model versions tried:**
  - Start year 2004 onwards to excluded reconstructed discards (not kept)
  - Using reconstructed discards from 1989-2003 (kept)
  - Add discard survival – 50% survival (not kept)
  - Changing natural mortality from "low" values as in plaice of the Irish Sea to "high" values as estimated for plaice in the eastern Channel

  - Not clear which choice of natural mortality was proposed in the end.

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Celtic Sea plaice (27.7fg)

- **SAM performance for estimating reference points was sensitivity to choice of natural mortality (M)**

SSB: dotted/solid line – MSY Btrigger and Bpa; dashed line – Blim.
Fbar: dotted line – Fpa, solid line – Fmsy, dashed line – Flim.

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Thank you for listening

- **Questions?**

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