Scottish Pelagic Industry Self-Sampling Programme

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SCOTTISH PELAGIC
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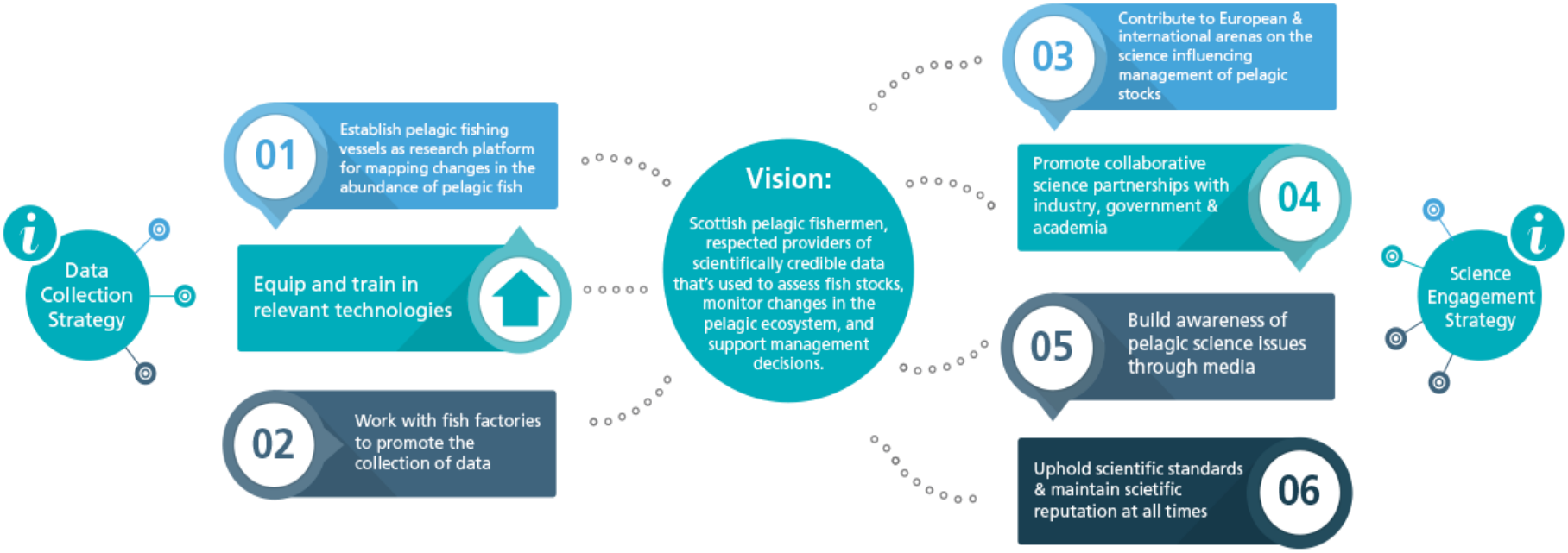
the **Plan**…



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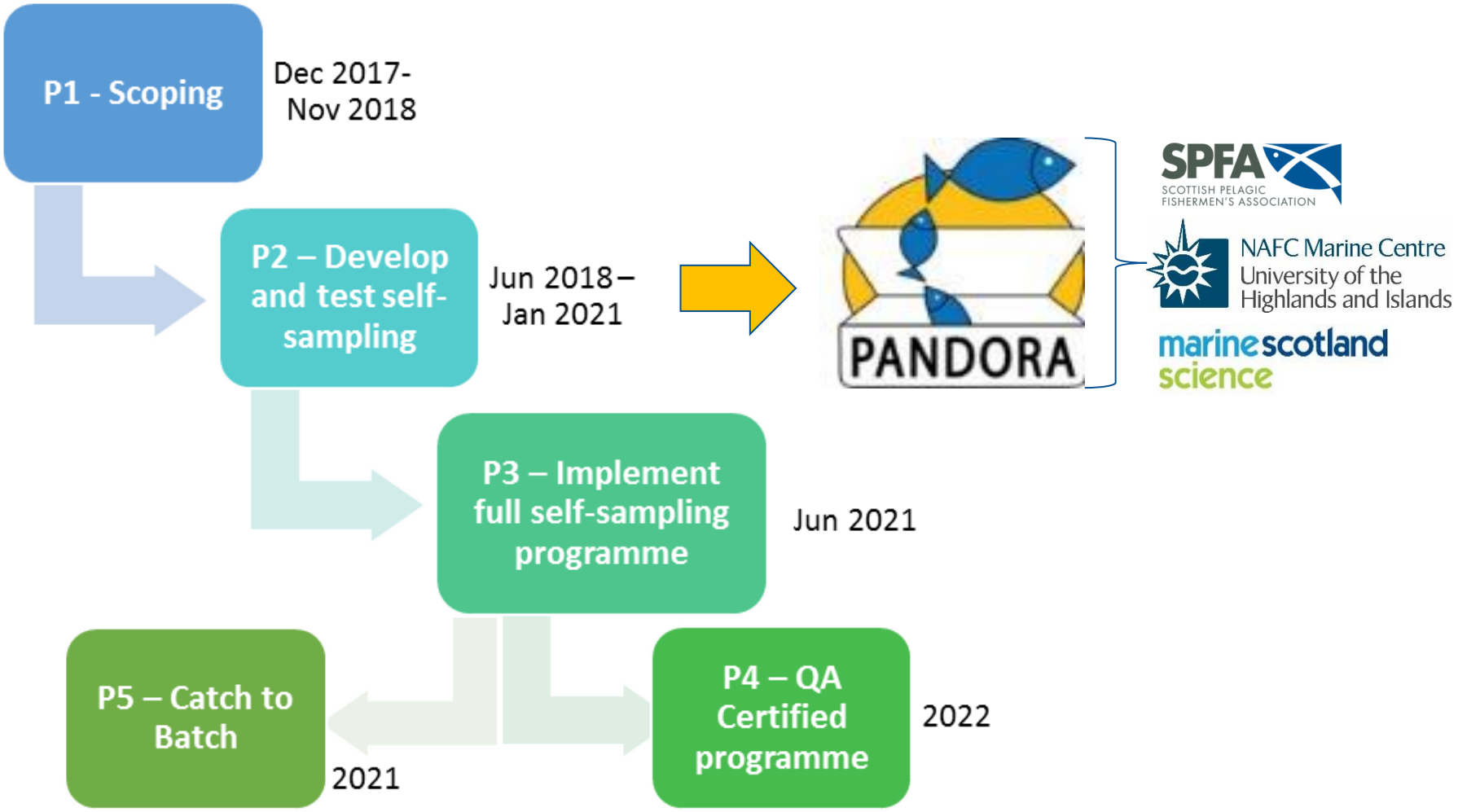
Self-sampling programme plan



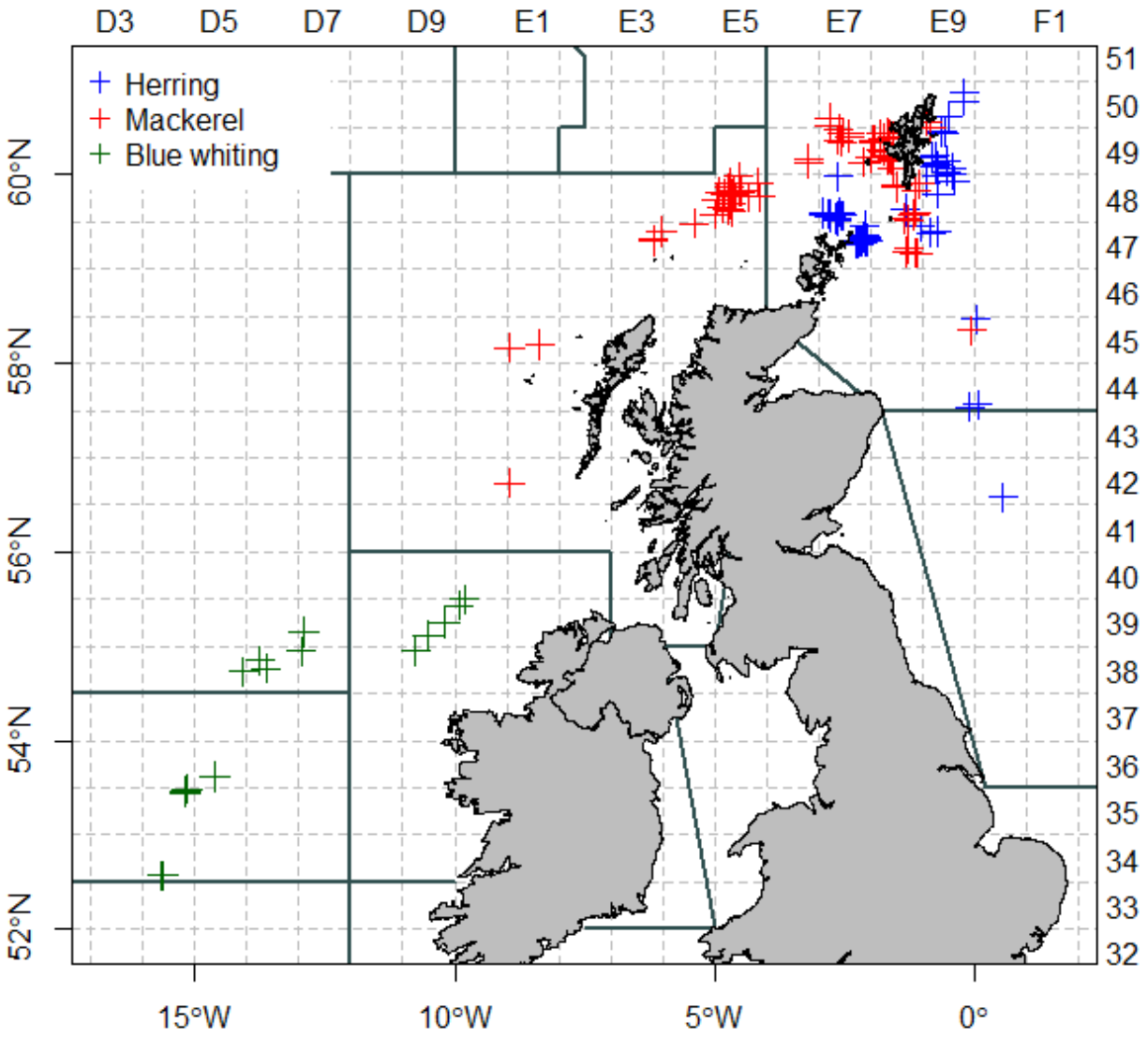
Self-sampling: Progress Overview, 2018-2019

Progress in numbers: *(July '18 – May '19)*

	Herring	Mackerel	Blue whiting	*TOTAL*
Period	July/Aug/Sept 2018	Oct/Nov 2018; Jan/Feb 2019	Feb/March 2019	*~8 months*
No. vessels	7	7 7	1	*7*
No. trips	43	25 25	6	*99*
No. hauls sampled	73	37 42	16	*168*
No. fish sampled (lt & wt)	7882	4189 4862	1893	*18,826*
No. trips with scientist on-board	1	2 1	1	*5*

Self-sampling: Progress Overview, 2018-2019

Progress mapped: *(July '18 – May '19)*



At the end of this phase we aim to have

1. Shown that industry can be relied upon to provide quality biological data useable for assessment (focus)

2. Used the knowledge to design and implement an efficient, less demanding, sampling programme that all the pelagic vessels will engage with.

3. Have a destination in ICES for the data (the 'RDBES')

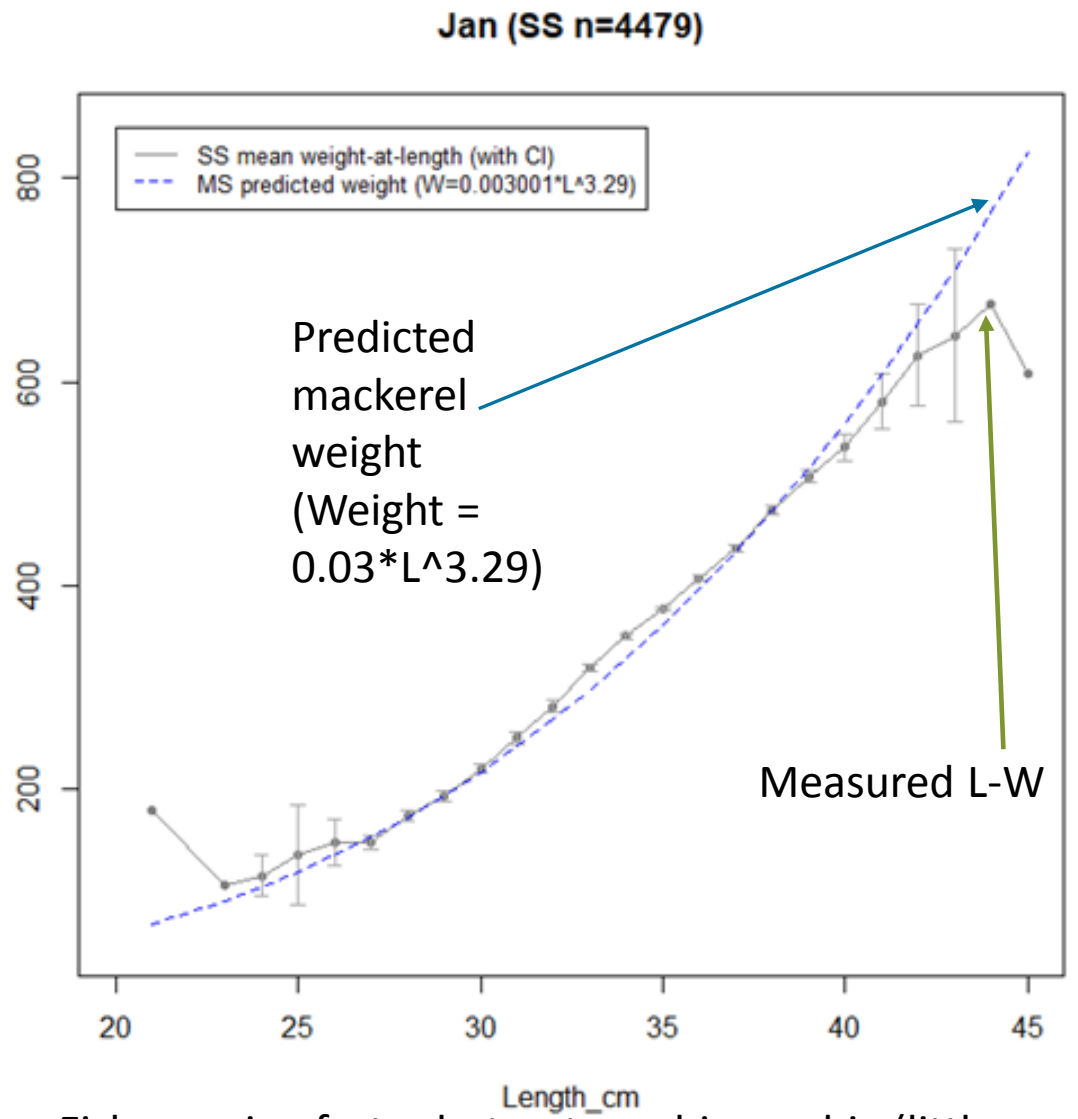
4. Hopefully –join Scottish data with other countries pelagic fleets doing self-sampling, such as Norway, Netherlands, Denmark.

5. Become recognised as industry leaders for this initiative

   Benefit from that and engage in other data collection initiatives that add value (e.g. acoustic mapping)

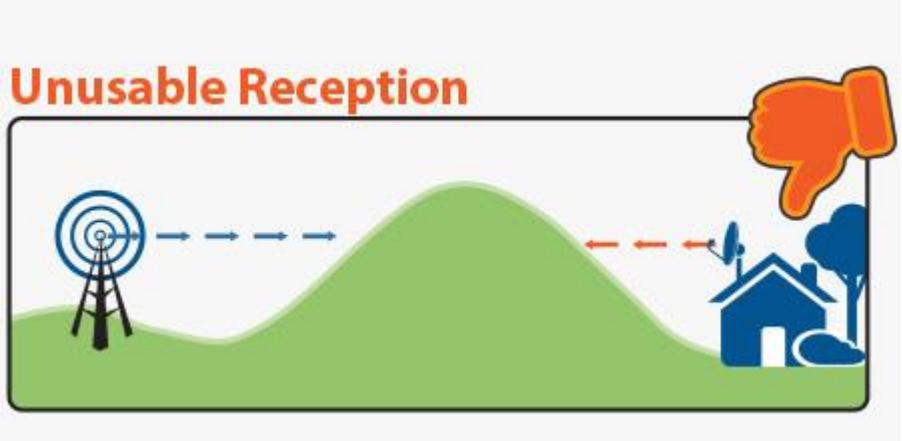
important impacts from this year

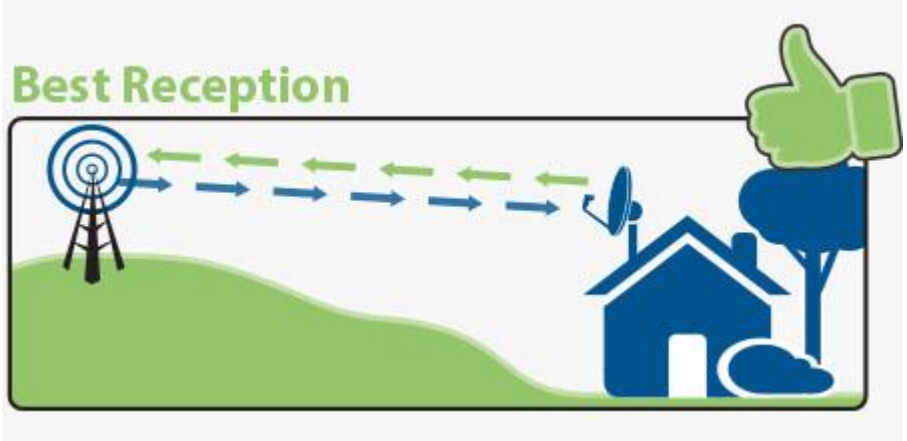
1. Marine Scotland acknowledging the value

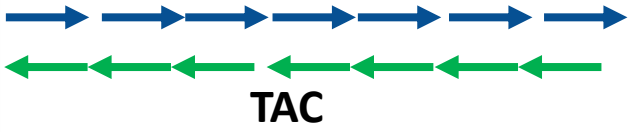


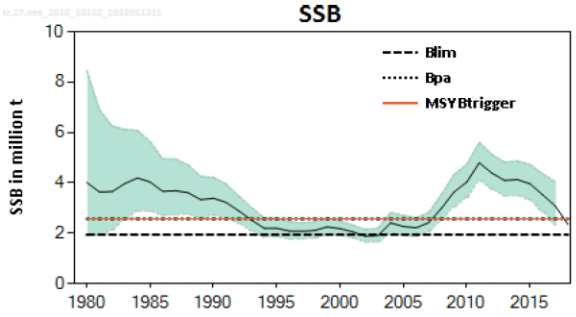
Fish growing faster but not reaching as big (little ones heavier, big ones not so heavy)

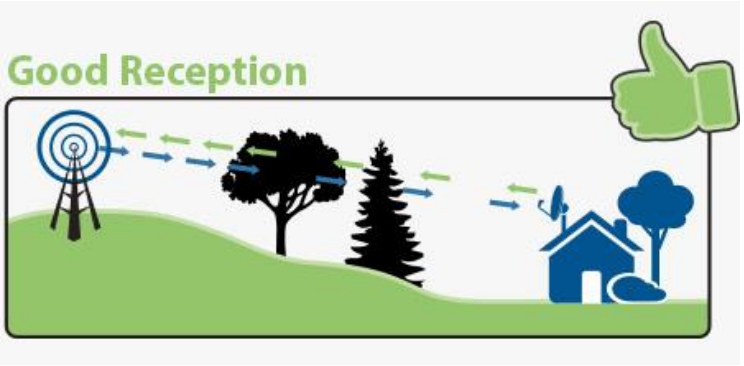
2. Establishing a clear line of sight from sampling to data application











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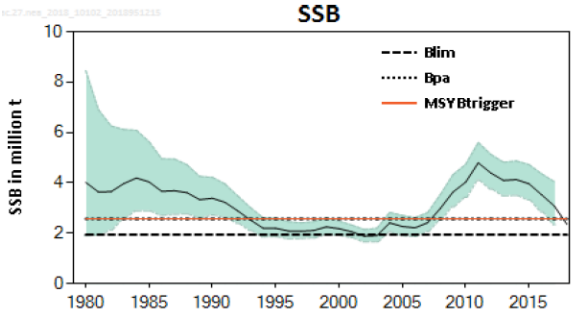
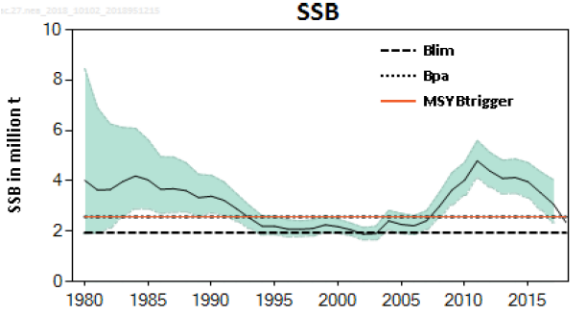


Regional Database
Estimation System (RDBES)

ICES
CIEM



3. Marine Scotland open to discussion on industry sampling (leaning? toward partnership approach)

4. Recognised leaders - momentum on Industry-Science agenda in ICES

- *Workshop on Research Roadmap for mackerel (WKRRMAC)*
- *Workshop on Industry-Science Initiatives (WKSCINDI)*
- *Science ethos and stakeholder engagement in ICES*

WKRRMAC Actions (May 2019)

6. Further extend the winter acoustic survey time series and contribute ship time and researchers to these efforts. **Action:** national fisheries institutes and academics

7. Build mechanisms to incorporate industry sampling of biological information into the formal stock assessment process **Action:** ICES and fishing industry scientists (workshop planned 2019)

WKSCINDI (June 2019)

Key recommendations

(1) establish standards and guidelines for industry data collection initiatives, their quality assurance process, and the pathways to making the data useful to ICES,
(2) evaluate the utility of self-sampling data from industry for enhancing scientific knowledge and providing data for stock assessments,
(3) provide a testcase of the Regional Database and Estimation System using industry derived data,
(4) consider specific applications of industry-derived data in current assessments and opportunities for continuous development of assessments based on new data streams.

Recommended Actions from WKSCINDI

1. Memorandum of Understanding between data providers and national administration

2. Publish guidance and protocols from WGCATCH and include industry self-sampling in WGCATCH and PGDATA
3. Develop & publish ICES Industry-Science guidelines with checklist for sampling plans and QA/QC processes.
4. Consider system for ICES approval of industry-science sampling plans.
5. As part of quality assurance process, define data pathway and chain of custody required for data use in assessments.

6. Workshop on analysis of industry data and its utility. Involves comparisons with data from existing sampling programmes

7. Test application of RDBES using data from industry-science sampling.
8. Include length data in the ICES data call and report length data (not just age) in ICES WGs.

ROAD MAP

Collaboration Adopted

- Support for IndSci from member state[1]
- Science, industry, policy involved
- Establish valid information needs and Motivation
- Agree expectations and how to manage
- Agree compensation mechanisms
- Cultivate respect, trust and acceptance
- Commit to feedback and review processes that foster continuity

Co-Design Process

- **Objective:** Information gaps identified & used to define objectives and application
- **Resources:** Funding. Personnel. Skills & training. Equipment
- **Protocols:** Standards to ensure rigor, consistency, repeatability[2,3,4]. Workable at sea by crew.
- **Training:** Sampling design, methods
- **Data pathways:** Map the route to get data used in stock assessments[5]. Data policy on access, sharing, transparency. Centralization of data (ICES RDBES)[6]

Collecting Quality Data

- Industry vessels as scientific platforms when doing scientific survey work. Appropriate specs.
- Useable robust technology for efficient sampling and ensuring quality data. Innovations still required.
- Data quality control: Chain of custody. Checking procedures and validation tests[7].
- Feedback to data owners to maintain continuity of quality data and for continuous improvement.

Data Product and Reporting

- Data made available in the right format for application[7].
- Data fit for purpose for use in stock assessment/ as evidence for management8

Applied Outcomes

- Applied for stock assessment/ evidence for management
- Used to evolve/ adapt stock assessment models as part of continuous improvement process for better assessments and advice
- Feedback that demonstrates how the industry information is used, the results, meaning and their significance.

Review and science-industry initiative

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Focus this year

1. Up to 10 vessels by November mackerel and hopefully 2 more in the near future.
2. Data sharing agreement / MoU with MSS
3. Data comparisons/ QA checks
4. Review/ planning meeting for fishermen
5. Paperless
6. Steps on the pathway to ICES database