

SCIENCE DATA POLICY

Scottish Pelagic Fishermen's Association

Version 1.0, January 2020

Dr Steven Mackinson, Chief Scientific Officer

SPFA SCIENCE DATA POLICY

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| Version | Release Date | Review date (on or before) | Sign-off |
|---------|-----------------|-------------------------------|----------------|
| 1.0 | 29 January 2020 | 31 January 2022 | Ian Gatt (CEO) |

Signed off by



Ian Gatt



1. Rationale and approach

The Scottish Pelagic Fishermen's Association (SPFA) wants to be a leader in provision of data from the fishing industry, demonstrating best practices for data access and use. The SPFA takes an open and transparent approach, making data products from its self-sampling programme publicly available via established databases nationally and within the International Council for the Exploration of the Sea (ICES).

This policy sets the framework for the SPFA's work on data collection and its use. It describes the conditions and procedures needed as a prerequisite to make the SPFA self-sampling data accessible and useable by the scientific community and available publicly in the same way as traditional scientific survey data. It is intended to provide relevant and timely information to assist UK marine organisations and ICES to provide quality advice on fish stocks, fisheries and the marine ecosystem.

Information on the context and implementation of the Data Policy can be found in the SPFA Data Collection Strategy (https://scottishpelagic.co.uk/wp-content/uploads/2019/11/SPFA-Data-Collection-Strategy_Oct19.pdf).

2. Scope

This policy states the conditions for data submission, access and use in order to facilitate the production of scientific information relevant to assessing fish stocks, monitoring changes in the pelagic ecosystem, and supporting management decisions.

This policy refers specifically to haul and biological data collected routinely through the self-sampling programme of the Scottish Pelagic Fishermen's Association, which represents 22 pelagic vessels registered in Scotland and Northern Ireland. The policy applies also to other forms of data collected by SPFA vessels on an ad-hoc basis.

Regarding public access to these data; this policy restricts access to Underlying Data (see section 3 definitions) that identifies (or can be used to identify) individual vessels involved in the self-sampling programme. Safeguards are put in place to protect underlying data (See section 6 & 7). All Data Products are by default publicly available, including those derived from restricted data. The section "Exclusions to unrestricted public access" denotes the specific information to where this applies.

3. Definitions

Aggregated data: the data resulting from summarising the underlying data for specific analytical purposes.

Data products: data outputs resulting from aggregation of, or calculated from, underlying or aggregated data, and where individual vessel or personal data is not directly identifiable.

Data provider or owner: entity providing data (i.e. individual pelagic vessels and/ or factories), and responsible for agreeing data use.

DSA: Data Sharing Agreement – refers to specific agreements to share certain data for a specified purpose and time period.

Meta-data: descriptive information about detail or aggregate data sets, necessary to interpret, use and disclose data.

Personal data: information relating to natural persons who can be directly or indirectly identified from that information or in combination with other information.¹

Publicly available: open access and freely distributable.

Scientific data: data on fish stocks and fisheries relevant to analysis of the biology, ecology and assessment of fish stocks, and the operation of fisheries.

SPFA Data Custodian [= Information Asset Manager] [Dr Steven Mackinson]: In consultation with data providers - responsible for agreements on data access, permissions for use and any restrictions on data use. Oversight of the SPFA self-sampling programme.

SPFA Data Manager [presently -Dr Katie Brigden]: Representative(s) for the SPFA responsible for collation of self-sampling data, its quality control, storage, analysis, reporting and day-to-day access arrangements.

SPFA Data Partner: Organisational partner(s) that have a role in the design and implementation of the self-sampling programme and the application of the self-sampling dataset. During the pilot study, partnerships are based on roles in the Pandora project and include Marine Scotland and NAFC Marine Centre. When the self-sampling programme is fully implemented, Memorandum's of Understanding will be used.

SPFA self-sampling dataset: refers to the data or data products of the pooled data provided by the data providers of the SPFA self-sampling programme.

Underlying or primary data: the detailed data delivered by the data provider.

Workplan: a defined programme of scientific work with specific tasks and timelines.

¹Does the information referenced include Personal data? Information is considered Personal data if it includes information relating to natural persons who can be indirectly identified from that information in combination with other information. An individual is 'identified' or 'identifiable' if you can distinguish them from other individuals. And, it 'relates' to them because it is about their [fishing] activities.

Note: Data can reference an identifiable individual and not be personal data about that individual if the information does not relate to them. <https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/key-definitions/what-is-personal-data/>

4. Data ownership

- 4.1 Data providers in the SPFA self-sampling programme are the data owners.
- 4.2 Data owners should notify the SPFA data custodian and data manager if they decide they do not wish for their data to be pooled with other data from providers in the self-sampling programme and used for scientific purposes.

5. Types of data

SPFA self-sampling data include data on hauls and biological information from fish samples.

Haul data include: vessel name, registration number, species, year, trip, date, time, gear, fishing position, tow duration, estimated catch, depth, temperature, wind speed, wind direction, average or individual measurements of fish weight sampled by the vessel.

Biological sample data include: vessel, date, haul number, species, individual fish number, length, weight. Future data may include measurements of sex, maturity stage, fat content.

Other types of data that may also be collected by SPFA members for scientific use include acoustic data, oceanographic data and observations of marine life.

6. Contribution of data

- 6.1 The data provider must be authorized (have permission) to provide the data.
- 6.2 Data contributions should be made as soon as possible after the end of each fishing season to enable timely feedback and reporting to the data provider.
- 6.3 All data and supplemental information regarding haul and biological data should be provided using standard format defined in data collection protocols and data entry spreadsheets to the extent possible. Minor changes to this format, or the means to enter data may change from time to time to improve data collection quality and efficiency. Further information is available on the SPFA website.
- 6.4 Data providers are requested to inform the SPFA data custodian of any business policies that may place special conditions on the redistribution of data.

7. Data storage and security

- 7.1 The underlying data will be stored on secure cloud storage, with access permissions granted by the SPFA Data Custodian.
- 7.2 The underlying data will be backed up on the cloud storage system and on at least one other storage media after every fishing season.
- 7.3 Personal contact information of those involved in the self-sampling programme will be stored in accordance with SPFA procedures, following those of the General Data Protection Regulation. In particular, the contacts database will be password protected and permission controlled by the SPFA Data Custodian.



8. Quality assurance

- 8.1 The SPFA will implement version-controlled documentation of the self-sampling protocols and undertake training in self-sampling procedures with data providers.
- 8.2 Data collection procedures and data that is produced will undergo regular validation checks by representatives of the SPFA and by third party organisations including Marine Scotland Science, The Scottish Fishermen's Federation, NAFC Marine. The frequency of checks will aim to ensure that samples from each fishery are checked. Where possible, the data provider will be selected at random.
- 8.3 The quality assurance of the underlying data is the responsibility of the data provider. Further quality assurance checks will be undertaken by the SPFA's data manager when data is collated and prior to making any data publicly available. The chain of custody for SPFA self-sampling data is shown in Figure 1.
- 8.4 Data users may inform the SPFA's data custodian or data manager of potentially erroneous data. The SPFA will ensure that data providers are informed of quality issues and seek to remedy that at the earliest opportunity.
- 8.5 The SPFA will never change the underlying data, but quality control process on data products may omit erroneous values or invalid samples, or convert or transform that data to allow its inclusion in scientific databases. Any such changes will be recorded as part of the QC process.
- 8.6 Although the SPFA data manager or custodian may perform any necessary data quality control, the data provider always retains complete responsibility for data quality.
- 8.7 Data users are responsible for proper use of the data, including regard to data quality. Data users are advised to contact the SPFA data manager/ custodian if they have any concern with regard to quality issues.
- 8.8 Data submitted to national or ICES databases will include a 'quality flag' to denote the quality controls that have been applied to the dataset.

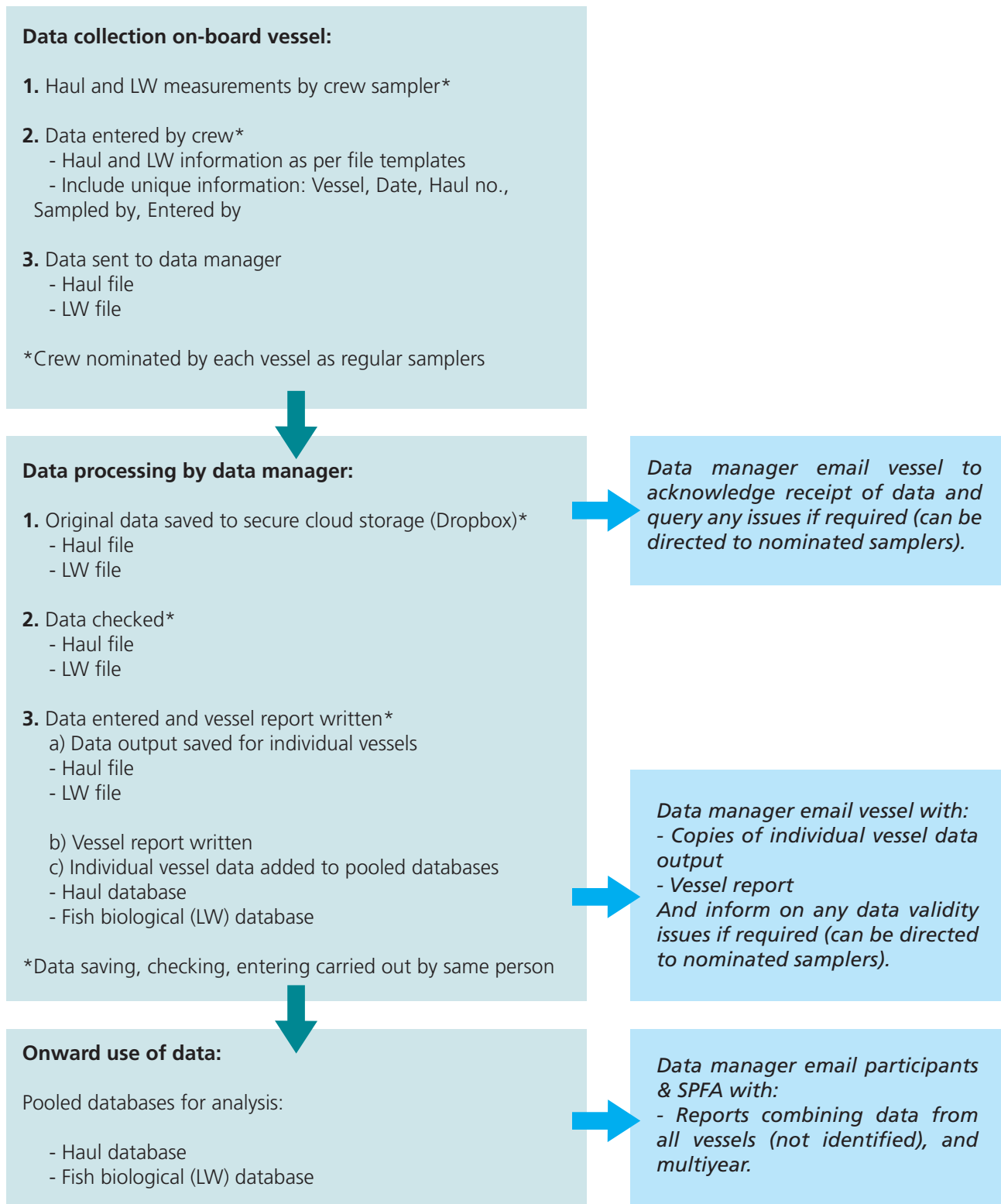


Figure 1. Chain of Custody for self-sampling data. [LW – refers to length-weight biological information. (NOTE: A more detailed version including filenames and locations is available for operational use).



9. Access use of data

- 9.1 Access to **Underlying Data** is restricted and can only be granted under specific situations and requires consent of the individual data providers.
- 9.2 Data collected for scientific purposes under the SPFA self-sampling programme or other ad-hoc scientific data collection activities are not intended to be used for fishery control purposes. While this can never be guaranteed, this will be explicitly stated in any data sharing agreements the SPFA enters into.
- 9.3 Data on skippers estimates of catch that are recorded on self-sampling haul data sheets are not accurate. They are indicative only and are not expected or required to match with official landing figures used by Marine Scotland to determine quota uptake.
- 9.4 The **SPFA Self-Sampling Dataset** is considered to be publicly available unless otherwise explicitly specified. Any publicly available data will be anonymised or aggregated to a spatial and temporal level that will prevent identification of individual fishing operations or fishing vessels, unless otherwise specified. When data is presented in aggregated form, the records will contain summary information on the number of vessels and number of observations that are used in generating the values. In addition, measures that describe the variability in the data will be presented.
- 9.5 The SPFA self-sampling dataset will be provided to national and ICES scientific databases relevant for application in generating scientific advice on fish stocks and the status of the marine environment.
- 9.6 **Data Users** will be able to obtain publicly available data on request to the SPFA Data Custodian. Options for secure direct online access will be considered where appropriate and when relevant systems are in place.
- 9.7 Data users must respect any restrictions on the use of data (see section 10).
- 9.8 Data users are requested to inform the SPFA of any suspected problems in the data.
- 9.9 Correct and appropriate data interpretation is solely the responsibility of data users.
- 9.10 Results, conclusions, and/or recommendations derived from the data do not imply endorsement from the SPFA.
- 9.11 Data providers must be acknowledged, preferably using a formal citation (see section 12).

10. Exclusions to unrestricted public access

- 10.1 In so far that it does not compromise the private identity of data providers or their business operations, there will be no restrictions to public access of the Data Products from the SPFA self-sampling dataset.
- 10.2 Where the Data Custodian or Data Providers consider that private identity or business operations may be compromised, specific restrictions may be placed on the access or use of data from the SPFA self-sampling programme. These will be documented accordingly.
- 10.3 The Data Custodian together with Data Providers will periodically re-evaluate and may update the data policy to ensure that it continues to be fit-for-purpose as needs require.

11. Redistribution of data

- 11.1 Data may only be redistributed, i.e., made available in other data collections or data portals, with the prior written consent of the SPFA data custodian.
- 11.2 Redistribution of meta-data is always allowed.

12. Acknowledgements and citation

- 12.1 Data citations should facilitate giving due credit and normative and legal attribution to all providers and contributors to the data, recognizing that a single style or mechanism of attribution may not be applicable to all data. It is not ethical to publish data without proper attribution or co-authorship.
- 12.2 Any person making substantial use of data must communicate with the SPFA data custodian prior to publication, and should consider the data provider(s) for co-authorship of published results.
- 12.3 It is intended that the SPFA self-sampling dataset, or product thereof, will in the future be assigned as a citable Digital Object Identifier (DOI).
- 12.4 The citation for acknowledgements should be "*The authors gratefully acknowledge the data from [start date to end date] provided by the Scottish Pelagic Fishermen's Association, collected under the SPFA Pelagic Self-sampling Scheme; received [Date]*".
- 12.5 Advice on data citation may be sought from the SPFA data manager/ custodian.

**Scottish Pelagic Fishermen's Association
Heritage House
135-139 Shore Street
Fraserburgh
Aberdeenshire
AB43 9BP**

Tel: (01346) 510714

Email: ian.gatt@scottishpelagic.co.uk

Email: diane.ireland@scottishpelagic.co.uk

Email: steve.mackinson@scottishpelagic.co.uk

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