

## WKBioArc – The Workshop on Scale, Otolith Biochronology Archives

**2019/WK/EOSG01** The **Workshop on Scale, Otolith Biochronology Archives** (WKBIOARC), chaired by Deirdre Brophy\*, Ireland, and Martha Robertson\*, Canada, will be established and meet in Galway, Ireland, 11–12 February 2020 to:

- a) Review and report on issues and solutions for establishing, maintaining and managing biochronology archives of biomineral samples (scales, otoliths and other bones, etc.) to ensure protection and access of these valuable archives for future scientific use ([Science Plan codes](#): 3.1, 3.3, 3.5);
- b) Establish common database designs that facilitate the sharing and co use of the archives across national boundaries ([Science Plan codes](#): 3.1, 3.5);
- c) Promote and report on international collaboration opportunities and potential new projects using archive material and data in order to address regional scale questions and to develop new scientific understanding and quality advice ([Science Plan codes](#): 3.1).

WKBIOARC will report by April 2020 for the attention of the HAPISG, WGNAS, WGBAST and WGDIAD.

## Supporting information

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Priority	ICES Working Group on North Atlantic Salmon (WGNAS) and NASCO's International Salmon Research Board (IASRB) have recognised the high value of archival scale collections that, as a result of advances in analytical methods, can now be used for genetic, stable isotope and growth studies. Additional information may be obtained in the future in response to further advances in analytical methods. There is some concern that these collections may be lost unless appropriate arrangements are in place to archive them and ensure their safe storage so that they may be available for analysis. It was recognised that even if the samples themselves are not lost, the information (metadata) accompanying them could be lost or damaged while in storage. As consequence, there is a very high priority for this workshop.
Scientific justification	<p>There are several new initiatives with regard to biomineral archive collections (fish scales and otoliths) and the establishment of permanent and secure repositories, which are being developed by individual parties. (Unlocking the Archive, Ireland, National Funding 2017 to 2020): SAMARCH (EU Interreg UK/France, 2017 to 2022): Norwegian Research project (National Funding 2016 to 2018): (AST/Freshwater Biological Association (FBA)). Individuals who are leading these projects have encountered common issues such as, sample degradation, missing data, database scalability, etc.</p> <p>Issues to be considered in this workshop:</p> <p>Recognising there is a century or more of samples in some institutes with various recording methods, solutions surrounding sample/data storage methods from the workshop attendees need to be reviewed and reported in the context of:</p> <ul style="list-style-type: none"><li>• Preservation and restoration of older samples.</li><li>• Physical housing (rehousing) and storage of large and old archives.</li></ul>

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In order to coordinate the shared use of scale archives and data between institutions for the future, current scale/otolith preparation, mounting, and data recording practices need to be reviewed and a standardised approach outlined with respect to:

- Aligning approaches and work flows for scale/otolith processing and reading efficiency.
- Standardizing procedures for logging samples, including guidance on best practices and use of standard nomenclature that is universally accepted among the scientific community (inter-operability).
- Cataloguing geographic descriptions of source or origin: uniform spatial data recording methods for samples will aid in identifying samples spatially and provide an overview of data across national sampling programs.
- Improving data extraction methods and exchange of data across various databases to aid interoperability and ease of analysis of data across workers and jurisdictions.
- Improving comparability of datasets for cross calibration.
- Standardising database platforms if possible.
- Describing procedures for storing images that can reduce space and cost, and improve identification and management of archives samples for contribution to studies requiring destructive sampling (isotope analyses, genetic analyses, etc.).
- Documenting attribution to ensure credit to many workers involved in collecting and maintaining archives.
- Ensuring data integrity after funded projects are complete.

Resource requirements	None.
Participants	This workshop is open to scientific and technical users of biochronology material, particularly those who have archives or long term (>20 years) of material and data.
Secretariat facilities	None.
Financial	No financial implications
Linkages to advisory committees	ACOM, Various fish stock assessment groups
Linkages to other committees or groups	SCICOM, HAPISG, IEASG, Working Group on Diadromous Fishes, Workshop on Optimization of Biological Sampling (WKBIOPTIM)
Linkages to other organizations	NASCO