Scoping the Development of a European Marine Strandings Database

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Various regional stranding schemes collect data on stranded marine animals in Europe.

Data range from basic morphometrics to full necropsies.

These data are useful for assessing the cause of death and monitoring marine animal health.

International reporting is mainly annual and document-based.

The need for a centralised stranding database has been recognized to improve monitoring (ICES, ASCOBANS, IWC).
ASCOBANS small-scale project grant Jan-July 2023: Scoping the development of a shared stranding and necropsy database

- Based on Action point 7 of the 27th Meeting of the ASCOBANS Advisory Committee, and objectives 3 (use of bycatches and strandings) and 5 (information and education) of the ASCOBANS Conservation and Management Plan and objective 5
- Builds on two previous small grants awarded to ZSL
  - (2011) Feasibility study on the creation of a web-accessed strandings database covering Agreement Party and Range States within the ASCOBANS region
An initial online survey to gauge interest in joining a collaboration which would seek to explore the advantages and challenges in developing an online web-accessed data repository for strandings information.

- Review of existing or planned databases containing marine strandings data

A workshop to:
- Identify stakeholder requirements / specifications / concerns for any database
- Address data ownership and technical considerations.
- Discuss the possibility of ASCOBANS developing its own database or collaborating with other IGOs
- Identify individuals for a Working Group.

- Scope database structure with developer
- Formulation of a design brief, including potential outline costs and timescales for the project

- Report on scoping the development of a shared stranding and necropsy database presented to the 28th Meeting of the ASCOBANS Advisory Committee.
Half day workshop held as part of ECS conference, 16\textsuperscript{th} April 2023

32 attendees

- **1. Presentations from national strandings networks**
  - Germany, Netherlands, France, Poland, Sweden, Spain and UK

- **2. Strandings data integration - Pathways and pitfalls**
  - EU JRC survey across European networks
  - IWC strandings database initiative
  - ICES WGMME review: Use of strandings to quantifying marine mammal bycatch
  - ACCOBAMS
  - Joint Cetacean Data Programme
3. Small group discussions:

- **Issue one: Why build a European strandings database**
  Identify the main advantages. Who would be interested in this who are the beneficiaries and what data do they need? What does the database need to achieve this?

- **Issue two: What data should the database contain?**
  Identify the main types of data the database needs to store and potential strategies for addressing issues around this such as harmonisation, validation, and curation.

- **Issue three: How should this database be built and managed**
  A modular or phased approach to development. How should the data be managed. Who would curate it? What can we learn from other systems?

- **Issue four: Funding**
  Possible outcomes: Identify funding sources. Considerations for building in addition to maintenance?

4. Discussion and Mentimeter survey
What should the database include as data?

- What/where/when: 26
- Specific CoD e.g. bycatch: 20
- Necropsy data: 9
Positives

• There was a unanimous will to have a Europe-wide database
• International collaboration
  • Open access
  • Ease of one-stop shop
  • Researcher/stakeholder/policy maker/public access
• Geographical overview –relevant for regulatory frameworks
  • Species/stranding distribution & seasonality
  • Identifying problems and their spatial extent
  • Early warning of UME allowing coordinated responses
• Opportunity to standardize data collection procedures
  • Validation of techniques
  • Quality assurance
• Highlight value of funding for individual stranding networks
  • Platform for support between networks
• Suggested phased approach, starting with basic data and expanding over time
Concerns

Practical issues
- Hosting, costs, maintenance (considerable workload)

Establishing rules of access
- Data sharing agreements
- Data acknowledgement

User friendly database
- Ease of access
- In different languages
Concerns

Standardising of data
- Different levels of monitoring available to stranding schemes due to resources
- Addressing data harmonisation is essential

Timescale for data upload
- To be useful data needs to be shared almost in real time (2 week buffer)

Unified collaboration
- Need similar levels of data input
- Differences in admin/funder requirements between stranding networks
- Unanimous agreement on terms & conditions
Proposed goals and strategy

- Streamlined recording and management of marine stranding incidents
- Strengthen communication channels among experts.
- Advance marine conservation through standardized data and international cooperation
- Adopt a modular approach to development
- Formation of steering group

‘Phase one’
- Standardized documentation of strandings.
- Timely data flow and mapping for management and reporting.
- Build communication among experts worldwide
- Agreed common format for data validation.
ICES managed data flows

- Hydrographical conditions
- Contaminants
- Marine litter
- Energy incl. Underwater Noise
- Sea-floor integrity
- Eutrophication
- Biodiversity
- Commercial fish and shellfish
ICES Data centre

- ICES data centre identified as a potential collaborator
- Proposal for developing a phased database
- Track record designing similar systems
  - Emphasis on consistent data flow, prompt display, and data validation.
  - Alignment with FAIR data principles (Findable, Accessible, Interoperable, Reusable)
Phase One (minimum viable product)

Capacity to upload and validation of data records detailing ‘What where when’ instances of strandings

An online summary of uploaded data with information from individual stranding events

An online map that plots presence/absence of stranding events by species/taxa

Data download functionality (open access licence data)

An agreed data format and vocabularies (managed code lists)

A recognised data licence

Basic data validation rules

Cost: 23,421 Euro + 5,768 Euro annual fee

Around 9 months
Additional elements

- A governance model for the ongoing maintenance, funding and development
- Harmonisation of data and data validation
- Data products (i.e. state indicators, data dashboarding)
- Capacity to hold metadata or restricted data (e.g., cause of death, bycatch, marine litter ingestion, shipstrike)
- Data portal, link to other databases?
IWC strandings database

• IWC68 Commission endorsed several recommendations related to database development and data management of strandings data.
• Similar drivers to ASCOBANS but also include specific information on
  • Ship strike
  • Bycatch
  • Marine debris
• IWC has a full-time data coordinator (Lydia Oloughlin)
• Development endorsed at IWC 69A and by IWC SEP
IWC Statement of Support

• The IWC identifies the need to collate, standardise, store and disseminate strandings data at a global scale. This goal cannot be accomplished without regional organizations leading the data management work on strandings data. As the IWC explores the development options for a global database, there is value in ASCOBANS and ICES developing this regional database.

• As mentioned in the proposal, there are options for IWC to join forces and expand the database in the future to a global scale or to connect relevant data from this regional database to a global database. Either option relies on the development of this regional database.

• IWC supports the proposal and thanks ASCOBANS and ICES for being included in the discussions about developing a database.
Asks for the Advisory Committee

• Endorsement of ISD phase 1 as outlined in the ICES proposal.
• Call for the additional members of steering group and resource for subsequent workshop to progress the work
  • Technical
  • Data harmonisation (links to CetAMBiCion, CiBBRINA, IWC SEP)
• Assistance/advice for sourcing funding (c30,000 Euro) for initial phase