



Joint Cetacean Data Programme

Phase Two – End of Year Interim Report 2020-2021

Version 2



Acknowledgments

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Department
for Environment
Food & Rural Affairs

Executive Summary

The vision of the Joint Cetacean Data Programme (JCDP) is to “Promote and facilitate cetacean data standardisation and maximise value through collation and enabling of universal access”. The JCDP includes a cetacean survey data platform (database and portal) and supporting infrastructure to ensure data submission, easy access and use, and promotion to a wide range of stakeholders. Its international scope is fitting given the need to collate data that reflect the wide-ranging nature of cetacean species in the northeast Atlantic.

This report is an “interim” report for Phase Two of the JCDP (2020 – 2022) building on the work undertaken in Phase One (2019 – 2020); both phases have been funded by Defra through the competitive R&D funding round ran by the Healthy and Biologically Diverse Seabed Evidence Group (HBDSEG). The final report of Phase One is available on the JCDP project website <https://jncc.gov.uk/our-work/joint-cetacean-data-programme/>.

During Phase Two, the International Council of the Exploration of the Sea (ICES) have been contracted by JNCC to build the JCDP platform. The specification for the platform has been built through a stakeholder workshop held (remotely) in December 2020. The workshop was very successful with participants from 20 different organisations and hosted through Microsoft Teams and Github. The output of the workshop was user-defined functionality and products for the JCDP platform from which a Minimum Viability Product was built. This is the basis of the platform build to be undertaken by ICES in 21/22.

JNCC has worked with MEDIN to agree adoption of the JCDP data standard as a “MEDIN data guideline”; this will be finalised later in year 2. Uptake by MEDIN will assist the JCDP in reaching a wider network of UK cetacean data collectors and promoting a data format that is compatible with JCDP data upload.

JNCC has resourced a JCDP Coordinator role which will begin in May 2021 on a 1-day per week basis. The Coordinator will implement the JCDP Communications Strategy to ensure ongoing engagement and participation of stakeholders in the project.

Communications with the Steering Group are regular and two meetings were held in year 1. The membership of the SG has expanded and now includes international stakeholders from outside the UK, including Ireland, France, Germany, Belgium and Spain.

Table of contents

1.	Introduction	1
1.1	Background.....	1
1.2	JCDP management.....	2
1.3	Phase Two: Vision and objectives.....	3
2.	Phase Two: Summary of progress	3
2.1	Objective 1: Initiate plans to develop the JCDP with ICES	3
2.2	Objective 2: Design and plan development of the cetacean database and portal.....	5
2.3	Objective 3: Archive and develop a MEDIN-compliant data standard for UK datasets	6
2.4	Objective 4: Create and implement the cetacean database and portal (21/22).....	7
2.5	Objective 5: Develop and implement a communications strategy for the JCDP.....	7
3.	Next Steps	10
4.	References	13

1. Introduction

UK governments are required to report on the status of cetaceans (whales, dolphins and porpoise) under several national and international legislative instruments, including the UK's Marine Strategy¹ and OSPAR². The species of interest are wide-ranging with some, such as the harbour porpoise (*Phocoena phocoena*), occurring throughout continental shelf waters. Estimates of population size are derived from shipboard and aerial survey data and the UK currently supports the decadal surveys (Hammond et al. 2002, 2013, 2017) that cover its national waters during summer. There are many smaller scale surveys that occur in the interim, collected by a wide variety of activities (e.g. offshore wind developer surveys; citizen science surveys; university research projects), which provide finer scale information on the seasonal distribution and relative abundance of cetaceans.

The decadal cetacean surveys are designed to provide robust estimates of abundance and long-term trends throughout the European Atlantic. However, as they are relatively infrequent, robust information on shorter-term changes in abundance and distribution is not available for most species nor outside of the summer season. The UK and wider European assessment and reporting requirements usually occur in 6-yearly cycles (e.g. for Marine Strategy Framework Directive and Habitats Directive) and therefore there is a need to process all available data to ensure robust assessments can be made. Similarly, information on finer scale temporal and spatial distribution and abundance of cetaceans is required to support more frequent processes, including environmental impact assessments and appropriate assessments.

Collation of all available cetacean survey datasets enables analyses to be conducted at a range of temporal and spatial scales (e.g. Paxton et al. 2016) and therefore able to support a breadth of research questions and underpin management and policy decisions. Currently, there is no mechanism to readily access the wide range of existing cetacean monitoring datasets and the process to do so can be labour intensive (i.e. agreeing permissions with individual data owners) and inefficient. Also, as the datasets are collected by a wide variety of organisations and standards of data collection across them differ, analysis of a collated dataset is challenging. The Joint Cetacean Data Programme (JCDP) was established with the aim of addressing these issues. Ultimately, the aim of the JCDP is to create an accessible web-linked resource of standardised, available cetacean survey data; options for how this should be delivered were scoped out in [JCDP Phase I](#).

1.1 Background

Phase One of the JCDP (2019 – 2020) met the following objectives:

1. Standardisation of data protocols and submission requirements across cetacean data providers and data receivers
2. Development of a data policy regarding terms of data submission, access and use.
3. Scoping of options for hosting the JCDP resource.
4. Support major NGO data providers to prepare recent data for submission to the resource
5. Create a project web page to promote the project objectives and the opportunities of a collated dataset.

Phase one worked with UK stakeholders primarily to understand their data collection efforts and needs from the JCDP platform (database and web-based portal). The aim of Phase two

¹ <https://moat.cefas.co.uk/introduction-to-uk-marine-strategy/>

² <https://oap.ospar.org/en/>

(2020-2022) was to build upon the “groundwork” achieved in Phase One, expanding the scope and delivering a fully functioning international JCDP platform by Spring 2002.

1.2 JCDP management

Defra, as the funding body for the project, currently head the project governance structure and interact with the project through the JNCC Project Manager and/or Project Officer.

JNCC established a Steering Group during Phase One which has since expanded to reflect the now international remit of the JCDP. Representatives on the SG are either “core” or “correspondence” members depending on the level of engagement they want with the project as defined in the Terms of Reference. The core SG includes representatives from our broad range of data providers, users and managers (Table 1).

Engagement with all JCDP stakeholders has been an essential part of developing the JCDP. The steering group, and where relevant, additional stakeholders have been consulted in progressing the project’s objectives.

List of organisations represented on the core steering group of the JCDP

Joint Nature Conservation Committee (JNCC) (SG chair)

- APEM
- Bangor University
- Centre for Research into Ecological and Environmental Modelling, St Andrews
- Cornwall Wildlife Trust
- Department for Agriculture, Environment and Rural Affairs (DAERA)
- Exeter University
- Galway-Mayo Institute of Technology
- Hartley Anderson
- Hebridean Whale and Dolphin Trust (HWDT)
- Irish Whale and Dolphin Group (IWDG)
- La Rochelle University, France
- Marine Biological Association (MBA)
- Marine Scotland Science
- MARINELife
- Natural England
- Natural Resources Wales (NRW)
- NatureScot, UK
- NIRAS
- Oil and Gas UK
- ORCA
- Plymouth University
- RenewableUK
- Royal Belgian Institute of Natural Sciences, Belgium
- Royal Haskoning
- RPS Group
- Scientific Unit, National Parks & Wildlife Service
- Scottish Power Renewables
- Sea Mammal Research Unit (SMRU)
- Sea Watch Foundation
- SMRU consulting
- The Crown Estate
- UK Hydrographic Office (UKHO)
- University College Cork, Ireland
- University of Veterinary Medicine Hannover Foundation, Germany

- Welsh Government
- Whale and Dolphin Conservation (WDC)
- Wildlife Trusts

1.3 Phase Two: Vision and objectives

The vision for the JCDP is to “**Promote and facilitate cetacean data standardisation and maximise value through collation and enabling of universal access**”. The vision was agreed at the December 2020 workshop (see objective 2) through engagement with stakeholders (see Figure 1).



Figure 1 Word cloud of key words for the vision statement developed at the December 2020 stakeholder workshop.

The objectives of Phase Two of the JCDP are:

1. Initiate plans to develop the JCDP with ICES
2. Design and plan development of the cetacean database and portal
3. Archive and develop a MEDIN-compliant data standard for UK datasets
4. Create and implement the cetacean database and portal (21/22)
5. Develop and implement a communications strategy for the JCDP

2. Phase Two: Summary of progress

Below is a summary of the delivery of Phase Two of the JCDP at the end of year one (2020/21).

2.1 Objective 1: Initiate plans to develop the JCDP with ICES

Staff in the Data Services Team at The International Council for the Exploration of the Sea (ICES) were subcontracted by JNCC in Autumn 2020 to work on the delivery of the JCDP. Their role during 20/21 was to contribute to scoping the JCDP platform specification and participation in the workshop (see Objective 2). A “Kick-off” meeting with ICES was held 4th November 2020 and three further meetings held by the end of 20/21. ICES staff also participated in additional Steering Group meetings held approximately monthly in Q4.

The governance of the JCDP post 2022 (when the platform is live and Defra funding ends) has been discussed at SG meetings and at the workshop. Two avenues have been explored (Figure 2): under either option, there would need to be a Governance Group to oversee the long-term development of the resource. The group would also undertake regular data calls and product development for the platform to ensure its value to users. Under the ICES option, the cost of maintaining the JCDP will be borne by ICES if a proposal to their Scientific Council to adopt a resolution for the JCDP and its expert group is accepted. Acceptance will be reliant on demonstrating that the JCDP contributes to ICES' Science Strategy. Under the OSPAR option, Contracting Parties to OSPAR will pay for ICES to upkeep the JCDP; however, the cost of this is very low and will likely just be subsumed into the existing agreement between ICES and OSPAR for their biodiversity portal.

A meeting was held with the OSPAR secretariat to explore their interest in the project and an information paper submitted to COBAM December 2020. They could see the value of the resource and its potential to offer a solution to Parties for storing data obtained for the assessment of the common indicator on cetacean distribution and abundance (M4). However, the indicator is currently only based on dedicated double platform line transect data and the JCDP was established to house a range of datasets collected using a variety of survey platforms.

A presentation on the JCDP and potential governance of the project was given to the ICES Working Group on Marine Mammal Ecology (ICES WGMME) in February 2021. The aim was to share the objectives of the project and discuss the opportunity for the group to take on the long-term governance of it. The group felt that a sub-group within the WGMME would need to be established to ensure the resource was populated annually and data products revisited; experience of trying to do something similar for a seals database was unsuccessful and the group felt a dedicated (bespoke) JCDP governance group would be more successful.

The implications for choosing between the options will be further discussed with a view to reaching a decision through the Steering Group in Q1 21/22.

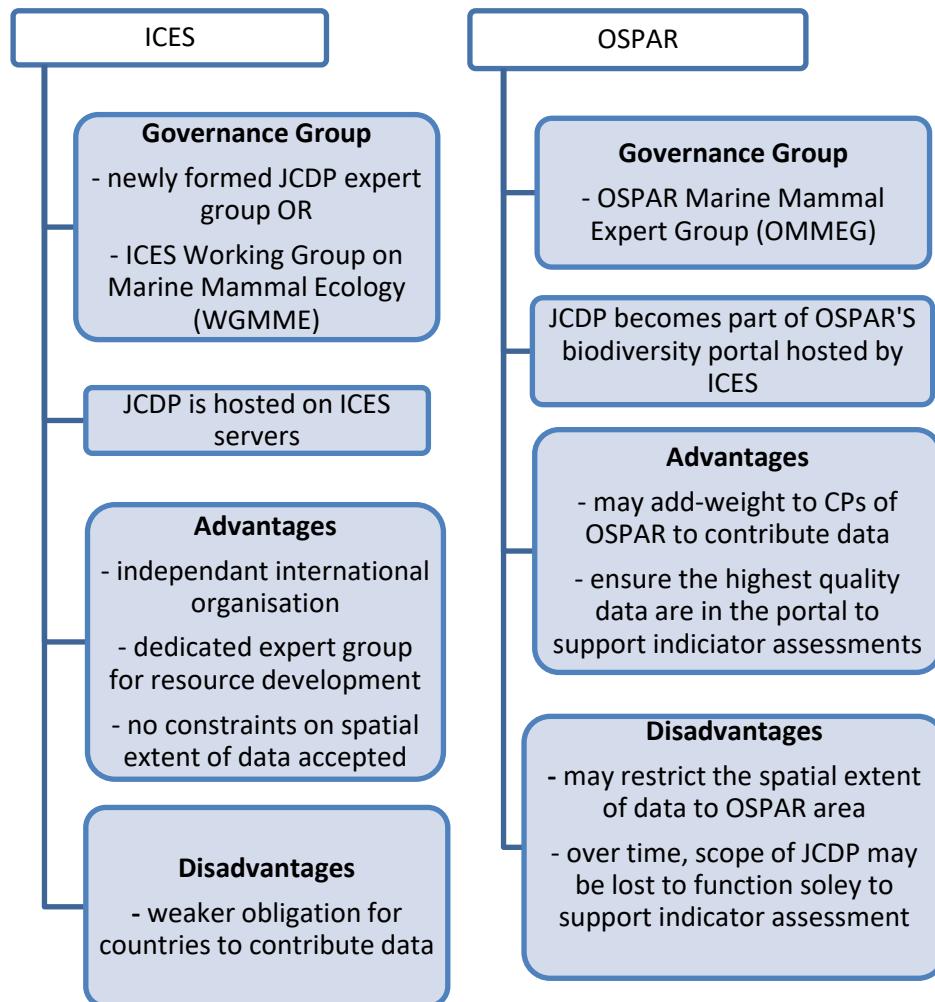


Figure 2: Governance options (ICES or OSPAR) and the pros and cons for the JCDP

2.2 Objective 2: Design and plan development of the cetacean database and portal

A workshop was held over three half-days 8-10th December 2020 to develop the specification for the JCDP platform (database and portal). Due to COVID-19 restrictions, the workshop was run remotely through Microsoft TEAMS and had broad participation from a mix of international stakeholders from 20 different organisations across academia, NGOs and the commercial and public sectors. The format of the workshop was:

Day 1: context and updates; vision and objectives; data standard; MEDIN data guideline and the communications strategy.

Day 2: database and system specification

Day 3: consideration of data products from the JCDP

Days 2 and Day 3 were reliant on the development of “User Stories” that identified all the needs of each stakeholder “user group” to create the specification from which the system will be built. These ‘stories’ follow a prescribed format (Figure 3) and are designed to focus development on the user’s needs ensuring that each feature is tied to required functionality. The user stories were captured in advance, with input from stakeholders, and were addressed during break-out sessions in the workshop. Break out groups and user story agreement and prioritisation were orchestrated through GitHub. The outcome of the workshop was a set of

user stories describing the Minimum Viable Product (minimum specification for a functioning platform) of the JCDP and others categorised for future development (“nice to have”). The workshop report is in Annex I.

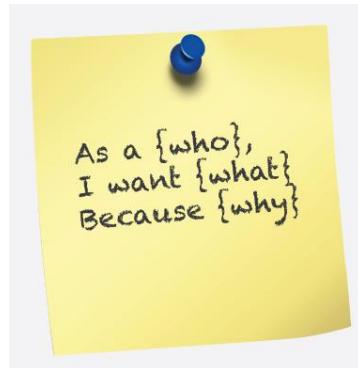


Figure 3 Format of “User Story”

Follow-up from the workshop was required for the JCDP data products and a SG meeting held late March 2021. Seven data products were agreed and will be integrated into the JCDP functionality:

- Map: data visualisation
- Browse datasets (tables and filters)
- Application Programming Interface (API); Web Feature Service and Web Map Service
- Graphs and charts
- Public data dashboards/stats on downloads of datasets (open and restricted)
- Private data dashboard (within login of data provider)
- Metadata

The outputs from the workshop and follow up meeting enable the JCDP platform to be designed; a draft is shown schematically in Figure 4.

2.3 Objective 3: Archive and develop a MEDIN-compliant data standard for UK datasets

The JCDP team were approached by MEDIN to develop a data guideline³ for effort-related cetacean survey data. JNCC undertook a comparison of a “standard” MEDIN survey guideline with the data standard being developed under the JCDP. Generally, they were very similar with only a small number of additional fields identified for potential inclusion into the JCDP.

The JCDP data standard and the outcome of the MEDIN guideline comparison was presented and discussed at the MEDIN Data Standards Working Group meeting (March 2021). The group decided that rather than converting the JCDP data standard into a MEDIN data guideline, that they would simply “adopt” the JCDP data standard once it was finalised. A JCDP representative from JNCC currently sits on the MEDIN Data Standards Working Group and will continue to ensure the communication between JCDP and MEDIN.

Work on the JCDP data standard is ongoing and a further meeting/workshop is required to reach agreement on some data fields. The project manager and officer met with offshore wind industry representatives to further discuss the JCDP data standard and build relations in hope of data contributions from this sector. Data from industry are often commercially sensitive, at least until consent for development has been awarded but The Crown Estate, as participants on the core SG, were keen to facilitate and support data contributions to JCDP.

³ <https://www.medin.org.uk/data-standards/medin-data-guidelines>

2.4 Objective 4: Create and implement the cetacean database and portal (21/22)

This objective will dominate the work to be undertaken into 21/22 based on the outcomes of objective 1 and 2. This objective will:

- a) Develop the user interface for the database. The interface will support:
 - 1. Data ingestion and validation tool
 - 2. Data visualisation and filtering tools to aid extraction
 - 3. Data download tool
 - 4. Data products
- b) Use pilot cetacean monitoring datasets to test the portal, including a pilot data call
- c) Launch the database portal

2.5 Objective 5: Develop and implement a communications strategy for the JCDP

A JCDP Communications Strategy has been prepared (Annex II) with input from the SG and Defra. The Strategy is dynamic and will be updated as and when relevant, depending on need. The communication strategy aims to:

- i. maintain relationships with and between stakeholders;
- ii. maintain data flow into the JCDP;
- iii. develop scientific outputs; and
- iv. implement outreach of project successes and data products.

A communication plan sets out the communication required, its target audience, mode of communication and its frequency to achieve these aims. Currently, the JCDP Project Manager, Project Officer and Steering Group all have responsibilities for implementing the communication plan.

In FY21/22 of the project, a JCDP Project Coordinator will assume responsibility for the Communications Strategy. A coordinator will be resourced through a JNCC post in the Marine Species Team on a day-a week basis. The coordinator will begin the role in Q1 21/22 and will work closely with the project steering group and/or governance group, as well as the wider stakeholders.

The JCDP showcase web space is under development and further content being produced: an outline plan of the showcase is shown in Figure 5. The showcase will publicise contributors to and the benefits of the JCDP; it will signpost to the suite of agreed and published data products; and encourage and support collaboration opportunities using the JCDP resource. Some content will not be available until after the JCDP is launched and products and data are being used. The showcase will be hosted on the JNCC webpages but will have its own URL e.g. www.jcdp.com.

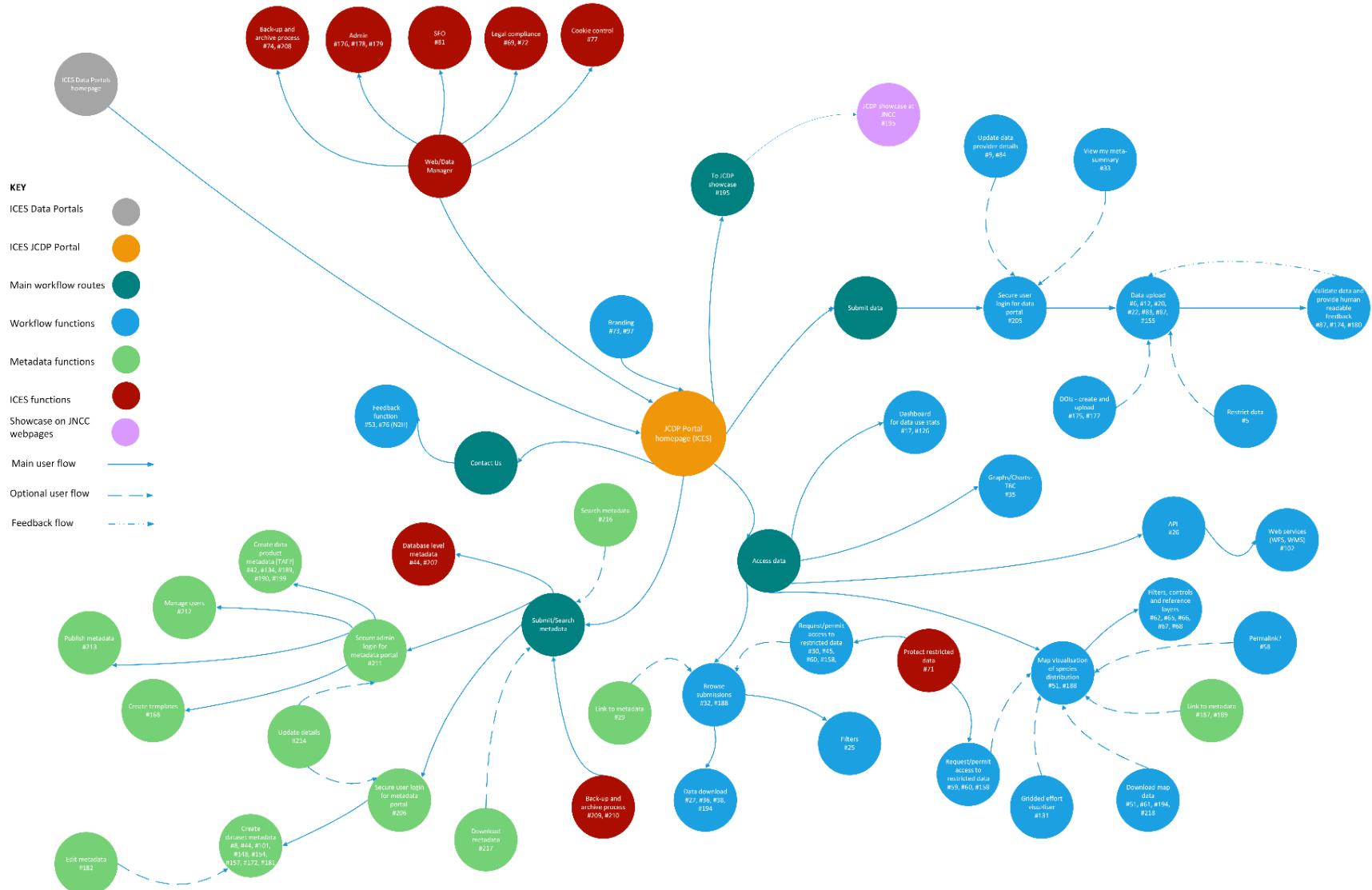


Figure 4 Schematic “bubble diagram” of the JCDP platform built from user needs identified in the December 2020 workshop.

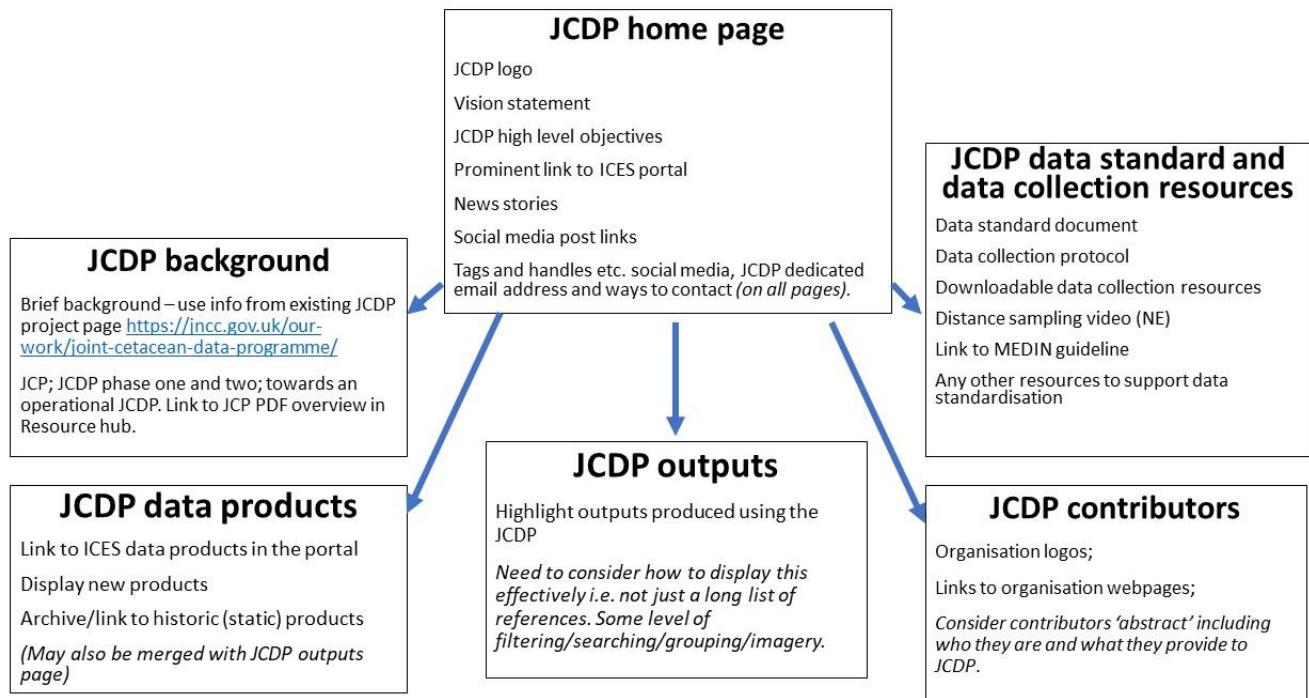


Figure 5 Plan for the pages to be included in the JCDP showcase.

3. Next Steps

Progress during the first year of Phase Two has been good, with all milestones progressed and/or completed under each of the objectives. The impacts of COVID-19 on the project have been low and working remotely has proved successful in this project. The remote platform has enabled wider participation (evidence by attendance at the workshop) than might otherwise have been possible if funds for travel were required by potential participants. This also has the benefit of minimising the carbon-footprint of this project.

In year two, the focus is on Objective 2 and will be delivered primarily by ICES with input from the team at JNCC. Currently there are no issues envisaged and the project is set to deliver on time and the JCDP platform will launch in Spring 2022.

Table 1 Gantt Chart of progress on key milestones for year 1 of Phase Two of the JCDP.

Milestones/Tasks	Status	2020-2021											
		Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21			
Project Management													
JCDP Steering Group (SG) meeting (may be remote)	On track												
WGMME meeting/intersessional comms	Complete												
ICES meetings (remote)	On track												
Year 1 project report to HBDSEG / Defra	Complete												
Final project report to HBDSEG / Defra	year 2												
Stakeholder workshop - multi-day (remote)	Complete												
Objective 1 Initiate plans to develop the JCDP with ICES													
Confirm agreement for ICES to develop, host and manage the database and portal	Complete												
Develop JCDP governance structure, taking into account long-term funding and maintenance, meeting with Defra (Q4)	On track												
Objective 2 Design and plan development of the cetacean database and portal													

Milestones/Tasks	Status	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21
Develop the db portal specification/requirements	Complete									
Db and portal spec outline to inform development	Complete									
Update JCDP Data Standard Protocol and Policy docs in line with the db and ICES	On track									
Objective 3 Archive and develop a data standard for UK datasets										
Work with DASSH/MEDIN to progress development of a UK data guideline	On track									
MEDIN data guideline review and publish	On track									
Metadata creation for UK datasets (will occur in year 2 and for any dataset through a dedicated "metadata day")	Delayed until year 2									
Develop the existing Data Standard Protocol with SG input (will continue into year 2 and finalised prior to datacall)	On track									
Finalise the Data Collection Protocol and publish	Delayed until year 2									
Comms with industry and Regulators in support of engagement with the data standard	Complete									
Define terms of archive service regarding data access	On track									
Objective 4 Create and implement the cetacean database and portal										
ICES to develop the infrastructure of the db portal: ingestion, validation; data visualisation, filtering; restrictions and download tools (DDS input)	year 2									
Pilot data call (Governance group)	year 2									
Trial of tools with a pilot dataset	year 2									
Launch of db and db portal	year 2									
Testing of functionality	year 2									
Objective 5 Develop and implement a communications strategy for JCDP										
Update the existing JCDP webpage to reflect the progress of the project	On track									

JCDP Phase Two, 20/21 Report

Milestones/Tasks	Status	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21
Develop a communication strategy in support of the project (ensuring dialogue with Defra in development)	Complete									
Finalise and implement the comms strategy	Complete									
Plan the needs of the showcase webspace	On track									
Develop the showcase page infrastructure to be hosted on JNCC webspace	On track									
Further develop the showcase functionality and content	year 2									
Define the JCDP coordinator role	Complete									
Secure funding for the coordinator role	Complete									
Coordinator in post	On track									

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