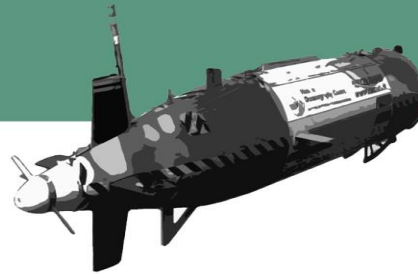


THE BIG PICTURE II

Benthic Imagery Workshop 2021

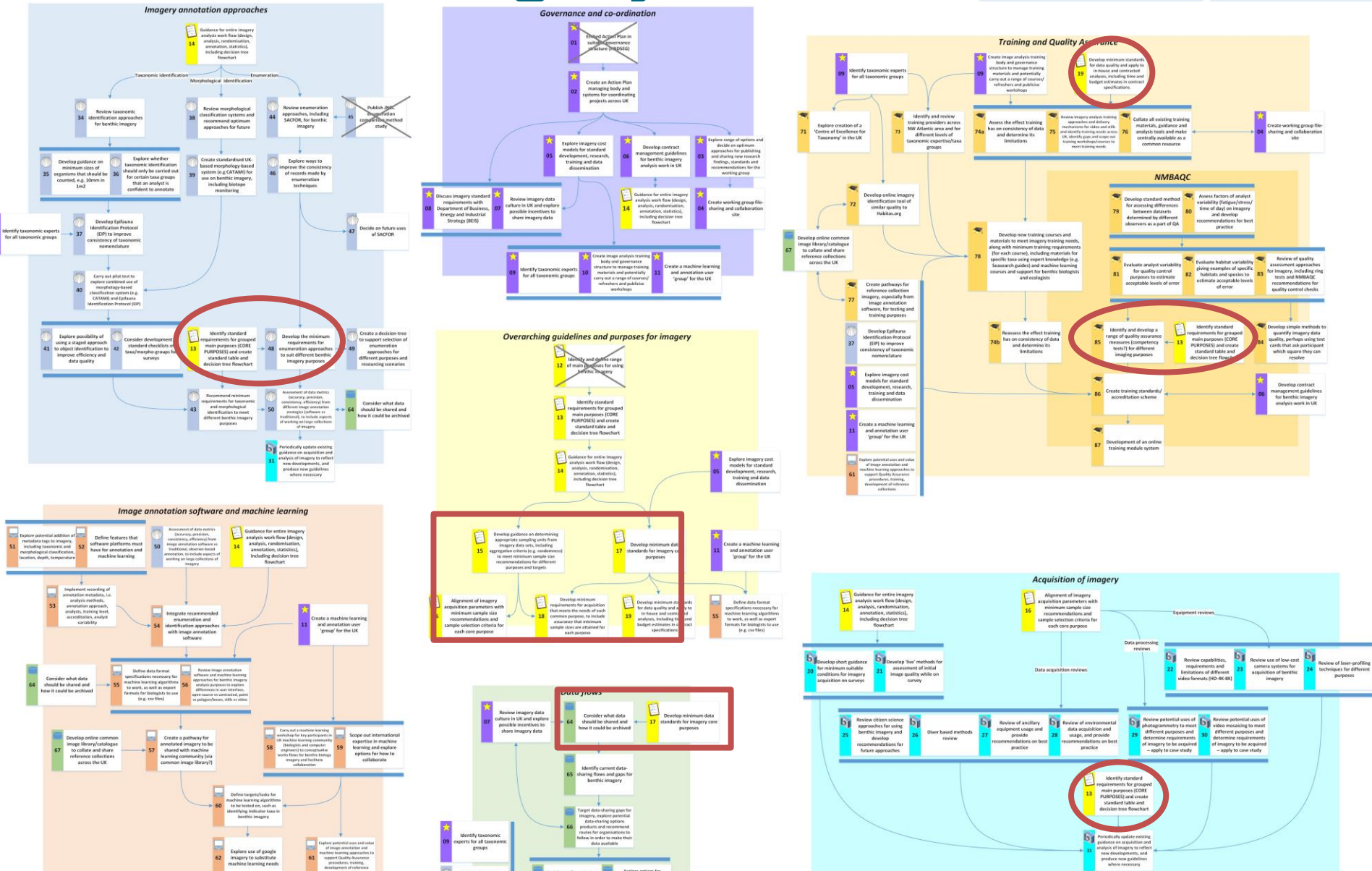


Development of Quality Assurance Framework

Jessica Taylor JNCC



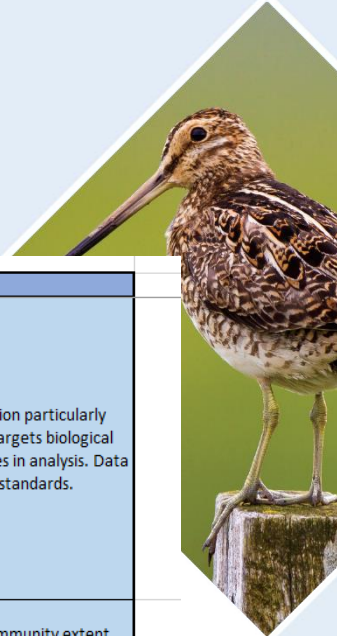
Benthic Imagery Action Plan



Building on the imagery purposes work in the BIAP

- Develop standards for imagery purposes where appropriate.
 - Targeted 3 standards
- Develop a Quality Assurance Scheme for benthic imagery
- Develop Tools to help standardise imagery data

Benthic Imagery Purposes

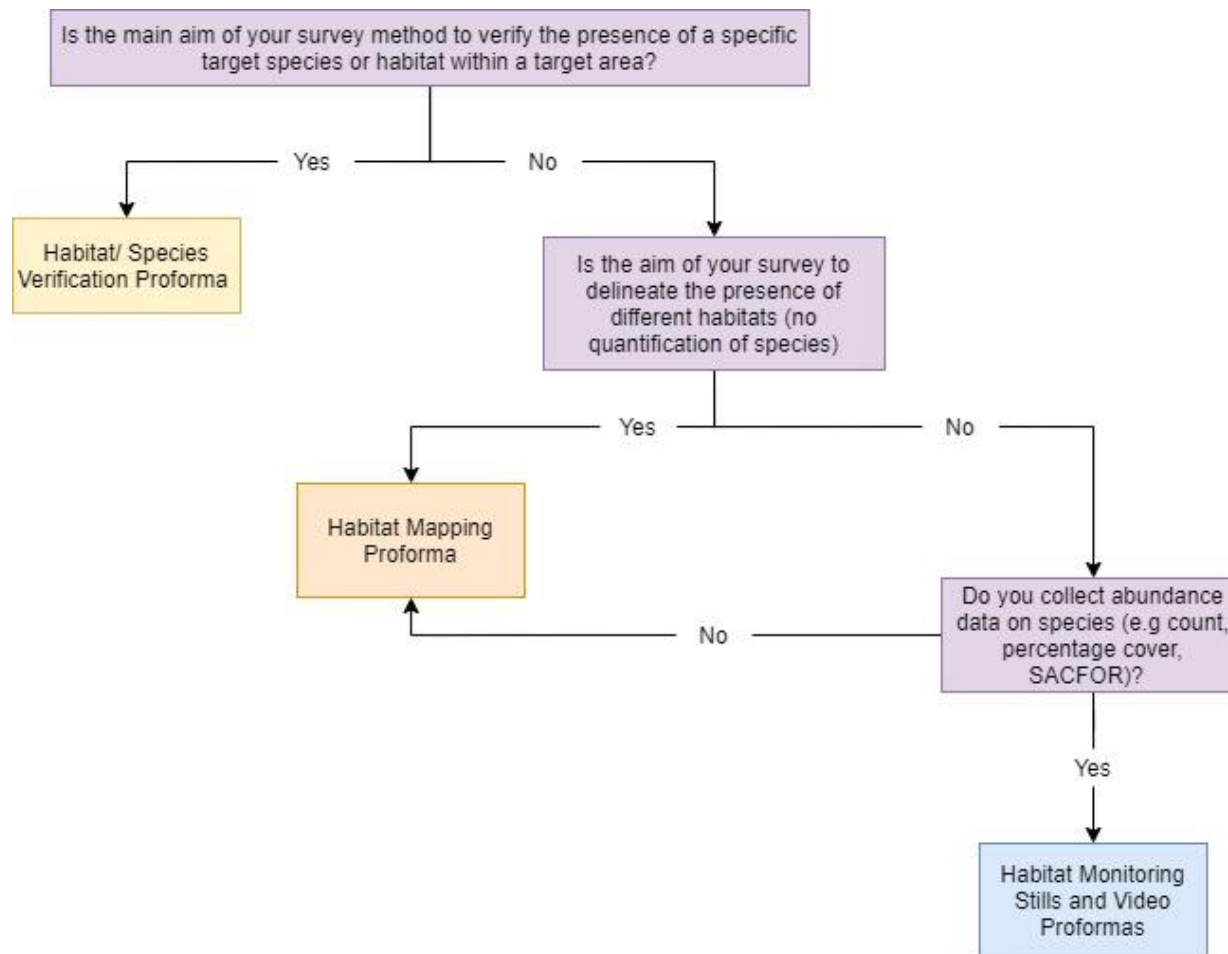


Purpose	Feature verification	Habitat mapping	Habitat/Species monitoring
Summary	Imagery collected for use in verification of feature existence in particular area. Targets biological and abiotic features. Data standards and metadata rich. Limited acquisition standards, as only few replicates required to verify feature.	Imagery collected for use in habitat mapping. Targets biological and abiotic features. Data standards and metadata rich. Limited acquisition standards.	Imagery collected for use in habitat characterisation particularly assessment of trends & assessment of impacts. Targets biological and abiotic features. Uses quantitative approaches in analysis. Data standards and metadata rich. Limited acquisition standards.
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Targeted features	<p>Biological</p> <p>Abiotic</p> <p>Designated or potential conservation features</p>	<p>Biological</p> <p>Abiotic</p> <p>Designated or potential conservation features</p>	<p>Biological</p> <p>Abiotic</p> <p>Designated or potential conservation features</p>
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Acquisition and analysis standards (ESSENTIAL)	Internal procedures	NMBAQC Internal procedures	NMBAQC Internal procedures
Additional acquisition and analysis standards (OPTIONAL depending	NMBAQC		



JNCC

Decision tree for standards



Species/Habitat Verification

AutoSave Off VERIFICATION_Video_Analysis_Proforma_2.xlsx - Excel Jessica Taylor JT

File Home Insert Page Layout Formulas Data Review View Help

Clipboard Font Alignment Number Styles Cells Editing Ideas Sensitivity

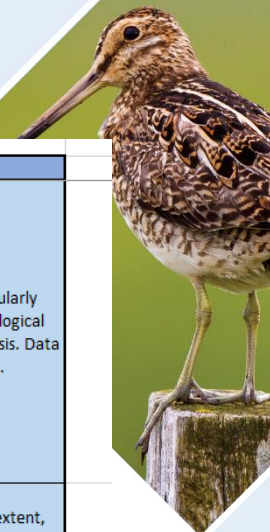
M2

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
	Description	Abbreviation for MPA sampled	Station code/ transect number assigned to the area which is being sampled (e.g. A01)	Station number is referring to the incremental number assigned to the station within the running order of the survey	Attempt or Replicate number of the analysed imagery (e.g. A1 or A2)	Increases sequentially (H1, H2, H3) and should change if the substrate or broad scale habitat type has been different for >5meters as given in the NMBAQC guidelines. This provides a unique ID for each segment created within each tow	Autopopulates: "StnCode_StnNumber_AttemptNumber_SegmentNumber". This creates a unique ID for each habitat segment.	Start of Line time (UTC) for the stations and their start times of each tow. Copy this value in to each new station start of line row. Where a new segment is created within a station this value will be incrementally within the tow.	End of Line time (UTC) for the stations. The final Nav Log HabitatEndTime (Row T) will match the SOL time for the next segment within a tow.	Date of sample collection	100 character limit	Dropdown : Select the gear type code.		This field highlights the presence or absence of target features	The habitat or species that you are recording the presence/absence of	Use the autocalculated Metadata times (Column T) to match with the closest time and coordinates for the tow.	Use the autocalculated Metadata times (Column T) to match with the closest time and coordinate provided for the tow
2																	
5	MEDIN Requirement	Mandatory	Conditional	Conditional	Conditional	Conditional	-	Mandatory	Mandatory	Mandatory	Optional	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory
6	For each change in habitat, please copy this row and insert where needed	TestCode															
9	Field Name	Survey Name	Station Code	Station Number	RepAttempt	Habitat Segment Number	Video Sample Ref	MetadataSolTime (hh:mm:ss)	MetadataEolTime (hh:mm:ss)	Date (yyyy-mm-dd)	Brief Habitat Description (Physical & biotic)	Method	MethodID	Presence of Target Habitat/Species (Yes/No)	Target Habitat/Species	MetadataStart - Latitude (DecDeg)	MetadataStart - Longitude (DecDeg)
10	Example Line	TestCode	A001	S001	A1	H1	TestCode_A001_S001_A1_H1	19:50:00	20:45:00	2020-01-01	Gravel with sandy areas	Drop Camera	TestCode_D C	Yes		54.742111	2.587986
11		TestCode															
12		TestCode															
13		TestCode															
14		TestCode															
15		TestCode															
16		TestCode															
17		TestCode															
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19		TestCode															
20		TestCode															
21		TestCode															

Read Me Pre-Survey Metadata Video Analysis Form

70%

Benthic Imagery Purposes



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Acquisition and analysis standards (ESSENTIAL)	Internal procedures	NMBAQC Internal procedures	NMBAQC Internal procedures
Additional acquisition and analysis standards (OPTIONAL depending	NMBAQC		



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Habitat Mapping

AutoSave Off HMMAPPING_Stills&Vid_Analysis_Proforma_2.xlsx - Excel

File Home Insert Page Layout Formulas Data Review View Help

Paste Copy Format Painter Clipboard Font Alignment Number Styles Cells Editing Ideas Sensitivity

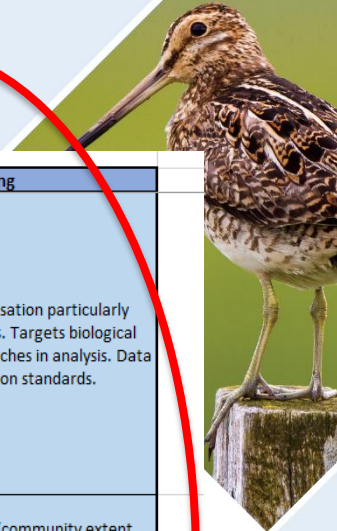
B2 Autopopulated from Survey Name Field in the Metadata

	A	B	C	D	E	F	G	H	I	J	K	L	M	
1	Epifaunal Video Analysis Proforma													
2	Description	Autopopulated from Survey Name Field in the Metadata	Station code of the analysed imagery. Term to identify the site from others being sampled normally a four letter code	Station number of the analysed imagery. Incremental number assigned according to the running order of the survey. May not be used in all instances	Attempt or Replicate number of the tow, for example if two attempts were made at sampling the same station for example due to equipment problems you would use A1 and A2 to differentiate between the two attempts	Increases sequentially (H1, H2, H3) and should change if the substrate or broad scale habitat type has been different for >5meters as given in the NMBAQC guidelines. This provides a unique ID for each segment created within each tow.	Autopopulates: "StnCode_StnNumber_Attempt Number_SegmentNumber". This creates a unique ID for each habitat segment.	Start of Line time (UTC) for the stations and their start times of each tow. Copy this value in to each new station start of line row. Where a new segment is created within a station this value will be incrementally within the tow.	End of Line time (UTC) for the stations. The final Nav_Log HabitatEndTime (Row T) will match the SOL time for the next segment within a tow.	Date of sample collection	100 character limit	Dropdown: Select the gear type code. This field and column M are mainly for use if different camera systems were used during the same survey. An example of this would be, the use of both a drop-frame camera and a camera sled within the same survey. If the same gear is used throughout these columns can be left blank	This field and column L are mainly for use if different camera systems were used during the same survey. An example of this would be, the use of both a drop-frame camera and a camera sled within the same survey. If the same gear is used throughout these columns can be left blank Lapse HabitatS (hh:mm:ss) Habitat start time media playback needs to be entered start of every i This will be the bottom is first is started. This represent the t shown in whale platform is use	
3	Data Source	Metadata	Metadata	Metadata	Metadata		Automatic	Metadata	Metadata	Metadata	Metadata	Metadata	Autopopulate	
4	JNCC Requirement	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	
5	MEDIN Requirement	Mandatory	Conditional	Conditional	Conditional	Conditional	Conditional	-	-	-	Optional	Mandatory	Mandatory	
6	MEDIN Form	Sample Event	Sample Event	Sample Event	Sample Event	Sample Event	Sample Event	Sample Event	Sample Event	Sample Event	Biotope Form	Sample Event	Sample Event	
7	MEDIN Field	eventName	stationID+	stationID+	replicateID	stationID+ & eventNumber	sampleEventID	-	-	sampleDate	substratumNotes	methodID+	startVideoTimeC	
8	For each change in habitat, please copy this row and insert where needed												endVideoTimeC	
9	Field Name	Survey Name	Station Code	Station Number	RepAttempt	Habitat Segment Number	Video Sample Ref	MetadataSoL Time (hh:mm:ss)	MetadataEoL Time (hh:mm:ss)	Date (yyyy-mm-dd)	BriefHabitatD escription (Physical & biotic)	Method	MethodID	Lapse Hab (hh:mm:ss)
10		TestCode	A001	S001	A1	H1	TestCode_A001_S001_A1_H1	19:30:00	20:00:00	2020-10-14		Drop Camera	DC	00:00:00
11														00:01:30
12														00:00:00
13														00:00:00
14														00:00:00
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Read Me Pre Survey Metadata Stills Analysis Form Video Analysis Form LookUp_Tables

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Habitat Monitoring

[illegible]

Quality Assurance Framework



Proforma Data Checks

- Checks presence and completeness of all Mandatory Fields
- Checks whether the field is completed within expected constraints
- Checks for any missing values
- Runs EIP in taxa species matrix for image quality

Quality Assurance Online Tool

- Completes data completeness checks on one analysis spreadsheet through online tool
- Completes Species ID comparison with image quality recorded in the spreadsheet using the EIP
- Comparison Tool between two spreadsheets of abundance values

QAF Online tool Demo

Guidance Documents

- QAF Guidance document in draft
- EIP Guidance document in draft



NMBAQC

NE Atlantic Marine Biological Analytical Quality Control Scheme



[Home](#) [About](#) [Scheme Components](#) [Reports](#) [QA Standards](#) [FAQ's](#) [Links](#) [Contact Us](#) [Committee area](#) [Participants area](#)

You are in: [Scheme Components](#) » [Epibiota](#) » Benthic Imagery Action Plan

Search

Scheme Components

Under Development

Epibiota

- Reports
- Literature and Taxonomic Keys

● Benthic Imagery Action Plan

- Workshops
- Current Participants

Fish

Invertebrates

Macroalgae

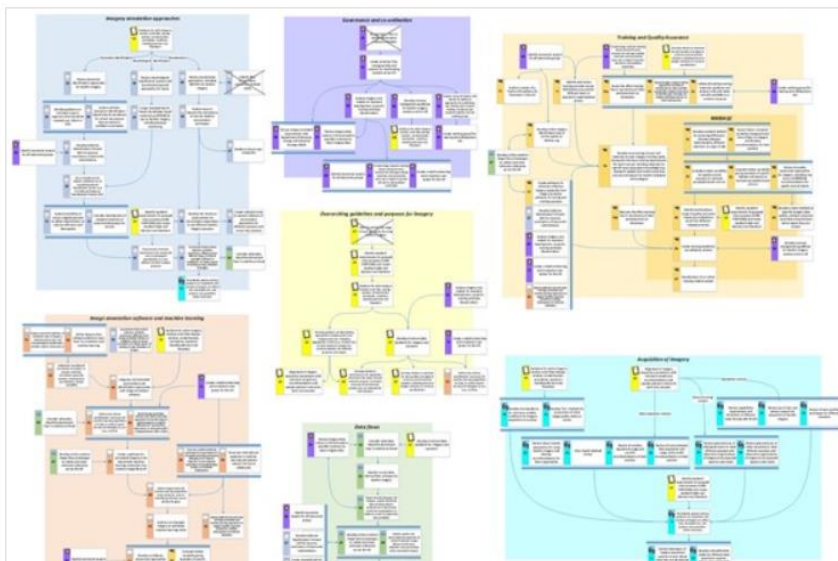
Particle Size Analysis

Phytoplankton

Zooplankton

Benthic Imagery Action Plan

The Benthic Imagery Action Plan provides a strategic framework to carry out necessary improvements to a wide range of imagery analysis standards in the UK. The Action Plan collates and streamlines the recommendations from The Big Picture Workshop into 87 tasks and organises them into seven coherent workflows. This framework is focused on maximising the potential of benthic imagery within the marine biodiversity conservation community of the UK, although improvements may be equally applicable to other users of benthic imagery. A collaborative working approach is proposed in this Action Plan, to maximise the use of available knowledge, resources and technology across organisations.



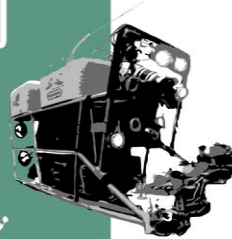
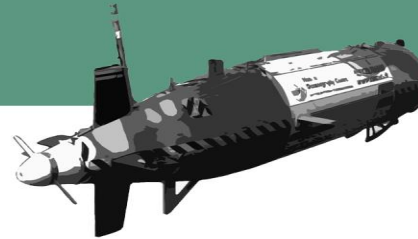
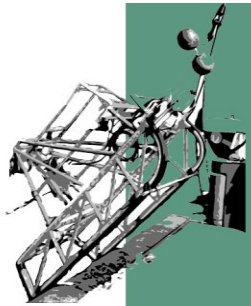
Next Steps

- Finalise the Online Tools
- Finalise the Guidance Document
- Finalise proposed costings

All products will be live at the END OF MARCH

THE BIG PICTURE II

Benthic Imagery Workshop 2021



Any Questions?

TheBigPicture@jncc.gov.uk