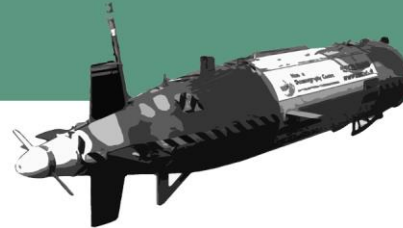
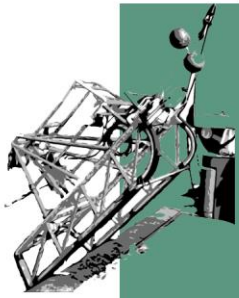


THE BIG PICTURE II

Benthic Imagery Workshop 2021



TheBigPicture@jncc.gov.uk

Seabed imagery acquisition approaches

Dr Henk van Rein

Marine Monitoring and Evidence
Manager/ Marine Natural Capital
Evidence Specialist

Joint Nature Conservation
Committee

Contact:

Henk.vanrein@jncc.gov.uk





“The Big Picture Workshop conveys a sense that image acquisition is too difficult to standardise across platforms, gear, depths and habitats and that efforts are better focused on standardising outputs from surveys.”

“If survey products can be standardised across purposes then this will allow flexibility in operational budgets, organisation-specific gear and platform choices.”

Acquisition of imagery

14 Guidance for entire imagery analysis work flow (design, analysis, randomisation, annotation, statistics), including decision tree flowchart

16 Alignment of imagery acquisition parameters with minimum sample size recommendations and sample selection criteria for each core purpose

Equipment reviews

Data processing reviews

Data acquisition reviews

20 Develop short guidance for minimum suitable conditions for imagery acquisition on surveys

21 Develop 'live' methods for assessment of initial image quality while on survey

22 Review capabilities, requirements and limitations of different video formats (HD-4K-8K)

23 Review use of low-cost camera systems for acquisition of benthic imagery

24 Review of laser-profiling techniques for different purposes

25 Review citizen science approaches for using benthic imagery and develop recommendations for future approaches

26 Diver based methods review

27 Review of ancillary equipment usage and provide recommendations on best practice

28 Review of environmental data acquisition and usage, and provide recommendations on best practice

29 Review potential uses of photogrammetry to meet different purposes and determine requirements of imagery to be acquired – apply to case study

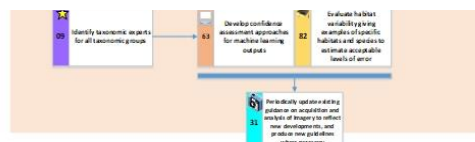
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32 Contact developers of imagery acquisition systems to learn about what they are developing and, potentially, influence future developments

33 Develop intercalibration tables for different data acquisition systems, where value and benefit are possible



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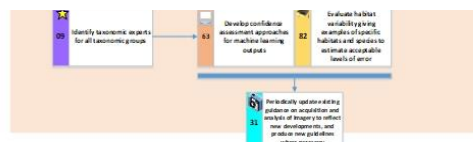
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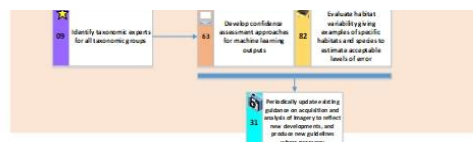
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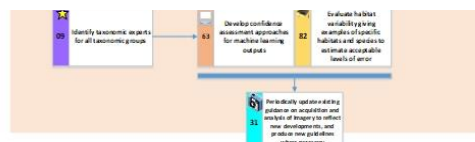
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Acquisition issues



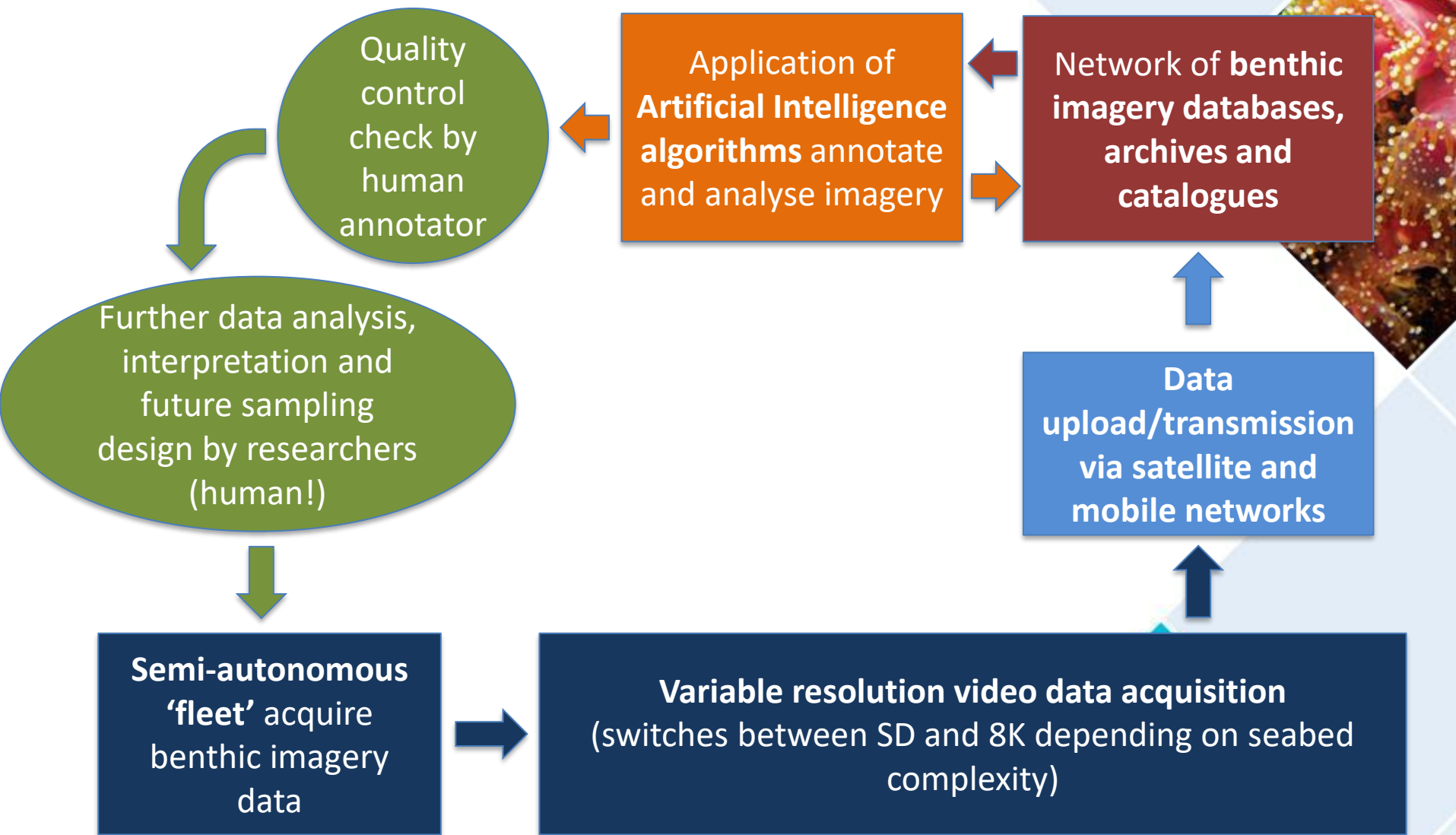
Acquisition issues

- Gear types
- Media formats
- Camera format – SD, HD, 4k, 8k, 16k...
- Standardised outputs?
- Mosaics

Future acquisition pipelines



Future acquisition pipelines?



Key messages



Key messages: Acquisition approaches

Participants of BIG PICTURE Workshop (2019) suggest standardisation of data outputs from acquisition more achievable than of sampling gears

Two sets of tasks in Action Plan:

- Reviews of equipment, data acquisition and processing
- Need for quality control recommendations on survey

No Project Working Group assembled for these tasks (yet) – need interested organisations and project leads

Need for more strategic approach for longer term benthic imagery acquisition approaches to fit into future work flows

Stay connected

- Henk.vanrein@jncc.gov.uk
- www.jncc.defra.gov.uk



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