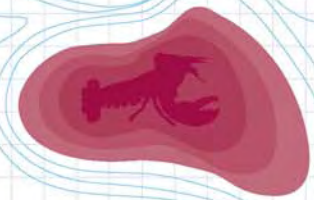


MaRS
Marine Resource System

The Crown Estate Marine Resource System (MaRS)

Jamie Moore

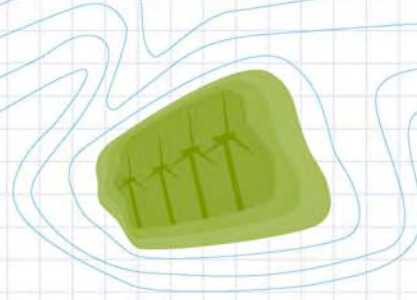
27 October 2009



Contents

- MaRS Aims and Objectives
- System Structure
- System Functionality
- How its used
- Data Management
 - Process
 - Identified Issues
 - Data Vs. Knowledge
 - Costs





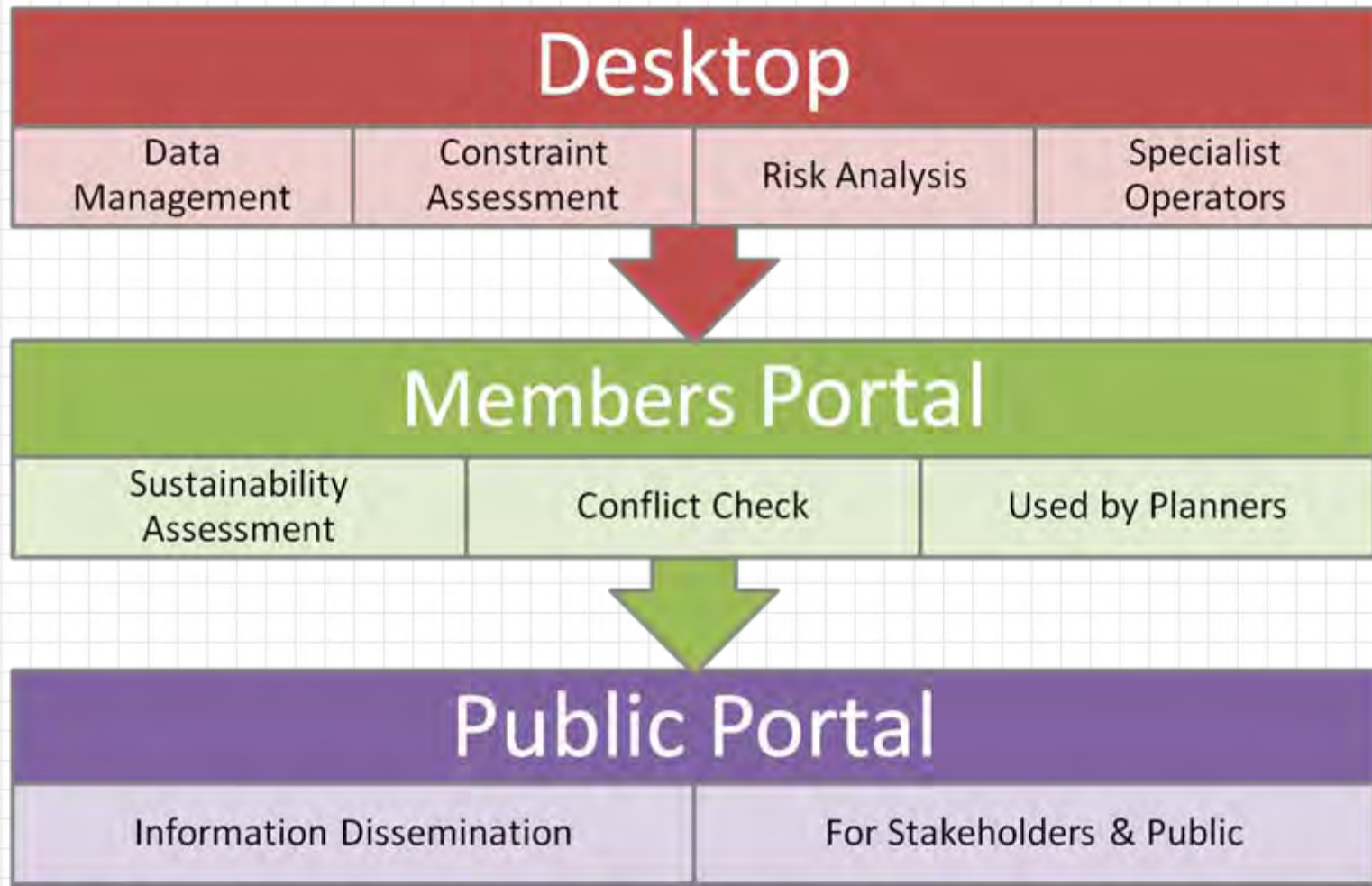
MaRS Aims & Objectives

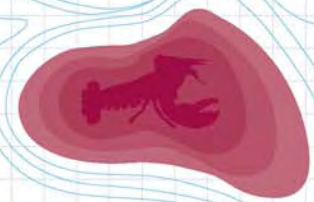
- To provide information to support marine assessment within The Crown Estate
- Support our strategic role
- Shift towards proactive analysis
- Enable long-term sustainable decisions to be made



MaRS

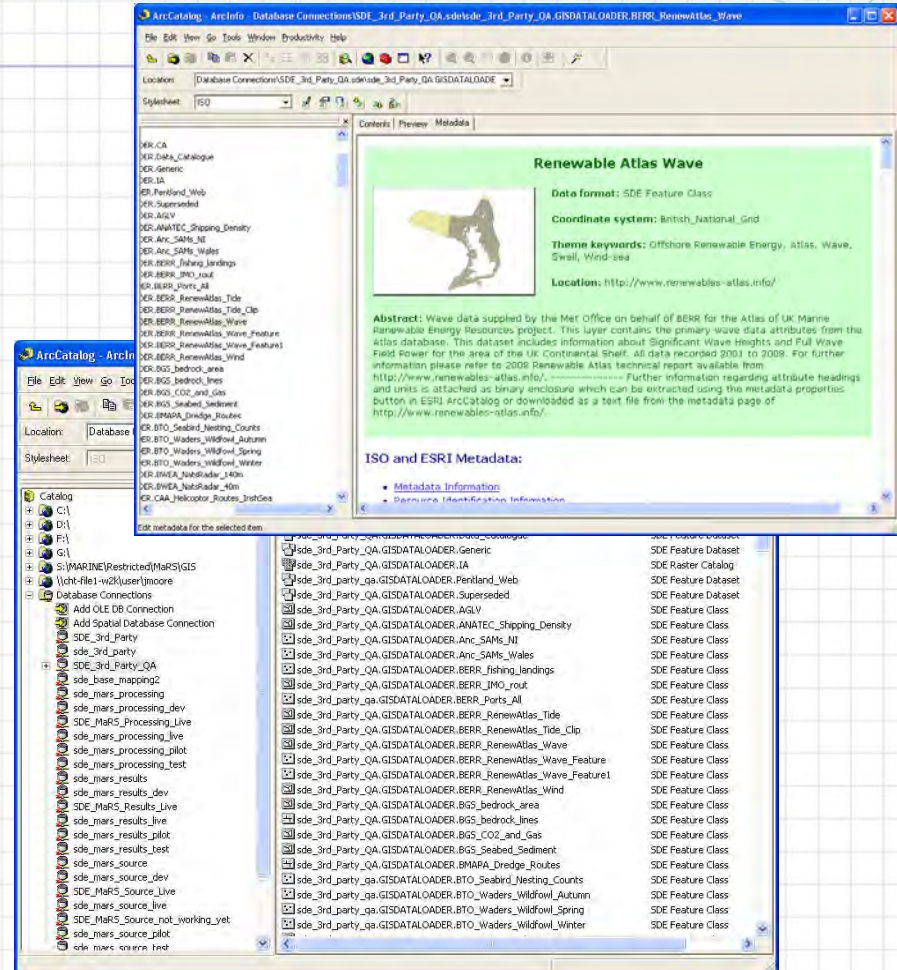
Marine Resource System

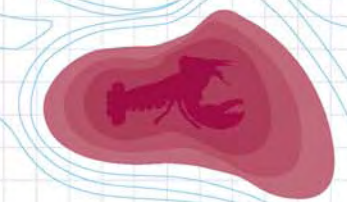




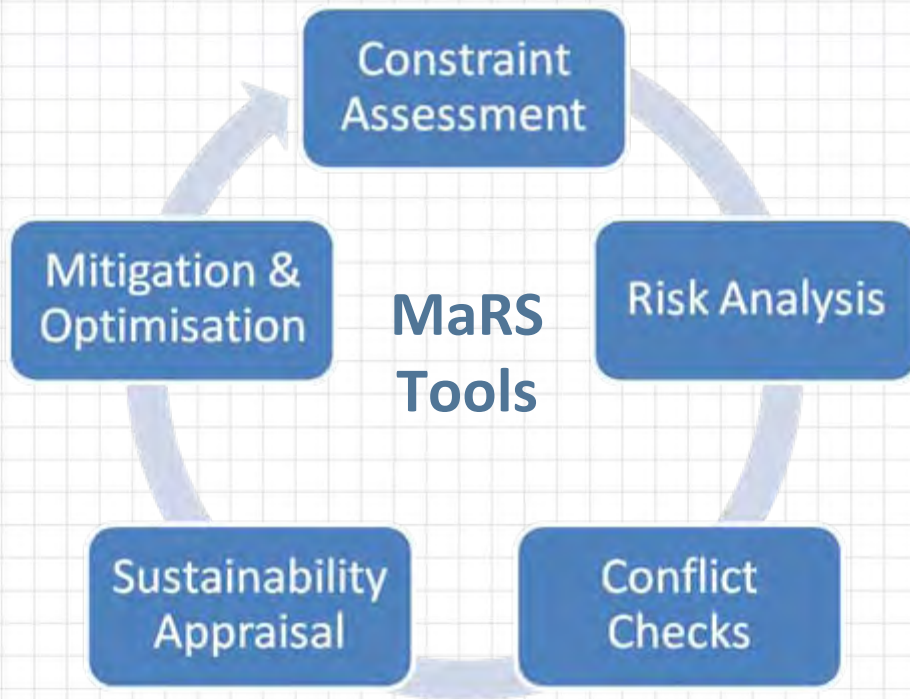
Data Management

- The aim is to store accurate information to underpin decision support
- Single repository of 3rd party layers
- Structured Data (and Metadata)
- Dataset Confidence Assessment
- Ability to trace the history of MaRS analysis including datasets used
- Provide robust, transparent and repeatable results





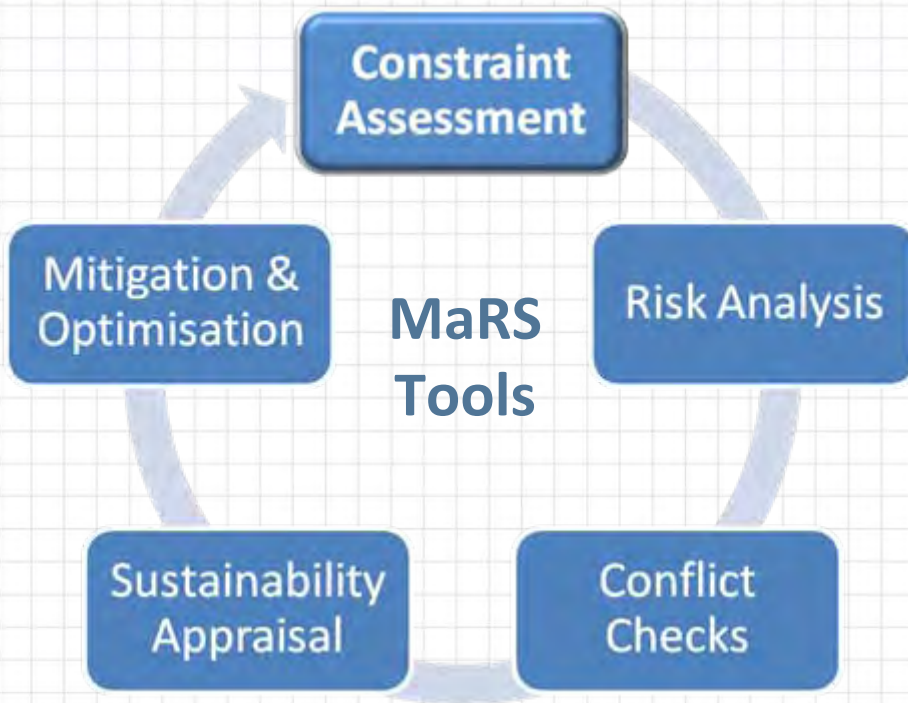
System Functionality



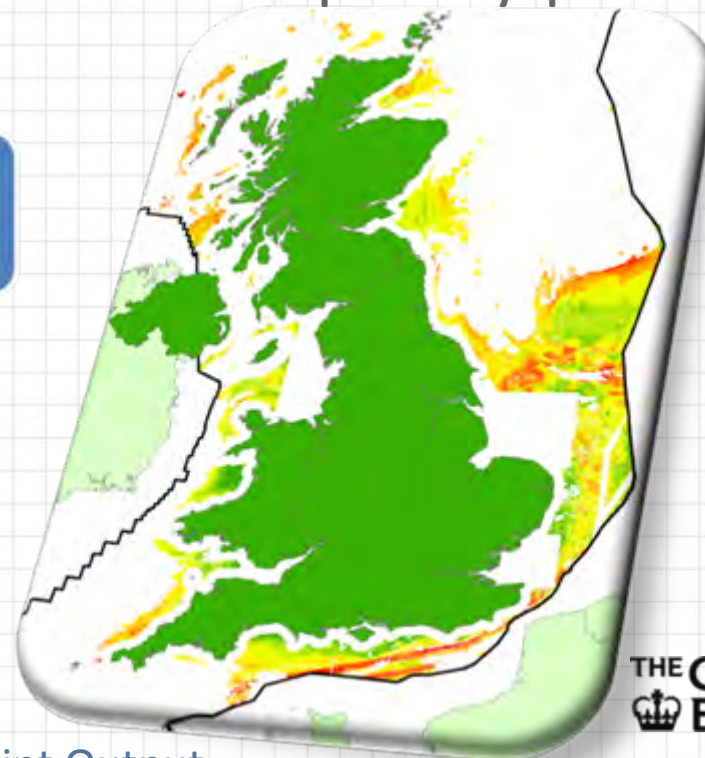
MaRS

Marine Resource System

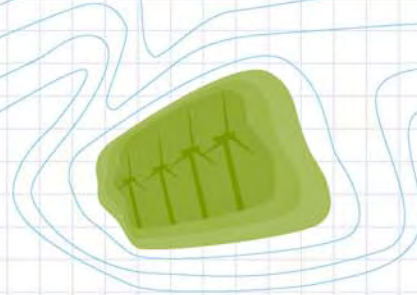
System Functionality



- Multi-Criteria Analysis
- Driven by Policy
- Underpinned by spatial data



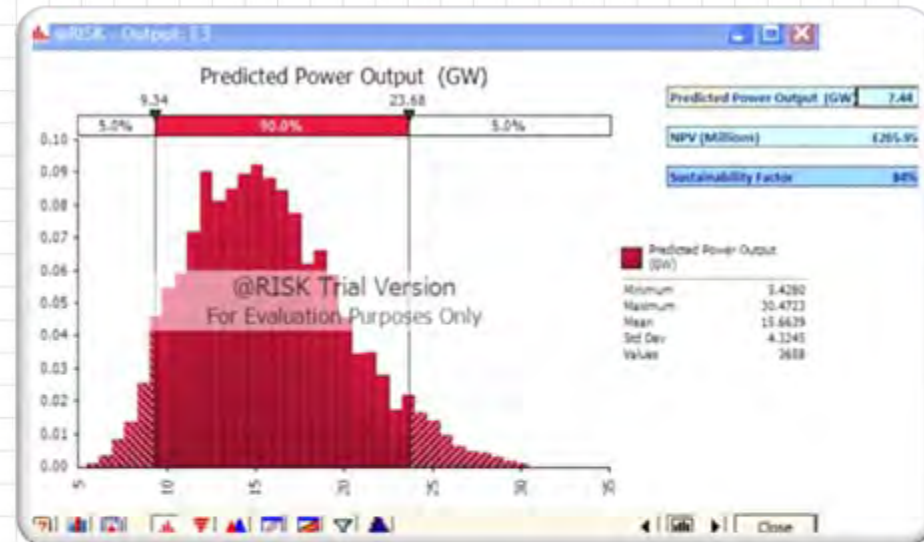
Constraint Output



System Functionality



- @Risk Software
- Data Quality, Coverage & Analysis
- Financial Risk Assessment



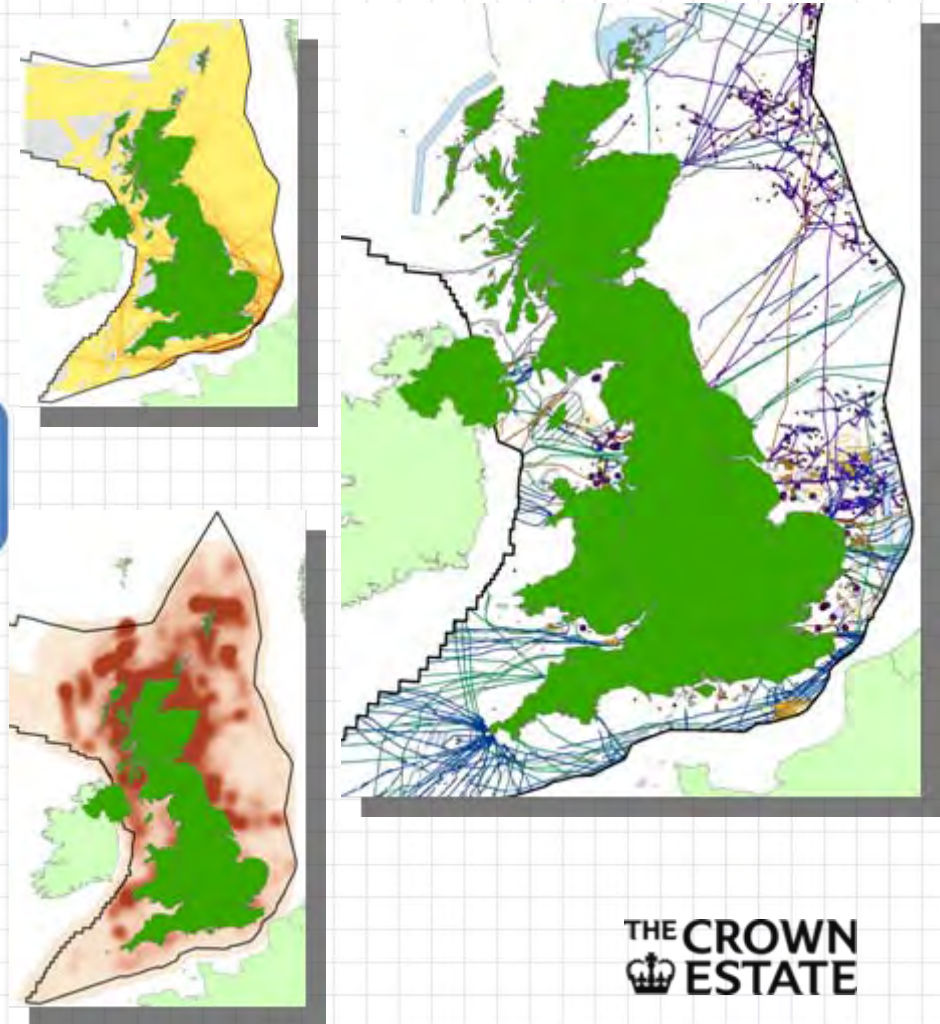
Financial Analysis Results

MaRS

Marine Resource System

Intersection & Interaction Datasets

System Functionality

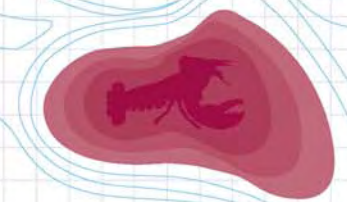


System Functionality

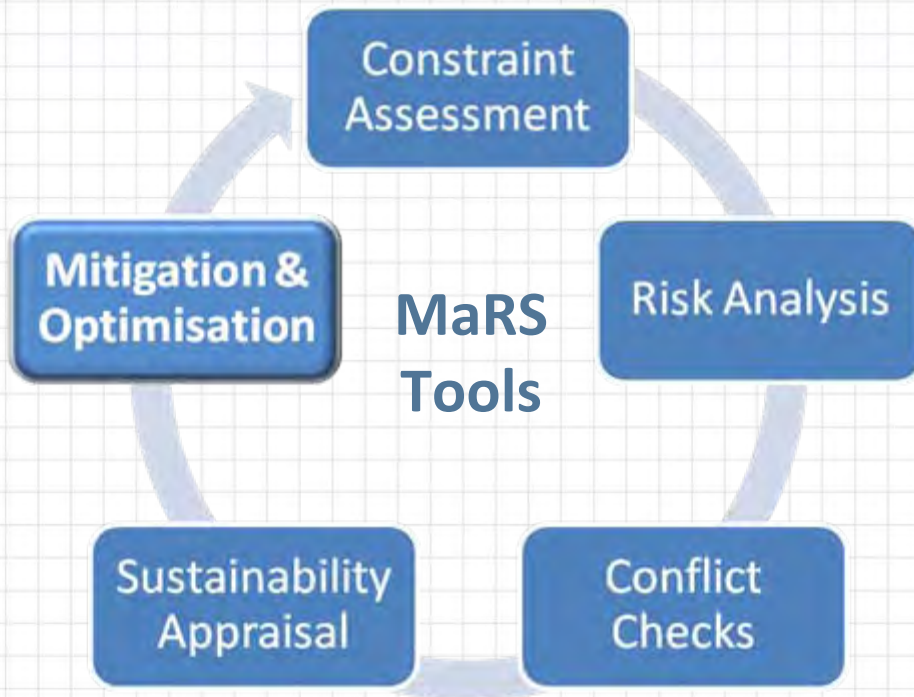


Aspiration for Sustainability

- Manage according to Shared UK Principles of Sustainable Development
- Compare Marine Estate activities with each other
- Assess the impact on an individual activity on the entire portfolio
- Track change in sustainability over time
- 7 Objectives, 12 Indicators, 23 Measures, 37 Metrics



System Functionality



- Can the proposal be improved?
- Iterative process combining all elements of functionality



MaRS

Marine Resource System

Potential Uses

- Analysis to support 9 business sectors within The Crown Estate
- Proactive proposal assessment
- Assist with wider needs?
 - Marine planning?
 - Environmental protection?
 - Coastal?
 - Onshore?



Process of Data Management 1

- MaRS relies heavily on input data
- 6 Operators engaged in Data Mgt

1. Locate and Source the Dataset

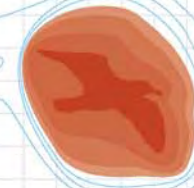
2. Review Licence Conditions

1. Permitted Uses
2. Restrictions on Users
3. Visualisation & Outputs

3. Format Dataset

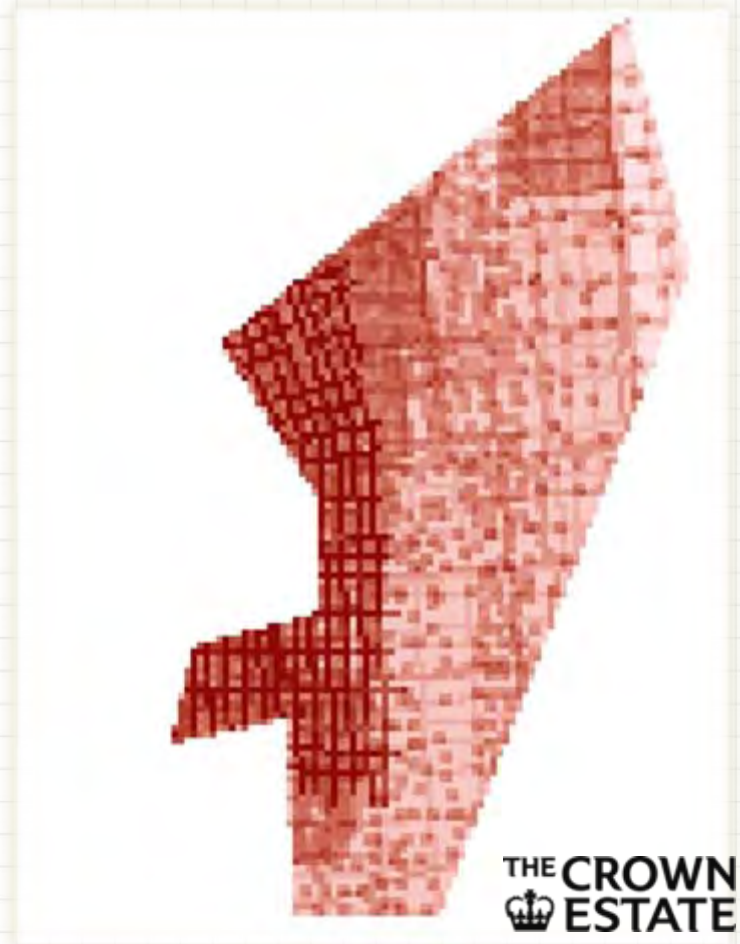
- a. Projections
- b. Attributes

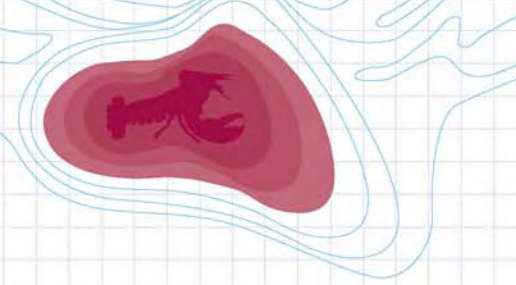




Process of Data Management 2

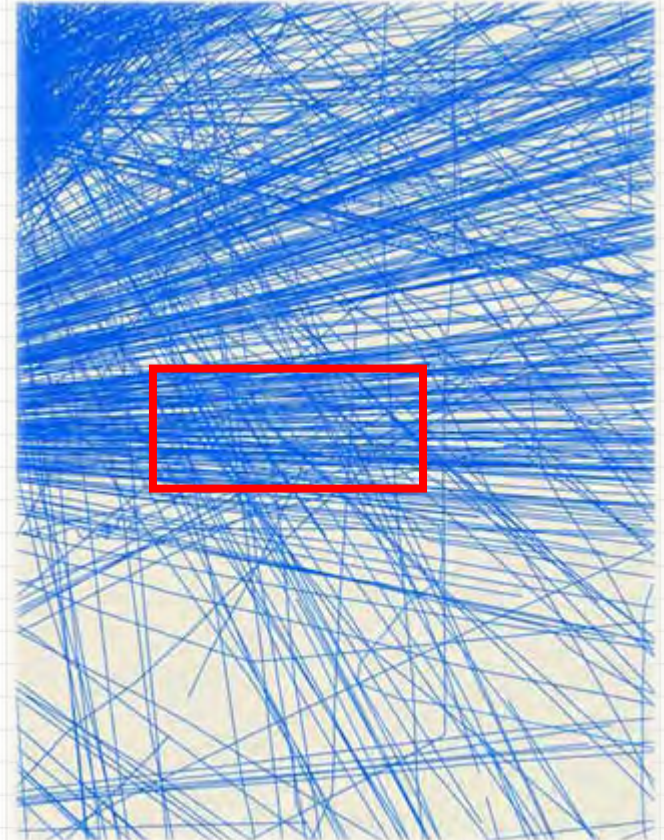
4. Create or Update metadata
 - a. To meet standards
 - b. Dates
5. Confidence Assessment
 - a. Layer Confidence - adapted from MESH (Dataset Source, Methods, Resolution/Scale, Vintage)
 - b. Spatial Confidence
 - c. Model Confidence
6. Update / Maintain

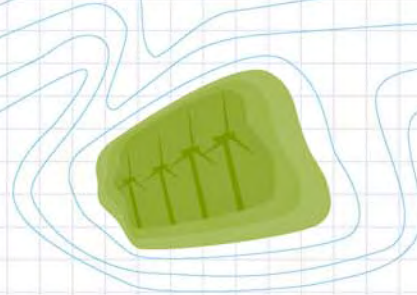




Common Issues

- **Updating Datasets**
 - Monthly, Quarterly, Annually
- **Combining & De-conflicting**
 - Multiple Sources
 - Different Scales
 - Varying Quality
- **Knowledge**
 - Unlocks Value
 - Requires datasets to be supplied & maintained by subject experts





Resources

- £250k of data £100k annual licence
- £500k invested in staff to create database, estimated at £250k annually
- Does not include software and hardware costs
- Significant additional investment in management system
 - Prompt for dataset updates
 - Track how all datasets are used
 - Retains Knowledge



Conclusions

- **MaRS would benefit from**
 - Affordable data
 - Standardised metadata
 - Clear update cycles
 - Transparent data licence conditions
 - Authoritative sources of data who can add expert knowledge
- Applications will always have specialist data requirements



Any Questions?

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