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Intertek Energy & Water

ENVIRONMENTAL CONSULTANCY

**SPECIALISING IN MARINE / OFFSHORE, COASTAL
WATERS, ESTUARIES & INLAND WATER SYSTEMS**

OUR HERITAGE

ENERGY & WATER

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1980s

- Established Metocean Consultancy Ltd – metocean services to upstream Oil & Gas
- Entered UK Water Utilities sector



1990s

- Entered Offshore Renewables & Submarine Cables sectors (Power & Telecoms)
- Name changes to Metocean plc and later Metoc plc



2000s

- Opened offices in Dundee (Scotland) and Cardiff (Wales)
- Expansion of services and internationally into the Americas and Far East



2010-12

- Acquired by Intertek Group



Today

- Intertek Energy & Water Consultancy Services
- Further internationalisation

OUR MARKET SECTORS

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OFFSHORE
RENEWABLES

SUBSEA
CABLES

OFFSHORE
OIL & GAS

WATER
UTILITIES

PORTS &
HARBOURS

OUR CORE CAPABILITIES

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PLANNING, DESIGN, CONSENTS & PERMITTING

- Strategic Environmental Assessment
- EIA – Environmental Impact Assessment
- Permitting & Compliance
- Regulatory Advice & Stakeholder Engagement
- Concept Design, Feasibility Study & FEED
- Site Investigation / Survey
- Technical Specification & Procurement Support

MET-OCEAN, GIS & MODELLING

- Hydrodynamic Modelling (Erosion, Wave, Sediment Transport)
- Water Quality Modelling
- Geographical Information Systems
- Meteorological & Oceanographic Analysis
- Subsea Infrastructure Route Design
- Marine Logistics Planning & Scheduling

RISK & ASSET MANAGEMENT

- Project Management
- ENVID – Environmental Risk Identification
- EMS – Environmental Assurance
- Environmental Baseline Studies
- Offshore Construction Supervision
- O&M Strategy & Support
- Decommissioning

OUR OFFICES & TEAMS

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- Offices in Hampshire, Cardiff & Dundee
- Approximately 50 Staff plus 300+ Associate Consultants
- Three Technical Teams – Environment, Modelling and Site Characterisation & Engineering
- Broad Range of Academic Background, Skills & Experience:
 - Marine Biology / Ecology
 - Marine Chemistry
 - Marine Geophysics / Geotechnics
 - Physical Oceanography
 - Marine Geography / GIS
 - Marine Environmental Science
 - Marine Resource / Renewables



CAREER DEVELOPMENT

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GRADUATE

JUNIOR
CONSULTANT

CONSULTANT

SENIOR
CONSULTANT

PRINCIPAL
CONSULTANT

TECHNICAL EXCELLENCE

- Technical Best Practice
- Environmental Legislation
- Permit And Consenting
- Modelling Skills
- Data Analysis & Interpretation
- Report Writing
- Computer Coding Skills
- WebGIS Developments

PROJECT MANAGEMENT

- Client Liaison
- Programme & Budget Management

BUSINESS DEVELOPMENT

- Proposals
- Client Management
- Presentational Skills

OTHER

- Chartership Support
- Secondment to Clients

TECHNICAL

BUSINESS
DEVELOPMENT

PROJECT
MANAGEMENT

WHY WORK AT INTERTEK

- Interesting Projects
- Solving Problems for our Clients
- Varied & Challenging Work
- Work Improves our Environment
- Continuing Professional Development Support
- Different Opportunities for Career Development
- Industry-Leading Technical Teams
- Flexible With Good Work / Life Balance

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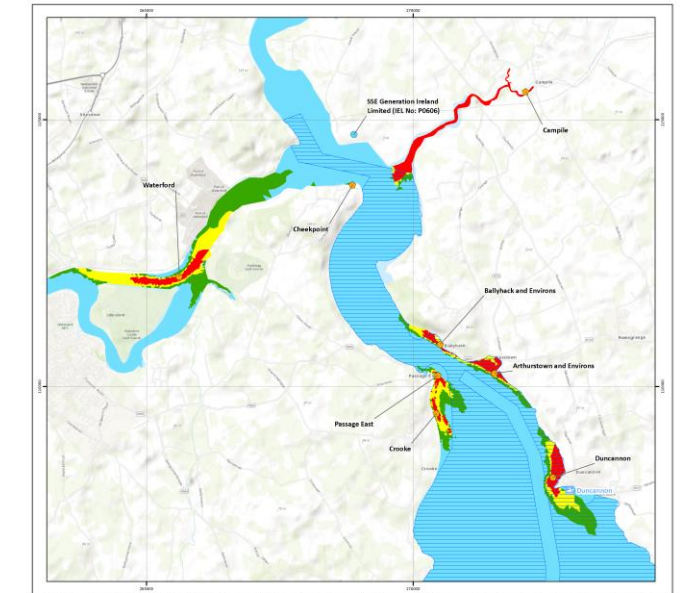
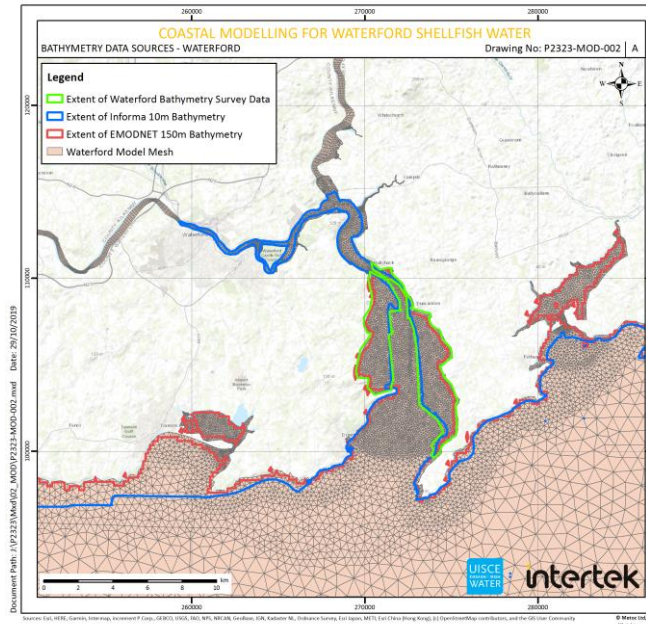
WATERFORD SHELLFISH ASSESSMENT IRELAND

Client: Irish Water (via Nicholas O'Dwyer)

Waterford Harbour Shellfish Waters

Hydrodynamic and Water Quality Modelling

- Data Requirements & Survey Specification Review
- Development & Agreement of Model Scoping Report
- Three-Dimensional (3D) hydrodynamic and water quality model build, calibration and validation, using MIKE suite of software
- Baseline modelling of existing conditions
- Assessment of impact from multiple sources including nine key sewage treatment works, many smaller works, two abattoirs, a power station and the three main river catchments
- Testing and development of most appropriate mitigation options, including potential improvements in levels of treatment



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SUBSEA CABLES

PITTSBURG – SAN FRANCISCO CABLE PROJECT

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Client: Trans Bay Cable LLC

Power System: 400 MW HVDC

Length: 53miles (subsea)

Services Provided:

- Cable Burial Risk Assessment
- Installation Supervision & Inspection
- Operations & Maintenance Strategic Advisory
- Cable Condition Monitoring Survey Design & Project Management
- Remedial Engineering Works Specification



MINESTO OCEANOGRAPHIC MODELLING FRAMEWORK

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- Intertek has been appointed by Minesto onto a 3-year oceanographic modelling framework
- To provide technical support for advanced oceanographic modelling projects
- Services include tidal current resource modelling, array energy extraction modelling, ocean circulation modelling, sediment transport modelling, and extreme and operational wave modelling
- Partnering with the Swedish Meteorological and Hydrological Institute (SMHI) and the universities of Bangor, Plymouth, Cardiff, Swansea and Manchester



SUBSEA CABLES

GREENLINK PROJECT (IRELAND TO WALES)

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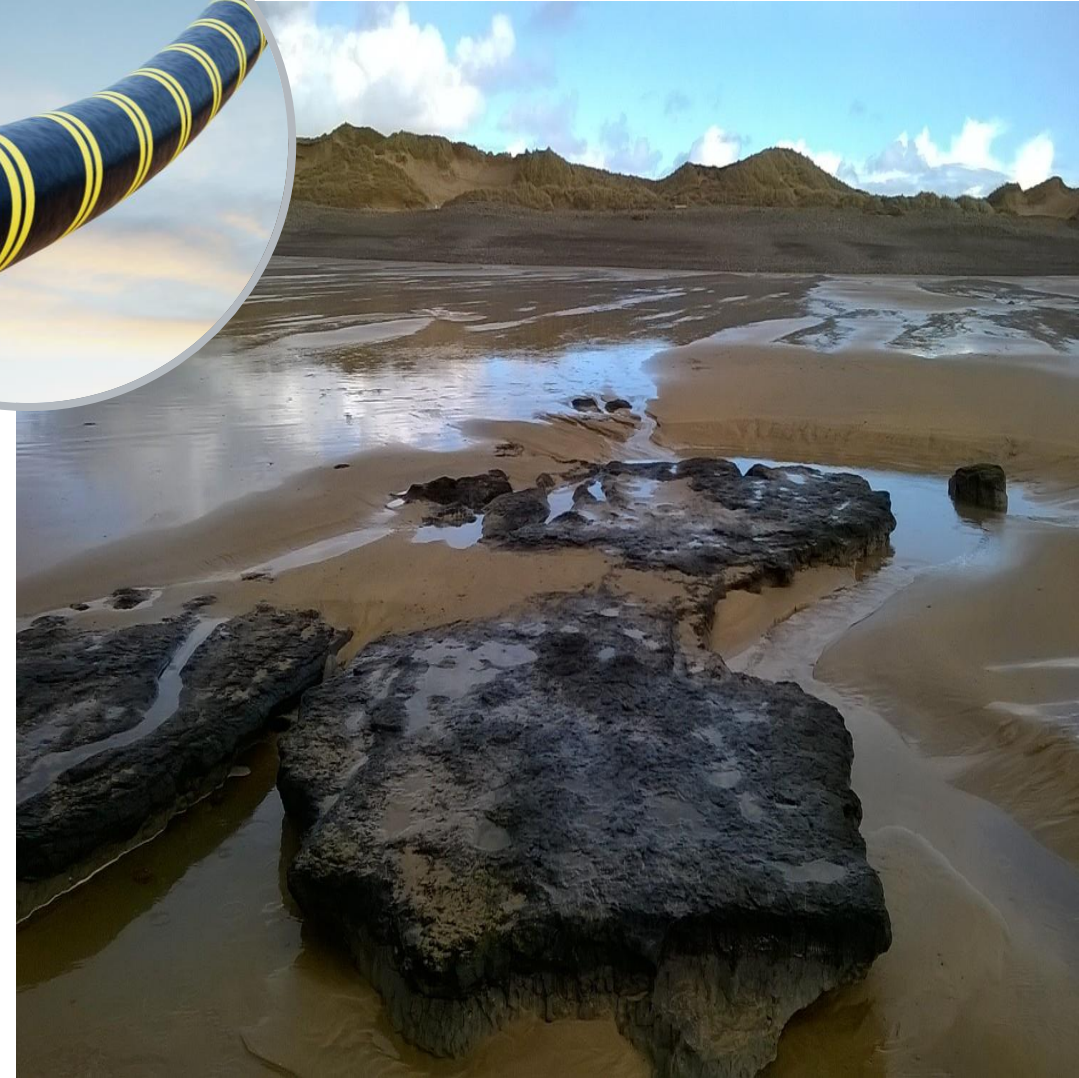
Client: Greenlink Interconnector Limited

System: 500MW HVDC

Length: ~ 160km (subsea)

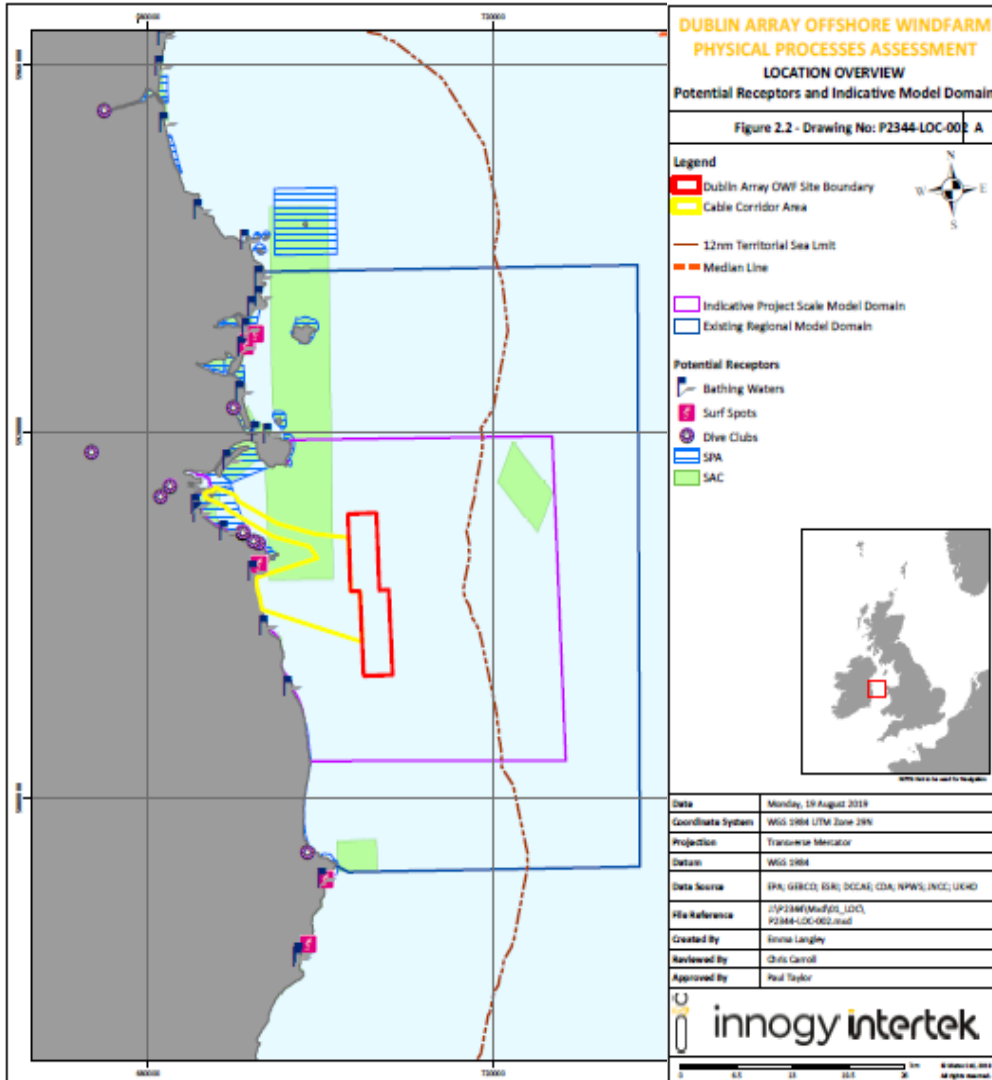
Services:

- Cable Routeing & Optimisation
- Marine Survey Management & Client Representation
- Marine Survey Consents
- EIA, MMRA & HRA
- Stakeholder Engagement Across all Jurisdictions (UK & Ireland)
- Support to FPA and EPC Contract Procurement
- Employer's Representative during design, construction & commissioning



OFFSHORE WIND DUBLIN ARRAY PROJECT (IRELAND)

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Client: Innogy / RWE

Irish Territorial Waters: Offshore Wind Farms

Coastal (Physical) Processes Modelling

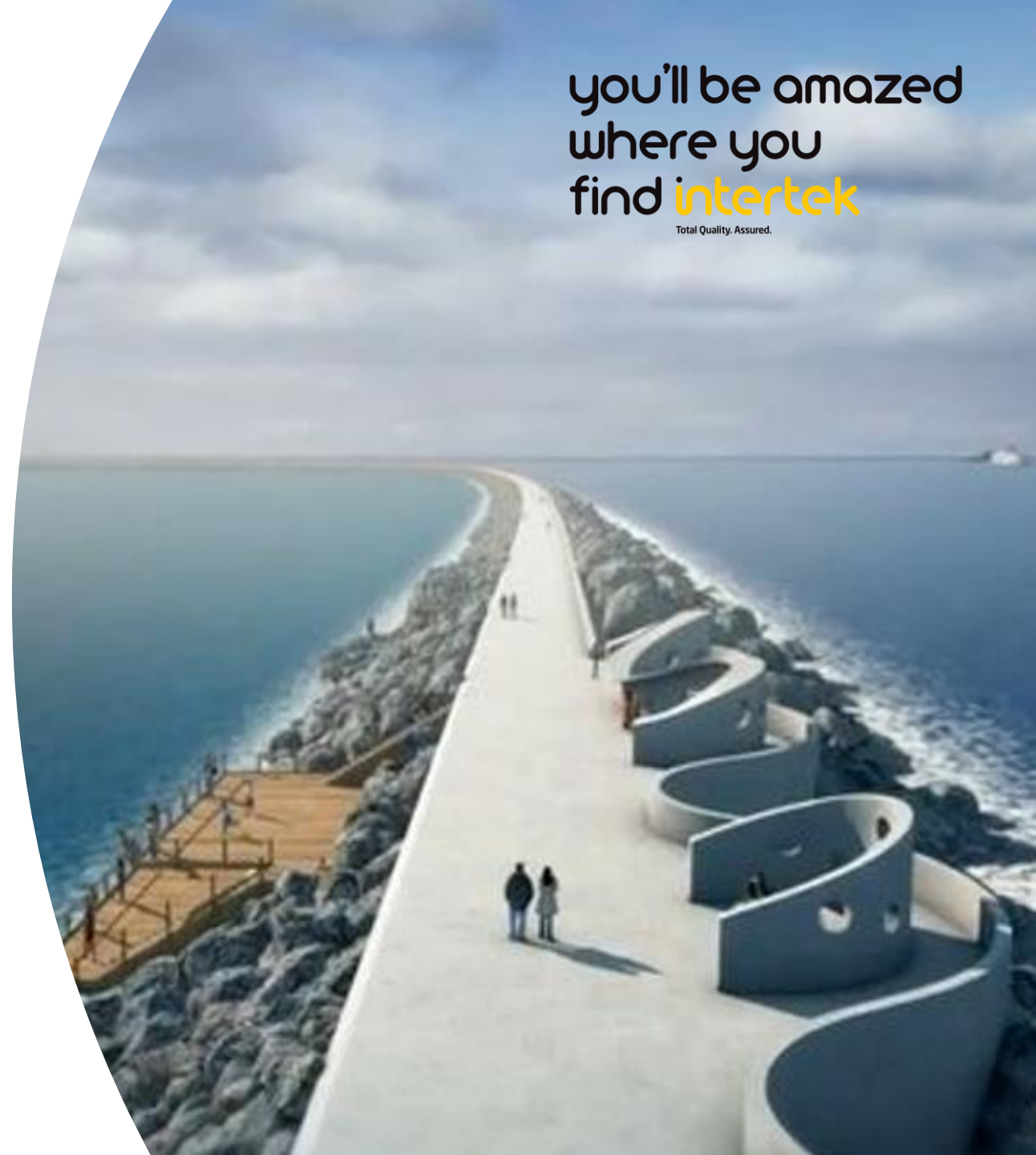
- Data gap analysis and methodology assessment
- Hydrodynamic, Wave and Sediment model build and calibration, using MIKE ZERO suite of software
- Baseline modelling of study site
- Assessment of impact from 3 cabling option
- Realistic Worst Case Scenario modelling
- Sediment disturbance; modelling sediment plumes impact on sensitive receptors
- Blockage during Operation; modelling modifications to hydrodynamics, waves and sediment pathways
- Physical impact report for Environmental Impact Assessment

PERMITS & CONSENTS

- Good communication between onshore & offshore consulting teams e.g. common platform for data sharing
- Robust scoping involving dialogue with stakeholders to facilitate focused and concise environmental assessment
- Focused, reasonable and achievable mitigation
- Input of EIA consultants to marine survey scope
- Increased focus on requirements for external protection of cables: accurate volumes, specific locations, potential for scour, env. Impacts
- Recent EU case law changing interpretation of Habitats Directive & screening

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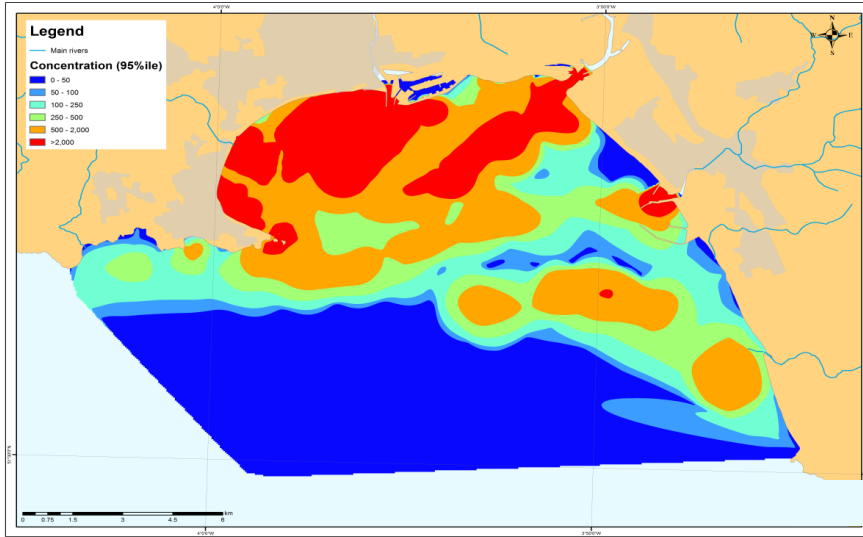


LANDFALL SELECTION

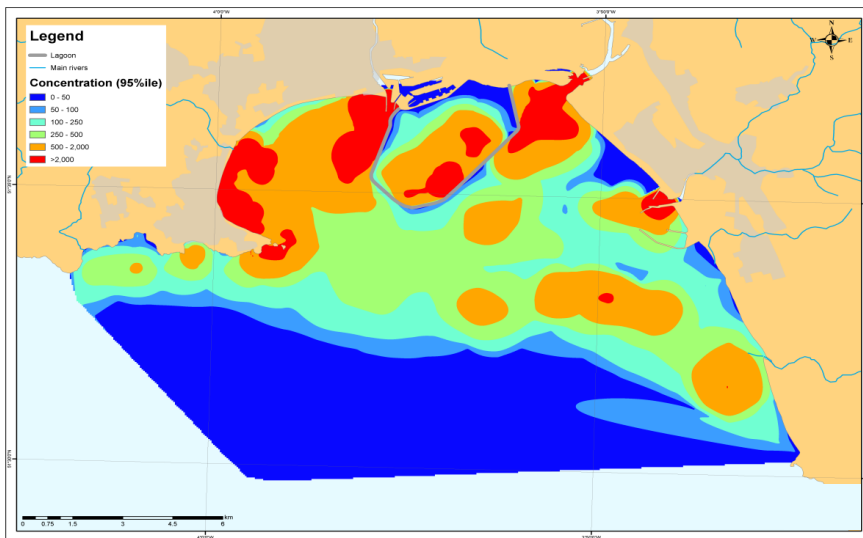
- Suitable landfalls are becoming increasingly constrained
- The Crown Estate asking projects to consider scope for future projects using the same site e.g. not positioning in centre of beach
- Other countries define development corridors in Marine Spatial Plan to delineate where projects and cables can be located e.g. Belgium, Germany. Potential for UK to follow suit?
- Technology developments have increased data resolution and speed (e.g. UAV/drones)
- Sufficient and timely geotechnical investigations to design Horizontal Directional Drill (HDD) both onshore and offshore

IMPACT ASSESSMENTS

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BASELINE



LAGOON

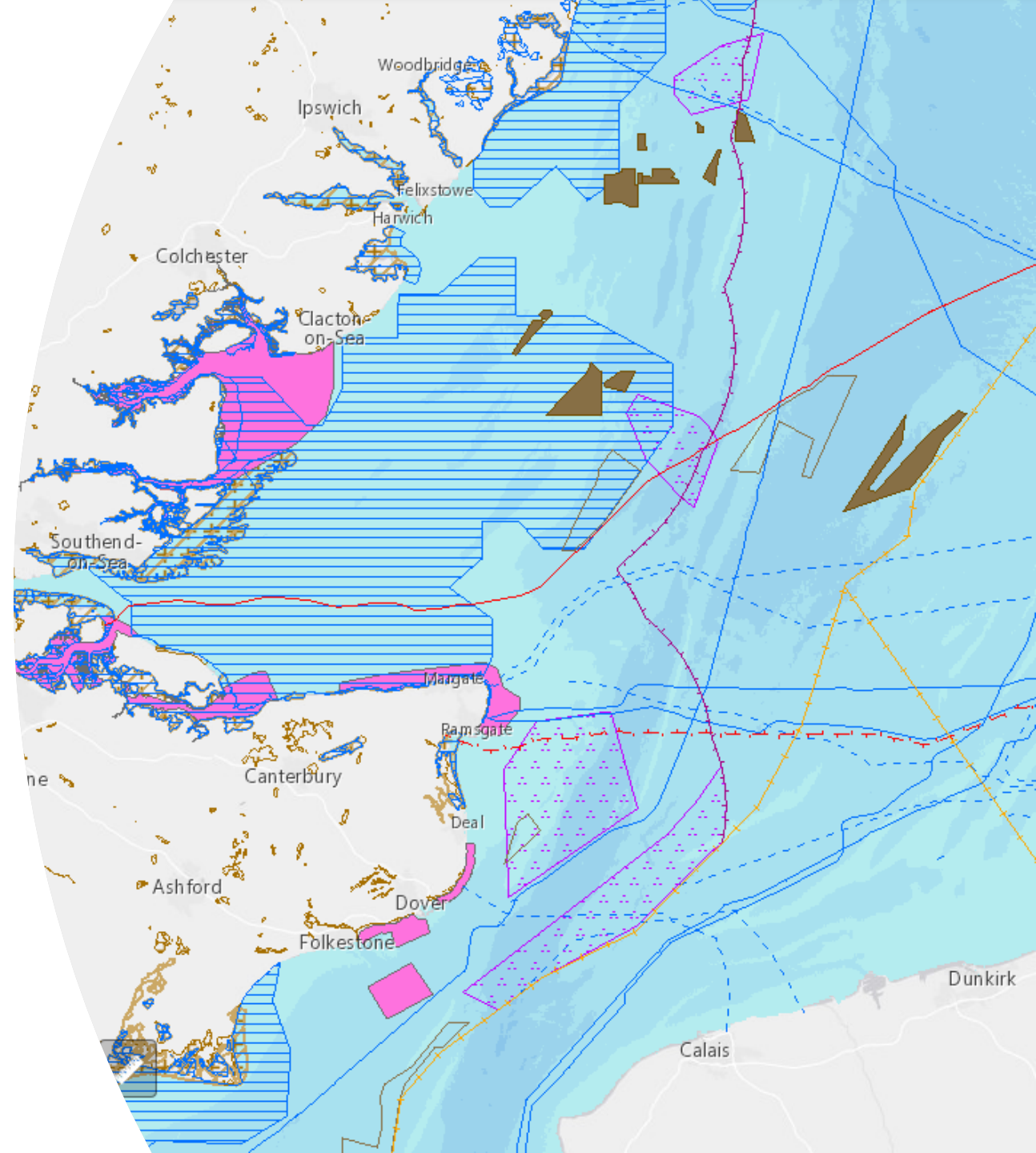
UTILISE EXISTING TOOLS, INFORMATION & EXPERTISE WHEREVER POSSIBLE

- Swansea Bay Tidal Lagoon EIA
- Required hydrodynamic, sediment transport and water quality modelling
- Utilised existing DELFT3D model developed for and owned by Dŵr Cymru Welsh Water
- Used appropriate experts for different but related elements (eg. water quality and sediment)
- Worked closely with DCWW and with other EIA consultants
- Data/ knowledge sharing to mutual benefit:
 - Survey data and models shared – models improved and subsequently used by DCWW for their own asset investment investigations

WEBGIS DATA MANAGEMENT SYSTEMS

EARLY SET-UP PROVIDES:

- Audit trail of route development
- All constraints to be mapped in a single place supporting decision making process for live routing during survey
- Facilitates consultation process – stakeholders can access constraints, survey data etc and query data sets
- Comprehensive record of all survey data allowing analysis of changes to marine environment/cable protection status
- Thorough baseline and temporal change record for use in decommissioning
- Asset management tool throughout operation facilitating incident prevention, investigation and remediation



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thank you

CONTACT US TO JOIN OUR TEAM



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