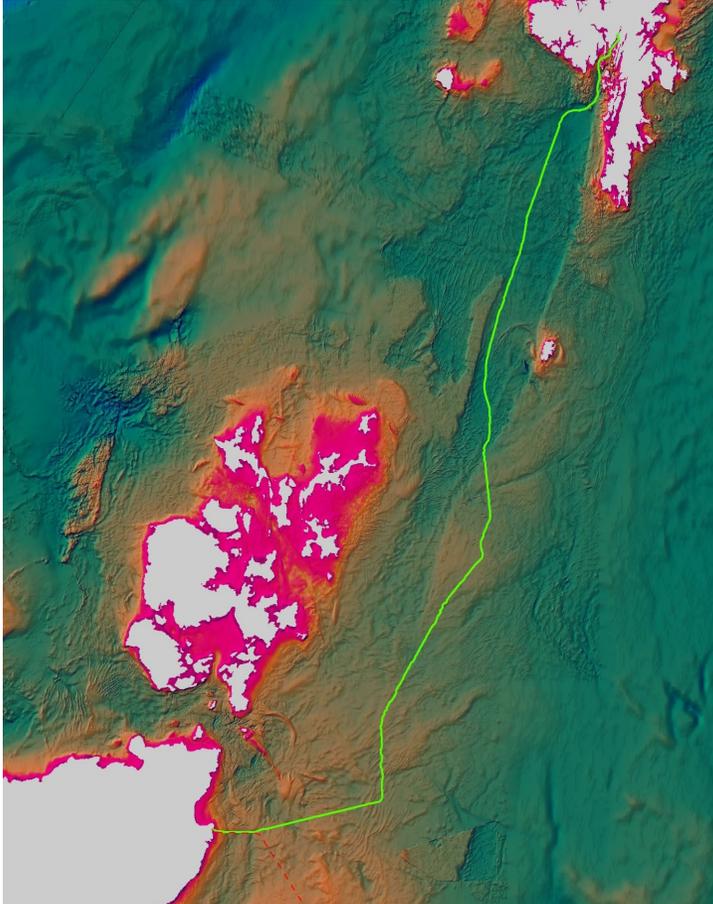


Shetland HVDC link

Marine Stakeholders Forum 28/01/21



AGENDA:

- Introductions
- Safety Moment
- Project Overview
- Project Timelines
- Static gear fisheries
- Sailing, Rowing Sub Aqua, Angling & Swimming
- Mobile gear fisheries
- Aquaculture
- Conservation, Archaeology and Environment
- Harbour activities
- Research work
- Other commercial works
- Any other Business
- Date of next meeting

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Introductions:

SSEN Transmission project staff:

- Chris Finnigan, Lead Project Manager cables for the Shetland HVDC link
- Nigel Walker, NKT Project Installation Manger offshore cables
- Pete Watson, Lead Marine Consents Manager for SSEN Transmission
- Sharon Powell, Community Liaison Manager for the Shetland HVDC link
- Jon Ashburner, Environmental support provided by Xodus
- John Watt, Fisheries Liaison and support provided by Brown & May Marine



<https://www.youtube.com/watch?v=jjAM4H4rGOo>

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Safety Moment:

The differences in GPS (GNSS) accuracy:

Smart phone circa 15m radius

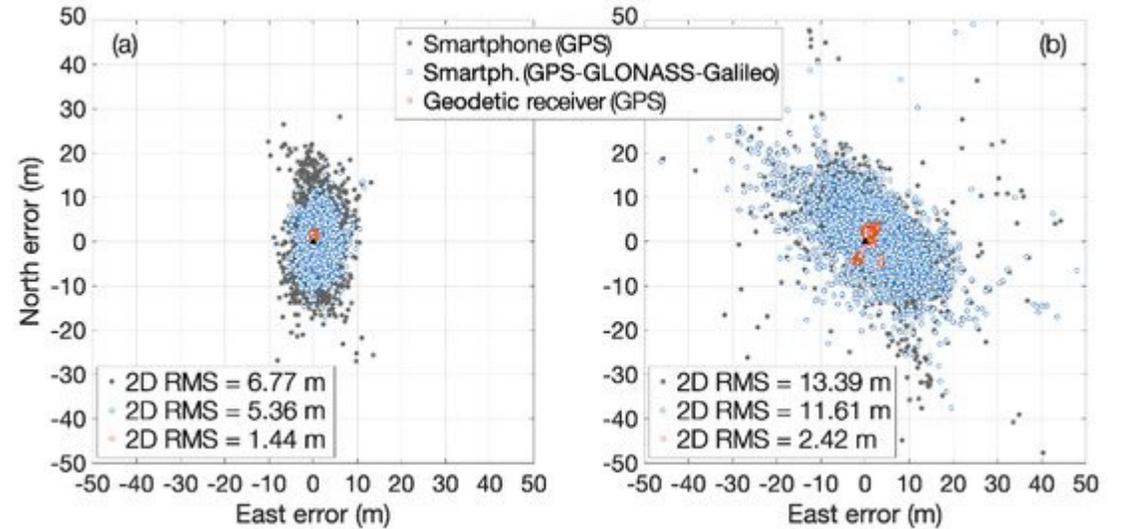
Hand held GPS circa 7m radius

Mapping grade GPS <1m radius

Cable lay vessel < 10cm radius

Accuracy gets worse when the position is converted from WGS 84 to OSGB

All offshore positions provided by the Shetland HVDC link project will be in WGS84, UTM30N



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Project Overview:

Shetland HVDC Cable Installation:

- Approximately 263km of cable installation
 - ~253km Subsea
 - ~8km Shetland Land Cable
 - ~2km Caithness Land Cable

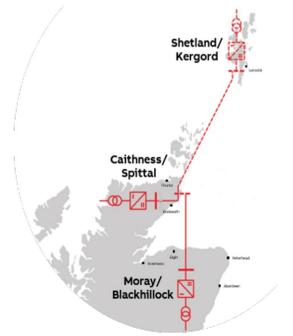
Onshore Infrastructure:

- HVDC Converter Station at Upper Kergord
- 320/132kV substation at Upper Kergord
- HVDC Switching Station at Noss Head



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Project Timelines:

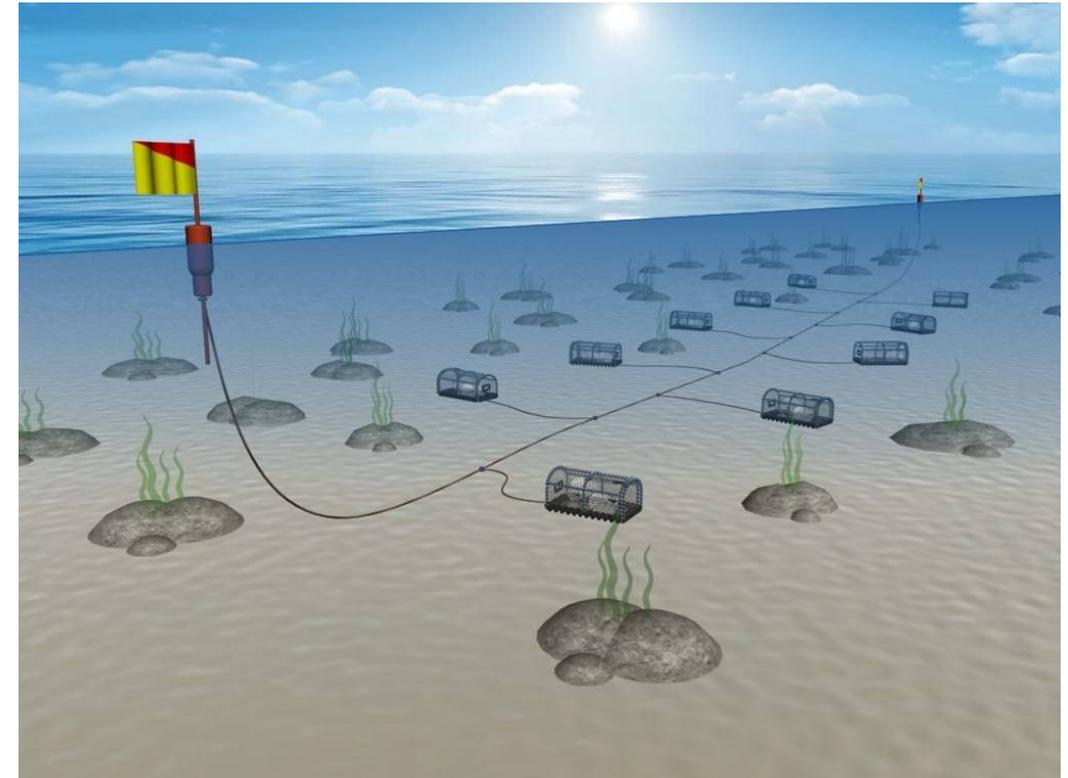


Offshore Operations	Start Year	Est. Marine activities (days)
Survey for Engineering and UXO	Q2 2021	~45 Days
Landfall preparations and pull-in Shetland Weisdale Voe	Q2 2023	~30 Days
Landfall preparations and pull-in Caithness, Noss Head	Q2 2021 & Q2 2022	~30 Days
Route Clearance (Boulders)	Q3 2021	~75 days
Route Clearance (PLGR & OOS Cables)	Q2 2022	~20 days
HVDC Submarine Cable Laying (3 Campaigns)	Q2 2022 and Q1-2 2023	~70 days
Pull-in Caithness	Q3 2022	~3 days
Pull-In Shetland	Q2 2023	~3 days
Post-Lay Cable Burial >10 m water depth	Q3 2022 and Q2 2023	~150 days
Post-Lay Utility Crossing Protection	Q4 2022 and Q3 2023	~10 days
Remedial Protection by Rock Placement	Q4 2022 and Q3 2023	~110 days

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Static Gear fisheries:

- Company FLO's will be supported by local FIR's
- We will be looking to engage further with industry bodies and local vessels who have a history of fishing in the area.
- We are looking for your support in helping to keep the working corridor clear for the short time the Pre lay survey and installation will take.



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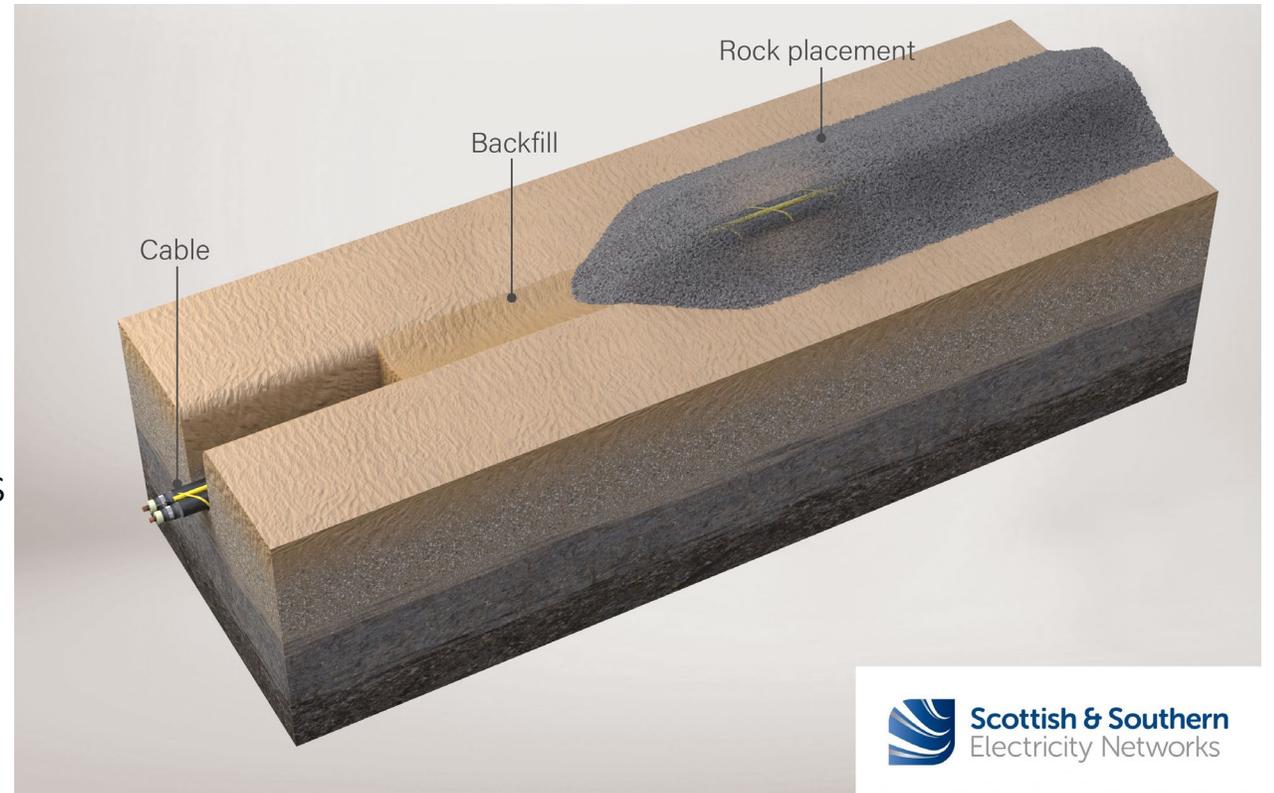
Sailing, Rowing, Scuba Diving, Swimming and Angling:

- We are looking for your support in identifying any Sailing, Coastal rowing, Scuba diving, Angling or open water swimming that may be organised in the cable installation area.
- We want to ensure that information about our work is shared with the right groups, clubs and organisations

Shetland HVDC link

Mobile Gear fisheries:

- Company FLO's will be supported by local FIR's
- We will be looking to engage further with industry bodies and local vessels who have a history of fishing in the area.
- The primary method of cable protection is through trenching into the seabed, where this is not possible rock berms will be used
- We will be refining and sharing details and locations of the rock berm's and protective duct used to protect the cable as the installation progresses

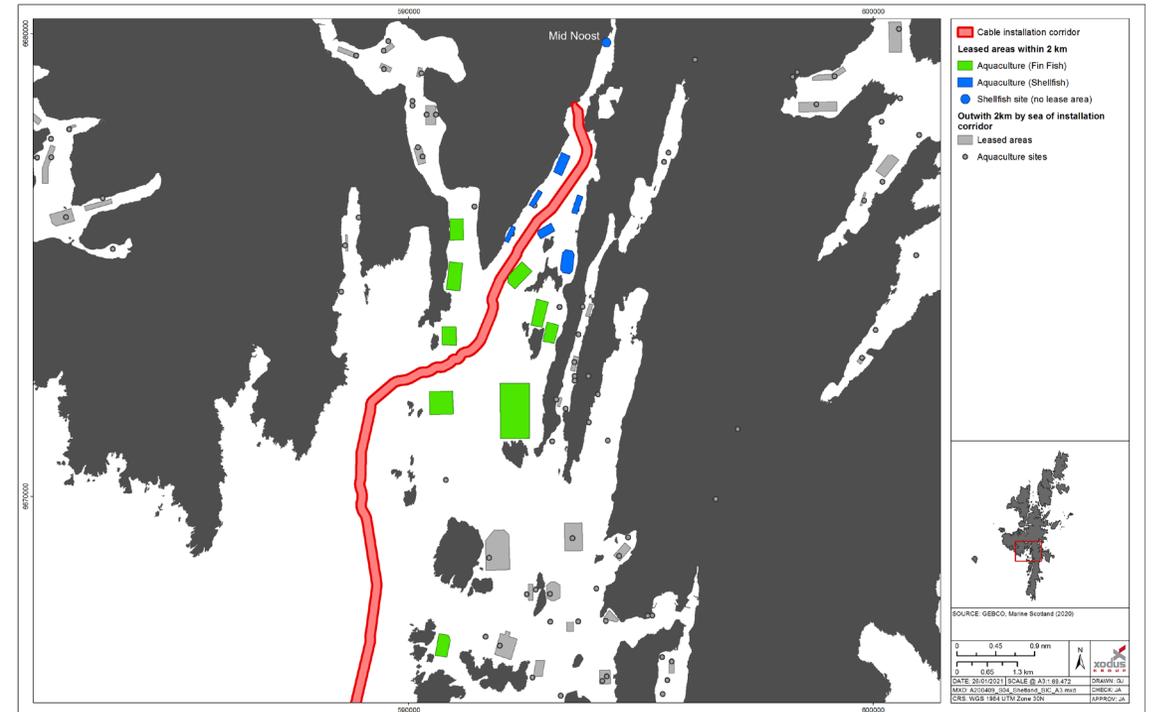


Drawing showing both trenching with natural backfill and a rock berm over a surface laid cable

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Aquaculture:

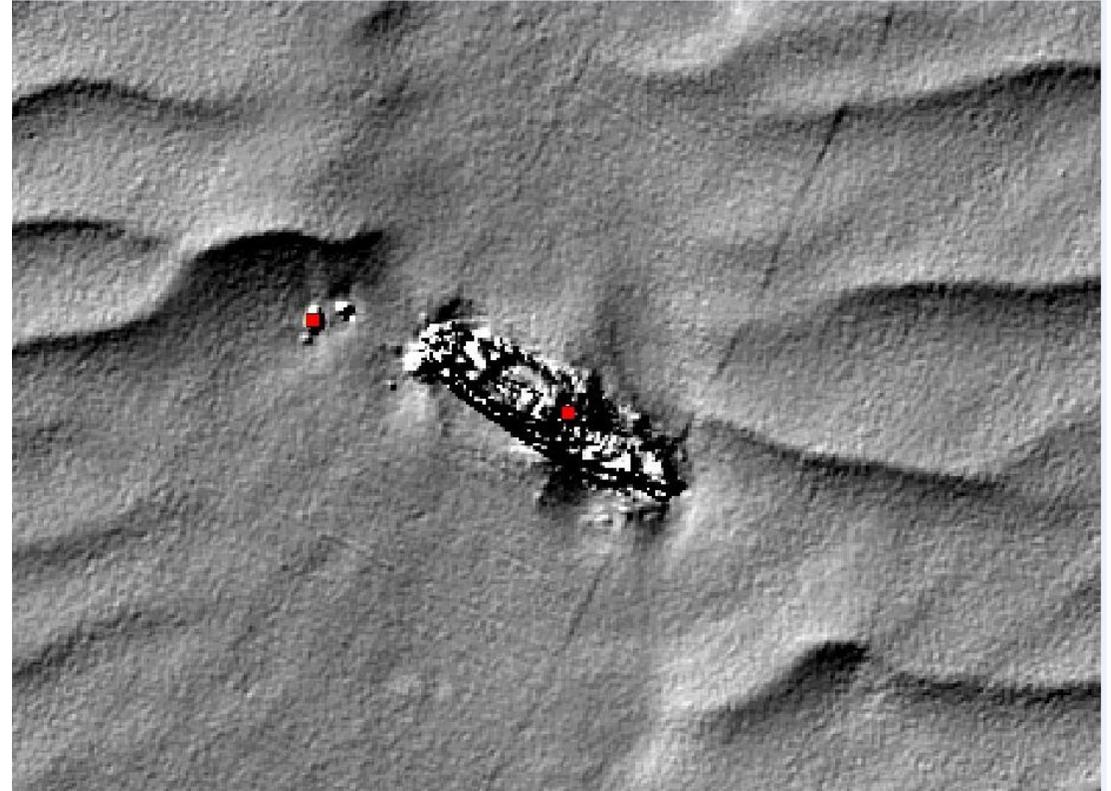
- Both Fin fish and shell fish aquaculture takes place in approaches to and within Weisdale voe.
- We will be looking to engage further with industry bodies and local operators
- We will work with operators of existing sites to develop proximity agreements, where needed
- NKT have experience of cable installation in close proximity to Aquaculture sites which will be used to inform the Shetland HVDC Link project



Shetland HVDC link

Conservation, Archaeology and Environment:

- The Shetland HDVC link project has undertaken four subsea survey campaigns during the development of the project
- The extensive hi detail survey data we collect allows us to route the cable around features of interest
- An archaeological finds plan and written scheme of investigation has been developed for the project
- Data sharing for research, the project holds extensive data sets, including bathymetry, Sidescan Sonar, Habitat mapping, seabed video etc. We actively work to share data, on a case by case basis, where it will improve the scientific knowledge of area.

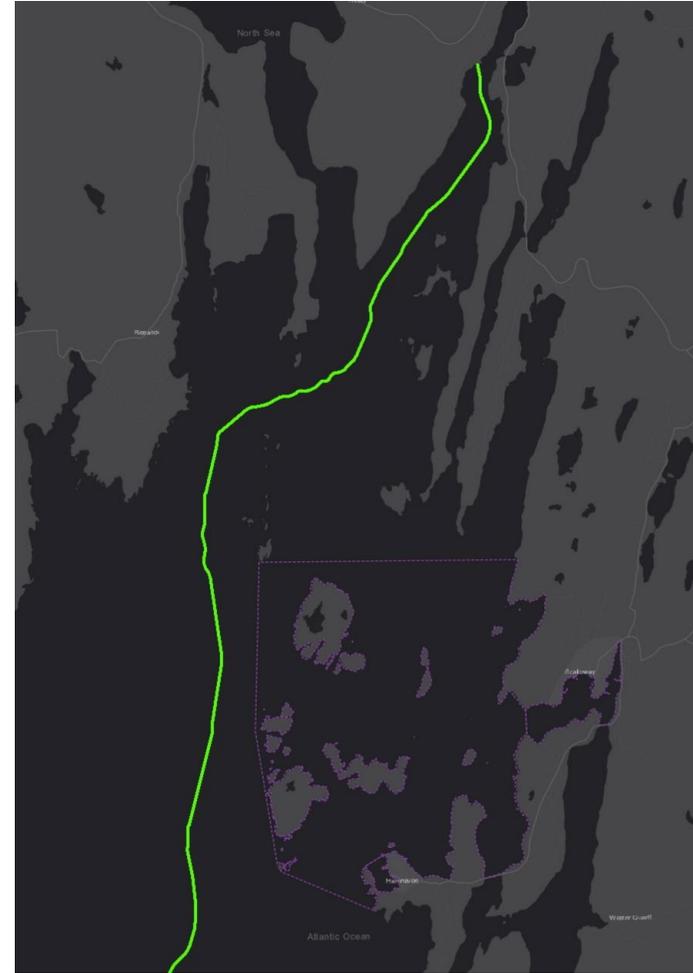


Sonar image of wreck identified during the survey and avoided through route refinement

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Harbour Authorities:

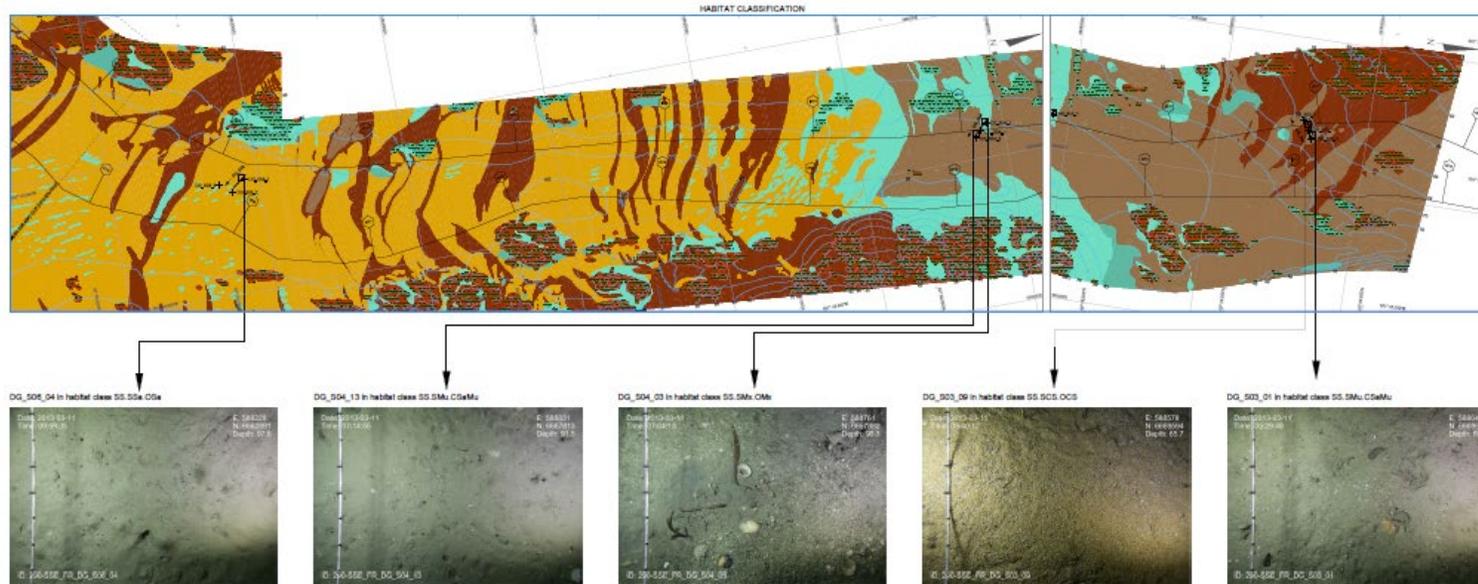
- The closest Harbour area to the Shetland HDVC link cable route is Scalloway
- Close co operation between the harbour authority and the project is key to safe vessel operations
- The cable installation vessels will operate state of the art navigation and positioning systems which, along with RADAR and guard vessels, will be used to identify and track other vessels in the area
- The project will utilise notice to mariners and KIS-ORCA to promote awareness of the project to other mariners



Shetland HVDC link

Research work:

- The Shetland HVDC link project has worked with other agencies, sharing data and working to protect sensitive features and species.
- The Project holds some of the most detailed information on the environment where we work and has worked to promote the establishment of protected sites and actively monitors the condition of those sites.



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Other commercial work:

- Shetland has an longstanding maritime heritage which is closely tied to the community.
- Businesses working in the Weisdale Voe and southern approaches to Shetland are encouraged to contact the project team. Both to enable engagement with our commercial operations, and also to ensure we maintain awareness of possible SIMOPS.

Shetland HVDC link

- AOB / Questions

- Next Forum Date?