

Sheringham Shoal and Dudgeon Offshore Wind Farm Extension Projects

EN010109

20 June 2023

Deadline 6

Evidence to support the Applicant's response to ISH7 Agenda Item 4.ii

Document reference: 20.16



SEP & DEP

Collision Modelling Summary

21/06/2023

Model Inputs

Routeing Scenarios Run

- **Pre Wind Farm i.e., without SEP&DEP:**

Mean Route Positions and route widths as per baseline traffic data.

- **Post Wind Farm i.e., with SEP&DEP assuming full build out:**

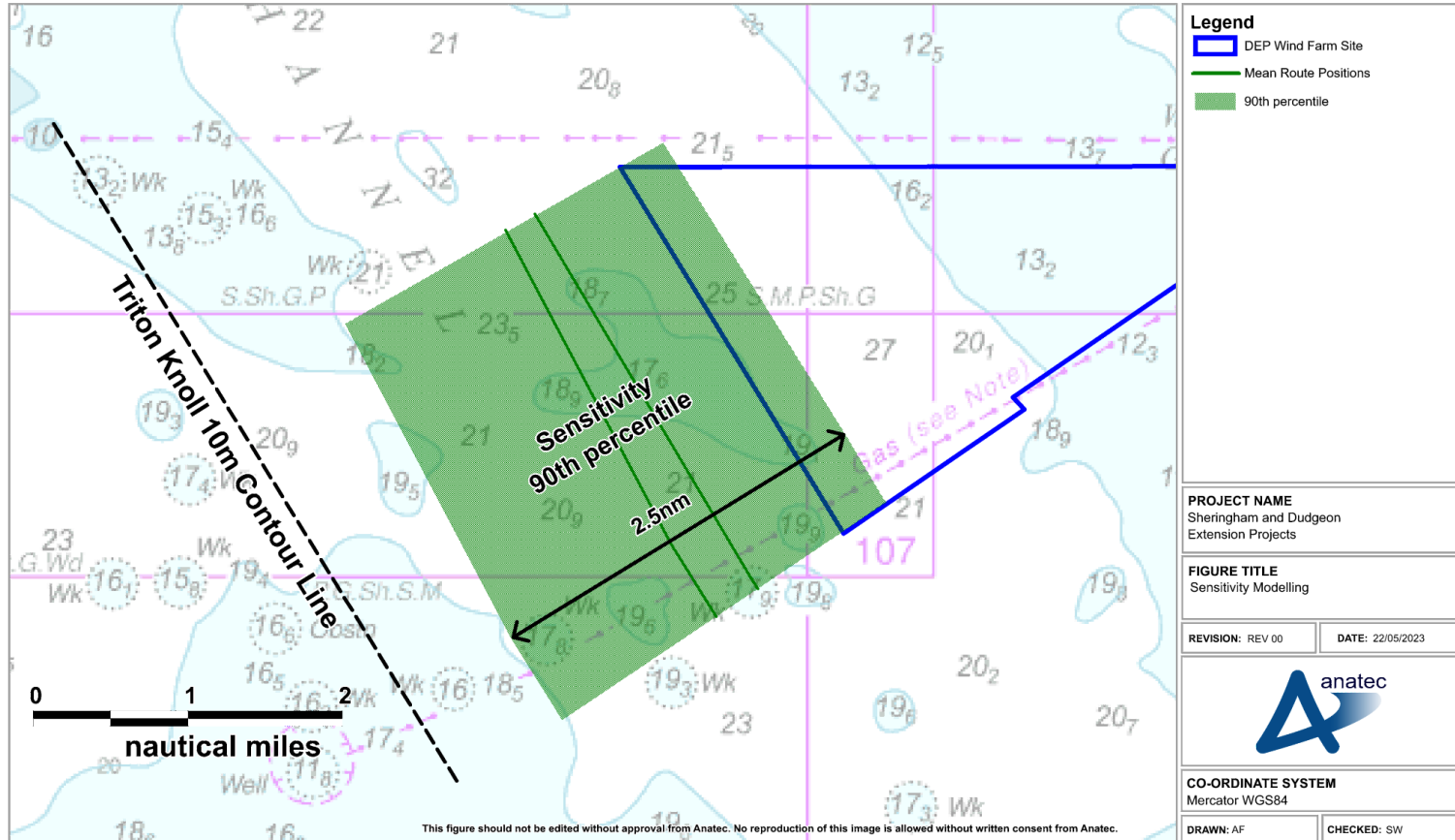
Routes deviated to account for the presence of SEP&DEP.

- **Sensitivity i.e., with SEP&DEP assuming DEP North is not fully built out:**

Routes deviated to account for the presence of SEP&DEP, with routes through Outer Dowsing Channel not reduced in width. This scenario run following MCA input at D1.

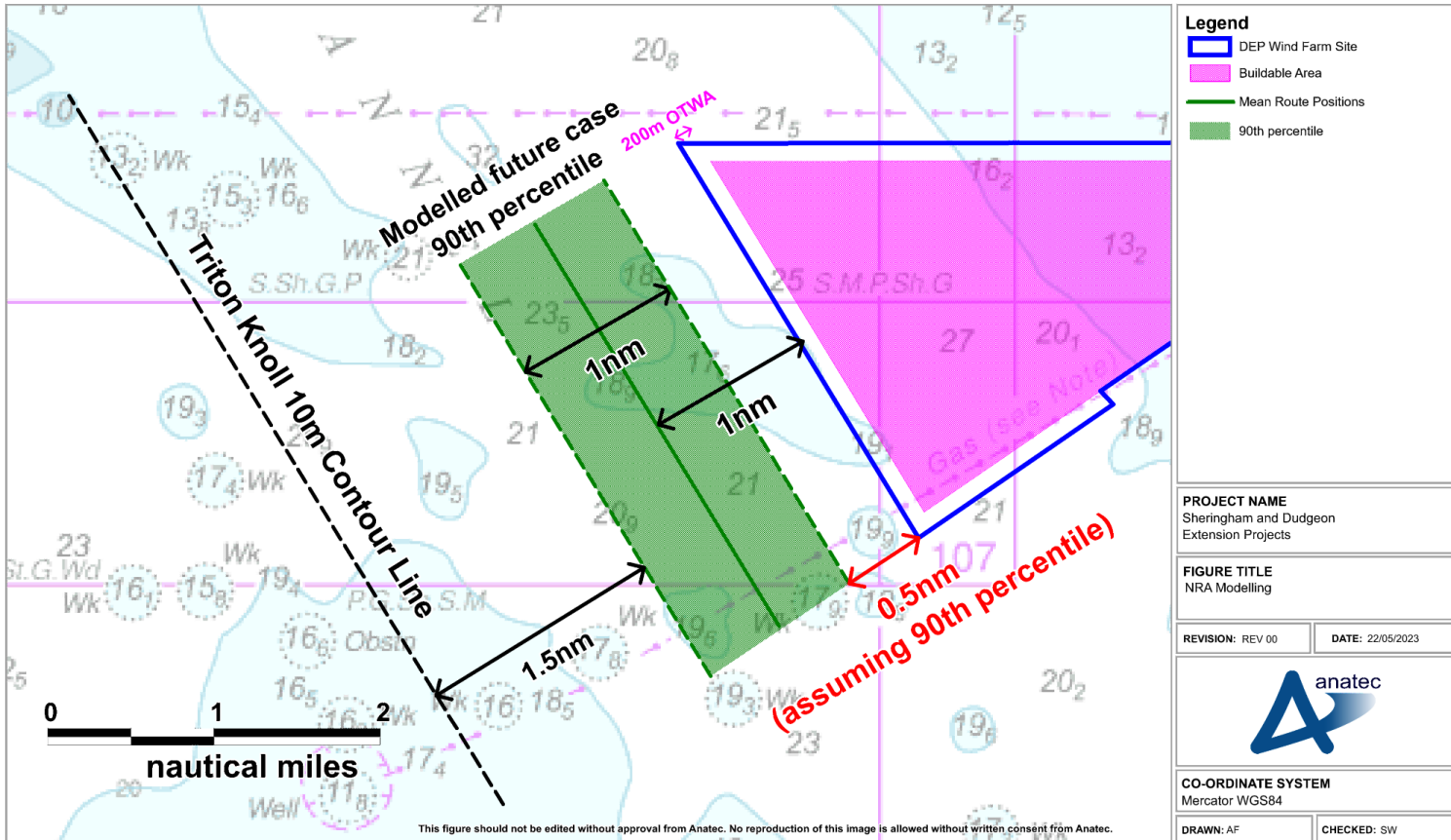
Pre Wind Farm

Graphical visualisation of modelled pre WF scenario. (approximate)



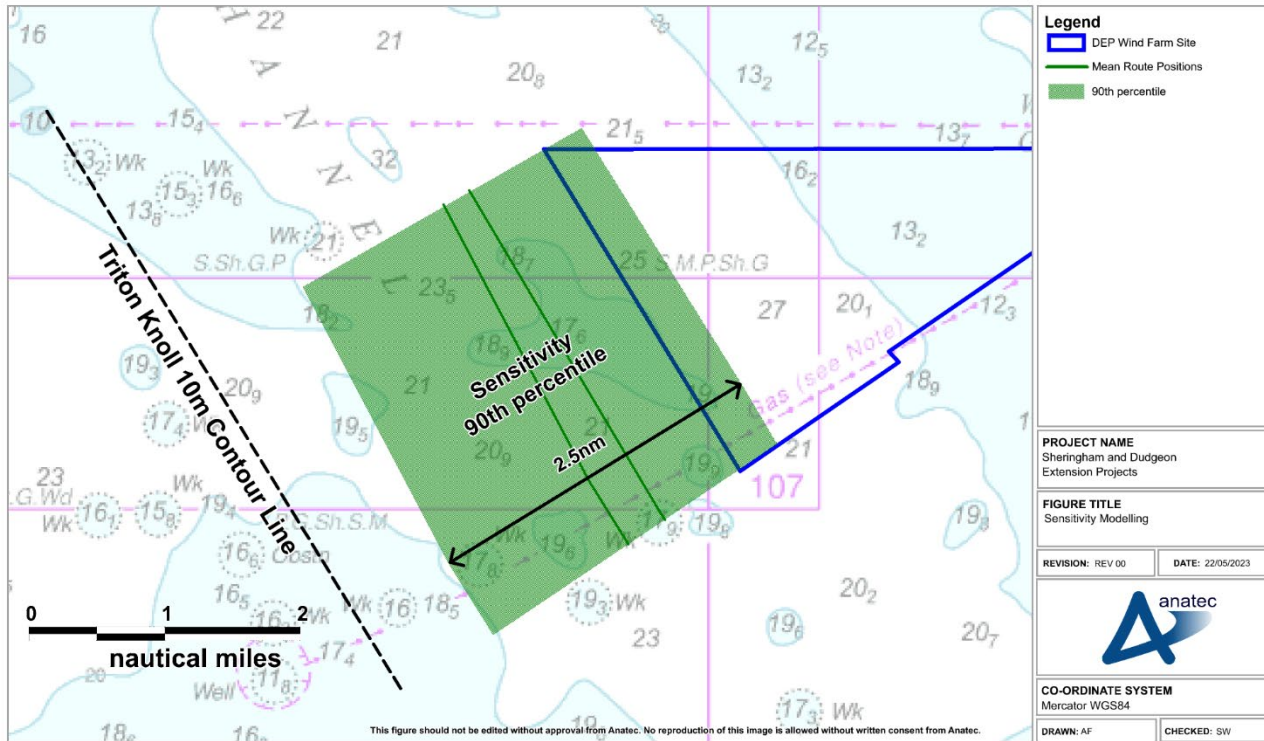
Post Wind Farm Assumptions

Graphical visualisation of modelled future case scenario (approximate)



Sensitivity Scenario

Graphical visualisation of modelled sensitivity scenario. (approximate)



Identical to post wind farm scenario, except that the pre wind farm width was modelled at DEP North.

Conservative Elements of Process

- **Traffic width:** 1nm (less than MCA have stated will be available).
- **Safety buffer:** 0.5nm (less than MCA have stated will be applied by vessels).
- **Traffic Volumes through Outer Dowsing Channel:** 18 vessels per day (baseline data indicates actual value estimated at 14 per day i.e., in excess of a 25% increase has been modelled).

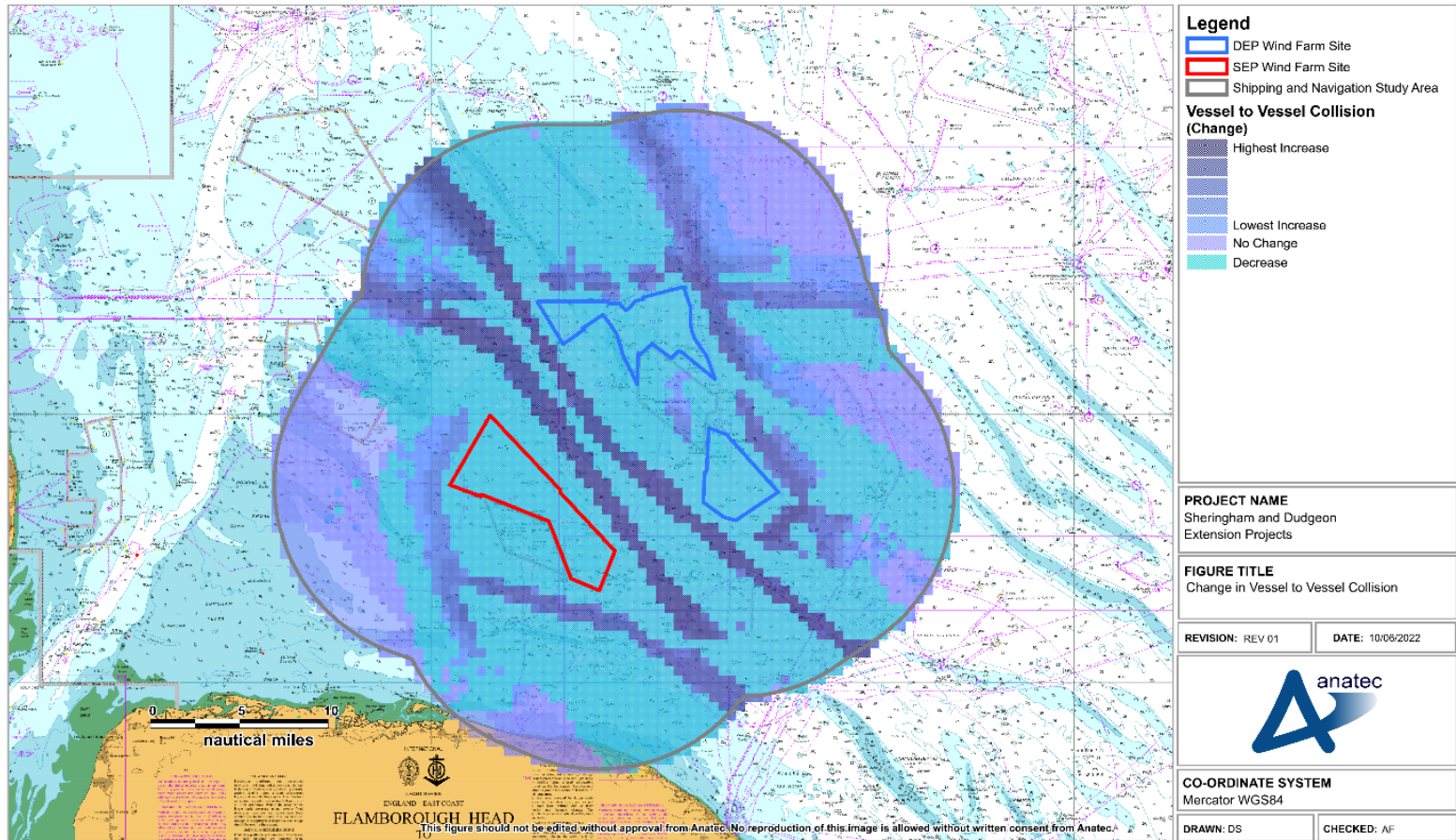
Results

Summary of Results

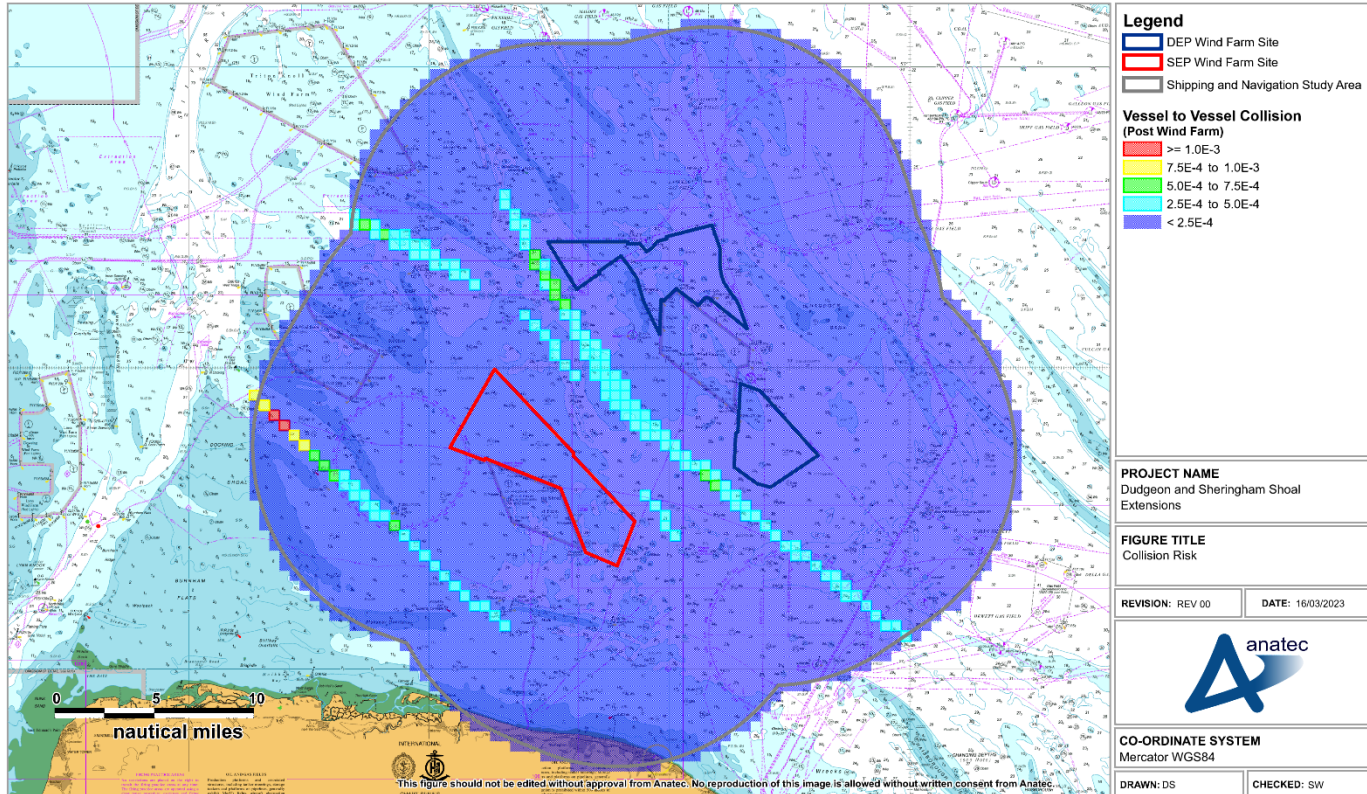
Scenario	Without SEP&DEP	With SEP&DEP – NRA Modelling	With SEP&DEP Sensitivity
0% traffic increase	1 in 9.6 years	1 in 8.5 years	1 in 8.7 years
10% traffic increase	1 in 7.9 years	1 in 7.0 years	1 in 7.2 years
20% traffic increase	1 in 6.7 years	1 in 5.9 years	1 in 6.1 years

- The Without SEP&DEP and With SEP&DEP – NRA Modelling results were presented at PEIR.

Change in Collision Risk



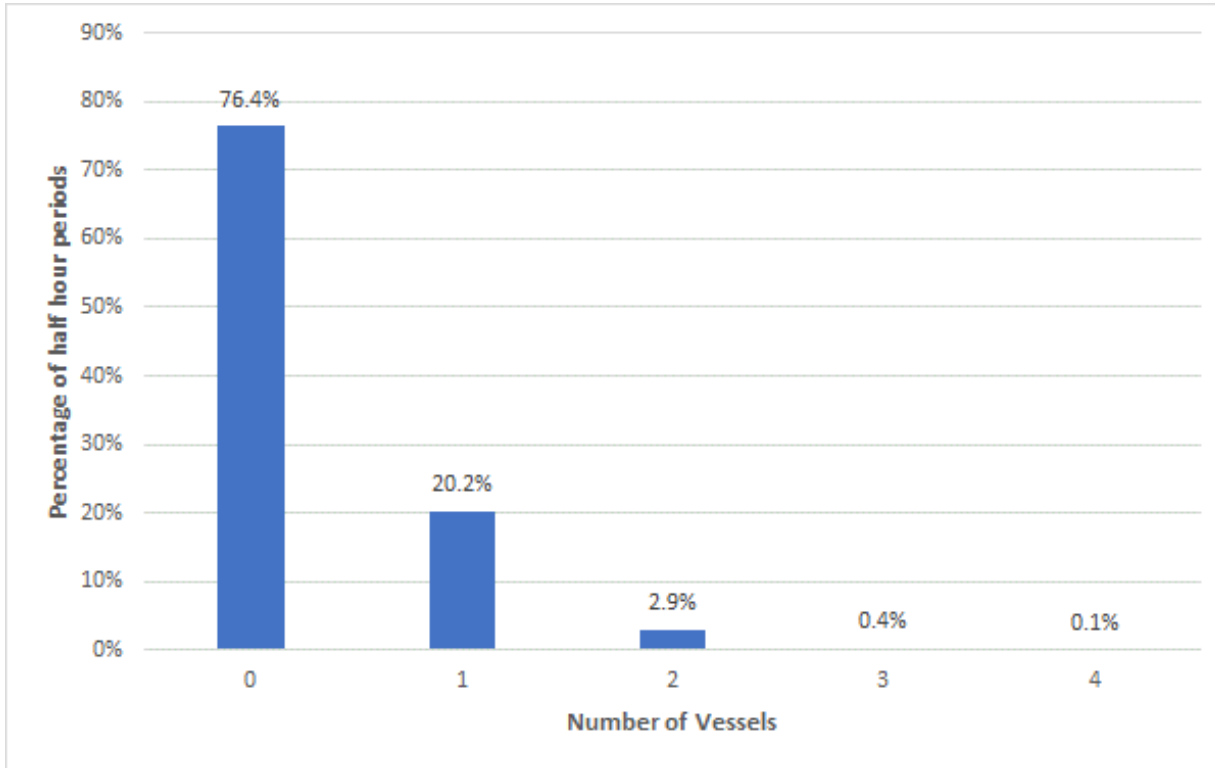
Collision Risk – Localised Considerations



Highest area of localised risk in the area between the Race Bank and Docking Shoal

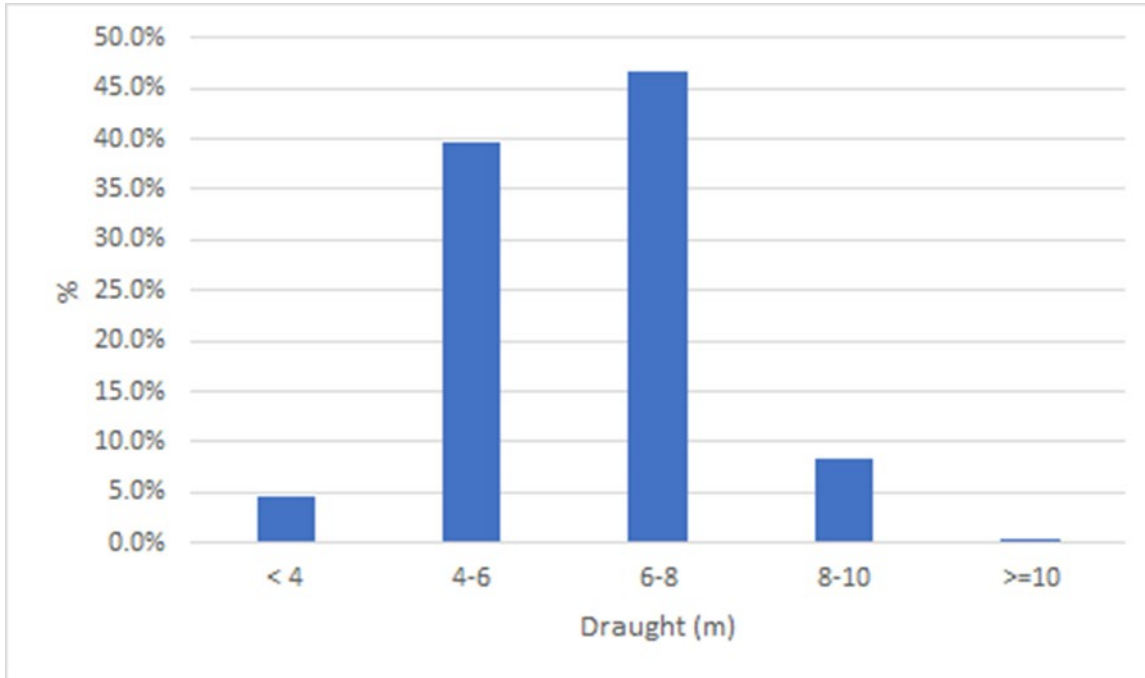
Additional Context

Concurrent Vessel Analysis



- Assessment undertaken on estimated numbers of concurrent vessels passing southern extent of Triton Knoll shallows (i.e., Outer Dowsing Channel traffic).
- Assessment covers entirety of 2019.

Vessel Draught – Outer Dowsing Channel



- Vessel draught breakdown (excluding unspecified) through Outer Dowsing Channel.
- Assessment covers entirety of 2019.