New Zealand Maritime Pilots' Association

www.nzmpa.org

PORT & HARBOUR Marine Safety Code

NEW ZEALAND

Port Companies (pilotage providers)

Regional Councils (harbourmaster/local regulator)

Maritime New Zealand (national regulator)

New Zealand Maritime Pilots' Association

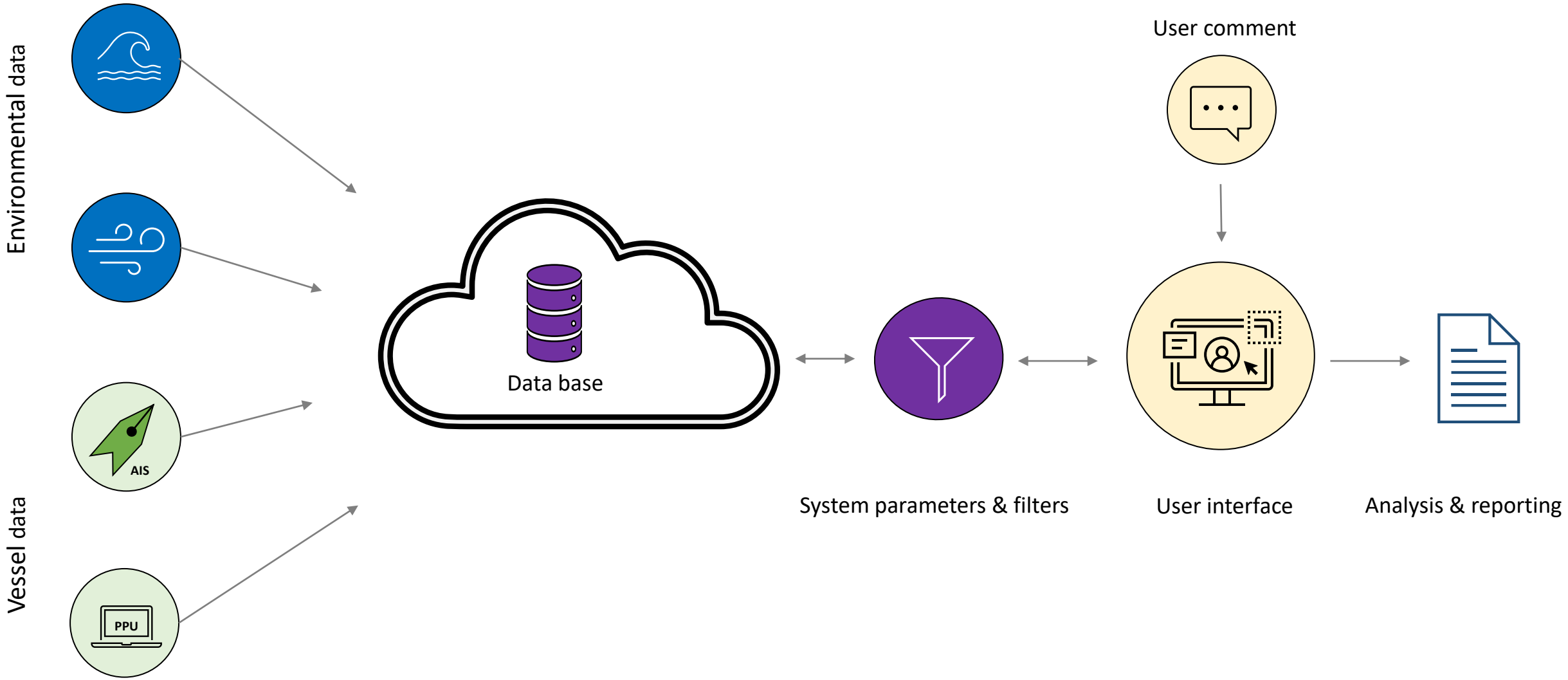
Routine Voyage Data Analysis

Carrot or stick?

New Zealand Maritime Pilots' Association

Image courtesy of Marine Digital

Voyage data analysis from pilotage operations



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Driver for routine voyage data analysis

Channel optimization

- Evidence based risk profiling
- Evidence based training and continuous improvement

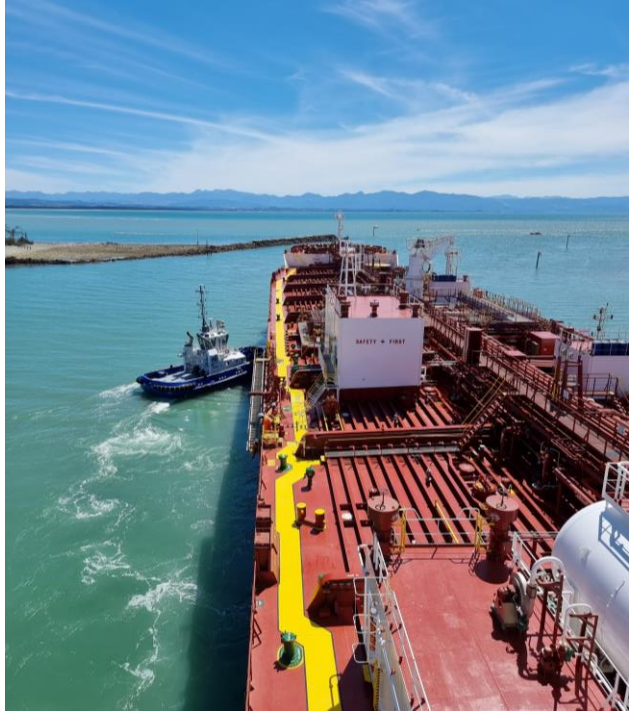
PORT NELSON

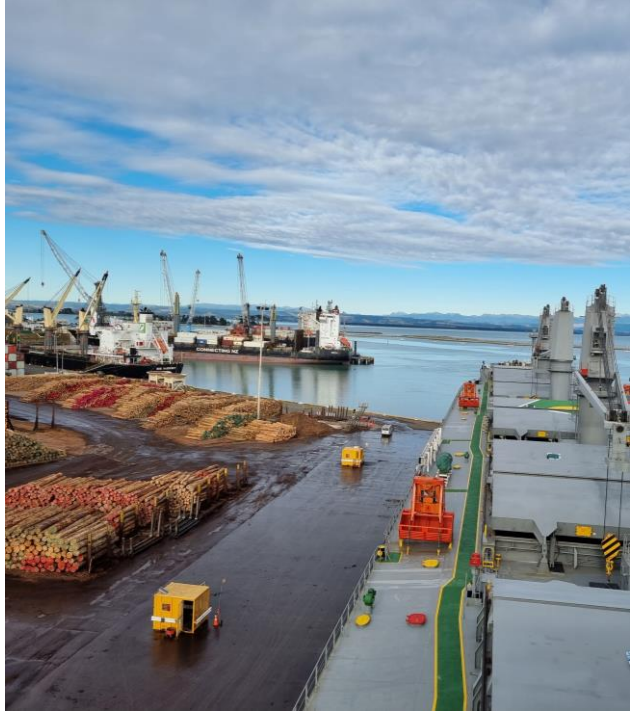
New Zealand Maritime Pilots' Association

PORT NELSON


We are here
Kaitaia
Kerikeri
Whangārei
Auckland
Hamilton
Tauranga
Rotorua
Gisborne
New Plymouth
Te Ika-a-Māui
/ North Island
Napier
Palmerston
North
Nelson
Wellington
Blenheim
New
Zealand
Kaikōura
Christchurch
Rolleston
Ashburton
Timaru
Wānaka
Queenstown
Oamaru
Te Anau
Dunedin
Invercargill

PORT NELSON



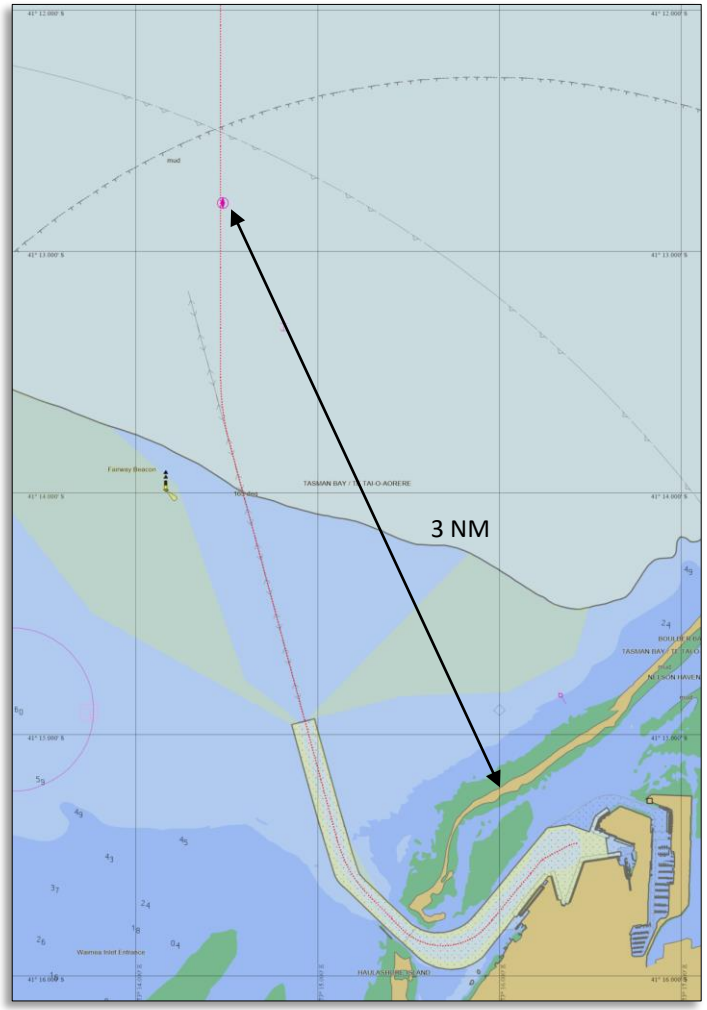


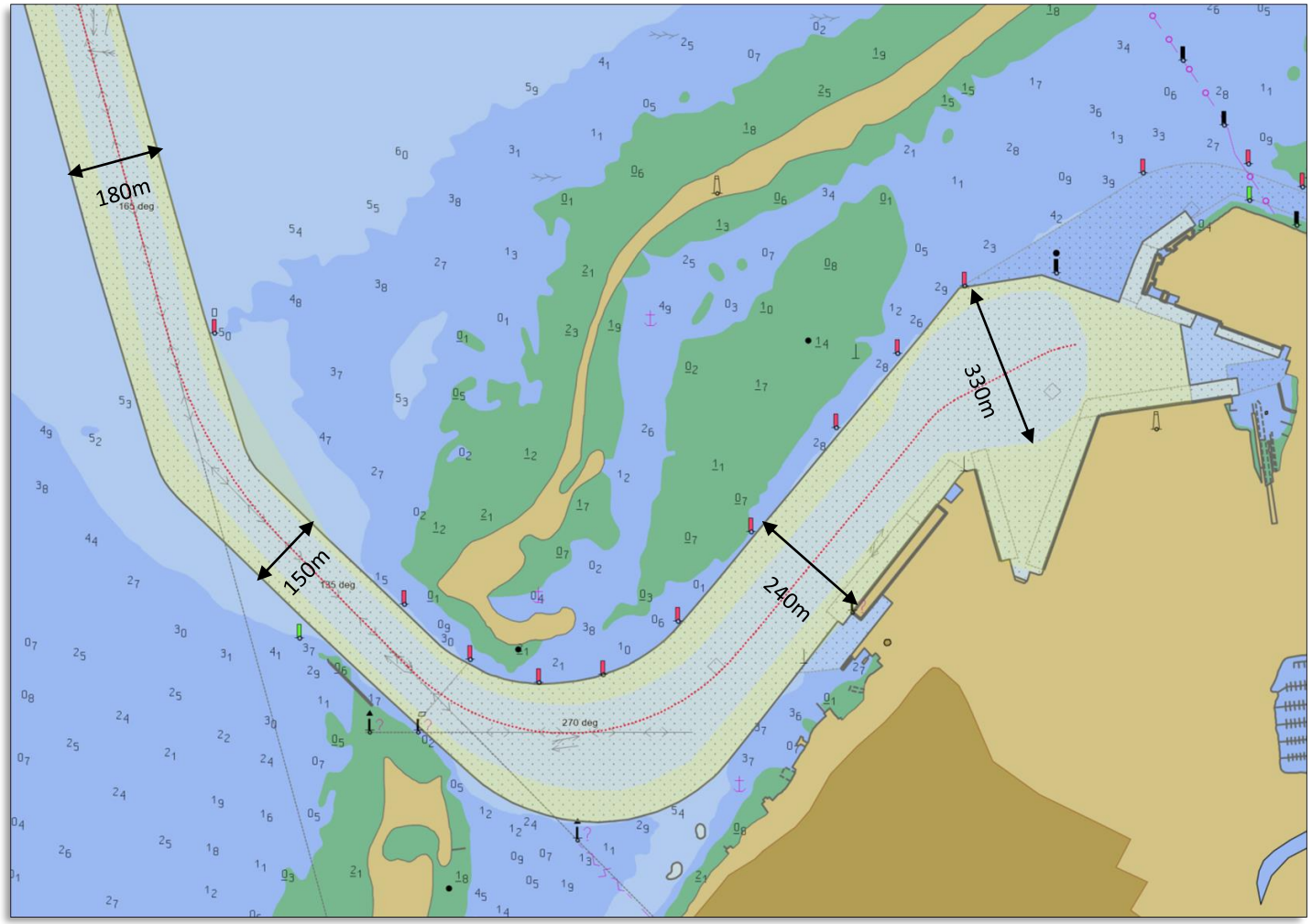
2022-2023

- $12M EBITDA
- $70M Revenue
- 3.2M tonne cargo
- 850 shipping movements


PORT NELSON
River estuary and tidal lagoon
Port entrance
River estuary and tidal lagoon

The Pilotage





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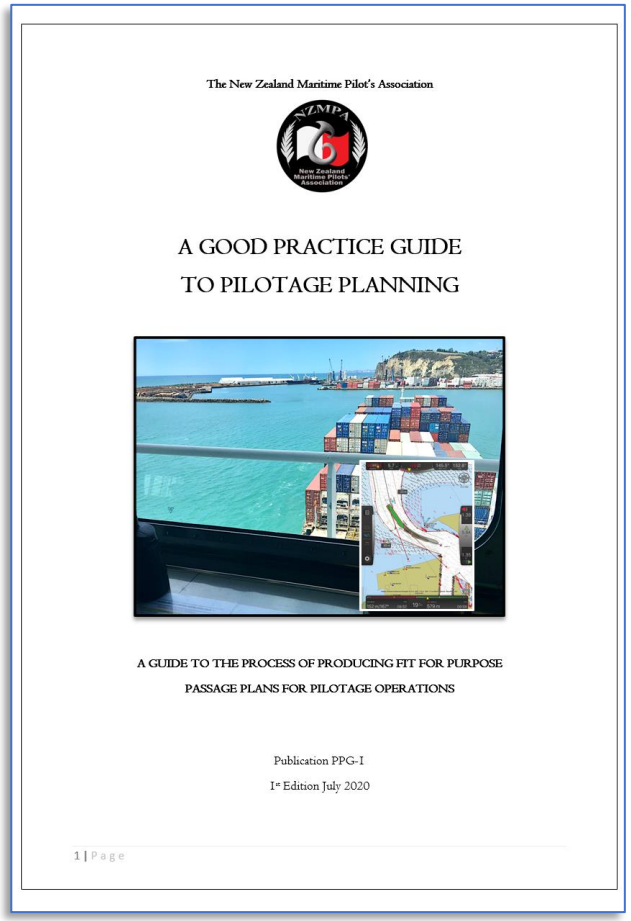
Detailed passage planning

- Define normal operational parameters (navigational and environmental)
- Define safety margins
- Define no-go areas



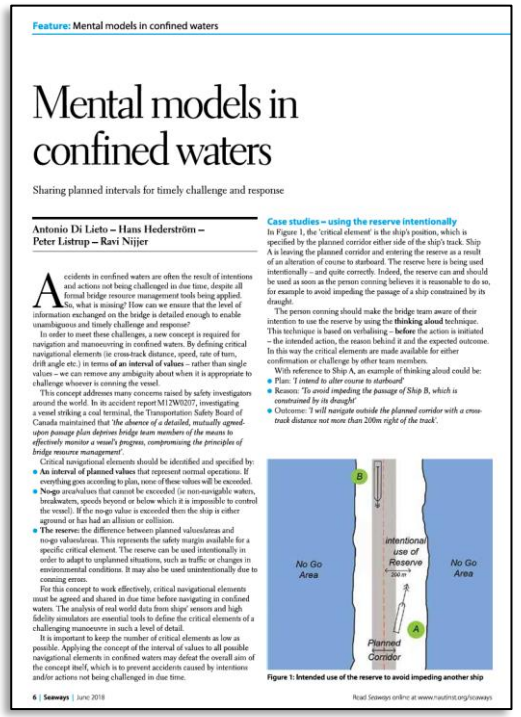
The New Zealand Maritime Pilot's Association

A GOOD PRACTICE GUIDE
TO PILOTAGE PLANNING

A GUIDE TO THE PROCESS OF PRODUCING FIT FOR PURPOSE
PASSAGE PLANS FOR PILOTAGE OPERATIONS

Publication PPG-I
I[st] Edition July 2020

1 | Page



Feature: Mental models in confined waters

Mental models in confined waters

Sharing planned intervals for timely challenge and response

Antonio Di Lieto – Hans Hederström – Peter Listrup – Ravi Nijjer

Case studies – using the reserve intentionally

No Go Area
Intentional use of Reserve
No Go Area
Planned Corridor

Figure 1: Intended use of the reserve to avoid impeding another ship

6 | Seaways | June 2018

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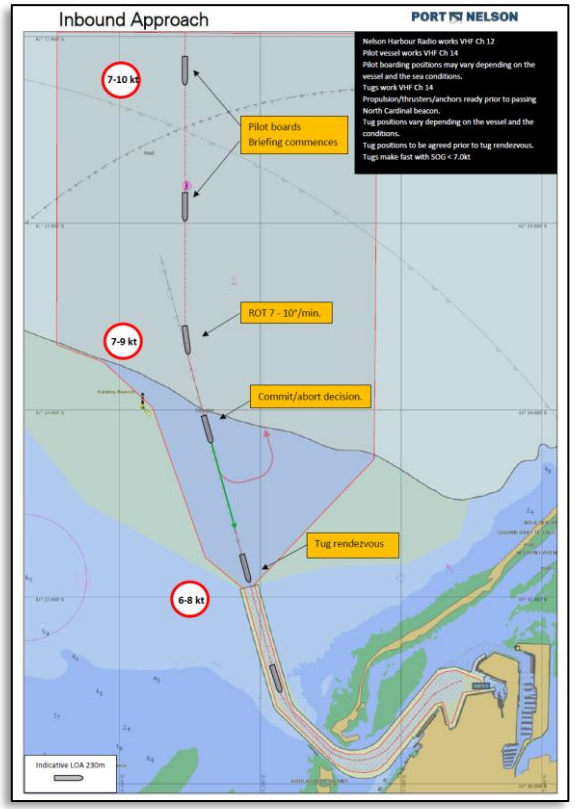
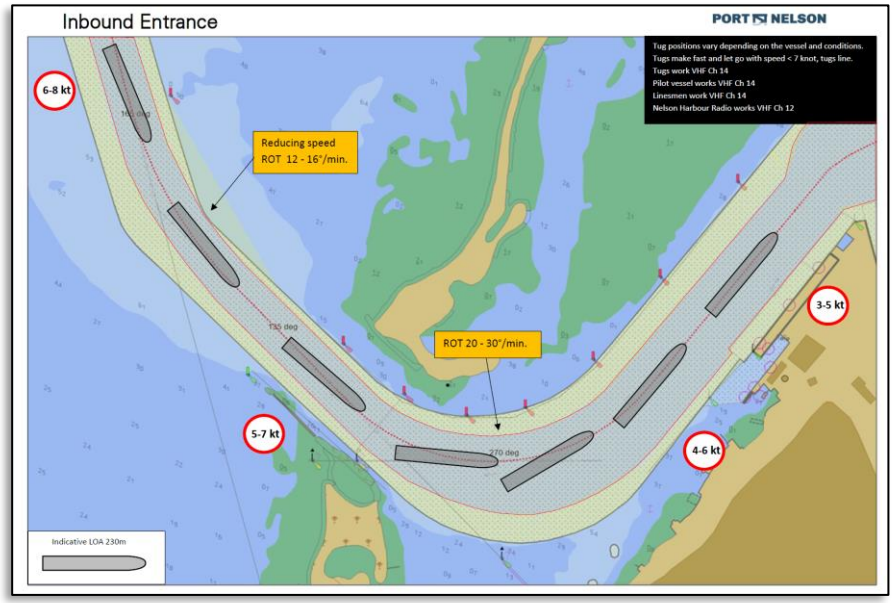
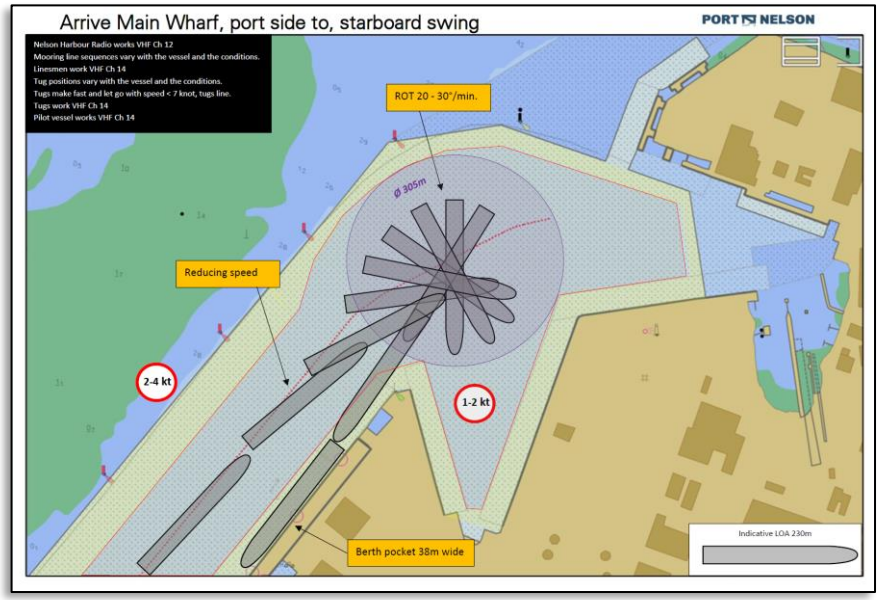
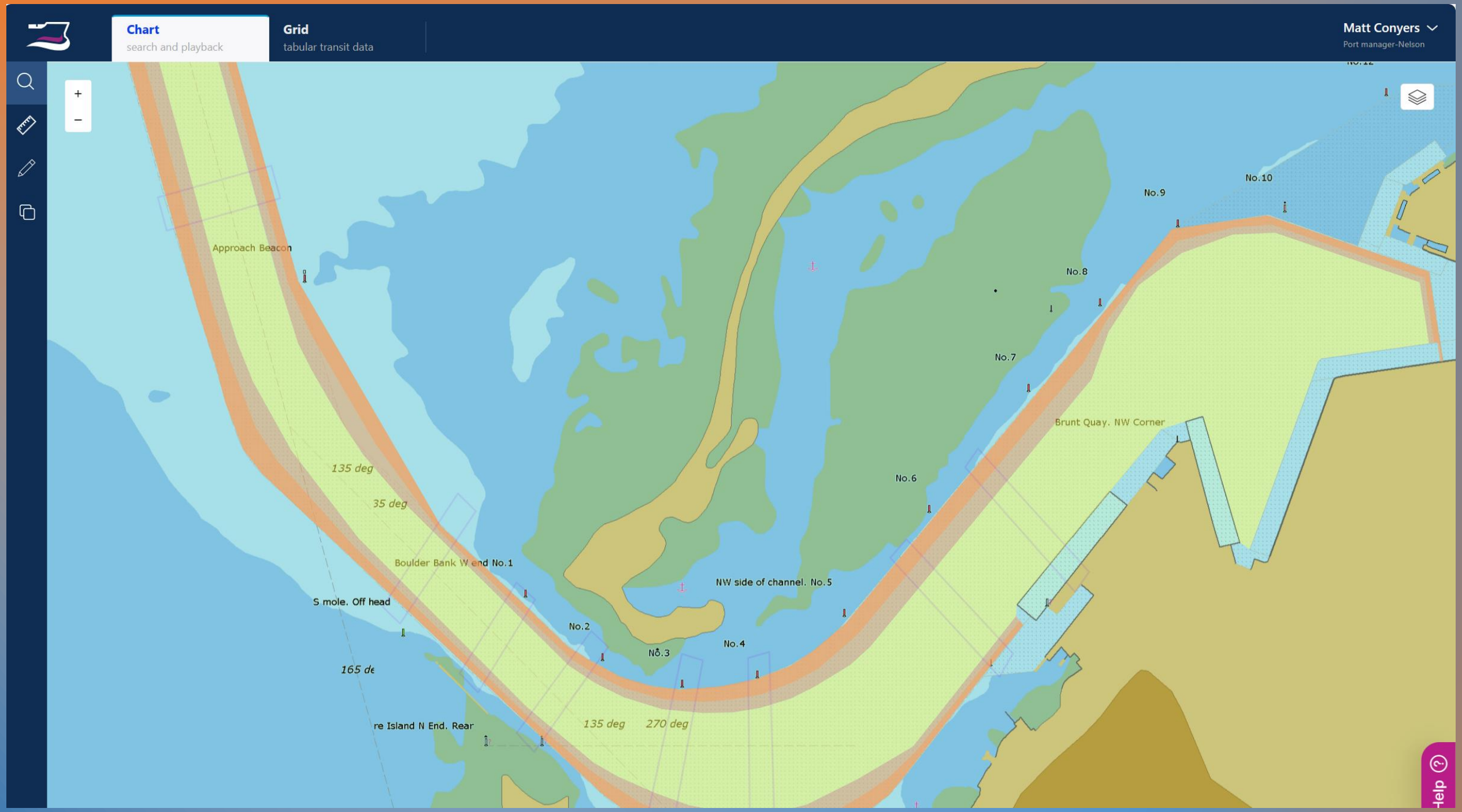
Detailed passage planning





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search and playback
Grid
tabular transit data
Matt Conyers
Port manager-Nelson
Approach Beacon
No.9
No.10
No.8
No.7
Brunt Quay. NW Corner
135 deg
35 deg
No.6
Boulder Bank W end No.1
NW side of channel. No.5
S mole. Off head
No.2
No.4
No.3
165 de
re Island N End. Rear
135 deg
270 deg
Help

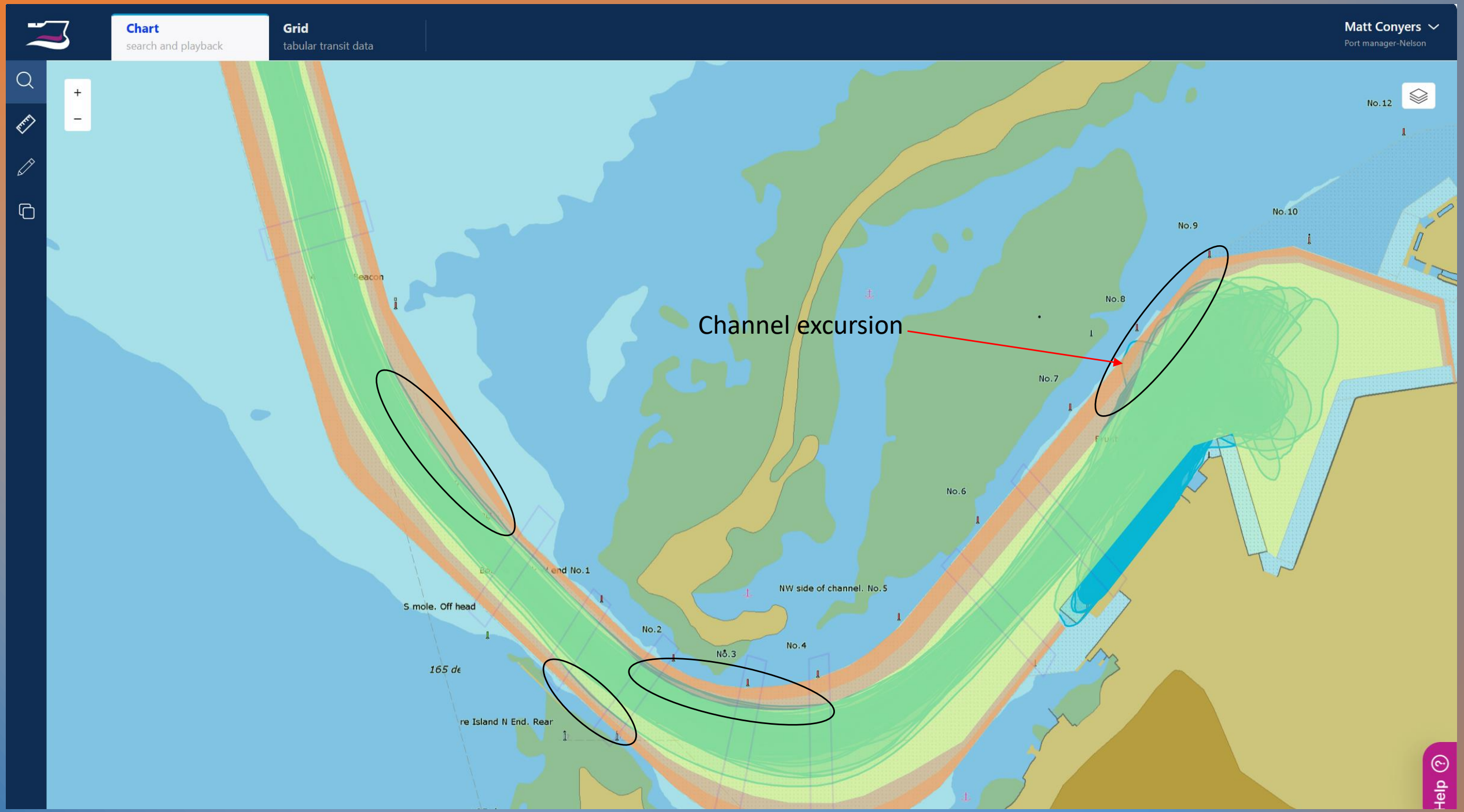
Chart
search and playback
Grid
tabular transit data
Matt Conyers
Port manager-Nelson
Channel excursion
No.12
No.10
No.9
No.8
No.7
No.6
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No.4
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No.2
No.1
NW side of channel.
S mole. Off head
re Island N End. Rear
Help

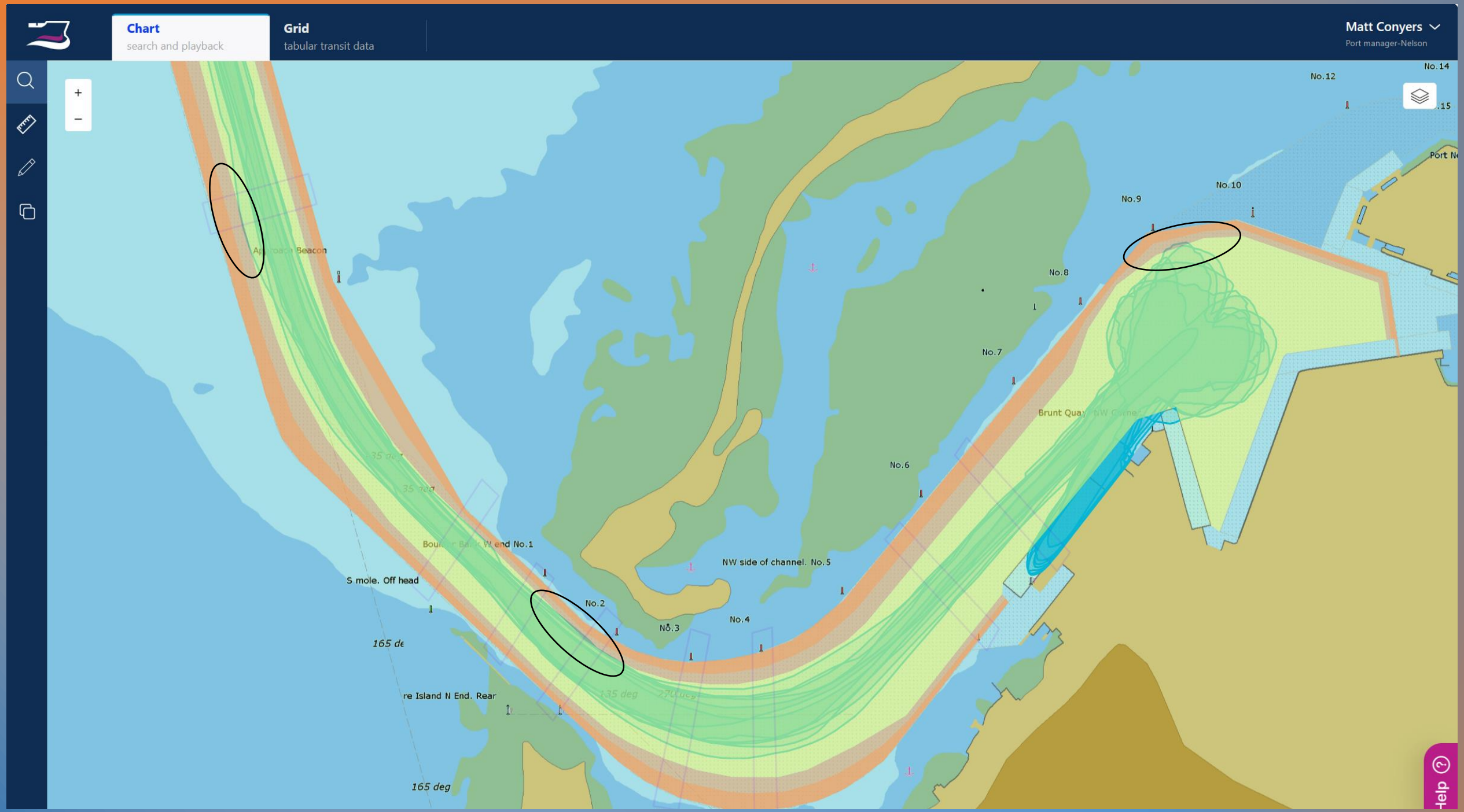


Chart
search and playback
Grid
tabular transit data
Matt Conyers
Port manager-Nelson
No.14
No.12
No.10
No.9
No.8
No.7
No.6
No.4
No.3
No.2
Approach Beacon
W end No.1
S mole. Off head
NW side of channel. No.5
Brunt Quay
165 deg
135 deg
Help

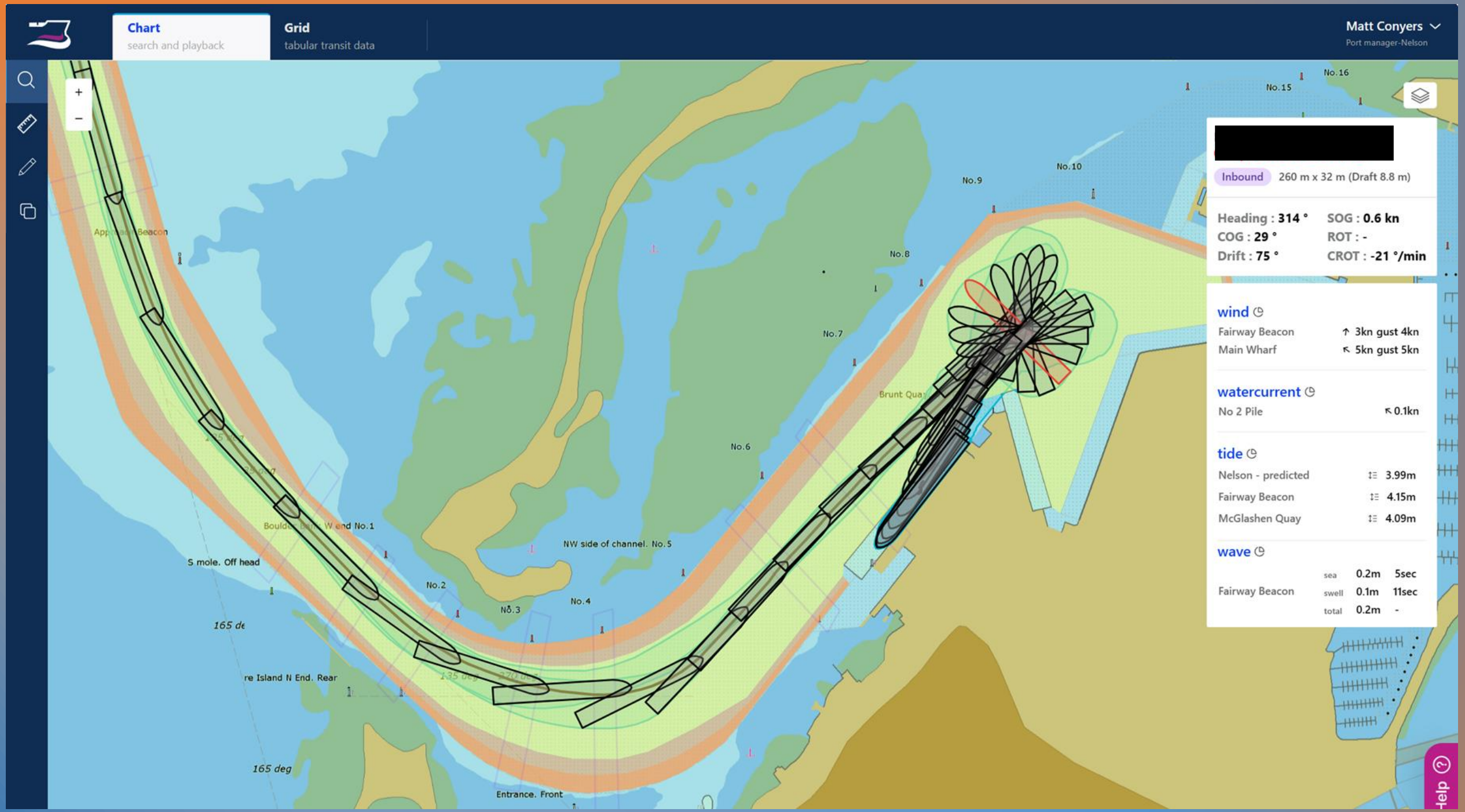
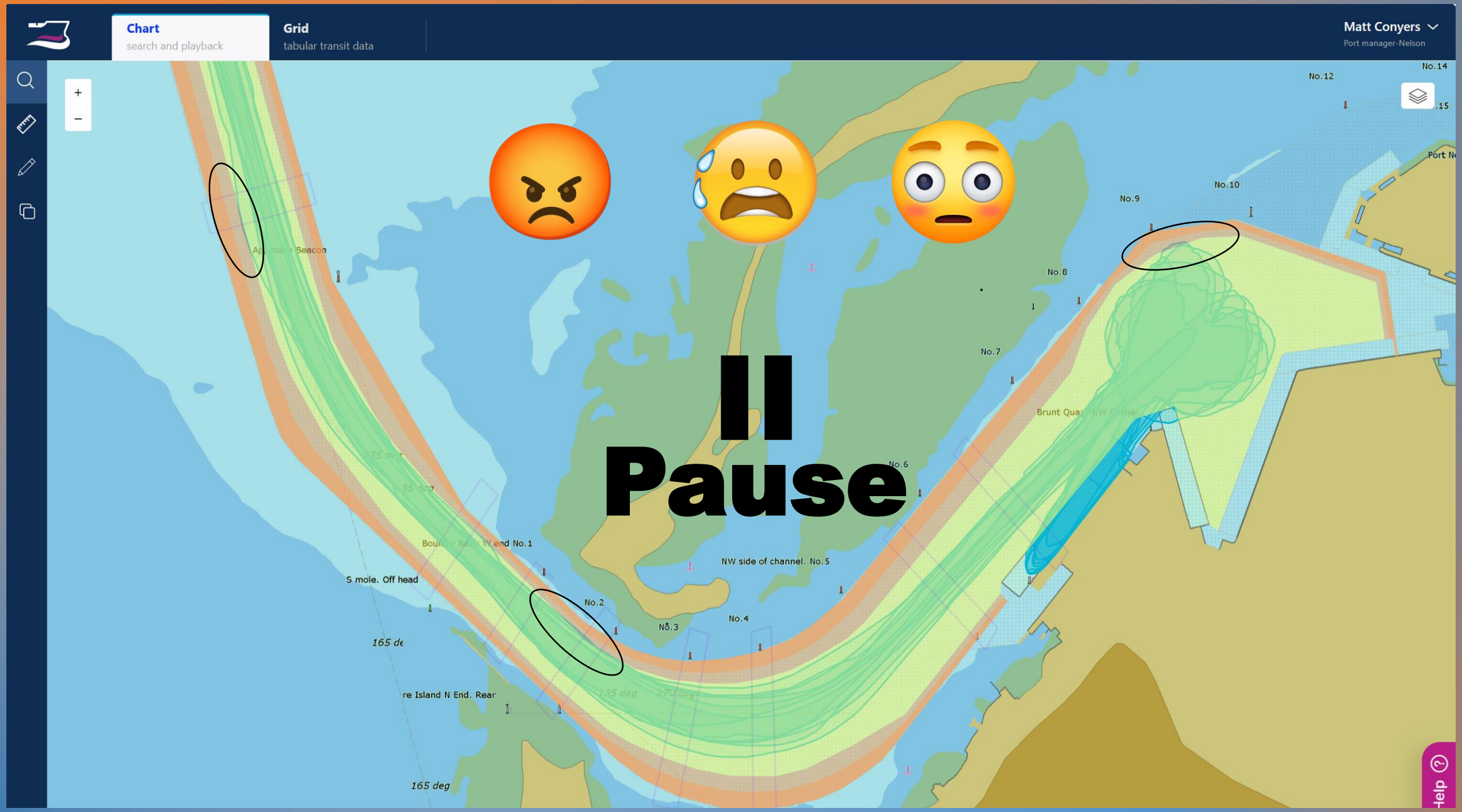


Chart
search and playback
Grid
tabular transit data
Matt Conyers
Port manager-Nelson
No.16
No.15
No.10
No.9
No.8
No.7
No.6
Brunt Quay
NW side of channel. No.5
No.4
No.3
No.2
S mole. Off head
Entrance. Front
[redacted]
Inbound
260 m x 32 m (Draft 8.8 m)
Heading : 314 °
SOG : 0.6 kn
COG : 29 °
ROT : -
Drift : 75 °
CROT : -21 °/min
wind
Fairway Beacon
3kn gust 4kn
Main Wharf
5kn gust 5kn
watercurrent
No 2 Pile
0.1kn
tide
Nelson - predicted
3.99m
Fairway Beacon
4.15m
McGlashen Quay
4.09m
wave
Fairway Beacon
sea 0.2m 5sec
swell 0.1m 11sec
total 0.2m -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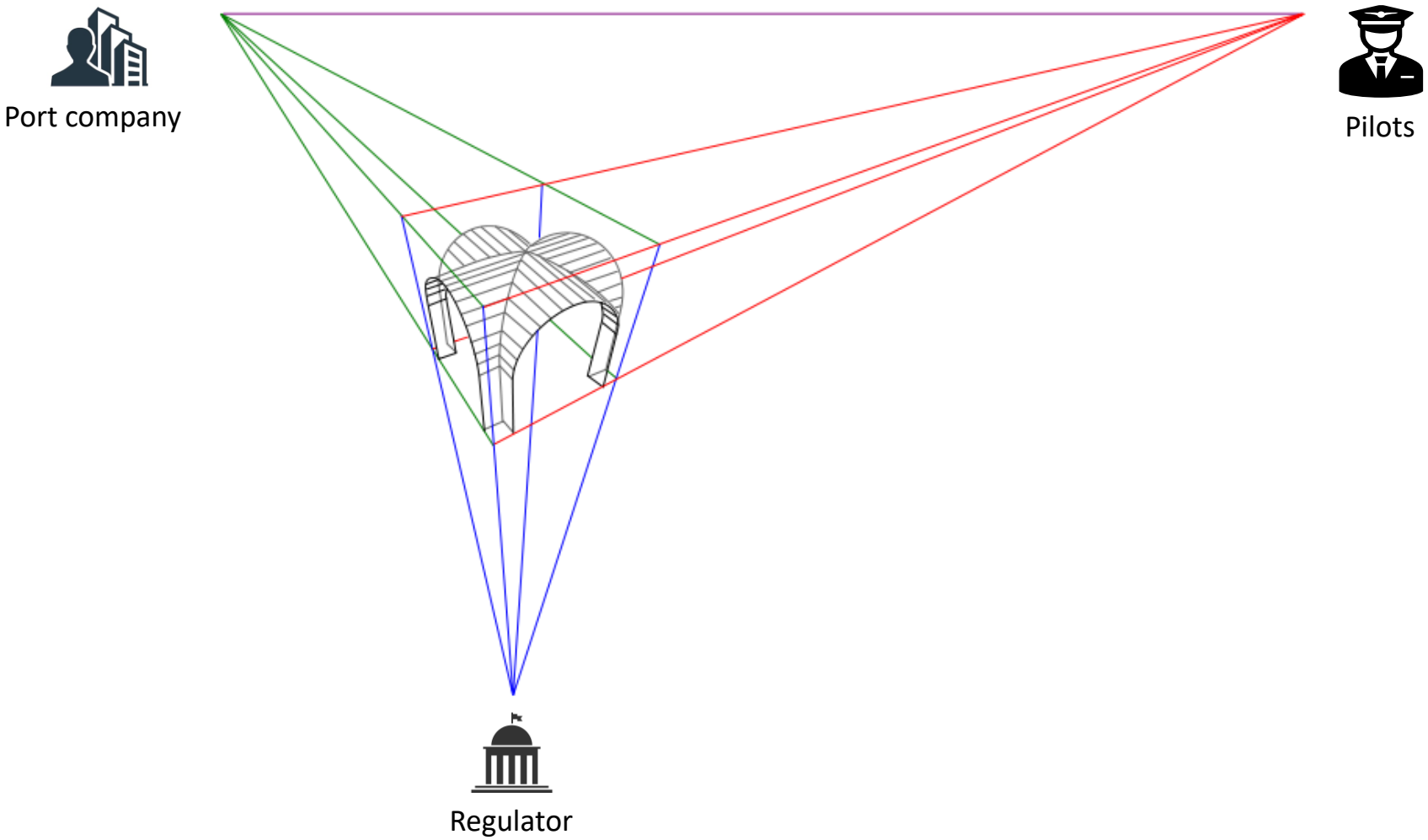
No.7
No.6
No.4
No.3
No.2
No.1
NW side of channel. No.5
S mole. Off head
Brunt Quay
135 deg
165 deg
Help
Pause

Perspective



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Pilots’ fears of routine voyage data analysis

Mistrust of motives

- Objectivity of analysis.
- Individual performance monitoring.
- Punishment or reprimand.

Voyage data protocol

- Shared Objective
- Applications (perspectives)
- Implementation process
- Data sharing principles
- Safety parameters

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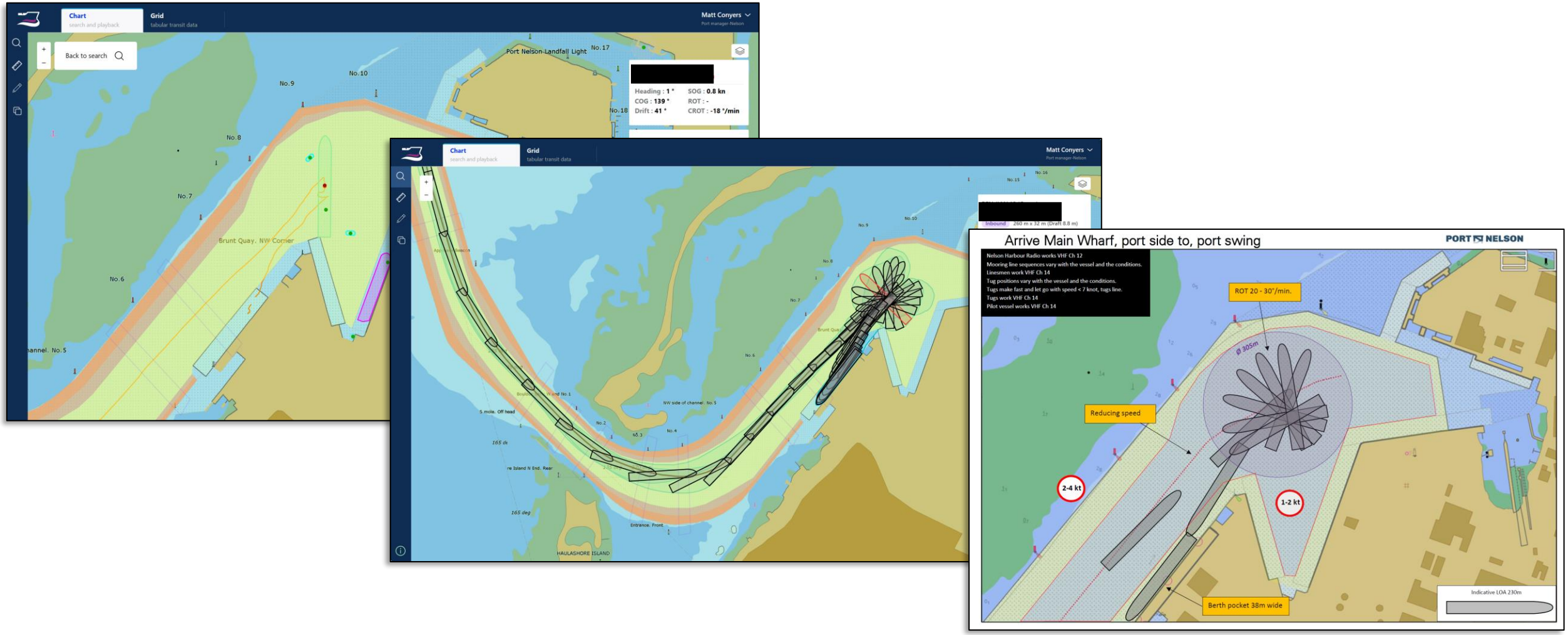
December 2022 – April 2024



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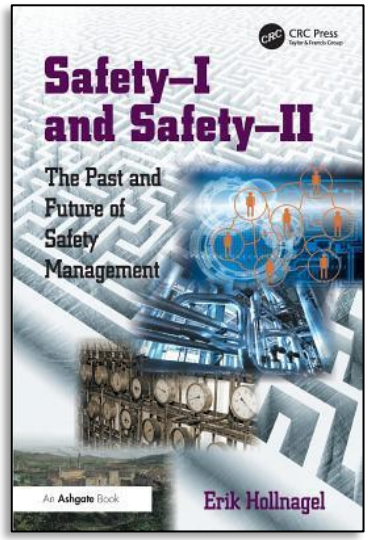
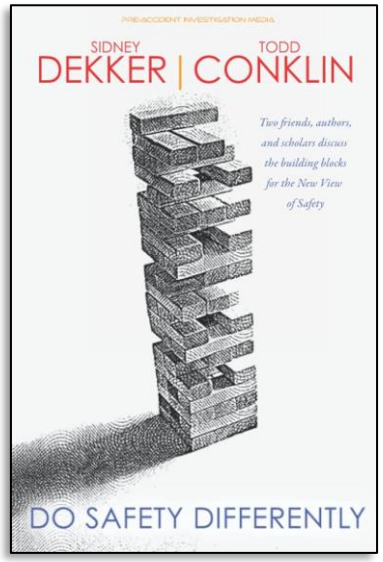
Citations



"…focus on why things routinely go right…" (2015)



"…safety is creating the capacity to succeed…" (2020)

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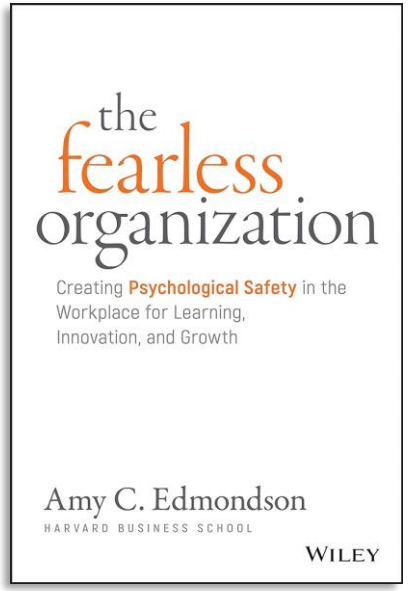
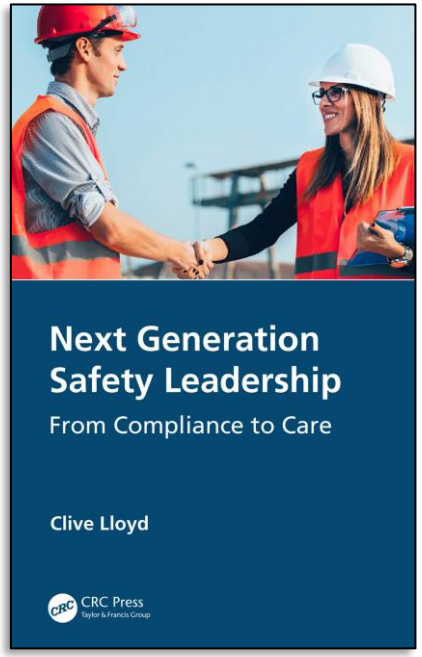
Citations



"…creating psychological safety in the workplace…" (2018)



"…a key factor in safety performance is trust…" (2020)

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Citations

Flight Operations Quality Assurance

New Zealand Maritime Pilots' Association

Routine Voyage Data Analysis

Carrot or stick?

New Zealand Maritime Pilots' Association

Image courtesy of Marine Digital

Learnings

System Prerequisites

- Detailed passage planning
- A collaborative undertaking
- Practitioner led analysis

System Benefits

- Improved understanding of successful operations
- Improved understanding of risk profile

Leading to:

- Clear training goals
- Improved consistency of pilotage
- Improved processes

Leading to:

- Channel optimisation
- Improved organisational culture

Where to now?

- National / international policy?
- PPU compatibility?