



IFAW

International Fund for Animal Welfare

Ship speed monitoring in the Hauraki Gulf, Apr – Jun 2016

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Report to Bryde's whale ship strike working group

Aug 2016

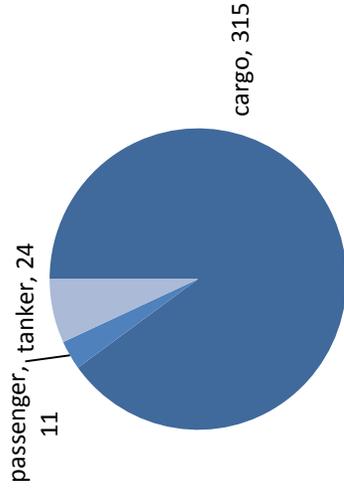
Ship tracking data

The following slides are based on publicly available data collected by IFAW from www.marinetraffic.com between April and June 2016.

Transits recorded

- A total of 1400 speed records were taken across 350 transits (4 speed measurements per transit) from 1 Apr to 30 Jun 2016.
- The vast majority (90%) were cargo vessels, mostly container ships.

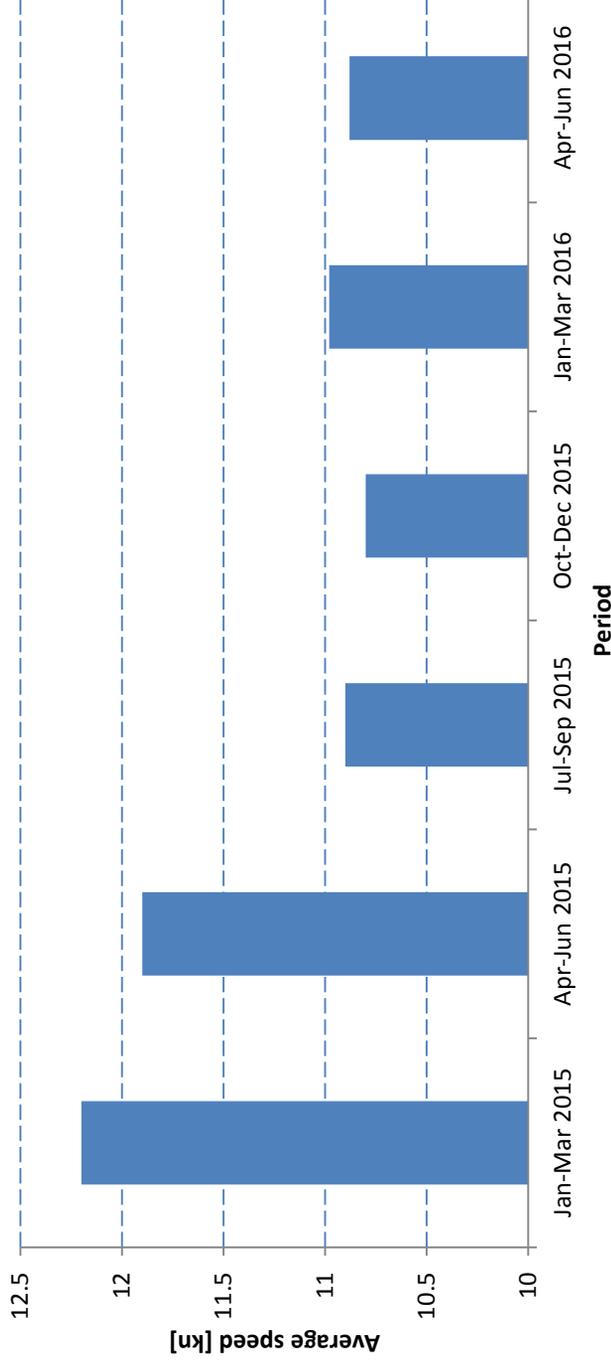
No. of transits by vessel type



AIS type	Detailed type	No. of transits
Cargo	Bulk carrier	26
	Cargo/container	1
	Cement carrier	23
	Container	162
	General cargo	50
	Reefer	8
	Ro-ro cargo	14
	Vehicles carrier	31
Passenger	Passenger	11
Tanker	Chemical tanker	1
	Oil products tanker	18
	Oil/chemical tanker	1
	Tanker	4

Average (mean) speed over time (all vessels)

Period	No. Transits	Records per transit	No. records	Average speed (kts)
Jan-Mar 2015	125	Single	125	12.2
Apr-Jun 2015	107	Single	107	11.9
Jul-Sep 2015	118	Single	118	10.9
Oct-Dec 2015	385	Multiple	1540	10.8
Jan-Mar 2016	376	Multiple	1504	11.0
Apr-Jun 2016	350	Multiple	1400	10.9

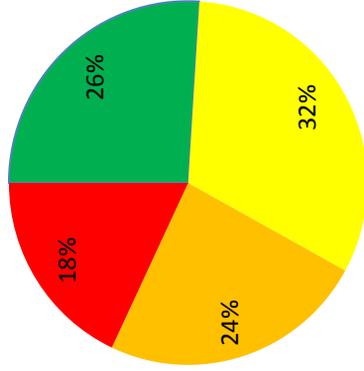


Risk of whale fatality in the event of collision with a vessel, trends over time (all vessels)

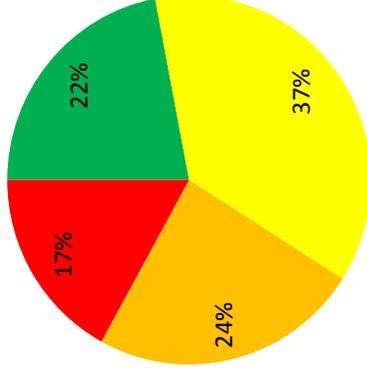
■ Low Risk ■ Medium Risk ■ High Risk ■ Very High Risk

*Risk of whale fatality based on probability of death as a function of vessel speed, adapted from Vanderlaan & Taggart, 2007.

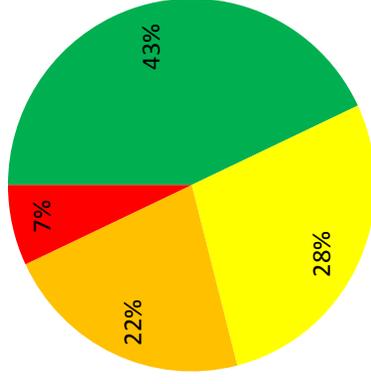
Jan - Mar 2015
125 transits, single point



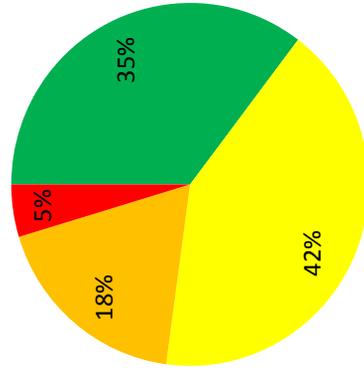
Apr - Jun 2015
107 transits, single point



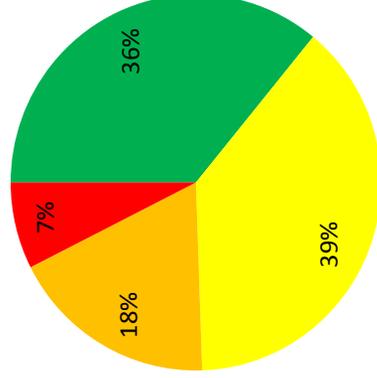
Jul - Sep 2015
118 transits, single point



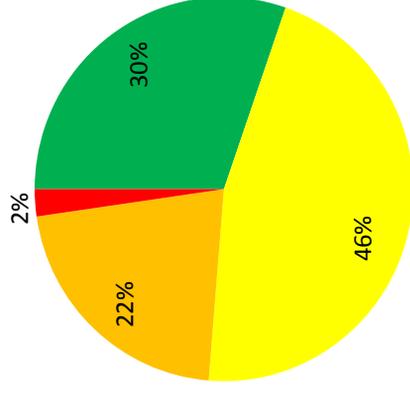
Oct - Dec 2015
385 transits, multiple points



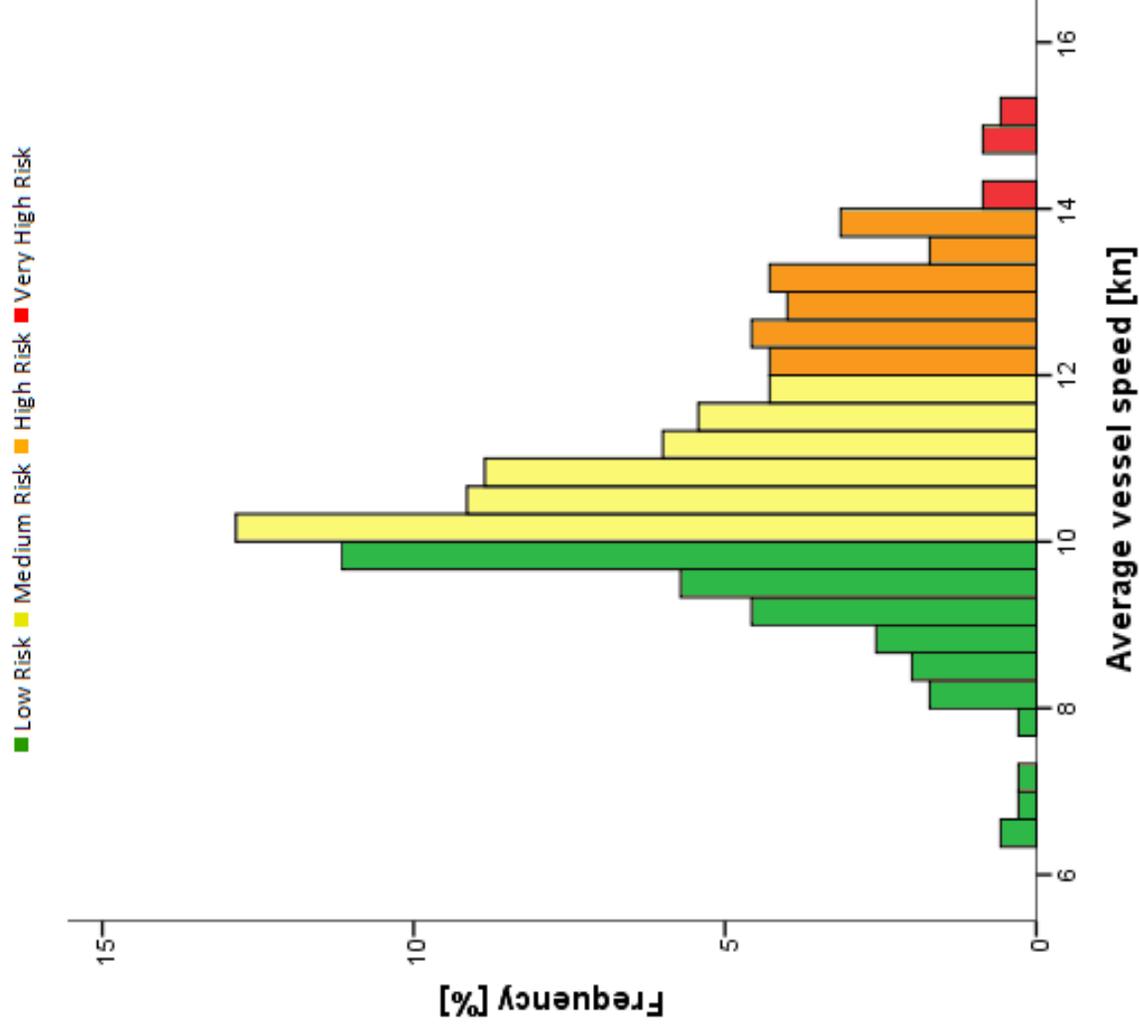
Jan - Mar 2016
376 transits, multiple points



Apr - Jun 2016
350 transits, multiple points

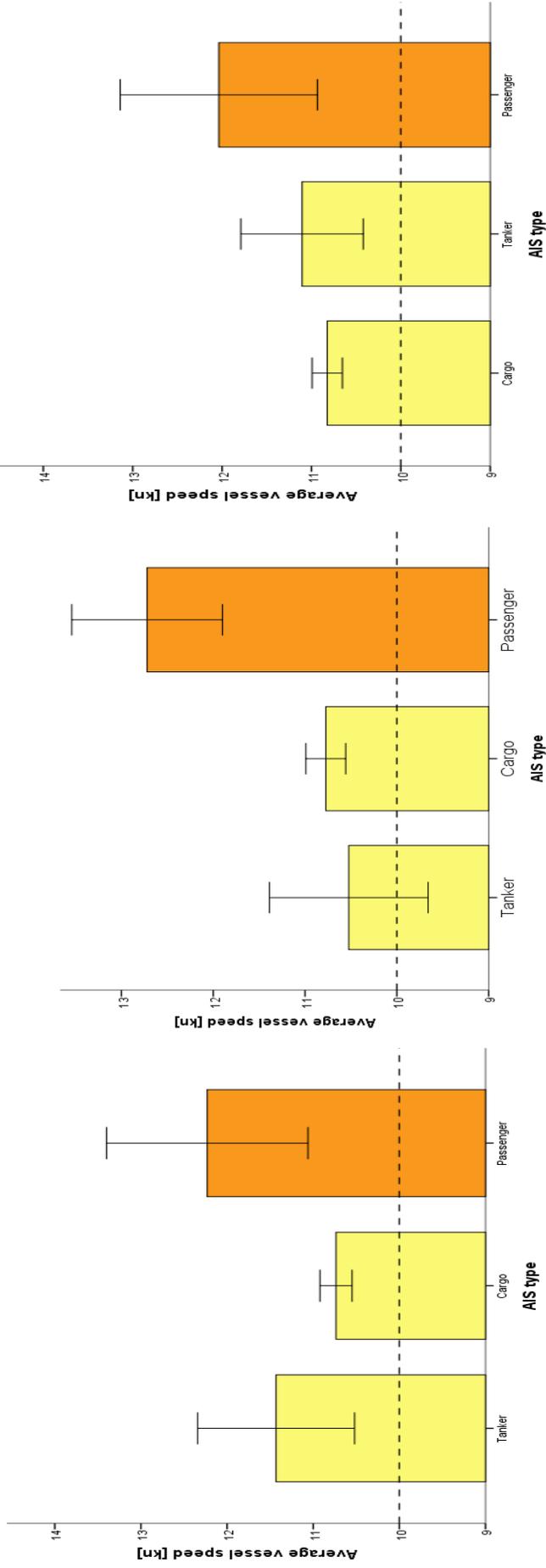


Risk/speed Apr – Jun 2016 (all vessels)



Risk/speed by vessel type

■ Low Risk
 ■ Medium Risk
 ■ High Risk
 ■ Very High Risk

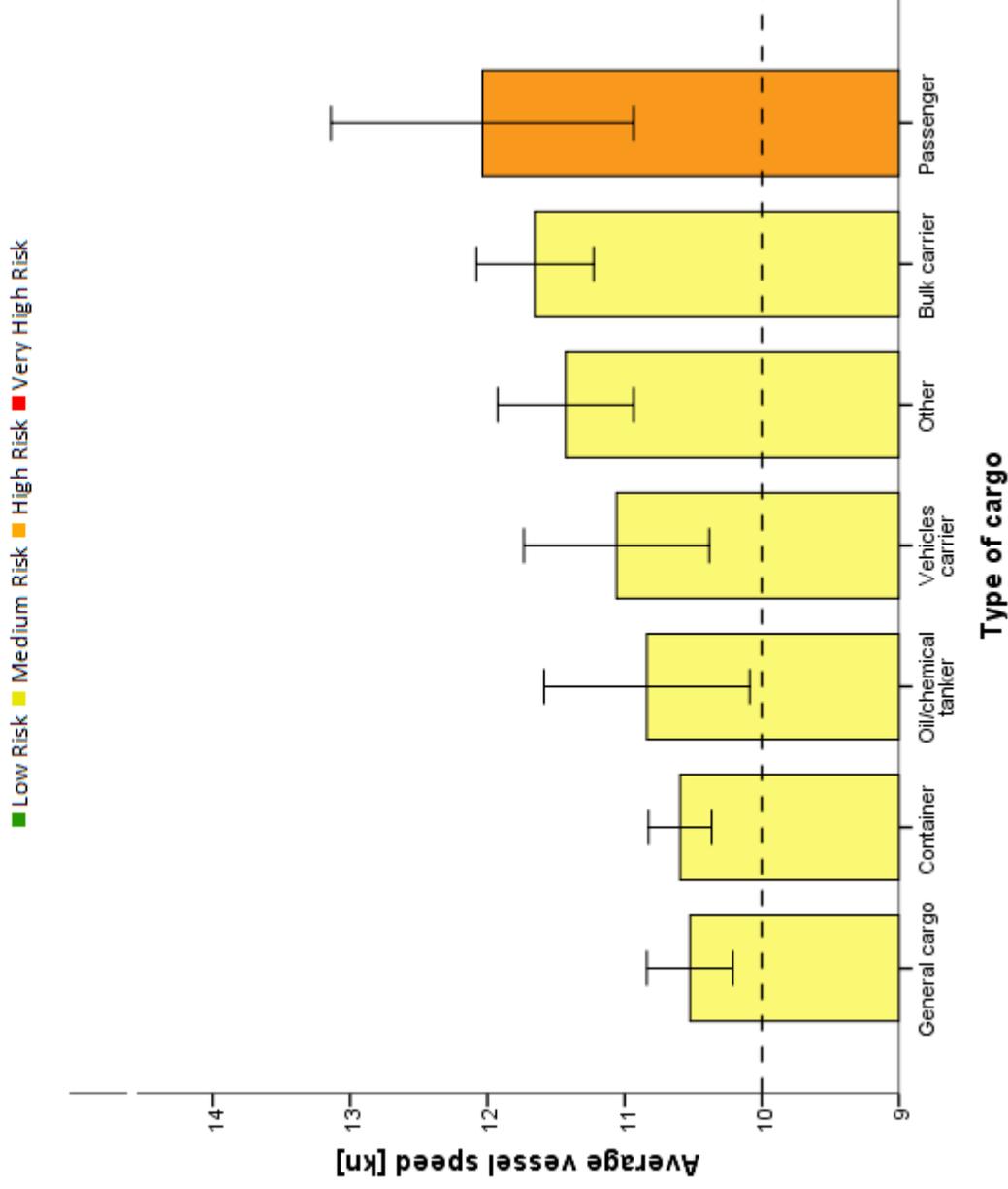


Oct – Dec 2015

Jan – Mar 2016

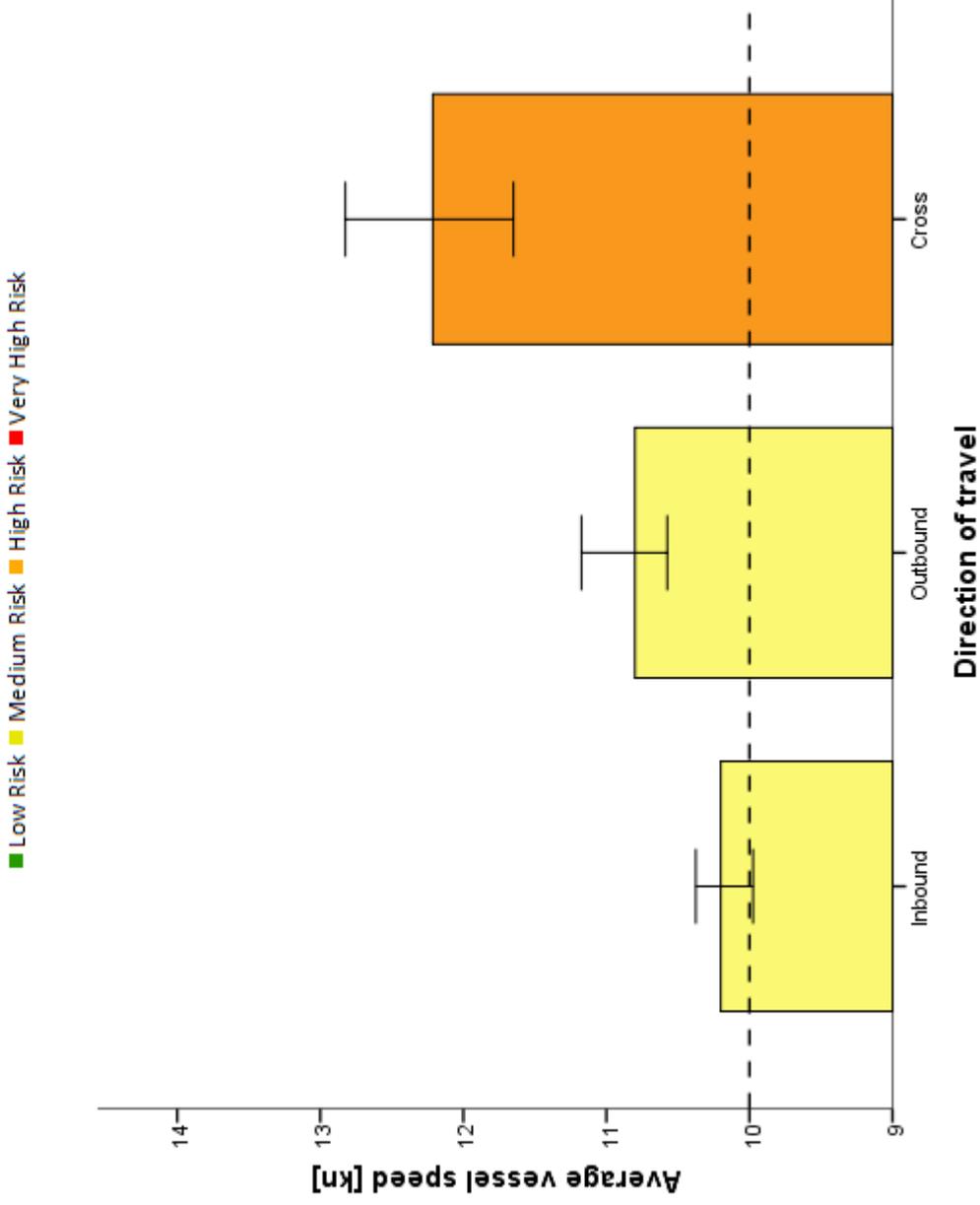
Apr – Jun 2016

Risk/speed Apr – Jun 2016 by detailed type



*Other = cement carrier, reefer, ro-ro cargo

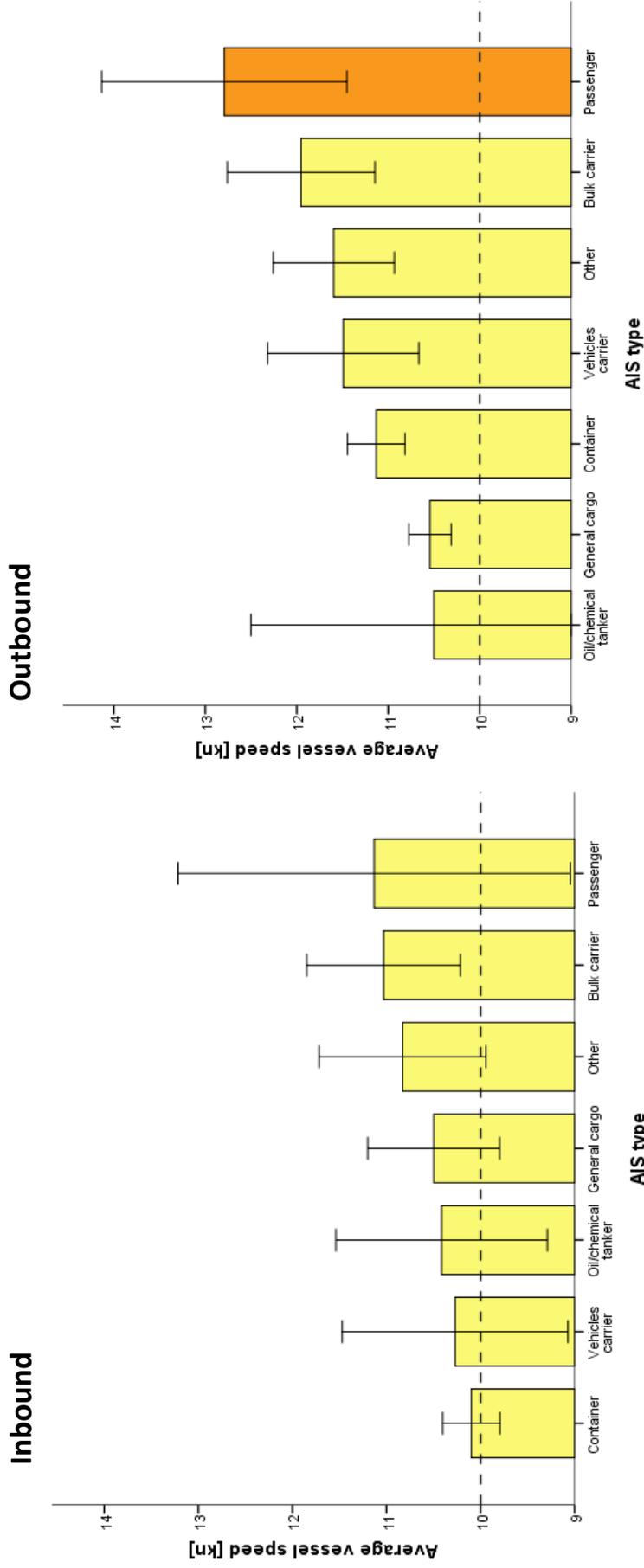
Risk/speed Apr – Jun 2016 by direction



Risk/speed Jan – Mar 2016

Inbound v. outbound, by detailed vessel type

■ Low Risk ■ Medium Risk ■ High Risk ■ Very High Risk



*Other = cement carrier, reefer, ro-ro cargo

Summary

- Average speed across all vessels for the quarter Apr – Jun 2016 were down slightly on the previous quarter although not quite to the low of Oct – Dec 2015.
- Particularly encouraging was the very small amount of transits (2%) in the very high risk category (over 14 knots). However, the percentage of vessels in the low risk (10 knots or less) category has reduced slightly.
- Passenger vessels continue to represent the vessel category of highest average transit speed.
- There is still considerable variation in speed within most vessel categories (as shown by the 95% Confidence Interval error bars in the charts).
- Vessels continue to show a difference between average speeds depending on direction of travel:
 - Vessels crossing the Hauraki Gulf (not calling at the Ports of Auckland) represent the highest speed transits, averaging 12.2 knots this quarter;
 - Inbound speeds average 10.4 knots;
 - Outbound speeds 11.2 knots.