

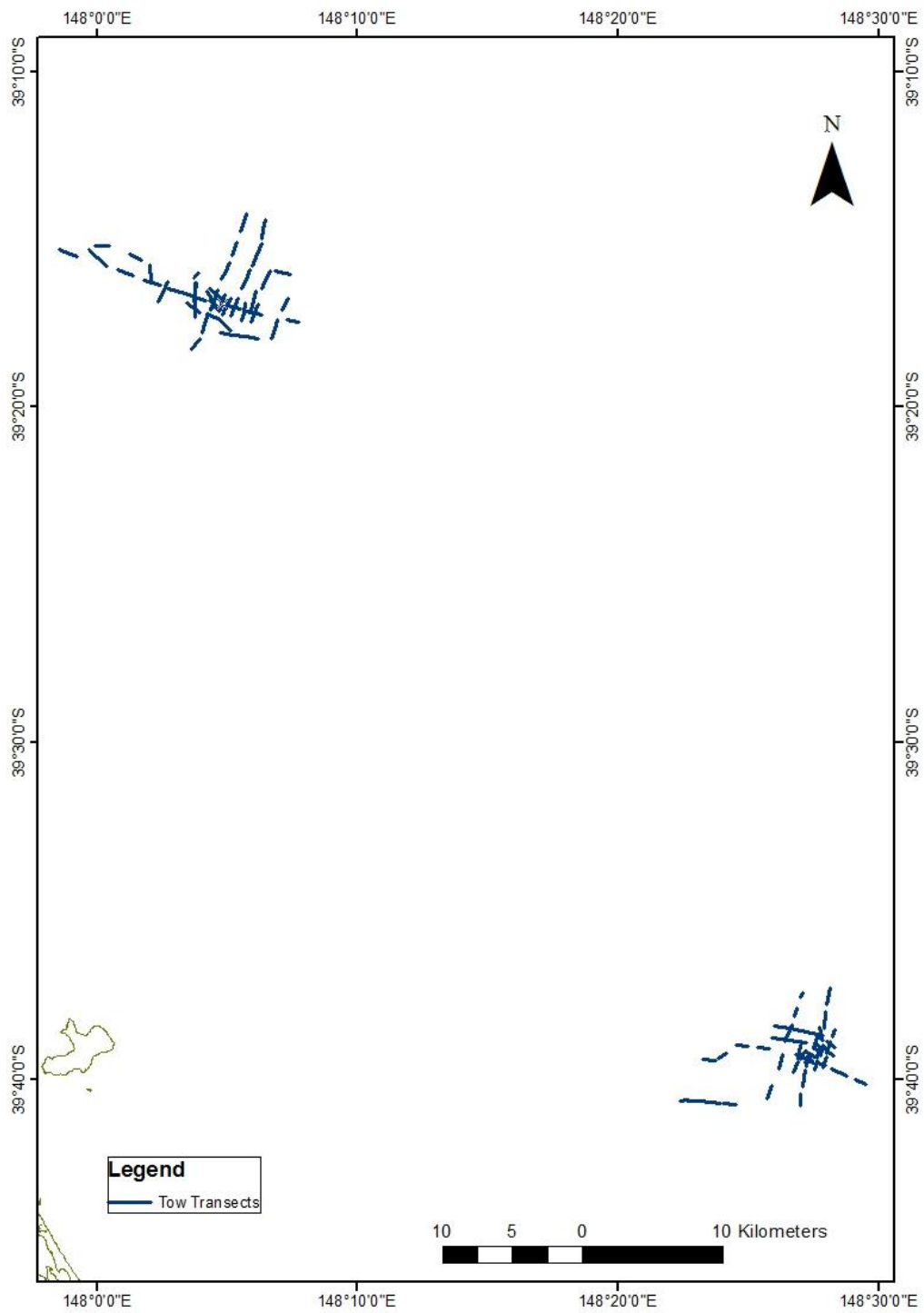
# DRAFT 2013 BSCZSF SURVEY REPORT

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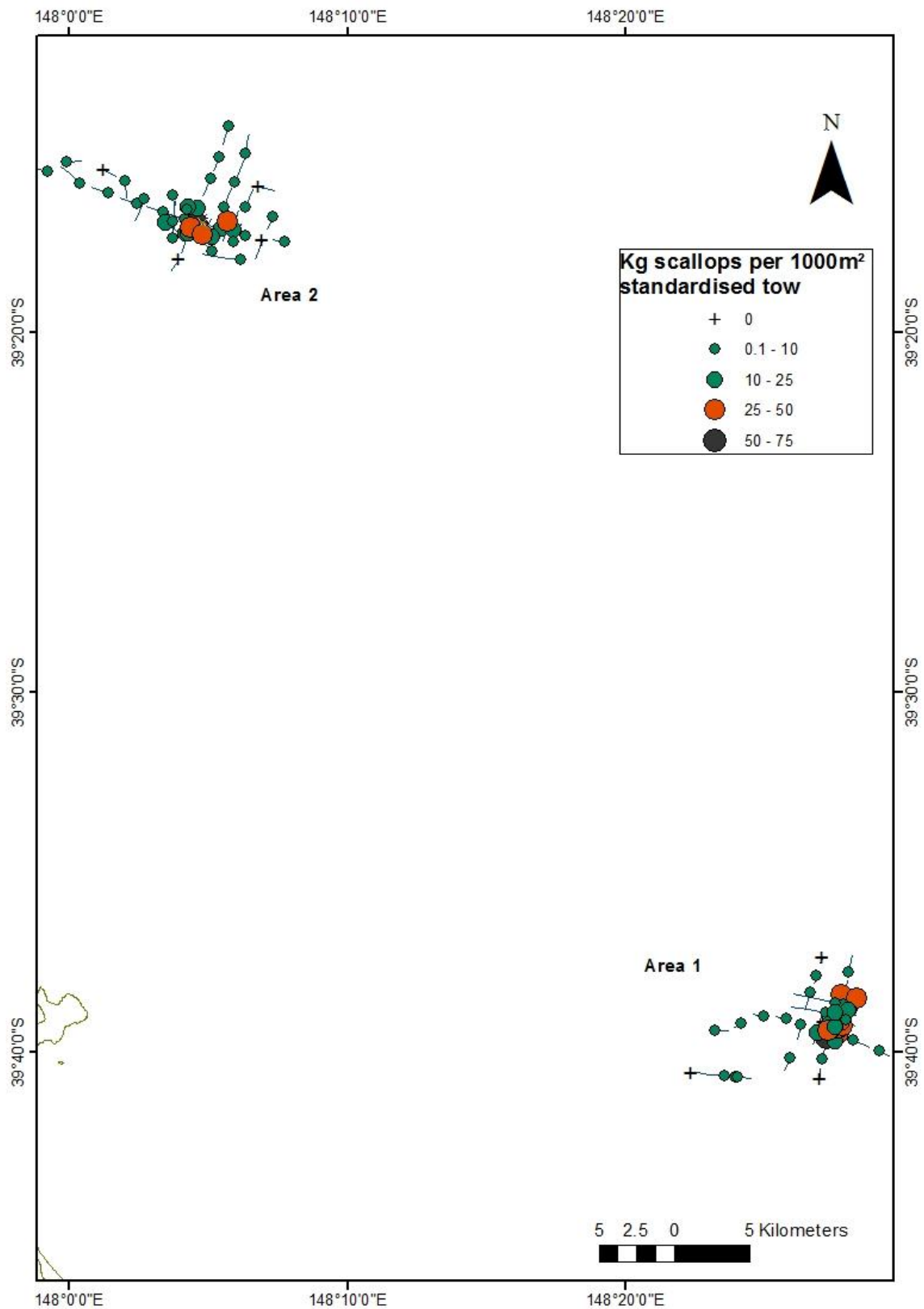
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**IMAS**  
INSTITUTE FOR MARINE AND  
ANTARCTIC STUDIES

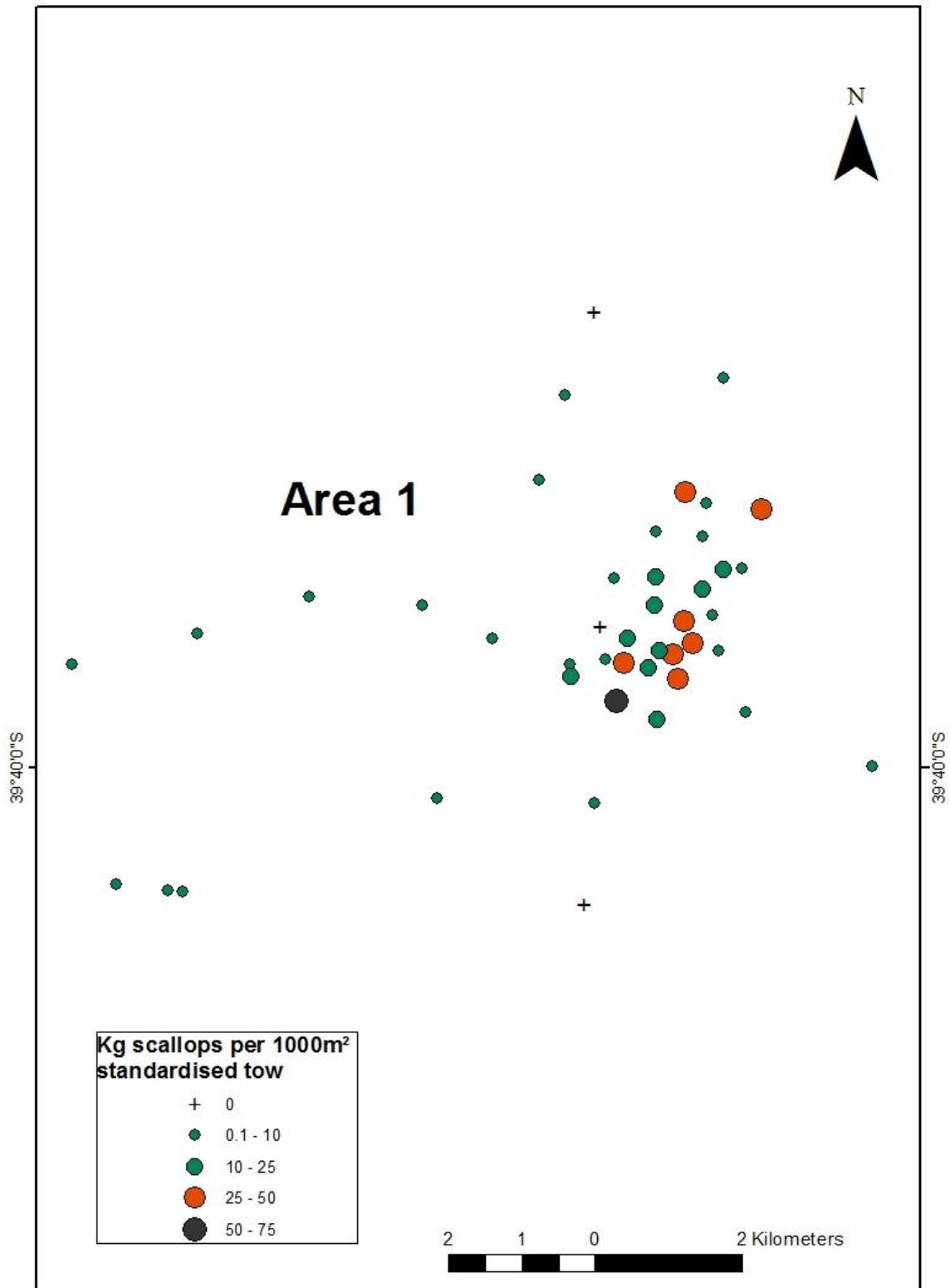




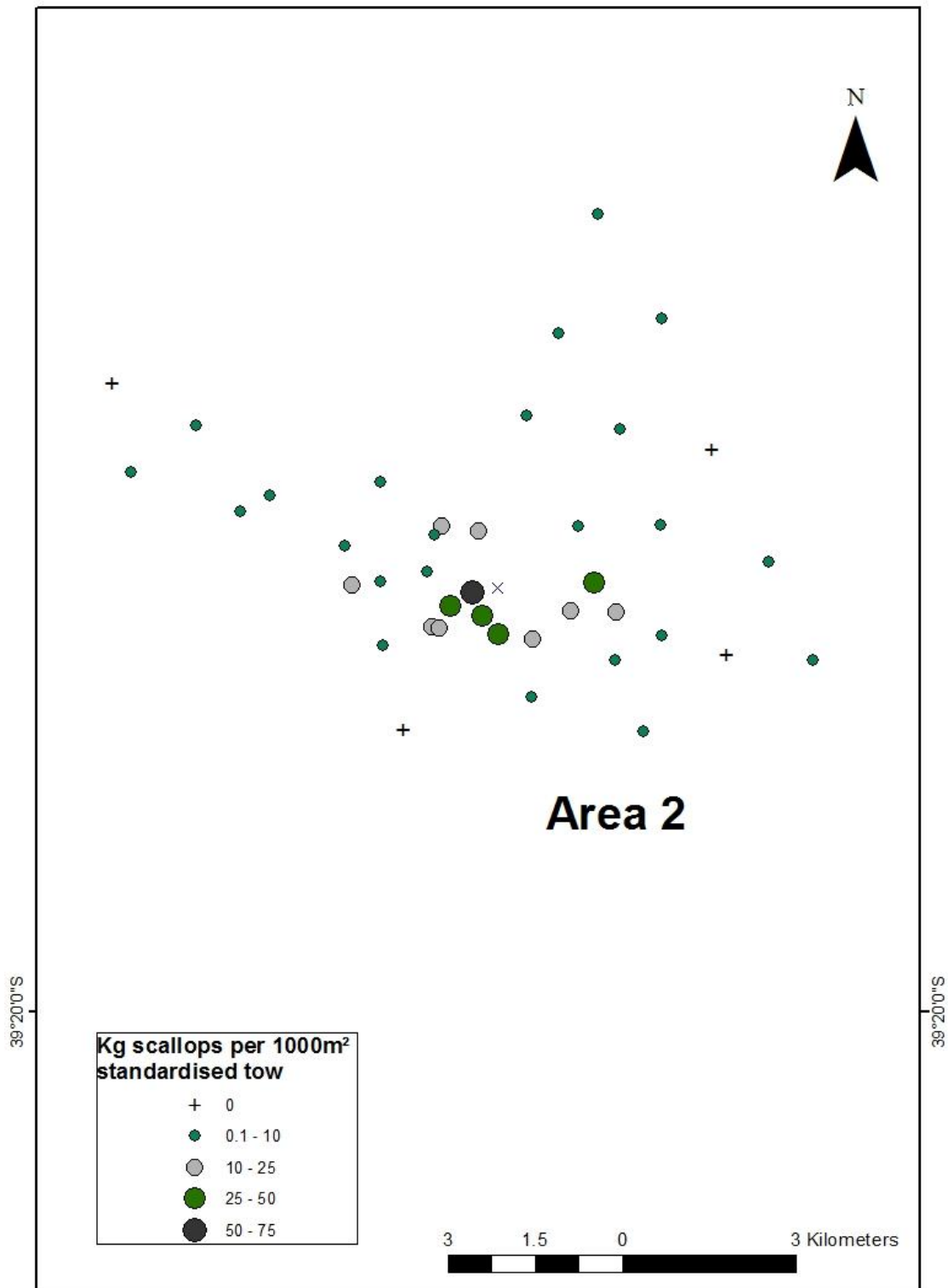
**Figure 1.** Transects of the 89 survey tows conducted between 22<sup>nd</sup> and 31<sup>st</sup> of May 2013 on board the FV Insta-Gator.



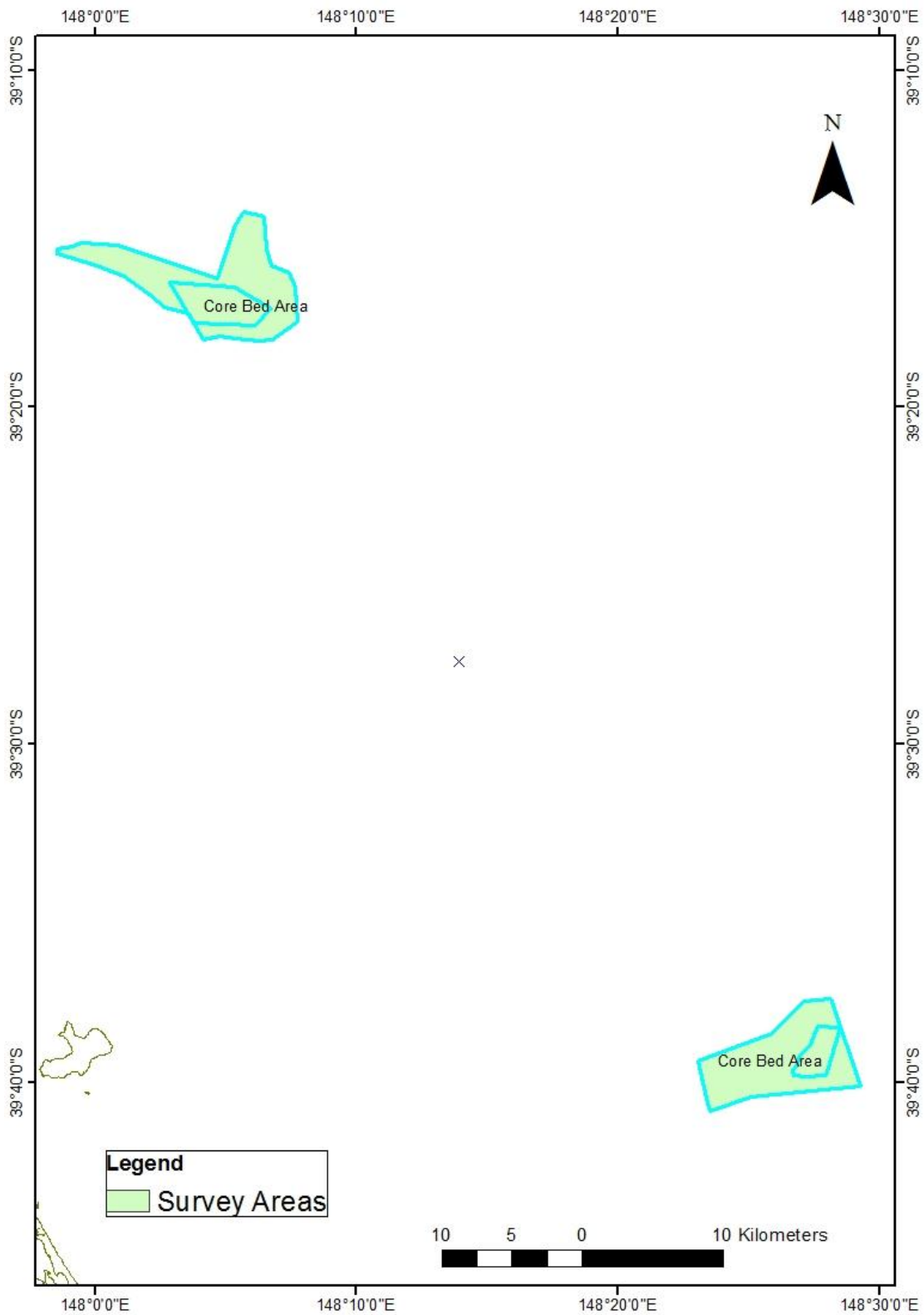
**Figure 2.** Overview of scallop density for both surveyed areas. Density is recorded at kg per 1000m<sup>2</sup>. Fine solid lines represent individual survey tows.



**Figure 3.** Scallops density per shot in area 1 – surveyed on the 22<sup>nd</sup> of May. Density is recorded at kg per 1000m<sup>2</sup>.

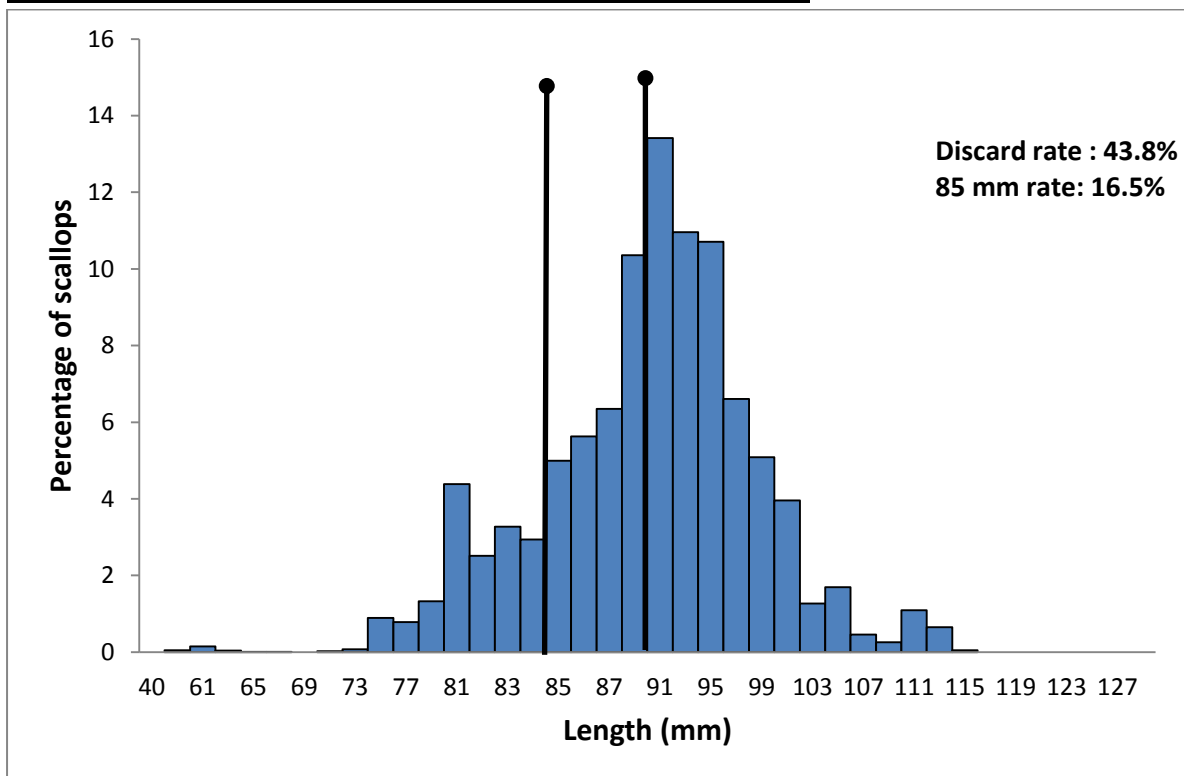


**Figure 4.** Scallops density per shot in area 2 – surveyed on the 31<sup>st</sup> of May. Density is recorded at kg per 1000m<sup>2</sup>.

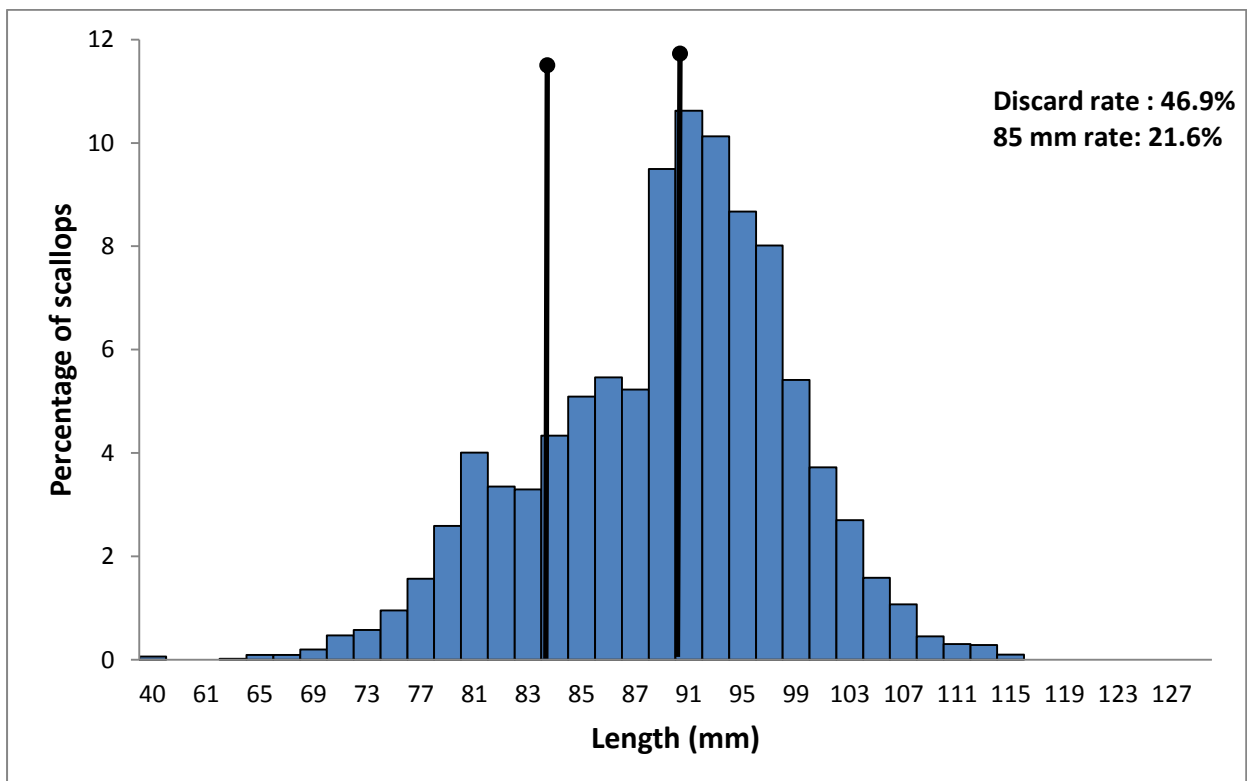


**Figure 5.** Boundaries used for calculating biomass per area, and the defined core ‘bed’ areas where the scallop biomass was concentrated.

## Size frequency distributions of scallop populations



**Figure 6.** Standardised length frequency distribution for catch in Area 1. There was a discard rate of 43.79% from 1550 scallops measured in 26 tows. Mean size  $\pm$  se:  $90.33 \pm 6.53$  mm.



**Figure 7.** Standardised length frequency distribution for catch in Area 2. There was a discard rate of 46.92% from 2177 scallops measured in 32 tows. Mean size  $\pm$  se:  $89.77 \pm 8.34$  mm.

## **Biomass Estimates**

### **Biomass**

**Table 1.** Biomass estimates, in tonnes (t), for the all tows in survey area 1 (Fig. 3), with an area of 50.7 km<sup>2</sup>, at 33% dredge efficiencies (as used for the 2008 biomass estimates - see Harrington, Semmens & Haddon 2008). The upper and lower 95% refer to the confidence intervals.

<b>Area 1</b>	3067.9	upper 95%
	<b>2197.2</b>	<b>average</b>
	1326.5	lower 95%

**Table 2.** Biomass estimates, in tonnes (t), for the all tows in survey area 2 (Fig. 4), with an area of 64.06 km<sup>2</sup>, at 33% dredge efficiencies (as used for the 2008 biomass estimates - see Harrington, Semmens & Haddon 2008). The upper and lower 95% refer to the confidence intervals.

<b>Area 2</b>	2609.8	upper 95%
	1915.0	<b>average</b>
	1220.3	lower 95%

### **Defined Beds**

**Table 3.** Biomass estimates, in tonnes (t), for Sub-Area 1 (Fig. 5), which had the highest density of scallops within Area 1. Sub-Area 1 was 7.11km<sup>2</sup>. Thirty-three percent dredge efficiencies were assumed (as used for the 2008 biomass estimates - see Harrington, Semmens & Haddon 2008). The upper and lower 95% refer to the confidence intervals.

<b>Sub-area 1</b>	430.2	upper 95%
	<b>308.1</b>	<b>average</b>
	186.0	lower 95%

**Table 4.** Biomass estimates, in tonnes (t), for Sub-Area 2 (Fig. 5), which had the highest density of scallops within Area 2. Sub-Area 2 was 11.69 km<sup>2</sup>. Thirty-three percent dredge efficiencies were assumed (as used for the 2008 biomass estimates - see Harrington, Semmens & Haddon 2008). The upper and lower 95% refer to the confidence intervals.

<b>Sub-area 2</b>	475.8	upper 95%
	<b>349.1</b>	<b>average</b>
	222.5	lower 95%