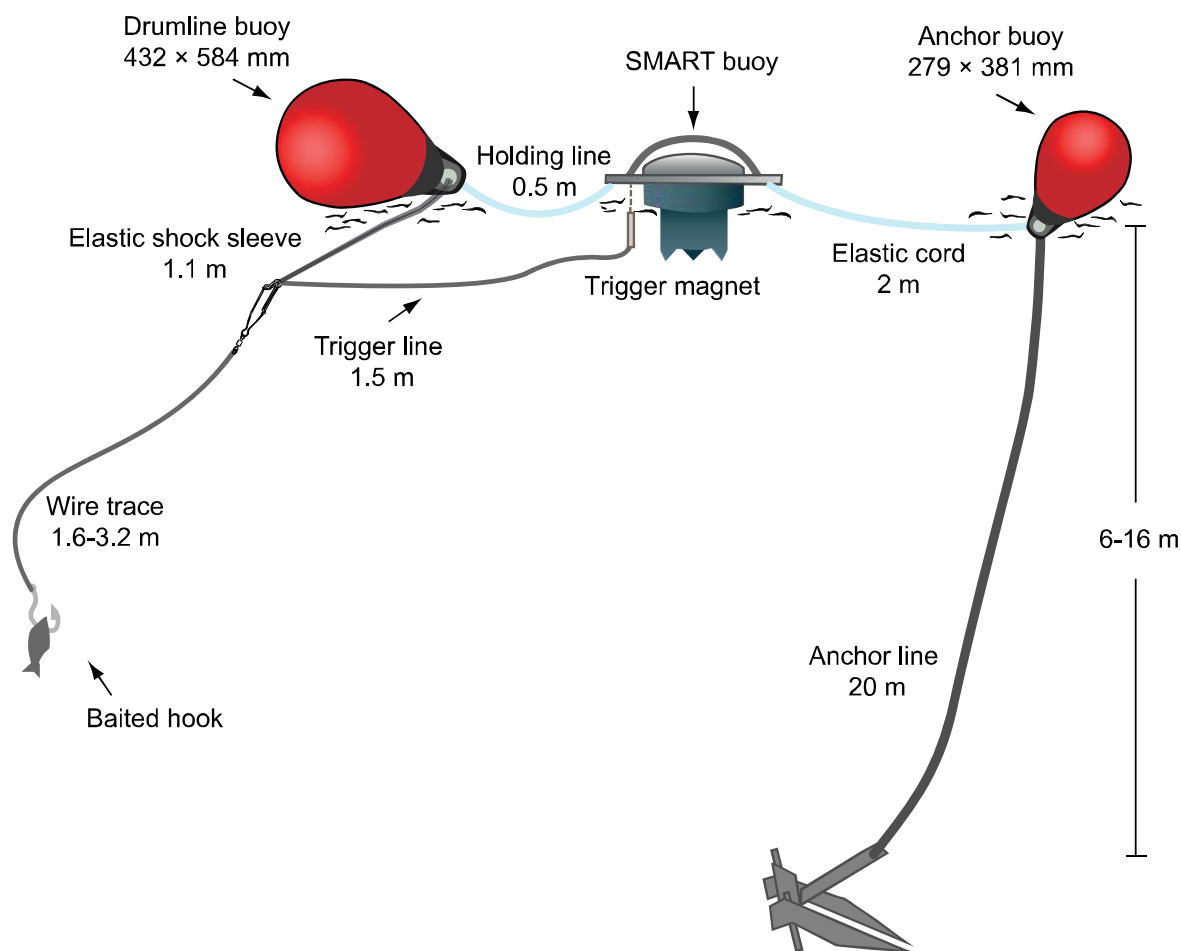
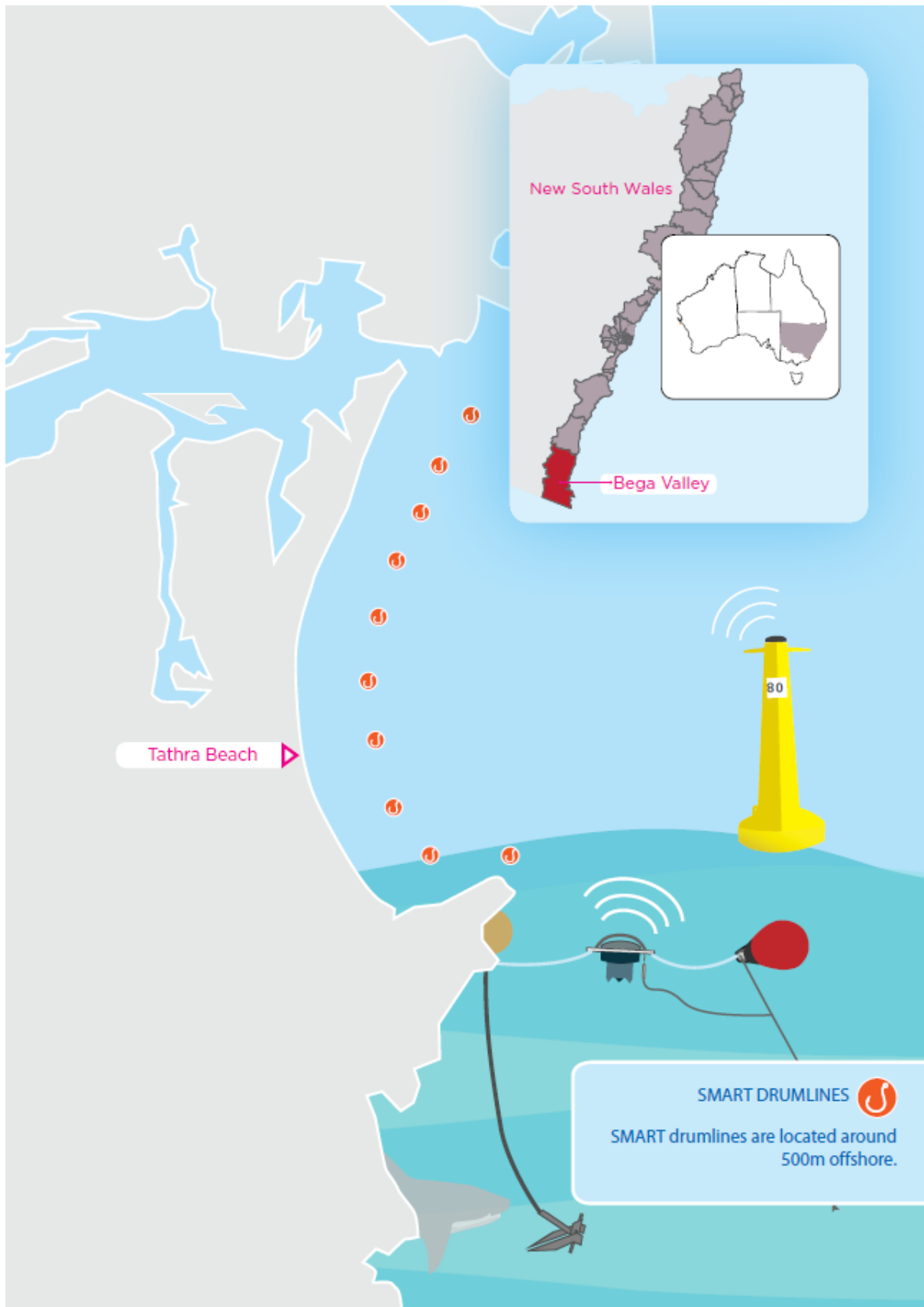


SMART drumline trial results for Bega Valley, March – April 2019

Paul Butcher, NSW Department of Primary Industries





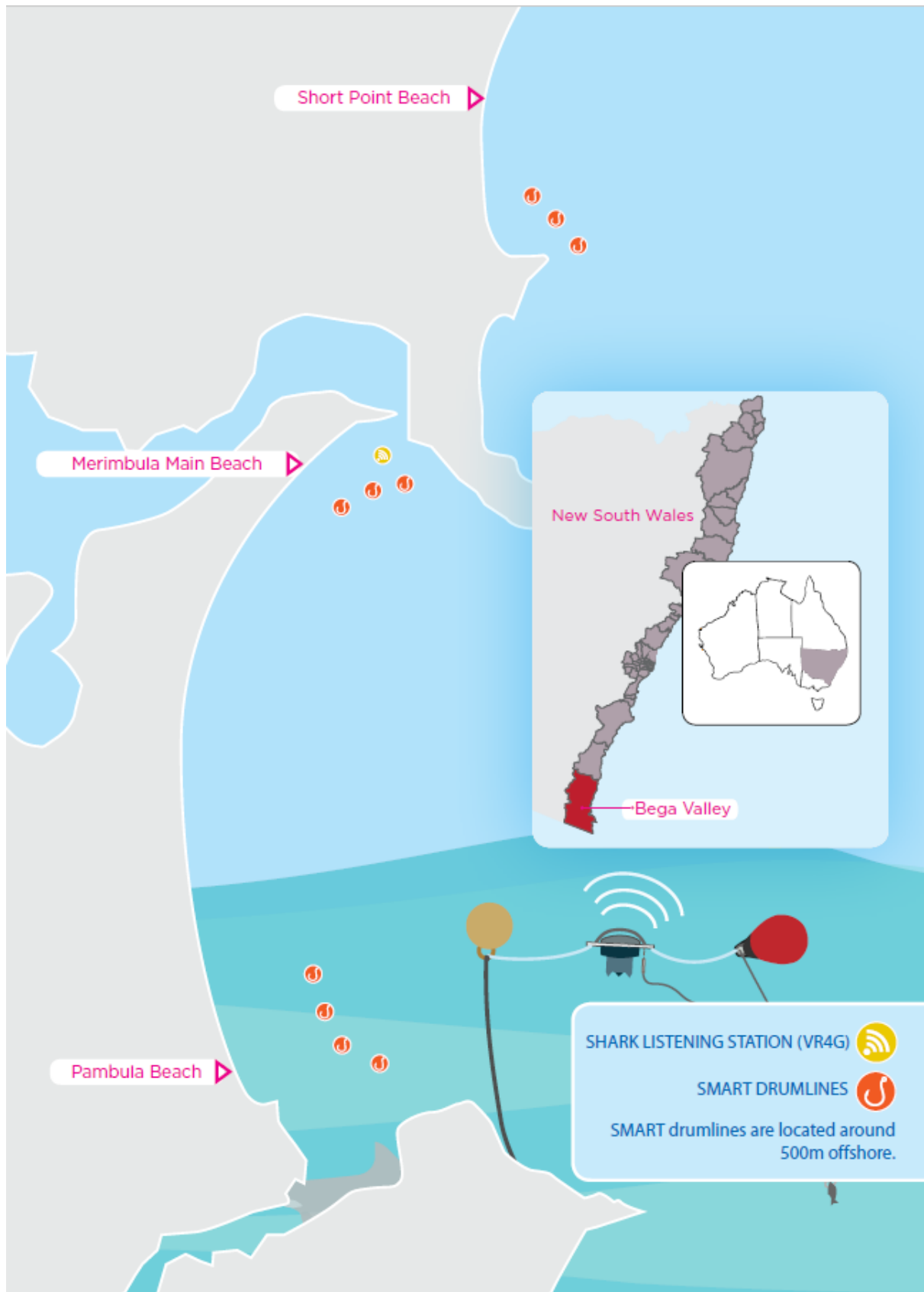


Figure 1: Map showing positions of the SMART drumlines in the two areas (Tathra Beach and Pambula-Short Point) of the Bega Valley trial, 1 March to 28 April 2019.

Operation

During the trial from 1 March to 28 April 2019 in two coastal areas of the Bega Valley (Figure 1), weather and ocean conditions allowed SMART drumlines to be deployed by DPI contractors for 57 days (95% of days) at Tathra and 58 days (97% of days) at Pambula-Short Point. Environmental conditions determined how long SMART drumlines were deployed on any given day in each area, ranging from 5:12h to 12:33h at Tathra and 5:05h to 12:11h at Pambula-Short Point. On average, SMART drumlines were deployed for 9:05h/day at Tathra and 9:19 h/day at Pambula-Short Point.

Total catches

A total of 11 target sharks were caught (Tables 1 & 2): 6 White Sharks and 5 Tiger Sharks. All White Sharks were caught at Tathra, while similar numbers of Tiger Sharks were caught at each area. No Bull Sharks were caught at either area in this Bega Valley trial.

A total of 5 non-target animals were caught (Tables 1 & 2), including 4 Bronze Whalers and 1 Grey nurse Shark. All animals were released alive and in good condition.

Two of the six White Sharks were recaptures from previous SMART drumlining (Table 1): the White Shark caught on 16 March 2019 was previously tagged and released from a SMART drumline operated by DPI researchers at Tuncurry Beach, Tuncurry on 5 December 2018; and the White Shark caught on 22 April 2019 at Tathra was previously tagged and released from the same location on 30 March 2019.

In addition to recaptures on SMART drumlines, some sharks that were tagged during this Bega Valley trial were electronically 'recaptured' (i.e. detected) on the NSW network of VR4G listening stations: the Tiger Shark from Short Point on 27 March 2019 was subsequently detected at Port Macquarie (660 km north) on 29 April 2019 and then at Crescent Head (690 km north) on 10 May 2019 on the mid north coast of NSW; and the White Shark caught on 4 April 2019 at Tathra was later detected 160 km away on the Cudmirrah Beach, Sussex Inlet VR4G on 6 May 2019.

Comments

When the contractors responded to alerts that had no catch, 8 at Tathra and 3 at Pambula-Short Point, they found that: 4 hooks at Tathra and 2 at Pambula-Short Point had no bait; and 4 hooks at Tathra and 1 at Pambula-Short Point had the bait fully intact. The contractors arrived at the SMART

drumlines within an average of 10 minutes at Tathra and 19 minutes at Pambula-Short Point following an alert.

One shark failed to set off an alert at Tathra Beach on 1 March 2019. When the contractor arrived at the respective drumline for retrieval at the end of the day, a Tiger Shark was found alive on the line, and was tagged and released (Table 1). The trigger was still intact and had not been dislodged by the movement of the shark. The other 15 sharks triggered alerts as normal.

Table 1: The date and time of capture of species and their sizes (total length in m), sex and status during the Bega Valley SMART drumline trial, 1 March to 28 April 2019.

Beach name	Date	Time	Species	Size (TL) and sex	Status
Tathra					
Tathra Beach	01/03/2019	18:00	Tiger Shark*	1.3; Female	Alive
	02/03/2019	12:24	Bronze Whaler	2.1; Male	Alive
	07/03/2019	11:30	Tiger Shark	1.7; Female	Alive
	16/03/2019	09:45	White Shark ^R	2.0; Female	Alive
	29/03/2019	13:22	White Shark	1.5; Female	Alive
	30/03/2019	12:00	White Shark	1.5; Female	Alive
	04/04/2019	16:35	White Shark	1.6; Male	Alive
	06/04/2019	09:28	Tiger Shark	1.5; Female	Alive
	11/04/2019	10:27	Bronze Whaler	2.8; Male	Alive
	22/04/2019	07:32	White Shark	1.5; Female	Alive
	22/04/2019	12:27	White Shark ^R	1.8; Male	Alive
Pambula-Short Point					
Pambula Beach	03/03/2019	13:52	Bronze Whaler	2.4; Male	Alive
Merimbula Main Beach	30/03/2019	12:36	Tiger Shark	1.8; Female	Alive
	21/04/2019	08:55	Grey nurse Shark	2.7; Male	Alive
Short Point	28/03/2019	15:30	Tiger Shark	3.2; Female	Alive
	04/04/2019	10:55	Bronze Whaler	2.6; Female	Alive

*No alert. Time is indicative of when the contractor arrived to pick up the gear at the end of the day.

^R denotes recaptured shark

Table 2: Cumulative totals of animals caught in the Bega Valley SMART drumline trial, 1 March to 28 April 2019.

Common name	Tathra	Pambula-Short Point
TARGET SHARKS		
White Shark	6	0
Tiger Shark	3	2
Bull Shark	0	0
Sub-total	9	2
NON-TARGET ANIMALS		
Bronze Whaler	2	2
Greynurse Shark	0	1
Sub-total	2	3
TOTAL	11	5