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Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA



SOUTH AFRICAN WHALE DISENTANGLEMENT TRAINING

SALDANHA BAY

In Collaboration with World Wildlife Fund (WWF), Department of Forestry, Fisheries, and the Environment (DFFE), South African Police Service (SAPS) and Sea Border Patrol Unit (SBP).

TRAINEES: SALDANHA BAY AQUACULTURE INDUSTRY, SEA BORDER PATROL, AND SOUTH AFRICAN POLICE SERVICE.

TUESDAY AND WEDNESDAY 19-20TH APRIL 2023

BACKGROUND: Globally entanglement of marine mammals in anthropogenic material is principally associated with fishing or aquaculture activities and often leads to undesirable suffering and even death or debilitation of cetaceans. Apart from welfare concerns, such mortality can significantly affect the demographics of populations. In South Africa 8 of the 41 species of whale and dolphins that occur in our South African territorial waters, regularly occur inshore. These include three large whale species, namely the southern right (*Eubalaena australis*), humpback (*Megaptera novaeangliae*), Bryde's (*Balaenoptera edeni*) and occasionally minke whales (*Balaenoptera acutorostrata*).

To mitigate the effects of entanglement the Department of Forestry, Fisheries, and the Environment (DFFE) and several affiliated organizations established the South African Whale Disentanglement Network (SAWDN). SAWDN is a national network of partners, operational since 2006, with specialized training in releasing whales from entanglements along the South African coastline and plays a major role in monitoring incidents of entanglements (collects data on species and type of gear and mortality etc.) and develops mitigation measures to reduce entanglements. SAWDN has a permit issued by DFFE to disentangle cetaceans caught in fishing gear and in Abandoned, Lost, and Discarded Fishing gear (ALDF).

To ensure the safety of volunteers and to include new areas, core members from centres where entanglements occur, are trained annually. In addition, refresher courses are offered to SAWDN trained members to update them with the latest techniques and disentanglement protocols prior to the start of a new whale season. The location of these courses varies annually and is aimed at eventually covering the entire South African coast where logistical structures can support disentanglement nodes.

With the expansion of the existing Aquaculture Industry in Saldanha Bay coupled with an incident of a humpback whale mortality in October 2021 which became entangled in an aquaculture mussel longline. It became essential to develop new cutting tools, improve collaborative efforts around disentanglements with the industry and to revise the operational procedure to include modification for cutting thick 40mm mussel longlines used for aquaculture production. The first disentanglement course was held on the 28-29th June 2022. However, to reinforce this objective, a second combined collaborative training initiative



between WWF, DFFE, SAPS, SBP, Aquaculture Industry and SAWDN was held within the Saldanha Bay Aquaculture area (19-20th April 2023) to boost the number of qualified disentanglement teams.

This was the second training session to have been held in the Saldanha Bay area within the last two years. This year's theoretical training session was held at the Saldanha Bay, *Dial Rock Municipal Hall*. The course was largely funded by the World Wildlife Fund (WWF/Fisheries Improvement Co-ordinator – Mr Phillip Tjale), the Department of Forestry, Fisheries and the Environment who provided the hall and logistical support (through the Environmental Officer – Maxhoba Jezile and Deputy Director: Aquaculture Advisor Michelle Pretorius), and the South African Whale Disentanglement Network (with LtCol. Eben Lourens Chairman of SAWDN and the Operations and Training Officer – Michael Meÿer). The course consisted of one's day's theory (Tuesday 19th April 2023) in which lectures were held in the classroom and was at the end of day followed by an examination, and a ~1.5 hours practical training session on a Saldanha Bay beach. Attendees then learnt to use the specialized disentanglement gear in preparation for the next day's practical training. On Wednesday 20th April 2023, attendees met at Sea Border Patrol to undertake an "on the water practical course" consisting of towed buoys to simulate an entangled whale. This year four vessels (two from SAPS and two from Sea Border Patrol) were used to speed up the practical training. Attendees approached the "whale" in a small inflatable to deploy a control line and keging buoys. They then mimicked the procedures of disentangling an "entangled whale". Later they used underwater goggles to attach a line to a locked down whale (entanglement below the surface) with its tail submerged. The course was offered to members of the Aquaculture Industry (ADZ), the Sea Border Patrol (SBP), South African Police (SAPS) and UCT diving unit. (See Table 1).

Theoretical Course: The Saldanha Bay *Dial Rock Municipal Hall* was set-up for lectures on Tuesday 19th April 2023 at 08h00 as there was no access to the hall late on Monday afternoon. Lectures included PowerPoint presentations, with videos of entanglement procedures and protocols used to disentangle whales as practical examples.

On the day, tables and chairs were arranged, name tags distributed etc. WWF had arranged a caterer for refreshments and lunches for both days. Loadshedding occurred twice during the morning, but SAPS had brought a generator and only minor delays occurred due to resetting the lecture area on the stage to darken the area for the PowerPoint presentations.

The agenda for the whale disentanglement training (attached – Figure 1) was made available as a printed document. Participants met at 08H00 but lectures only started at 09h00. A total of 13 volunteers attended the lectures. Eleven persons attended the practical demonstration on Wednesday. Lectures were informal and were given by both Mike Meyer and Lt Col Eben Lourens (SAWDN).

In the early morning lectures included an introduction to a revised Toolbox (including recently available new technology utilised overseas and locally) and a general overview of whale entanglement practises from around the world were highlighted. Safety issues were discussed throughout the day and were a priority. This was followed by a PowerPoint presentation on Assessing, Documenting, Disentangling and Reporting – "free moving" and "locked to the bottom whales".

After tea the group was introduced to general procedures used by SAWDN (on the white board): The different techniques for disentanglement were introduced and a specific "safety protocol" was practised on the white board using models of whales and vessels. This include the use of a small vessel and a mother vessel – as a basic procedure, although larger vessels are often used as individual disentanglement vessels in offshore areas. The procedures included the following:



- i) Assessing, documenting & stopping a free-swimming whale from further entangling itself in the rope.
- ii) Disentangling an anchored whale. The latter continued throughout the day to establish a draft procedure. There is a need to further visit the ADZ infrastructure which will enable SAWDN to finalise the amended protocol.
- iii) Operational Procedures to be undertaken during the practical day.

Local and international “case studies” were shown and participants were requested to provide disentanglement procedures and decisions, while providing the specific order of ropes to be cut. Lunch was held around 13h00.

After lunch disentanglement videos were shown to demonstrate previous operations undertaken by SAWDN members. This visually presented the various protocols and provided a better understanding of the different procedures for disentangling whales that are either locked to the bottom or free-swimming whales.

The training group were then given a written examination, which included short questions and a case history in which attendees were the incident controller and they had to formulate and plan the disentanglement of the whale, while indicating their decisions and specific procedures to be undertaken and the order of cuts to be made.

At around 17H00, the group proceeded to the area of the Caravan Park, on the beach, to practice using a grappling iron to attach onto a fast moving “whale” (being pulled by a trainee). This provided an understanding of how to coordinate the deployment of the grapnel between two crew members while “locking on” to a whale which had a very short trailing rope (**Figures 7 – 9**). Afterwards trainees alternated procedures, while using a long pole with a flying carabiner to attach to a “whale” (**Figure 10 – 12**).

Practical training course: Wednesday 20th April 2023: Disentanglement trainees met (08H00) at the Sea Border Patrol offices in Saldanha Bay, where the four training vessels were stored. The mother vessels were prepared for towing a “whale consisting of buoys and ropes”. Afterwards the group moved the vessels to the harbour facility where the boats were loaded with gear. Participants changed into their wetsuits and their safety gear.

At the harbour the four vessels and two different models of an entangled whales were attached to the large mother (tow) vessels for the disentanglement training. The vessels were kindly supplied by the South African Police Service and Sea Border Patrol. The training vessels consisted of two large inflatable vessels which would tow a “whale” and carry the participants and two small ~4.5m RIB to act as the disentanglement vessel.

A total of 11 participants undertook the at sea practical training. The individuals were given opportunities to each do an activity – from attaching a control line, to keggering the “whale” and later using the small disentanglement vessel to move up the control line and drop back safely after a “cut” to remain in the safety zone, behind the tail. Members were rotated and each participated as both the “cutter” and the “assistant” who handled the control line. Only Coxswain’s or registered boat skippers did the boat handling in the disentanglement vessel.

All participants were scored according to the **seven requirements** (below) during the practical training:



- a) Physical fitness
- b) Seamanship
- c) Gear handling
- d) Teamwork
- e) Following Instructions
- f) Communication skills
- g) Maintaining a cool head.

And a final general comment with respect to being recommended for the following teams:

- 1) Approach team or
- 2) Mother ship or
- 3) Both or
- 4) Neither

Results: Thirteen trainees attended the disentanglement course (three from Aquaculture, three from Sea Border Patrol, One from UCT Diving School and six from South African Police Service). Of the thirteen trainees: nine (69.2%) were recommended to be part of either the approach team and or the mother vessel (however three of the above members recommended, require additional in-house training – prior to becoming operational). One person was recommended to have a supervisory role on the mother vessel only (7.7%). Two aquaculture persons (15.4%) were recommended to disentangle only on the aquaculture vessels (and **presently** only in collaboration with SAWDN members). One person did not submit his examination form on theory day and did not attend the practical (7.7%). (See Table 2 for further details).

Several participants expressed their appreciation for the course.

Report compiled by

M.A. Meyer, E. Lourens and Michelle Pretorius.

SAWDN and DFFE Training Officers

Acknowledgements: Thanks are extended to the SAPS Media officer Piet Smit for allowing the incorporation of his photographs in the report.

Also, a huge thank you to Maxhoba Jezile and intern Unathi Mwan-Milisi (DFFE) for booking and funding the Saldanha Bay *Dial Rock* Municipal Hall and for other prior arrangements during and after the training. Special thanks go to Mr Philip Tjale (Fisheries Improvement Project Coordinator – WWF) for arranging and funding the accommodation of the SAPS trainees and providing his photographs of the participants during the theory at *Dial Rock Hall*. WWF also funded all the lunches and refreshments for trainees and trainers during both these days. In addition, Michelle Pretorius is thanked for continuing to assist in the background and promote the training even though she has moved to a different section in DFFE. Michelle Pretorius and DFFE are thanked for funding two full SAWDN disentanglement kits (one of which was presented to Colonel Hamilton of Sea Border Patrol and a second complete backup disentanglement kit is being stored at the DFFE Saldanha Bay offices under the supervision of Mr Wade Theron (area officer in-charge).



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Thanks, are also due to Captain Sutton (WPPS PC) who is responsible for the diving unit of the SA Police and Colonel Hamilton Sea Border Patrol Unit for providing teams and vessels used during the training. The Aquaculture group is also thanked for supporting and attending the course.

Thanks, are also expressed to Lt. Col. Eben Lourens for his suggestion of a new tool which has been successfully manufactured and provided by SAWDN in the kits to both Sea Border Patrol and the Mykonos NSRI to deal specifically with thick 40mm diameter ropes. Two additional large serrated *Spyderco* blades were imported by SAWDN from the CCS (Centre for Coastal Studies) and will form a second tool for large ropes as part of the kits for Sea Border Patrol and NSRI Mykonos. In the interim, Mr Phillip Tjale (WWF) is in the process of funding five additional large *Spyderco* blades to be placed on standby for future entanglements involving large diameter ropes.

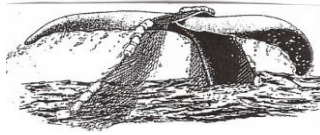
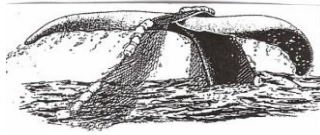


Table 1: Attendance list: Disentanglement training course Langebaan/Saldanha Bay 19-20th April 2023:

	Name	Designation	Identity Number	Organization	Email	19 th April 2023	20 th April 2023
1.	Michael Meyer	Operations and training Manager SAWDN SA Whale Disentanglement	Removed	SAWDN	Removed	✓	✓
2.	Eben Lourens	Lieutenant Colonel SAWDN Chairman SA Whale Disentanglement	Removed	SAPS/SAWDN	Removed	✓	✓
3.	Maxhoba Jezile	Environmental Officer: DFFE	Sustainable Aquaculture Management	DFFE	Removed	✓	X
4.	Unathi Mwan-Millisi	Intern: DFFE	Sustainable Aquaculture Management	DFFE	Removed	✓	X
5.	Phillip Tjale	Fisheries Improvement Project Coordinator	World Wildlife Fund	WWF SA	Removed	✓	✓
6.	Captain Sutton L.A.	SAPS Diving Commander	Removed	SAPS	Removed	✓	✓
7.	WO Voigt, G	South African Police Services	Removed	SAPS	Removed	✓	✓
8.	WO Allen, RA	South African Police Services	Removed	SAPS	Removed	✓	✓
9.	WO Jones, DA	South African Police Services	Removed	SAPS	Removed	✓	✓



10.	Sgt Visser, WJ	South African Police Services	Removed	SAPS	Removed	✓	✓
11.	Constable Van Blerk, B	South African Police Services	Removed	SAPS	Removed	✓	✓
12.	Mr. Truter P.	UCT Diver/supervisor	Removed	UCT	Removed	✓	✓
13.	WO Ely, M	Sea Border Patrol	Removed	SBP	Removed	✓	✓
14.	WO September, L	Sea Border Patrol	Removed	SBP	Removed	✓	✓
15.	Sgt. Asia	Sea Border Patrol	Removed	SBP	Could not Attend	X	X
16.	Sgt Van Zyl, H	Sea Border Patrol	Removed	SBP	Removed	✓	✓
17.	Cratton van Kniekerk	African Olive Trading 232	Removed	Aquaculture Ind.	Removed	✓	X
18.	Jacobus "Koby" Adams	Imbazza Mussels	Removed	Aquaculture Ind.	No email address	✓	✓
19.	Nceba Buhlungu	Pluto Mussels and Training	Removed	Aquaculture Ind.	Could not Attend.	X	X
20.	Leroy Moodaley	Requa Enterprises	Removed	Aquaculture Ind.	Removed	✓	X

X Unable to attend.

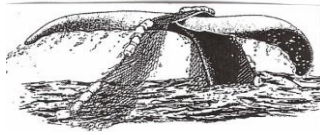


Table 2:

WHALE DISENTANGLEMENT THEORY - EXAMINATION RESULTS - LANGEBAAN 19 & 20th APRIL 2023

NAME	ORGANIZATION	PERCENTAGE OBTAINED	ORDER
WO. Ronsard Allen	SAPS	93.4%	1
Sgt. Harold van Zyl	Sea Border Patrol	86.0%	2a
WO. Laetitia September	Sea Border Patrol	86.0%	2b
Pieter Truter	UCT Diving School	83.8%	3a
Sgt. W.J. Visser	SAPS	83.8%	3b
Const. B. Van Blerk	SAPS	81.6%	4a
WO. D.A. Jones	SAPS	81.6%	4b
WO. M. Ely	Sea Border Patrol	77.9%	5
CPT. L.A. Sutton	Dive Commander SAPS	72.1%	6.
WO. G. Voight	SAPS	70.6%	7
Leroy Moodley	Requa Enterprises	48.4%	8
Koby Adams	Imbazza Mussels	14.7%	9
Cratton van Kniekerk	African Olive trading 232 (PTY)LTD	Did not submit his examination paper. Did not attend the practical. FAILED	10



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Fig 1: Agenda : South African Whale Disentanglement Network

Saldanha Aquaculture Industry, Border Police & South African Police Services and Aquaculture Industry

Saldanha Bay Training Workshop 19th – 20th April 2023

Whale Disentanglement Training

Venue: Saldanha Bay Municipal Hall, Dial Rock.

Register at **08H00** for 08H30 NB, please bring i) two colour passport photos with name on ID on back* and ii) a pen. * This does also apply to ADZ operators.

Tuesday 19th April 2023: NB Meeting starts promptly at 08h30 - (All other times are approximate, and times may vary slightly).

1.	Welcome and general house rules	10 min	08h30 - 08h40
2.	Introduction to Disentanglement Toolbox	15 min	08H40 - 08H55
3.	PPT Introduction to Whale Entanglement around the world	15 min	08H55 - 09H10
4.	PPT Presentation Assessing, Documenting disentangling – free moving and locked to the bottom whales.	60 min	09h10 - 10h10
	TEA BREAK	25 min	10h10 - 10h35
5.	General Procedures used in disentanglement on white board: i) Assess, document & stop a free-swimming whale.	40 min	10H30 - 11H10
	ii) Disentangling an anchored whale.	60 min	11h15 - 12h15
6.	Operational Procedures on the practical day	45 min	12h15 - 13h00
	LUNCH	50 min	13h00 - 13h50
7.	Case studies	25 min	13h50 - 14h15
8.	Practical training brief and allocation to vessels	15 min	14h15 - 14h30
9.	Theoretical exam (New members & updated members)	60 min	14h30 - 15h30
10.	Practical Training on beach – grapple throws & the use of a extension pole to attach to a whale.	~105 min	15h30 - 17h15

Practical Training Wednesday 20th April 2023

SAWDN PRACTICAL TRAINING – On Wednesday both the new and selected experienced members will launch at Saldanha slipway (Vessels to be launched at 08h00 – site for the training to be discussed as dependent on the weather). Due to the possibility that weather conditions are not suitable for practical training within certain areas of Saldanha Bay a decision will be made and possibly the venue moved - information to be conveyed to participants on Tuesday 19th April. Selected members from ADZ personnel will be chosen to participate in the practical session. Please note that in the interim the Practical Training will start at 09h00 and end before 13h00.

There is a maximum number of trainees that can be done in one morning due to the number of vessels available – all attempts will be made to meet that objective.

Figure 2: Lt Col Eben Lourens (SAWDN) giving a lecture on a facet of the disentanglement operation.



Figure 3: General discussion on disentanglement.



Figure 4: Discussion on identification of a southern right whale.



Figure 5: Writing the examination after theory lectures have been completed:



Figure 6: Aquaculture, Border Patrol and SAPS completing the examination:



Figure 7: Day 1: Afternoon preparations for practising disentanglement procedures on the beach.



Figure 8: Practical training on Saldanha Bay beach – learning how to use a grapnel for attaching to whales - *WO Voight praying to the gods* to ensure a secure attachment!



Figure 9: Langebaan beach practical: Cons. Van Blerk throwing a grapple attached to a working line to attach to the “whale being towed by WO. Voight”



Figure 10: Pieter Truter attaching a control line to a whale using a long pole and a flying carabiner:



Figure 11: That's how it's done! WO Jones very pleased with his attachment.



Figure 12: Constable Van Blerk attached and happy, while Sgt Visser looks sceptical?





Figure 13: Boats launched and ready. Information discussion prior to departing on the practical at sea-training:



Figurer 14: Sea Border Mother vessel heading out into bay to begin disentangling training:



Figure 15: View of SAPS mother vessel and disentanglement team preparing for an approach to “an entangled whale”:



Figure 16: Lt Col. Eben Lourens (SAPS and SAWDN Chairman) Managing the SAPS mother vessel and towing the whale while the rescue team approach to disentangle:



Figure 17: WO Voight throwing a grapple to attach to an entangled whale from the rescue vessel:



Figure 18: WO Ely pulling the small vessel up the control line towards the “whale” and WO September about to make her “cut” on the rescue boat:



Figure 19: Recovering kegg buoy and grappling iron after successfully disentangling the “whale”



Figure 20: Setting up a “locked to the bottom whale” so that the “whale entangled is a few metres below the surface:



Figure 21: Small vessel attempting a cut using goggles on an entangled whale's flukes underwater:



Figure 22: WO Allen assisting a rescue trainee (using goggles) to make a cut on a whale's tail which has been dragged down by a trap that is locked to the bottom:



Figure 23: SEA BORDER PATROL, SAPS and Aquaculture trainees receiving their new DFFE/SAWDN sponsored Disentanglement kit with Phillip Tjale (WWF Fisheries Improvement Project Co-ordinator):



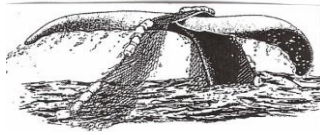
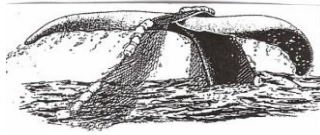


Table 3: Competency and results of the Disentanglement training course held at Langebaan: 19/04/2022-20/04/2023

Area	Name	Email address	Contact number	ID Numbers	Recommended for
Aquaculture Requa Enterprises	Leroy Moodley	Removed	Removed	Removed	All disentanglement tasks on Aquaculture vessels – while working together with SAWDN
Aquaculture Imbazza Mussels	Jacobus “Coby” Adams	Removed	Removed	Removed	All disentanglement tasks on Aquaculture vessels – while working together with SAWDN
African Olive trading 232(PTY)LTD	Cratton van Kniekerk	Removed	Removed	Removed	Attended theory but did not submit examination paper and did not attend practical. Failed
SA POLICE	WO. Ronsard Allen	Removed	Removed	Removed	All disentanglement tasks on both mother vessel and the small disentanglement vessel (<u>including Coxswain</u>)
SEA BORDER PATROL	Sgt.Harold Van Zyl	Removed	Removed	Removed	All disentanglement tasks on both mother vessel and the small disentanglement vessel (<u>including Coxswain</u>)
SEA BORDER PATROL	WO. Laetitia September	Removed	Removed	Removed	All disentanglement tasks on both mother vessel and the disentanglement vessels (<u>only after additional in-house practical training</u>)– <u>excluding Coxswain.</u>
UCT Diving School	Mr Pieter Truter	Removed	Removed	Removed	All disentanglement tasks on both mother vessel and the small disentanglement vessels (<u>including Coxswain</u>)
SA POLICE	Sgt. W.J. Visser	Removed	Removed	Removed	All disentanglement tasks on both mother vessel and the small disentanglement vessels (<u>including Coxswain</u>). (<u>only after additional in-house practical training</u>)



SA POLICE	Const. B. Van Blerk	Removed	Removed	Removed	All disentanglement tasks on both mother vessel and the small disentanglement vessels (<u>excluding Coxswain</u>).
SA POLICE	WO. D.A. Jones	Removed	Removed	Removed	All disentanglement tasks on mother vessel or the small disentanglement vessel (<u>including Coxswain</u>)
SEA BORDER PATROL	WO. M. Ely	Removed	Removed	Removed	All disentanglement tasks on both mother vessel and the small disentanglement vessels (<u>only after additional in-house practical training</u>) – <u>Excluding coxswain</u>)
SA POLICE	Cpt L.A. Sutton	Removed	Removed	Removed	All supervisory disentanglement tasks <u>on the mother vessel only</u> . (<u>excl. Coxswain</u>)
SA POLICE	WO. Voight	Removed	Removed	Removed	All disentanglement tasks on both mother vessel or the small disentanglement vessels (<u>excluding Coxswain</u>)

VIP. Please note: it is recommended that an experienced disentanglement member assist a station response team initially or at least one member of a station attends a disentanglement operation outside his station to gain some experience prior to the centre operating on their own.