



forestry, fisheries
& the environment
Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA



SOUTH AFRICAN WHALE DISENTANGLEMENT TRAINING

LANGEBAAN/SALDANHA BAY

In Collaboration with World Wildlife Fund (WWF) and Department of Forestry, Fisheries and the Environment (DFFE)

TRAINEES: SALDANHA BAY AQUACULTURE INDUSTRY, SEA BORDER PATROL, AND MYKONOS NATIONAL SEA RESCUE INSTITUTE.

TUESDAY AND WEDNESDAY 28-29TH JUNE 2022

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 whale (*Eubalaena australis*), humpback (*Megaptera novaeangliae*), Bryde's whale (*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 role in monitoring incidents of entanglements (collects data on species and type of gear 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. To achieve this objective a collaborative initiative between WWF, DFFE SAPS and SAWDN combined forces to undertake a disentanglement training course in the Saldanha Bay aquaculture area.



The two-day training session was held on the 28th & 29th June 2022; the theoretical section of this disentanglement course was held at the Langebaan Municipal offices. This course was largely funded by the World Wildlife Fund (WWF/Fisheries Improvement Co-ordinator – Mr Bokamoso Lebepe), the Department of Forestry, Fisheries, and the Environment who provided logistical support (through the Environmental officer - Michelle Pretorius), and the South African Whale Disentanglement Network (with LtCol. Eben Lourens Chairman of SAWDN and the operations and training Officer – Michael Meyer). The course consisted of one’s day’s theory (Tuesday 28th June) in which lectures were held in the classroom and was followed by an examination, and a ~1.5 hours practical training on Langebaan beach where attendees learnt to use the specialized disentanglement gear in preparation for the practical. The following day, (Wednesday 29th June) attendees met at the Saldanha Bay Naval harbour to undertake an “on the water practical course” consisting of towed buoys to simulate an entangled whale. Attendees approached the “whale” in a small inflatable to deploy a control line and keggings 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 (SAPs) and Mykonos NSRI station (See Table 1).

Theoretical Course: The Langebaan Municipal Council Chambers were set-up for lectures on Tuesday 28th June at 07h50. Lectures on the day 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. Unfortunately, loadshedding occurred during the morning so several of the lectures had to be rearranged to fit within non-loadshedding times and lectures were consequently adapted accordingly.

The agenda for the whale disentanglement training (**attached – Figure 1**) was displayed on the screen and made available as printed documents. Participants met at 08H00 for 08H30 and lectures started soon afterwards. A total of 14 volunteers attended the lectures and practical demonstration on Tuesday and Wednesday respectively. 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 rigorously 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 and discussion of the revised Aquaculture disentanglement procedures to be followed. The latter continued throughout the day to



- establish a draft procedure and included inputs from the aquaculture participants. This procedure was updated after the meeting. 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 during loadshedding. 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.

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.

At around 16H00, the group proceeded to the Langebaan 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 5 – 8**). Afterwards trainees alternated procedures, while using a long pole with a flying Carabiner to attach to a “whale” (**Figure 9**).

Practical training course: Wednesday 29th June 2022: Disentanglement trainees met (08H00) at the Sea Border Patrol offices in Saldanha Bay, where the three training vessels were stored. The mother vessel was prepared for towing a “whale consisting of buoys and ropes”. Afterwards the group moved the vessels to the Naval harbour facility where the boats were loaded with gear. Participants changed into their wetsuits and their safety gear.

Prior to launching three volunteers were tied together on the quay (to simulate the disentanglement vessel), while using a control line attached to the “whale” and a safety line to move up to and retreat from a thrashing whale (**See Figure 9**).

In the interim members of the Aquaculture group met once again at the Langebaan Municipal Council Chambers at 08H30 to attend a further lecture regarding the ADZ requirements according the Environmental Authorisation (EA), Environmental Management Programme (EMPr) and Endangered, Threatened and Protected (ETP) species training, presented by Dr Simon Elwen of SEA SEARCH: See agenda below:

8:30	Meet and Introductions	8:30
8:40	Aquaculture and Endangered and Threatened Species - Obligations within the ADZ and Environmental Management Plan	8:40
9:10	Endangered and Threatened Species – Awareness, Monitoring and Mitigation (for MSC certification)	9:10

This training covered aspects of awareness training around the EA which is the approval given by the Department of Forestry, Fisheries and the Environment (DFFE) to develop and expand sea-based



aquaculture in the Saldanha Bay area. The EMPr is developed to manage all aspects of impact on the environment for the design, construction, operation and decommissioning of aquaculture farms. There is a need to conserve ETP species in our SA waters, lists of common ETP species which occur regularly within the Saldanha ADZ need to be monitored and there is legislation requiring legal protection for these species within South Africa. The Saldanha Bay ADZ farmers are therefore obliged by legislation to ensure that no harm come to these species. The awareness training aimed at ensuring that the operators are aware of this requirement and to facilitate the collection of data towards the monitoring efforts for the ADZ. Once the morning training session was completed the operators joined the other trainees on the water to continue to observe the SAWDN practical training.

At the harbour the three vessels and two different models of an entangled whales were prepared for the disentanglement training. The vessels were kindly supplied by the South African Police Services. The training vessels consisted of a large inflatable vessel which would tow a “whale”, and a 4.5m RIB to act as the disentangling vessel. A second small inflatable was to be used to transport personnel onboard the mother vessel (which was towing the whale) and the disentanglement vessel to save on time during trainee/crew changes.

A total of 9 participants undertook the at sea practical training, while 6 members (initially) attended Aquaculture endangered and threatened species lectures but would later in the day join the group. The teams 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 each “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 (private) 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: 12 Trainees attended the disentanglement course. Of these 6 trainees (50.0%) were recommended to be part of both the approach team and the mother vessel, 4 aquaculture persons (33.3%) were recommended to disentangle only on the aquaculture vessels (and **presently** only in collaboration with SAWDN members). Two persons (16.7%) failed. One person failed the theory, and



forestry, fisheries
& the environment
Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA



the other failed the practical and as such they have been eliminated from the disentanglement team entirely, unless they redo the course. (See Table 2).

Many participants have expressed their appreciation for the course and acknowledged that the course was more complex than they expected. There was a keen interest to repeat the training in the future based on a need for more participants to be trained in the Saldanha bay area.

Report compiled by

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

SAWDN Training Officers

Acknowledgement: Thank you is extended to Bokamoso Lebepe and Eben Lourens for allowing the incorporation of their photographs.

Also, thanks to Michelle Pretorius (DFFE) for assisting with numerous arrangements both prior and during the training and a huge thank you to Mr Bokamoso Lebepe (WWF) for arranging funding (WWF) for the accommodation for trainers, hotel accommodation for trainers, lunches and refreshments of trainees and trainers during both days.

Thanks, are also due to the SA Police for providing vessels used in the training and the Aquaculture group for assistance and providing information on both gear and the development of new combined disentanglement procedures to trial in case of future whales being entangled in their gear.

Thanks also to Eben Lourens for the suggestion of a new tools to be fabricated locally to deal specifically with thick ropes.

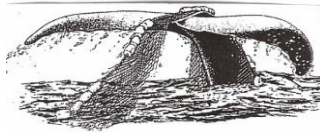
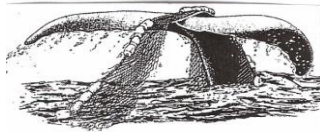


Table 1: Attendance list: Disentanglement training course Langebaan/Saldanha Bay 28-29th June 2022:

	Name	Designation	Organisation		28 th June 2022	29 th June 2022
1.	Michael Meyer	Operations and training Manager SAWDN	South African Whale Disentanglement Network	SAWDN	√	√
2.	Eben Lourens	Lieutenant Colonel SAWDN Chairman	South African Whale Disentanglement Network	SAWDN	√	√
3.	Michelle Pretorius	Environmental Officer: Project Manager	Sustainable Aquaculture Management	DFFE	√	√
4.	Bokamoso Lebepe	Fisheries Improvement Project Coordinator	World Wildlife Fund	WWF SA	√	√
5.	Simon Elwen		Sea Search	SS	x	√
6.	Herman van Zyl	Skipper	Atlantic Royal	AR	√	√
7.	CJ Mostert	Skipper	Atlantic Royal	AR	√	√
8.	Pierre Colombo	Marine motorman	Atlantic Royal	AR	√	√
9.	Damian Norman	Skipper / assisting factory manager	AquaFoods	AF	√	√
10.	IC Hamilton	Colonel - Sea Border Patrol	South African Police Services	SAPS	√	x
11.	Evert Le Grange	Sea Border Patrol	South African Police Services	SAPS	√	√
12.	Van Rooy	Sea Border Patrol	South African Police Services	SAPS	√	√



13.	Leppan	Sea Border Patrol	South African Police Services	SAPS	√	√
14.	Tallie	Sea Border Patrol	South African Police Services	SAPS	√	√
15.	Volsak	Sea Border Patrol	South African Police Services	SAPS	√	√
16.	B Mzayifani	Sea Border Patrol	South African Police Services	SAPS	*	*
17.	Charlene Frick	Mykonos NSRI	National Sea Rescue Institute	NSRI	√	√
18.	Jacques Labuschagne	Mykonos NSRI	National Sea Rescue Institute	NSRI	√	√
19.	Marietha Dippenaar	Mykonos NSRI	National Sea Rescue Institute	NSRI	√	√
20.	Cpt L.A. Sutton*	Sea Border Patrol Commander	Commander SAPS Dive Unit	SAPS	x	x

***Attend Court as part of his duties.**

X Unable to attend.

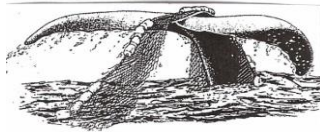
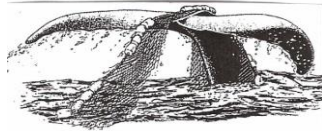


Table 2:
WHALE DISENTANGLEMENT TRAINING RESULTS - LANGEBAAN 28 & 29th JUNE 2022

NAME	ORGANIZATION	PERCENTAGE OBTAINED	ORDER	RESULT
Charlene Frick	NSRI MYKONOS	89.70%	1	PASSED BOTH VESSELS (NOT COXSWAIN)
Jermaine Leppan	SEA BORDER PATROL	80.15%	2	PASSED BOTH VESSELS (NOT COXSWAIN)
Marietha Dippenaar	NSRI MYKONOS	80.10%	3	PASSED BOTH VESSELS (NOT COXSWAIN)
Ian Tallie	SEA BORDER PATROL	77.94%	4	PASSED BOTH VESSELS (NOT COXSWAIN)
Jacques Labuschagne	NSRI MYKONOS	72.06%	5	PASSED BOTH VESSELS (NOT COXSWAIN)
Evert Le Grange	SEA BORDER PATROL	69.12%	6	PASSED BOTH VESSELS (NOT COXSWAIN)
Herman van Zyl	ATLANTIC ROYAL	64.71%	7	PASSED (only on Aquaculture vessels) with SAWDN.
Van Rooy	SEA BORDER PATROL	63.20%	8	Failed Practical and has been eliminated. Must redo course.
Damian Norman	AQUAFOODS	61.76%	9	PASSED (only on Aquaculture vessels) working with SAWDN
CB Mostert	ATLANTIC ROYAL	56.60%	10	PASSED (only on Aquaculture vessels) working with SAWDN
Pierre Colombo	ATLANTIC ROYAL	55.88%	11	PASSED (only on Aquaculture vessels) working with SAWDN
Mzunzima Volsak	SEA BORDER PATROL	48.53%	12	Failed theory and has been eliminated. Must redo course.
B Mzayifani	SEA BORDER PATROL	HAD TO GO TO COURT AND COULD NOT ATTEND		MUST STILL ATTEND COURSE AND PRACTICAL



forestry, fisheries
& the environment
Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA



Fig 1: Agenda : South African Whale Disentanglement Network

Saldanha Aquaculture Industry, Border Police & National Sea Rescue Institute

Langebaan Training Workshop 28th – 29th June 2022

Whale Disentanglement Training

Venue: Langebaan Municipal Chambers, Bree Street, Langebaan.

Register at **08H00** for 08H30 NB, please bring i) two colour passport photos with name on back* and ii) a pen. * This does not apply to ADZ operators.

Tuesday 28th June 2022: NB Meeting starts promptly at 08h30 - (All other times are approximate, and times may vary slightly).

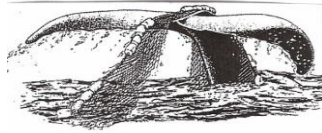
1.	Welcome and general house rules	10 min	08h30 - 08h40
2.	Introduction to Disentanglement Toolbox	15 min	08H40 - 08H55
3.	PPT Introduction to Whale Entanglement around the world	15 min	08H55 - 09H10
4.	PPT Presentation Assessing, Documenting disentangling – free moving and locked to the bottom whales.	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 and discussion of revised Aquaculture disentanglement procedures	60 min	11h15 - 12h15
6.	Operational Procedures during 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 & attempts at using the long pole.	~105 min	15h30 - 17h15

SEA SEARCH TRAINING

Wednesday 29th June 2022:



SEA SEARCH LECTURE For ADZ Operators: (Dr Simon Elwen)



ADZ operators will meet at training venue: Langebaan Municipal Chambers, Bree Street, Langebaan at 08h30:

8:30	Meet and Introductions	8:30
8:40	Aquaculture and Endangered and Threatened Species - Obligations within the ADZ and Environmental Management Plan	8:40
9:10	Endangered and Threatened Species – Awareness, Monitoring and Mitigation (for MSC certification)	9:10

Practical Training Wednesday 29th June 2022

SAWDN PRACTICAL TRAINING – On Wednesday both the new and selected experienced members will launch at Saldanha or Mykonos slipway (Vessels to be launched at 08h00 – site for training to be discussed according to the weather) for the practical training. 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 28th June. Selected members from ADZ personnel will be chosen to observe the practical session **after their SEA SEARCH lecture**. 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: Training Team at meeting



Figure 3: Eben Lourens presenting his PPT lecture.



Figure 4: Drawings of the Aquaculture Longline to determine a procedure for disentangling



Figure 5: Day 1: Practical training on Langebaan beach – learning how to use a grapnel for attaching to whales:



Figure 6: Langebaan beach practical: throwing a grappling line to attach to the “whale”



Figure 7: Langebaan beach: Throwing the grappling iron to attach to the “whale” and “pull back”



Figure 8: Attaching a control line to a whale using a long pole and a flying carabiner:



Figure 9: Practical training at sea: (Day 2) – Attendees on the harbour slipway using a safety line to retreat from a tail slapping whale:



Figure 10: setting up for at sea practical:



Figure 11: View from mother vessel of team approaching “whale”:



Figure 12: About to work up the Control Line with the small boat attached to “whale”.



Figure 13: Pulling the small vessel up the control line towards the “whale” and reporting progress to mother vessel:



Figure 14: Disentanglement team moving up the control line



Figure 15: Hauling in to prepare to disentangle whale and ensuring rope is clear of vessel:



Figure 16: Small vessel (Attempting a cut on entangled whale):



Figure 17: Using goggles to make a cut on a whale's tail which has been dragged down by a trap locked to the bottom:



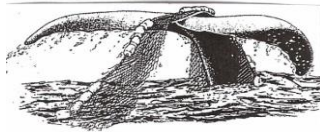
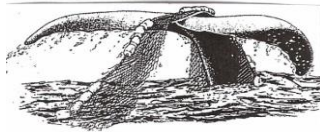


Table 3: Competency and results of the Disentanglement training course held at Langebaan: 28/06/2022-29/06/2022

Area	Name	Recommended for
Aquaculture Atlantic Royal	Herman van Zyl Skipper	All tasks on Aquaculture vessels - Working with SAWDN
Aquaculture Atlantic Royal	CJ Mostert Skipper	All tasks on Aquaculture vessels - Working with SAWDN
Aquaculture Atlantic Royal	Pierre Colombo Marine motorman	All tasks on Aquaculture vessels - Working with SAWDN
Aquaculture AquaFoods	Damian Norman Skipper/Assisting Factory Manager	All tasks on Aquaculture vessels - Working with SAWDN
Border Patrol	WO Evert La Grange	All tasks on disentanglement vessels (incl . Coxswain)
Border Patrol	WO Mario Van Rooy	Failed Practical can attend a second course
Border Patrol	Sgt Jermaine Leppan	All tasks on disentanglement vessels (incl . Coxswain).
Border Patrol	Sgt Ian Tallie	All tasks on disentanglement vessels (incl . Coxswain)
Border Patrol	Sgt Mzuzima Volsak	Failed Theory can attend a second course
Border Patrol	B Mzayifani	Attended court Case Must still do course
Mykonos NSRI	Charlene Frick	All tasks on disentanglement vessels (excl. coxswain)
Mykonos NSRI	Jacques Labuschagne	All tasks on disentanglement vessels (excl. coxswain)



Mykonos NSRI	Marietha Dippenaar	All tasks on disentanglement vessels (excl. coxswain)
SA Police	Cpt L.A. Sutton	Unable to attend course.

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