FinBook **Mandurah**

An identification catalogue for dolphins observed in the Peel-Harvey Estuary

FOURTH EDITION – 2020

Department of **Biodiversity, Conservation and Attractions**
GOVERNMENT OF WESTERN AUSTRALIA
DOLPHIN WATCH
ESTUARY GUARDIANS PEEL-HARVEY
JTC JOHN TONKIN COLLEGE Mandurah Western Australia
Murdoch UNIVERSITY
ECU EDITH COWAN
PHCC Working Together Peel-Harvey Catchment Council

Foreword

It is with great pleasure that, as Patron of the Perth *Dolphin Watch* project and a member of the Mandurah community since 1985, I write the foreword to the new edition of the splendid *FinBook Mandurah*. This book complements the highly successful *FinBook* for the Swan Canning Riverpark dolphins, and serves as a guide to identify individual animals so that we can develop a deeper understanding of the lives and needs of the dolphin population in the Peel-Harvey Estuary – animals that are so close to many who live in or visit the Peel region. This book enables us all to become citizen scientists and add to the data collected by the Mandurah Dolphin Research Project. By becoming familiar with the dolphins and having more eyes on the estuary, our community can become more connected to the local environment and more protective of it.

I particularly compliment The Estuary Guardians team from John Tonkin College who realised that we needed a *FinBook* for the many Mandurah dolphins. The first edition was produced in 2016, working with the Mandurah Dolphin Rescue Group who have watched over the dolphins for many years, along with the Mandurah Dolphin Research Project group. The achievement has been recognised by many including the Peel-Harvey Catchment Council and the Department of Biodiversity, Conservation and Attractions.

Since 2016, far more information has been gathered about the Mandurah dolphins, hence the publication of this updated fourth edition. I am sure that the knowledge gained by referencing this book will continue to be crucial in ensuring the survival and wellbeing of dolphins in the Peel-Harvey Estuary. Such knowledge is essential for good policy decision making and for sound management practices. Moreover, the book is a template for those who wish to monitor and protect other endangered animal populations. I commend this book to you and congratulate again all who have worked to bring it to us.

Professor Lyn Beazley AO FAA FTSE

Above Peel-Harvey resident female Twenty-one with her calf Nikaila, who was born in 2017. Twenty-one is Twenty-two's daughter. In March 1997, Twenty-one and Twenty-two were freeze branded then released into deeper water after they stranded with Zero-one and three other dolphins.

Front cover An adult female, Hayley, displaying sunburn scarring. Many of the resident dolphins have sustained sunburn injury while being stranded in the shallows of the Peel-Harvey. Although not all individuals have survived being stranded and sunburnt, those who have show bright white scars as a constant reminder of the risks they take by living in the estuary.

Dolphin photos Krista Nicholson, Mandurah Dolphin Research Project, Sally Kirby, Mandurah Volunteer Dolphin Rescue Group, Natalie Goddard, Mandurah Cruises

Bird photos Bill Howard

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Welcome to **Fin**Book **Mandurah**

Estuary Guardians was established in 2015 by teachers Kim Davies and Barbara Sing together with students from John Tonkin College and was launched at the student-initiated Inaugural Dolphin Community Forum. The forum brought together community groups and researchers who are monitoring the health of the local dolphin population or who have a vested interest in the long-term protection of the estuary. By collaborating and meeting with the various environmental conservation organisations in the catchment, there can be more powerful outcomes and messages regarding the health and sustainability of the Peel-Harvey Estuary. Estuary Guardians act as an 'umbrella' to these organisations without affecting the individual identities of each of them. With representatives from each organisation meeting together, sharing ideas and seeing where there are avenues to pitch in and help each other, we have a greater chance of achieving objectives more effectively.

The students, in collaboration with Mandurah Dolphin Research Project, Mandurah Volunteer Dolphin Rescue Group, and Mandurah Cruises produced the first FinBook of dolphins in the Mandurah Estuary in 2016. The FinBook enables members of the community to identify the local dolphins and contribute to monitoring and research effort by recording dolphin sightings via the Dolphin Watch mobile application launched in Mandurah in 2017.

Estuary Guardians has evolved over the past five years to become a community driven group connecting the public, government and local environmental groups to not only monitor the dolphins but the whole Peel-Harvey ecosystem.

Taylah Shier (Estuary Guardian)

Dolphin Watch

Dolphin Watch is a collaborative, citizen science research and education project developed by the Department of Biodiversity, Conservation and Attractions (DBCA) together with Murdoch and Curtin universities in 2009 to help learn more about the resident bottlenose dolphins in the Swan Canning Riverpark. *Dolphin Watch* is now extended to the resident dolphins in the Peel-Harvey Estuary.

Researchers and DBCA staff train volunteers, who play an important role in monitoring dolphins as citizen scientists, in techniques for recording the movement and behaviour of dolphins. Volunteers play an essential role in monitoring dolphins as citizen scientists. By attending training, people become more informed about conservation issues and can participate in activities to help the waterways and the wildlife that inhabits them.

Volunteer information, photographs and videos help build a picture of the dolphin community. *Dolphin Watch* shares information and expertise so that industry, government and the community can develop effective management activities and policy to help protect dolphins and their habitats.

The *Dolphin Watch* smartphone app enables community members to record information such as location and behaviour about the dolphins they encounter. Researchers can use this information to better understand how the dolphins use the Peel-Harvey waterways. The *Dolphin Watch* app is available to download for free from the App Store (iPhone) or Google Play (Android).

Use the QR code below to visit the Estuary Guardians website and listen to interesting stories about some of the Mandurah dolphins.

To use the QR code, download a QR reader and hold your mobile phone over the code until it clicks. You will then be taken to the Estuary Guardians website where you will be able to listen to dolphin stories.

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Peel-Harvey Catchment Council

Ramsar Convention on Wetlands

The Peel-Yalgorup Wetlands

The Peel-Yalgorup Wetlands System is located approximately 70km south of Perth and stretches more than 60km from north to south and approximately 10km east to west. Its 26,530 hectares includes the Peel Inlet, Harvey Estuary, Lake McLarty, Lake Mealup, several conservation reserves, and the lands and 10 lakes of Yalgorup National Park, including Lake Clifton and Lake Preston. The Peel-Yalgorup Wetlands System meets seven of the nine criteria against which a site may be Ramsar-listed.

The Peel-Yalgorup Wetlands System was listed as Ramsar site 482 in 1990, recognising it as an internationally significant wetland under the Convention on Wetlands of International Significance, especially as waterfowl habitat. This convention was signed in Ramsar, Iran in 1971 and is more commonly known as the Ramsar Convention. It was the first modern international agreement on the conservation and sustainable use of natural resources. Australia was among the first countries to sign the agreement, which came into force in Australia in 1975. Australia has 65 Ramsar-listed sites.

The agreement's mission is 'the conservation and wise use of all wetlands through local, regional and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world.' All signatories to the Ramsar Convention commit to the wise use of all the wetlands and waters in their territory. The agreement covers all aspects of wetland conservation, recognising them as ecosystems that are extremely important for biodiversity conservation and for the wellbeing of human communities.

The international importance of the Peel-Yalgorup System

- The Peel-Yalgorup Wetlands System incorporates the largest and most diverse estuarine complex in south-west Australia.
- The Peel Inlet and Harvey Estuary are south-west Australia's most important areas for waterbirds, supporting more than 20,000 each year. More than 150,000 birds were recorded at one time in the 1970s. Shorebird 2020 Count data for 2008 to 2017 showed the Peel-Yalgorup Wetlands System supported an average of 44,268 birds (most counted was 92,665 in 2013 and least was 20,852 in 2017) and 54 shorebird species (most was 62 in 2013 and least was 40 in 2015) each year.
- The Peel-Yalgorup System regularly hosts more than one percent of the world's populations of 14 waterbird species, including at least six migratory shorebird species. These include the red-necked avocet, red-necked stint, red-capped plover, banded stilt, Caspian tern and fairy tern.
- Lake Clifton is one of only two locations in south-west Australia and among very few in the world where living thrombolites occur in inland waters. It has the largest 'lake-bound' microbialite reef in the southern hemisphere. The thrombolites were listed as critically endangered in 2010.
- The Peel-Yalgorup Wetlands System includes good examples of coastal saline lakes such as Lake Preston and freshwater marshes and lakes such as Lake Mealup.
- Australia also has international agreements with China (CAMBA), Japan (JAMBA) and the Republic of Korea (ROKAMBA) to protect migratory birds and their habitats.

Left The curlew sandpiper is a migratory bird from the northern hemisphere that summers in the Peel-Harvey Estuary and other sites in Australia. Their breeding habitat is the lowland tundra of Siberia. Photo – Bill Howard

Meet the Mandurah dolphins

The Peel-Harvey Estuary is occupied by a year-round resident social community of approximately 90 bottlenose dolphins (*Tursiops aduncus*). In late 2019, 41 percent of the dolphins were recorded as adults, 33 percent as juveniles and 26 percent as dependent calves. Although a similar number of males and females exist in the immature age classes, two thirds of the adult population are female. Therefore, we suspect that some males may emigrate from the estuary as they reach maturity. In contrast, we have not observed any dolphins entering the social community or immigrating into the estuary. As such, the birth of new calves is the only way dolphins are added to the resident dolphin community. Although the Peel-Harvey dolphins mainly use the estuarine waterways, some of them also venture out to coastal waters.

Mandurah has been identified as a bottlenose dolphin live stranding hotspot. In 1990, 10 male dolphins stranded alive in Lake Goegrup up the Serpentine River. Unfortunately, two of the dolphins passed away but the remaining eight were freeze branded, with numbers 01 to 08 and released into deeper water. Since then, 84 live stranding events have been recorded in the Peel-Harvey Estuary. Approximately half of these have been live strandings involving members of the resident dolphin community. Although today stranded dolphins are no longer freeze-branded for identification purposes, we can still observe freeze-branded dolphins 14, 21 and 22 in our waterways. Sadly 01, the first freeze-branded dolphin, also known as 'The King', passed away in 2019. He has been removed from this edition of the FinBook but continues to showcase the longevity of dolphins who have live stranded on multiple occasions. When a dolphin is high and dry stranded, there is a high risk of sustaining sunburn injury. A third of the resident dolphins have stranded at least once, some on multiple occasions. Twelve percent show sunburn scarring indicative of having spent some time stranded. We hope that the Dolphin Watch initiative will aid in early detection of stranded dolphins and enable a quick rescue response to ensure their survival.

Dolphins that regularly occupy the Dawesville Cut are part of a different social community of approximately 30 individuals. These dolphins reside in the Cut as well as in adjacent coastal waters. Occasionally some of them may visit the estuary, particularly Collins

Pool, and associate with the Peel-Harvey residents. Sometimes you may also observe some of the Peel-Harvey residents in Dawesville Cut. Most often they are passing through while venturing to, and back from the ocean or enjoying a feed or a quick social with the Dawesville Cut dolphins.

In this edition of FinBook we have included XX of the well-marked Peel-Harvey resident individuals and XX coastal dolphins that regularly reside in Dawesville Cut.

Mandurah Dolphin Research Project

The Mandurah Dolphin Research Project (MDRP) was established in 2016 to conduct a population assessment, including abundance estimation, for dolphins occupying the Peel-Harvey and adjacent coastal waters. Since our research commenced, we have encountered more than 1200 groups of dolphins and identified over 500 individuals.

MDRP has been a partnership between Murdoch University, City of Mandurah, Peel Development Commission through Royalties for Regions, Mandurah Cruises, Mandurah Volunteer Dolphin Rescue Group, and John and Bella Perry.

FinBook **Mandurah** sections

FinBook Mandurah is divided into four sections representing different areas of the Peel-Harvey Estuary. Each individual dolphin is placed in one section only, based on where he or she is most often encountered. Individuals may also be encountered in other areas. The four sections cover the five zones in the *Dolphin Watch* smartphone app, shown on the map on the following page.

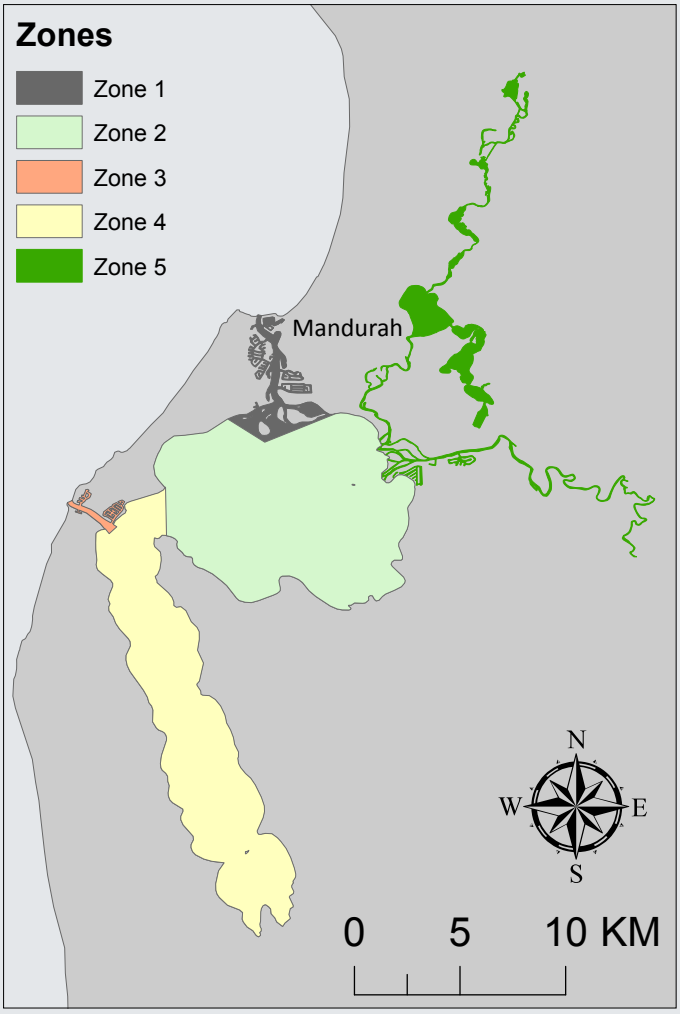
Town waters (Zone 1)
Adult females with calves often seen in town waters.

Rivers (Zone 5)
Females consistently observed in the Serpentine and Murray rivers.

All areas (Zones 1, 2, 4 and 5)
Females and males of all ages who use the entire Peel-Harvey waterways including the Serpentine and Murray rivers.

Dawesville Cut (Zone 3)
Coastal females and males of all ages who are often seen in Dawesville Cut but do not enter the Peel-Harvey Estuary.

The nicks and notches as well as scarring you can see on the dorsal fins are mainly caused by interactions with other dolphins. Some animals, like John Edwards, have lost part of their dorsal fin due to entanglement in fishing line. Others may have deeper wounds due to being bitten by a shark or hit by a propeller. All the marks are unique and allow us to identify the individuals over time.



The *Dolphin Watch* smartphone app divides the Peel-Harvey Estuary into five zones

Town waters **(Zone 1) Adult females**

Name **Lowblow**
Sex Female
Age Adult
Stranded No

Notes
Lowblow's calf Benji is now weaned and has remained in the estuary. Lowblow gave birth to a new calf, Ahora, in 2019 but unfortunately this calf did not survive.

Name **Hatrick**
Sex Female
Age Adult
Stranded No

Notes
Hatrick had a calf, Halo, in 2016. Halo was badly entangled in rope as a small calf but continued to thrive after he was disentangled. Halo was last seen in August 2018. We suspect he moved to coastal waters after weaning or unfortunately has passed away. Hatrick gave birth to a new calf, Hali, in November 2019.

Name **Nicky**
Sex Female
Age Adult
Stranded Yes
Year stranded 2006

Notes
Nicky is one of the older females in the Peel-Harvey dolphin community. She has produced five calves that we know of since 2009. Her weaned calves Christmas, Giggles and Surprise are observed frequently in the estuary. In 2018, Nicky gave birth to a calf, Djinda, who was separated from her at eight months old. Unfortunately, although Djinda thrived for some time, she was found deceased in August 2018. Nicky gave birth to a new calf, Solo, in May 2019.

Town waters **(Zone 1) Adult females**

Name	**Christmas**
Sex	Female
Age	Adult
Stranded	Yes
Year stranded	2009

Notes

Christmas's body has white scarring from being sunburnt while stranded. She is Nicky's daughter. Her first calf, Easter, was born in 2016 but only lived for about seven months. Christmas became pregnant again almost immediately and had a new calf, Spirit, in January 2018.

Name	**Topnotch**
Sex	Female
Age	Adult
Stranded	No

Notes

Topnotch's calf, Autumn, was born in 2015 and is now independent. Topnotch gave birth to a new calf, Carter, in 2018.

Name	**Twenty-two**
Sex	Female
Age	Adult
Stranded	Yes
Year stranded	1997

Notes

Twenty-two and her then calf Twenty-one were stranded in 1997 and freeze-branded on both sides of their dorsal fin before being moved to deeper waters. Twenty-two also had a calf in 2015, Jac, who is now weaned and part of the Peel-Harvey dolphin community. In March 2019, Twenty-two had a new calf called Tswizzle.

Rivers **(Zone 5) Adult females**

Name **Bendy Wendy**
Sex Female
Age Adult
Stranded Yes
Year stranded 1998

Notes
Bendy-Wendy is one of the older females in the Peel-Harvey dolphin community. She gave birth to a calf, Pan, in 2016. Pan suffered severe sunburn injury, indicative of having been high and dry stranded, in February 2019. Unfortunately Pan died likely due to these injuries. Bendy-Wendy gave birth to a new calf, Tinkerbell, in 2019 but unfortunately this calf did not survive.

Name **Matata**
Sex Male
Age Juvenile
Stranded Yes
Year stranded 2018

Notes
Matata was orphaned in 2016, at the age of two, when his mother was found deceased in the estuary. Matata has sunburn scarring, which is indicative of him having spent some time high and dry stranded.

Name **River**
Sex Female
Age Adult
Stranded Yes
Year stranded 2014

Notes
River was never observed stranded but the sunburn, now a white scar, on the left side of her body indicates she has spent some time high and dry stranded. River gave birth to her first calf, Merak, in 2019.

Rivers **(Zone 5) Adult females**

Name **Spike**
Sex Female
Age Juvenile
Stranded No

Notes
Spike is an individual we do not see very often and presume she spends a lot of her time up in the rivers or shallows of South Yunderup.

Name **Squarecut**
Sex Female
Age Adult
Stranded No

Notes
Squarecut is one of the older females in the Peel-Harvey dolphin community. She has a very interesting, and upsetting, reproductive history. Her weaned calf, Tom, who was born in 2012, and who you may remember from previous editions of FinBook Mandurah, was found deceased in 2019. Lindy, her calf born in 2015, was also found deceased in 2017. Another calf, Andrew, born in 2017, who we presume was Squarecut's calf, was found live stranded in April 2017 and euthanised. To our delight, Squarecut gave birth in front of an audience to yet another calf, PomPom in 2018. Unfortunately, PomPom only lived for a few weeks and was found deceased in the Murray River. In 2019, Squarecut gave birth again to a calf, Kalani. Yet again, Kalani did not survive.

All areas **(Zones 1, 2, 4 and 5) Males**

Name **Fourteen**
Sex Male
Age Adult
Stranded Yes
Years stranded 1994, 2018

Notes
Fourteen was freeze branded in 1994 when he stranded with three other males at Soldiers Cove. He is mostly seen with Zero-one and Blake. Fourteen and Zero-one were stranded at Herron Point for three days in January 2018. They escaped into deeper water without human intervention.

Name **Blake**
Sex Male
Age Adult
Stranded No

Notes
Blake is usually seen with Zero-One and Fourteen.

Name **Bitts**
Sex Male
Age Adult
Stranded No

Notes
Bitts is usually seen with Frankenstein and Hook.

All areas **(Zones 1, 2, 4 and 5) Males**

Name **Frankenstein**
Sex Male
Age Adult
Stranded No
Notes
Frankenstein is usually seen with Hook and Bitts.

Name **Hook**
Sex Male
Age Adult
Stranded No
Notes
Hook is usually seen with Frankenstein and Bitts.

Name **Crook**
Sex Male
Age Adult
Stranded Yes
Year stranded 2009

Notes
Crook was never observed stranded but extensive sunburn, now white scarring, is evidence of him having spent time stranded in the sun. Crook's dorsal fin is very bent to the right making him look like a smaller individual. Crook is usually seen with Ruby, Trouble and Tooth.

All areas **(Zones 1, 2, 4 and 5) Males**

Name **Ruby**
Sex Male
Age Adult
Stranded No
Notes
Ruby is usually seen with Crook, Trouble and Tooth.

Name **Tooth**
Sex Male
Age Adult
Stranded No
Notes
Tooth is usually seen with Crook, Trouble and Ruby.

Name **Lemmy**
Sex Male
Age Adult
Stranded No
Notes
Lemmy is a younger adult male who is always seem together with another male called Yoyo.

All areas **(Zones 1, 2, 4 and 5) Males**

Name **Yoyo**
Sex Male
Age Adult
Stranded No
Notes
Yoyo is a younger adult male who is always seen together with another male called Lemmy.

Name **Kristen**
Sex Male
Age Adult
Stranded Yes
Year stranded 2017
Notes
Kristen was found at the southern end of the Harvey Estuary at Herron Point in a small pool surrounded by sandbanks. Kristen was successfully released into deeper water.

All areas **(Zones 1, 2, 4 and 5) Males**

Name **Scarry**
Sex Male
Age Sub-adult
Stranded Yes
Year stranded 2012

Notes
Scarry was not found while stranded but was observed in the Peel Inlet with sunburn to the right side of his body in 2012.

Name **Beaky**
Sex Male
Age Juvenile
Stranded No

Notes
Beaky is Topnotch's previous calf. His dorsal fin does not have many markings but he has a distinct deformed jaw.

All areas **(Zones 1, 2, 4 and 5) Females**

Name **Hayley**
Sex Female
Age Adult
Stranded Yes
Year stranded 2014

Notes
Hayley and her calf were rescued in 2014 when an aircraft pilot saw them high and dry stranded at the southern end of the Harvey Estuary. Unfortunately, the calf was found deceased soon after. Hayley had another calf, Comet, in 2016. Comet is now weaned and part of the Peel-Harvey dolphin community. In 2019, Hayley gave birth to a new calf, Herbie.

Name **Diver**
Sex Female
Age Adult
Stranded No

Notes
Diver's calf, Scuba, was born in 2016 and is still consistently observed with her mother.

Name **Mowgli**
Sex Female
Age Adult
Stranded No

Notes
Mowgli's calf, Cathy, who was born in 2016, has not been observed since late 2018 and is presumed deceased. In 2019, Mowgli gave birth to a new calf, Maple.

All areas **(Zones 1, 2, 4 and 5) Females**

Name	**Lucy**
Sex	Female
Age	Adult
Stranded	Yes
Years stranded	2018

Notes

Lucy's calf Luna, who was born in 2016 has been weaned and is part of the Peel-Harvey dolphin community. In 2019, Lucy gave birth to a new calf Diamond. In 2018, Lucy and Luna were observed with sunburn, indicating that they spent some time high and dry stranded.

Name	**Twenty-one**
Sex	Female
Age	Adult
Stranded	Yes
Years stranded	1997, 2018

Notes

Twenty-one was freeze-branded in 1997, when she was stranded together with her mother Twenty-two and four other dolphins. Twenty-one has thrived since and produced several calves. Blackjack, her calf born in 2014, was weaned but has since either left the estuarine resident community or died. In 2017, Twenty-one gave birth to another calf, Nikaila. The pair stranded in 2018 at the southern end of the Harvey Estuary. Nikaila was weaned at two years old just before Twenty-one gave birth to a new calf, Tallie, in 2019. Unfortunately, Tallie has passed away.

All areas **(Zones 1, 2, 4 and 5) Females**

Name	**Sea**
Sex	Female
Age	Adult
Stranded	No
Years stranded	2018

Notes

In 2013 Sea had a calf, Weed, who was weaned in 2016 and remains a part of the Peel-Harvey dolphin community. In 2017 Sea gave birth to another calf, Breeze, who weaned at two years old, prior to Sea giving birth to her current calf CC.

Name	**Karenina**
Sex	Female
Age	Juvenile
Stranded	Yes
Years stranded	2018

Notes

Karenina was born in 2015 and is the daughter of a resident female, Anna. In 2018, shortly after being weaned from her mother, Karenina was observed with severe sunburn indicating she had been stranded without anyone detecting her. Luckily, she survived and now has an impressive scar on her body. Karenina is often seen together with Amira.

All areas **(Zones 1, 2, 4 and 5) Females**

Name	**Amira**
Sex	Female
Age	Juvenile
Stranded	Yes
Years stranded	2019

Notes

Amira was born in 2014 and is the daughter of a resident female, Malika. In 2019, shortly after being weaned from her mother, Amira was observed with severe sunburn indicating she had been stranded without anyone detecting her. Luckily, she survived and now has an impressive scar on her body. Amira is often seen together with Karenina.

Dawesville Cut **(Zone 3) Males**

Name **John Edwards**
Sex Male
Age Adult
Stranded No
Notes
John Edwards is usually seen with Jack Daniels and Jim Beam.

Name **Jack Daniels**
Sex Male
Age Adult
Stranded No
Notes
Jack Daniels is usually seen with John Edwards and Jim Beam.

Name **Jim Beam**
Sex Male
Age Adult
Stranded No
Notes
Jim Beam is usually seen with John Edwards and Jack Daniels.

Dawesville Cut **(Zone 3) Males**

Name **Sharkbite**
Sex Male
Age Adult
Stranded No

Notes
Sharkbite is usually seen with Saw, Moretto, Julian, Maxwell and Ryan. His name comes from a big shark bite scar on his back and the right side of his body.

Name **Saw**
Sex Male
Age Adult
Stranded No

Notes
Saw is usually seen with Sharkbite, Moretto, Julian, Maxwell and Ryan.

Name **Moretto**
Sex Male
Age Adult
Stranded No

Notes
Moretto is usually seen with Sharkbite, Saw, Julian, Maxwell and Ryan. Moretto suffered a shark bite injury in 2018, which changed his dorsal fin substantially.

Dawesville Cut **(Zone 3) Males**

Name **Julian**
Sex Male
Age Adult
Stranded No
Notes
Julian is often seen with Maxwell, Moretto, Saw, Ryan and Sharkbite.

Name **Maxwell**
Sex Male
Age Adult
Stranded No
Notes
Maxwell is often seen with Julian, Ryan, Moretto, Saw and Sharkbite.

Name **Ryan**
Sex Male
Age Adult
Stranded No
Notes
Ryan is often seen with Sharkbite, Saw, Moretto, Julian and Maxwell.

Dawesville Cut **(Zone 3) Males**

Name **Elliot**
Sex Male
Age Juvenile
Stranded No

Notes
Elliot was observed with significant shark bite injuries on his peduncle in September 2017. He healed from these injuries well only to be attacked a second time in May 2019. Despite the injuries from the second attack being worse than from the first, Elliot has made a full recovery.

Name **Elly**
Sex Male
Age Adult
Stranded No

Dawesville Cut **(Zone 3) Females**

Name **Laika**
Sex Female
Age Adult
Stranded No

Notes
Laika had a calf, Sputnik, in 2015. Sputnik is part of the Dawesville community of dolphins. In 2018, Laika gave birth to a new calf, Luca, who unfortunately got entangled in fishing line repeatedly after his initial entanglement in February 2019. During the third disentanglement, under sedation, Luca unfortunately passed away.

Name **Joy**
Sex Female
Age Adult
Stranded No

Notes
Joy's calf, Huubster, was born in 2016. Unfortunately, Huubster has been missing since 2017. Joy gave birth to a new calf, Scout, in 2018.

Name **Dylan**
Sex Female
Age Adult
Stranded No

Notes
Dylan's calf, DC, was born in 2018 and named after the late Doug Coughran. Doug worked as a senior wildlife officer at the Department of Biodiversity, Conservation and Attractions (DBCA) and was recognised internationally for his pioneering work on disentangling whales and dolphins from fishing line and nets. Doug rescued numerous Mandurah dolphins who had been stranded or entangled in fishing line.

Dawesville Cut **(Zone 3) Females**

Name **Brandon**
Sex Female
Age Adult
Stranded No

Notes
Brandon has a calf, Hiccup, who was born in 2016.

Name **Lovis**
Sex Female
Age Adult
Stranded No

Notes
Lovis' calf, Ronja, is thought to have been born sometime in 2015 as they are still consistently seen together.

Name **Wild Turkey**
Sex Female
Age Sub-adult
Stranded No

Dawesville Cut **(Zone 3) Females**

Name	**Willow**
Sex	Female
Age	Sub-adult
Stranded	No

Dolphin behaviour

When observing dolphin behaviour it is important to distinguish between behavioural states and behavioural events. Dolphins are usually in one of four behavioural states: foraging, resting, socialising or travelling. Behavioural events occur within the behavioural states and are instantaneous, such as vocalisations, sudden movements or ingestion of prey. Each of the behavioural states and some commonly observed events are described below.

Foraging and feeding

Dolphins that are actively searching for prey like finfish, squid and octopus are said to be foraging. When dolphins are catching, processing and eating prey, they are said to be feeding. Generally, dolphins consume prey underwater. However, as dolphins cannot chew, they sometimes throw larger prey around the surface or drag it along the bottom to break it up into smaller pieces. In deep water, foraging dolphins are usually spread from each other (at least 10m apart), often milling and changing directions with every surfacing. You may see them surface for a few breaths, dive again for a few minutes, then surface again for a few breaths. We refer to this behaviour as **'mill forage'**.

Sometimes, when dolphins are in a hurry to get back underwater, you will see them surface for one quick breath, either by **leaping** or **porpoising** out of the water, or **rapidly surfacing** without their ventral side clearing the surface.

Foraging behaviour in shallow water often includes **fast swimming** and **'rooster tailing'** where streams of water come off the dorsal fin. This fast swim can turn into a hydroplane where most of the dolphin's body is visible above the water. Alternatively the fast swim can result in a shallow water **tail whack** with fish flying high in the air (see specific behaviours section).

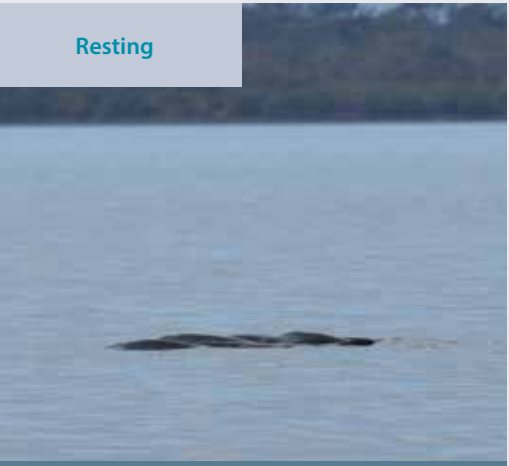
Foraging and feeding

Foraging and feeding

In the shallows of the Peel-Harvey Estuary we often see dolphins **bottom-grubbing**. This involves dolphins positioned vertically in the water column while poking the substrate (mud, sand, seagrass or seaweed) with their rostrum. After engaging in bottom grubbing, you can usually see the dolphin's rostrum and head, and sometimes even the dorsal fin, covered in mud.

Dolphins often travel along the edges of the shallow sandbanks or rivers while searching for fish and display a forage/travel behaviour combination. For example, dolphins often travel through marinas, canals and moorings stopping and engaging in mill forage for a little while, before moving on. In Mandurah it is common to see the dolphins herding and chasing fish along structures like canal walls.

Resting



Resting dolphins may be submerged for several minutes, and may surface pointed in another direction.

Dolphins that are engaged predominantly in a resting state are not actively foraging/feeding, travelling or socialising. In contrast to foraging dolphins, resting dolphins often form a tight group where individuals are within 2m of each other.

A resting group may move slowly, often without a clear direction. Resting dolphins often take multiple breaths at each surfacing and then dive within a few seconds of each other.

Resting dolphins may be submerged for several minutes, and may surface pointed in another direction.

Resting dolphins often **'snag'** at the surface for a few seconds, or even minutes. Snagging can be identified by a dolphin floating at the surface motionless with their fluke and often the majority of the dorsal fin beneath the water and the front part of their body exposed to the air. They look a little like sausages when they do this, hence the term.

Socialising

Socialising

Like humans, dolphins are very social animals who continuously interact with each other. Dolphins display a remarkable variety of social behaviour.

A socialising group is often a tight group of dolphins with a lot of body-to-body contact between individuals. Dolphins may rub their bellies together, or their belly against another dolphin. They may also stroke each other with their pectoral fins or nudge each other with their rostrum.

You may see leaps, porpoising, and/or fast swims while dolphins are chasing each other. You can also see calves socialising with each other while their mothers are foraging.

Not all social interactions between individuals are friendly. Some interactions, particularly among males, are antagonistic. The rake marks you see on many dolphins are caused by other dolphins' teeth as a result of unfriendly interactions.

Commonly observed behavioural events

Fast swim

Dolphins swimming at faster than normal cruising speeds. Dolphins may swim fast when chasing fish, socialising and chasing each other. You may see a spray of water come off the dolphin.

Leap

The entire body of the dolphin clears the water. Leaps may occur when dolphins are foraging (i.e. a quick breath so they can get back underwater rapidly) or when they are socialising.

Rooster tail

A fast swim along the surface in which a sheet of water trails off the dorsal fin. Typically observed in the shallows when dolphins are foraging.

Commonly observed behavioural events

Shallow water tail whack

A dolphin stops abruptly at or under the surface and wheels, swinging its fluke sharply. May be indicated by observing fish being knocked into the air. Tail-whack is often observed following a rooster tail.

Dolphins chasing fish

To record dolphins chasing fish, you must observe the fish being pursued. Dolphins regularly chase fish along the canal walls and other structures and often the fish can be seen jumping out of the water. When snacking, a dolphin swims belly-up near the surface chasing after small fish.

Dolphins with fish

Dolphins observed with fish (including cephalopods like squid and octopus) in their rostrum. Sometimes dolphins toss fish up in the air or repeatedly on the surface to immobilise or break their prey into smaller pieces. The most typical fish that dolphins are observed to toss in the Peel-Harvey are the estuary catfish. Once a resident dolphin was observed tossing a catfish 29 times in a row.

Commonly observed behavioural events

Snagging

Dolphins hanging motionless at the surface with their tail beneath the water and the front half of their body at the surface. They look like sausages when doing it, hence the term 'snagging'. Dolphins may turn their head from side to side to scan the water. Snagging most often occurs during resting bouts but may occur during pauses in other activities.

Baby position

Calves travelling just behind and to one side of their mother. When a calf surfaces in baby position (BP), its head surfaces near the mother's midsection. Travelling in BP provides a small hydrodynamic benefit for the calf and also easy access to the mammary slits for feeding. Young calves generally spend a lot of time in BP. As they grow older, they gradually spend less time in BP and venture further away from their mother until eventually they are fully weaned. In the Peel-Harvey waterways calves are weaned at approximately three years of age and are often observed in BP with juveniles and other adults who are not their mother. The best way to confirm BP (mother and calf) is to see if the calf is substantially smaller than the mother and whether the calf maintains BP for several surfacings.

Commonly observed behavioural events

Weed rub

A dolphin approaches a patch of weed and rubs into it. Most often Peel-Harvey dolphins are observed swimming with the patch of weed draped around their dorsal fin or moving it across their back, over the dorsal fin toward the tail with which they lift it out of the water. A dolphin engaging in a weed rub can be easily mixed up with an entangled dolphin. Therefore it is important to observe a dolphin with weed for a few surfacings to ensure the weed is gone and the dolphin is not entangled.

Body-to-body contact

Obvious social interaction between dolphins usually involves body-to-body contact. You will often see splashes, fast swims or leaps by dolphins interacting with each other. Socialising often occurs in tight groups.

Cobbler tossing

Many encounters with the estuary dolphins involve observations of them pursuing, catching and consuming fish and occasionally even octopus. Small fish, like garfish, are caught with rapid chases, sometimes the dolphin swimming belly-up while the fish tries to escape at the surface. Salmon is pursued against rock walls, mullet chased in the shallows and often stunned with an impressive tail whack, while an octopus gets tossed in the air.

The most common fish seen tossed up in the air by the Peel-Harvey dolphins is the estuary catfish, also known as cobbler. Dolphins feed on cobbler year-round both in estuarine and coastal waters, although our observations in the Peel-Harvey have mainly been in late spring.

Cobbler are bottom dwelling, scaleless fish that have venomous spines on their dorsal and pectoral fins. It is thought that dolphins toss cobbler to disable the use of these spines as defence, making it safer and easier to swallow. Usually cobbler get tossed anywhere between one and eight times before being consumed, or sometimes let go. However, on one occasion a dolphin called River tossed her catch 29 times within three minutes before consuming it. Another dolphin called Crook takes second place with 22 tosses.

Luca's Legacy

Luca was born on 3 April 2018. His mother, Laika, was observed in town waters early morning without a calf and then again at 3pm, and to everyone's surprise she was with a tiny newborn, Luca.

Like many dolphin calves, Luca was playful, inquisitive and social. It was also not unusual for Luca to be observed with Laika's weaned calf, Sputnik. Although Laika and her offspring occupy both estuarine and coastal waters, they have most often been observed in Dawesville Cut or Mandurah Channel. Sadly, the two channels are also where discarded and lost fishing line appears to be in abundance.

In February 2019, Luca was observed with an entanglement that involved fishing line around his pectoral fin and his body. It was immediately apparent that this entanglement would not resolve itself without intervention. Luca's health was monitored closely by daily reports flowing in from concerned estuary guardians.

DBCA staff carefully put together a disentanglement plan. Finally, at the end of February, in a monumental collaborative effort, Luca was captured, successfully disentangled and within minutes returned to his mother Laika. Unfortunately, this was not the end of trouble for Luca. When entangled, the fishing line had cut deep into his pectoral fin, making him more prone to entanglements in the future.

In June, Luca was observed entangled again. The local community continued reporting his whereabouts and monitoring the entanglement. Fishing line was now cutting not only into the pectoral but also the dorsal fin. In August, Luca was captured again, the fishing line was removed, and an antibiotic injection was given to support his recovery.

Unfortunately, this time with a severely damaged dorsal fin, it took only three days for Luca to become entangled again. At this stage Luca's health also started to deteriorate. The open wounds made him vulnerable to infection, the entanglement causing pain and stress while restricting his movement, and likely his ability to feed properly. Back to the drawing board; another rescue was planned. This time the approach was to amputate Luca's dorsal fin to ensure the notches on it would not snag fishing line again.

In late August Luca was captured for the third time. While he was under sedation and several vets were working on removing the line and preparing for the surgery, Luca unfortunately passed away. The post-mortem examination revealed that the cut to his pectoral fin during the first entanglement had caused a joint infection that had spread to the bones. Luca's health was compromised, and he was unable to withstand sedation and surgery.

Although Luca's death weighs heavy on many people's mind, it has also inspired positive change with more campaigns to clean-up our waterways.

Reel it in

Unfortunately, Luca's entanglement is not an isolated incident but something we see and hear about frequently. And it is not only dolphins, but also birds, whales, turtles, seals and sea lions that get entangled, some suffering starvation, amputation and eventually an agonising death. Although this is a global issue, we need to act locally. In addition to responsibly disposing of all your fishing line and rubbish, there are several clean-up events throughout the year that you can join.

In what will be an annual event, in response to Luca's death, DBCA joined with local environmental groups to host a big clean-up event in 2019 to remove fishing line and other waste from our waterways. While volunteers worked on the foreshore, divers cleaned fishing line snagged on rocks and jetties underwater.

In 2020, Mandurah will also have 15 new fishing line bins installed at popular fishing spots around the estuary in addition to the 10 already in place.

In 2015, John Tonkin College students initiated the fishing line bin project, which is now part of the DBCA 'Reel it in' campaign. We hope that Luca's legacy will be a wildlife entanglement free Mandurah.

Wildcare HELPLINE 9474 9055

If you see dolphins or other wildlife in distress, call DBCA's WILDCARE Helpline on (08) 9474 9055. The Helpline provides 24-hour state-wide referral for anyone who finds sick or injured native wildlife in Western Australia and is seeking advice on what to do and where to find care for the animal.

Glossary

Calf – a dolphin still dependent on its mother, usually less than five years old. The dolphins in the Peel-Harvey waterways usually become independent at three years old.

Juvenile – a young, immature dolphin, usually between four and 10 years old.

Sub-adult – a dolphin that is not quite adult-size but larger than a juvenile.

Adult – a mature, fully grown dolphin.

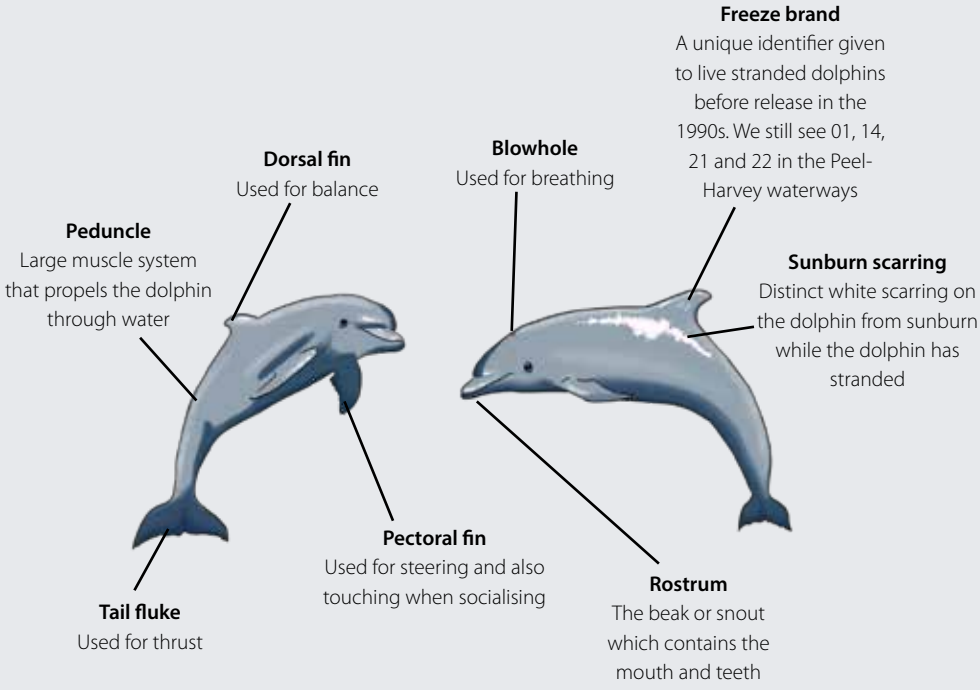
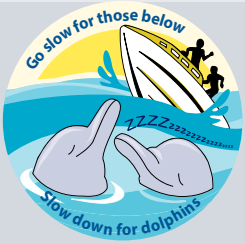


Illustration Gabrielle Goodchild

Be Dolphin Wise

It's easy to help care for dolphins in the Riverpark by following these simple rules:



Go slow for those below - slow down for dolphins – dolphins often form resting groups, so keep an eye out for them and slow down if you spot them.

Let dolphins feed themselves – feeding dolphins can leave them vulnerable to entanglement from fishing line, boat strikes and disease, and is illegal.

* Bunbury Dolphin Discovery Centre and Monkey Mia Shark Bay are licensed for supervised feeding

Support a Clean Marine environment - take your rubbish home – dolphins, particularly calves, can get tangled in fishing line. Dispose of unwanted fishing line responsibly.

Enjoy dolphins from a distance – dolphins have sensitive hearing and are easily disturbed by human activities. Maintain your distance where possible and move away if the dolphin is disturbed. Keep calves safe – young dolphins need to stay close to their mother for protection, feeding and assistance with breathing. Keep clear of mothers and calves so they are not separated.

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Thank you to the following groups for the collaborative effort required to launch Dolphin Watch in Mandurah and produce the fourth edition of *FinBook Mandurah*.

Department of **Biodiversity, Conservation and Attractions**

Mandurah Volunteer Dolphin Rescue Group

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This publication is available in alternative formats on request.