FinBook Mandurah

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

FIFTH EDITION – 2023

Rotary ah Districts

PHCC Working Together Peel-Harvey Catchment Council

CITY OF MANDURAH

Foreword

I am delighted to provide the Foreword to the fifth edition of the splendid *FinBook* for the Mandurah Dolphins. As the inaugural Patron of the Perth Dolphin Watch and a member of the Mandurah community since 1985, Mandurah dolphins are particularly close to my heart. Our waterways are precious, a fact recognised by being an internationally recognised Ramsar site (number 482).

The *FinBook Mandurah* complements the growing family of the highly successful '*FinBooks*', along with those for the Swan Canning Riverpark and Roebuck Bay. Each serves as a guide to identify individual animals in these diverse waterways, so that we can develop a deeper understanding of the lives and needs of each dolphin population. The *FinBooks* let us all become citizen scientists. The Mandurah one means we can add to the data collected by the amazing Mandurah Dolphin Research Project. By becoming familiar with the dolphins and having more eyes on the estuary system, our community can become more connected to the local environment and help to protect it.

I particularly congratulate the Estuary Guardians team from John Tonkin College who realised that we needed a Fin Guide for the many Mandurah dolphins. The first edition was produced in 2016, working together with the Mandurah Dolphin Rescue Group who have watched over the dolphins for many years, along with Mandurah Dolphin Research Project. The achievement has been recognised by many awards including by 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 edition. Of the 90 dolphins currently considered to call our estuary home or visit regularly, the book includes 38 of the most recognisable resident estuary dolphins and 19 coastal ones that regularly use the Dawesville Cut.

I am sure that the knowledge made possible by referencing this book will continue to be crucial in ensuring the survival and wellbeing of dolphins in our waterways. Such knowledge is essential for good policy decision making and for sound management practices. The aim must be to maintain stable resident populations as they face the challenges of climate change and ever greater human use of our waterways and their surrounds.

I commend this book to you and congratulate again all who have worked to bring it to us.

Lyn Beazley AO FAA FTSE

Above Peel-Harvey resident female Twenty-one with her male calf Nikaila, who was born in 2017. Twenty-one is Twenty-two's, who passed away in 2020, daughter. In March 1997, Twenty-one and Twenty-two were freeze branded during a live stranding prior to being relocated to deeper water. In 2018, Twenty-one and Nikaila were confined to a small pool of water in between sand banks at the southern end of the Harvey Estuary. Twenty-one became high and dry stranded during an escape attempt and was moved back into the pool, which they escaped overnight.

Front cover Surprise, a young adult male, son of Nicky, confined to a shallow pool behind a rock line in the Creery Wetlands in October 2022. Surprise has been observed confined in this same location twice before, in February and March 2022. In March he was stuck for two days until he managed to escape.

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, established by teachers Kim Davies and Barbara Sing together with students from John Tonkin College, was launched at the inaugural Dolphin Community Forum in 2015.

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 Peel-Harvey 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 Marine Fauna Sightings mobile application.

Estuary Guardians has evolved over the past seven years to become a community driven group incorporating the Mandurah Volunteer Dolphin Rescue Group, connecting the public, government and other local environmental groups to not only monitor the dolphins but the whole Peel-Harvey ecosystem.

A major role of the Estuary Guardians is to educate the community about Mandurah's marine environment, the diverse wildlife that call it home, the threats they face and how we can all do our part to protect them – inspiring more people to become guardians of the Peel-Harvey Estuary. This is done through education sessions for schools, community groups, dolphin forums and community event stalls.

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* was extended to the resident dolphins in the Peel-Harvey Estuary in 2017. For the last few years, the collaboration has been among DBCA's Parks and Wildlife Service, Edith Cowan and Murdoch universities.

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 *Marine Fauna Sightings* 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 *Marine Fauna Sightings* 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.

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.

PHCC Working Together
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 community of approximately 90 Indo-Pacific bottlenose dolphins (*Tursiops aduncus*). These dolphins rely on the estuary for resources and, as apex predators, collectively remove >200,000 kg of fin fish from the system every year. The community consists of adults (~40%), juveniles (~30%) and calves (~30%). 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 permanently from the estuary as they reach maturity. In contrast, we have not observed any dolphins becoming part of the estuarine 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. The community is considered stable, albeit with a slightly negative population growth rate that makes it vulnerable to threats, one of which is mortality due to live strandings that are prevalent in this community.

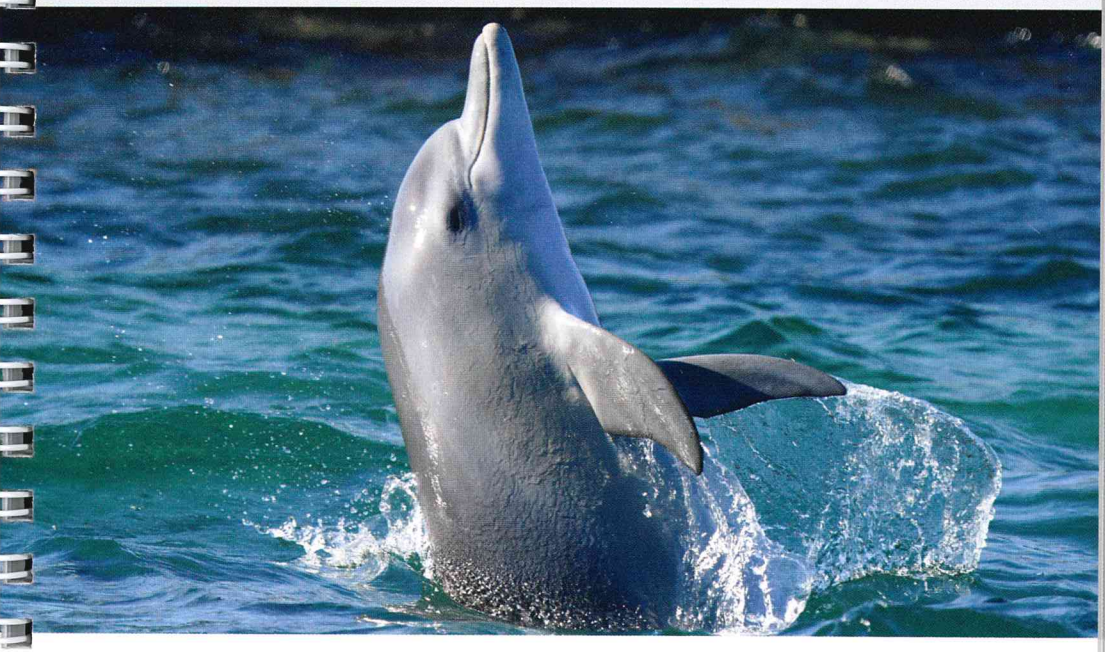
Mandurah has been identified as a bottlenose dolphin live stranding hotspot in Western Australia. In 1990, 10 male dolphins stranded alive in Lake Goegrup. Unfortunately, two of them passed away but the remaining eight were freeze branded with numbers and released into deeper water. Although today stranded dolphins are no longer freeze branded for identification purposes, we can still observe two freeze branded dolphins, Fourteen and Twenty-one, in our waterways. Sadly Zero-one, the first freeze branded dolphin, also known as 'The King', passed away in 2019. Twenty-one's mother Twenty-two passed away in 2020.

Since the commencement of Mandurah Dolphin Research Project in 2016, 26 live stranding events, involving 30 individuals, have been recorded. Generally, the stranded dolphins are healthy individuals belonging to the estuarine community and strand in areas that they are familiar with. There are two different kinds of live strandings: confinement strandings where individuals remain free swimming and can submerge but are confined to an area surrounded by sand bars, and high and dry strandings where individuals are unable to swim and relocate and have full body contact with the ground. Due to stranding behaviour mainly being observed in the summer months, stranded individuals are at risk of being badly sunburnt, which may impact their survival. In fact, approximately 20% of confirmed mortalities in the

estuarine community are attributed to live stranding events with a third of the residents having stranded at least once, some on multiple occasions. Early detection of any stranded individuals followed by timely rescue response when required is the key to ensuring stranded dolphins' welfare and survival – this is where the Dolphin Watch patrons can be of great assistance.

Another social community of dolphins regularly occupy the Dawesville Cut. These dolphins reside in the Cut as well as in adjacent coastal waters. Occasionally some of them may visit the estuary beyond the entrance channel and associate with the Peel-Harvey Estuary residents. Every now and again you may also observe some of the estuary residents in Dawesville Cut. Most often they are either passing through while venturing to and back from the ocean, enjoying a feed or socializing with the Dawesville Cut dolphins.

In this edition of *FinBook* we have included 38 of the well-marked Peel-Harvey Estuary resident dolphins and 19 coastal dolphins that regularly use the Dawesville Cut.



FinBook Mandurah sections

FinBook Mandurah is divided into four sections representing different areas of the Peel-Harvey Estuary. Although dolphins use the entire estuarine system, each individual has his or her preferred area within the estuary. As such, individuals are placed in the *FinBook* section that best reflects the area they are most encountered in.

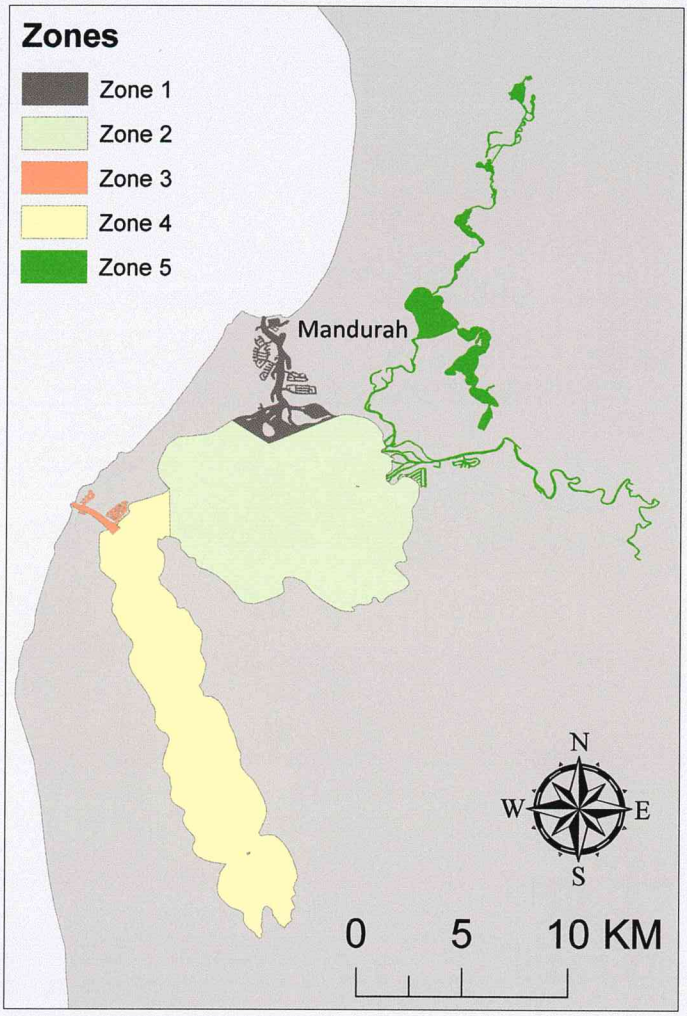
Town waters (Zone 1)
Adult females with calves often seen in town waters.

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 regularly 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 Goose (Page 30), have lost part of their dorsal fin due to shark bite injury. Others may have deeper wounds due to being bitten by a shark or hit by a boat propeller. All the marks are unique and allow us to identify the individuals and follow them over time.



Dolphin Watch researchers have divided the Peel-Harvey Estuary into five zones

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

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

Notes
Lowblow's weaned calf, Benji, born in 2015, was found deceased in 2021. She had another calf in 2019 named Aroha, who sadly also passed away. In 2020 she had a new calf who was named Storm.

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

Notes
Hatrick had a calf, Halo, in 2016. He was badly entangled in rope as a young calf but continued to thrive after he was disentangled. Hatrick had another calf, Hali in 2019.

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

Notes
Nicky has produced six calves that we know of since 2009. Her weaned calves Christmas, Giggles, Surprise and Solo continue to be part of the estuarine dolphin community. Her calf Djinda born in 2018 lived separately from her from eight months old and unfortunately passed away in August 2019. In 2022, she had a new calf who was found stranded on town beach and was euthanised.

Town waters (Zone 1) Adult females

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

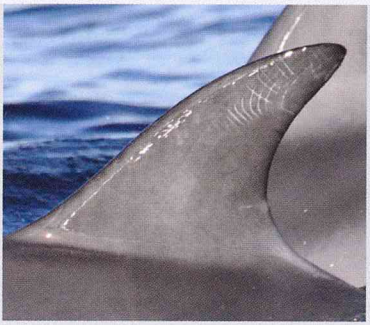
Notes
Christmas is Nicky's daughter. She had her first calf, Easter in 2016. Unfortunately, Easter only lived for ~7 months. Christmas then gave birth to her second calf, Spirit, in 2018, and her third calf Jingles in 2022.

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 and was seen with a new calf in Jan 2023.

Name **Angus**
Sex Female
Age Adult
Stranded Yes

Notes
Angus had her first calf, Brave, in 2019. In 2020 Brave was observed with a fishing line entanglement involving one of his pectoral fins.



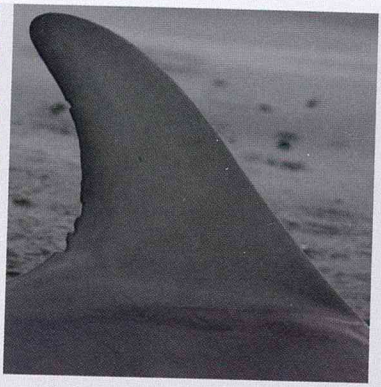
Rivers (Zone 5) Adult females

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

Notes

Bendy Wendy had a calf, Pan, in 2016. Pan suffered severe sunburn during a live stranding event and likely succumbed to his injuries. Bendy Wendy had calves in 2019, 2021 and 2022 – none of them survived to weaning age.

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



Notes

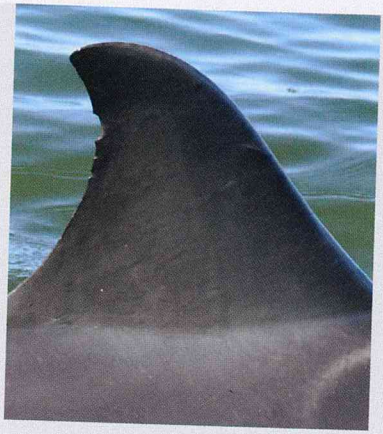
In June 2020 River was observed with a fishing line entanglement on her right pectoral fin. Unfortunately, the entanglement is still present today. In Nov 2022, River gave birth to a new calf, Bilya, who unfortunately has not been seen since Dec 2022 and is now presumed deceased.

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

Notes

Spike had her first calf, Frankl, in 2022.

Rivers (Zone 5) Adult females



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

Notes

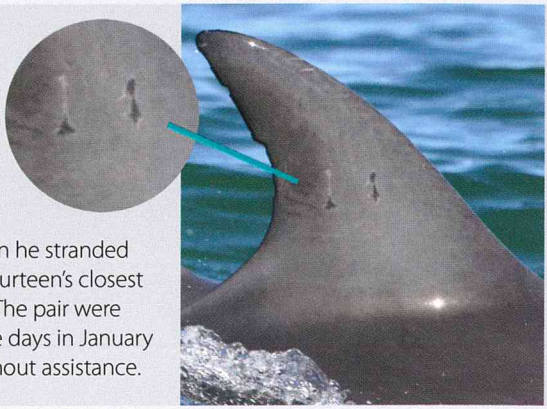
Squarecut has a very interesting, and upsetting, reproductive history. Her weaned calf, Tom, who was born in 2012, and who you may remember from previous editions of *FinBook Mandurah,* was found deceased in 2019. Lindy, her calf born in 2015, was also found deceased in 2017. Another calf, Andrew, born 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 to a calf, Kalani. Yet again, Kalani did not survive. She then gave birth to a calf, Hope, in 2020.

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.

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. Fourteen's closest associate, Zero-one, passed away in 2019. The pair were stranded together at Herron Point for three days in January 2018. They escaped into deeper water without assistance.

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

Notes
Blake is often seen with Fourteen.

Name **Bitts**
Sex Male
Age Adult
Stranded Yes
Year stranded 2022

Notes
Bitts is usually seen with Frankenstein and Hook.
Bitts and Hook were high and dry stranded in the shallows of the Peel Inlet and had to be moved to deeper water. They both sustained sunburn injury.

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 Yes
Year stranded 2022

Notes
Hook is usually seen with Frankenstein and Bitts. Hook and Bitts were high and dry stranded in the shallows of the Peel Inlet and had to be moved to deeper water. They both sustained sunburn injury.

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 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 and Tooth.

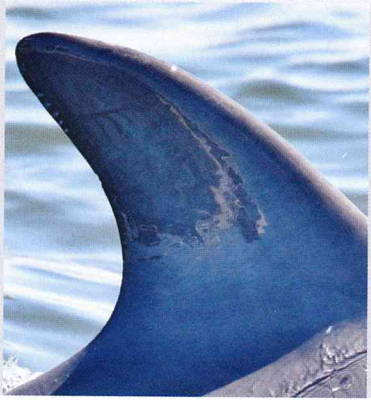
Name **Tooth**
Sex Male
Age Adult
Stranded No
Notes
Tooth is usually seen with Crook and Ruby.

Name **Yoyo**
Sex Male
Age Adult
Stranded No
Notes
Yoyo used to always be seen with another male called Lemmy. Unfortunately, in September 2021 Lemmy was found deceased in Cox Bay.

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

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

Name **Scarry**
Sex Male
Age 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 **Linkin**
Sex Male
Age Juvenile
Stranded No
Notes
Linkin was born in 2011 to Lowblow. His closest associates as a juvenile, Lionel and Kidbilly, passed away in 2018 and 2019, respectively. Beaky and Giggles are also part of the juvenile male group and associated with Linkin.

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

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

Notes
Giggles was born in 2012 to Nicky. He is part of the juvenile male group that also include Beaky and Linkin.

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

Notes
Beaky was born to Topnotch in 2011. He is also part of the juvenile male group that also include Giggles and Linkin. Beaky has a distinct deformed jaw.

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

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

Notes

Autumn was born in 2014 to Topnotch. He is often seen in town waters.

Name	**Surprise**
Sex	Male
Age	Juvenile
Stranded	Yes
Year stranded	2022

Notes

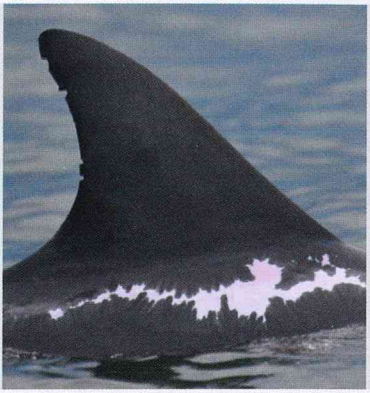
Surprise was born in 2015 to Nicky, which means he is Giggles's brother. He is often seen in town waters. He also features the cover of this *FinBook* as he stranded on multiple occasions behind a rock line in the Creery Wetlands.

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

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

Notes

Hayley had a calf, Comet, in 2016, who is now weaned. In 2019, Hayley gave birth to a new calf, Herbie. Unfortunately, Herbie passed away before weaning age. Currently Hayley is with her calf named Poppy, born in 2022.



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

Notes

Diver had a calf, Scuba, in 2016. In what is a relatively long time between calves in the Peel-Harvey Estuary dolphin community, she was observed with a newborn calf, Skylar, in 2021. It is possible that she had a calf in between Scuba and Skylar that passed away before being detected.

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 calf, Maple, however he was found deceased in January 2022. Mowgli was seen with a new calf in April 2022 who is named Baloo.

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, born in 2016, has been weaned and is part of the Peel-Harvey dolphin community. In 2018, Lucy and Luna were observed with sunburn, indicating that they spent some time high and dry stranded. In 2019, Lucy had a new calf Diamond who was successfully weaned. Diamond was stranded in Black Lake on Christmas Day in 2021. He was moved to deeper water. Unfortunately, Diamond was found deceased a few months later. In January 2022, Lucy had a new calf, Gem, who sadly passed away soon after.

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. In 2020, Twenty-one welcomed a new calf named Phoenix.

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

Name **Coal**
Sex Female
Age Adult
Stranded No
Notes
Coal had a calf, Ash, in 2014 who was successfully weaned. In 2018, she gave birth to Sooty, who was also successfully weaned. In 2022, Coal gave birth to Ember who unfortunately passed away at only six weeks of age.

Name **Malika**
Sex Female
Age Adult
Stranded No
Notes
Malika is the mother of Amira, born in 2014. In 2017, Malika gave birth to another calf, Splash. In 2020, Malika gave birth to a male calf, Meelan. Unfortunately, he was entangled in fishing line as a one and a half year old and is now presumed deceased. In December 2022, Malika welcomed a new calf named Meeka.

Name **Sea**
Sex Female
Age Adult
Stranded No
Years stranded
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 just prior to the birth of CC in 2019. In 2022, Sea gave birth to a calf named Sailor.

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

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	**Hightouchy**
Sex	Female
Age	Adult
Stranded	No

Notes

Hightouchy had her first calf, named High Jinx, in 2022.

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

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

Dawesville Cut **(Zone 3) Males**

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

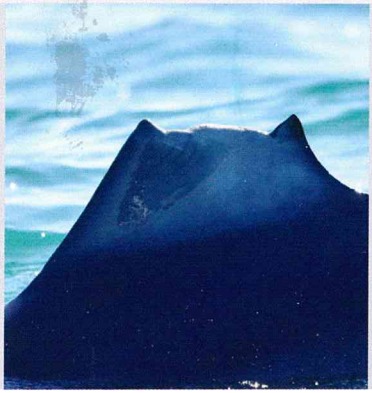
Notes
Sharkbite is usually seen with Saw, Moretto, Julian and Ryan. His name comes from a big shark bite scar on his back and the right side of his body.

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

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

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

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



Dawesville Cut (Zone 3) Males

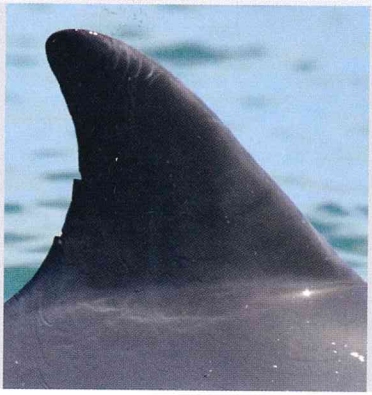
Name **Julian**
Sex Male
Age Adult
Stranded No

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

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

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

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



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 **Goose**
Sex Female
Age Juvenile
Stranded No

Notes
Goose was orphaned in 2016 when her mother was found deceased in Dawesville Cut. She continued to regularly use Dawesville Cut. In 2017, Goose's left tail fluke was entangled in fishing line. There were no attempts to disentangle her as the entanglement was not considered life threatening. In 2018, the line was absent with the entanglement fortunately having not resulted in amputation of any part of the fluke. In 2020, Goose was observed with shark bite injuries that have resulted in the shape of her dorsal fin.

Dawesville Cut **(Zone 3) Females**

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

Notes
In 2018, Laika gave birth to, 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. Annual waterways clean up event, 'Luca's legacy', is organized annually in his memory. Laika gave birth to a new calf, Legacy, in 2020.

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

Notes
Joy gave birth to a calf, Scout, in 2018 and another one, Jasper, in 2022. Joy was sighted with calf Huubster in April 2016 with injuries most likely inflicted by a shark.

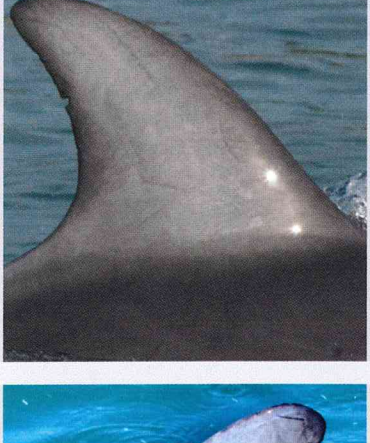
Name **Dylan**
Sex Female
Age Adult
Stranded No

Notes
Dylan's first calf, DC, was born in 2018 and named after the late Doug Coughran. Doug was a senior wildlife officer at DBCA and was recognised internationally for his pioneering work on disentangling whales and dolphins from fishing line and nets. Dylan had a new calf, Indie, in 2022.

Dawesville Cut **(Zone 3) Females**

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

Notes
Brandon had a calf, Hiccup in in 2016. Hiccup was successfully weaned. Brandon gave birth to a new calf, Bliss, in 2022.



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

Notes
Lovis had a calf, Ronja, in 2015. Ronja has been weaned She has a new calf Loki, first seen in July 2020.

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

Dawesville Cut (Zone 3) Females

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

Notes
Willow had her first calf, Wish, in 2021. Unfortunately, Wish passed away. In 2022, Willow gave birth to a new calf, Whisper.

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

Notes
Rabbit had her first calf, Remy, in 2022.

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

Notes
Buddha had her first calf, Bodhi, in 2022.

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

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.

High and dry strandings

Between 1990 and 1997 twenty-two dolphins were freeze-branded with consecutive numbers during their rescue from having been stranded in the shallows of the Peel-Harvey Estuary. Three of these individuals, Fourteen, Twenty-one and Frankenstein (number no longer discernible) are still part of the Peel-Harvey Estuary dolphin community. When dolphins are found high and dry stranded, they are fully in contact with the estuary floor and are exposed to the elements. High and dry stranded dolphins may be able to escape without assistance, however, they may sustain life-threatening sunburn while waiting for the tide to turn. Approximately a third of the dolphins in the estuarine community have stranded once, some on multiple occasions, with 15% of the dolphins showing distinct white sunburn scarring – a tell-tale sign of the time spent stranded. Many dolphin deaths in the estuary are directly related to live stranding events. Frill, an adult female, was observed with extensive sunburn injury in 2018 and was found deceased shortly after. Also in 2018, Lionel, a sub-adult male, was found deceased in the upper reaches of the Serpentine River. And another adult female, Zetta, was found high and dry stranded in 2021 at the southern end of the Harvey Estuary. Sadly, she passed away during a rescue attempt. When dolphins get high and dry stranded, early detection and relocation to deeper water gives the animal the best chance of survival.

Confinement stranding

In addition to high and dry strandings, the Peel-Harvey Estuary dolphins get confined in shallow pools of water surrounded by sandbars for extended periods of time. This is referred to as confinement strandings. Usually, the stranded animal can fully submerge and swim freely. This type of stranding usually requires no intervention – only the animal to be monitored to ensure it does not become high and dry stranded during an escape attempt or by a falling tide. Adult males Zero-one, who has now passed away, and Fourteen are both serial stranders who got themselves confined in a small pool at Herron Point for three days in 2017. They were closely monitored from land with their behaviour remaining normal. With incoming tide, they attempted escape a couple of times but quickly gave up. At the highest tide, they appeared to have a feast of mullet as indicated by a display of powerful shallow water tail whacks. The following night they were able to escape the pool and thrived until the passing of Zero-one in 2019.

Calf strandings

Many calves belonging to the Peel-Harvey Estuary dolphin community have live stranded, some on their own while others together with their mother. In 2016, Lindy, Squarecut's then eight-month-old calf, stranded on her own in the upper reaches of the Serpentine River and then again in Goegrup Lake. Both times she was helped to deeper water and was observed reunited with her mother a few days later. Similarly, in 2019, Nicky's then four-month-old calf, Solo, was relocated after being found stranded alone in the shallows of the eastern foreshore of the estuary. Solo was also observed reunited with his mother. A few mother and calf pairs, like Hayley and her calf in 2014, and 21 and her calf Nikaila in 2018, have been found stranded together at the southern end of the Harvey Estuary. Both pairs were moved to deeper waters and continued to thrive. These individuals were all deemed healthy individuals that likely got stranded due to misadventure. Some calves, however, may live strand due to their health being compromised, or after losing their mother.

Sadly, young calves, completely dependent on their mother for sustenance, are not able to survive on their own in the wild. For such calves, euthanasia is considered the most merciful option. This was the case for a young calf, Andrew, who live stranded in the Peel Inlet in 2017.

Reel it in

Since 2016, at least eight Mandurah dolphins have become entangled in fishing line. In 2019, Luca, a one-year-old dolphin was observed entangled in fishing line. Luca was captured and the fishing line removed. Unfortunately, soon after, he became entangled in fishing line again. The line was removed a second time, but Luca was left with a damaged dorsal fin that yet again got entangled in fishing line. During the third disentanglement attempt, Luca sadly passed away.

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 response to Luca's death, an annual clean-up event 'Luca's legacy' has been set up to remove fishing line and other waste from our waterways. While volunteers work on the foreshore, divers clean fishing line snagged on rocks and jetties underwater. Mandurah also has 25 fishing line bins installed at popular fishing spots around the estuary. We hope that Luca's legacy will be a wildlife entanglement free Mandurah.

If you see dolphins or other wildlife in distress, call the Department of Biodiversity, Conservation and Attractions (DBCA) WILDCARE helpline on (08) 9474 9055. Listen and follow the instructions given. Always put your own safety first. While waiting for an officer to arrive, keep noise to a minimum and, if possible, provide shade and keep the dolphin's skin moist. You can do this using wet towels and buckets of water. Avoid obstructing the blowhole or allowing water to go into the blowhole. Stay away from the head and tail of the animal. Never apply sunscreen on the animal.

Wildcare HELPLINE 9474 9055

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.

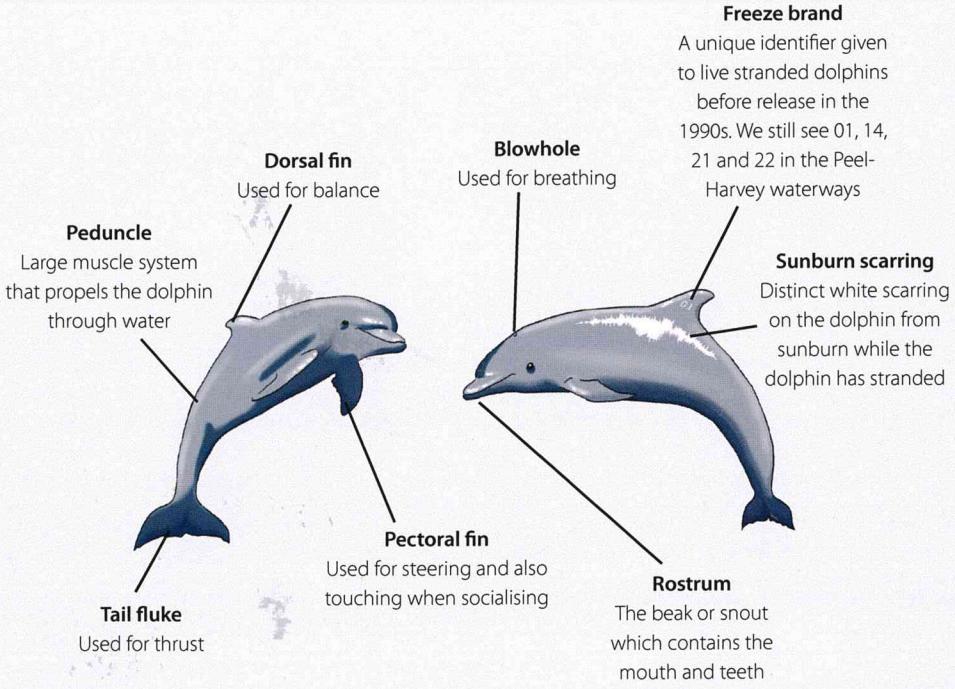


Illustration Gabrielle Goodchild

Be Dolphin Wise

It is easy to help care for dolphins in the Mandurah waterways 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. Recreational vessels must stay a minimum 100m away and swimmers (and dogs) must stay a min. 50m away. 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.

This project is supported by Peel-Harvey Catchment Council through funding from the Australian Government's National Landcare Program, and John Tonkin College.

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

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This publication is available in alternative formats on request.