

SNAPSHOT 2019

DOLPHIN RESEARCH INSTITUTE



i sea i care
COMMUNITIES

**RESEARCH - EDUCATION - LEADERSHIP
SINCE 1991**

www.dolphinresearch.org.au | 03 59797100

Welcome to the Dolphin Research Institute's 'Snapshot' of 2019...

Here you will find a selection of stories about our work during the year with dolphins, whales, our '*i sea, i care*' Ambassadors, young scientists, schools and a wide cross-section of the community. Behind this glimpse is a team of staff, voluntary directors, volunteers, interns, partners and supporters that are the Institute's "heart and lungs". They also shape the ethical and strategic compass that guides all we do, ensuring that we achieve the maximum impact from their hard work and generosity.

Some highlights from the year include:

- The development of our PodWatch app which achieved a 400% increase in reports of dolphin and whale sightings by citizen scientists. The result is a greater understanding of the migration of whales through our waters, including adding the 100th whale to the Victorian Humpback whale catalogue;
- Our '*i sea, i care*' Ambassador Program reaching 6,000 Ambassadors over 19 years and expansion to secondary schools.
- Significant growth in all areas of communication including education (35%), website (30%), social media (18%) and email news (19%);
- Significant growth in our intern program with four formal internships with post-graduate and under-graduate students from Melbourne University, and informal internships with students from 3 other universities. The result is an important new research program focussing on local bottlenose dolphins and an exciting new community engagement program;
- DRI's growing leadership role involved us in: the twenty-year review of Victoria's Marine Mammal Regulations; the development of Victoria's first Marine Spatial Planning Framework; and community conversations about environmental issues such as climate change and coastal pollution;
- DRI was selected as one of twelve organisations nationally to receive a fellowship for training in Community Fundraising. Staff were also trained in Environmental Behaviour Change and Regenerative Development and Design to strengthen our capacity to work with the community. An important outcome has been fresh ideas to strengthen the new '*i sea, i care*' COMMUNITIES program.



Change presents both challenges and opportunities to look at things differently. During the year we saw: Dr Sue Mason and Jenny Parsons leaving to pursue other directions. The retirement of Steph Webster and Ric Bland from our board, and the recruitment of Birte Molieri, Matt Purvis and Tony Martin.

Fresh ideas and skills are helping to refine the Institute's brand and marketing capacity. The widening intern program is progressing projects on dolphin health, dolphin behaviour and ecology in Western Port, and community engagement projects.

This "snapshot" document flows from a re-think of how we communicate with supporters. It is largely an aggregation of stories published on our website, social media and in e-bulletins. It is available as a printed document but also an online e-book. We hope that this will improve the quality and efficiency of our communications by planning regular stories that will combine to quarterly and annual "snapshots". Being e-books with the option of printing limited numbers, creates the opportunity to save on paper, time and postage.

We are keen to get your feedback on this new approach as it is a different format to a traditional newsletter, as well as on any other ideas or questions you might have that will help us to improve.

Best wishes and looking forward to hearing from you,

Jeff Weir OAM, Executive Director.
director@dolphinresearch.org.au
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The Dolphin Research Institute is a Victorian leading marine conservation charity. Since our formation in 1991 we have worked to empower our community to care for our dolphins, whales and bays.



We do this through scientific RESEARCH to support conservation, EDUCATION to develop understanding and stewardship, and LEADERSHIP to find better solutions to support decision-making.

THE DOLPHIN WITH THE DAMAGED FIN...



When we first saw the little dolphin with a large injury to its dorsal fin in 2013, we called it "DD" for "damaged dorsal". It had a big chunk of flesh missing, we think from a close-call with a boat propellor. It is shown above with Square Notch (its mum) and the fresh wound in May 2013.



By August that year, DD's wound had largely healed leaving a prominent scar. It was a good sign that the calf was in otherwise healthy and Square Notch a good mother.

Six years later, in November 2019, we found an older DD seemingly fine and active in a group of sub-adult common dolphins near Mornington.



If you look closely at the above images you can see a good match for the location and size of the scar on the right side of the dorsal fin, making it almost certainly DD.

One of our challenges with identifying dolphins from fin-ID photos is that the shapes and marks on their fins change with time. This is quite obvious if you compare the changes to Square Notch's fin between May to August 2013 in the top two images. (DRI researchers have taken over 100,000 fin-ID images during three decades of study).



The image of DD's left side shows how the injury distorted its fin.

Usually, it's hard to ID young dolphins with "clean fins" so we need to look for close associations in images like with DD and Square Notch. We then need to wait until they get nicks in the back of their fin, so we can ID them. Fortunately, DD is an odd example!

DD is now about 6 years old and part of a group of sub-adult (teenage) common dolphins living in Port Phillip. We don't know if DD is male or female as it's quite hard to tell their sex without seeing their abdomen.

DD and Square Notch are part of a remarkable community of common dolphins that came into Port Phillip in 2006 and stayed. It's the only bay in the world where common dolphins have left the open ocean to permanently live.

Remember to respect dolphins by obeying the Marine Mammal Regulations. Don't approach closer than 100m for boats or 300m jetskis. (You can find details on our website).

In another 3 to 5 years DD will be of an age where it can mate. I wonder if its offspring will also be so accident prone!

BIRTH OF DOLPHIN CALF WITNESSED IN WESTERN PORT



Not many people can say that they have witnessed a dolphin being born. Recently one of the tradies working in the Western Port Marina shared his father's experience whilst sailing in Western Port.

The sight of a dolphin behaving with jerking, rolling movements made him think it was entangled in rope or a net. Then up popped a tiny dolphin - followed by what looked like afterbirth in the water.

The dolphins were left as the vessel sailed off. It's especially important to let dolphins alone when a new-born is present. In ordinary vessels you are not meant to deliberately approach dolphins closer than 100 metres. With a new-born present it is best to stay at the 300 metres caution zone.

It takes dolphin calves a while to swim gracefully. At first, their little tail seems to move ten times the rate of mums and they swim with jerky movements, their nose popping up out of the water and then plopping down. After some weeks they develop the smooth "porpoising" motion that we are used to seeing.

What a remarkable experience!

BOAT HARASSMENT CONCERNS FOR OUR DOLPHINS IN BOTH BAYS



Reports of vessels harassing dolphins in both our bays raise concern for their welfare.

The Dolphin Research Institute has been inundated directly and through social media, about vessels harassing dolphins in both Port Phillip and Western Port. This also comes in a week where Wildlife Officers are investigating the alleged stabbing of a dolphin in Gippsland.

Our bays are home to resident communities of bottlenose dolphins and common dolphins that share their home with 5 million Melburnians. "It is remarkable to have these dolphins living in our backyard, when many coastal communities around the world (and Australia) are at risk of losing their resident dolphins", said Jeff Weir.

"We must respect them by obeying the marine mammal regulations", said Weir. "It's not about spoiling the remarkable experience of seeing dolphins, just showing common sense".

Victoria's regulations state that "People shouldn't deliberately approach dolphins closer than 100 metres in boats, 300 metres on Jetskis or 30m for paddlers and swimmers".

If dolphins pop up close to you or approach your vessel, then ideally stop if safe to do so and watch, or slow down and keep your direction. Enjoy and value our remarkable marine treasures, then let them swim off, without following.

More information about the rules and protecting dolphins are available on the Dolphin Research Institute's website: www.dolphinresearch.org.au

CONGRATULATIONS JEFF WEIR, OAM

The Dolphin Research Institute proudly congratulates our Executive Director, Jeff Weir, for receiving the award of the Medal of the Order of Australia (OAM) General Division this Australia Day! The citation is "for services to marine conservation".

The Institute's Chair, Ric Bland, said "This is appropriate recognition for Jeff's contribution to marine education and science spanning four decades. Jeff opens our eyes to the true beauty of our southern marine environment and why it is critical that we look after it". Well done, Jeff - and well deserved.



MELBOURNE AMBASSADORS TACKLE COASTAL POLLUTION



Melbourne '*i sea, i care*' Ambassadors arrived at Banyan Reserve in Carrum Downs and gathered at one of the huge drain openings to see [and SMELL] the amount and variety of litter that makes its way from suburban streets to these litter traps.

These litter traps are huge grates that act to filter out large pieces of litter including plastic bottles, plastic bags, containers, dog-poo bags and a large amount of leaf litter and green waste. These traps gather larger, more visible pieces of rubbish which are ultimately collected and removed by Melbourne Water.

Much of the litter is too small to be collected and is flushed into our bays. Approximately 95% of litter found on our beaches comes from suburban streets – making its way there through stormwater drains.



From this experience, Ambassadors were then taken to the wetlands where the wonderful crew from Melbourne Water spoke about the costs and maintenance involved with collecting and removing litter from the 4000 litter traps connected to stormwater drains across Victoria. The crew then emptied two litter traps, showing Ambassadors what a month of debris build-up looks and smells like.

The mid-morning was spent observing water-quality testing and discussing the importance of healthy waterways. Many of the macro-invertebrates that live in our waterways are very sensitive to change in water quality caused by illegal dumping, heavy rainfall, debris build-up and so on. If the environment of these macro-invertebrates is damaged, a cascading effect is likely in both waterways and our bays.



Later Ambassadors travelled to Frankston beach to conduct audits of washed-up litter. They discovered that much of the litter and smaller pieces of plastic was buried, and included cigarette butts, plastic/metal bottle caps and even random items such as clothing and footwear. After producing a tally of the amount and type of litter, Ambassadors got stuck into a beach clean-up. Using tongs and bio-degradable bags they managed to fill 8-10 bags full of litter in just 15 minutes!



To finish off the day, Ambassadors walked along Kananook Creek towards two floating litter traps that act as the final opportunity to collect floating debris before it makes its way to the bay. These litter traps were quite full, containing balls, clothing, footwear, food scraps and litter debris.

Big thanks to teachers and parents who support the Ambassadors, driving them from A to B and allowing these days to run smoothly. Thank you to the crew from Melbourne Water as well for working hand-in-hand and sharing your knowledge and expertise on stormwater pollution and Melbourne's waterways.

MORNINGTON AMBASSADORS LEARN TO TEACH THEIR PEERS...



Ambassadors from the Mornington Peninsula region recently learnt how it feels to be a teacher rather than a student - and how tough it can be!

As part of the '*i sea, i care*' Ambassador program, the Ambassadors learn how to teach junior students about the marine environment and the problem of rubbish. Workshops take place at a host school in the region, and Ambassadors then take their new teaching skills back to their own school.

CASEY AMBASSADORS LEARN A LESSON...

After starting their Ambassador year out on a boat experiencing our very special marine environment, it was time to learn the skills necessary to teach the message of caring for our bays.



With interactive games, crazy role plays and colourful props, the Ambassadors got to grips with eating like a sea star, yawning like a seal, camouflaging like a decorator crab and pretending to be hungry dolphins in a sea of plastic. All in a day's work for our amazing environmental champions.

They will take these activities back to school and the wider community with the aim of influencing real behavioural change to protect our marine life.

Thanks to David Westlake and the City of Casey for their ongoing support of the Ambassador program. And many thanks to Sue Jones from Cranbourne Park, Colin Avery from Rangebank and Leigh Johnson from Harkaway for being such excellent hosts.

AMBASSADORS LOOK TO THE FUTURE



It was an amazing day at Point Lonsdale with these young marine Ambassadors from the Geelong region.

It was their last workshop of the year and as Mandy, DRI's Education Director said about them ... 'they inspire me to keep doing what I love, empowering the next generation to become leaders in their community'.

The two main locations for the day's activities were at the foreshore and the rock pools below the lighthouse at Point Lonsdale. Ambassadors learnt about the Indigenous history of the area, sea grass habitats and how our citizen science program works on dolphin and boat monitoring, plus the rock pool fauna!

A big day for the Ambassadors - who enjoyed a well-earned barbecue to wrap up their final workshop for the year. Well done to them all, and we know they will carry on their marvellous work for the environment into the future.

If you know any schools or teachers that would like to get involved with the '*i sea, i care*' Ambassador program then encourage them to get in touch. We are recruiting now for 2020 in seven regions around Port Phillip. Read more about '*i sea, i care*' on our website, www.dolphinresearch.org.au

INSPIRING YOUNG SCIENTISTS



I was fortunate recently to meet many inspiring young scientists at a Melbourne University celebration for this year's student interns and their hosts.

Professor Janet Hergt, Grace Day and I (pictured) each spoke to participants. Janet spoke on behalf of the University, reinforcing the value of internships in helping young scientists to develop. Grace made an inspiring presentation about her journey as a young scientist and the value of an internship. I shared the delight of hosting young scientists and seeing them both gain experience and contribute significantly to DRI - a true 'win-win'.

Lily and Andrew (left and right) are our current interns from Melbourne Uni, with Jack from Monash Uni at the rear. They are currently working on two new projects for DRI that will be launched later this year. One is a new citizen science research project focussed on some very special dolphins. The other is top secret - stay tuned for some exciting announcements over the month ahead!

What is exciting is that interns are wanting to volunteer beyond their set hours and intend to bring their colleagues to help us with research during the Summer holidays.



We already have the next group of interns looking at dolphin health and other research projects.

Thanks to Professor Hergt's team, Marike and Helen for making it possible for interns to work with us.

I think our future is in good hands.

KINGSTON AMBASSADORS SHINE IN 2019



The Ambassadors have learnt new skills in their peer teaching workshops - including how to pass on to fellow students what they are discovering as Ambassadors. Plus improving their self confidence and self esteem, and having fun!

Ambassadors from the City of Kingston region had an amazing time on Moonraker (thanks, Torie and your crew). The time spent on the water was an eye-opener for many of the Ambassadors; as always the seals at Chinamans Hat were a definite hit.



Port Phillip has a wonderful range of animals, birds and marine creatures - it's up to us and these marine Ambassadors to make sure they continue to thrive

CLIMATE CHANGE COULD BE HARDEST ON MARINE SPECIES



Coastal regions tend to be thriving hotspots for people as well as marine species. Like these resident dolphins that share their Port Phillip home with five million people.

From the more literal perspective of 'hotspots', marine life could be more at risk than we previously thought from heat stress as oceans warm through climate change.

A recent study by researchers from Rutgers University suggests that **marine creatures are being lost from habitats twice as fast as species on land**. This could have grave consequences for species living in comparatively shallow coastal waters - and for humans that rely on these ecosystems. The study was published in the prestigious journal *Nature* (a link is included below).

At first, it might sound counterintuitive because ocean waters don't have the extremes of seasonal and daily temperature fluctuations seen on land. Temperatures on land can turn from freezing at night to over 40 degrees C on the same day! Temperatures in marine environments beyond the intertidal fringe show little daily change and seldom over 10 degrees C variation across the seasons.

The relative temperature stability of water was crucial to the evolution of life and partly explains why the majority of animal phyla are only found in marine environments.

The study suggests that marine ectotherms live closer to the edge of their physiological thermal thresholds than do terrestrial ectotherms. Terrestrial species can burrow, retreat to the shade, hibernate or only come out at night to avoid heat. Marine species don't have cool spots to burrow or shade themselves as everywhere is pretty much the same temperature.

Ectotherms include invertebrates, fish and reptiles. They used to be called 'cold-blooded' but our understanding is that it is far from the case. Terrestrial species use the sun and shade to warm their body and many large fish species generate heat in their muscles as we do.

So comparatively small temperature rises may see the loss of marine species that are keystones in food webs. The impacts on higher order predators such as birds, marine mammals, and humans, could be significant. We need to urgently work in three areas:

1. Reducing the pressures on marine systems and species from coastal pollution and other human activities. Using evidence-based methods to change behaviours;
2. Acting to address climate change;
3. Research to overcome our poor understanding of coastal systems and species to provide a 'baseline' of what is there now. Monitoring to pick up changes and guide responses.

REACHING OUT TO THE COMMUNITY



The 'Island Whale Festival' was part of the Two Bays Whale Project communication and outreach plan. The weekend was a great success with over 3,300 people braving the winter weather.

The support of Wildlife

Coast Cruises, the Dolphin Research Institute, Destination Phillip Island, Phillip Island Nature Parks, Bass Coast Shire and the International Fund for Animal Welfare (IFAW) made it so successful. So too did the presence of Sammy the Seal and Bottles the Dolphin, with Sue Mason, DRI's past Research Director.

RESEARCH IN GOOD HANDS...



We are delighted to announce that David Donnelly, a long-time team member and research officer with DRI, will be taking on an expanded research role. David's involvement with DRI goes back to the beginning - helping with research as a volunteer - and as his skills and experience developed, working on local research projects in between

assignments all over the world

So far this year he has worked for the Australian government in Antarctica on a blue whale ecology project, and with colleagues on a killer whale project off Western Australia

David also has a passion for the value of citizen science and community engagement which has led to him founding the Two Bays Whale Project, a citizen science initiative in partnership with Wildlife Coast Cruises and DRI.

Developing this project will be a key focus for David during the next six months. Some of you may hear from him as he delivers a range of talks for community groups and stakeholders around the Two Bays region.

We are very lucky to have David's passion, skills, and commitment at DRI... Our fieldwork is in very good hands. Read what David has to say about the coming whale season below.



Well, what a whale season we have been experiencing! Some fantastic weather, plenty of whales and most pleasing of all, our new online reporting system 'PodWatch' has proven to be a great addition to our Two Bays Whale Project.



At the time of writing this article, we had logged 228 separate, validated sightings of humpback, southern right and killer whales plus numerous dolphin sightings and a mystery whale from across the Two Bays region and beyond! What a great result!

As well as sighting information we also receive hundreds of images of whales, some of which are of the underside of humpback whale flukes (tails). These "fluke shots" can, and are, used for comparison and addition to the Victorian humpback whale fluke identification catalogue.

This season our research team has added 14 new whales to the catalogue which brings our total to 95 catalogued humpback whales in Victoria.

These successes are due to our wonderful network of citizen scientists and our project partner Wildlife Coast Cruises, without which the Two Bays Whale Project would not exist. Please, keep your eyes on the water and report those sightings!!!
<https://www.dolphinresearch.org.au>

David Donnelly, Research Officer.

[UPDATE: David added the 100th fluke to the catalogue in late November]

CREATING A COMMUNITY THAT CARES ENOUGH TO PROTECT OUR BAYS...



Esther and her calf Bouncer belong to a community of 40 common dolphins that share their home with about 120 bottlenose dolphins, and 5 million Melburnians.

Port Phillip is the only bay in the world where these normally oceanic dolphins have come to permanently live.

It's a positive sign for our bay and dolphins, given the concerns for the health of dolphins and other species in many polluted coastal locations around Australia and the world.

Positive but with no room for complacency – especially facing a future of climate extremes and our human community expected to reach ten million over the next thirty years.

The challenge is that all our homes, businesses and streets connect with the dolphins' home through the many drains and creeks that flush stormwater pollution from our suburbs.

It's why we get toxic algal blooms following summer storms flushing nutrients from the catchment. It caused Mornington's Mothers Beach to be closed to swimming in February 2013 after a storm flushed our roads, drains and creeks into the bay.

Our impacts from the catchment affect everything: swimming, aquaculture, fishing, tourism, recreation, amenity and coastal economies and of course, the health of our living marine treasures.

The solution is to help our community care enough about our coastal environments to change how we live in our suburbs. That's the reason that 18 years ago we developed our award winning '*i sea, i care*' School Ambassador Program.



After working with these 6,000 young environmental leaders, we have evidence of lasting social impact. It's now time to extend the success to the wider community.

Welcome '*i sea, i care*' COMMUNITITES!

Our vision is to help the community become inspirational custodians for our bay. We will focus our first stage on the 60,000 strong community around Mornington, including Mt Eliza and Mt Martha.

The successful model will then be adapted for other locations.

The '*i sea, i care*' COMMUNITITES project asks the community to invest in the future of their bay through the Dolphin Research Institute. We need to build community stewardship to reduce what we flush into the bay.

There will be partnerships with schools, businesses, council, agencies and the wider community!

Success will see measurable changes in community perceptions, behaviours and coastal pollution. This is not just a one or two-year project. The Institute is committed to partnering with the community for the long-haul to achieve sustainable impacts – just as we have throughout our 29-year history.

Why we need your support...

WHAT ARE THE KEY ISSUES FACING THE BAY?

The biggest issue facing the bay is what's going into it - the nutrients, sediment and chemicals entering the bay in stormwater pollution.

The rubbish on beaches is the visible "tip of the iceberg". Too much nitrogen in particular could stretch the bay's capacity to cope and result in the bay turning green with algal blooms!

Eventually the bay's food webs would suffer.

Two huge issues will exasperate these threats; our population expected to double from five to ten million by 2050 and the extremes of climate change.

The image below shows part of Mt Martha, where all the homes drain to creeks and then the bay. In many locations creeks have been replaced by huge barrel drains that empty into coastal waters.



WHY THE FOCUS ON PORT PHILLIP AND THREE SUBURBS?

Our dedication to programs involving Port Phillip, Western Port and the wider Victorian coast remains as important as ever.

The Institute is piloting '*i sea, i care*' Communities in three suburbs on eastern Port Phillip to focus our limited resources on developing a program that can be expanded to other locations.

HOW CAN I HELP?

I've stopped using plastic bags - isn't that enough?
Every step we take as individuals is important, and well done for giving up plastic bags. How about committing to some actions that will help to reduce stormwater pollution? Go to our website for ideas: make a commitment to reduce pollution from the catchments, volunteer, donate and/or participate in citizen science.

Our marine treasures will thank you...

FAREWELL TO DR SUE MASON...

We say farewell to Dr Sue Mason, DRI's Research Director, after 12 years of being a very important part of the DRI team.



Sue's fascination with marine mammals started in Hawaii through volunteering on humpback whale research projects with Earthwatch. At the time she was a primary school teacher, and those experiences in Hawaii built a passion for science that led her to complete a biology degree at Monash University.

She subsequently gained an Honours degree, and then her PhD from Curtin University. Her research showed that the common dolphins living near Mornington had become permanent residents. This has scientists from all over the world looking at our dolphins with amazement. Everywhere else in the world common dolphins live in the open ocean.

Sue's love of learning was supported by DRI; working together we have achieved a vast amount - with Sue's PhD research contributing greatly to the understanding about our dolphins that is crucial to their protection. A true win-win.

THANK YOU TO OUR WONDERFUL SUPPORTERS...

Our loyal Adopt-A-Dolphin members and donors (many for more than 20 years).

Our partners with our '*i sea, i care*' School Ambassador Program.



Members of our Leadership Circle Program.



The many hundreds of loyal businesses who host collection tins and donate to our fundraising auctions.

- Mornington Peninsula News Group
- Good Company
- Western Port Marina
- Ritchies Supermarkets
- Catholic Education
- Landcare
- Port Phillip Bay Fund

JOIN US...

There are lots of ways you can support our work and enrich your own lives by being involved.



Give a gift that 'keeps on giving'- an Adopt-A-Dolphin membership for yourself or a loved-one. There are other fantastic Christmas gifts in our shop too: <https://www.dolphinresearch.org.au/2019xmas/>



Join our education team for a memorable experience. Schools, Probus (and like), Summer Holiday programs. As well as learning and having fun, your fees help to support our organisation's work. <https://www.dolphinresearch.org.au/education/>



Become a Citizen Scientist. Report your sightings of dolphins and whales and help us to answer important questions about their movements and needs.

<https://www.dolphinresearch.org.au/report-sightings-page/>



Donate to our Appeal.

<https://www.dolphinresearch.org.au/2019-isic-appeal/>



Commit to an "action" to help protect our dolphins and their home.

<https://www.dolphinresearch.org.au/isic-communities/>



Host a collection tin or our "tap and go" fundraising terminal in your business. Call 5979 7100 to find out more.



Volunteer or undertake a formal Internship with DRI. Last year all our volunteers (board, interns, office, fundraising and research) contributed over 5,000 hours to DRI.

<https://www.dolphinresearch.org.au/volunteers-and-interns/>

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