



Two Bays Whale Project Summary 2018

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Project Background

The Two Bays Whale Project is a citizen science initiative created through collaboration between the Dolphin Research Institute, Wildlife Coast Cruises and Killer Whales Australia. The project officially began in 2015 and is designed to formalise the recording of sightings of large cetacean species within Port Phillip, Western Port and adjacent waters (Barwon Heads to Inverloch). The current dataset dates back to 2000 with some supplementary sightings from previous years dating back to 1984.

The key species for this citizen science project are; humpback whale (*Megaptera novaeangliae*) and southern right whale (*Eubalaena australis*) but may also include other species' such as killer whale (*Orcinus orca*), minke whale (*Balaenoptera acutorostrata*) and blue whale (*Balaenoptera musculus*), also occasionally seen in nearby waters.

This project is intended to have the capability to provide a repository for images of fins and flukes (humpback whale) and callosities (southern right whale). The image repository will be a resource for existing identification catalogues e.g.: Victorian southern right whale catalogue, Australasian Right Whale Photo Identification Catalogue (ARWPIC) and the Victorian humpback whale fluke catalogue.

Key stakeholders were identified and invited to become involved in the Two Bays Whale Project. Those that accepted the invitation were included in real time communication of sightings, which helped to ensure best coverage, and response, which in turn helped to validate these events and acquire identification images.

The objectives of this project are to;

- create a strong and reliable sightings network through engagement of key stakeholders and the general public (citizen scientists),
- accurately record and archive sightings and movement of large whale species within Port Phillip, Western Port and adjacent waters (Barwon Coast to Inverloch) (Fig. 1),
- provide a repository for identification images (primarily for humpback whales and southern right whales) which is then shared with key stakeholders,
- provide accurate information on large cetacean movements and habitat use within the observation area and
- contribute these data to support current and future cetacean management plans and research projects.

Observation area

The observation area is split into two regions; Port Phillip (Barwon Heads to Cape Schanck) and Western Port (Cape Schanck to Inverloch) (Fig. 1)

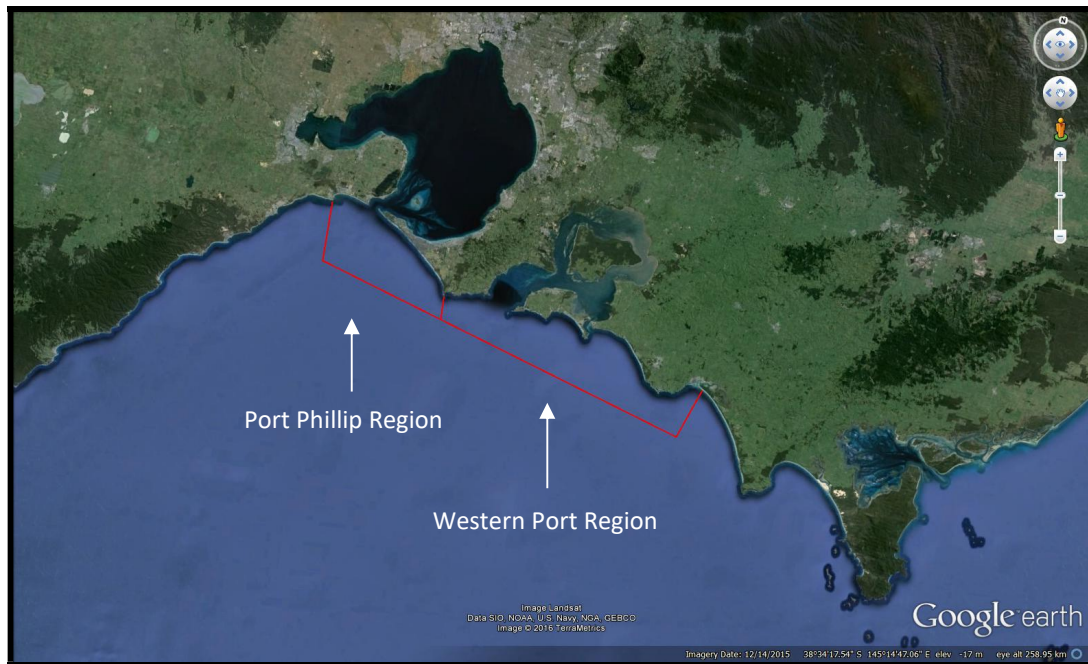


Figure 1 – Observation area encompassing Port Phillip, Western Port and adjacent waters (Barwon Heads to Inverloch).

Observation Sub-Regions

Season 2018, again used the 10 sub-region approach for assigning sightings (See Appendix):

- Barwon Coast
- Corio
- Port Phillip North
- Port Phillip South
- Peninsula West
- Peninsula East
- Western Port North
- Western Port South
- Phillip Island South and
- Bass Coast

The reason for this was to streamline reporting and encourage ‘ownership’ of regions for citizen scientists.

Season summary

Obtaining sightings

In 2018 the region experienced a mix of weather conditions with good to very good conditions prevailing for the most part. Sightings were gathered from land, vessel and helicopter. The primary platforms for observations this season were the tourist vessels 'Kasey Lee' and 'Brianna Lee'. These vessels are owned and operated by Wildlife Coast Cruises based on Phillip Island. Regular whale watch cruises were responsible for gathering much of the sighting data presented here.

Sighting reports were scored for reliability using a 1 to 5 system, with 1 being unlikely and 5 being validated with imagery (video or photograph).

Sightings

Overall sighting figures;

- 286 confirmed separate sighting events
- Estimated 610 individual animals
- 4 confirmed species (southern right, humpback and killer whale)
- 1 unconfirmed species (likely pygmy sperm whale)

Note; the figure of 610 individuals is a best estimate after omitting, probable and known re-sights. The actual number of individuals is likely to be higher.

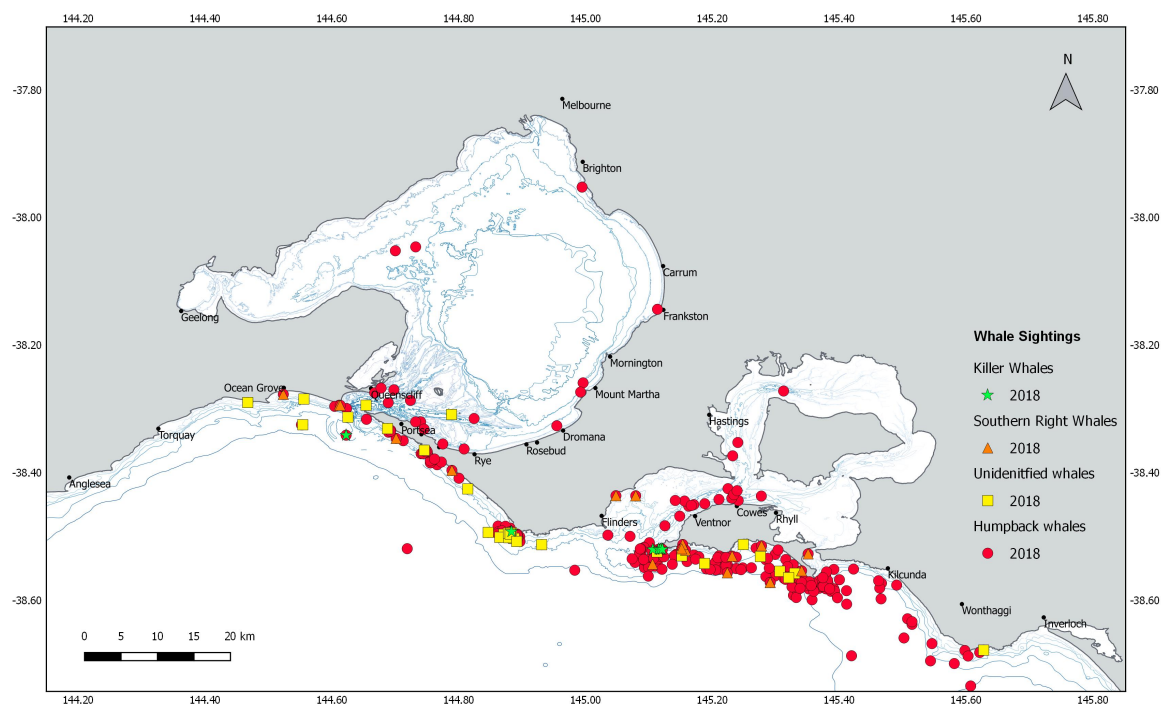


Figure 2 – Map of 2018 sightings in the region.

Comparison to previous seasons

The 2018 season has seen an overall increase in sightings compared to previous years. This increase is expected with a greater observation effort by a growing network of citizen scientists as well as a known population growth of east Australian humpback whales. Of note was a higher than expected number of sightings of southern right whales in the region. Whether these sightings were of a number of individuals or the same few whales moving locally is unknown as insufficient photo identification images were gained. Also, of note was the detection of a newborn humpback whale calf in July, a rarity for the region with only two other validated similar events (Fig. 2).

Examples of the images showing all 3 validated species obtained from citizen scientist contributors are provided in Figures 4, 5 and 6.



Figure 3: Humpback whale cow with a newborn calf near Cape Woolamai, Phillip Island. Image taken under permit by Sue Mason of the Dolphin Research Institute.

Examples of images from season 2018 used for species ID and sighting validation.



Figure 4 Southern right whale (*Eubalaena australis*) off Phillip Island.

Image courtesy of David Donnelly, Dolphin Research Institute.



Figure 5 Humpback whale (*Megaptera novaeangliae*) off Phillip Island.

Image courtesy of Sally Head.

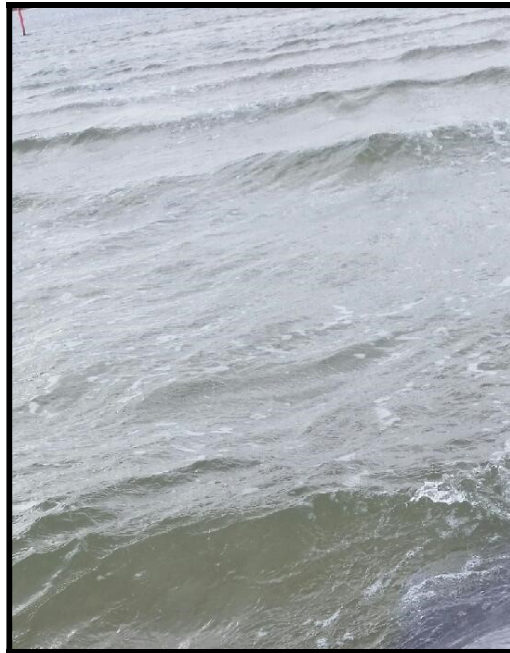


Figure 6 Killer whale (*Orcinus orca*) off Phillip Island. Image courtesy of Jason Taylor.

Cetacean emergencies

Just one emergency involving a cetacean (other than dolphins) occurred within the Two Bays region during the season. Details of this event are summarised below.

- 21 May – A single, sub-adult female, likely pygmy sperm whale (*Kogia breviceps*) stranded alive near Williamstown. The whale was managed by government agencies with the assistance of volunteers before it was euthanised by a Zoos Victoria veterinarian. Species confirmation is still pending.



- 15 November 2018 – A severely decomposed carcass of a sub-adult humpback whale washed ashore just west of the Two Bays Whale Project boundary near Ocean Grove. Due to the condition of the carcass, cause of death could be determined.



The Department of Environment, Land Water and Planning (DELWP) are tasked with responding to these emergencies and should be contacted as a first port of call in the event of a cetacean emergency such as strandings, vessel strikes or entanglement. See details below.



In summary, the 2018 Victorian whale season, the Two Bays Whale Project again proved that a 'Citizen Science' approach to data collection that included the use of social media, a sightings hotline and scientific expertise is a useful and reliable means of monitoring whale movements. The success of the 2018 season can be attributed to an excellent and growing network of enthusiastic supporters, good communication and collaboration between organisations.

Two Bays Project Outreach

As part of the Two Bays Whale Project communication and outreach plan, the 'Winter Whale Weekend' was held again in 2018, however it has now been rebranded as the 'Island Whale Festival'. Despite inclement weather, the weekend was again a great success. A conservative estimate of 3,300 attendees was recorded by event organisers. 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) were crucially important in ensuring the weekend's success.

This year's festival included new participants and government representatives from across the Two Bays region and beyond. An indigenous flavour was a strong focus of this year's event, with traditional land owners performing a welcome to country to open the event while several other activities focussing on indigenous culture were offered to visitors. Several displays of indigenous artwork created and displayed during the festival (Fig. 7). These activities and displays were very popular with visitors.



Figure 7: An example of the indigenous artwork created for and displayed at the Island Whale Festival.

Continuing with communication and outreach, the Two Bays Whale Project Facebook page again proved its worth as did the whale sighting hotline. Below are some dot-points relevant to assessing the value of these forms of communication.

- The Facebook page increased its following and now has 3,203 followers (up from 1,888 in 2017), an increase of 1,315.
- It is still evident that the majority of Facebook followers live in or near to the observation area.
- The Facebook page continues to be an integral part of the communication and outreach component of the Two Bays Whale Project and provides a central hub that is accessible to anyone interested in contributing sightings or simply wishing to learn about whale movements in and around our bays and nearby coasts.
- The whale sightings hotline and SMS alert were again run by Wildlife Coast Cruises in 2018. This form of communication both receives and circulates whale sighting reports amongst its 1,845 members in the Bass Coast region and beyond in near real time.
- Communication through these two means continues to improve community awareness of the presence of whales and attracts winter tourist visitation to Phillip Island and the Bass Coast.

The success of the 2018 season has ensured the continuation of this project into 2019. We intend to expand our networks and increase the contribution of data toward improving the understanding and management of whales in Victorian waters.

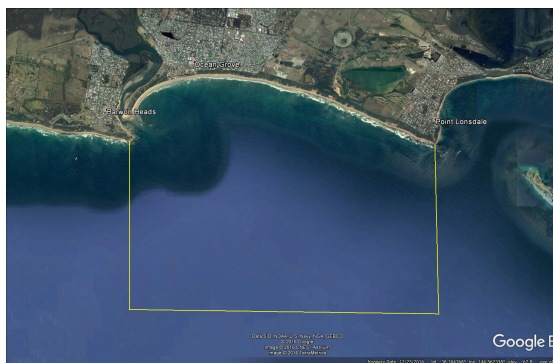
Acknowledgments

The authors of this summary would like to acknowledge the contributions made by our Citizen Scientists in the general public, without which, a large percentage of sightings would not have been available. We would also like to acknowledge:

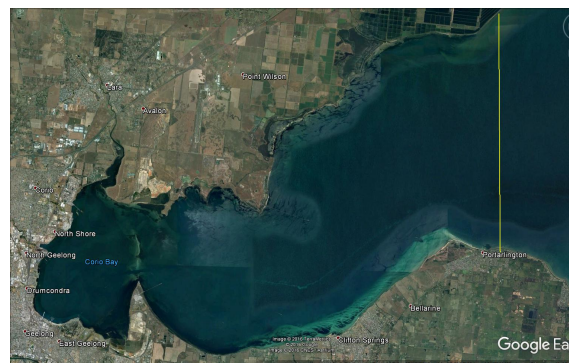
- Department of Environment, Land, Water and Planning (DELWP),
- Parks Victoria,
- Phillip Island Nature Parks,
- Destination Phillip Island,
- Phillip Island Helicopters,
- South Bay Eco-Adventures,
- Port Phillip Sea Pilots,
- Polperro Dolphin Swims,
- Moonraker Dolphin Swims,
- Sea-All Dolphin Swims
- RedBoats Diving
- WaterMaarq
- Searoad Ferries,
- Barwon Coast Committee of Management and
- Victoria Police Search and Rescue.

Appendix

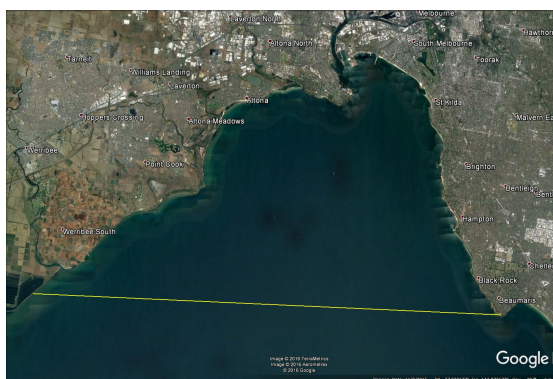
Observation Regions



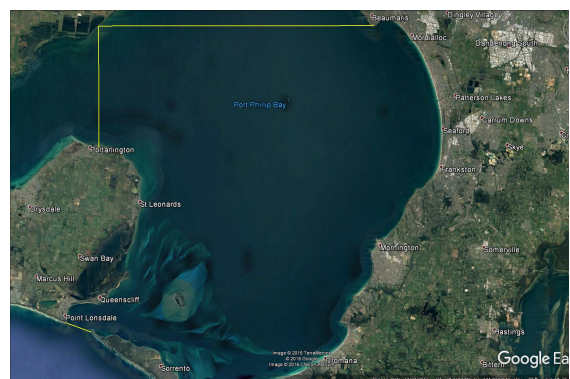
Barwon Coast



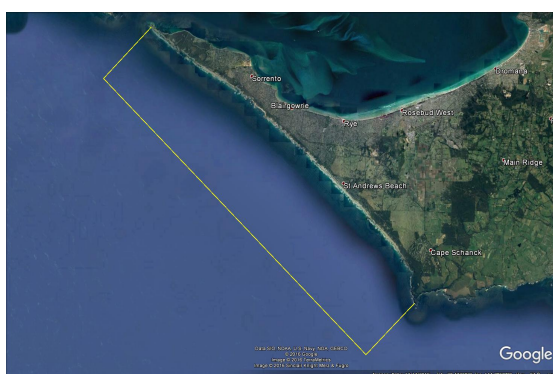
Corio



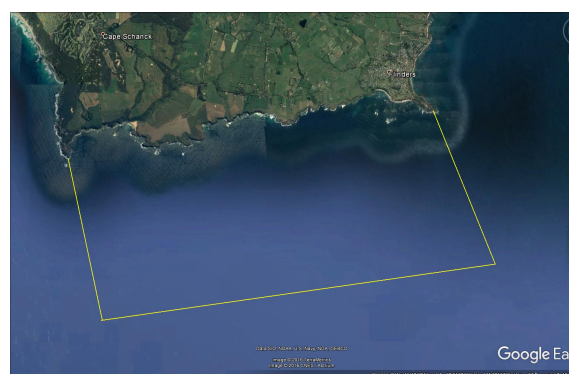
Port Phillip North



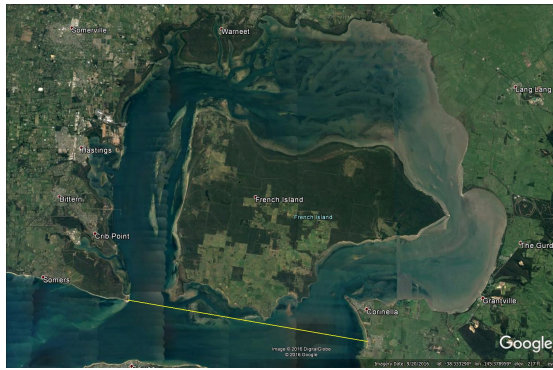
Port Phillip South



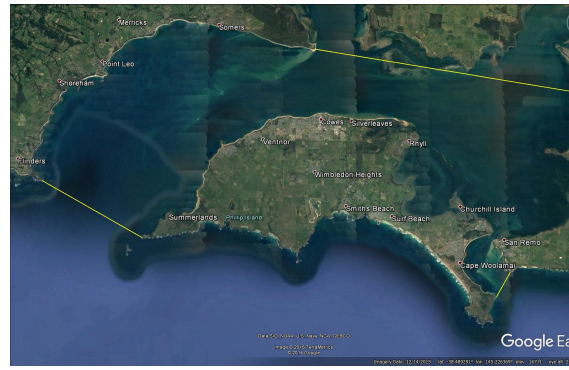
Peninsula West



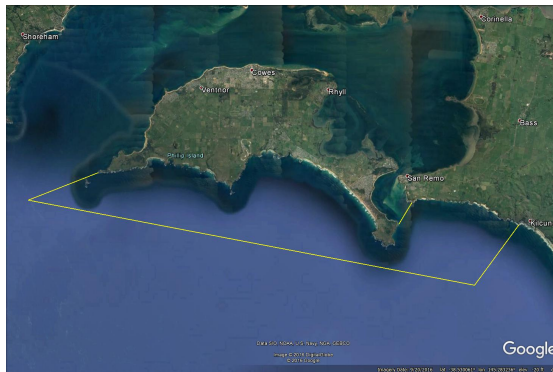
Peninsula East



Western Port North



Western Port South



Phillip Island South



Bass Coast

Note: Region borders demonstrated here are representative only and may not be precise.