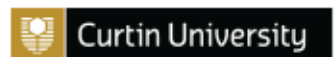


Dolphin Watch

Annual Report 2011-12



Foreword



This year brought a number of exciting achievements for the third year of the Dolphin Watch project. Dolphin Watch helps monitor and research the resident Indo Pacific bottlenose dolphin population in the Swan Canning Riverpark.

The Minister for Environment Hon Bill Marmion MLA launched our first dolphin display at Scitech bringing citizen science to a wider and younger audience.

We held another *Name the Dolphin* competition for a resident calf living with its mother in the Swan Canning Riverpark.

Dolphin Watch volunteers assisted the Department of Environment and Conservation and the Swan River Trust with their reports and photographs of entangled calf Gizmo, helping to establish a pattern of movements of the animal to assist DEC wildlife officers and Water Police to successfully disentangle the calf.

The *River Guardians* education team visited schools and community groups to inform others about dolphins in our rivers and how we can help dolphins by helping our rivers, through reducing nutrients entering the system.

And we trained and trained some more! We now have 405 Dolphin Watch volunteers monitoring dolphins in the Swan Canning Riverpark - a fantastic achievement.

Murdoch and Curtin universities and the Trust have been working closely together to offer the community opportunities to be involved in citizen science by training people to assist the research, communicating information on the dolphins and producing an update of *FinBook* - a catalogue of dolphins seen in the Riverpark.

Dolphin Watch volunteers are the 'eyes on the Riverpark', providing scientists with valuable observations to help discover new information on dolphins. We thank all those involved in this exciting project and look forward to another year of dolphin watching in the Riverpark.

Marnie Giroud
River Guardians Program Manager
Swan River Trust

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Dolphin Watch scientists and staff



Dr Hugh Finn - Murdoch University

Postdoctoral Research

BA (Oberlin College, USA), PhD (Murdoch University)

Dr Hugh Finn is a postdoctoral researcher at Murdoch University whose research focuses on black cockatoos and bottlenose dolphins. He became involved with dolphins in the Swan River through his PhD research in Cockburn Sound and the Swan River from 2000 to 2003.

Hugh provides presentations and training for Dolphin Watchers and information and advice to the *River Guardians* team.



Dr Chandra Salgado - Curtin University

Research Fellow Marine Biologist

**BSc Biology (NMT, USA), MSc Marine Biology (FIT, USA),
PhD Marine Ecology (CDU, Australia).**

Chandra Salgado is a Research Fellow with the Centre for Marine Science and Technology. Her main research interests are anthropogenic impacts on marine animals (including noise), vocalisation, distribution, migration patterns of marine mammals, and statistical modelling of ecological and behavioural data.

Recent assignments include analysis of blue and humpback whale vocalisation and experimental design and analysis of studies on ecology and behaviour of marine mammals. Chandra provides presentations and training for Dolphin Watchers and collates and analyses the data provided by the volunteers.



Marnie Giroud - Swan River Trust
***River Guardians* Program Manager**

Marnie Giroud has worked with the Swan River Trust for more than four years in the role of *River Guardians* Program Manager which incorporates the Dolphin Watch project. Her passion for wildlife and conservation of the Swan Canning Riverpark is evident through her presentations and attendance at events for members and training or Dolphin Watchers.



Rachel Hutton - Swan River Trust
Community Engagement Officer

Rachel Hutton has worked with the Swan River Trust for more than six years in the role of Community Engagement Officer which incorporates the *River Guardians* program and Dolphin Watch project. Rachel creates *River Guardians* publications, contributes to community engagement planning and initiatives and coordinates events and presentations for the Trust and *River Guardians*.



Dolphin Watch project

The Swan River Trust, Murdoch and Curtin universities collaborated in 2009 to create a new social science research and education project – **Dolphin Watch**. Dolphin Watch volunteers record the activities of Bottlenose Dolphins in the Swan Canning Riverpark.

Information from Dolphin Watch supports the Coastal and Estuarine Dolphin Project (CEDP), a long-term study of the health and ecology of dolphins in the Swan Canning Riverpark and the Perth area.



Dr Chandra Salgado and Karl Beidatsch from Curtin University and Dr Hugh Finn, Dr Carly Holyoake, Dr Nahiid Stephens and Delphine Chabanne from Murdoch University are leading the research into dolphin community in the Riverpark. Part of this research is investigating how environmental changes in the rivers and human activities affect the dolphin community. CEDP researchers work with Dolphin Watch volunteers, who are part of the Trust's *River Guardians* program, to monitor the movement and behaviour of the dolphins.

Community involvement is a great boost to this research and allows information to be gathered on how dolphins use the Swan Canning Riverpark.

Dolphins playing in the rivers are an iconic and much loved sight, but their habitat and the dolphin community itself could be at risk. The Swan River dolphin community is small and dependent on a handful of females. They inhabit an urban environment which places a lot of stress on the mammals. Dolphins living in an estuarine environment can experience pressure from rapid salinity changes, loss of habitat, decreasing prey, algal blooms, entanglement, boat strikes, rubbish and noise.

The Trust continues to urge the Perth public to look after the Riverpark to minimise stress on the dolphins. The public can play an invaluable role in monitoring this iconic species. Becoming a member of the *River Guardians* program allows community members to get directly involved in protecting these mammals. *River Guardians* members can train to become Dolphin Watch volunteers. With more than 400 trained Dolphin Watchers observing dolphins, the information is helping to provide more observations to be analysed by research scientists.

Since the project began, volunteers have contributed observations of the locations and behaviours of the animals. Originally, this was confined to the upper reaches of both rivers, however the entire Swan Canning Riverpark is now being monitored. Volunteer photographs literally help build a picture of the community of dolphins in the system at present and provide valuable source material for *FinBook*.

Dolphin Watch volunteers also record dolphin sightings and submit photos to the Trust and Department of Environment and Conservation to assist dolphins in trouble in the estuary.

The Dolphin Watch project will continue to develop and change over time to expand research capabilities and to encourage volunteers to participate through online monitoring and other initiatives.



Karl Beidatsch - Curtin University

The Concept

I am an honours student at Curtin University working on a map that tells us, for each season, how likely we are to see a dolphin in each of the monitoring areas. Based on work by Dr. Hugh Finn and Kimberley Moiler in 2002-3 and 2007-8, we've developed a theory that the dolphins tend to cluster in different parts of the river system at different times of the year. I'm expanding on their work, using the observational data that the volunteers are collecting from Fremantle up the Swan to Midland and the Canning to Riverton and the Kent Street Weir.

The Tricky Part

Now here's the real core of my work. I'm trying to do this only using presence records – that is, the times when the volunteers have seen a dolphin. All modelling comes down to doing some sophisticated mathematics using these numbers.

There are a lot of different techniques that can be used, all with their own assumptions and requirements. A common requirement is that you need to have both kinds of observations – yes we saw some, no we didn't – in order to make a coherent, useful model. Often scientists have just one kind of data to work with. This may be historical records from museums, journals, universities or herbariums. Sending more observers out to do another search and report back on a species' absence is expensive. Volunteers can't be expected to do that kind of work –so the scientists have to make the best estimate based on what they know.

There's some very new mathematics being used that show promise. The trick is that, rather than try to give a definite answer, you examine how similar the current conditions are to ones you've seen before. The more dissimilar, the less likely you are to see a dolphin there.

The best part is that this method I'm working on has never been tried before for biological modelling. I'm adapting a method designed for online search engines to model dolphin movements. If this works, then biologists and ecologists the world over will have a new method for studying information gathered by volunteers.

The Result

It's possible that my method will fail, that I'll find the old ways are still the best. If that happens, then we'll need those negatives – the times when you didn't see any – to build the best possible model in the traditional ways. The more data we have, the better our understanding.

So keep your eyes open, and keep the reports coming in!





Sarah Marley - Curtin University

I am a researcher at Curtin University and am currently focusing my effort on obtaining very detailed information on dolphin movements in the Fremantle Inner Harbour. This area appears to be a hotspot in autumn and spring for the Swan River dolphin community and a number of visiting animals from Cockburn Sound. They are often seen foraging and socialising in this area.

The inner harbour is also an area of frequent vessel movements. It is utilised by a wide variety of ships, vessels and watercraft. We would like to understand more about how the dolphins use the Fremantle Inner Harbour, and

understand whether there is any interference in their activities when vessels move through, and how they adjust their activities to any interferences.

From April – June 2012, myself and a team of volunteers monitored dolphin movements and behaviour from Cantonment Hill, Fremantle. This spot directly overlooks the Fremantle Inner Harbour, providing the perfect vantage point for dolphin observations! We used a surveyor's theodolite to record the movement of animals and vessels, sending the location information to a computer running a program called VADAR (developed by the University of New Castle).

This allowed us to plot dolphin and boat tracks in real-time, creating very detailed and interesting maps of events. We also recorded group sizes, calf presence, animal behaviours and any vessel interactions with the dolphins. In the spring I will deploy an underwater noise logger to obtain information about the underwater noise environment in which the dolphins live in as well as their whistles. This information will help us to determine the significance of this area to the Riverpark dolphins, and how they respond to any disturbances. This information will be invaluable for creating a healthy environment for dolphins and river users!

I will be repeating these observations in autumn and spring during the next few years to obtain information over several seasons.



Delphine Chabanne – Murdoch University

Delphine Chabanne is a researcher with Murdoch University's Cetacean Research Unit (MUCRU) (<http://mucru.org/>). Delphine's main research interests focus on the conservation of Indo-Pacific bottlenose dolphin (*Tursiops aduncus*) population in the Swan Canning Riverpark and the adjacent waters of Perth (Western Australia). Delphine is currently conducting boat-based surveys to collect biological and ecological data on dolphins in these waterways.

Delphine's research is an integral component of the Coastal and Estuarine Dolphin Project (CEDP). The focus of her field research is a multi-year Population Assessment project to assess the abundance, habitat use, ranging and residency patterns of dolphins in the Perth region using photo-identification, behavioural sampling, GIS, and line transect sampling.

The overall aim of the Population Assessment project is to characterise the population size and structure of dolphins around the Perth region.

General aims

- (a) determine how many dolphins occur in this region;
- (b) investigate whether dolphins show long-term fidelity to particular locations;
- (c) assess if discrete 'communities' of dolphins occur within certain areas; and
- (d) evaluate what environmental variables are associated with the distribution of dolphins.

Research objectives

- (1) estimate dolphin abundance across the study area using photo-identification and mark-recapture methods;
- (2) determine residency and ranging patterns for individuals in order to better understand site fidelity and population structure;
- (3) determine habitat use patterns through habitat modelling; and
- (4) collect behavioural, environmental, and epidemiological data related to interactions with human activities and with dolphin health (e.g. entanglements, epidermal diseases).



Dolphin education display

The Minister for Environment Hon Bill Marmion unveiled the Dolphin Watch education display at Scitech this year. The display provides visitors with information on the Riverpark dolphins and the Trust's Dolphin Watch project, a DVD explaining the project and showcasing the dolphins, and a boxed display of resin dolphin skeletal parts.

The display also featured a competition box for the *Name the Dolphin* competition that resulted in more than one thousand entries. The Scitech display continued for four months and featured three Meet the Scientists Days with representatives from Dolphin Watch project partners.



Dolphins are part of the Swan Canning Riverpark and we all need to look after them by caring for their habitat - the rivers. For river conservation tips check out our website www.riverguardians.com. When out on or around the Riverpark there are four simple things you can do to help care for dolphins.



Keep away from dolphins – never approach a wild dolphin. It is illegal to disturb or harass dolphins under the Wildlife Conservation Act (1950). Boat-based observers should stay at least 100 -150 metres away from dolphins and not attempt to approach them. Shore-based observers should also take care to avoid disturbing river dolphins.



Slow down for dolphins - dolphins often form resting groups in the middle reaches of the estuary, so keep an eye out for dolphins, and slow down if you spot any.



Never feed dolphins – it is illegal and leaves dolphins vulnerable to entanglement, boat strikes, and disease when they come into close contact with humans and boats.



Take your rubbish home - dolphins, particularly calves, can get tangled in fishing line. Make sure you dispose of unwanted monofilament line carefully.

Dolphin entanglement

This year as in 2009 we have seen the damaging effect of discarded fishing line on dolphins. Gizmo, a young calf, became entangled with fishing line wrapped around his dorsal fin and body. The Department of Environment and Conservation, Swan River Trust and Water Police worked together to disentangle and free the calf.

Dolphin Watch volunteers played an invaluable role in reporting sightings of the calf and mother which helped DEC establish a strategy to assist the calf.

If you see injured or entangled wildlife please call the **WILDCARE Helpline** on **9474 9055** or the **Trust** on **9278 0900**.



Dolphins in the Riverpark

Dolphins are a unique part of the Riverpark. What do we know about the ecology of the dolphins inhabiting the Swan and Canning rivers?

A resident community

The Riverpark is home to a resident community of about 20 dolphins. These dolphins account for nearly all of the sightings of dolphins in the Riverpark, although dolphins from nearby coastal areas are occasional visitors.

The dolphins are classified as 'resident' because they use the estuary year-round. Based on our knowledge of bottlenose dolphins elsewhere, these are also likely to be life-long residents of the estuary. Seven of the residents were first identified in 2001, when the first research on the Riverpark dolphins was undertaken. Two of the occasional visitors – the males Fingers and Backpack – were first sighted in Cockburn Sound in 1993.

The dolphins resident in the Riverpark are said to comprise a 'community' of dolphins because they range over similar areas (the Riverpark and adjacent coastal waters) and frequently interact and associate with one another. These ranging and association patterns distinguish them from other dolphins that may be resident in Cockburn Sound or Owen Anchorage.

A life between the ocean and the estuary

The dolphins in the resident community spend part of their lives in the coastal areas outside of the Riverpark, sometimes venturing as far as Cockburn Sound to the south and Gage Roads to the north. They move between the Riverpark and the coastal waters on a daily or near-daily basis. Thus, their lives are like a see-saw between the ocean and the estuary.

Though dolphins are most frequently sighted in the lower and middle reaches of the Swan and Canning rivers, they sometimes travel up into the upper reaches of both rivers. Where the dolphins go and when they go there will reflect patterns in the abundance and distribution of their prey.

Important prey for dolphins in the Riverpark includes mullet, herring, whiting, and cephalopods (e.g. squid, cuttlefish, and octopus). They are also likely to feed at least occasionally on black bream and other fish species. Dolphins can't chew, so if they catch prey that are too big to swallow whole, they must break them into smaller pieces. They do this by throwing them around at the surface or by rubbing them along the sediment at the bottom.

Foraging (searching for fish) is the main activity of dolphins within the Riverpark. Most dolphins will need to consume upwards of 10 kg of fish a day – that's a lot of fish, so it's easy to see why dolphins are always on the look-out for a feed.

Dolphins will forage anywhere in the two rivers and in any kind of habitat. So you may see them chasing mullet in the shallows along the shore, preying on herring in the deeper water, or trying to corral octopus amongst the pens in a marina.



Dolphin Watch provides a simple and environmentally friendly online monitoring process for volunteers to log their sightings. This provides volunteers a fast and easy way to log their observations and allows Trust staff to collect volunteer hours, which are logged and submitted to the Department of Environment and Conservation's Community Involvement Unit.

A new opportunity for the general community to participate will be through the Trust's new online photo catalogue. Visitors to the *River Guardians* website www.riverguardians.com will be able to upload their dolphin photos which will help in our efforts to develop an understanding of the animals visiting the Riverpark. Photos are always useful for scientists to develop a clear understanding of the dolphins that call the Riverpark home.

The quality of data has improved since the beginning of the project, with more volunteers completing all parts of the monitoring forms. This has aided the research by providing a full data set. All volunteers are encouraged to fill out monitoring forms in full, even when no dolphins are seen. This includes completing start and finish times when monitoring for dolphins. Having this extra information helps researchers understand where high concentrations of dolphins are occurring, rather than just relying on sightings.

The Swan River Trust receives photographs of dolphins spotted in the Riverpark by Dolphin Watch volunteers. This year the community will be able to upload their photos of dolphins to our new website. Photos and details of where and when they are taken will help researchers determine animals that are using the Riverpark on a constant basis.

Dolphin Watch stresses to volunteers the importance of remembering to keep their distance and to not disturb dolphins when photographing them. Photographs are most useful if they show the dorsal fin and are not in shadow. This helps scientists identify individual dolphins and sunlight on the animal helps to capture markings on the body, which may also assist with identification.

Currently the Dolphin Watch project has 405 trained volunteers who are acting as citizen scientists by helping to collect information on the dolphin community in Perth.



Naming dolphins

Each year the Dolphin Watch project gives the community a chance to name one of the resident dolphins in the Riverpark. This exciting opportunity is a way for people to connect with the dolphins in a tangible way and the new name appears in *FinBook* and any reference to the animal.

This year we asked the community to name a new calf living in the Riverpark with its mother Highnitch. With 1063 entries it was a tough decision for the three judges including Chief Scientist of Western Australia Professor Lyn Beazley, Acting Director of CMST from Curtin University Dr Chandra Salgado and Swan River Trust Principal Scientist Dr Kerry Trayler.

William Ross, 25 of Woodvale named the calf Highhope. William said his inspiration for the name came when he opened an empty email to send in for the competition and was thinking "I hope the calf is a female and I hope the calf does well with mum Highnitch" so he thought, "I have high hopes for this calf" and so the winning name was born.



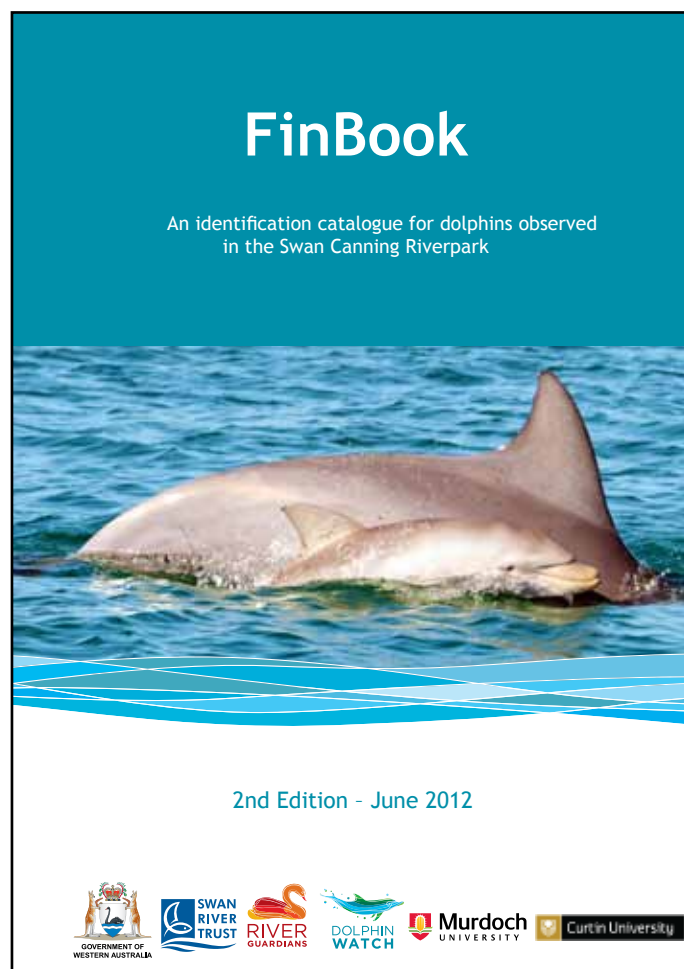
William received an annual family pass to Scitech, an annual National Parks Pass from Department of Environment and Conservation, a ZOOCROOZ from Captain Cook Cruises and a framed photo of Highnitch and Highhope.

FinBook is a catalogue of dolphins observed within the Swan Canning Riverpark. Dee McElligott and Dr Hugh Finn developed the first edition, which was released in 2011. The second edition, developed by Delphine Chabanne and Dr Hugh Finn, will be released in 2012.

It is important that all the dolphins that use the Riverpark are identified, so their welfare can be monitored long-term. *FinBook* gives everyone the ability to participate in this process. Using *FinBook*, community members can recognise individual dolphins and contribute information to assist in monitoring of these unique residents of Perth's rivers.

Dolphins can be identified by the markings and nicks that are present on their dorsal fins. Many of these markings are permanent, which helps to monitor individual animals more easily. Some dolphins are hard to identify because of a lack of markings and are known as 'clean fins'. *FinBook* is like a catalogue of 'fin-prints' for dolphins. The tables in *FinBook* show the right and left sides of each dolphin's dorsal fin. It also describes other unique features that can be used to identify individuals.

To view *FinBook* check out the Identifying Dolphins page in the Dolphin Watch section of the *River Guardians* website www.riverguardians.com.



Research findings 2011-2012

A mammoth effort to collect invaluable data

In late 2010, Dolphin Watch volunteers began recording the amount of time they were spending searching for dolphins. Dolphin Watch volunteers clocked up 2137 hours in 2011. This is equivalent to 285 work days. The effort during the first four months of 2012 (up to April) has almost reached 50% of the effort in 2011, so we are well on our way to surpassing 2011.

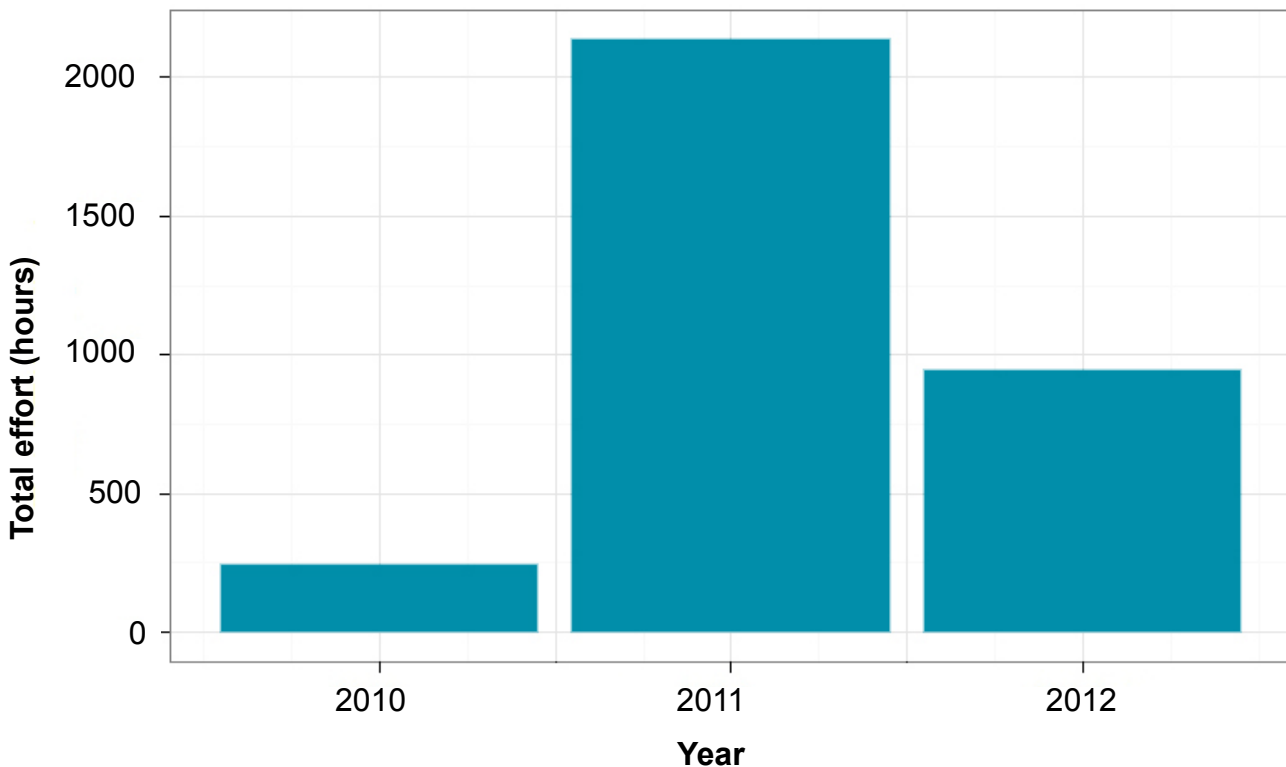


Figure 1: Recorded effort (time in hours) in which Dolphin Watch volunteers spent searching for dolphins in the Riverpark during 2010, 2011, and 2012 (note: effort was not consistently recorded until 2011, so values in 2010 reflect effort only where it was recorded).

The largest amount of information available is from monitoring zone 13 where Dolphin Watch volunteers undertook approximately 1400 hours of observations. Information is available for most other monitoring areas where between 50 and 250 hours of observation were undertaken. The more information available across monitoring areas, the broader the picture of how dolphins are using the Riverpark we are able to obtain.

We have successfully increased observations across much of the Riverpark to gain this broad understanding. Monitoring area with the least amount of available information (less than 20 observations) include areas 6, 7, 17, 18, 19, 20 and 31-33.

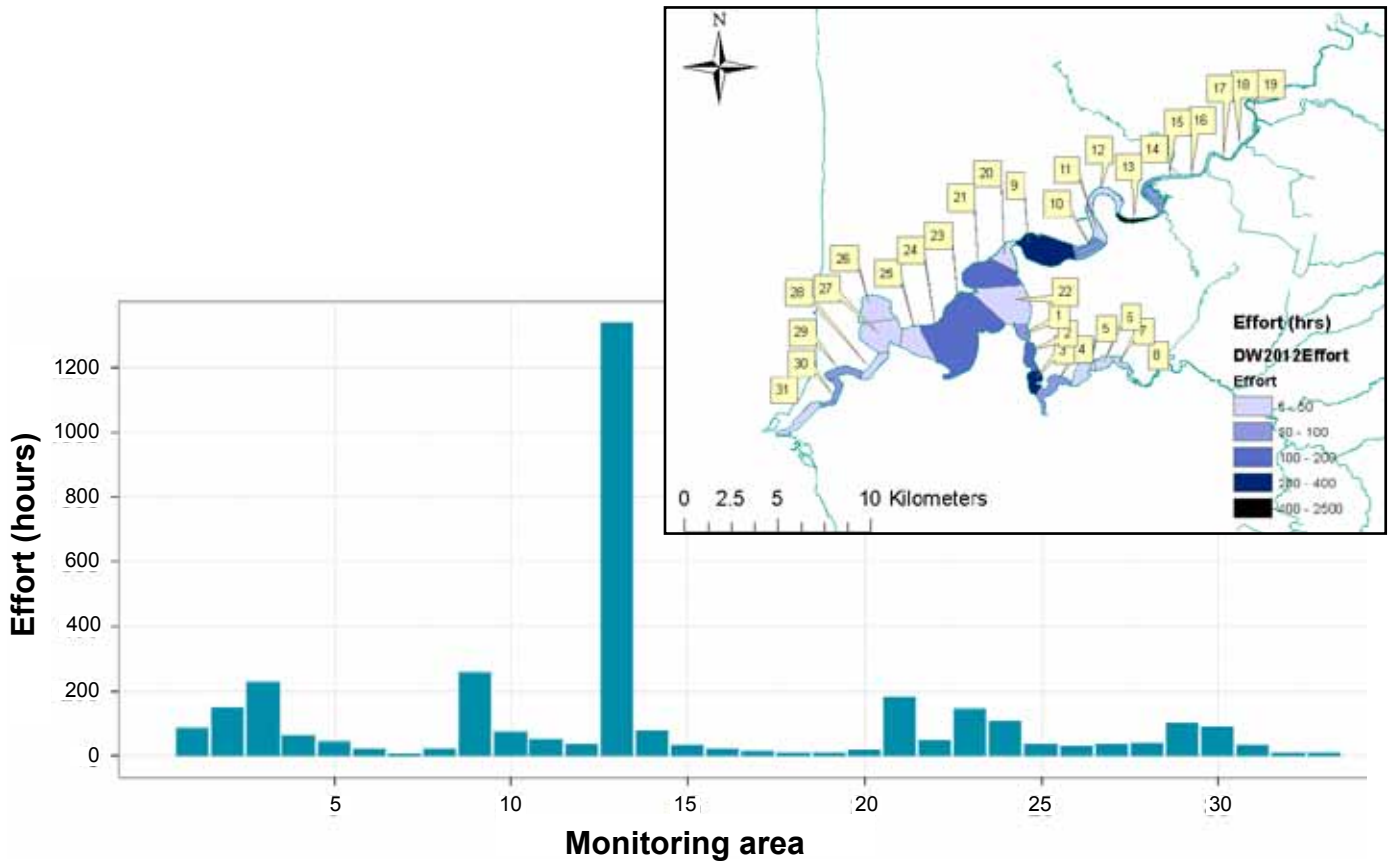


Figure 2: Recorded effort (time in hours) in which Dolphin Watch volunteers spent searching for dolphins in the 33 monitoring areas in the Riverpark over all three years together (2010, 2011, and 2012). The map indicates effort by colour, with the more intense effort indicated by the darker colours.



The time spent over the years in the various monitoring areas of the Riverpark is very similar, with the exception that there has been a marked increase in monitoring occurring in area 9 in 2011.

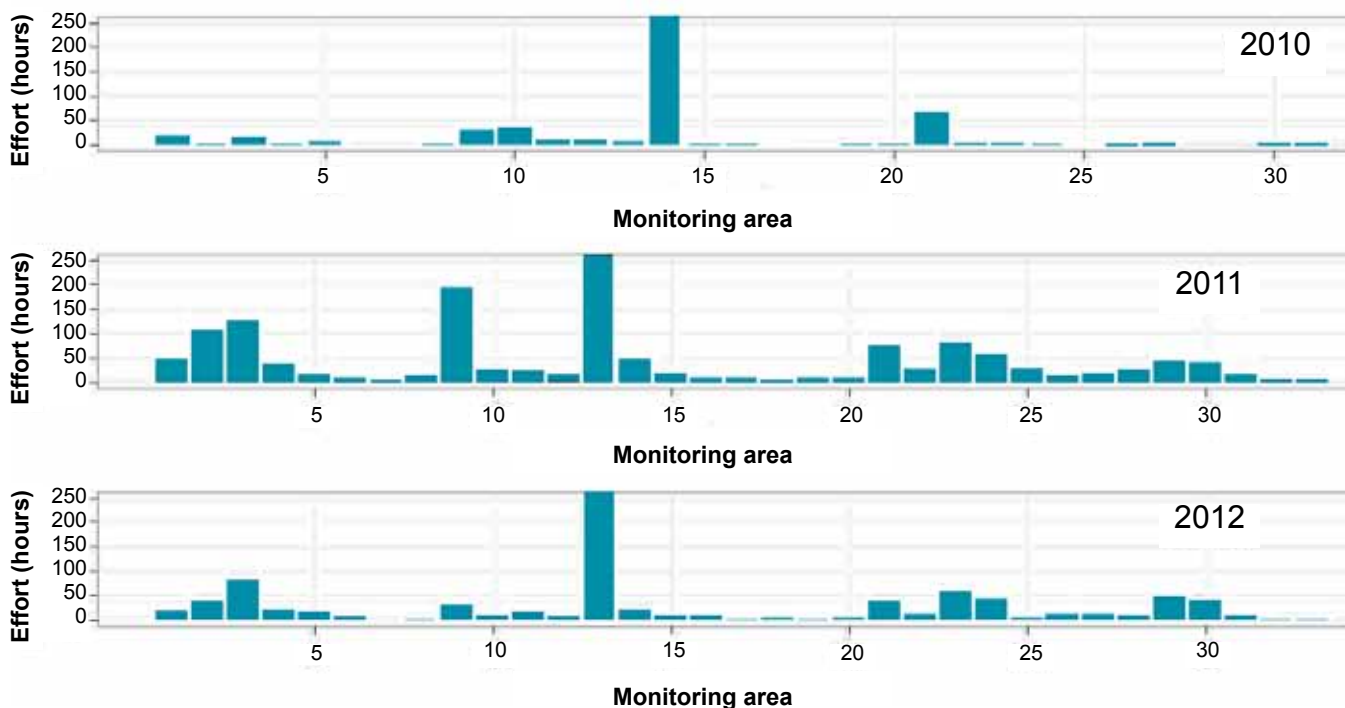


Figure 3: Recorded effort (time in hours) in which Dolphin Watch volunteers spent searching for dolphins in the 33 monitoring areas in the Riverpark for each of the three years in which effort was recorded – 2010, 2011, and 2012 (note: effort was not consistently recorded until 2011, so values in 2010 reflect effort only where it was recorded).

Dolphin Watchers spent significant time searching for dolphins across all months of the year, which makes the information available through different seasons relatively robust.

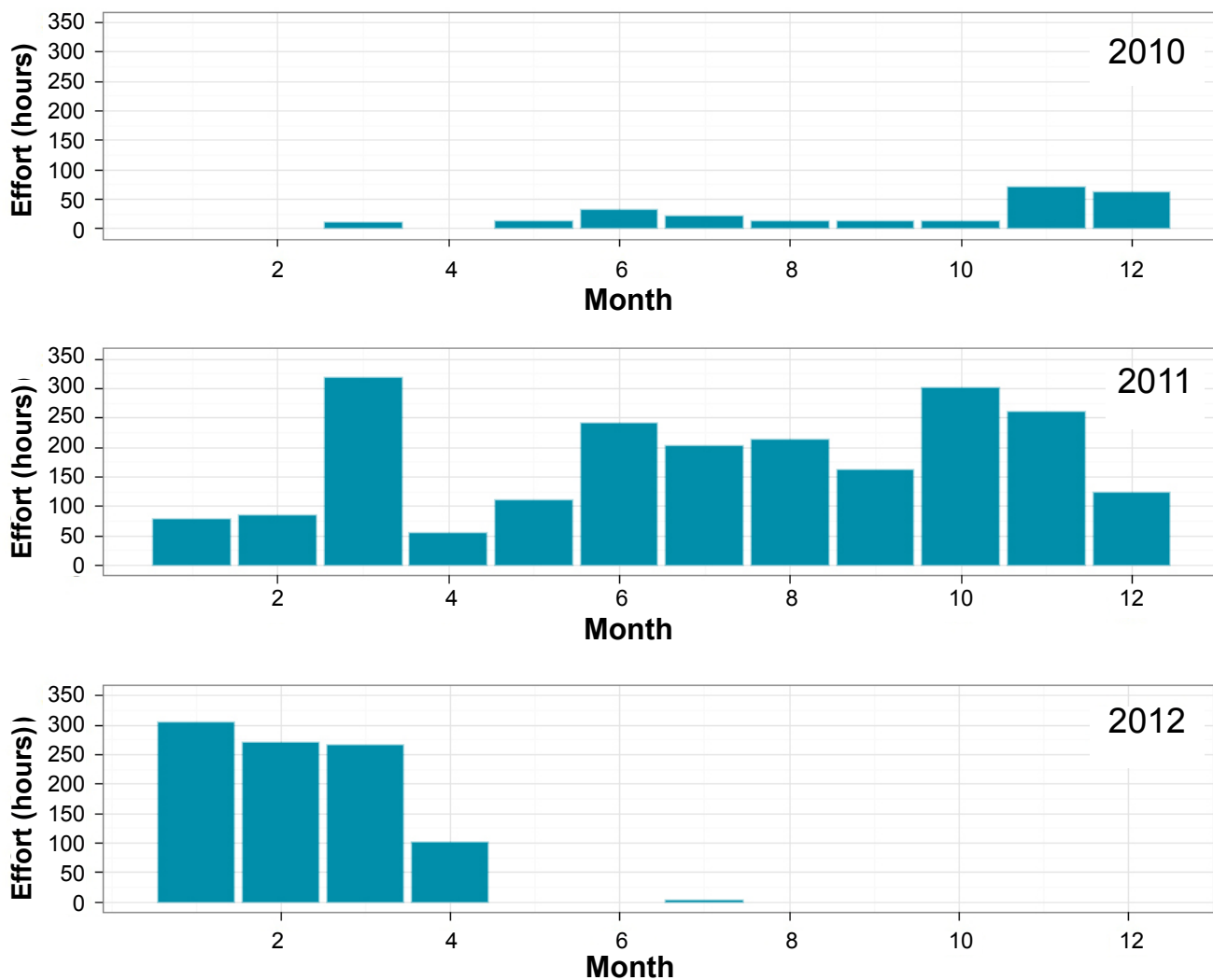


Figure 4: Recorded effort (time in hours) in which Dolphin Watch volunteers spent searching for dolphins over the 12 months in the Riverpark for each of the three years effort was recorded – 2010, 2011, and 2012 (note: effort was not consistently recorded until 2011, so values in 2010 reflect effort only where it was recorded).



How frequently are dolphins in monitoring areas in the Riverpark?

The number of times observations were made when dolphins were present, as well as not present, has increased markedly over the years since Dolphin Watch began in April 2009. There was also an increase in the number of times dolphins were sighted over the years, with 111 sightings in 2009, a 100% increase to 245 sightings in 2010, and 366 sightings in 2011. So far this year (2012), dolphins have been sighted 144 times in the first 4 months. It is anticipated there will be at least the same amount of sightings as in 2010.

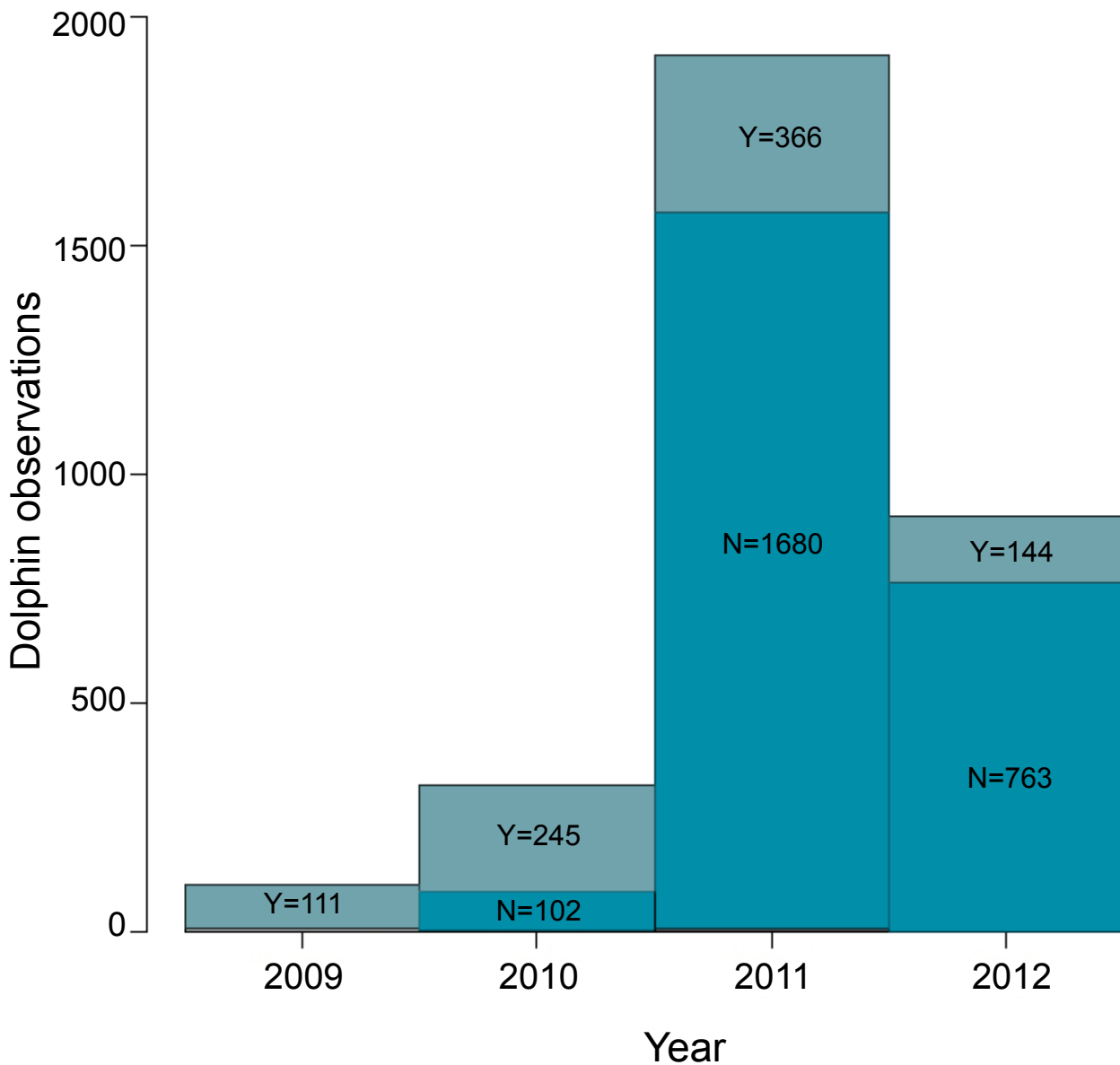


Figure 5: Number of Dolphin Watch observations in the Riverpark since Dolphin Watch began in 2009, including those when dolphins were sighted (Y) and those when dolphins were not sighted (N).

Since Dolphin Watchers have begun recording their effort (the hours spent searching), regardless of whether they saw dolphins or not, we have been able to begin “correcting” the number of dolphin sightings by the time spent searching for them. The logic behind this is that as the time spent searching for them increases, the chance of sighting dolphins also increases. So to compensate for the differences in time spent searching across monitoring areas and during different days of the year, the number of times dolphins were sighted is divided by the time spent searching for them. The corrected number of sightings is called “number of sightings per unit effort (in hours)”.

During 2011 and 2012, assuming that effort was recorded consistently, the number of times dolphins were sighted per hour of search effort is almost exactly the same! This means that there has been no change over the years in the frequency that dolphins are sighted in the Riverpark. The year 2010 was not included in the analysis as it was inconsistent with 2011 and 2012 (e.g. effort or time spent searching for dolphins was not a required data set in 2010).

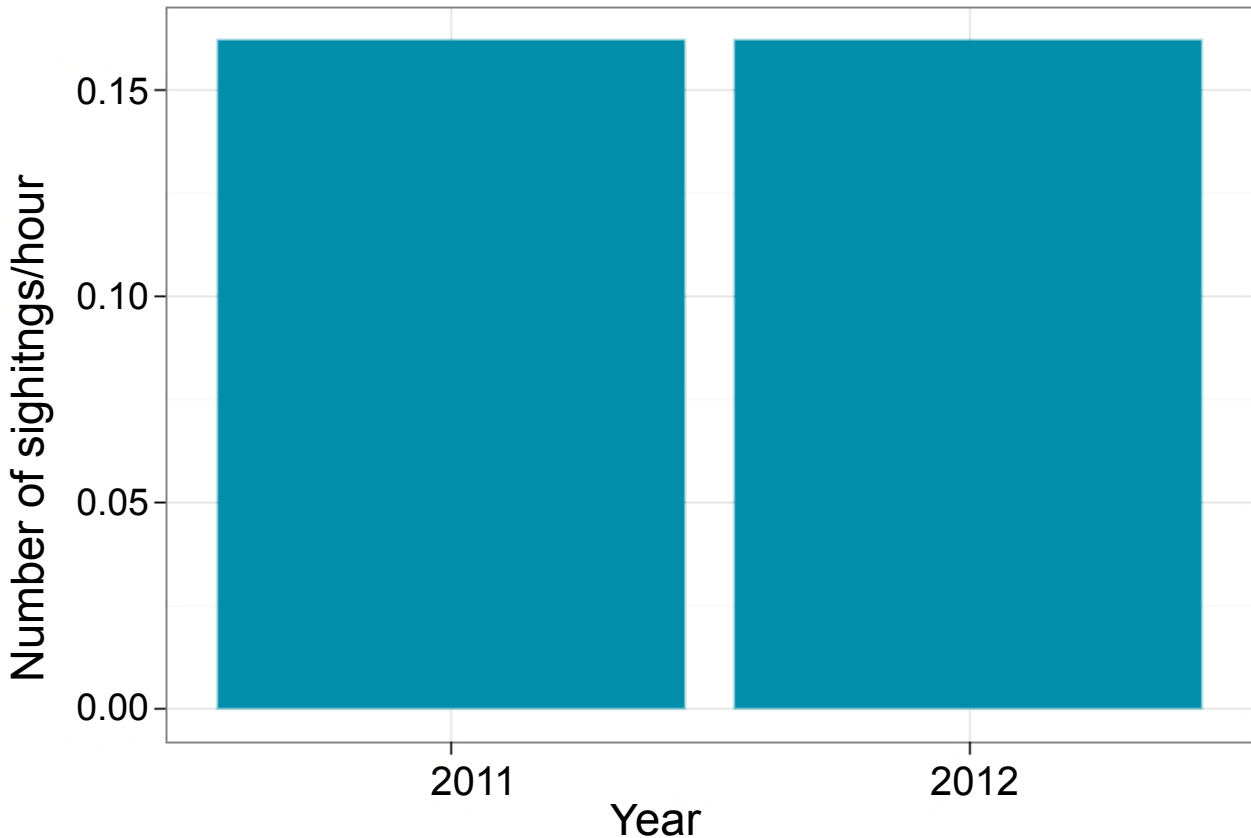


Figure 6: Number of times dolphins were sighted by Dolphin Watchers per hour of effort searching in the Riverpark during 2011 and 2012.



While areas 6, 7, 17, 18, 19, 20 and 31-33 perhaps are not yet robust enough to include analyses, results from all other monitoring areas suggest that the Fremantle Inner Harbour (monitoring area 31) has the highest number of sightings per hour observations, while monitoring area 22 (between Matilda Bay and the mouth of the Canning River) also appears to be a location where dolphins occur frequently.

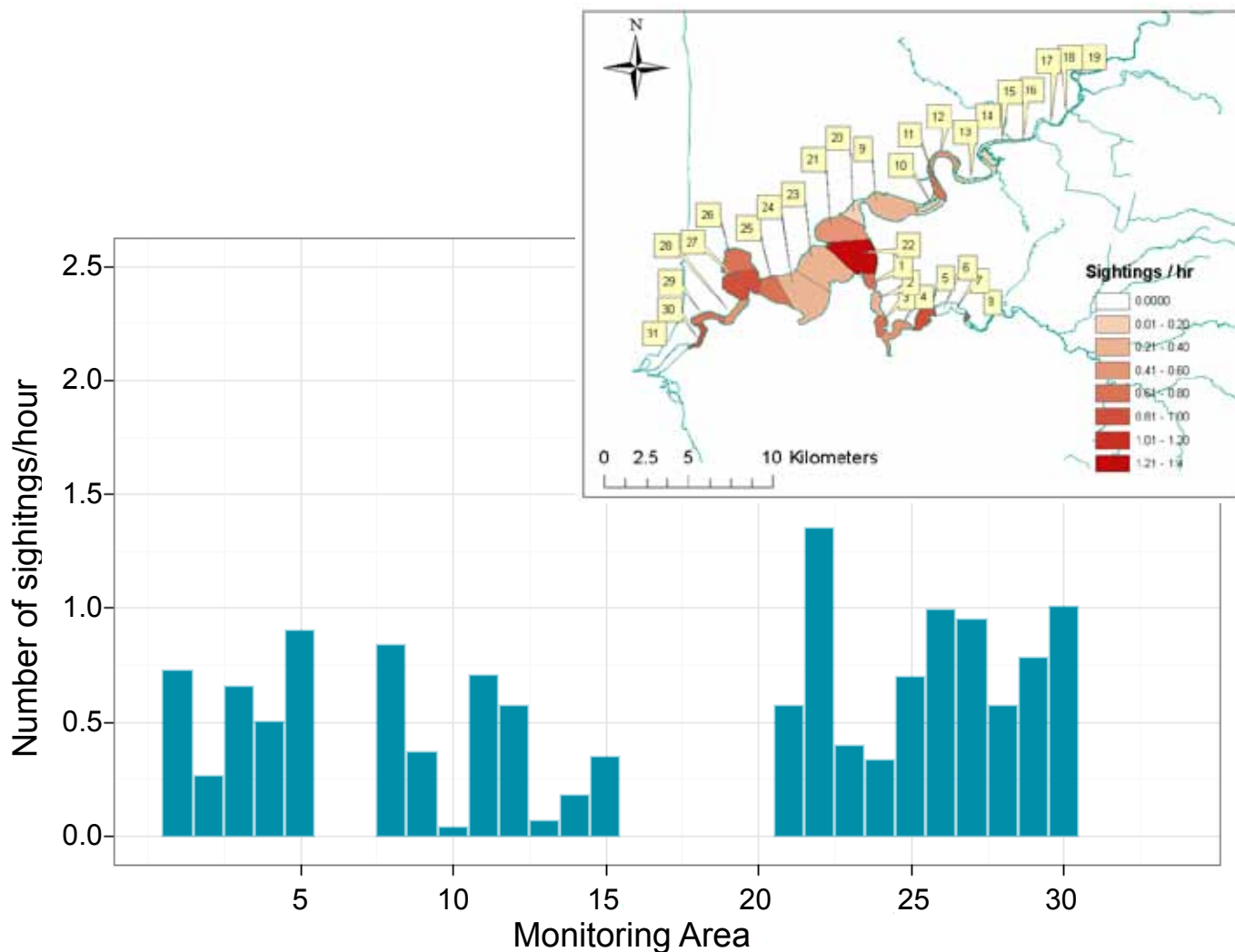


Figure 7: Number of times dolphins were sighted by Dolphin Watchers per hour of effort searching in different monitoring areas in the Riverpark during 2011 and 2012. Monitoring areas with less than 20 observations were omitted since they represent a low sample size (areas where there are missing bars in the bar chart and monitoring areas with no colour in the map).

While we are beginning to develop a good picture of areas within the Riverpark where dolphins either spend relatively long periods of time in or transit more often through, as our sample size (number of observations with and without dolphin sightings) increases, our sighting maps will become more robust and reliable. This is the benefit of a long term (over many years) citizen science monitoring program.

Do the number of dolphins sighted change over time?

The number of dolphins sighted by Dolphin Watchers increased significantly from the beginning of Dolphin Watch in 2009, much of which is a result of the significant increase in effort. The mean group sizes were between 2 and 3 individuals per group.

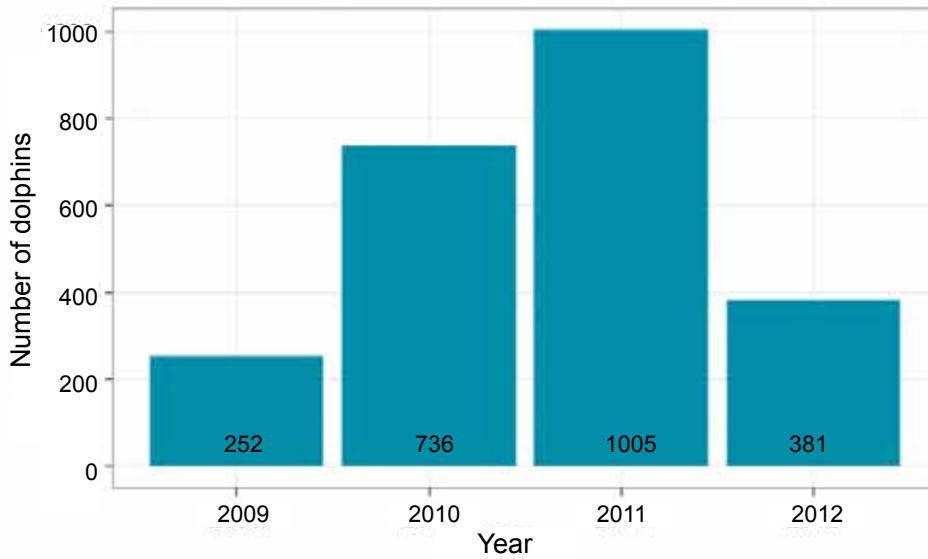


Figure 8: Number of dolphins sighted by Dolphin Watchers in the Riverpark during 2009, 2010, 2011 and 2012.

When corrected for effort, monitoring areas in the mouth of the Canning River, in the upper reaches of the Swan River, Matilda Bay and towards the Fremantle Inner Harbour appear to be “hotspots”.

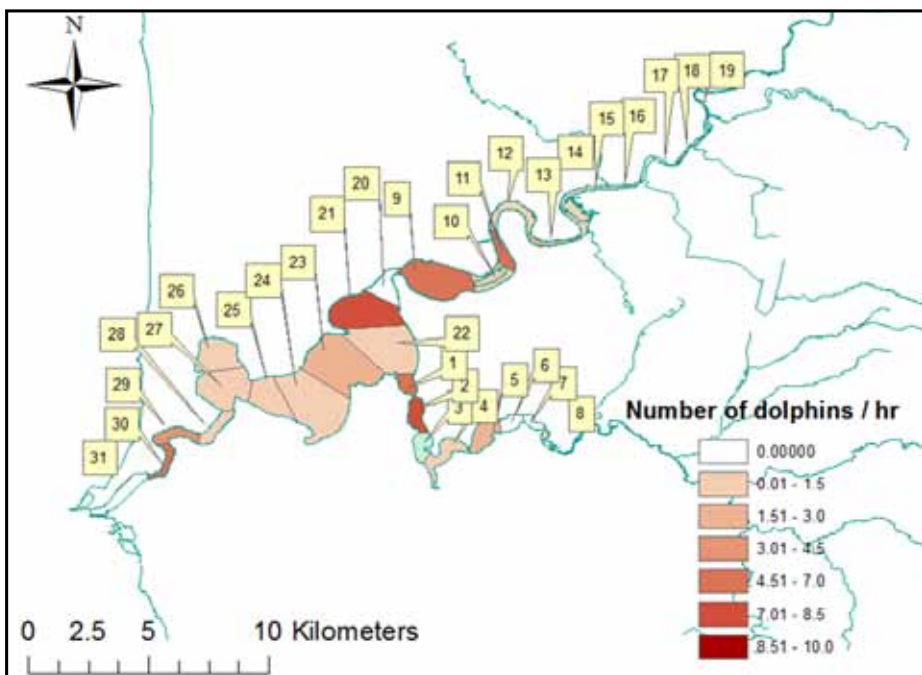


Figure 9: Map showing number of dolphins sighted per hour by Dolphin Watchers in the different monitoring areas of the Riverpark (all data where effort was recorded from the beginning of the program were combined and monitoring areas with less than 20 observations were omitted since they represent a low sample size).



These “hotspots” however depend very much on the month (Figure 10). For the combined data set (years combined), the number of dolphins sighted per hour observation during February-May and October-December appears to be high in the Canning River, and in April-June in the upper reaches of the Swan. For the Fremantle Inner Harbour, dolphins appear to use this area most often in December-January, March, and May-June.

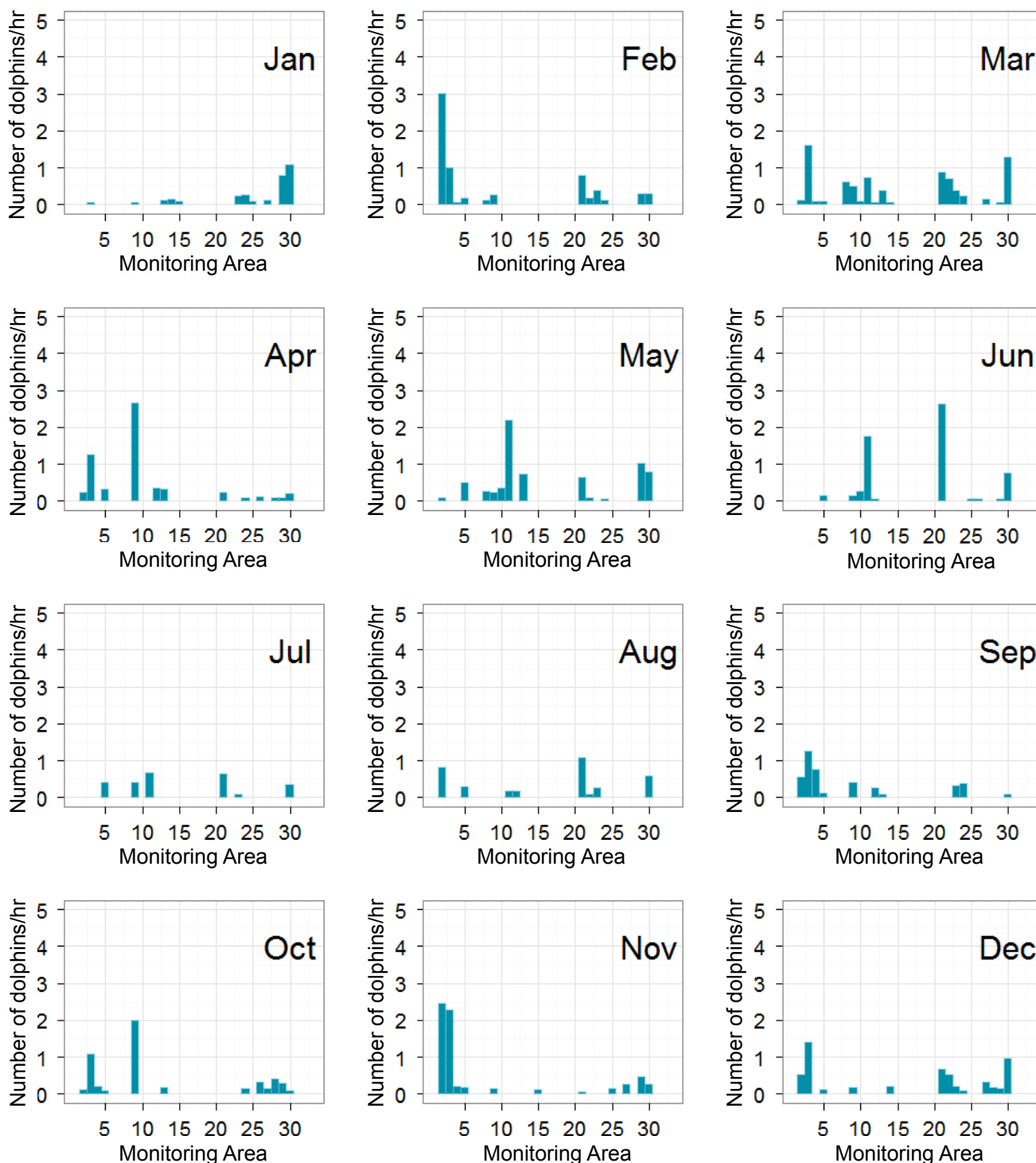


Figure 10: Number of dolphins sighted by Dolphin Watchers per hour of effort searching in different monitoring areas over the 12 months in the Riverpark during 2011 and 2012 (all years combined and monitoring areas with less than 20 observations were omitted since they represent a low sample size).

With the project running over multiple years into the future, we will be able to establish whether dolphins use specific locations at certain times of the year, every year, and also determine how they adapt their movement and frequency and timing in which they use the monitoring area within the Riverpark, with changes in environmental conditions over seasons and years.

Dolphin Watch has a bright future ahead of it with significant information coming in from an impressive network of Dolphin Watchers. Very few citizen science programs can attest to the high level quality of information resulting from the Dolphin Watch project. The new statistical methods being developed based on Dolphin Watch and specifically designed for data collected through citizen science (work currently in progress) will be presented in next year's Dolphin Watch report.





Jennie Hunt – Dolphin Watch Volunteer

My love of dolphins probably dates back to my late primary school years when I lived in the Bahamas. We would sail around the islands in beautiful, clear waters with dolphins seemingly attached to the bow or gambolling near the boat when at anchor. Imagine my excitement when I moved to Perth 20 years ago and looked out my bedroom window to see dolphins swimming past. Since then I have observed them often when I'm walking, cycling, kayaking, rowing and spending time on the river. So becoming a River Guardian and Dolphin Watcher seemed an obvious thing to do.

Last May I was honoured and surprised to receive the Chief Scientist, Lyn Beazley's inaugural 2011 Citizen Scientist Award for the quality of comments on my Dolphin Watch reports. On Dolphin Watch Day, even the dolphins acknowledged it with three of them turning on a great display for our crew when we did our early morning row.

I have always been a keen volunteer, teaching swimming, being a Rotarian, helping in schools and with my kids sporting teams, and being involved in various outdoor and nature connected activities. Throughout my life I have grasped

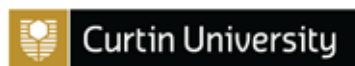
opportunities and walked through partly open doors – sometimes pushing them wide open! So, after receiving the Citizen Scientist Award, I approached Marnie Giroud and suggested that there might be other things I could help with for the Dolphin Watch Project as I am retired and also computer literate. Over the past year I have been doing the data entry – transferring the data from the volunteers' hard copy and website reports to Chandra Salgado's huge spreadsheet, which then provides the information for analysis. Recently a friend Bob has developed a valuable manager programme to speed this work up, to help keep pace with the recruitment of more Dolphin Watchers.

The request to provide this profile has prompted some reflection on the stepping stones in my life. I have always been a good observer with an analytical bent. This and an ability to focus well and pay attention to detail were useful in the pre-computer days when I did transfer marking at the Sydney Stock Exchange and also market research data transcribing. As I am a divergent thinker, I enjoy research and seeking explanations, and have worked with researchers at University of NSW and later the aged care industry in Perth.

Now I have plenty of time as a retiree, and am really enjoying making a contribution to the dolphin research. This involvement has prompted additional activities with the Swan River Trust and the researchers who use the Dolphin Watch data. These have included providing feedback on the part of the Dolphin Watch volunteers to simplify the reporting and use of the website. This enables us to provide more accurate and detailed information to the researchers in order to support the reliability and rigour of the research. I have also attended seminars on the project, starred with Highnitch and Highhope on Channel 7 and been involved in the informative dolphin DVD for Scitech – the start of a new career in movies perhaps?



Dolphin Watch Project partners



Contact us

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Murdoch Cetacean Research Unit

<http://mucru.org/>

Curtin University Centre of Marine Science & Technology

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