



## Hamilton Community Parklands

It's been a very busy and exciting year for Hamilton Community Parklands. Since the day to day management of Hamilton's bandicoot enclosure was handed to Conservation Volunteers Australia, we and our dedicated volunteers, with lots of help from the community, have been hard at work re-establishing the predator barrier-fence integrity, eradicating foxes and reintroducing bandicoots.

With a big hand from our volunteers, the Glenelg Hopkins CMA works crew and the Hamilton Green Army team, we were able to get the fence fixed up in no time. Once regular fence patrols were in place we began our fox eradication program. A total of four foxes were removed from the reserve, with a little extra help from a



*Jumping for Joy! Volunteers help out with the EBB monitoring*

### In This Issue:

- Churchill Island
- Tiverton
- How to Get Involved
- New Research Trial
- French Island
- Captive Breeding
- Woodlands
- Guardian Dogs
- Mt Rothwell

local fox expert, Darryl Panther, to remove the last one. We were able to confirm the reserve fox free on Christmas Eve and were well on our way to a reintroduction of bandicoots!

After enjoying a happy, fox free Christmas we had a slight scare on New Year's Day when a tree fell on the fence. Luckily, there were no fox breaches, and our trusty volunteers came to the rescue and helped re-erect the fence that day.

Four months on and still fox free, we were ready for the release of some new furry friends. In mid-April, 20 Eastern Barred Bandicoots were released into the reserve; six from the Woodlands Historic Park, six from Mt Rothwell and eight from the Zoos Victoria captive breeding program. It was a fantastic night for the Hamilton community and all who had been involved to get the reserve to this point, ready for the release. A big thank you to the EBB Recovery team who have helped make this possible.

Population monitoring completed in May, confirmed that the new little guys started breeding not long after their release. We are now coming up to 8 months fox free and the little bandicoots are loving it and the wet winter weather. We are seeing lots of fresh digs within the enclosure and constant appearances of EBBs on our cameras set up along the fence line. • *Kim Volk*

# Churchill Island



**Releasing an EBB onto Churchill Island**  
(Photo: Phillip Island Nature Parks)

Churchill Island has now been the home to Eastern Barred Bandicoots for 12 months. The team, led by the Phillip Island Nature Parks and supported by Zoos Victoria, Mount Rothwell Biodiversity Interpretation Centre and the wider EBB Recovery Team, released 16 bandicoots in August 2015 and another 4 in October 2015 and have been monitoring the population ever since.

The idea was to see whether the bandicoots would establish on an island outside their known historic range, and also to demonstrate to the communities of Phillip Island and French Island what they might expect to see with the release of bandicoots. Churchill Island is like a microcosm of these larger islands, with a mixture of bushland and a working farm. The release here is seen as a trial in

preparation for Phillip Island and French Island that are the largest areas of fox free habitat available in Victoria and offer one of the best prospects for the long-term recovery of EBBs.

So how have they fared? The number of bandicoots has grown steadily; the population has more than doubled in size within a year. The founders were able to find plenty of food straight away, which was evident by their excellent body condition and gains in weight. Breeding started as soon as they arrived with pouch young appearing within a month. Most bandicoots also managed to continue breeding throughout the year despite the dry summer conditions that were experienced. At least three generations have been seen since their arrival.

The original founders were followed with radio transmitters fitted on collars. This way we were able to monitor how many survived the first month (almost all), and where they were nesting and foraging in their new home. They quickly found nesting sites with plenty of cover before spreading across the whole island, pastures and all, where they could forage for the worms and grubs under the soil surface.

The small scrapings that bandicoots make as they search for food can be seen across the island. We anticipate that this will improve soil conditions as water and organic matter are more easily incorporated into the soil profile. Of course we're measuring soil conditions to test this theory. By the way, if you ever want to see what these scrapings look like, you can visit Churchill Island any day to see for yourself; you'll just have to look closely to spot them!

So this trial has demonstrated that bandicoots can establish on an island outside their historic range and gives us confidence that a release to Phillip Island or French Island could be successful too. This is an exciting step towards large, self-sustaining populations on islands where this species can be secure and flourish. • *Duncan Sutherland*



**Just released! An EBB sporting his new collar and investigating his new home on Churchill Island**  
(Photo: Zoos Victoria)



# Tiverton Station



Tiverton, 25 km north-east of Mortlake, is dominated by basalt 'stony rises', which are lava flows from past volcanic activity. They take the form of undulating country with the rises dominated by dense basalt rocks up to half a metre in size, and lower-lying flats, many of which are seasonal wetlands. The smaller, more manageable of these rocks were used to build dry stone fences, which are still common in this region, and mark Tiverton's boundary.

Serious fence construction work commenced late summer this year, with machines preparing the 17.5 km fence line around Tiverton. This was a major undertaking with a rock-crusher used along more than 4 km of the rockiest sections of the proposed fence line. Fencing began in autumn in the north-eastern corner of Tiverton, with 2 metre high steel corner and end assemblies fabricated on site and concreted in place. Steel posts, 1.8 m high, were then driven or drilled into the ground, depending on the rock, and concreted into place. This is slow, hard work, especially where the rock is dense. Several months of above average rainfall has also slowed progress. Tiverton is currently covered in sheets of water, which is a huge bonus for the wetlands and native vegetation establishment but has meant that fence construction has been temporarily suspended. So far, almost 5 km of fence, including end posts have been completed and the next section end assemblies have been prepared ready for when the weather allows contractors and Green Army back on site.

A Green Army crew has not only been a very welcome assistance with the fencing but has also been mapping rabbit warrens and fox dens, as well as carrying out spraying of environmental weeds. • *Richard Hill*



**Above and left: Fence construction at Tiverton**



# EBB recovery wouldn't be possible without our many volunteers.

If you'd like to get involved here's how:

## Hamilton

Get involved with EBB recovery by volunteering with Conservation Volunteers

[www.conservationvolunteers.com.au](http://www.conservationvolunteers.com.au)

## Werribee Open Range Zoo

See EBBs on display in the Bandicoot Hideout



[www.zoo.org.au](http://www.zoo.org.au)

## Woodlands:

Get involved with EBB recovery by volunteering with Conservation Volunteers

[www.conservationvolunteers.com.au](http://www.conservationvolunteers.com.au)

## Mt Rothwell

Book a spotlight tour to see Victoria's largest EBB population or enlist as a volunteer

[www.mtrothwell.com.au](http://www.mtrothwell.com.au)

## Churchill Island

Head to Churchill Island and see if you can spot any EBB digs

[www.penguins.org.au](http://www.penguins.org.au)

Unless someone like you cares a whole awful lot, nothing is going to get better. It's not.

Dr Seuss



# New Research Trial



Above: Wild Tasmanian EBBs (Photo: A. Weeks)  
Below: a Mt Rothwell EBB (Photo: Mt Rothwell)

A new research project has been initiated this year, by Melbourne University at Mt Rothwell that will investigate the benefits of breeding a small number of Tasmanian EBBs with mainland EBBs. The recovery program commenced 27 years ago using a very small number of EBBs. Overtime this has led to a large decline in genetic diversity of the mainland EBB, which may compromise recovery efforts in both the short and long term. The Tasmanian EBB is more genetically diverse and could hold the key to preventing the extinction of the mainland population. Cross breeding different populations of a species for conservation purposes aims to increase genetic diversity, population fitness and adaptive potential and is currently successfully being used to recover the Mt Buller mountain pygmy possum, and to improve fitness in the southern brush-tailed rock-wallaby. This method of population recovery is termed "gene pool widening", and there are hopes that this approach can be used more broadly in other threatened species programs.

Field work is being conducted in Tasmania this spring and will identify the most compatible populations of healthy Tasmanian EBBs. Some individuals from these populations will then be brought to Mt Rothwell, where new captive

breeding facilities are being built to undertake initial breeding between Tasmanian and mainland EBBs. This will hopefully lead to an increase in genetic diversity of their offspring. Once weaned, the offspring will be released into recently constructed large field enclosures. These individuals and subsequent generations will be monitored to evaluate fitness and genetic diversity. If the trial is successful, these more genetically diverse and therefore fitter EBBs, will be released into other EBB populations to boost the diminishing gene pool and prevent population loss related to low genetic diversity. • Andrew Weeks



Construction of the field enclosures at Mt Rothwell  
(Photo: A. Weeks)



WARRON

# French Island

French Island is a special place. Located in Western Port Bay it is Victoria's largest island, twice the size of Phillip Island, but relatively unknown by many Victorians. Three quarters of the island is undisturbed natural bush land and the remaining is private land. If you're an avid bird watcher or botanist this is the place to come, as 200 birds and 400 native plants, including 82 orchids call French Island home.

A number of years ago the EBB Recovery Team approached the French Island community with a

proposal to release EBBs onto the island. After several discussions the community voted in favour of a trial release of non-breeding bandicoots. The results of the trial have given us the confidence that EBBs could thrive there, but highlighted an issue with feral cats through direct predation and infection with toxoplasmosis.

For several years Landcare and Parks Victoria have been running a feral cat control program on the island, which appears to be having a positive impact on native bird and potoroo populations. Zoos Victoria has offered to assist with this successful program and we are talking to Landcare and Parks Victoria to see how we might do that most effectively. Another boost to the feral cat program is the announcement earlier this year by Minister Greg Hunt that French Island will become one of five feral cat free islands in Australia. This would be a huge boost for the native animal populations that call French Island home.

Ultimately, the French Island community will decide whether a breeding population of EBBs are released on to the island or not. In order to make a fully informed decision Zoos Victoria has been running community information sessions from the General Store. These sessions have been well attended and have proved a valuable forum for community members to learn more about EBBs and the proposal. More sessions are planned, which will include

weekends. Visits to Churchill Island have also been offered periodically with many islanders taking up the offer. These trips allow community members to see firsthand what to expect from an EBB release particularly into farmland. Many people have been surprised by how small their diggings and how well hidden their nests are.

Other things we are currently working on include obtaining exemption from the Federal Environment Protection and Biodiversity Conservation Act and State regulations protecting endangered species, as we do not want landholders to be restricted in any way in how they manage their land should EBBs be released. We have also started a 12 month baseline invertebrate study at the request of the community. Fay and Clive Gourdes where a huge help in designing the survey before they left the island. The aim is to identify as many invertebrates as possible that could be preyed upon by EBBs. This will help us to better understand the little known invertebrate fauna of the island.

Perseverance Primary School has also been involved with the project and recently held a community information session with special guest appearance from Courtney, a captive raised EBB from Melbourne Zoo. • Amy Coetsee



Community information days on Churchill Island



Invertebrate collection on French Island



# Captive Insurance Program

It's been another busy year for the EBB Captive Insurance Program! Over the past 12 months there have been a number of movements. In August 2015, eight young captive-born EBBs were released to Churchill Island, and three breeding females travelled to Woodlands. Earlier this year, another eight captive-born animals travelled to Hamilton as part of their new release. A further two females went to a new home at Mooramong and three females found a new home at Woodleigh School's Brian Henderson Wildlife Reserve. Five males are currently on their pre-release diet and looking forward to a new home at Serendip Sanctuary and another five animals are ready for release when a suitable site becomes available. Twelve new animals from Woodlands Historic Park and one from Mt Rothwell joined the captive program to breed this year across Werribee Open Range Zoo, Serendip Sanctuary, Melbourne Zoo, Healesville Sanctuary and Kyabram Fauna Park. The captive program is run as part of a joined metapopulation so each year animals are released to wild-type sites and each year animals come into captivity to form an insurance program and to produce young for release to new sites where required. Currently we have 51 animals in the captive program, plus pouch young.



The new captive breeding pens at Melbourne Zoo

There have been a lot of developments with enclosures too. Construction of 16 new enclosures at Melbourne Zoo was completed last December and are now housing EBBs. They have new natural grassy substrates which seem to be a hit! Werribee Zoo has completed construction on new roofing for their 36 breeding enclosures and there is a great new set of EBB enclosures within the Guardian Dog complex at Werribee Zoo. We are very excited to be welcoming a new partner to the captive program – Woodleigh School has been accredited to house female EBBs that have completed their breeding and are now enjoying retirement at Woodleigh. The reserve is a fox-free fenced grassland and woodland habitat that houses wallabies, emus, kangaroos and other natives. The school has been building new hideouts, bug refuges and all sorts of great areas for the EBBs. The habitat looks fantastic and we are sure the EBBs are loving it, with many EBB digs starting to be seen across the reserve.

This year our Zoos Victoria/Melbourne University Master's student, Chris Hartnett, completed her Masters study into female mate choice and breeding success. Chris analysed decades of breeding records and collected over 5,500(!) hours of video footage to analyse from the mate choice trials. She found that there has been no decrease in breeding rate or litter size during the life of the program. She also found that females are choosing mates, and those paired with their preferred males had a shorter time to pregnancy and more pregnancies than other females. We're currently

reviewing the findings to determine the best way to use this new information. Great work, Chris!

•  
Marissa Parrott



WARRON



The Brian Henderson Reserve at Woodleigh School



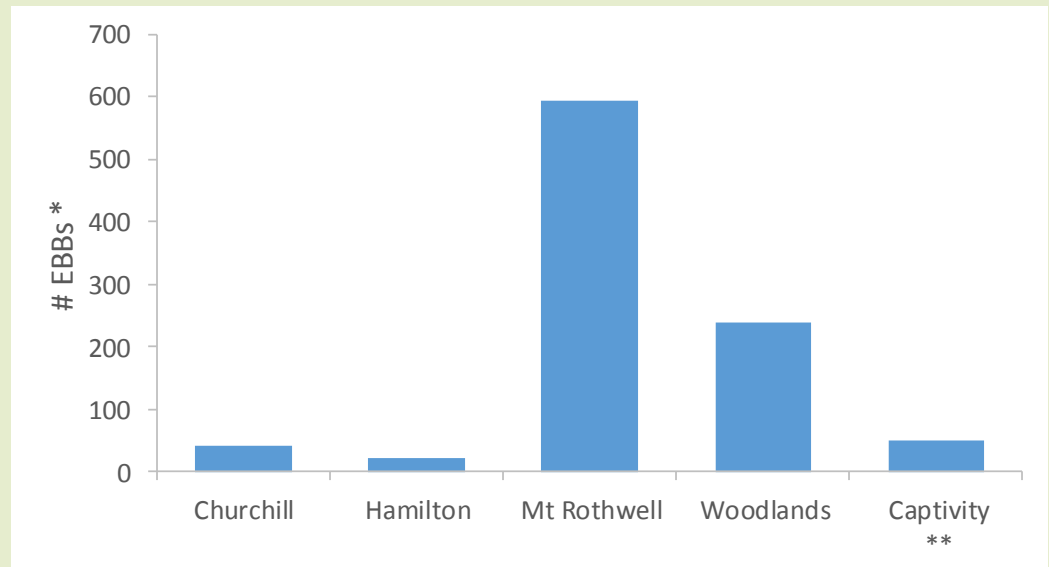
A female EBB released into her retirement home Woodleigh School

# Where are all the EBBs?

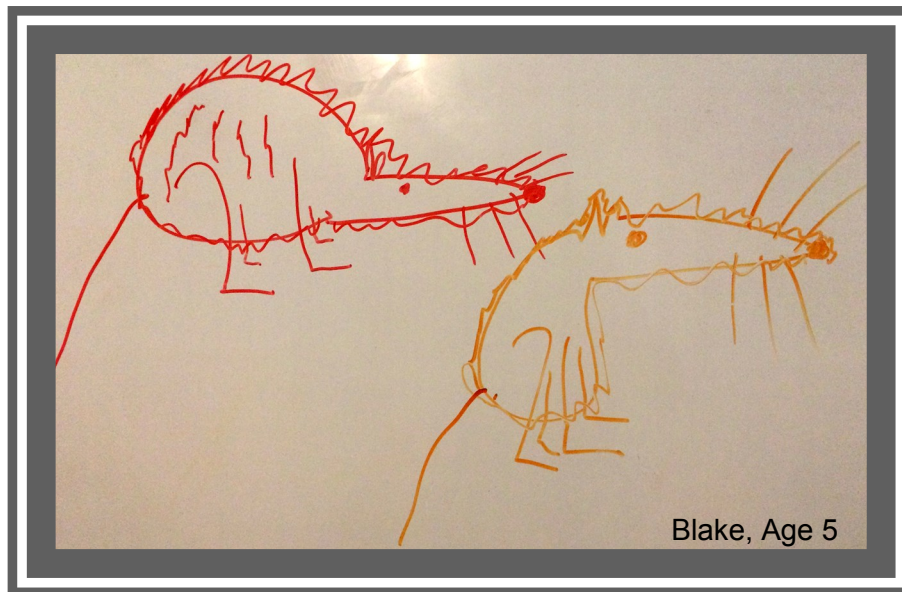
EBB populations fluctuate throughout the year, with populations generally being at their lowest throughout summer and into autumn and highest during winter and spring. The most recent population monitoring at all sites, took place in autumn and estimated the total population size for the mainland EBB at around 950 individuals.

\* Population size was estimated for Churchill Island, Hamilton, Mt Rothwell and Woodlands using distance sampling or trap data. The figure for captivity is a total count.

\*\* EBBs in captivity are held across seven properties, as outlined in the Captive Breeding update on p7.



## Bandicoot Art Corner



Send your bandicoot artwork to [ACoetsee@zoo.org.au](mailto:ACoetsee@zoo.org.au) for inclusion in the next issue



# Woodlands Historic Park

It's been an interesting year for Conservation Volunteers at Woodlands Historic Park. Since the last newsletter there has been two trap sessions and distance sampling has been introduced as an alternative population monitoring technique, with three events held so far. After a very hot and dry summer, combined with grazing pressure from rabbits and kangaroos, the grassland habitat has declined leaving little cover available to the bandicoots. However, trapping has produced some great results with 110 individuals caught in October 2015 and 95 individuals caught in April 2016. On top of the great trap results, it was a highlight for Woodlands to finally send a small number of bandicoots to assist EBB recovery at other sites. In mid-April, six EBBs (3 male, 3 female) were collected and sent to Hamilton, along with six EBBs (3 male, 3 female) from Mt Rothwell and eight bandicoots (4 male, 4 female) from the captive breeding program, to help boost the small population there.



**Exclusion plot planted with native grasses**  
(Photo: T. Scicchitano)

While bandicoots are being caught in all areas of Woodlands and trap success is high with animals showing signs of good health and breeding, the population estimates from distance sampling (i.e. spotlight counts of EBBs across the reserve) tell another story. Distance sampling has indicated that the EBB population is in a decline phase. This is most likely attributable to the poor habitat condition and limited grass cover. The Woodlands EBBs are now being monitored by distance sampling every two months to keep an eye on the population trajectory and works are underway to restore the habitat. Including new exclusion plots planted with native grasses to improve habitat quality

and temporary shelters/nest boxes placed throughout the reserve to increase nesting opportunities. Parks Victoria have also commenced writing up a new five year conservation plan specifically for the EBB reserve, which will improve the conservation aims of Woodlands Historic Park well into the future.

Trapping is hard work and can be frustrating due to the number of brushtail possums who seem to love being trapped. Just ask the handlers and volunteers how much they love cleaning fresh possum poo out of the traps! This has led to trialling some innovative ways to exclude possums from traps. It's an ongoing process, but our latest trap design being created by Zoos Victoria is exciting. It's a modified version of a Tasmanian Devil trap that has been shrunk down to comfortably fit a bandicoot but not a possum. More testing of these traps is required but early signs are encouraging with EBBs caught on camera happily going into the new traps.

All in all it's been another big year with lots of work, including improving the habitat condition, surveying and innovative ideas planned for the next 12 months. A big thank you to the EBB recovery team, Parks Victoria and all the wonderful volunteers who make the program work. • Travis Scicchitano



**Top: EBB trap prototypes currently** (Photo: T. Scicchitano). **Bottom: An EBB returning to its nest after a health check** (Photo: D. Paul)



# Guardian Dogs

The Zoos Victoria Guardian Dog Program will trial whether EBBs, protected by specially trained Maremma Guardian Dogs, will be able to form self-sustaining populations in areas that are not enclosed by predator-barrier fences. The trial is well underway at Werribee Open Range Zoo, with eight working Maremmas in training, ranging from three months to 14 months of age. The last and final two arrived at the end of July, when they were eight weeks old.

The gradual introduction process of the Maremmas meeting the EBBs and Black-headed Dorper Sheep starts as soon as the pups arrive. The pups are housed next door to both EBBs and sheep, with nesting material and other items, like pieces of browse, moving between the three areas. This allows each animal to become familiar with the smells and sounds of their neighbours.

The dogs are conditioned to the sheep with the older dogs showing the way, allowing the trainers to reward their emerging guardian behaviours. Short initial sessions are slowly extended until the Maremmas and sheep are spending all day together happy in each other's company.

As for the EBBs, we are using perforated clear plastic windows, which are opened at different times of the day to allow visual contact and controlled interaction between the EBBs and Maremmas.

Eventually the bandicoots, Maremmas and sheep will all be living in the same space within the Guardian Dog Precinct, which is a back of house facility at Werribee Open Range Zoo. When the youngest dogs reach around two years of age and developed those crucial guardian behaviours they will then be ready to move out to the trial sites. • *Dave Williams*



Meeting the sheep (Photos: Zoos Victoria)



Nose to nose, an EBB meets a Maremma puppy  
(Photo: Zoos Victoria)



Just like us, after a long day's work the little Bandicoot Bodyguards need their rest (Photo: Zoos Victoria)



# Mt Rothwell

Mt Rothwell's EBB population is still thriving, 12 years after the first reintroduction. This has been predominantly due to our fox free status and land management techniques, which ensures all resources required for the EBB to thrive are available. The success hasn't come without challenges, with an ageing fence that only has a lifespan of 10 years, we have already exceeded it by 6 years. This means that our staff and volunteers need to be extra vigilant when checking and repairing any faults and when tracking and watching predator behaviour outside of our fences. This could not be achieved without the funding assistance from DELWP via the Corangamite CMA.

Rabbits have certainly posed a great threat over the past two years. This threat was recognised early and urgent actions have been undertaken, including the use of exclusion fencing, conservation dogs, specialist shooters and motion sensor cameras to eliminate every single rabbit. Thanks to the support from the City of Greater Geelong council Valuing Volcanic Plains program and the work for the dole team, we now have 80 ha of rabbit free habitat and 122 ha currently fenced with very few rabbits remaining. Complete eradication from the entire 470 ha site will take a significant amount of resources and is potentially still a couple of years away. So far this model is working for our site, which can be quite a challenge with quolls, bandicoots, rabbits and possums all sharing the rabbit warrens.

EBB breeding is in full bloom, with juvenile young at foot emerging. In April the population was monitored via distance sampling (i.e. spotlight counts of EBBs across the reserve). Analyses of the data is still pending but



Juvenile EBBs (Photo: Mt Rothwell)

preliminary results indicate that there is in excess of one EBB per ha. After a tough summer season competing with pesky rabbits the population should now start to increase with the improving habitat conditions.

Over the next 12 months we will continue to closely monitor the EBB population through distance sampling and expand our rabbit removal program into other areas of the reserve. This will reduce grazing pressure, improve vegetation quality and increase nesting opportunities and food availability for EBBs. Ensuring that our EBB population remains high, allowing us to contribute to translocations to other sites, including our sister site Tiverton, when ready • Annette Rypalski



Mt Rothwell's canine conservation team  
(Photo: Mt Rothwell)



The Eastern Barred Bandicoot Recovery Team was founded in 1989 after a continual decline was noted in the wild population. Although extinct in the wild on mainland Australia, populations of bandicoots can be found in predator-free areas at Churchill Island, Hamilton Community Parklands, Mt Rothwell Biodiversity Interpretation Centre and Woodlands Historic Park, occupying a total of 860 ha.

‘Warron’ is the Kirrae Whurrong word for the Eastern Barred Bandicoot. This newsletter was named ‘Warron’ in honour of Wayne Drew after his passing in 2001. Wayne was the ‘Bandicoot Ranger’ for Woodlands Historic Park and a member of the Kirrae Whurrong people from the western district of Victoria.



## Further information:

### Act Wild

[www.actwild.org.au/  
animals/bandicoot/](http://www.actwild.org.au/animals/bandicoot/)

### Conservation Volunteers

[www.conservationvolunteers  
.com.au](http://www.conservationvolunteers.com.au)

### Mt Rothwell

[www.mtrothwell.com.au](http://www.mtrothwell.com.au)

### Phillip Island Nature Parks

[www.penguins.org.au](http://www.penguins.org.au)

### Zoos Victoria

<http://www.zoo.org.au/>

If you would like to receive this  
newsletter by email send your address  
to [ACoetsee@zoo.org.au](mailto:ACoetsee@zoo.org.au)



NATIONAL TRUST



Department of  
Environment, Land,  
Water & Planning



### Disclaimer:

This publication may be of assistance to you, but the members of the EBB Recovery Team and all contributors do not guarantee that the publication is without flaw of any kind, or is wholly appropriate for your particular purpose and therefore disclaims all liability for any error, loss or other consequence, which may arise from you relying on any information in this publication.