



## CONSERVATION UPDATE

December 2020 - February 2021

Prepared by Jessica McKelson, Conservation Manager

### HIGHLIGHT – THREATENED SPECIES

Dr Duncan Sutherland and a small army of staff and volunteers caught 29 bandicoots on Churchill Island, and selected the 10 most suitable individuals (six females and four males) for release into a new home near Skipton, Victoria. This release is part of a 'guardian dog' trial in which Maremma dogs will keep foxes away from the sheep on the property, and keep the bandicoots safe in the process. Tom Nixon, Threatened Species Officer, transported the bandicoots to Skipton for the release. Tom also assisted with the fitting of radio-transmitters that will be used to track the bandicoots' movements through the landscape and assess their survival. A huge thanks to the dedicated Phillip Island Nature Parks Volunteers who made this release possible.



### SHORT TAILED SHEARWATERS

Nest-box checks carried out in early December revealed record-high box occupancy rates by adults (76%) most incubating an egg (97%). Normal occupancy in boxes in previous years is about 50%. We also recovered another five geolocators bringing the season total to 20 recoveries, another record! The data from these will help us understand the influence of environmental changes on migration timing and breeding success. Coronavirus (COVID-19) has disrupted usual geolocators deployments, but with the welcome return of our partners from Victorian Ornithological Research Group (VORG), two were able to be deployed on birds this season.



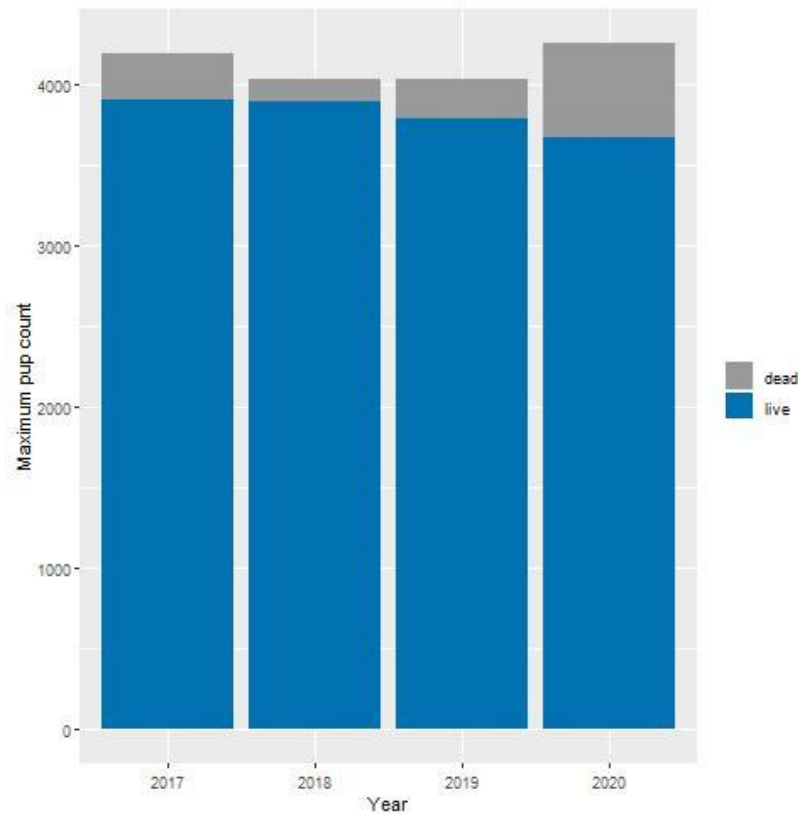
*An example of shearwater movements, revealing birds travel at least 250,000 km each year.*

## AUSTRALIAN FUR SEALS

### Fur seal breeding season summary

The 2020 breeding season for Australian and Long-nosed Fur Seals were surveyed across three sites; Seal Rocks, The Skerries and Cape Bridgewater, from December 2020 to January 2021. The Seal Rocks breeding season was successfully monitored by Remote Piloted Aircraft (RPA or drone), using our small *Phantom* and flying it from the Cowes Victorian Fisheries Authority vessel. The information we obtained from the drone surveys was augmented by a three-day visit to Seal Rocks after the breeding season had finished to count the dead pups and measure and weigh 100 live pups to determine their body condition and the ability of mothers to find food to nourish their pups. While we were there, we rescued one entangled female (juvenile) from a trawl net fragment around her neck.

- There were 3,673 live pups, and 582 dead pups counted from RPA surveys on Seal Rocks on 14 December 2020. RPA counts indicate that the number of births (live + dead pups) has been stable since 2017, but the number of deaths in 2020 was over double that of previous counts (see figure below).
- The Skerries was successfully surveyed by RPA, but pup counts have not been completed. The image quality from the new DJI Matrice is excellent.
- Counts of live and dead Australian fur seal pups (total 195) at Cape Bridgewater are similar to previous years, while the number of Long-nosed Fur Seal pups born inside Bridgewater Bay has increased (total 95), and the colony boundary has expanded. Pups were nice and fat, appearing in top health.



*Maximum counts of live and dead pups at Seal Rocks over four breeding seasons (2017-2020) counted from drone images in SealSpotter by a single expert (R.McIntosh). Maximum counts occurred during a date window of 10-15 December in each year.*

## PEST CONTROL

### Foxes

Following on from the mainland fox baiting program in October and November, fox trapping concluded just prior to Christmas resulting in the removal of eight foxes from the San Remo foreshore.

### Feral cats

- Over 1,000 trap nights (number of traps deployed x number of nights) were recorded at sites including the Western Port Ramsar coastline, woodland reserves and Cape Woolamai (in response to a sighting) and resulted in four feral cats being trapped at Cape Woolamai, Oswin Roberts Reserve and Ventnor Koala Reserve.
- A total of 30 cats were removed since July - compared to 39 for the same time last year.
- The training of Feral Cat Detection Dogs, Marbee and Milly is progressing well. Both dogs are indicating consistently on cat scats and following scent trails up to 3 hours old which will gradually be extended out to 12 hours.



**Craig Bester and Feral Cat Detection Dog Milly undergoing training at Penguin Parade**

## Feral cat research

The second year of feral cat tracking at Cape Woolamai was successfully completed with data collected from another nine cats. There was a strong similarity between these and the 2019 data showing that the majority of cats used the more productive southern headlands. Individual 'hot spots' were again identified which allowed a more targeted collar retrieval process.

## Phillip Island Feral Cat Eradication Plan

- The *Phillip Island Feral Cat Eradication Plan* is in an early draft, which sets out to achieve the Nature Parks 30-Year Conservation Vision 'Beyond the Horizon'.
- It is structured to eradicate feral cats in stages commencing with Cape Woolamai, the Summerland Peninsula, and finally the remaining rural and urban areas.
- Successful completion will likely require changes to current State legislation and Bass Coast Shire Council implementing 24 hour containment of domestic cats.

## Rabbits

- Rabbit numbers across southern Australia have increased in response to a mild, wet summer.
- Collaborating with Bass Coast Landcare Network, staff will be continuing to reduce rabbit impacts at sites on Phillip Island. Rabbit monitoring is occurring during February with control operations to follow in March.
- Consultation with other industry experts and agencies is underway to determine the most suitable broadscale rabbit management strategy in the presence of native animals.

## COASTAL AND WOODLAND MANAGEMENT

Activities completed include vegetation management, slashing of strategic fuel breaks, patrols, education and implementing Nature Parks regulations. The Nature Parks firefighting vehicles are appropriately fitted out and fully operational to conduct first attacks on fires.

Rangers on patrols have attended several fire scares and abandoned campfires in reserves and beaches. An abandoned campfire on Hutchinson Beach spread to surrounding vegetation but was brought under control by the CFA and Nature Parks firefighting teams.

Main weeds of focus in the woodland areas are Ragwort *Senecio Jacobaea* and Thistles.







## Cape Woolamai

Implementation of a sand management plan from discussions with Nature Parks, Woolamai Beach SLSC, and DELWP commenced. This focuses on a few achievable outcomes in relation to sand management in the immediate area of the SLSC and car park precinct. We want to promote the natural movement of sand through the wider dune system however, in the immediate area of the infrastructure (clubhouse, lookouts, car park etc) a proactive approach to minimising sand inundation is being undertaken.

Sand removal works were conducted by local contractors across three days prior to Christmas to clear sand from around the clubhouse, access tracks, and other infrastructure primarily for safe operations of the SLSC across summer. An estimated 2,000 cubic metres was removed and put back onto the intertidal zone. Costs for this works shared by Nature Parks and Woolamai Beach SLSC.

Following these sand removal works, ongoing attempts are being made to decrease sand returning to the SLSC and car park. Strategically placed fencing has been installed in known locations of high sand movement (blowouts). Initial signs for desired outcomes are positive. Melaleuca bundles (100 bundles made with deployed staff from firebreak clearing) and hay bales (from summer slashing of Crook's block and Trust for Nature Block) have been used with specifications of fence spacing and dimensions coming from DELWP. Preparations for planting of native species is underway and is to occur on site in April/May 2021.



***Melaleuca bundles and hay bale fencing***



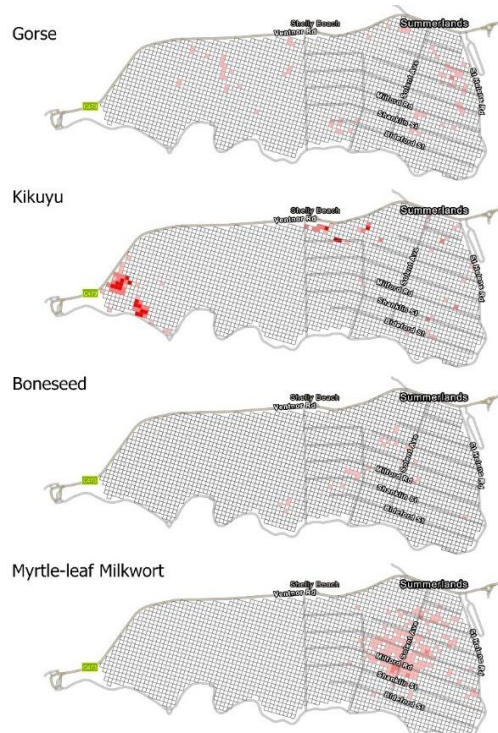
**Before and after photos of sand removal from the side of SLSC.**

## Summerland Peninsula weed mapping

Following on from previous weed mapping efforts at Observation Point, Newhaven Swamp and Churchill Island, weed mapping was conducted at Summerland Peninsula. The scope was confined to the interior of the Peninsula bordered by Ventnor Road, St. Helens Road and The Boulevard and was completed by a local contractor. The method involved the inspection of 2,487 grid cells that measure 25m x 25m in size for the presence of threatening weeds. If identified, the cover of the weed within the bounds of the grid cell was estimated and recorded into the Nature Parks mapping system.

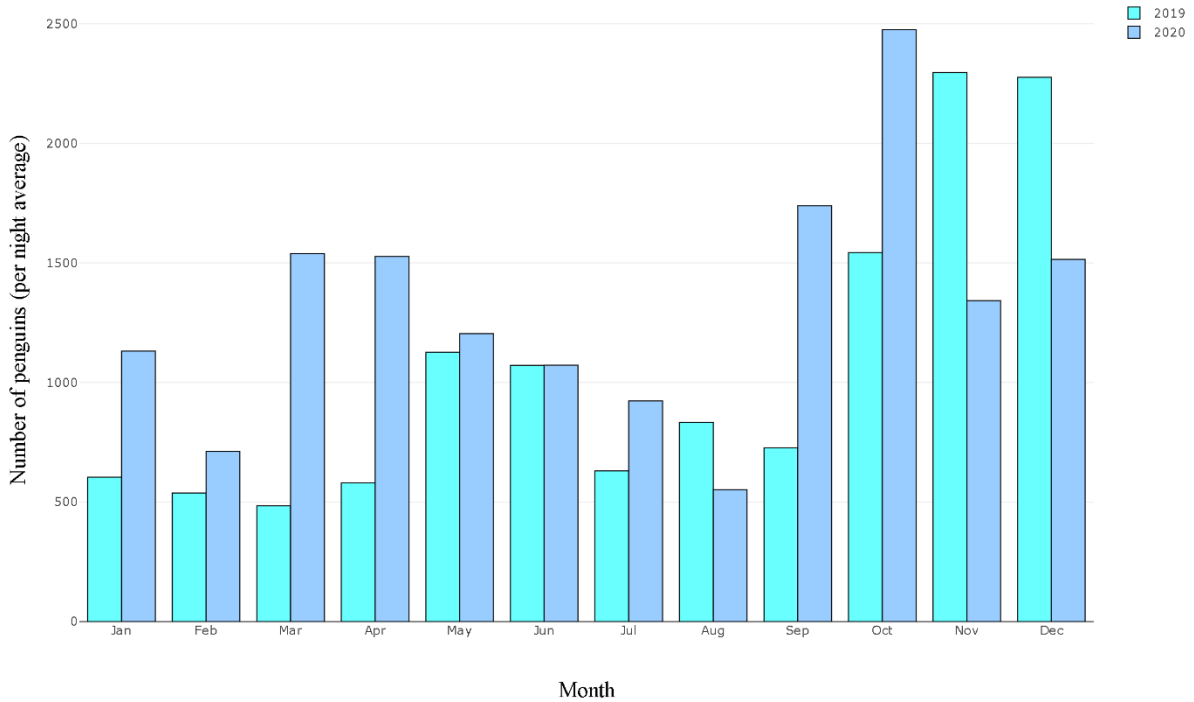
By the end of the project, 155.4 hectares of land had been inspected for the presence of weeds. The results are an invaluable “line in the sand” for future reference on the cover of weeds and will help the Nature Parks in the interim to understand the species diversity, cover, extent and precise location of weeds on Summerland Peninsula. This will create greater efficiencies at the time of control by minimising search time and being able to scale control efforts adequately.

Main weeds of focus in the woodland areas are Ragwort, *Senecio Jacobaea* and Thistles.



Summerland Peninsula weed mapping

LITTLE PENGUINS



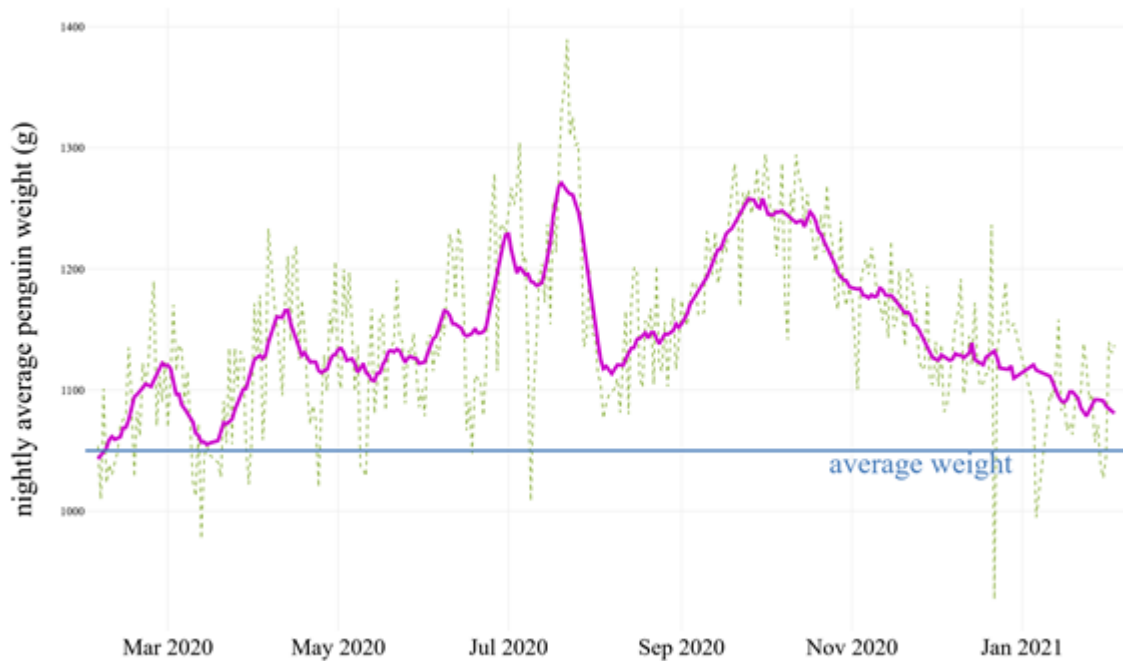
The average number of Little Penguins crossing the beach at the Penguin Parade (graph above) in January 2021 was 1,527 penguins, increasing 35% from 1,131 penguins recorded in January 2020. Most penguins are finishing raising their second clutch with lots of old chicks around the colony. As parents are coming back often to feed their chicks, more penguins have been coming ashore than during previous Januarys. Like last month, the drop in weights in the graph below is a combination of trimmed parents from the energy-demanding chick-rearing stage and chicks, which are lighter than adults at fledging, crossing the weighing platform. Few daily weights were below the long-term average weight due to the weighing platform's malfunctioning, which is now repaired.

According to the Bureau of Meteorology, we are experiencing a La Niña year that will persist through the Southern Hemisphere for summer 2020–21. It could reach similar strength to the La Niña of 2010, 2011 and 2012. For the penguins, the breeding success was high to very high in those three years. All things being equal - weather-wise, penguins are heading to a good breeding season and so far we have experienced fewer heatwaves than previous years – good news for penguins that need cooler conditions to start moulting.

Where September and October saw much higher numbers than the same time in 2019, November and December saw markedly fewer. The per night average penguin counts were 1,342 and 1,515 respectively, a decrease of around 35-40% compared with the same time in 2019.

The penguins on the Summerland Peninsula, especially on the southern coast, are on their second breeding attempt after successfully rearing their first clutch. Currently, most burrows at the Parade contain chicks, many of which are entering the post guard stage of breeding; where both adults go out to sea and return most evenings to feed their chicks.

## penguin weights (Parade)



*Adult Little Penguins have been decreasing since October as the breeding season progressed. This is a normal pattern during breeding.*

## Penguin tracking – the second clutch tracking

We have been tracking penguins on the second clutch (double breeding). This is the first time we are following penguins in the second clutch. It gives us a useful and vital insight into the foraging area; as the double-clutch is becoming more common in the last 10 years.



***A single track of penguin at sea in second clutch. Penguins have been travelling much further than the first clutch (see small insert).***



## HOODED PLOVERS

Phillip Island's Hooded Plover breeding season has had quite a good start with the first nest at Anchorage Beach found on 31 August 2020 which produced three fledglings and the third nest of the season at Crazy Birds resulted in two more. Other successful fledglings include two at Devon Avenue and one at Woolamai Beach SLSC. To mid-February 2021 there have been 18 pairs, 46 nests with 101 eggs, of which 20 have hatched and 8 have fledged. We are hopeful for a strong finish to the season as there are three to four chicks at two sites (Devon Avenue and Smiths Beach), five nests with eggs and there could be some late nests to come.



***Four of the eight fledglings in a flock near the Penguin Parade 13 January 2021. Three testing their wings above. Photos Jon Fallaw***

Andrew Dallinger, Environment Ranger, was on patrol on Friday 8 January 2021 at Crazy Birds Beach and noticed something protruding from the unbanded partner of Hooded Plover known as Yellow 19. Photos showed a long piece of Amphibolis (sea grass) somehow attached. Steve Johnson, the Regional Coordinator for the 'Friends of the Hooded Plover Bass Coast' came over and set a trap early on 14 January 2021.

Fortunately, the bird was quickly caught and was taken to the expert care at Newhaven Vet Clinic where the stem of amphibolis was removed. The bird weighed only 83g (should be ~100g) and was possibly on the verge of collapse as it was compromised with feeding and flying while trying to incubate eggs and defend territory.

The bird, now flagged Yellow 86, was back on the beach that day and went on to look after the nest which produced one chick. Many thanks to Steve, as the bird would have been much more difficult to catch if its condition had deteriorated further.



***Top photo; Crazy Birds Hooded Plover with embedded Amphibolis, above and after a trip to the vet.***

Amanda DiFuccio started as an intern with the Hooded Plover Team on a project in March 2020 just before the effects of the Coronavirus (COVID-19) commenced. She wasn't able to return until December 2020, nor complete her original project, so in November 2020 Tom Nixon, Threatened Species Officer completed an application for a remote camera project. Local and state ethics approvals were received in February 2021. With equipment help from Ash Reed, Ranger from the pest animal team, and Bass Coast Shire approval, two cameras have been set up on Hooded Plover nests within two days of receiving approval and hopefully a few more before the season ends. The camera study is to ascertain some of the reasons for nest failure and we are hopeful that this will be a valuable tool to better manage nests in the future.

The Nature Parks is hoping for a strong above average finish to the breeding season and look forward to the return of Hooded Plover volunteers in a safe way.



## KOALAS – BUSHFIRE RESPONSE

A wild Phillip Island koala with a joey has been spotted in trees around the Koala Conservation Reserve. It is the first sighting of a wild joey and mother together since 2007. No photographic evidence as yet!

Our female koala Harriet, who was 18, died from complications linked to old age. She was a boardwalk koala named after our Ranger Jon Fallaw's daughter. Harriet had five joeys during her time at the Koala Conservation Reserve.

The entire Koala Conservation Reserve woodland was rabbit/rodent proofed with a wire skirt added to the base of the existing fence to allow for a safe environment for any threatened species that may be introduced.

The Bushfire koalas we had in our care at the Reserve for 11 months continue to be monitored at their release sites in Gelantipy and Mallacoota. Rangers Daniel Kallstrom and Lachie Siphthorp recently visited Mallacoota and Gelantipy, respectively, to track the koalas and collect scats for microbiome analysis. Daniel was at Mallacoota from 1-8 February and Lachie was at Gelantipy from 3-12 February. The tracking data, scat analysis and health checks will form part of a welfare and recovery report on the koalas that were injured in the bushfires in January 2020. This type of study has previously not been undertaken in this context and the results will help shape the recovery and rehabilitation efforts of koalas injured in bushfires in the future.

*"It was great to see the koalas that we had put so much time and effort in to doing their own thing in their original habitat! Apart from their collars they looked exactly as wild koalas should!" – Daniel Kallstrom*

The collars will be removed in March 2021 and a final health check performed to determine the condition of the rehabilitated koalas.



***Above: Frankie. The day after this photo was taken we tracked him only to find his collar and no Frankie. This is not uncommon when using tracking collars for research. They are designed to fall off if caught so as not to strangle the animal. He has been hanging around a residential area so hopefully will be spotted by members of the public.***





*Vicky at Mallacoota has taken to hanging around in the Blue Gums in a plantation. The koalas can be very difficult to spot in the recovering trees and are often hidden amongst the epicormic growth.*

## WILDLIFE REHABILITATION & MANAGEMENT

Over 110 calls were responded to by rehabilitation staff during December, covering 29 species. Several Little Penguins were cared for during this time, mostly due to emaciation. A long-term visitor was a Blue-tongued Lizard who had been caught in a wire fence and had wounds around the body requiring daily bathing and medications to heal. The lizard was successfully released after 24 days in care.

An orphaned kookaburra chick which was unable to be released where it was found was rehomed in a new purpose-built nest box at one of the ranger's properties, with a resident family of kookaburras. The bird fledged successfully from the new location.

## RESEARCH PUBLICATIONS

### Foraging behaviour of Hooded Plovers in Victoria

A Paper was published on foraging behaviour of Hooded Plovers in Victoria (including Phillip Island) in Estuarine, Marine and Shelf Science Volume 246: "Foraging behaviour of an obligate, sandy shore predator" by Sarah Butler, Natalie Shepard, Peter Dann, Grainne Maguire and Michael Weston.

In partnership with Deakin University, Birdlife Australia and a Masters student based on Phillip Island (Natalie Shepard), we examined the effects of season, tide and level of the beach and age, flock size, breeding status on foraging behaviour of the Hooded Plover.

**Main findings:** Immatures had higher foraging rates but lower success than adults. Adults foraged at higher rates near the water's edge but more successfully on the upper beach. Birds foraged with highest success and at the lowest rate during spring. Importantly we found that Hooded Plovers rely on all levels of the beach for foraging. A number of these findings have management implications.



## A low-cost tool to measure dune plant growth

A study was published in January 2021 led by our dune PhD student, Marita McGuirk. Marita developed a low-cost method to measure the growth of dune plants. Vegetation is critical for the initiation and growth of incipient dunes and foredunes and vegetation features influence the rate and volume of sand deposition and the final dune morphology.

Journal of Coastal Research	37	1	216-224	Coconut Creek, Florida	January 2021
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### TECHNICAL COMMUNICATIONS



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### Quantifying Changes in Surface Elevation in Conjunction with Growth Characteristics of Incipient and Foredune Vegetation

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