



NSW National Parks
and Wildlife Service

Department of Environment and Conservation NSW



SOUTH COAST SHOREBIRD RECOVERY NEWSLETTER

Sharing the shoreline

March 2007

New chicks on the beach

This season the shorebird program saw the end of the dynamic duo of Jill Keating and Mike Jarman as Shorebird Recovery Coordinators. Jill took up a position with Southern Rivers Catchment Management Authority (SRCMA) at Bateman's Bay and Mike now has a permanent Project Officer job with NPWS and is based at the Ulladulla office. Both Mike and Jill and the many long-term volunteers were great in helping ease the new Shorebird Recovery Coordinators into their unique positions by passing on their knowledge and experience from previous seasons.

The new bright and shiny Shorebird Recovery Coordinators are Amy Jorgensen based in the Narooma office, monitoring shorebirds breeding from Bateman's Bay to the Victorian Border and Jodie Dunn based in the Ulladulla NPWS office, covering the area from the Bateman's Bay to Windang. The season was interesting to say the least for both new coordinators who hit the ground running in October 2006. ♦

The shorebird summary

The shorebirds and volunteers took the new coordinators under their wings, and despite a little turbulence, the season went ahead relatively smoothly. The Little Terns arrived on cue this year, with most colonies experiencing relatively high success. A grand total of 135 chicks fledged this season from our six southern NSW colonies. A collaborative 'Big Little Tern count' was also undertaken in December for all monitored tern colonies in NSW. The Hooded Plovers did well this year with a definite 13 chicks fledged and possibly another two chicks fledging from Nadgee soon. Thirty four Pied Oystercatcher pairs were intensively monitored and a grand total of 26 fledglings were observed along the NSW coast south of Shoalhaven Heads. Surveying of offshore islands revealed 48 Sooty Oystercatcher pairs in the south coast region with 15 eggs, 11 chicks and 2 fledglings at the time of the survey. An amazing find was one pair deciding to nest on the mainland at Pretty Beach. ♦

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Waiting for the Little Terns – Sunrise at Conjola Beach. Photo: Col Ashford

Hooded Plovers

At the time of writing, a total of 13 Hooded Plover chicks had fledged this year from 20 breeding pairs located from Jarvis Bay to the NSW/VIC border. Hopefully another two may fledge from Nadgee in the coming weeks. This being comparable to the 14 and 10 fledglings produced during the two previous breeding seasons.

It wasn't until late February that the northern extreme of the Hooded Plovers range, Jarvis Bay, was explored with a ACT Booderee Park Ranger escort. About halfway along **Bherewere Beach**, just where Ranger Tony Carter remembered seeing the pair, out popped two adult Hoodies with a fledgling in tow! Extensive fox control and the secluded nature of the beach contributed to the survival of this young hoodie. Next year we will have to check on this productive pair earlier.

Further to the south, a pair of Hoodies was found at **Berrara Beach**. Before December they were seen at the creek at the northern end of the beach where they had nested in previous seasons. Signs were erected in anticipation. However by mid December they had shifted down to the southern end of the beach. Again signs were installed to ward off dog walkers and the hoodies were observed nearly every week feeding amongst the kelp. But sadly no nests were found..... only fox, raven and dog tracks. A troublesome spot for Hooded Plovers to breed.

In contrast, at **Lake Conjola** the Hooded Plovers nested three times. In late September three chicks, only a few days old appeared. Sadly by mid October only two remained and then even those two disappeared. Just two weeks later a two-egg nest was laid inside the area fenced off for the Pied Oystercatchers. Well trained! However that weekend a terrible storm lead to the abandonment of this nest. Only a week later, in mid-November, the pair nested again. Another two eggs, which hatched right in the midst of the Little Tern breeding. The family was frequently dive bombed and harassed by the terns. A fox visit in early January and the Hoody family disappeared. We all feared the worst but then two weeks later a local beach walker notified us of the birds 2km down the beach at Narrawallee Inlet. Those little chicks walked all that way to escape the fox and successfully fledged at Narrawallee. Now there are frequently 3 adults and 4 fledglings at Lake Conjola! The third adult may explain the quick succession of nests, with some partner-switching happening. However the origin of those extra 2 fledglings is a mystery. They could be the 2 chicks from the first nesting attempt or chicks fledged elsewhere on the south coast ???

The **Rennies Beach** pair came in early and laid an egg in late September. However before the nest could be protected with a cage a raven got a tasty meal. The pair took off and were not seen for the rest of the breeding season.



The Hooded Plover chicks hatching at Lake Conjola and finally fledging at Narrawallee Inlet. Photos: Jodie Dunn

Summary of Hooded Plover breeding activity on the NSW South Coast during the 2006-2007 season

Site	Pairs	Nests	Eggs	Chicks	Fledglings	Main Fate(s)
Bherewere Beach	1	1?	1?	1?	1	U
Berrara Beach	1	0	0	0	0	N?
Lake Conjola	1	3	3	3	2?	U/Fl?
			2	0	0	A
			2	2	2	Fl
Rennies Beach	1	1	1	0	0	R
Racecourse Beach	1	2	2	2	2	Fl
			3	3	2	Fl/U
Wairo Beach	1#	0	0	0	0	N
Kioloa	1	1	2	1	0	F?
Pretty Beach	1	2	3	3	1	R?/Fl
			3	0	0	R
Bogola Head Beach	1	3	N?	0	0	U
			N?	0	0	U
			3	3	1	U
Tilba Lake	1	1	?	0	0	F
Aragunnu Beach	1	2	N?	0	0	F
			N?	0	0	U
Bengunnu Point	1	1	2?	2	2	FL
Middle Beach	1	2	1	0	0	U
			3	0	0	U
Cowdroy's Beach	1	0	0	0	0	N
North Tura Beach	1	2	3	0	0	R
			3	0	0	R
North Long Beach	1	2	3	0	0	R/G
			?N	0	0	R/G
Terrace Beach	1	1	?N	0	0	R/G
Nullica River	1	1	2?	2	2	FL
Saltwater Creek	1	2	1	0	0	U
			2	0	0	U
North Wonboyn	1	1	N?	0	0	U
South Wonboyn Beach	1	3	All N?	0	0	U
Jane Spiers Beach	1	1	2?	2	?	?
Newton's Beach	1	0	0	0	0	N
Nadgee Beach	1	0	0	0	0	N
Nadgee Lake	1	0	0	0	0	N
Cape Howe Beach	1#	0	0	0	0	N
Total	24	32	47 (min)	24	13 (min)	

N = no nesting recorded
A = abandoned
I = inundated
U = unknown egg/chick loss
Fl = fledged

N? = suspected nest
? = awaiting results
G = goanna predation
F = fox predation
R = raven predation

one individual reported

At **Racecourse Beach** in Ulladulla the Hoody pair worked very hard this season to successfully fledge four young. This beach is very popular for dog walkers so the parents were constantly hiding their chicks and leading dogs and beach goers away. Many of the locals have become particularly interested in the birds and now keep their dogs on leash and down by the water to avoid disturbing the hoody family. Both chicks from the first nest in late September fledged before Christmas. Then in mid January a three-egg nest was found at the northern end of the beach. It was quickly caged and signposted. All 3 eggs hatched. However that day the chicks had a close call with an off leash Kelpie dog, who came within metres of trampling them as he chased the adults. One chick was lost soon after, perhaps to the ravens seen searching vegetation and kelp for tasty morsels. The remaining two chicks went on to fledge during preparation of this newsletter.



Above: Three Hooded Plover eggs on Racecourse Beach with the shadow of their protective cage. **Below:** The one-day old chicks just after their terrifying brush with an off leash Kelpie. *Photo: Jodie Dunn*



Disappointingly, a pair seen previously on **Meroo Beach** did not turn up this year. One adult was seen on Wairo Beach but other than that all we can do is hope they come back next year.

At **Kioloa Beach** the local hoody pair nested by the lagoon. The two eggs were caged quickly by Robyn and Steve Berkout to protect them from a roaming fox who had escaped all our attempts at fox control. On a stormy weekend one of the eggs hatched and the chick was taken up the creek for protection from the elements. The remaining egg was abandoned. Then the chick was lost soon afterwards, possibly to the fox or Robyn suggested the culprit could be a snake from the scrub bordering the breeding area. The hoody pair were not seen again all season. A single bird turned up on Racecourse, Shelley's and Bullpup Beaches but no more nesting was witnessed.

The **Pretty Beach** pair nested early in the season with three eggs down at Dawsons Beach. The area is quite remote, surrounded by national park and was free of foxes. Perfect for Hoody breeding. All three chicks were seen feeding with their parents but at two weeks of age two of them disappeared. Probably taken by ravens. The third chick went on to fledge before Christmas. The pair nested again but this time on Island Beach which is much closer to the Pretty Beach camp area. A fence and signs were erected but soon after the ravens took all three eggs. The pair are now holidaying down at Durras beach with their fledgling from the first nest!

On the far south coast the **Bogola Beach** hoodies after two suspected earlier attempts to breed, finally hatched out three chicks. Their success was no doubt influenced by the quick caging efforts of Patricia Latimer. A fox found to frequent the area, avoiding the nearby baits, was successfully shot on an adjacent private property. The three chicks dwindled down to one, with any number of avian predators possibly the culprits. Initial thoughts that a fourth clutch may be laid were dismissed with the happy parents appearing content to simply relax on the beach, but after laying three clutches who could blame them?

After an initial unsuccessful attempt to breed early in the season at **Tilba Lake**, the pair of hoodies here moved down to spend some time at the **Wallaga Lake** entrance. Here they made no attempt to breed and even took off for a few weeks in January. All attempts to locate them on surrounding beaches failed, until one week after the entrance to Wallaga Lake was opened and they appeared on an expansive low-tide sand island in the estuary.

The hoodies at **Aragunnu** struggled with multiple scrapes being made both along the beach and in the creekline, but if eggs were laid they were being very quickly taken by either the marauding silver gulls, ravens or possibly a fox, before any cage could be implemented. Their unsuccessful attempts saw the pair vacate the beach and turn up at **Murrah Beach** for a short period, though they did not breed here.

A hoody hunt was undertaken by Amy and Patricia Latimer, after a tip-off from bushwalkers that they confidently saw four Hooded

Plovers 'on a remote beach between Picnic Point and Aragunnu'. After a bit of a bush-bash up to **Bengunnu Point**, and discussions along the way that they probably saw four Red-capped Plovers, it was a delightful sight to indeed behold two adult hoodies with two fledglings on the southern beach!

The **Middle Beach** 'quartet' were often seen happily sitting within a few metres of each other, usually between the lagoon and the ocean. This was frustrating after carrying all the fencing gear down the long stretch of beach on several occasions with the belief that surely one pair would have produced something. But to no avail, and in the end eggs were laid by one pair at the northern end of the beach right next to the stairs! The first of these eggs was lost within 48hrs of first sighting, with a second clutch again laid within the fence, following the same fate. Whether the nests had succumbed to either raven or goanna attack was unsure, as there were multiple goanna and raven tracks traversing the vicinity of the nests, often overlapping. However, a two metre long Brown Snake seen on one visit only a few metres from the fence could also have had a nice little egg snack. The second pair, after being told to shove off by the first as they had some intimate business to attend to, flitted between **Cowdroy's and Gillard's Beaches**. They appeared to not settle down to breed at any location.

A nest located at **North Tura Beach** was quickly fenced and lost all within a 24-hour period. It is highly likely that the family of ravens (often 5+) that check every inch of the beach here for tasty morsels were attracted to the fence. This pair of hoodies appear to dislike any intervention, so a second nest located by Amy and Robyn Kesby in early January was signposted instead of being fenced, at a distance that caused no disturbance to the birds and avoided any association ravens may have between a fence and food. Unfortunately this nest was also lost with 7 days.

Further south in Ben Boyd National Park goannas and ravens roamed. One definite nesting attempts, and two suspected attempts by the two pair that inhabit the beaches between **Terrace and Haycock Point (North Long, Quandolo, Pinnacles, Terrace)** were taken by these predators. However, a visit on 19th February found the one-footed individual and its partner shoeing off a fledgling on North Long Beach! The origins of this unloved fledgling are unknown and although we would like to include it as another new individual it is more likely that it moved up from the **Nullica River** entrance. A search by Steve Burrows on the 1st of November here found two chicks nearly ready to fledge.

In the past the pair of hoodies at **Saltwater Creek** have proved to be 'good breeders', often getting chicks to fledging age. However, an early attempt in September, and one later in November were both unsuccessful at hatching any chicks out. All observations of the pair from this time have revealed no nesting behaviour at all.

The beaches of **Wonboyn** had the usual four hoodies present,

though both pairs failed to produce any fledglings and indeed each survey of these beaches revealed scrapes though never any eggs or chicks. It is unknown what may have predated on the possible eggs and chicks.

A 3-day wilderness hike into **Nadgee Nature Reserve** by Amy, Jodie, Robyn Kesby and James Dawson in early March found lots of birdies. On **Jane Spiers Beach** at the northern end two adults casually emerged from the scattered vegetation cover, their behaviour gave no indication that they had two chicks hidden closeby, these were spotted as they buzzed past. Around the headland at **Newtons Beach** two adults were happily snoozing amongst the seaweed. This restful scene was repeated further south at **Nadgee Beach**, where again two adult hoodies were basking in their wilderness surroundings. ♦



Above: The beautiful Nadgee Lake with lots of Black Swans. **Below:** Most of the Nadgee hikers – Amy Jorgensen, James Dawson and Robyn Kesby.
Photos: Jodie Dunn



Little Terns

A total of six sites were used by Little Terns this breeding season between Wollongong and the NSW/Victorian border. From these 135 chicks were fledged. In the far south coast he season saw a 'tern-about' in the north-south productivity ratio with the Little Terns at Mogareka struggling to hatch and fledge chicks despite an absence of the usual re-occurring fox or avian predation. While Tuross Lake, so often plagued by disastrous events, such as rogue waves and untimely flooding, had the most productive season ever.

The Little Terns 're-termed' for their fourth consecutive season at the Lake Illawarra entrance at **Windang**, just south of Wollongong. Major work is being undertaken at the site to permanently open the lake to the sea. This did not deter the Little Terns and local resident Ian Shaw observed up to 16 adult birds feeding and courting in November. Two nests were soon found in the midst of the work site with trucks and other heavy machinery operating less than a hundred metres away. The Lake Illawarra Authority quickly organised a Work for the Dole Team who erected an excellent fence to protect the breeding area. However before signs were even put in place, all five eggs were taken, possibly by one of the many resident foxes that hide in the breakwall boulders. All the Little Terns disappeared after this incident perhaps moving further south. By next season the works should be complete, and the dredge spoil will be used to build a specially designed 'Bird Island'.

The Little Terns keenly came back to the beautiful **Lake Wollumboola** for another great season under the care of Frances Bray. The lake was open to the sea for the first time in many years. A definite 78 eggs were laid in the main nesting area and most were protected inside the electric fence. The volunteers worked tirelessly to maintain this electric fence, which was constantly losing voltage due to the exposed nature of the site and tattered fencing tape. For added protection all nests were caged. Well justified, considering four young foxes were trapped very close to the nesting area (and an off leash domestic dog). Thanks to these efforts only 4 eggs and 4 chicks were lost were lost to the foxes and one chick was seen being carried off by a raven. Stormy weather resulted in more losses with 13 eggs covered with sand and an additional 14 eggs abandoned during blustery conditions or just after the fox attack. Despite these losses many chicks were observed taking their first flight from the main nesting area. We also had four nests on a sand island just inside the lake entrance channel. However even after raising on sandbags, one was inundated and the chicks from the other three were thought to have been taken by a Red-Belly Black Snake. To our surprise chicks were also spotted on the far side of the lake entrance channel. A quick inspection revealed two runners, with further nests discovered later in the season. It is difficult to know exactly how many eggs were laid over there in the marsh, but judging by all the eggs, chicks and fledglings observed it was at least fifteen. Overall a total of 48 young Little Terns fledged this season from Lake Wollumboola! Even better than last year.

Further south at **Lake Conjola** the season began well with the much appreciated efforts of a new Shorebird Volunteer, local resident, Col Ashford. Col is both passionate about native wildlife and a retired builder, the recipe for an excellent site warden, particularly when it comes to sign hammering and fencing skills. The birds and I couldn't have asked for more!

In mid November the terns were flying overhead getting ready for the season but high seas and tides resulted in half of the spit being washed over. This was a scary start to the season, and we thought the birds might leave and go somewhere else, but low and behold the week later our first nest was laid right in the middle of this lowest lying area! We quickly raised it on sand bags, and then more nests began to be laid in the surrounding area. Luckily high seas did not coincide with high tides this breeding season and all nests escaped inundation despite some precarious positioning. By new years eve the colony was all abuzz and 29 eggs had hatched. Darryl Mackay banded 25 of these new chicks, which was a great effort.

However the following night a visit by a fox resulted in the loss of around 14 chicks. We quickly erected an electric fence to protect the remaining chicks and eggs and luckily the fox did not return. However I have my suspicions that he did visit occasionally in the weeks after and picked off the odd runner as they left the fenced area. After this fox attack the colony quietened down with many of the adults leaving, reducing numbers from around 40 to not many more than 20. Some pairs renested and we caged all nests in case the fox returned and got through the electric fence. Mysteriously a few chicks were found dead from no apparent cause inside the fenced area. One looked almost of fledging age. Also there was a very young chick that I found with a broken leg. A parent was feeding him, however he disappeared. Many chicks were lost to unknown causes. Some of these may have been taken by the fox as runners after the main attack, but hopefully I have underestimated the fledgling number. The conservative estimate is that at least 27 young fledged from the 26 nests containing 58 eggs. Despite the losses to fox attack, an excellent result!



Clockwise from top left: Lake Conjola Little Tern chicks just hatched inside their protective cage; hiding in the dune vegetation; adult on nest raised on sand bags; chick waiting for their little brother or sister to hatch; two chicks about to be banded; beautiful three egg nest. *Photos: Jodie Dunn.*

The Shorebird Recovery Program has relied heavily on the dedicated efforts of Ron Smith to report the first arriving Little Terns in the Mogareka/Wallagoot area each season, and sadly, Ron passed away earlier last year. He is greatly missed by all those who had the opportunity to work with him. At the beginning of the shorebird season Joan Ennis and Jill Whitley organised the donation of a gorgeous Bird Book to the Tathra Primary School in Ron's honour. As in the 2003/04 breeding season, two Little Terns were spotted 'over-wintering' on Tathra Beach in June 2006. The first official date of Little Terns arriving on the far south coast was the 20th October at Mogareka when 6 individuals were spotted on an island in the centre of the estuary.

The **Tuross Lake** Little Terns had an absolute bumper season, which makes up for all the disappointment of the past years. On the 25th October two non-breeding Little Terns were sighted at the mouth of Tuross Lake, with four joining them soon after on the 1st of November. From here on numbers grew to forty plus, with a check of the sand island many of the adults were looking 'cosie' on the 6th of December finding eight Little Tern nests containing 19 eggs. The perfect sand island attracted more and more breeding pairs each week to the delight of all the Tuross Shorebird volunteers and the first Tuross Lake chicks to hatch in three seasons were found on the 22nd of December. An extension to the initial fence was required as the colony swelled, and numerous sandbag 'huts' were deployed by Bill Nelson and Peter Christie across the barren island to offer protection to the increasing number of runners. This season Tuross Lake was also chosen as the nesting site for nine pairs of Fairy Tern. These tended to lay their eggs later than the little variety, and created a sub-colony of scrapes all within the dried seagrass. Their greater levels of defensive behaviour made it quite easy to identify them from the surrounding Little Terns. Although the island stayed high and dry for most of the season, over 200mm of rain in the Tuross catchment from 10th to the 12th of February quickly raised the lake levels. The incredible deluge of water covered the 6ft high fence posts surrounding the colony and the last few runners (approximately 14) were unfortunately lost, as were the last few Fairy Tern nests. The assisted opening of the lake entrance meant a feast for the Little Terns, with the entire colony of over 90 individuals congregating here to catch the concentration of small fish being forced through the opening. Most of the drowned fence was eventually recovered by Bill and Peter and the terns bid farewell to their Tuross home within a week of the opening. On the bright side a total of 112 eggs were laid over the season, with a very conservative estimate of 43 of these definitely producing fledglings (though more likely the number was around 55).

The high water level in **Brou Lake** meant that there was little sand available for Little Tern nesting this season. Despite the lack of terns, the **Friends of Brou Lake** were still dedicated to the job of helping out wherever they could and held a campground



Top: Ron Smith at Wallagoot Lake. *Photo: Jill Keating.* **Above:** The sandbag huts deployed at South Tuross Head with two runners 'blending'. **Below:** Aren't they special? the first Little Tern chicks to hatch out at South Tuross Head in three seasons. Well done! *Photos: Amy Jorgensen*





Norm Austwick hard at work cleaning Mogareka's electric fence.
Photo: Jill Whitley

auction. Items to go under the hammer were many and varied, though one item, which may haunt the participants, was a photo of a group of shorebird-loving, cross-dressing teenage boys. Incredibly \$400 was raised to help the shorebird program, this fantastic contribution will be used to purchase equipment and signs. Thanks to all the friends of Brou Lake for their generous support.

The **Bega Rivermouth** again attracted Little Terns, with numbers growing to over 50 adults on the 12th of November, from the initial six sighted on the 20th of October. The outer 'people fence' was put up by the dedicated volunteers prior to any laying in an attempt to allow the birds to settle without disturbance. This succeeded and the first eggs (five in total) were sighted on the 26th November by Gary Whitley. By the 1st of December 33 nests containing 63 eggs were present in the colony. This initial positive start to the season was hampered by an increasing number of adults abandoning their eggs, combined with a fox entering the colony and killing two adults. An attempt to shoot the fox in early December proved unsuccessful, however no signs of the fox were found from this time on with its fate possibly met by taking one of the many baits in the surrounding landscape. The number of adults attending the site dropped noticeably with the initial 60 plus falling to approximately 20. Of the initial 68 eggs laid from 1st to the 12th of December only 18% hatched ($n = 12$). A few new nests were found each week, though the site was particularly quiet, in comparison with previous years. Each walk through revealed more eggs abandoned, though a small number remained active and twelve runners were banded by Darryl McKay in early January. A second 'wave' of hatchings occurred from the 24th to the 29th of January. However, the majority of these chicks were found either dead or emaciated only a few days after hatching. The season ended abruptly with all adult terns abandoning the few remaining nests by the 30th of January, though four attentive parents stayed to feed the last two chicks until they fledged

around the 6th of February. Of the 113 eggs laid during the season, only 37 are estimated to have hatched, though the majority of these chicks were found dead. In the end 17 chicks are estimated to have fledged.

Poor breeding success was also evident at **Wallagoot Lake**. In late November, a small group of Little Terns ($n = 6$) were sighted flying around the lake amongst approximately 20 Fairy Terns. Numbers of the Little variety increased to approximately 20 in early December, though no eggs were laid as all suitable breeding habitat, including 'Bird Island' was occupied by over 100 breeding Silver Gulls. Foxes in the area came to Wallagoot for a Christmas feast, devouring all Silver Gull eggs and chicks over a few days. This cleared the way for the terns, and with ample room now available on their favoured 'Bird Island', breeding commenced on the 2nd of January. First to lay was a single pair of Fairy Terns, with six Little Tern nests containing nine eggs following soon after. One Little Tern pair happily kept company with a Red-capped Plover pair inside the same nest cage. Unfortunately, all nests were abandoned at a similar time to those at Mogareka, including a single newly hatched Fairy Tern chick.

A surprise small tern gathering was found at Nadgee Lake in **Nadgee Nature Reserve** on the 6th of March, despite small terns being absent from all other sites in the South Coast region. The



Top: BVSC rangers Peter Miles and Mick Franic with Amy Jorgensen.
Bottom: Team effort! Some of the many dedicated Mogareeka volunteers.
Photos: Jill Whitley

Summary of Little Tern breeding activity on the NSW South Coast during the 2006-2007 season

Site	Pairs	Eggs	Fledglings	Main Fate(s)
Windang Beach	2	5	0	U
Lake Wollumboola	34	93	48	FI / SS / A
Lake Conjola	18	58	27	FI / U / F
Tuross Lake	45	112	43	FI / I / U
Bega Rivermouth	40	113	17	A
Wallagoot Lake	6	9	0	A
Total	145	390	135	

I = inundation

U = unknown egg/chick loss

FI = fledged

F = fox predation

A = abandoned

SS = sandstor

20+ group of both Fairy and Little Terns were resting on a small island in the south-east corner of the lake, and included fledglings of both species. This is possibly a 'post breeding site' which individuals gather at to 'fatten up' and moult prior to migration. There is also a slight possibility that they bred there (if only a few individuals) as bushwalkers reported a small group (approx. 30) present on Nadgee Lake on the 21st December. A check in December 2007 is needed to clarify this (if lake levels remain low and suitable habitat is available for nesting).

The widespread nest abandonment at both the Bega Rivermouth and Wallagoot colonies contrasted to the high success rate of other colonies. Possibly, food resources of suitable sized fish were limited surrounding these southerly colonies. The location of most Little Tern colonies in the South Coast Region within estuaries and at the entrance to waterways maximises their opportunity to forage both within the estuary and locally within the ocean. Usually, Little Terns will only forage within a few kilometres of the colony, so local abundance of suitable sized fish is vital to their breeding. If food resources are limited within their foraging range the incubation regime will become disrupted as adults have to spend more time foraging, or travel greater distances to find food. As a result the eggs may become unattended for increasing amounts of time, jeopardising their viability. Also chick-provisioning rates may not be adequate for their survival.

Comparing two of the largest colonies on the Far South Coast, namely Tuross Lake and Bega Rivermouth, foraging efforts were noticeably reduced within the Bega River, conversely the majority of adults and fledglings at Tuross Lake appeared to readily gather small fish within 100m of the breeding island. Possibly, there may

have been a greater abundance of small fish species in Tuross Lake (influenced by water temperature, lake size, entrance opening/closing regime differences) compared with that in the vicinity of the Bega Rivermouth. This may have offset any additional food shortages within the ocean (possibly influenced by the currents this season).

In addition, the Bega Rivermouth colony experienced cooler minimum temperatures during the breeding season in comparison to the Tuross Lake colony. The minimum temperature fell below 10°C on 23 days (av. minimum temp for the season = 13.0°C) during the breeding season at the Bega Rivermouth colony, compared with only 9 days at the Tuross Lake colony (av. minimum temp = 15.1°C). Some of the coolest temperatures (ie. 5°C and 6°C) were experienced at the Bega Rivermouth at the start of egg laying. However, the maximum temperatures were similar between the two colonies (average for Tuross Lake = 23.3°C; average for Bega Rivermouth = 23.0°C). The lower temperatures at the Bega Rivermouth colony may have influenced incubation, particularly if the adults were spending increasing amounts of time away from the nest in search of food.

At the Bega Rivermouth colony there was an abundance of one-egg (n = 34) and two-egg nests (n = 32) though hardly any three-egg nests (n = 5). Whereas at the Tuross Lake colony the majority were two and three egg nests (one-egg n = 7, two-egg n = 27, three-egg n = 17). It is difficult to determine the cause of the abundance of one-egg nests at the Bega Rivermouth colony as many factors can influence this. Age can be a factor, with younger, less experienced individuals usually laying smaller clutches and also tending to breed less successfully, so perhaps a higher proportion of younger birds bred at the Bega Rivermouth colony. Alternatively, second clutches laid by the same pair can be smaller in number, so there may have been more re-laying after failure of the first clutch at Bega Rivermouth compared with pairs in the Tuross Lake colony. This could only be determined by monitoring colour-banded individuals.

Also, condition of the adults can influence breeding outcomes, with those of poorer breeding condition (usually body mass) struggling to assimilate the energy required to produce eggs, coordinate incubation and undertake chick rearing. This may be influenced by their condition upon arrival at the colony, perhaps indicative of the abundance of prey available during migration and also that available locally during the breeding season. This season has produced many unanswered questions and highlights the need for further research into the localised food availability, foraging ecology and physiological condition of Little Terns, as well as the physical characteristics of colonies within the region. ♦

Pied Oystercatchers

As with all other years of the shorebird program, the charismatic Pied Oystercatchers occupied most estuaries and a large number of sandy beaches in the South Coast region. Their breeding behaviour was delightful to observe especially their pair bonding rituals and broken-wing distraction displays. This season most pairs were able to raise one chick to fledgling, with only a few managing to raise two. Thirty intensively monitored pairs laid 58 eggs and hatched 23 chicks with 16 fledging. An additional 9 breeding pairs were discovered with already hatched chicks and/or fledglings. This brought the end of season fledgling total up to 26 for the south coast.

Up at **Shoalhaven Heads**, Shorebird Volunteer Rex Worrell worked hard this season to ensure the survival of the Pied Oystercatcher chicks. He even erected a small electric fence around the two-egg nest. About 5 days after these eggs hatched, the parents swam the little chicks over to Comerong Island where they both went on to successfully fledge. The best result in 8?? years of monitoring!

At **Lake Wollumboola** a pair of Pied Oystercatchers nested on a sand island about 2 metres high above the lake level, alongside the entrance channel. At first the nest appeared secure being centrally positioned on the sand island and at least a couple of metres from any edges. However high tides combined with high seas resulted in rough conditions in the channel and the erosion of the seaward edge of the island. I swam across the channel and moved the eggs about 2 metres further away from this eroding edge. The adults returned to the nest to continue incubation. Sadly, a few days later the whole island collapsed into the water and the eggs were lost.

Further south at **Lake Conjola** the Pied Oystercatcher pair got in early with a 3-egg nest in a small section of remanent dunes in the first week of October. However on the weekend the nest was due to hatch the weather was terribly windy and stormy. Two eggs hatched and the third was abandoned. Col Ashford saw both little chicks soon after hatching, but when I visited the following day only one remained. I suspect the other chick died from exposure. The diligent parents fledged the surviving chick just before



The Lake Conjola Pied Oystercatcher family. Photo: Jodie Dunn

Christmas in the midst of the Little Tern frenzy.

At **Narrawallee Inlet** a nest was finally located after years of suspected nesting activity. It seems like an excellent spot being at the edge of a Nature Reserve, however the spit is popular with locals who often fish, play and swim their dogs across the inlet from the residential area to the south. A fence and many signs were erected in anticipation of a successful breeding attempt. However each week I returned the outlook got more glum. First one egg had a dint, then the second and then one egg completely disappeared. The parents sat on the last dinged egg for six weeks before I finally removed it in hope of another nesting attempt. But the pair deserted. But why all the dinted eggs.....Clumsy parents? Bird attacks? Off-leash dogs? And what happened to that egg? Have to keep a closer eye on this pair next year.

Just to the south of beautiful **Durras Lake** a pair of Pied Oystercatchers hatched out their two-egg nest on the tenth of November. Local Shorebird volunteer John Perkins took a beautiful sequence of the hatching chicks that was soon featured in the Bay Post. However to our dismay a Nankeen Kestrel found that our tomato stake fences are excellent perches and made a quick meal of both chicks at only 4 days old. Next year we will need to add a perching deterrent to the tops of the stakes.



Top: The Durras Lake Pied Oystercatcher chick awaits the hatching of their little brother or sister. **Below:** Hopefully this Pied Oystercatcher pair will have better luck next breeding season. Photos: John Perkins



At **Bateman's Bay** just east of the Marina a pair of persistent Pied Oystercatchers nested unsuccessfully three times this season. Their first attempt was along the edge of the water in the backyard of local resident, Lisa Brookes, who watched over the pair. However their one egg nest was soon lost. Perhaps due to the new puppy and cat next door who were not restrained and regularly harassed the bird's. Next the birds went out on a sand shoal. A precarious spot and we quickly raised the two-egg nest on sand bags. Three weeks into incubation high seas combined with high tides just topped the sandbags and washed away the eggs. But the birds tried again, with two eggs a few backyards further east. This time the eggs were perched on a bed of casuarina needles amongst the bluestone boulders on the edge of the water. A few weeks later one egg had rolled out of the nest. Lisa put it back up with the other egg, but soon after one completely disappeared. The parents sat on the remaining egg for six weeks in total before we removed it. The pair thought three times was enough and didn't nest again. But who can blame them!

Sadly this excellent shorebird feeding and nesting area will soon be lost, as it will be dredged and the Marina moved here. Although artificially created due to the instalment of a breakwall, which has led to the build up of sand, the shoals have become a popular feeding ground and are frequented by Bar-Tailed Godwits, Eastern Curlews, Crested Terns, Caspian Terns, Double Banded Plovers, Whimbrels, and of course our Threatened Species, the Pied Oystercatchers. Local residents have come to love watching the birds and are very disappointed at this loss. A special thanks to Meryl Hannan who diligently watched over the Pied's in their last two nesting attempts, even phoning NPWS as she realised the waves were going to top the sandbags. However we were about an hour too late, believing that the breakwall offered enough protection from the seas but instead it created a rebound effect as the waves bounced around inside. Hopefully we have enough time to give them another chance nest season.

On the south coast Pied Oystercatchers were seen at a number of other locations in the area between Jervis and Batemans Bay during the shorebird season but they were not monitored. With the Shorebird Co-ordinators position starting two months earlier next season hopefully we can get in early before the Little Terns steal the show. Some of the areas to explore further include Bherewere Beach where fifteen Pied Oystercatchers were seen. Some of these birds probably nest on islands in Sussex Inlet. Additionally the islands of Burrill Lake, Lake Conjola and Batemans Bay will be further explored and hopefully fences and signs erected before the tourist season. People seem to gravitate towards islands and we need to let them know about our camouflaged Pied Oystercatcher nests.

On the far south coast one pair of Pied Oystercatchers successfully raised two chicks on **Quandola Island** near the mouth of the Moruya River. Daily observations could be easily obtained from a spotting scope on Mike Crowley's back veranda. The coastline south through Congo and Bingie Bingie was relatively quiet for Pied's, though occasionally small groups were spotted in this area. **Tuross Lake** was a productive site for not only the Little Terns but also the Pied Oystercatchers. The lake was home to three breeding pairs, all closely watched by Bill Nelson and George Rayner, with the most productive pairs occupying the small islands in the lake. One pair breeding on the extensive sandspit unfortunately lost their eggs, while the island breeders successfully raised one chick each to fledging age.

The extensive sandflats exposed at low tide within **Wagonga Inlet** were Pied Oystercatcher heaven, with many territorial battles being played out in the estuary as up to five pairs attempted to breed on the islands in the estuary. In the end some pairs bred within 10 metres of each other. The most productive pair bred on **Lewis's Island**, with the expanse of mangroves offering excellent cover from aerial predators for the two chicks there. Two initial attempts by two pairs on an island in the centre of the inlet were lost one possibly to dogs, the other to sandbank collapse. A second attempt by one pair met an unknown fate. The third island in the inlet near the entrance was more productive, with again two pairs occupying opposite ends and each fledging one chick.

A pair at **Nangudga Lake** showed no attempt to breed, unlike their neighbours at **Corunna Lake** who had two disappointing attempts, both getting the chicks to two-three weeks of age. It is suspected that either a Harrier or Kite was picking the chicks off. Repeated checking early in the season of **Tilba Lake** by Patricia Latimer was disappointing as a pair choosing to breed near the entrance lost their first clutch to foxes. The predators lined up to take their second clutch (foxes, swamp harriers, peregrine falcons) though caging and a chick that practised 'disappearing acts' beat the odds to survive. Keen observations by Darcy found a second pair further around the lake that had hatched out two gorgeous fluffy chicks. These, however became part of the food chain only a few days later.

Although the breeding habitat was limited for Little Terns at **Wallaga Lake**, the Pied Oystercatcher's found ample room to lay their eggs. One pair took up prime location at the entrance to the lake. Their prominently fenced nest site, although visited by many tourists (including the odd dog) stood the test of time and one chick got off to fledge. Further to the west of the lake, **Merriman's Island** was home to two breeding pairs.

These pairs were breeding with the enemy, as a huge Whistling Kite nest towered above them. Despite this, two chicks (one from each pair) successfully evaded death from above. One adult was not so lucky, with an injured adult spotted by Amy on the side of the road just south of the Wallaga Lake bridge. Pulling over to rescue the bird it launched into the lake despite its obvious broken leg and wing just prior to capture and had enough momentum to fly about 50 metres out before crashing dramatically into the lake. Its calling while flapping on the surface quickly attracted a nearby White-bellied Sea-eagle who repeatedly attempted to grab the distressed Pied Oystercatcher. Finally, the eagle got it in its clutches, nearly becoming water-logged itself and flew off to Merriman's Island to devour the poor pied. This must have been a non-breeding adult as a quick head count on the day accounted for all the breeding adults.

Steve Burrows reported an unsuccessful attempt to breed by a pair at **Aragannu** in mid September, this pair were occasionally sighted on the beach throughout the season but did not nest here again.

The **Murrah River** entrance was again faithfully monitored by Sue and Carl Swensson. Although the Little Terns did not make an appearance here, they were kept busy by the repeated nesting attempts of the resident Pied's. The first clutch of eggs was unfortunately lost, while the second successfully hatched out two chicks which both went on to fledge. At **Bithry Inlet** 'Pegleg' and partner (the banded bird from previous years) knuckled down to breed, though their eggs were located dangerously close to the king tide mark and some sandbagging was needed. The pair, though usually 'Pegleg', sat and sat and sat for more than six weeks. This pair appears to be renowned for unsuccessful incubation attempts. Pegleg and partner were joined by another pair that laid only 100 metres away. The awesome foursome often ganged up to chase off the persistent ravens, though eventually they succeeded in getting the second pair's eggs. Unfortunately, no chicks hatched at Bithry Inlet.

A pair at **Middle Beach** successfully defended their eggs and chicks from the numerous goannas and ravens roaming the beach, fledging one chick. Though nothing could be done to save two adult Pied's who became entangled in fishing line on **Cowdroy's Beach**. One was discovered already dead by Kate Gillespie, the second was found barely alive and badly entangled while walking back down the beach. It too later died. This devastating and infuriating loss could easily have been prevented if the anglers had picked up their disused fishing line. Poor Kate had to also watch as two Pied chicks were picked off one by one by an unknown predator over a short period at **Nelson's Beach**.

The faithful pair of Pied Oystercatchers breeding amongst the Little Terns at the **Bega Rivermouth** unfortunately lost their

Summary of Pied Oystercatcher breeding activity on the NSW South Coast during the 2006/2007 season.

Site	Pairs	Nests	Eggs	Chicks	Fledglings	Main Fate (s)
Shoalhaven Heads	1	1	2	2	2	FI
Lake Wollumboola	1	1	2	0	0	I
Lake Conjola	1	1	3	2	1	FI
Narrawallee Inlet	1	1	2	0	0	U
North Durras	1	1	2	2	0	BP
Bateman's Bay South	1	3	1	0	0	U
			2	0	0	I
			2	0	0	U
Quandolo Island	1	1	2	2	2	FI
Tuross Lake	3	3	2	0	0	U
			1	1	1	FI
			2	2	1	FI/E
Wagonga Inlet	5	6	2	0	0	D
			2	0	0	I
			2?	0	0	U
			2	1	1	FI/U
			2	1	1	FI/U
			2	2	2	FI
Corunna Lake	1	2	1+	1	0	U
			1+	1	0	U
Tilba Lake	2	3	?	0	0	F?
			2	1	1	FL
			2+	2	0	U
Wallaga Lake	1	1	3	2	1	U
Merriman's Island	2	2	?	2	2	FI
Cuttagee Lake	1	1	?	1	1	FI
Murrah River	1	2	2	0	0	F?
			2	2	2	FI
Aragannu	1	2?	?	0	0	U
Bithry Inlet	2	2	2	0	0	A
			1	0	0	R
Middle Beach	1	1	2	1	1	FI/A
Nelson's Beach	1	2	2	2	0	U
Wallagoot Lake	2	2	2	0	0	S
			1	0	0	A
Mogareka	1	1	1	0	0	F
North Long Beach	2	2	3	0	0	R/G
			1+	1	1	FI
Wonboyn North	1	1	2	0	0	U
Wonboyn South	1	1	1+	1+	1	FI/U
Saltwater Creek	1	1	1+	1	1	FI/U
Jane Speirs Beach	1	1	1+	1+	1	FI/U
Little River	1	1	2+	2+	2	FI
Nadgee Lake	1	1	1+	1+	1	FI/U
Totals	39	46	74 (min)	37 (min)	26	

I = inundation

S = silver gull
BP = bird of prey

A = abandoned

R = raven

U = unknown egg/chick loss

E = exposure

G = goanna

FI = fledged

F = fox

single egg to a fox. As did at least two pairs breeding on 'bird island' at **Wallagoot Lake**. **Bournda Beach** was regularly patrolled by Glenys and Derek Lambert, however the Pied's were not recorded breeding here this year.

At **Haycock Point** in Ben Boyd National Park a fledgling and two adults were discovered in late November. If these Pied's had indeed bred somewhere along the beach they were the only shorebirds to successfully raise a chick to fledgling from Haycock to Terrace Point. Goannas and Ravens preyed on many shorebird eggs along this stretch of beaches, including those of a second pied pair at North Long Beach.

The beach to the north of the **Wonboyn River** had an unsuccessful nesting attempt by a pair of Pied's in early October, while no further nests were found here, two adults and one fledgling were reported by Steve Burrows at **Greenglades** on the 4th of February. By the 12th of March up to ten Pied Oystercatchers were gathered at the mouth of this beautiful river.

The wilderness-nesting Pied's of **Nadgee Nature Reserve** appear to have had quite a productive season. A survey in March found two adults and one fledgling on **Jane Spiers Beach**, one adult and two fledglings on **Little River (or creek) Beach** and a whopping 28 Pied's on **Nadgee Lake**. Included in this tremendous gathering was a single fledgling, one yellow-flagged and one banded individual. ♦

East Asian-Australasian Flyway

Have you ever wondered where all those Little Terns go? While our Hooded Plovers and the Pied and Sooty Oystercatchers hang around feeding over winter, the amazing Little Terns accompany many other migratory birds on the long flight along the East Asian-Australasian Flyway. Australia and New Zealand are the southern extent of this route which passes through 22 countries extending over Asia and the Pacific, and up to Russia and Alaska. 55 migratory species, consisting of around 5 million birds travel along the 12000 km flyway. 36 species or about 2 million birds reach Australia each summer to rest, feed and fatten up in our wetland areas. Most of these migratory shorebirds breed in the northern hemisphere summer. However, in the case of our Little Terns, they choose to nest on Australian shores! That is why we need to work hard to protect their breeding grounds here. In addition, international action is underway to protect the numerous wetlands important to these migratory birds along the flyway.



Sooty Oystercatchers

This season four islands were monitored for Sooty Oystercatchers, with calm seas and available time only permitting a single visit to each. These included Brush, Belowla and Grasshopper Islands in the South Coast Region and Montague Island on the Far South Coast.

One beautiful day in November Mike and Jill decided it was time to teach the new south coast Shorebird Recovery Coordinator the ways of Sooty Oystercatchers on the nearby islands. First we visited **Brush Island** but to our disappointment, despite the 21 pairs of Sooty Oystercatchers only 3 nests were found containing 4 eggs. Two pairs were particularly vocal and we suspect they had chicks hidden away. A few damaged eggs were found and empty scrapes. Similarly on **Belowla** there were 4 pairs but only nest scrapes with broken eggs. There were even beheaded White Faced Storm Petrels, indicating that a raptor had been frequenting the area. To our surprise we managed to get onto **Grasshopper Island** due to the calm conditions. This was the first time ever in the years of monitoring and proved very promising. Nine breeding pairs were found with 5 nests containing 9 eggs, two nests with broken eggs and two pairs already had chicks. The nests were mostly beneath ledges and in fissures perhaps giving them more protection from the keen eyes of Birds of Prey flying overhead.



Above: Mike and Jill finally make it into Grasshopper Island. **Below:** Sooty Oystercatcher eggs hidden beneath a ledge. *Photos: Jodie Dunn*



Due to bad weather, lack of boat drivers and boat availability Wasp, Snapper and the Tollgate Islands were not visited at all this season.

An amazing discovery was made early this season on the way to **Dawson's Beach** on a scheduled 'hoody' check. A pair of Sooties were getting a bit vocal and making a fuss. On the way back, by taking notice of where the birds were sitting, the location of their nest was obvious. A two egg nest right here on the mainland. The first mainland nest we have found on the south coast. Hopefully it is an indication that the population is increasing and nesting sites are being sought outside the islands. Sadly the nest did not survive with one egg being found broken on the rocks below the nest two weeks later and the second egg disappearing soon after due to high seas. Maybe they will try again next year.

A total of 26 Sooty Oystercatchers were found during a search of **Montague Island** on the 4th and 5th of January. A total of 11 pair were found on the 'south island' though two of these were non-breeding and a third pair must have only recently lost their eggs as they still defended their territory despite only broken egg fragments being found. The south-eastern side of the island was prime real estate with four pairs breeding within a 200 metre stretch of coastline. A domino effect of trumpeting erupted as one pair alerted the next to a human presence. A total of 6 dependent chicks, varying in age from one week on, and 2 fledged chicks were found on the south island. The 'north island' had two pair, though no chicks were sighted.

A permanent gathering of up to five Sooty Oystercatchers were present at the entrance to **Bithry Inlet** and further south along Penders Beach. However, repeated checking of this area failed to find any breeding activity. In addition, **Bournda Island** was heavily defended by a pair of Sooties. However, no chicks or fledglings were ever sighted. ♦

Summary of Sooty Oystercatcher breeding activity on the NSW South Coast during the 2006-2007 season

Site	Pairs	Eggs	Chicks	Fledglings	Main Fate
Brush Island	21	4	3+	0	BP
Belowla Island	4	0	0	0	BP
Grasshopper Island	9	9	2+	0	?
Dawsons Beach	1	2	0	0	I
Montague Island	13	N/A	6	2+	U
Total	48	15+	11+	2+	

BP = bird of prey
U = unknown loss

I = inundation
FI = fledged



Sooty Oystercatcher chick practicing the 'you can't see me' tactic in a rock crevice on Montague Island. *Photo: Amy Jorgensen*

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