

NSW South Coast

# Shorebirds

# Education Kit

Produced by the Shorebirds in Schools Team:

Jodie Dunn, Anna Jarrett and Kim Wilson



Office of  
Environment & Heritage  
NSW National Parks & Wildlife Service



## Contents

Shorebirds education in schools .....	4
Activity 1 – Introductory PowerPoint presentation .....	4
Activity 2 – Beach visit .....	5
Activity 3 – Meet the scientist.....	8
Activity 4 – Role play.....	9
Activity 5 – Drama: A day in the life of a Hoodie.....	10
Activity 6 – Badgemaking.....	12
Activity 7 – Birds and Beaks.....	13
Shorebird education in the community.....	15
Dogs’ Breakfasts.....	15
Tourist park activities .....	16
Appendices .....	17
Appendix 1: Template for introductory letter to schools .....	17
Appendix 2: Template for schools’ program .....	20
Appendix 3: Shorebird food laminates.....	21
Appendix 4: Data sheets for Birds and Beaks activity .....	24
Appendix 5: Feedback form .....	25

## Objectives/background

The Shorebird Discovery Program is a custom-designed, cross-curricular educational program which encourages beach users to develop an understanding and deeper appreciation of shorebirds and our local environment.

The program was funded by a Community Environment Grant obtained by the NSW South Coast Shorebird Recovery Program. It was piloted in the Shoalhaven Region in 2014. The community activities (dogs' breakfasts and tourist park activities) were run during the summer holidays of 2013-14 and the school activities were run across the school year in 2014.

With summer being the peak breeding time for beach-nesting birds, it was hoped that raising awareness of beach-nesting birds among summer beachgoers would result in appropriate beach behaviour and help conserve these threatened birds. The community activities were aimed at both locals (dogwalkers) and visitors to the area (dogwalkers and people staying at beachside tourist parks). This was a deliberate attempt to address two of the main threats to nesting shorebirds: dogs off lead, and visitors with little or no knowledge of shorebirds and their vulnerability.

The school activities (ongoing) offer interactive multimodal learning experiences including drama and visual arts to help students broaden their knowledge, examine their ecological values and use critical and creative thinking to explore ways in which we can help our threatened shorebirds. Many of the school activities in this kit are modelled on the Beach-Nesting Birds Education Kit published by Birdlife Australia.

\* Note: For school events with multiple activities, allow 5 minutes of transition time between each activity to ensure the day flows smoothly.

## Shorebirds education in schools

### Activity 1 – Introductory PowerPoint presentation

**Time:** 10-15 minutes

**Age:** Years 3-6

**Supervision:** 1-2 supervisors for up to 100 students

**Materials:** Laptop, presentation on thumb drive, projector and screen.

**Background information:** Hooded Plovers are one of the three main beach-nesting birds found in NSW. As a result of increased human usage of the beach during their breeding season (spring and summer) their numbers have declined since the 1980s and their population is currently estimated at around 70 [?] individuals along the southern NSW coast.

Hooded Plover eggs are small (about the size of a 20 cent piece) and very well camouflaged, so they are easily trodden on by accident. Further, if the incubating adult is scared off the nest by passers-by, the eggs may literally bake in the sun, or become too cold in cool weather; either way, it kills the chick developing in the egg, and the egg will not hatch. Similarly, when people disturb a chick, it quickly runs into the sand dunes and hides. While it is running, the chick uses up valuable energy, and while it is hiding it is unable to feed (they usually forage at the water's edge). Thus a chick that is forced to run and hide throughout the day because of human disturbance could easily starve.

**Description:** In this interactive PowerPoint session students learn about beach-nesting birds, the threats that they face and how they can help. This session asks the children many questions, gives them a chance to talk about their own experiences with birds or on the beach, and they even get a chance to search for Hooded Plover nests, learning first-hand how difficult they are to spot and the benefits and problems with camouflage. The presentation is based primarily on photographs, meaning with a small amount of content/language variation, it can be made suitable for any primary-school age group (and even early secondary-school ages).

The presentation can also be adapted to have more of a local flavour – adding photographs of local beaches where the birds are found, hearing some examples of what is happening in their area to protect the birds and even some examples of stories about their local birds (e.g. any stories about rescue, near-misses with threats, banded birds and their history).

## Activity 2 – Beach visit

**Time:** 1.5 hours

**Age:** Years 3-6

**Supervision:** Best with 1 supervisor to a maximum of 25 students.

**Materials:** Spotting scopes; blank paper for sketching on; carved wooden birds; blown eggs; laminated bird cutouts; laminated food and tracks pictures; magnifying glasses.

**Background information:** Human beach use, ranging from horse riding to sun baking, if in the wrong location can have negative effects on beach-nesting birds. Well-camouflaged nests can be crushed by vehicles, horses, dogs and people. However, even just walking close to a nest (which you may not even realise is there) may make the adult bird move away from the nest, leaving it exposed to predators and extreme temperatures or weather conditions.

**Description:** The beach visits are run in the morning where possible, to avoid wind and sunburn. By avoiding the hottest part of the day, the risk of disturbance to nesting birds or chicks is reduced. Also, times of high tide are avoided, firstly for reasons of safety and secondly to reduce the chance of crushing a nest when walking higher up on the beach.

Hooded Plovers nest above the high tide mark and up into the dunes. Therefore **never let students up into the dunes**. If nesting, one bird will typically look like it is resting and the other of the pair will be on the lookout. If you get close to the nest the 'lookout' bird will often try to lead you away. It will stay a short distance in front of you, feeding (or pretending to) and as you get closer it will move a little further ahead, until it feels you are far enough from the nest, in which case it will typically fly back to where it began. The adult on the nest will usually leave it when a person is within 50-100m of the nest, but this varies between pairs. There are many signs that will help you tell if the pair has chicks. These include head-bobbing, rodent run or broken wing display; for pictures and more information visit the [Birdlife Australia website](#).

Generally the students are broken into 4 groups (approximately 24 per group), and each leader takes one group. After 20 minutes for each activity groups are swapped over. This occurs three times so that each group has a turn at each activity. The different groups are 'Spotters', 'Sketchers', and 'Hunters and Trackers'.

### **‘Spotters’**

If it is nesting season (spring and summer) it is extremely important that you do not get too close to the Plovers. When attempting to view Plovers with a large group it is really important to have assessed the birds before bringing students onto the beach. With the help of a trained supervisor, the students can view the birds through specialist spotting scopes and binoculars.

If it is not nesting season, carved wooden Little Terns and laminated Pied Oystercatchers and Hooded Plovers on chopsticks are placed on the beach in as realistic a position as possible, prior to the students’ arrival. The children then practice ‘spotting’ them using specialist spotting scopes and binoculars.

### **‘Sketchers’**

In this activity, students are engaged in discussion about shorebirds, habitat and all the things which a shorebird would consider before choosing a site for their seasonal breeding. They need food, shelter, territorial space (discuss this in relation to the site-specific birds). “If you were a ... what would you notice about this area which might make it a good home?”

Students draw a picture of what they see from a bird's eye view (wide perspective).

### **‘Hunters and Trackers’**

Sometimes we need to ‘track’ Plovers – this involves finding them for the purpose of helping them where needed, without hindering them in any way. The best way to do this is to walk slowly along the firm sand near the water’s edge. As you walk, scan the water’s edge and along the beach to the base of the dunes. It is best to take it slowly and scan the whole 90 degrees ahead of you as you go. When a dune face is bare, it can be very easy to see lines of Hooded Plover prints leading from the beach up the face to a nest. A picture of Hooded Plover and other shorebird footprints can be drawn in the sand to show students, who can then try to find some.

Students can think about what the birds eat and how they would hunt for their food, and do some ‘hunting’ themselves. They can draw what food they find. For example, bunches of seaweed drying on the beach can be turned over and very often sandhoppers (small translucent crustaceans) will jump out and can be caught and examined. Also, pippies can be ‘hunted’ for by (if teachers permit students to take off their shoes) doing the ‘pippie dance’ (standing at the tide line and doing the Twist so that feet go further and further into the sand). Any small insects can also be drawn as food. Three ‘shorebird food laminates’ are

available for the students to use in the Hunting activity: Pied Oystercatcher food, Hooded Plover food, and Little Tern food (see Appendix 7).

### Activity 3 – Meet the scientist

**Time:** 10-20 minutes

**Age:** Years 3-6

**Supervision:** Three supervisors for up to 100 students (will need microphone for large numbers of students).

**Materials:** Three chairs; microphone if more than 2 or 3 classes involved.

**Background information:** This activity is designed to 'bring home science', to help make it relevant to students by a personal discussion with a real scientist. One or two questions are asked of the scientist by the other two supervisors to set the tone, then students are given an opportunity to ask questions. The aim is to make science accessible and help students understand that scientists were once children too, and that conversely when children grow up they can become scientists, if they wish to.

**Description:** Jodie Dunn, South Coast Shorebird Recovery Program Coordinator, sits on a chair flanked by two rangers. The asked her a couple of 'starter' interview questions about her job and what it involves, then the students were able to ask her questions about her job and about shorebirds. For example, she was asked "What is the best and the worst thing about your job?" and "How did you become a scientist?" this starts students thinking about career progression, and how choices made now affect later choices in life.

## Activity 4 – Role play

**Time:** 5 minutes

**Age:** Years 3-6

**Group size:** 5 or 6 students are chosen from the group

**Materials:** Volunteer gear: hats, shirts, i.d. badges on lanyards, mallet, signs, rope.

**Background information:** Volunteers are an essential part of shorebird conservation on the NSW south coast. They spend many hours putting up fences and signs around new nest sites, alerting people to the fact that there are nesting shorebirds in the area, and monitoring the birds. Students can gain an appreciation of how many people make light work, and how people sometimes do work for free because they want to help make the world a better place.

**Description:** A small group of about six children volunteer to stand up in front of the others. They are now 'shorebird volunteers'. They are given volunteer gear to get dressed in – shirts, hats, i.d. badge, binoculars, notebook, and then they are ready to get to work! They act out hammering in a fence stake with a mallet, and putting the rope around it to make a fence, and erecting signs.

**Additional notes:** This can segue straight into the drama (Activity 5), A day in the life of a Hoodie.

## Activity 5 – Drama: A day in the life of a Hoodie

**Time:**

**Age:** Years 3-6

**Supervision:** Two supervisors for every 60-70 students

**Materials:** Rope; signs; chime or triangle for sounding the stop sound

**Background information:** There are many threats facing nesting shorebirds trying to breed on the beaches of NSW. There is only a ...% chance that an egg will hatch and the chick reach adulthood. This percentage rises to .....% chance of survival for a newborn chick, and ...% for a fledgling. The main threats include direct predation from foxes, ravens, and dogs, disturbance from humans and their dogs, and tidal inundation.

**Description:** All children gather into one hall or area. A rope is used to form a large circle on the ground – this represents the fenced off area around the Hoodies' nest. Four children are chosen to be the Hoodies – they go inside the rope circle. The rest of the children are divided into four groups: foxes, ravens, dogs and humans. These four groups each move to a corner of an imaginary square surrounding the circle.

One ranger coordinates the activity by narrating the events, and the children act it out. First set up the story: "It's September and the shorebirds have arrived on the south coast beaches. The volunteers are getting ready for their season's work and there are lots of jobs to do ..." Introduce each job with a description of what's involved. For example, "A pair of hooded plovers have been spotted nesting at Willinga Lake – volunteers need to put a fence around their nesting area to protect the nest and keep walkers and dogs out". Or "Pied Oystercatchers have been spotted nesting at Shoalhaven Heads: signs need to be put up to keep dogs and people away from the nesting area".

Then "it's a lovely evening down on the beach and the Hoodies are finding their food. Their chicks are in the sand, minding their own business, when all of a sudden, along come some FOXES!" The fox group start to encroach upon the Hoodies, getting closer in their silent predatory way, when – just as they are about to attack the Hoodies, the narrator sounds a signal. (In our case we used a little chime. A triangle would also work well.) That is the signal to freeze. The narrator then sends the foxes back to their corner. Each group is sent in one by one to attack the Hoodies, and each time the Hoodies only narrowly escape death (sometimes they sustain injuries). The last group to come is the Humans, and they

(eventually) do the right thing by keeping out of the rope circle and walking their dogs down by the water's edge to avoid disturbing the birds.

At the end, the narrator discusses the threats that face Hoodies on our beaches every day, how every chick that survives the odds stacked against to become fully fledged is quite a rarity, and the lessons learned from the activity.

## Activity 6 – Badgemaking

**Time:** Approx. 1 minute per badge; factor in the time per child and allow extra.

**Age:** Years 3-6

**Supervision:** One supervisor for every class. Done in the classroom.

**Materials:** Badgemaking machine; metal blanks; paper blanks; coloured textas or pencils.

**Background information:** This is a winding-down activity for the end of the day that provides an opportunity to consolidate ideas that have been stimulated during the previous activities.

**Description:** The paper blank template needs to be photocopied before the activity to suit the number of children. The children are each given a paper blank to draw on. They can draw anything relating to shorebirds from the material they have covered during the day. Once they have completed their drawing, they take it to the person operating the badgemaking machine who then makes a badge out of it. The children can take their badge home.

**Additional notes:** Two machines are best, even if working in separate classrooms, in case one develops technical problems.

## Activity 7 – Birds and Beaks

**Time:** 1 hour (this can be adapted by dropping the middle round of the relay race)

**Age:** Years 3-6

**Supervision:** One supervisor per class

**Materials:** BEAKS: Tweezers (plastic); bulldog clips; scissors (or clothes pegs); spoons.

FOOD: Toothpicks; elastic bands; macaroni; paper clips.

OTHER: Cups (either per group or per student); data sheets (see Appendix 4).

**Background information:** ‘Birds and Beaks’ is a fun activity which provides students a chance to gain an understanding of a number of ecological concepts such as adaptation, generalist and specialist feeders, food webs and ecosystem balance.

‘Adaptation is the evolutionary process whereby a population becomes better suited to its habitat.’

Ask the class: Do you know how adaptation works? Adaptations are produced in a variable population by individuals with better suited form/attribute (or adaptation) reproducing more successfully, that is, by natural selection. Give an example of natural selection (there are green and brown beetles in a population; the green ones are better camouflage against the leafy vegetation they eat. Therefore more of the brown beetles get eaten and there are more green beetles to breed and pass on the green gene).

**Description:** The goal of this fun relay race is that each team collects as much food as possible. The students are split into about 4 groups, with each member given a cup and one type of beak (start with each group getting one beak type each). Each group is given a data sheet. The food is then scattered in a circle and students have 5 minutes to collect as much food using their beaks as possible. Students must all start behind the line (in a line is usually best) and one member from each team runs into the circle, picks up one piece of food, carries it back and it’s then the turn of the next person in that team. No hands can touch the food and students can only pick up one piece at a time.

Once the first round has finished the students can count up the total number of each food type they collected during the round. Record each team’s results on a group data sheet.

Discussion time! Talk about which birds (beaks) can survive on a wide range of foods (generalists) and which are a little more fussy (specialists). If a beak collects even amounts of most food types it is a generalist. If a beak favours one food type, it is a specialist and can only survive on that one or two types of food. Then ask the students what might happen if a particular food was wiped out of the ecosystem? If this food type is important to a specialist, the specialist beak will also be wiped out. Depending on the year level, you can also bring in the idea that weeds or pest species are often generalists and are therefore able to survive in many habitats.

If you have time, regroup, this time with each group having a different beak type, and repeat the race. Write up the group's results again and discuss the results, drawing on specific examples so students have a good understanding of the beaks and foods for the final round. Ask questions such as: which bird/beak would survive best in a habitat with only one specific type of food? If you wanted a specific bird to visit your garden, which type of food would be best to have there?

In the final round, either give a different beak to each group member, or let the students choose their own beak (if you are not familiar with the group it is often best to take the first option). They should have learnt through the discussion which beak 'eats' which foods.

Through this exercise students have been learning about how birds have adapted their beaks to food that occurs in their habitat. For the older year levels it is important to link this game, either now or at the beginning, to the process of adaptation.

**Additional notes:** A wonderful resource to use with this activity is the children's book 'The Best Beak in Boonaroo Bay' by Narelle Oliver.

## Shorebird education in the community

### Dogs' Breakfasts

**Time:** 2 hours (typically 8-10am to capture dog walkers)

**Age:** All

**Supervision:** Three people needed: one on the BBQ, two to talk to people.

**Materials:** Gazebo; two folding tables; two portable BBQs; BBQ paraphernalia (knives - one sharp, one butter; eggflip; several foil trays to hold uneaten sausages; paper napkins; garbage /plastic bags; bread; onions; tomato sauce; margarine; oil; sausages; veggie sausages; ice; Esky); banners; rope to hold banners in place against wind; posters; leaflets; stickers; brochures; display eggs and birds; Frisbees; leashes; doggie treats; dog water bowls; water; books for sale.

**Background information:** Prime dog walking areas in the vicinity of nesting shorebirds, where owners are likely to take their dogs onto the beach, are targeted areas for Dogs' Breakfasts. The main message to dog owners is "Please walk your dog down by the water's edge, and keep it on a leash", because the mere presence of an unrestrained dog can force a nesting shorebird off its nest.

**Description:** A marquee is erected and two folding tables and two BBQs set up beneath it. Display material is set out on the folding tables, and two shorebird information banners are put up near the marquee. Display material includes giveaways such as Frisbees, leashes, doggie treats/chews, stickers and pamphlets. Two carved wooden Little Terns are set up in a sand tray on a 'nest' of eggs.

Sausage sandwiches were given out to interested passers-by as the 'breakfast', and dogwalkers were engaged in chat. Shorebird experts, volunteers and occasionally vets and council officers were on hand to talk to people about walking dogs on beaches.

Occasionally dogs' breakfasts were followed by a kids' activity (painting or drawing) in the same spot.

## Tourist park activities

**Time:** Various according to tourist park schedule

**Age:** All ages (children below 7 years must be accompanied by an adult)

**Supervision:** Minimum of two supervisors per 13 children

**Materials:** Textile paints; calico bags; newspaper; paintbrushes; disposable egg cartons; disposable garbage bags; water; stickers, leaflets, brochures and Wing Things to put in the bags once finished; tarps for kids to sit on.

**Background information:** Visitors staying in tourist parks often frequent beaches where shorebirds are nesting, particularly in the summer. If they do not see or understand the importance of the signs or fencing, they may engage in behaviour that threatens shorebirds, such as playing/walking in the dunes, and getting too close to nesting birds to watch them. Children staying at the tourist parks were targeted in an attempt to cultivate an understanding and feeling of ownership of the birds.

**Description:** Painting calico bags is a very popular activity. Calico bags are provided to children in groups of about 13 maximum. Children sit on tarps on the ground. The bags are pre-printed with images of shorebirds. Several sheets of newspaper are placed inside each bag to absorb paint and stop it soaking through to the non-painted side. Permaset textile screen printing inks supplied by Levers of Wollongong are an option (however it must be stressed to parents or carers that this is **PERMANENT paint** and **will not wash out of clothing**). Each child is given a garbage bag to put over their head (holes can be pre-cut for head and arms) to protect their clothing from the paint.

Egg cartons are used for paint storage and can be shared among two or three children – only small amounts of paint are put into the egg cartons to reduce paint wastage – they can be replenished as needed.

## Appendices

### Appendix 1: Template for introductory letter to schools



NSW National Parks  
and Wildlife Service



## SHOREBIRDS IN SCHOOLS PROGRAM INTRODUCTION FOR TEACHERS



### BACKGROUND

- The National Parks and Wildlife Service is offering the Shorebirds in Schools program as part of the South Coast Shorebird Recovery Program.
- Our education message is “Sharing the Shoreline”
- Previously, the focus has been on on-ground volunteer activities, but recently we have been extending the program to education – holiday activities for adults and kids
- We are now ready to extend shorebird education into school
- The focus will be on the three species of threatened shorebirds nesting on our local beaches – hooded plovers, little terns and pied oystercatchers
- We are funded through a Federal Community Environment Grant

### THE PROGRAM

#### WHO:

- Teacher-trained NPWS Discovery Rangers will design and deliver age-appropriate programs
- Available for Stage 2 and 3 students

#### WHAT WE WILL BE DOING:

- Goal: to develop an awareness of shorebird conservation/increase children’s understanding of shorebirds and their habitat
- Develop positive values and attitudes towards the environment/learn and practice responsible ways of interacting with the environment
- Enjoy representing their ideas, knowledge, understanding and experiences of their local beaches and the shorebirds which share them
- Full and half day options available (see Table of Program Activity Options)

SHOREBIRD ACTIVITIES		STAGE
1	Powerpoint intro	2/3
2	Student story with stick puppets	2
3	Diorama/Ecosystem in a box	2/3

4	Food web mobile	2/3
5	Field Trip	2/3
6	Chick shelter design	3
7	Banners	2/3
8	Shorebirds Calendar	2/3
9	Partner School Postcards	2/3
10	Shorebirds team – volunteer role play	Select group
11	Design a sign	3
12	Badgemaking – I Care	2
13	Slow-mation/short film	Residency
14	Make a book (publishing pitch)	Residency
15	Mural	2/3
16	Project-based learning – multi-modal text production for Shorebirds website	PBL 2/3
17	Project-based learning - Meet the scientist/be the scientist (do research)	PBL 3
18	Role play – a day in the life of a hoodie	2/3
19	Writing – narrative/persuasive/reports/visual texts	2/3

**WHAT STUDENTS WILL GET OUT OF IT:**

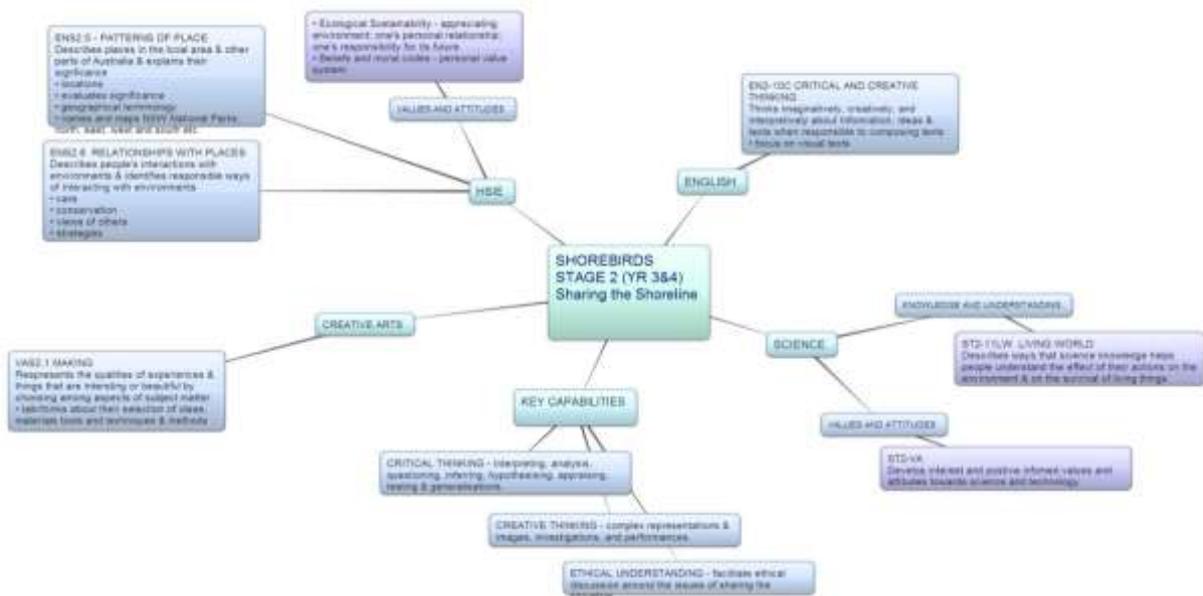
- Key Capabilities – critical and creative thinking and ethical understanding
- HSIE/Science – changes in values and attitudes (responsible citizenship)
- Syllabus links provided overleaf

**AVAILABILITY:**

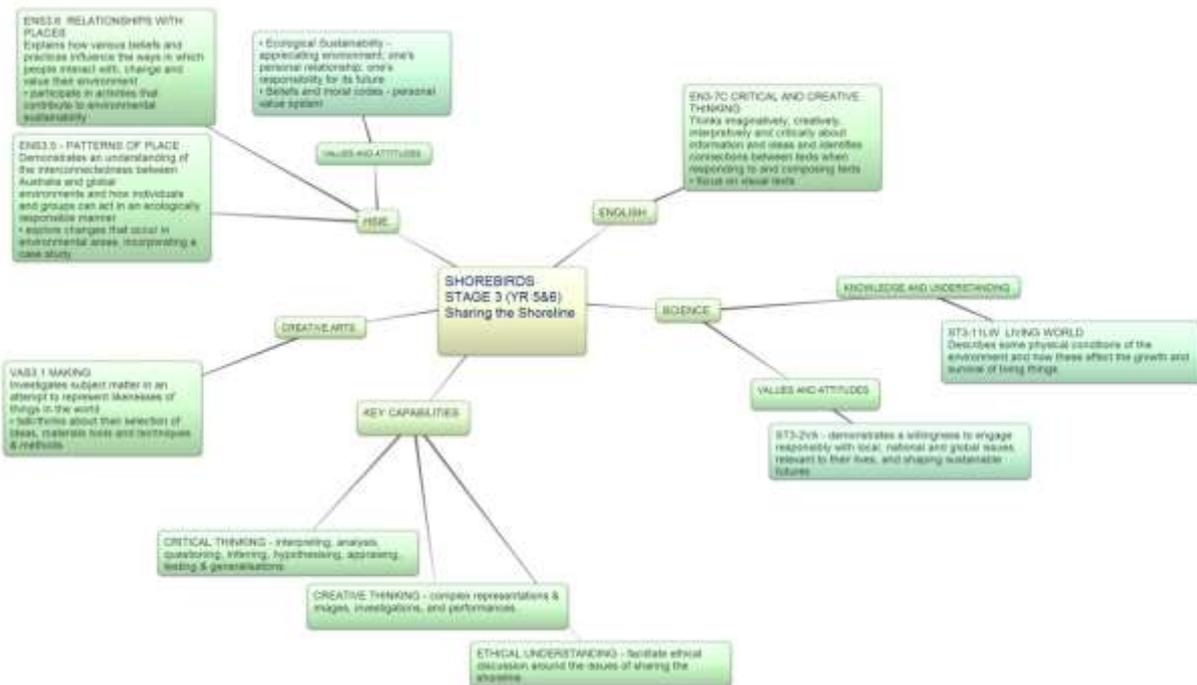
- March through to December 2014

**SYLLABUS LINKS:**

**Stage 2**



## Stage 3



## ADDITIONAL RESOURCES AND WEBSITES

The following are excellent resources either as teacher resources, or in some cases, as pre/post-visit activities:

### South Coast Shorebird Recovery Program

<http://www.southcoastshorebirds.com.au>

### Saving our shorebirds DVD - 10 mins

<http://www.youtube.com/watch?v=ixMppzLO24I>

### Birdlife Australia - Beach Nesting Birds Project

<http://www.birdlife.org.au/projects/beach-nesting-birds>

### Birdlife Australia - factsheets

<http://www.birdlife.org.au/search/birds>

### My Hoodie - Birdlife Australia

<http://www.myhoodie.com.au>

### Wing Thing

<http://www.cv.vic.gov.au/stories/the-wing-thing-beach-birds/>

## Appendix 2: Template for schools' program

### CONTACT:

XXXX, Assistant Principal

XX Public School

Phone no. / [x.y@det.nsw.edu.au](mailto:x.y@det.nsw.edu.au)

### SCHEDULE

#### 8.30-9.25 – Arrive & set up.

Two staff members go to beach briefly to set up nests. Others set up for powerpoint.

#### 9.25-9.40 – PowerPoint introduction (+ intro all rangers)

#### 9.40-11.20 – Site visit (all students bring clipboard/notebook).

Bus to beach. Break into 4 groups (24 kids per group), and each ranger takes one group. We then break them up into groups of 5 if needed. NB: Trackers should head off up beach first so tracks in sand are not disturbed by the other groups.

~ 'Spotters' – spotting using scopes and binocs.

~ 'Sketchers' – site sketching.

~ 'Trackers' – tracking, footprints, sketching prints in sand & working out who they belong to.

~ 'Hunters' – hunting, different foods, who eats what.

10:30am = HALFWAY POINT - SWAP GROUPS.

*Wet weather option: Sign design in the hall instead of site visit. We will make a shorebird mural comprising individual signs.*

#### 11.20-11.45 – Recess. Set up next activities in hall.

#### 11.45-12.00 – (In hall)

~ Meet the scientist ~ Role play – volunteers. ~ Drama – A Day in the life of a Hoodie.

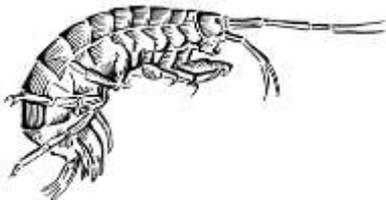
#### 12.55-1.55pm – Lunch. Pack up hall. Set up classrooms.

#### 2.00-3.25pm – Craft activity in classrooms (5 mins transition between activities)

	Ranger 1	Ranger 2
2.00 - 2.35pm	4N	4H
2.40 - 3.20pm	4K	4D

#### 3.25 – Pack up and return to depot.

## Hooded Plover food



### Sandhoppers

Sandhoppers feast on dead seaweed. Sandhoppers are crustaceans; they are the smaller ‘cousins’ of crabs. They hop by flexing their stomach and spend much of their time buried on the sand to escape the dryness and heat of the day. They are much smaller than this picture! They can be seen with a magnifying glass.

### Micropredators

Tiny crustaceans\* like this one live on seaweed. By looking at what’s in their gut (stomach), scientists have found that these tiny creatures are micropredators that feed on even smaller worms, crustaceans, and sea sponges. You need a microscope to see these.



### Insects

Hoodies also eat insects they find on the beach, particularly down by the shoreline.

\* Crustaceans are hard-shelled animals with several pairs of jointed legs, a hard protective outer shell, two pairs of antennae, and eyes at the ends of stalks.

## Little Tern food



**Small fish**



**Baby octopus**

Little Terns catch fish by diving into surf at beaches and in estuaries\*. They also eat small animals that they find on the beach or in shallow water, such as baby octopi, insects and small crustaceans.



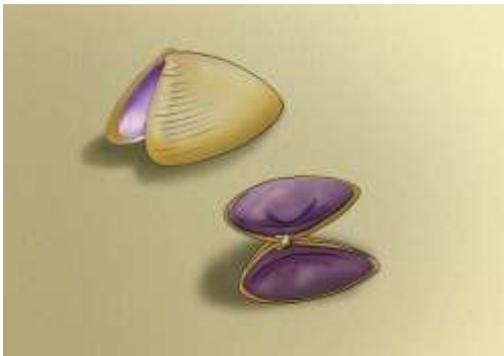
**Tiny crustacean**



**Insect**

\* An estuary is the part of a river where it meets the sea.

## Pied Oystercatcher food



### Pipis

Pipis are bivalves, meaning that they have two shells, joined by a hinge. Their shells are triangle-shaped and can grow up to 5 cm wide. Their soft body is inside the shells.

Pipis are found around Australia. They are found on exposed sandy beaches.

Pipis eat plankton and small particles of dead plants and animals. They suck up mud and particles from the water through a small hose that comes out of their shell. They pump the unwanted mud and water back out of their shell through a second hose.

Pipis have a strong muscular foot inside their shells. They extend their foot outside of their shell to dig into the sand and bury themselves. Fishing people often use Pipis for bait.



### Beach Worms

The Beach Worm is commonly called the Stumpy or Kingworm, the Slimy or Hairy Mary.

## Appendix 4: Data sheets for Birds and Beaks activity

### Birds and Beaks Tally Sheet

Tally up the number of each food item you have collected with each of the different beak types.

		Food Items			
		Tooth picks	Elastic Bands	Macaroni	Paper Clips
Beak types	Tweezers				
	Bulldog				
	Clip				
	Peg				
	Spoon				

**Appendix 5: Feedback form**

**Shorebirds in Schools program - Feedback form**

Thank you for inviting us to bring the Shorebirds in Schools program to your school. We hope you found it an enjoyable and enriching experience. Please take a few minutes to give provide feedback on what you liked and what could do with improvement.

Many thanks, The Shorebird Team – Jodie, Anna and Kim.

Please tick the appropriate box: 1 = poor, 5 = excellent.

	1	2	3	4	5	Comments
Content of program						
Delivery of program						
Communication from program staff						
Timing/schedule						

Other comments:

.....  
.....  
.....