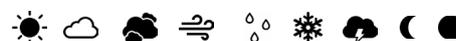


Reach species field guides at climatewatch.org.au and use this sheet to help record what you see in the intertidal and ocean. Please submit photos to help us validate your records. Or upload your sightings using the free ClimateWatch app.

Observer: _____



Location	Site name:	Latitude:	Longitude:
Sighted at	Date:	Time:	
Method (circle)	20 minute survey	Casual sighting	
Conditions and comments			
Frequency	Abundant (A) (found easily with little searching)	Frequent (F) (found with minimal searching)	Rare (R) (only 1 or 2 individuals found with intensive searching)
Habitat	Beach (B)	Rock Pool (RP)	Boulder (Bld)
	Crevice (C)	Open Rock (OR)	Open Water (OW)
	Species	Frequency (see above)	Main Habitat (see above)
			Notes eg. calves, travelling south, photo #
Algae	Bull kelp (<i>Durvillaea potatorum</i>)		
	Common kelp (<i>Ecklonia radiata</i>)		
	Neptune's necklace (<i>Hormosira banksii</i>)		
Barnacles and Echinoderms	Giant rock barnacle (<i>Austromegabalanus nigrescens</i>)		
	Surf barnacle (<i>Catomerus polymerus</i>)		
	Waratah anemone (<i>Actinia tenebrosa</i>)		
Molluscs	Black nerite (<i>Nerita atramentosa/melanotragus</i>)		
	Blue Periwinkle (<i>Austrolittorina unifasciata</i>)		
	Elephant snail (<i>Scutus antipodes</i>)		
	Military turban (<i>Turbo militaris</i>)		
	Ribbed top shell (<i>Austrocochlea constricta</i>)		
	Violet Snail (<i>Janthina janthina</i>)		
Other	Cunjevoi (<i>Pyura stolonifera</i>)		
	Jellies: Blue Bottle, Blue Button, Moon Jelly, Spotted jelly,		
	Birds: Pied oystercatcher, Ruddy Turnstone, Red-necked Stint, Great Knot, Sea-Eagle		
	Whales: Humpback, Southern Right, Orca		

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Before you start:

- Read field safety
- Gather materials for recording
- Read methods and site pattern
- Review species field guides
- Review data-sheet
- Note any safety issues or risks you can see
- Note the state of the tide
- Weather conditions and the different habitats (e.g. rock pools, crevices)
- Visually survey open water for sign of seaweed, cunjevoi, jelly fish, whales and birds
- Do not attempt to enter the water

Field Safety

Before starting your intertidal survey, make sure you:

1. Carry adequate water. Coastal environments can get hot and you may become dehydrated quickly.
2. Remember to slip, slop, slap. Wear protective clothing, apply sunscreen, and wear a good hat. It is easy to get burnt while observing on the platforms.
4. Wear protective footwear and gloves. Platforms can be slippery, so wear sturdy shoes with lots of grip. Gloves are important for not damaging marine life and to protect against stings.
5. Bring a friend. Fieldwork is best conducted in pairs; your buddy can help you look and a second pair of eyes always helps.
6. Bring a phone and a first-aid kit. You may need to call for help so be prepared.
7. Lastly, do not handle jellyfish or cone shells with your bare hands! Their stings can be dangerous and stay active for several days, even after they wash up onshore.

Method:

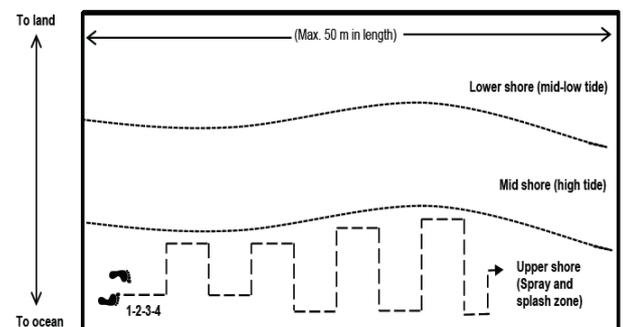
1. Start your watch or write down time.
2. In groups, choose 2/3 species per person to record.
3. Follow site details and search pattern (Figure 1). Walk 4 steps parallel to shore and then up/down.
4. Use the ClimateWatch Field Guides to help identify species.
5. Record frequency (Table 1) of each species and habitat where most occur.
6. Continue in each zone until complete.
7. Upload data onto website or smartphone

*If area is large, restrict survey site to 50 metres. Total survey time = 20 minutes.

Things you'll need:

Identification and materials:	Alternative:
ClimateWatch intertidal methods sheet	Smartphone and ClimateWatch app (free download at climatewatch.org.au)
ClimateWatch intertidal field data sheet	
ClimateWatch species field guides	
Equipment:	
Watch	
Camera	
GPS	
Binoculars	

Figure 1: Site details and search pattern



Method:

Abundant	Frequent	Rare	Not found
Found easily with little searching	Found with minimal searching	Only 1 or 2 individuals found with intensive searching	Not present during search
e.g. found within 2 minutes of searching, >20 individuals over search	e.g. found within 10 minutes, 5-20 individuals over search area	e.g. only 1 or 2 found over search area	e.g. nothing found throughout search area-method

I don't have a GPS or smart phone, how do I record my location?

Take note of your location by writing comments about visible landmarks (rock pools, streets, life-saving stands, etc) or by drawing a sketch of the area. When you enter in your data on www.climatewatch.org.au, use our address locator to help you pinpoint your location. If you record at this area frequently, save it as a 'location'.

How often should I record?

Record as often as you can (daily, weekly, monthly). Science often relies on precise measurements; and, identifying the exact date when a species moves into an area, washes up on the beach or increases dramatically in abundance is very important for long term data sets like ours. Regular recording also enables you to identify exactly when changes have occurred in your area, just like a personalised log book.

I only found a few species at the site; do I have to submit records of things I didn't find?

If you're recording intertidal species, it is important to record 'Not found' for each species. If you're recording in a group, you can split the uploading of data between the members, so you don't each have to upload 20+ records.

I'm in a group, should everyone submit recordings?

If you're working with one or two friends you only need to submit one set of observations. However if there are multiple groups of people working at the same site, each group should submit a separate set of observations. Multiple entries enable scientists to ensure there is consistency amongst observations and also help to improve our sampling processes.

What if I'm not 100% sure I have the right species?

If you think you have the right species but are a little unsure, record it and leave a message for our scientists in the 'comments' section of the data recording page, write: "SPECIES REQUIRES CHECKING". Make sure you submit a good quality photo. If you are only 50% or less sure you have the correct species, do not record it but take several photos and send them to the ClimateWatch team for verification.

I didn't find anything, should I still record?

Yes! Recording the absence of a species is just as important as recording its presence. It allows us to identify the exact time for when a species moves into an area, or seasonal variation over time. It's critical to record on all beach species and let us know whether they are present or absent at your location.

How big an area should I cover?

The exact area you will cover in the survey will depend on the width of the beach, how many species you find, your experience and if you have more than one person in the group. What's most important is to standardise the length of time you spend searching, 30 minutes. Scientists use the length of time, called search effort, as a way to standardise sampling efforts across sites.

I'm done recording in the field, now what?

Once you are done recording in the field, you should always enter your data online, www.climatewatch.org.au. If you are using an iPhone/Android app, all of your sightings will automatically sync to your web account. Check your account online if you want to edit your sightings.

What happens to my recordings?

All of your sightings will go into our database. This information will be publicly available on the Atlas of Living Australia (www.ala.org.au) and can be downloaded for free. The data will be used by researchers and policy makers to help Australia build our understanding of climate change and biological systems so we can better manage and conserve our environment.