ClimateWatch
an initiative of Earthwatch Institute

EARTHWATCH INSTITUTE

Beach Field Data Sheet

Location	Site name:	Latitude:	Longitude:
Sighted at	Date:	Time:	
Method (circle)	30 minute survey	Casual sighting	
Comments			

Frequency (F)	**Abundant** (found easily with little searching)	**Frequent** (found with minimal searching)	**Rare** (only 1 or 2 individuals found with intensive searching)	**Not found** (not present during search)

Species		**(F)** (select above)	**Photo #**	**Behaviour/trait** (circle)
Algae	**Bull kelp** (*Durvillaea potatorum*)			
	Common kelp (*Ecklonia radiata*)			
	Cray weed (*Phyllospora comosa*)			
	Neptune's necklace (*Hormosira banksia*)			
	Velvet weed (*Codium fragile*)			
Birds (adults only)	**Brahminy kite** (*Haliastur indus*)			feeding/ courting-mating/ on nest/ resting/
	Pied oystercatcher (*Haematopus longirostris*)			feeding/ courting-mating/ on nest/ resting/
	White belly sea eagle (*Haliaeetus leucogaster*)			feeding/ courting-mating/ on nest/ resting/
Jellies	**Blue bottle** (*Physalia utriculus*)			Adults/ Juveniles/ Both/
	Blue button (*Porpita porpita*)			Adults/ Juveniles/ Both/
	By the wind sailor (*Velella velella*)			Adults/ Juveniles/ Both/
	Jelly blubber (*Catostylus mosaicus*)			Adults/ Juveniles/ Both/
	Moon jelly (*Aurelia aurita*)			Adults/ Juveniles/ Both/
	Spotted jelly (*Phyllorhiza punctata*)			Adults/ Juveniles/ Both/
Crustaceans	**Sand hopper** (Talitrid sp.)			All patches/ most patches/ few patches/
	Ghost crab hole (Ocypode)			small (<2cm)/ large (>2cm)/ both/ not sure/
Molluscs	**Cat cowrie** (*Cypraea felina*)			Adults/ Juveniles/ Both/
	Gold ring cowrie (*Cypraea annulus*)			Adults/ Juveniles/ Both/
	Violet snail (*Janthina janthina*)			Adults/ Juveniles/ Both/
Whales*	**Humpback whale** (*Megaptera novaeangliae*)			stationary/ feeding/ milling/ traveling + direction N,S,E,W/
	Orca (*Orcinus orca*)			stationary/ feeding/ milling/ traveling + direction N,S,E,W/
	Pigmy blue whale (*Balaenoptera musculus brevicauda*)			stationary/ feeding/ milling/ traveling + direction N,S,E,W/
	Southern right whale (*Eubalaena australis*)			stationary/ feeding/ milling/ traveling + direction N,S,E,W/
	*Additional items to record	Distance from shore	(m)	
		Sea state	Calm/ light breeze/ moderate breeze/ strong breeze/	
		Weather	Sunny, cloudy, overcast, rainy	

Beach Methods

Before you start:

- ☐ Read field safety
- ☐ Gather materials to help you record
- ☐ Read methods and site pattern
- ☐ Review species field guides
- ☐ Review datasheet

Things you need

Identification and recording materials	Alternative
ClimateWatch marine: Beach methods	Smartphone and ClimateWatch app (available for download off www.climate-watch.org.au)
ClimateWatch marine: Species Field Guide	
ClimateWatch Marine: Beach Datasheet	
Survey Equipment	
A watch to time your surveys	
Camera	
GPS	
A pair of binoculars (to help identify birds)	Zoom on camera

Method

Before starting, spend 5 minutes checking your site and note:

- Any safety issues or risks you can see
- The state of the tide
- Weather conditions and the different habitats (beach)
- Only visually survey open water for signs of seaweed, cunjevoi, jelly fish, whales and birds
- Do not attempt to enter the water.

1. Start your watch or write down time.
2. Take note of the follow parts of the beach: strandline (area of beach where kelp often washes up), corners of beach, sky above sand dunes (birds of prey may be overhead), and the ocean (for whales or birds of prey).
3. In groups, choose 2/3 beach species per person to record.
4. Record frequency (Table 1) and behaviours (Table 2) of each species on datasheet.
5. Take a photo of each species.
6. Upload data onto website or smartphone. Total survey time = 30 minutes.

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.
3. **Wear protective footwear and gloves.** Beaches can be slippery, so wear sturdy shoes with lots of grip. Gloves are important for not damaging marine life and to protect against stings.
4. **Bring a friend.** Fieldwork is best conducted in pairs; your buddy can help you look and a second pair of eyes always helps.
5. **Bring a phone and a first-aid kit.** You may need to call for help so be prepared.

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.

Table 1: Frequency

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	Nothing found throughout search area

Table 2: Behaviour/Traits

Group	Feature	Circle one
Jellyfish	Size	juveniles, adult, both
Sandhoppers	Frequency	all patches, most patches, few patches
Ghost crab holes	Size	small (<2cm), large (>2cm), both, not sure
Birds of prey/ shore birds	Adults only	feeding, courting/mating, on nest, resting
Whales	Behaviour	stationary, feeding, milling, traveling direction (N,E,S,W)
	Sea state	calm, light breeze, moderate breeze, strong breeze
	Distance from shore	in metres
	Weather	Sunny, cloudy, overcast, rainy

Frequently Asked Questions

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 locater 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.