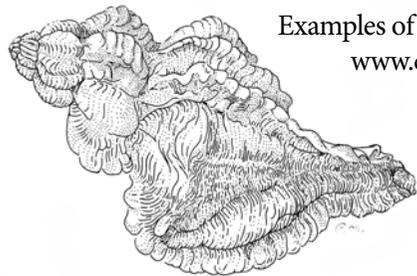




Christine Rockley is a scientific illustrator, designer and tutor. Classically trained in Natural History Illustration and Plant Science, she specialises in taxonomy and ethnobotany.

Chris holds regular workshops in scientific illustration and seaweed foraging in Hobsons Bay and has been tutoring since 2008. In 2019 she co-authored and produced a book and exhibition on endemic Flora of the Hunter Valley Region published by CSIRO. She is currently working on the Vol 2.



Examples of her work can be found at:
www.chrisrockley.com



Shoreline Nature Journaling

by Christine Rockley

YEARLY NATURE WATCH DIARY

Photocopy up large and fill out what you observe in each of the seasons



Starting your adventure

Recording seasonal changes has never been more important than now. Our environment is under stress and changing on a daily basis. This is the study of “Phenology”. One way you can do this as an individual is to start a nature journal.

The idea is to choose one location that you have easy access to and that will keep you interested eg. your garden, farm, park, nature reserve, nearby wetland or beach. Then you make regular (daily, weekly or monthly) entries on your observations. This could be that something is flowering or that you have a native bird visitor.

By recording the **DATE, LOCATION and NAME** (*or notes that will help identify later*) you can revisit your journal each year to see any unusual changes or patterns. Also include sketches and notes on colours, patterning, habitat, plant frottage and photos if you wish.

What does a nature journal look like?

Your nature journal can be as unique as you. Many people use a visual diary, botany/scrap book or seasonal calendar template (See back of booklet for a printable template). It can take a highly creative form or something more systematic or complex like a database or book.

Having experimented with sketching journals, monthly forms,

calenders and photographed monthly folders. But photo's with dates and forms works best for me. I've been recording seaweed at the same site for 3 years now and from using the dates on the photos I've been able to track the seasons and see patterns. Greens are healthy during the summer months, Brown and red are more prolific in Autumn and Winter. From this information I produced a ID chart.

Get creative and choose something you feel will keep you interested and engaged. Can have an end goal or project in mind or can just be to learn what happens when. After you've done it for a couple of years you can really notice when there is a change or difference.

Where to start looking?

You're own backyard
Your favourite beach
Daily walking path
Park or botanic garden
Your local wetlands
Could progress to town or region and get bigger as you learn more.

Adding to the bigger picture

Scientists can't be everywhere. Much of their on-field information is made up from Citizen Scientists. People like you. Just by observing and recording through notes, sketches and photography, you can contribute to see the bigger picture. Ask questions What? Which, When, Where, How and Why????

What is Citizen Science?

You may have already contributed. Have you taken part in or added to online databases like:

Aussie Bird Count
Australian Bioblitz hub
Atlas of living Australia
Bowerbird
Climate watch
Estuary Watch

Frog Census
Fungimap
Inaturalist
National Waterbug Blitz
NatureShare
Naturewatch
Redmap (marine species)
Waterwatch
Seaslug Sensus

Identifying your findings

Don't be too concerned about getting the names exactly right the first time. It can many take years of careful observation and research to identify plants and animals to species level.

If you are starting in your own garden, begin by writing down the common names (plants and animals) you already know. A web search can start to reveal their Scientific name and Family group. For example an easy one is a daisy. It's in the *Asteraceae* family. They all have round flattened inflorescences or wind blown seeds. Once you get to know garden plant family traits the same can be applied to their native forms.

In a native reserve or beach a general habitat field guide can be useful. I started with *Burnam Burnams 'Wildthings'* many years back. But also grew up next to the lake and bushland. So had a head start and a huge curiosity for wanting to know the names of creatures and plants.

'Seashores - A Photographic Guide' by Keith Davey is a wonderful starter for coastal adventurers. Keith and his partner Pat traveled extensively to photograph all the creatures along the East Coast. He was also the photographer for the Leyland brothers.

Councils and National Parks sometimes may have already have identification lists of your chosen area in their environment report. It's

definitely worth asking. Other free resources can be found on specialised group booklets. Examples of these are:

Birdlife Australia; Seasearch, Local CMA (Catchment Management Authority); Angair; Ecocentres

And online resources:

- Ecolinc
- PlantNet
- Port Phillip Bay Taxonomy Toolkit
- VicParks



A shoreline adventure - Beach

Heading out prepared

Look up the weather, tide times (WillyTides), before heading out so you can choose the best time to be outside. The best time to find creatures is when the tide is low or a day after a large storm has passed. Also check emergency websites for pollution or storm events.

If you are headed somewhere remote, maybe take a like-minded friend or at least your phone. Leave valuables at home and not on display in your car. Do some background web research on the area you're going. There may be links to local field guides or lists of plants.

What should I wear?

Dress for the elements and particular habitat ie raincoat, wide-brim hat, long pants, boots, long sleeved shirt. Natural colours are best especially when watching birds or animals. One reason why hunters wear camouflage gear. Long pants and waterproof boots are good if snakes are around. Tiger snakes are prominent near shorelines in Port Phillip Bay.

Pack

Take a day pack that is accessible and practical and plenty snacks and plenty of water. Remember you are carrying everything so keep it simple. Jackets and pants with pockets are great.

Camera

- Something with a waterproof housing or that can be water resistant up to 10m. Some of the Nikon Coolpix are great.
- Needs to have a good Macro function for close up.
- If photographing with an SLR into water, use a polarizing lens to cut through the glare.
- Be careful not to drop your camera. A velcro arm lead can be good for retrieving dropped cameras if photographing underwater.

Getting visually closer to your subject

- Binoculars 40 x 8 or better
- Camera with a zoom lens
- Spotting scope for birds
- Magnifying glass
- Mobile phone camera magnification attachment
- Lupe

A Simple field drawing kit

- **Sketchpad** – Compact and practical. Easy to open ie spiral bound. Hard backing to lean on. Relatively waterproof or kept in a waterproof bag. Paper thick enough (150gsm +) to take watercolour and sketching without buckling. Acid free to prevent browning in the future. Size A5 to A4 (personal choice).

- **Pencils** - 1 x HB (Hard) and 1 x 2B (Black)
HB - Note taking and detailed drawings. Will give you a crisp line that is easy to rub out. Keep sharp.
2B - For fast sketching and firming up your lines. Also good for shading and adding form. Will still erase well.
- **Eraser** - Plastic and/or knead-able eraser. A feather is useful for removing rubbings.
- **Sharpener** - Don't forget to take your shavings off site.
- **Clear ruler** - 30 cm will translate up to A4 size, 15cm good to A5. Numbers need to be clearly read.
- **Field Watercolour set** - There are lots of cheap field palletes around. Cheap paint is full of glass filler and colours are very European. Good to start with though.
Winsor and Newton or Schmincke Horadam are good options.
Or you can make up your own from tubes. Using a refillable container with a palette area for mixing. A tube set can be distributed and topped up easily when needed.

Colours - A warm and cool version of the three primary colours
Red - Warm (Cadmium Red or Vermilion) or Cool - (Alizarin Crimson or Permanent Rose)
Yellow - Warm (Cadmium, Middle Yellow, Ochre Yellow) or Cool (lemon)
Blue - Warm (Cobalt Blue or Cerulean blue) or Cool - (Ultramarine)
Other useful colours - Sap Green; Burnt Sienna or Raw Sienna.
White - for details and **Black** only if absolutely necessary.

- **Water Brush** - Refillable with water for use with a dry set of paint. Eliminates the need for a extra water vessel. Can get different brush sizes.

Water bottle - Drinking and filling up brush.

Other useful tools

- Felt tip pen - Indelible (permanent, waterproof, fade proof)
Apply directly over drawing or dry watercolour. Size nibs (0.5 and 2). Good brands include Pigma Micron, Steadtler Artline.
- Identification books
- Fold-able stool or cushion



Adding sketches to your journal

- **Finding an angle**
Find a subject and move around it to choose a good angle. Get comfortable and draw.
- **Proportion**
To gauge proportions, use ruler to lightly mark the measurement points of important features. A simple line skeleton can be used to get proportions of fauna and flora and pivot points for legs and arms.
- **Shape and form**
Draw in a series of simple shapes to build the forms of your subject. Most flora and fauna made up with combined circles, ellipses, cylinders and cones. Work over the skeleton framework. Add shading in the direction of the 3D form to add depth and realness.

Drawing tips and guidelines

• Graphite Line Drawing

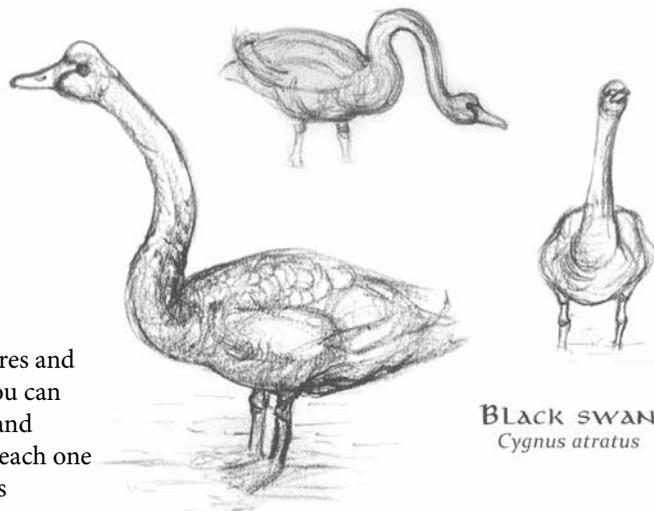
- Sketch a series of lines to build up your drawing.
- Use thin and thick line to give the illusion of light and weight. Alter your pressure and use different grade pencils to do this.
- Use your hand, wrist, elbow and shoulder to get smooth curves.
- Create form with shading and texture ie Hatch, scumble, hairs, pattern, details.

Adding colour

- Match the colour of the flower or leaf using the water-brush and watercolours. Squeeze water brush to release water and mixed colour. Squeeze again to clean out paint and wipe on serviette or rag.
- Its best to colour match to a living specimen in the field as preservation changes the colour and even photos can be a slightly different colour.
- Add colour and do some sample swatches. Apply watercolour over pencil drawings. Pen can be added once paint is dry.

• Notes and reference photo's

Note down the **date, time and location** also notes on any plants close by or animal behaviour. Take photos from many angles.



A page full of gestures and positions, means you can capture behaviour and return to complete each one as of the bird moves

Fitting a large subject on your page

Hold up ruler vertical and horizontal to measure length and width of subject. Keeping one eye closed, translate measurements to your field book. If you want to draw larger, multiply both length and width. Draw your subject within the new box.

Drawing a really small subject

Macro or micro subjects like insects may need a magnifying glass or microscope to see parts and details clearly. You can also put your camera or phone on macro setting and zoom in that way. To get the actual size, put the ruler as close as you can and translate measurements. Scale up to a size that fits comfortably on your page ie x 10. Add to your notes.

Habitats and Landscapes

Break down into three levels including background, midground and foreground. Use “atmospheric perspective” to create depth. Warm colours will bring subjects to the front and cool will recede. Same goes with detail, add less detail at the back. Experiment with your composition using the “Rule of thirds”, to make it more interesting.

Drawing a moving subject

The best way to tackle this is to start multiple drawings of the same subject. They will invariably move back into that position again and you can continue. A great way to choose a characteristic pose. Binoculars or a spotting scope will definitely help to see things at a comfortable distance.

Drawing Birds

- Stop, sit and listen for about 5 minutes. Look for flashes of colour, silhouettes and movement. Birds can be shy but if you sit quietly, they will come closer. Bird hides can be a good way to be more invisible. Zig zagging your walking when approaching will help. Also use binoculars or a spotting scope on a stand or your zoom lens on your camera. Cameras can also be useful to capture details for future reference.

- Draw quick shapes and lines to capture gestures. Are they circles or ellipses? Usually a circle and an upside down egg combined. Look at the shapes of the wings, what do they tell you about that bird? Can you see the legs and feet or are they concealed under plumage or in water? They have the same limbs as humans just in a different proportion.
- Adding the date, time, location, possible name and other notes about the what, which, when, where, how and why will allow you to be able to look for the same subject in the following year.

Drawing Plants

- Whole leaves can be quickly traced or frottage to capture single leaf shape, margin and veins. Some leaves and flowers are symmetrical and can be drawn by drawing half and copying the other side. If its not symmetrical you can easily measure and draw a light box, draw a centre vein or veins and fill out the margins.
- Observe the shapes of the leaves, the arrangement of the leaves up the stem, the flowers, fruits or seeds? What shape/s are they. Can they be broken down into basic 3D shapes or combined?
- Size - How big is the overall plant. Is it a tree, shrub or herb? Are the elements really small? Use a magnifying glass or phone micro attachment to see closer. Transfer larger.
- **Foreshortening**
Are the leaves coming at you? Best to draw what you can see not what you imagine you can see. Draw the mid-vein and then the leaf margins.
- **Adding notes**
Write as many notes as you feel you need to be able to identify the plant or continue with a final drawing, if that's your goal. Useful to learn a little of the plants anatomical names. "Name that Flower" by Ian Clarke and Helen Lee also "Botanical Field Guide" by Stefan Mager are great resources to reference.

NB: Unless you have permission don't take specimens away. It is illegal in a National Park or Marine Sanctuary. Invertebrates can't be taken in Port Phillip Bay.

Coastal flora found locally

It's a good idea to take a field guide of local plants to help you understand the plant a little while drawing. What stage of reproduction is it in? Is it budding, flowering or seeding? Is it a weed or native?, What plant family is it in etc. I have included a list of plants found locally and their habitats to get you started. If you are remote best to draw as much as you can and take notes, colour swatches and photo's.

Freshwater wetlands / Riparian Floodplain

Swamp Mahogany, River Red Gum, Knobby Club Rush, Loose-flower Rush, Spiny Headed Mat-rush, Common Sedge, Common Spike Rush, Tassel Sedge, Marsh Club Sedge, Swamp Stonecrop, Water Plantain, Water Millfoil, Running Marshflower, Nardoo, Water Ribbons, Pale Knotweed, Mud Dock, Slender Dock, Water Buttons and the Common Reed.

Coastal Saltmarsh - Rushes, sedges, forbs and aquatic plants

Beaded Glasswort, Spiny Headed Mat-rush, Common Sedge, Berry Saltbush, Knobby Club-rush, Seaberry Saltbush, Boobialla, Old Man Saltbush, Glasswort, Pale Sedge, Seagrass.

Phenology - Phenology is the study is seasonal changes in flora and fauna; or; the annual recurrence of flora and fauna phenomena in response to seasonal changes.

Thanks

I'd like to acknowledge my many mentors and colleagues in this area of expertise. They include Kevin McDonald, Anne Llewellyn, Herbert Heinrich, Keith Davies and Jenny Musica. Thank you for fuelling my passion. It is my aim and hope to pass this passion on to others.