BREACH WATCH HANDBOOK

Nature Conservation Council

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INTRODUCING BREACH WATCH

A citizen science project to protect our forests

This handbook has been developed to help nature lovers and environmentalists to protect forests and monitor illegal logging activity across NSW.

By surveying a forest before or after it has been logged, you can help identify threatened species and expose planned illegal logging or that which has already taken place.

Identifying these breaches of approval conditions is one of the most effective ways you can stop logging across NSW. Through measures as simple as comparing forestry harvest plans with threatened species lists, or photographing felled tree trunks that exceed maximum size allowances, you can see logging stopped, fines handed out, and changes made to harvest plans.

You don't need any special skills or expertise, or even to leave your home in order to protect our precious native forests.

All actions in this toolkit are entirely legal and have a proven track record of protecting forests across Australia.

Why does citizen science matter?

Every day we hear new reports of Forestry Corporation breaking the law. They have been fined or prosecuted 10 times since 2020 for breaches such as illegally felling protected giant trees, felling trees with hollows, and felling koala feed trees.

In June this year, a NSW Audit Office report found multiple failures with how Forestry Corporation monitors compliance with the regulations that govern operations. The report also found that the Environmental Protection Authority (EPA) – the government agency tasked with enforcing compliance – often lacks the resources needed to undertake basic forestry inspections.

That's where you come in...

Citizen science works

Strategic use of citizens science by concerned citizens and groups like the North East Forest Alliance, South East Forest Rescue and The Coastwatchers Association Inc has resulted in:

- Implementation of 'Stop Work Orders' in forests such as Wild Cattle Creek and South Brooman Forest
- Fines and prosecutions for illegal logging (for example ignoring evidence of the critically endangered Swift Parrot)
- A number of concessions on FCNSW harvesting plans and maps which sees additional parts of forest added to exclusion or buffer zones in compartments.
- The EPA undertaking compliance checks leading giants, ancient trees slated for destruction, to be protected

We need to protect as much of our awe-inspiring forests as possible from the jaws of destruction.

What you need to know about logging in NSW

- Forestry Corporation NSW is a state-owned enterprise responsible for all native forest logging on public land.
- All native forest logging is subject to conditions regulated by the Environmental Protection Authority (EPA).
- Public native forest logging in NSW is a major driver of deforestation pushing countless species further towards extinction.
- Plantation forests already provide 90 per cent of NSW timber production and logging jobs.
- Native forest logging is heavily subsidised - in the last two years it cost $29m more to cut down native forests than was made by selling the wood, and this loss was paid for by the NSW government.
- Only five per cent of native forests that are logged become timber – the rest is pulped and turned into cardboard, woodchips and sent overseas.

Photo: Max Philips

GETTING STARTED

Identify a forest scheduled for logging

It is a legal requirement that all proposed, scheduled or active logging compartments (the technical terms for an an area where logging takes place) are made accessible to the public.

This data is made available via Forestry Corporation NSW's Plan Portal.

To look up a forest near to you follow these easy steps:

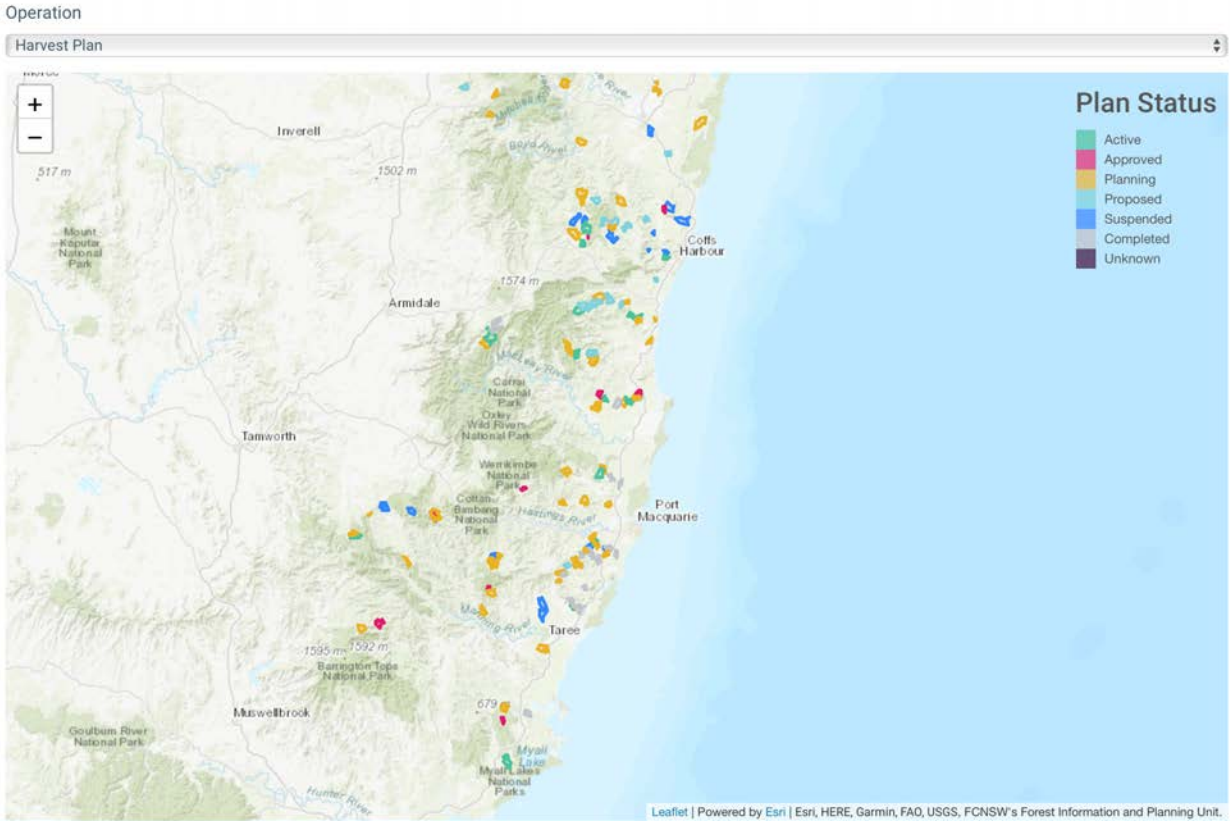
01 Go to the Plan Portal's '12 month plan of operations Map' and create a free account.

02 Scan the map to check the state forest compartments near you to survey, or that are likely to be logged soon. **Compartments slated for logging will be colour coded** as 'Proposed (light blue), Planning (yellow), Approved (pink) or Active (green).

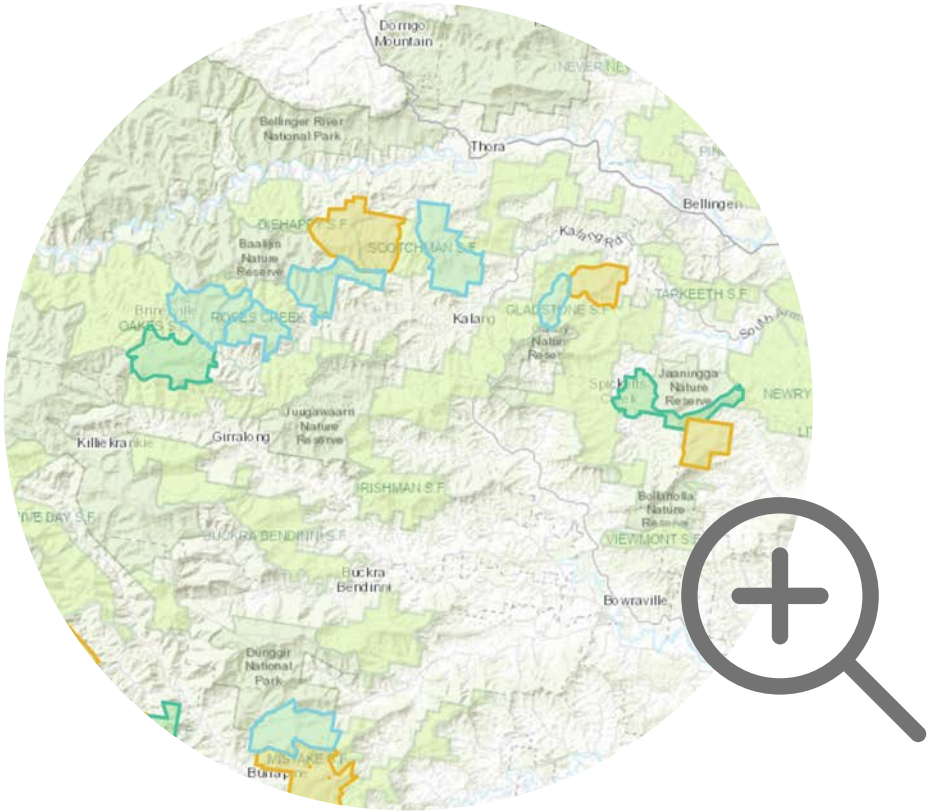
03 You can click on a compartment listed on the map to get more info. Be sure to **"subscribe" to any compartments on the map that are of interest to you** - this way you will get an email alert as the status of that forest changes.

04 **Download the harvest plan** and the harvest map for a compartment you are interested in surveying. Only when the status is 'Active' or 'Approved' will the harvest plans be accessible. There will be a downloadable PDF of the harvesting plan with a map under the 'Files' subheading on the page.

05 This plan will list conditions and exclusion zones applied to the logging of these compartments, and will provide a map detailing key features of the compartment and protected areas. **The map is essential** and will provide a visualisation of the conditions applied to the harvesting plan, and will be important later on. Print in good quality in A4 or A3



The map on Forestry Corporation NSW Plan Portal shows compartments slated for logging. The compartments are colour coded as Proposed (light blue), Planning (yellow), Approved (pink) or Active (green).



UNDERTAKE AN ECOLOGICAL SURVEY FROM HOME

Whether you're planning to explore the field or need to stay home, you can play a crucial role in safeguarding threatened forests with a simple online search.

You don't need to be an expert or scientist. Simply consult BioNet Atlas for any existing threatened flora and fauna records in forests currently marked 'Proposed', 'Approved' or 'Active' on the 12-month Native Forest Plan of Operations Map.

You can also consult iNaturalist for more access to a comprehensive, citizen scientist compendium of flora and fauna sightings.

The following inconsistencies can be immediately reported to the NSW Environmental Protection Authority (EPA):

01 Does the forestry harvest plan contain all records of threatened species available in BioNet Atlas? If there is a threatened species that is known or likely to occur in the area to be logged, that is not included in the harvest plan, you can report this breach to the EPA.

02 Check the year that the compartment was previously logged in under 'previous harvest plans' here. Look at exclusion zones or buffers for species and ecological communities in previous plans. If there is a discrepancy between previous and current harvest plans, you can immediately report this inconsistency to the EPA for further review.

To make a report go here: Lodge Your Report (https://www.breachwatch.org.au/lodge-your-report)

If there is inadequate information about a given forest, you can undertake your own survey to see what plants and animals occur in a given forest. If you can identify and photograph endangered species, this can be used to trigger fines and stop current or future logging activities.

See the *Going into a forest* page for more information (p 12).

BUILD YOUR DIGITAL TOOLBOX

There are some mobile apps that will help you on your mission into the forest.

You will need:

- A timestamp photo app on your mobile phone is essential. We recommend Timestamp Camera Enterprise Free, as it will add time and GPS coordinates (six decimal points best) to your photo for evidence.

- A digital mapping program so you can view your location while out in the forest and drop pins to geolocate key features is also very useful. Avenza Maps is free, and great resource for this. You can upload forestry harvest plans to Avenza, which when you are in the area, will show exactly where you are on the plan. This allows you to check if Forestry has followed the rules regarding exclusion zones or important habitat features that require protection. You can also upload photos to Avenza Map pins that you have taken on Timestamp Camera with the GPS coordinates on the front of the photo. Google Maps is a viable alternative – learn how to drop a pin and save it on Google Maps to get coordinates for features to report sightings.

- Create an account, explore records and submit your findings with iNaturalist as this has lists of all natural life recorded in a certain area. If you are on the NSW South Coast explore the Atlas Of Life in the Coastal Wilderness (Moruya to Victorian border) or Budawang Atlas of Life (Kiama to Moruya).

Up-skill with nature apps

The following apps, websites and books provide you with knowledge of local species and how to identify them.

- Bird ID apps - Both the Morcombe & Stewart and Pizzey & Knight Birds of Australia apps are great resources for calls. Also check out the Birdlife Australia Birdata app.
- Plants of South Eastern New South Wales Australia App
- Australian Museum Animal Fact Sheets
- Australian Museum's Frog ID app
- Trees Near Me
- EUCLID and Leon Costerman's Native Trees and Shrubs of South Eastern Australia book are great resources for identifying flora.
- WomSAT- record and track where wombats are near you
- Large Forest Owls Project - Nature Conservation Council has put together 12 short videos on song meters, nest boxes for surveying for threatened species to trigger environmental protection.



BUILD YOUR FIELD TOOLBOX

What you will need to take with you to survey in the field:

- Compare lists of flora and fauna on iNaturalist or BioNet Atlas to get an idea of what occurs in an area and what you might find in the forest to trigger exclusion zones.
- If you don't have access to a diameter tape, you can take a piece of string or rope and wrap it tightly around the tree trunk, measure that with a standard tape measure and divide that number by Pi (3.1415) for the diameter.
- Smart phone, tablet or GPS unit (take into consideration reception availability in chosen forest).
- Printed harvest plan and map (colour) or digital map
- Broad brimmed hat and sunnies, walking boots, binoculars, first aid kit
- Bright coloured plastic marking tape to mark significant trees and features like wombat burrows.
- Diameter tape measure (available online for purchase from a number of distributors) to measure girth of trees to work out diameter at cut stump height. Stump Height is 30cm above the ground from the top side of the tree straight through when on a slope. If the stump is shorter, then measure the highest part of the stump. A girth of 1.4m at 30cms above the ground is the maximum allowable diameter for felling for most species. Ensure the tape is tight and level all the way around the tree.

GOING INTO A FOREST

What to look for in the field

Entering a forest in order to conduct a field survey can prevent logging before it happens, reduce how much of the forest is logged, or lead Forestry Corporation to be issued with fines and breach notices.

This will take some preparation and research, but ultimately all you need is a mobile phone, a tape measure and gear to ensure your safety when walking in the bush. This is a fun, high impact activity that involves walking through a forest and photographing threatened or protected plants, animals and ecological communities.

You are legally allowed to enter a state forest unless:

- The forest is listed on this page as closed, or as 'active' on Forestry Corporation's Plan Portal.
- There is a sign at the entrance to the compartment being logged saying 'Forest closed due to logging'.

Before heading out into the field

01 Download a timestamp photo app - we recommend 'Timestamp Camera Enterprise' which is free and available on both Google and Android devices. This app adds date, time, location and GPS locations to photos and videos.

02 Make sure you have a digital mapping program you can view your location while out in the forest and drop pins to geolocate key features. We recommend Avenza Maps which is free allows you to create a map with highly accurate GPS coordinates of timesstamped photos.

03 Consult BioNet Atlas or iNaturalist to get an idea of the threatened flora and fauna known to exist in the forest you intend to survey. If you are on the NSW South Coast explore the Atlas Of Life in the Coastal Wilderness (Moruya to Victorian border) or Budawang Atlas of Life (Kiama to Moruya). NSW Bionet Atlas is the most comprehensive and is used by state government agencies for planning.

04 Identify any neighbours with property adjacent to the proposed logging area. Letterbox drop these properties or contact them and request that they engage with Forestry Corporation to seek buffer zones along the boundaries of their land.

Surveying a forest before it is logged

Conducting an environmental survey before a forest is to be logged is a highly effective way to prevent logging before it happens, reduce how much of the forest is logged, and ensure endangered and protected flora, fauna and places are not destroyed.

Forestry Corporation regularly proposed logging operations in compartments that are known to, or very likely to, contain endangered species or locations that are meant to be protected.

Local environmentalists have had huge success in recent years by entering a compartment that is proposed to be logged, taking photos of endangered species or protected places, and then alerting the Environmental Protection Agency of the breaches of logging conditions in the proposed logging coup.

Record coordinates and upload to BioNet Atlas. **It is important to collect the waypoints and to load them to BioNet so the records can be kept in perpetuity.**

See the 'What to look for section (p. 15) for a comprehensive compendium of the flora, fauna and ecological communities to survey for, as well as a range of resources to help improve your knowledge of local species and how to identify them.

Signs that logging will commence soon

- Roadworks on state forest roads leading into coups/ compartments or building of new roads.
- If logging is to be started imminently, some trees and landmarks (like burrows) may be marked up such as spray painted with a H for habitat or R for retention indicating protection.

Your pre-logging survey

- Mark hollow bearing trees, and measure the diameter of large trees.
- Document and photograph any species, especially threatened species, in the survey area. You can find a list of threatened species that have previously been identified in the area that you are surveying by consulting BioNet Atlas. Document any other threatened species that you believe you come across, even if they are not listed as occurring in that area historically.
- Remember to document any other threatened species that you believe you come across, even if they are not listed as occurring in that area historically.
- Compare any sightings with the Fauna and Habitat Features that Trigger Exclusion Zones in NSW State Forests (relevant for whole state) and Flora (Southern Region) and Trees that Trigger Exclusion Zones in NSW State Forests (specific to southern forests).
- Once you have finished your survey, submit your findings with the Environmental Protection Agency by filling in this form on our website.

What to look for

Here are some specific species and habitat features to look out for. Finding the following animals and plants will trigger exclusion zones:

The nests of:

Left: Glossy Black-Cockatoo & all feed trees of Glossy Black-Cockatoo are required for retention. Feed Tree: A tree of an Allocasuarina spp. which shows evidence of Glossy Black-Cockatoo feeding by the presence of characteristic crushed cones at, or around, its base. (50m exclusion zone for nests).

Below: Flame Robin, Scarlet Robin, Hooded Robin (50m exclusion zone for nests only)

The nests of:

Below: Dusky Woodswallow, Square-tailed Kite (50m exclusion zone)

The roosts and nests of:

Below middle: Swift Parrot roosts (roost triggers 25m exclusion zone, nest 50m)

The nests of:

Left & below: White-bellied Sea-Eagle (50m exclusion zone)

The nests of:

Below: Emu nest outside of Nth Coast population is a 50m exclusion zone and if from North Coast population, 100m exclusion zone.

Right: Bush stone-Curlew nest (100m exclusion zone)

The roosts and nests of:

Below: Large Forest Owls (roost triggers 25m exclusion zone, nest 50m)

Pictured: Powerful Owl, Masked Owl, Barking Owl

The nests of:

Not pictured: Turquoise Parrot

Left: Gang-Gang Cockatoo (25m exclusion zone)

Below: Little Lorikeet, Grey-crowned Babbler, Regent Honeyeater (25m exclusion zone)

The nests of:

Below: Diamond Firetail, Speckled Warbler, Varied Sittella, Black-chinned Honeyeater (25m exclusion zone)

Not pictured: Brown Treecreeper (25m exclusion zone)

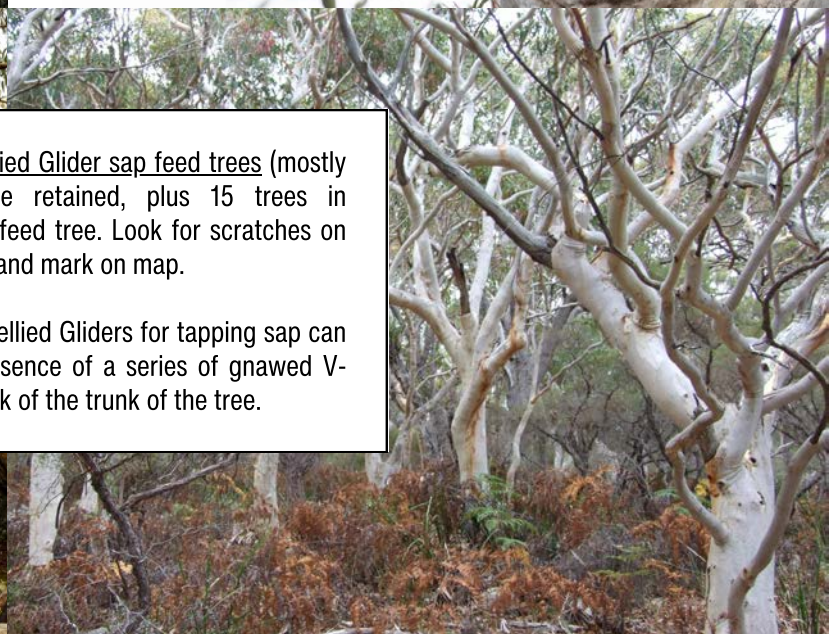
Below: Wombat burrows (for more information about how to mark up a wombat hollow for protection here, record on WomSAT too)

Left: Spotted Tailed Quolls latrine site (three scats within 1.5m) triggers 12ha exclusion zone.

Below: The threatened spotted-tailed quoll is known for producing twisty-shaped faeces at communal 'latrine sites'. These sites are often located in exposed areas, like rocky outcrops or along rock creek lines. (Image via NPWS)

Below: 'Giant' trees (over 140cm diameter or 160cm for Alpine Ash) must be protected. Measure large trees and mark on map if this size or larger.

Below: Look for trees with hollows. Mark on map as hollow bearing.



Feed trees: all Yellow-bellied Glider sap feed trees (mostly eucalypt trees) must be retained, plus 15 trees in immediate vicinity of the feed tree. Look for scratches on trunk of tree, photograph and mark on map.

Trees incised by Yellow-bellied Gliders for tapping sap can be recognised by the presence of a series of gnawed V-notches made into the bark of the trunk of the tree.

Yellow-bellied Glider (above) and Greater Glider (right) den trees trigger 50m exclusion zones. Best chance to record them is spotlighting at nighttime.

Below: Five or 10 koala browse trees per hectare in certain regions. Look for koala scat at the base of trees, photograph and record on map.

Above: The hard, firmly packed scats of the Koala may vary in colour and contain fairly coarse fragments of leaf cuticles, chiefly of eucalypt species. Picture source: *Track, Scats and Other Traces*

Aboriginal Cultural Heritage features- if you find evidence of a cultural site such as a scar tree, record and report to the Aboriginal Heritage Information Management System and EPA.

Identifying illegal logging activity

Despite the already weak regulation, Forestry Corporation and the contractors they hire regularly log in areas they are not allowed to, fail to protect hollow and nest-bearing trees, and cut down giant, protected and oversized trees.

The aim of surveying a forest after it has been logged is to gather evidence of illegal logging that leads to fines, stop work orders and further public criticism of logging activities.

Fines are ultimately paid for by the taxpayer, as Forestry Corporation is a loss making state-owned enterprise. Fines also provide a great opportunity to generate further media attention and build pressure on the government to stop subsidising native forest logging, which would see the practice end.

It is very likely that you will find evidence of multiple breaches.

One of the easiest and most common is the felling of giant and oversized trees. It is illegal to cut down any tree with a trunk diameter of over 1.4m, measured at 30cm above ground & 160cm for Blackbutt.

The easiest way to measure this is with a diameter tape, but if you don't have one you can just use a piece of string or rope and a standard tape measure. Wrap it tightly around the tree trunk, measure it with a standard tape measure and divide that number by Pi (3.1415) to get the diameter.

Common illegal breaches

- It is illegal to cut down any tree with a trunk diameter of over 1.4m & 160cm for Blackbutt, measured at 30cm above ground.
- Logging within 10m of from bushwalking and mountain-bike trails.
- Riparian zones (drainage lines, creeks, streams, rivers), rocky outcrops, rainforest, heath and shrubland, are all illegal to log.
- Badly made logging roads causing erosion, or eroded or creeks with high amounts of sediment.
- Pollution and rubbish, such as petrol, oil, chemicals, and litter left on the site.
- Habitat trees (trees with nests or hollows or, giant trees) that have been felled.
- If a management plan isn't in place, endangered or threatened species living in a compartment that has been logged
- Logging in buffer zones outlined in the additional operating conditions of a harvest map.
- Loggers are also required to retain eight hollow bearing trees per hectare (these will be marked with a H) but they often instead 'protect' dead or small trees.

Your post-logging survey

- See what FCNSW cleared, check if any key habitat trees (trees with nests or hollows or, giant trees) have been felled.
- Hollow-bearing trees: Eight per hectare must be retained. Check to see that good habitat trees have been chosen for retention, and that they contain hollows.
- Measure diameter of stumps of big trees at 30cms above ground level to ascertain if giant trees have been felled i.e. diameter greater than 1.4m or 1.6m if an Alpine Ash or Blackbutt on the North Coast. A giant tree according to the EPA definition is:
    - In relation to Blackbutt or Alpine Ash trees, means any live tree of these species with a diameter at stump height over bark (DSHOB) of 160 centimetres or greater.
    - In relation to all other tree species, means a live tree with a diameter at stump height over bark (DSHOB) of 140 centimetres or greater.
- Record any sightings of species that trigger an exclusion zone or are threatened seen in the area post logging. Get photographic evidence.
- Make sure that FCNSW have not breached buffer zones (for threatened species, burrows, dens or nests) required as part of Coastal Integrated Forestry Operations Approvals (CIFOAs) and seen on harvest plan map. Look at any additional operating conditions to the CIFOA if they are implemented in the coupe/compartment you are surveying.
- Check the following has been retained: 10m from bushwalking and mountain-bike trails, riparian zones (drainage lines, creeks, streams, rivers), rocky outcrops, rainforest, heathland and scrubland, steep slopes.
- Check for debris pile height left behind. It cannot be over 1m high at base of habitat and recruitment trees.
- Check for any pollution- petrol, oil, chemicals, littering (pollution key EPA issue).
- Check for badly made logging roads causing erosion.
- Take footage and log areas that have been eroded or creeks with high sediment load after rain in the compartment).

Preparing to make your report

- Write up any notes regarding what you saw during your survey that may be relevant to harvesting operations.
- Connect/attach photos of breaches and sightings as required. Make sure they are either marked on a map with a pin with GPS coordinates or that you have a timestamp app that provides this information.
- Also register your flora and fauna findings through BioNet Atlas. BioNet Atlas is the only database authorities are required by legislation to access for assessing the impacts of proposed actions
- EPA prefers to receive timely information rather than waiting for a detailed report. Submit your findings soon after surveying.
- Visit our Breach Watch website to lodge your report.

Notes