EcoRoadside user guide and set-up

- iPad, field equipment and Touch ID
- data required
- setup FileMaker and EcoRoadside
- EcoRoadside-mobile
- web viewer for desktop, Windows and Android
- side-by-side GIS
- entering field data and using pop-up help
- exporting reports
- exporting data for GIS

release version 201801122
check your iPad* ...

your iPad model should be an iPad Air 2* or later model with wifi+cellular running the latest version of the operating system (currently iOS 12.1 — keep it up to date)

*you can also use an iPhone 7 Plus or later in an emergency
check your iPad* …

acceptable iPad models in descending order of performance:

2018 iPad Pro 11"
2017 iPad Pro 10.5"
2018 iPad 9.7" (the most recent non-pro model)
2015 iPad Pro 9.7"
2017 iPad 9.7" (aka “fifth generation iPad”)
2014 iPad Air 2 (the first iPad model with ≥ 2 GB memory)

*we recommend iPad Pro
because it has more app memory
(3-4 GB which means it will cache more records)
and will run EcoRoadside side-by-side
with a mobile GIS app smoothly

*note that we do not recommend the original iPad Air
(which has only 1 GB memory)
... and your equipment

the iPad is reasonably tough
but you can break them in the field
so use a **protective case**

to complete a full day’s field work
you’ll need an **external battery**
and a suitable connecting **cable**

and/or a suitable **car charger**
setting up Touch ID

your fingerprint speeds up logging in and reconnecting to the EcoRoadside database — you can add your fingerprint in Settings (if you haven’t done so already)
setting up Touch ID

go to “Touch ID & Passcode”
enter your normal passcode/PIN
add your fingerprint

you can add up to five fingerprints
(which can be different people, but iOS doesn’t otherwise cater for multiple user accounts)
data requirements:

users

to set you up we create a user group for your Council on EcoRoadside cloud

this includes consultants if you are engaging them to work in the field (if so we still need a council contact)

supply the full name and organisation of your user/s (usually an office person and 1-2 field people per Council, if you have a larger team please discuss)
data requirements: roads, weeds and management actions

to set up the EcoRoadside app, we need some data to populate drop-down lists used for data entry:

- **road names** (or we will default to LPI data provided for the project by LGNSW)
- **priority weeds** common name and scientific name (or we will default to LLS priority weeds for your region)
- **management actions** (which can be included in an EcoRoadside master list)

provide these as a properly formatted* table in eg .xlsx or .csv

for the **roads names** table:
- RoadName
- LGA
- RoadNumber (optional)

for the **priority weeds** table:
- AtlasCode (optional)
- Family (optional)
- ScientificName (optional)
- CommonName

for these tables use Title Case (species name format is Genus species) correct spelling, single spaces between words and no extra spaces at the start or end

for the **management actions** we want a well-structured list of concise and consistent action names with well-formed syntax

*a database table has one row for field names and matching rows for data records
data requirements:
road distance markers
(optional)

EcoRoadside supports use of road distance markers (aka chainage) to identify assessment zones using this system you can enter a start and end point on any given road based on kilometre distance points (or fractions of kilometres)

if you don’t have a road marker layer already you can obtain one by arrangement with Local Government NSW
get the FileMaker Go client app

in the App Store app on your iPad
search for “FileMaker”
select **FileMaker Go 17**
then download and open the app
opening FileMaker

FileMaker will open with a quick tour and some database templates in the “Device” panel (you can keep these or delete them if you prefer)
setting up EcoServer as a cloud host

go to the “Hosts” panel then select “Hosts” and “+” to add a new host

enter the host address “207.254.73.31” and the host name “EcoServer” (without the quotes) and save
opening EcoRoadside

enter the user name and password you received from us to log in to EcoServer cloud

you can 'ok' using your Keychain then whenever you see Touch ID your fingerprint will enter those credentials (name and password)

to log in a different user just “cancel” Touch ID then enter new credentials and Touch ID will start using them instead
opening EcoRoadside

*if you see this security warning, don’t panic the SSL certificate is valid (you can see this in a web browser) there seems to be a temporary iOS or FileMaker Go configuration issue so select “always permit connection”

when you see the EcoServer apps on the Hosts screen, tap EcoRoadside to open it
opening EcoRoadside

you’ll be asked to log in to the EcoRoadside app so enter the same credentials (name and password) again if needed

EcoRoadside will likely open in the site summary view (turn the iPad sideways to see all the fields)

the first time you go in, you’ll have an empty record (and maybe a test record) and “no access” to other data
tap the arrow on the right of your empty record to go to the data entry view

a quick video re-cap of the intro/setup can be viewed at https://vimeo.com/257844213
using EcoRoadside

use the data entry view to enter your roadside assessment

a detailed video run-through of the data entry process can be viewed at https://vimeo.com/258685645

add new records via the “+” at the bottom

use the arrow on the left to go back to the summary
using EcoRoadside

when you’re happy with the data you’ve entered for your site
toggle the ‘not done’ slider to ‘done’
or if you’re not finished and may want to go back to it later
then leave it ‘not done’ (this doesn’t affect syncing or lock the data)
to find specific records use the ‘Find’ menu indicated by
the magnifying glass at the top right
to search for a road, type it into the ‘Quick Find’ field at the top
(you can’t type directly into the main road name field)
to close the file or go to the ‘Launch Centre’ to open
another file, use the ‘Actions’ menu at the top left
indicated by the small arrow
using EcoRoadside

- you can use the small arrows at the bottom or the pop-up (tap the small circle) and slider to navigate between records
- use a three-finger swipe up (to hide) or down (to show) the top and bottom menus in summary or data entry views
cloud or offline? checking reception

to get good performance with EcoRoadside you need a medium-strong 4G signal (especially if you are documenting your sites with lots of photos)

much of rural NSW has insufficient (or absent) coverage at these data rates

you can check this in advance on Telstra’s coverage map https://www.telstra.com.au/coverage-networks/our-coverage

use the detail view and toggle to 4G

or try the Open Signal app https://opensignal.com/networks/australia/telstra-coverage
getting the offline version: EcoRoadside-mobile

for areas with poor cellular coverage we provide an offline version of EcoRoadside called EcoRoadside-mobile

it is functionally equivalent to the online version except that data must be synced in order to save to EcoRoadside cloud and export for reporting, etc

contact us to receive an email with the link to download the files you’ll need …
getting the offline version: EcoRoadside-mobile

the link will take you to GoZyncHosted on EcoServer cloud and show you files you can download

for the Local Government NSW Council Roadside Reserves Project you need EcoRoadside-mobile and GoZyncMobile (note that it’s easier to click “install all files” and delete those you don’t need later)

download time depends on your connection speed (if you have a very slow connection tap the iPad every now and then to stop it going to sleep)
starting EcoRoadside-mobile

log in to the new apps or use Touch ID if it comes up

the apps will install on your “Devices” panel
(and appear on the “Recent” panel; once you’ve used them)
they won’t appear on the “Hosts” panel

in EcoRoadside-mobile you’ll see either the “road site sync” or
“site assessment” screens (you won’t have any records yet
and you won’t see other people’s records)

use the arrows to change views
and the small “+” to create a new record
You enter data as you do for the online version of EcoRoadside, see the slides following for more info and make sure to view the video run-through at https://vimeo.com/258685645.

Once you’ve entered some site assessment data, your sync panel will look more like this. Here we have “2 records found” and “2 modified since last sync”.

When you have good wifi or cellular signal press the green “sync” button to ‘push’ your data to EcoServer cloud.

Now we have “0 modified since last sync” meaning your data is safely uploaded and can be viewed on EcoRoadside cloud.

Important note: you must sync your data at least daily. Unsynced data is permanently lost if the iPad is lost/stolen/broken (which has happened in our field testing).
accessing EcoRoadside via the web viewer

on the desktop, or on a Windows tablet or Android device, you can access EcoRoadside via a web browser (Chrome, Explorer/Edge and Safari are officially supported, Firefox mostly works).

use the URL ecoserver.com.au/fmi/webd
then log in to EcoServer and then EcoRoadside with the same user name and password you use for the iOS version

the web app looks and functions almost identically (but you can’t use it offline, of course you can’t export data in the .xlsx format, but you can use .csv)
using EcoRoadside with a mobile GIS app

using iOS 11 and a suitable iPad you can run EcoRoadside (or EcoRoadside-mobile) alongside a mobile GIS app

if you put your GIS app in the Dock you can drag it up from there and create side-by-side panels to run both apps on the same screen (then EcoRoadside won’t have to re-connect when you switch between these two apps)


see the result on the next page
using EcoRoadside with a mobile GIS app

here we show EcoRoadside side-by-side with Geometry’s iGIS app

GPS uses a separate radio from the mobile cellular network, so it can be used outside 3G/4G reception areas (but you should cache the air photo or ‘satellite’ background layer for your area of interest while you have cellular or wifi signal)
using EcoRoadside with a mobile GIS app

Local Government NSW is providing spatial data layers for participating LGAs:

- IBRA regions and subregions
- Mitchell landscapes
- Threatened species
- Native vegetation
- Wetlands (if applicable)
- All clipped to 250 metres from the roads.

You can see your current location and easily identify relevant data for your assessment area.

You can also use the GIS app to draw assessment area points and polygons and generate a GPX track of your field work.
pop-up help …

the “?” buttons in the app display pop-up help info on terminology and some of the more complex data entry operations

they are reproduced here as an introduction and comprehensive summary

remember that your access to records is based on the LGA you are working in, so enter this asap
pop-up help: site/zone

instructions on using road kilometre markers for site id

description of the Specht vegetation structure types
site location can be entered automatically from the iPad camera GPS data (full description on the next page)

additional photo monitoring points can be added in the same manner (use the arrow to go to the photo point screen)
pop-up help: site photos

you need to switch to the Camera app then switch back to EcoRoadside to add the photo location data to your site record

in iOS 11 you can put the Camera app in the Dock and use the Dock to switch between the EcoRoadside and Camera app

video instructions from Apple here: https://www.apple.com/au/ipad-pro/how-to/

... take the photo with the Camera ...

... then switch back (the FileMaker app will reconnect to EcoRoadside)
pop-up help: site photos

when your record re-appears, select Photos (not Camera)

the photo you just took will be at the end

tap it and the photo will load, along with the timestamps and location data in decimal degrees
pop-up help: vegetation: IBRA

info on entering the biogeographic region (IBRA) and subregion (IBRA subregion) to narrow down the selection of Plant Community Type (PCT)

*more on this after the next slide
info on entering the Mitchell Landscape
(map layers are supplied for the project by LGNSW)

when you enter the Mitchell landscape
EcoRoadside will automatically enter the ‘% cleared’ here
and populate the status fields in the next two sections if this
is an ‘over-cleared landscape’

% cleared data is entered from the built-in NSW OEH BioNet v3.1 data tables
available via Creative Commons licence CC BY 4.0
https://creativecommons.org/licenses/by/4.0/
pop-up help: 
vegetation:
PCT

enter the Plant Community Type (PCT) from the pop-up window, the PCTs for the IBRA subregion will display based on the NSW State Vegetation Map modelling (map layers are supplied for the participants by Local Government NSW)

tap the green circle to enter a PCT for your site (this runs a multi-step script so be patient) if a threatened PCT is present use that one otherwise select the PCT with the largest area

number of PCTs for the IBRA subregion is calculated

additional PCT numbers can be entered here if applicable

% cleared and status data is entered from the built-in NSW OEH BioNet v3.1 data tables available via Creative Commons licence CC BY 4.0 https://creativecommons.org/licenses/by/4.0/
pop-up help:

vegetation:
PCT

when you enter a PCT
EcoRoadside will automatically enter
% cleared and threatened status
and populate the vegetation status field
in the next section (overriding the Mitchell
landscape cleared status if applicable)

when you’ve entered data via a list
the small cross can be used to clear that field

vegetation class and formation are also automatically
entered from the PCT data

the PCT data is entered from the built-in NSW OEH BioNet v3.1 data tables
available via Creative Commons licence CC BY 4.0
https://creativecommons.org/licenses/by/4.0/
Pop-up help:

Conservation status:

Vegetation status and wetlands

The vegetation status information is automatically entered from the previous section if the Mitchell landscape is ‘over-cleared’ or the PCT status is threatened (otherwise, enter status manually).

Info on entering wetland data (map layers are provided for the project by Local Government NSW).
pop-up help:
conservation status:
threatened species

info on entering threatened species data
(map layers are provided for the project by Local Government NSW)
pop-up help:

conservation status:

score

info on scoring for this section

the score will auto-populate based on the answers provided above
Mitchell landscapes are part of the landscape context score information is automatically entered from the vegetation section above, if the Mitchell landscape is entered there.

% cleared data is derived from the built-in NSW OEH BioNet v3.1 data tables available via Creative Commons licence CC BY 4.0 https://creativecommons.org/licenses/by/4.0/
pop-up help:
landscape context:
reserve native veg width

info on assessing the native vegetation width within the assessment area (ie within the road reserve itself)
pop-up help:

landscape context:

road orientation

info on describing and photographing the road orientation for the assessment site

because direction of travel while undertaking assessment is arbitrary there is provision to enter compass direction as well as near-side* and off-side** in the direction of travel

*near-side is kerb or glovebox side
**off-side is opposite or steering wheel side
pop-up help:

landscape context:

total connected veg width

info on assessing the native vegetation width extending outside the road reserve assessment area (but still connected to the road reserve vegetation)
pop-up help:
landscape context:

nearby veg patch area

info on assessing the native vegetation outside the assessment area (but separated by a gap of less than 100 metres from the reserve vegetation)

because direction of travel while undertaking assessment is arbitrary there is provision to enter compass direction as well as near-side* and off-side** in the direction of travel

*near-side is kerb or glovebox side
**off-side is opposite or steering wheel side
pop-up help:
landscape context:
score

info on scoring for this section
the score will auto-populate based on the answers provided above
pop-up help:
condition:
veg structure

general info on vegetation structure
pop-up help:
condition:
veg structure condition

specific info on vegetation structure condition categories used in this section
pop-up help:
condition:
broad veg structure types

the Specht structure types entered at the beginning of the assessment are simplified to three broad structure types here
pop-up help:

condition:
score

info on scoring for this section

the score will auto-populate based on the answers provided above
pop-up help: condition matrix and site value

the matrix logic that generates the overall conservation value based on the conservation status, landscape context and condition data entered for each assessment is illustrated here

the section results should be coloured and include a status text, if any are grey or empty you’ve missed some of the data entry fields, so go back and check

the final conservation value result is calculated as you go, so you can get an instant feel for your site
pop-up help: entering other info

the final section is non-scoring but provides for a wide range of general and specific site information

the weed species drop-down should be pre-populated with the priority weeds table you supplied

the native species lists builds as you enter your species data (pay attention to correct species names and spelling or the list will get ugly)

you assign strata to native species to sort them into upper, mid and lower

you can enter a photo for any item in the other info section
you can use the camera directly from the EcoRoadside app to speed things up as the location for these additional images is not used
finding records and exporting reports

Information from field assessment can be exported as a report in PDF format.

This will include the records in your found set (which can be your LGA, or a subset based on any search criteria, or just one record).

Selecting records for an LGA can be done from the ‘find LGA records’ field top right then tapping the orange button.

Here, searching for ‘Penrith LGA’ returns a found set of 100 records.

Searching for a subset of records is best done from the data entry view (see following page).
finding records and exporting reports

... more detailed searches can be undertaken via the find mode

use the magnifying glass icon top right
(be careful not to type a search term into a record before entering find mode or you will change the data in the record)

use the ‘quick find’ for a single keyword search of all fields or ‘create new find’ to search individual fields including the site name keyword and road name fields

you can also ‘constrain’ or ‘extend’ a found set with additional searches

once you have found the set of records you want, you can print or export site reports as pdf...
exporting reports

...use the ‘view as site report’ button from the data entry or summary view to see a comprehensive site report of all the assessment data for each reach or zone
exporting reports

use ‘print’ to access the pdf function
choose record range and adjust the page setup parameters
(try ‘landscape’ and ‘56%’ then adjust if required)
send to a printer or create a pdf document from the site report view
choose the destination:
select a printer
attach to an email
save to a Dropbox folder
or any cloud or file location configurable from your iPad
or open directly in an app like Excel
exporting data for GIS and other systems

data from EcoRoadside can also be exported in tabular formats for geographical information systems (GIS) and other software applications.

Select ‘export’ from the drop-down menu.

On iPad or iPhone, you can select export formats: comma separated (.csv), dBase (.dbf), the data format used in ESRI GIS shapefiles, Excel (.xlsx), HTML (.htm), Merge (.mer), or tab-delimited (.tab).

Excel format is usually best as it provides full field names and imports to ESRI GIS (ArcMap etc).comma-separated and dBase are alternatives when exporting from web viewer.
exporting data for GIS and other systems

you can rename the file to be exported and select the to fields include

check/uncheck the fields as appropriate (you generally won’t need global or summary fields like ‘count’ as these will be the same for all records)

for GIS make sure to include the xy coordinate data (latitude and longitude fields which are available for start and end points)
exporting data for GIS and other systems

once you have selected file name, format and export fields
select ‘continue’ to commence the export

remember that this will include all the records in your found set
(which can be your LGA, or a subset based on any search criteria,
or just one record)

once the export is done select the destination
(for example, you can attach to an email
save to a Dropbox folder
or any cloud or file location configurable from your iPad
or open directly in an app like Excel)
links to training videos

EcoRoadside intro/setup video
https://vimeo.com/257844213

EcoRoadside app run-through video
https://vimeo.com/258685645

Apple iPad iOS 11 feature videos
this project has been assisted by the New South Wales Government through its Environmental Trust.