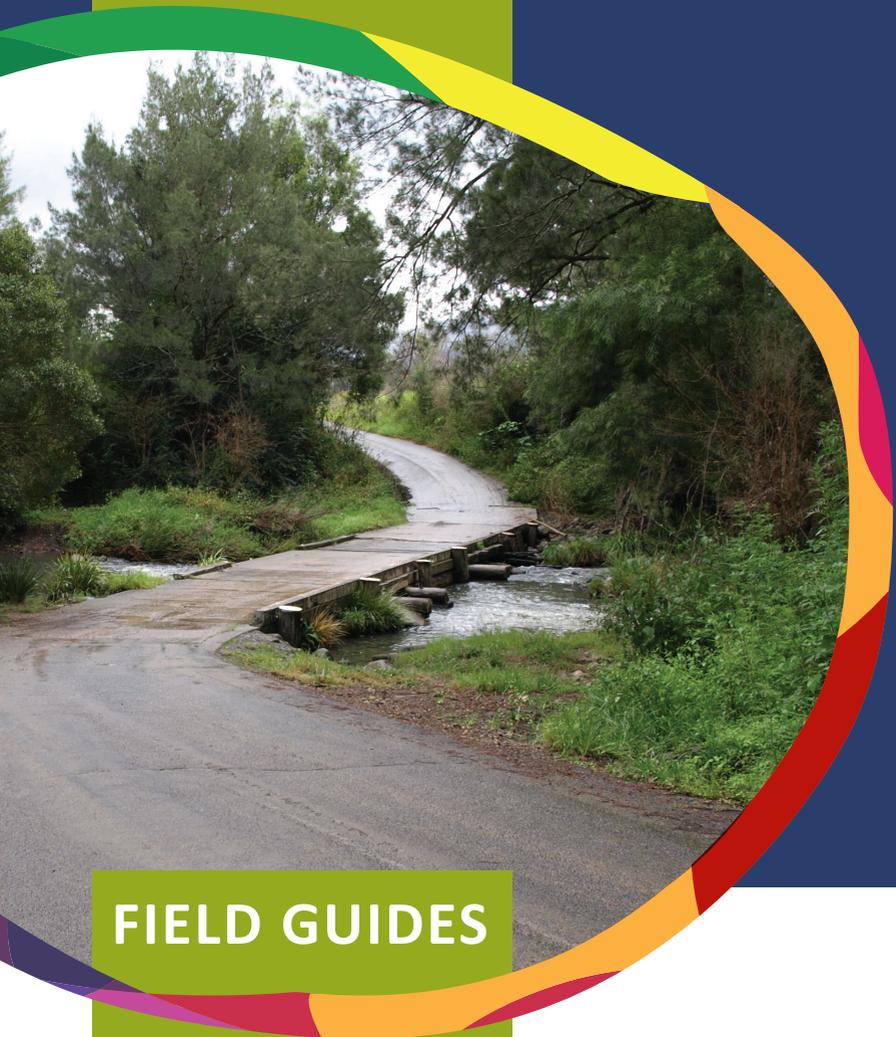


REGIONAL ROADSIDE ENVIRONMENT MARKER SCHEME

Hunter & Central Coast

HUNTER
JOINT
ORG.



FIELD GUIDES

This project has been assisted by the NSW Government through its Environmental Trust and supported by LGNSW

 LOCAL
GOVERNMENT
NSW


NSW
GOVERNMENT

REGIONAL ROADSIDE ENVIRONMENT MARKER SCHEME



Hunter & Central Coast

Markers

Example of roadside markers



Location symbols



Start of marked roadside area



End of marked roadside area



Marked roadside area continues

Application of the Field Guides

These Field Guides apply to road related works and activities within significant roadside environments identified by the Regional Roadside Environment Marker Scheme (Hunter and Central Coast). The Field Guides provide directions on work practices to be implemented at these sites to avoid damaging environmental values and to reduce the risk of impacting threatened species and communities protected by Commonwealth and State legislation



ONLY UNDERTAKE WORKS IN ACCORDANCE WITH AN APPROVED REVIEW OF ENVIRONMENTAL FACTORS (REF) OR MANAGEMENT PLAN FOR THE SITE. CONTACT SUPERVISOR FOR ADVICE.

THREATENED VEGETATION COMMUNITIES

General management principles

Slashing / mowing

- No slashing/mowing where sight lines are not an issue; or
- Where sight lines are an issue:
 - Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
 - Where possible restrict to one (1) slasher/mower width from edge of road pavement
 - Do not slash/mow beyond the table drain
 - Slash/mow minimum width along bends to maintain sight lines
 - Do not slash/mow less than 100mm above ground surface

Weed control

- Apply only low impact control methods within marked roadside area. These include:
 - Where possible hand removal techniques
 - Cut/swab, cut stump, stem scrape* techniques for woody weeds
 - Foliar spot spraying* technique for herbaceous weeds

Contact Council's Weeds Officer for further advice

**As per the New South Wales Weed Control Handbook (Department of Primary Industries)*

THREATENED VEGETATION COMMUNITIES

Clearing and construction works

- Removal of native vegetation and native plant restoration works only to be completed in accordance with an approved Review of Environmental Factors (REF)
- Avoid heavy machinery entering marked roadside area
- Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
- Avoid removing fallen logs, bush rock, trees with hollows and nesting trees

Grading

- Do not move spoil against native vegetation/trees and where possible remove all spoil from marked roadside area
- Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
- For sealed roads do not grade beyond existing road shoulder
- For unsealed roads do not grade beyond existing road width

Stockpiling and vehicle parking

- Avoid stockpiling materials within marked roadside area
- Only park vehicles and machinery in designated cleared areas

Cleaning table drains

- Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
- Where possible do not deepen or widen the table drain
- Do not move spoil against native vegetation/trees and where possible remove all spoil from marked roadside area
- Where possible maintain groundcover vegetation within drains



ONLY UNDERTAKE WORKS IN ACCORDANCE WITH AN APPROVED REVIEW OF ENVIRONMENTAL FACTORS (REF) OR MANAGEMENT PLAN FOR THE SITE. CONTACT SUPERVISOR FOR ADVICE.

THREATENED PLANTS

General management principles

Slashing/mowing

- No slashing/mowing where sight lines are not an issue; or
- Where sight lines are an issue:
 - Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
 - Where possible restrict to one (1) slasher/mower width from edge of road pavement
 - Do not slash/mow beyond the table drain
 - Slash/mow minimum width along bends to maintain sight lines
 - Do not slash/mow less than 100mm above ground surface

Weed control

- Apply only low impact control methods within marked roadside area. These include:
 - Where possible hand removal techniques
 - Cut/swab, cut stump, stem scrape* techniques for woody weeds

Contact Council's Weeds Officer for further advice

**As per the New South Wales Weed Control Handbook (Department of Primary Industries)*

THREATENED PLANTS

V2

Clearing and construction works

- Removal of native vegetation and native plant restoration works only to be completed in accordance with an approved Review of Environmental Factors (REF)
- Avoid heavy machinery entering marked roadside area
- Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
- Avoid removing fallen logs, bush rock, trees with hollows and nesting trees

Grading

- Do not move spoil against native vegetation/trees and where possible remove all spoil from marked roadside area
- Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
- For sealed roads do not grade beyond existing road shoulder
- For unsealed roads do not grade beyond existing road width

Stockpiling and vehicle parking

- Avoid stockpiling materials within marked roadside area
- Only park vehicles and machinery in designated cleared areas

Cleaning table drains

- Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
- Where possible do not deepen or widen the table drain
- Do not move spoil against native vegetation/trees and where possible remove all spoil from marked roadside area
- Where possible maintain groundcover vegetation within drains



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ORCHIDS

V3

General management principles

Slashing/mowing

- No slashing/mowing where sight lines are not an issue; or
- Where sight lines are an issue:
 - Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
 - Where possible restrict to one (1) slasher/mower width from edge of road pavement
 - Do not slash/mow beyond the table drain
 - Slash/mow minimum width along bends to maintain sight lines
 - Do not slash/mow less than 100mm above ground surface

Weed control

- Apply only low impact control methods within marked roadside area. These include:
 - Where possible hand removal techniques
 - Cut/swab, cut stump, stem scrape* techniques for woody weeds
 - Foliar spot spraying* technique for herbaceous weeds

Contact Council's Weeds Officer for further advice

**As per the New South Wales Weed Control Handbook (Department of Primary Industries)*

ORCHIDS

Clearing and construction works

- Removal of native vegetation and native plant restoration works only to be completed in accordance with an approved Review of Environmental Factors (REF)
- Avoid heavy machinery entering marked roadside area
- Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments

Grading

- Do not move spoil against native vegetation/trees or into areas where orchids are visually present and where possible remove all spoil from marked roadside area
- Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
- For sealed roads do not grade beyond existing road shoulder
- For unsealed roads do not grade beyond existing road width

Stockpiling and vehicle parking

- Do not park vehicles or machinery in marked roadside area
- Do not place stockpiles in marked roadside area

Cleaning table drains

- Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
- Where possible do not deepen or widen the table drain
- Do not move spoil against native vegetation/trees and where possible remove all spoil from marked roadside area
- Where possible maintain groundcover vegetation within drains

SIGNIFICANT WEEDS

General management principles

Contact Council's Weeds Officer for further advice on identifying and managing significant weeds

Slashing/mowing

- No slashing/mowing where sight lines are not an issue; or
- Where sight lines are an issue:
 - Preferably slash/mow ONLY outside flowering and seeding times
 - Clean machinery before leaving marked roadside area to prevent further spread of weed seeds and fragments
 - Where possible restrict to one (1) slasher/mower width from edge of road pavement

Weed control

WOODY WEEDS

- Apply only approved weed control methods

GRASS WEEDS

- Foliar spray control method* to be applied and is most suited to dense weed infestations

AQUATIC WEEDS

- Apply only approved weed control methods / herbicides for weeds located in a waterbody (e.g. drain). Ensure council is appropriately licensed if applying herbicide directly over water

**As per the New South Wales Weed Control Handbook (Department of Primary Industries)*

W1

SIGNIFICANT WEEDS

Clearing and construction works

- Appropriate weed control should be completed at least one week prior to commencement of works
- Excavated waste soil containing weed material should be disposed of at a licensed waste facility, or if being reused on site kept within the marked roadside area
- Clean machinery before leaving marked roadside area to prevent further spread of weed seeds and fragments

Grading

- Appropriate weed control should be completed one week prior to the commencement of works
- Preferably grade ONLY outside flowering and seeding times of significant weeds
- Restrict grading to the existing road width or shoulder
- Spoil containing weed material should be disposed of at a licensed waste facility, or if left on site, kept within the marked roadside area
- Clean machinery before leaving marked roadside area to prevent further spread of weed seeds and fragments

Stockpiling and vehicle parking

- Do not place stockpiles within marked roadside area
- Do not park vehicles and machinery in marked roadside area unless they are cleaned before leaving

Cleaning table drains

- Appropriate weed control should be completed one week prior to the commencement of works
- Spoil containing weed material should be disposed of at a licensed waste facility, or if left on site, confined to the marked roadside area
- Clean machinery before leaving marked roadside area to prevent further spread of weed seeds and fragments

W1

WETLANDS

General management principles

Slashing/mowing

- No slashing/mowing where sight lines are not an issue; or
- Where sight lines are an issue:
 - Avoid vehicles entering areas of native vegetation and wet soils
 - Prevent grass clippings from entering the waterbody or adjacent drains
 - Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
 - Where possible restrict to one (1) slasher/mower width from edge of road pavement
 - Slash/mow minimum width along bends to maintain sight lines
 - Do not slash/mow beyond table drain
 - Do not slash/mow less than 100mm above ground surface

Weed control

- Apply only low impact control methods within marked roadside area. These include:
 - Where possible hand removal techniques
 - Cut/swab, cut stump, stem scrape* techniques for woody weeds
 - Foliar spot spraying* technique for herbaceous weeds
- Apply only approved weed control methods / herbicides for weeds located in the actual waterbody.
- Ensure council is appropriately licensed if applying herbicide directly over water

Contact Council's Weeds Officer for further advice

**As per the New South Wales Weed Control Handbook (Department of Primary Industries)*

WETLANDS

Clearing and construction works

- Minimise extent of vegetation clearing. Removal of native vegetation and native plant restoration works only to be completed in accordance with an approved Review of Environmental Factors (REF)
- Avoid heavy machinery entering marked roadside area
- Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments

Grading

- Do not move spoil against native trees and vegetation or place where it may cause sediment pollution of the wetland. Where possible remove all spoil from the site
- Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
- For sealed roads do not grade beyond existing road shoulder
- For unsealed roads do not grade beyond existing road width

Stockpiling and vehicle parking

- Avoid stockpiling materials within marked roadside area
- Only park vehicles and machinery in designated cleared areas

Cleaning table drains

- Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
- Ensure disturbed sediment from drain cleaning does not enter wetland
- Where possible do not deepen or widen the table drain
- Do not move spoil against native trees and vegetation or place where it may cause sediment pollution of the wetland. Where possible remove all spoil from the site
- Where possible maintain groundcover vegetation within drains

WATER CROSSINGS

General management principles

Slashing/mowing

- No slashing/mowing where sight lines are not an issue; or
- Where sight lines are an issue:
 - Avoid driving vehicles on areas of vegetation and waterway banks
 - Prevent grass clippings from entering the waterway or adjacent drains
 - Where possible restrict to 1 slasher/mower width from road edge
 - Do not slash/mow beyond table drain
 - Do not slash/mow less than 100mm above ground surface

Weed control

- Apply only approved weed control methods / herbicides for weeds located in the riparian zone or over the actual water body
- Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
- Apply only low impact control methods within marked roadside area. These include:
 - Where possible hand removal techniques
 - Cut/swab, cut stump, stem scrape* techniques for woody weeds
 - Foliar spot spraying* technique for herbaceous weeds
- Apply only approved weed control methods / herbicides for weeds located in the actual waterbody.
- Ensure council is appropriately licensed if applying herbicide directly over water

Contact Council's Weeds Officer for further advice

**As per the New South Wales Weed Control Handbook (Department of Primary Industries)*

WATER CROSSINGS

Clearing and construction works

- Ensure appropriate sediment control measures are put in place when working within 50m of a waterway, e.g. sediment fencing
- Where possible, remove spoil from site
- Where possible, do not remove/cut back native shrubs or trees within 50m of waterways.
- Removal of native vegetation and native plant restoration works should only be completed in accordance with an approved Review of Environmental Factors (REF)- contact supervisor for advice
- Avoid machinery entering marked roadside verge

Grading

- Do not move spoil against vegetation or place where it may cause sediment pollution of the waterway. Where possible remove all spoil from the site for sealed roads
- For sealed roads do not grade beyond existing road shoulder
- For unsealed roads do not grade beyond existing road width

Stockpiling and vehicle parking

- Avoid stockpiling materials within marked roadside area
- Only park vehicles and machinery in designated cleared areas

Cleaning table drains

- Ensure disturbed sediment from drain cleaning does not enter the waterway. Where possible remove all spoil from the site
- Where possible do not remove groundcover vegetation, only remove vegetation that may prevent water from flowing
- Where possible do not deepen or widen the table drain
- Do not move spoil against vegetation or place where it may wash into the waterway



ONLY UNDERTAKE WORKS IN ACCORDANCE WITH AN APPROVED REVIEW OF ENVIRONMENTAL FACTORS (REF) OR MANAGEMENT PLAN FOR THE SITE. CONTACT SUPERVISOR FOR ADVICE.

AMPHIBIANS

General management principles

- Do not undertake maintenance where frogs are visually or audibly present
- Maintenance cannot be undertaken when sites are flooded or standing water is present
- Maintenance must not be undertaken within four weeks of a rainfall event >50 mm in 24 hours
- Clean machinery before entering marked roadside area to prevent introduction of Amphibian Chytrid Fungus (see *Hygiene guidelines, Protocols to protect priority biodiversity areas in NSW from Phytophthora cinnamomi, myrtle rust, amphibian chytrid fungus and invasive plants*)

Slashing/mowing

- No slashing/mowing where sight lines are not an issue; or
- Where sight lines are an issue:
 - Where possible restrict to one (1) slasher/mower width from edge of road pavement
 - Do not slash/mow beyond the table drain
 - Slash/mow minimum width along bends to maintain sight lines
 - Do not slash/mow less than 100mm above ground surface

Weed control

- Apply only low impact control methods:
 - Where possible hand removal techniques
 - Cut/swab, cut stump, stem scrape* techniques for woody weeds
 - Foliar spot spraying* technique for herbaceous weeds
- Apply only approved weed control methods / herbicides for weeds located in the actual waterbody.
- Ensure council is appropriately licensed if applying herbicide directly over water

Contact Council's Weeds Officer for further advice

*As per the *New South Wales Weed Control Handbook (Department of Primary Industries)*

AMPHIBIANS

Clearing and construction works

- Removal of native vegetation & native plant restoration works only to be completed in accordance with an approved Review of Environmental Factors (REF)
- Avoid heavy machinery entering marked roadside area

Grading

- Do not move spoil against vegetation or place where it may cause sediment pollution of the waterway. Where possible remove all spoil from the site for sealed roads
- For sealed roads do not grade beyond existing road shoulder
- For unsealed roads do not grade beyond existing road width

Stockpiling and vehicle parking

- Do not park vehicles or machinery in marked roadside area
- Do not place stockpiles in marked roadside area

Cleaning table drains

- Ensure disturbed sediment from drain cleaning does not enter the waterway. Where possible remove all spoil from the site
- Where possible do not remove groundcover vegetation, only remove vegetation that may prevent water from flowing
- Where possible do not deepen or widen the table drain
- Do not move spoil against vegetation or place where it may wash into the waterway



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THREATENED FAUNA HABITAT

General management principles

Slashing/mowing

- No slashing/mowing where sight lines are not an issue; or
- Where sight lines are an issue:
 - Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
 - Where possible restrict to 1 slasher/mower width from edge of road pavement
 - Do not slash/mow beyond the table drain
 - Slash/mow minimum width along bends to maintain sight lines
 - Do not slash/mow less than 100mm above ground surface

Weed control

- Apply only low impact control methods within marked roadside area. These include:
 - Where possible hand removal techniques
 - Cut/swab, cut stump, stem scrape* techniques for woody weeds
 - Foliar spot spraying* technique for herbaceous weeds

Contact Council's Weeds Officer for further advice

**As per the New South Wales Weed Control Handbook (Department of Primary Industries)*

F1

THREATENED FAUNA HABITAT

Clearing and construction works

- Removal of native vegetation and native plant restoration works only to be completed in accordance with an approved Review of Environmental Factors (REF)
- Avoid heavy machinery entering marked roadside area
- Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
- Avoid removing fallen logs, bush rock, trees with hollows and nesting trees

Grading

- Do not move spoil against native vegetation/trees and where possible remove all spoil from marked roadside area
- Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
- For sealed roads do not grade beyond existing road shoulder
- For unsealed roads do not grade beyond existing road width

Stockpiling and vehicle parking

- Avoid stockpiling materials within marked roadside area
- Only park vehicles and machinery in designated cleared areas

Cleaning table drains

- Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
- Where possible do not deepen or widen the table drain
- Do not move spoil against native vegetation/trees and where possible remove all spoil from marked roadside area
- Where possible, maintain groundcover vegetation within drains

SIGNIFICANT FAUNA HABITAT

General management principles

Slashing/mowing

- No slashing/mowing where sight lines are not an issue; or
- Where sight lines are an issue:
 - Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
 - Where possible restrict to one (1) slasher/mower width from edge of road pavement
 - Do not slash/mow beyond the table drain
 - Slash/mow minimum width along bends to maintain sight lines
 - Do not slash/mow less than 100mm above ground surface

Weed control

- Apply only low impact control methods within marked roadside area. These include:
 - Where possible hand removal techniques
 - Cut/swab, cut stump, stem scrape* techniques for woody weeds
 - Foliar spot spraying* technique for herbaceous weeds

Contact Council's Weeds Officer for further advice

**As per the New South Wales Weed Control Handbook (Department of Primary Industries)*

SIGNIFICANT FAUNA HABITAT

Clearing and construction works

- Removal of native vegetation and native plant restoration works only to be completed in accordance with an approved Review of Environmental Factors (REF)
- Avoid heavy machinery entering marked roadside area
- Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
- Avoid removing fallen logs, bush rock, trees with hollows and nesting trees

Grading

- Do not move spoil against native vegetation/trees and where possible remove all spoil from marked roadside area
- Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
- For sealed roads do not grade beyond existing road shoulder
- For unsealed roads do not grade beyond existing road width

Stockpiling and vehicle parking

- Avoid stockpiling materials within marked roadside area
- Only park vehicles and machinery in designated cleared areas

Cleaning table drains

- Clean machinery before entering marked roadside area to prevent introduction of weed seeds and fragments
- Where possible do not deepen or widen the table drain
- Do not move spoil against native vegetation/trees and where possible remove all spoil from marked roadside area
- Where possible, maintain groundcover vegetation within drains

KOALA BLACK SPOT

General management principles

Slashing/mowing

- Slash/mow existing roadside verges (grassed areas only) to the maximum width possible. This will improve motorist visibility of koalas on the road verge
- Increase frequency of roadside slashing/mowing (minimum once a month) from September to February. This is the koala breeding season during which they are most active

Clearing and construction works

- Minimise extent of vegetation clearing within marked roadside area. Retaining native vegetation and trees in marked areas will provide potential habitat and refuge for koalas



F3

KOALA BLACK SPOT

REGIONAL ROADSIDE ENVIRONMENT MARKER SCHEME

Hunter & Central Coast



Councils of the Hunter and Central Coast





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