

Notice of Meeting

Biodiversity Advisory Committee Meeting

A Biodiversity Advisory Committee Meeting of Byron Shire Council will be held as follows:

Venue	Conference Room, Station Street, Mullumbimby
Date	Thursday, 16 February 2023
Time	9.00am

Shannon Burt
Director Sustainable Environment and Economy

*I2023/157
Distributed 07/02/23*



BYRON
SHIRE
COUNCIL

CONFLICT OF INTERESTS

What is a “Conflict of Interests” - A conflict of interests can be of two types:

Pecuniary - an interest that a person has in a matter because of a reasonable likelihood or expectation of appreciable financial gain or loss to the person or another person with whom the person is associated.

Non-pecuniary – a private or personal interest that a Council official has that does not amount to a pecuniary interest as defined in the Code of Conduct for Councillors (eg. A friendship, membership of an association, society or trade union or involvement or interest in an activity and may include an interest of a financial nature).

Remoteness – a person does not have a pecuniary interest in a matter if the interest is so remote or insignificant that it could not reasonably be regarded as likely to influence any decision the person might make in relation to a matter or if the interest is of a kind specified in the Code of Conduct for Councillors.

Who has a Pecuniary Interest? - a person has a pecuniary interest in a matter if the pecuniary interest is the interest of the person, or another person with whom the person is associated (see below).

Relatives, Partners - a person is taken to have a pecuniary interest in a matter if:

- The person’s spouse or de facto partner or a relative of the person has a pecuniary interest in the matter, or
- The person, or a nominee, partners or employer of the person, is a member of a company or other body that has a pecuniary interest in the matter.

N.B. “Relative”, in relation to a person means any of the following:

- (a) the parent, grandparent, brother, sister, uncle, aunt, nephew, niece, lineal descends or adopted child of the person or of the person’s spouse;
- (b) the spouse or de facto partners of the person or of a person referred to in paragraph (a)

No Interest in the Matter - however, a person is not taken to have a pecuniary interest in a matter:

- If the person is unaware of the relevant pecuniary interest of the spouse, de facto partner, relative or company or other body, or
- Just because the person is a member of, or is employed by, the Council.
- Just because the person is a member of, or a delegate of the Council to, a company or other body that has a pecuniary interest in the matter provided that the person has no beneficial interest in any shares of the company or body.

Disclosure and participation in meetings

- A Councillor or a member of a Council Committee who has a pecuniary interest in any matter with which the Council is concerned and who is present at a meeting of the Council or Committee at which the matter is being considered must disclose the nature of the interest to the meeting as soon as practicable.
- The Councillor or member must not be present at, or in sight of, the meeting of the Council or Committee:
 - (a) at any time during which the matter is being considered or discussed by the Council or Committee, or

- (b) at any time during which the Council or Committee is voting on any question in relation to the matter.

No Knowledge - a person does not breach this Clause if the person did not know and could not reasonably be expected to have known that the matter under consideration at the meeting was a matter in which he or she had a pecuniary interest.

Non-pecuniary Interests - Must be disclosed in meetings.

There are a broad range of options available for managing conflicts & the option chosen will depend on an assessment of the circumstances of the matter, the nature of the interest and the significance of the issue being dealt with. Non-pecuniary conflicts of interests must be dealt with in at least one of the following ways:

- It may be appropriate that no action be taken where the potential for conflict is minimal. However, Councillors should consider providing an explanation of why they consider a conflict does not exist.
- Limit involvement if practical (eg. Participate in discussion but not in decision making or vice-versa). Care needs to be taken when exercising this option.
- Remove the source of the conflict (eg. Relinquishing or divesting the personal interest that creates the conflict)
- Have no involvement by absenting yourself from and not taking part in any debate or voting on the issue as of the provisions in the Code of Conduct (particularly if you have a significant non-pecuniary interest)

Committee members are reminded that they should declare and manage all conflicts of interest in respect of any matter on this Agenda, in accordance with the [Code of Conduct](#).

RECORDING OF VOTING ON PLANNING MATTERS

Clause 375A of the Local Government Act 1993 – Recording of voting on planning matters

- (1) In this section, **planning decision** means a decision made in the exercise of a function of a council under the Environmental Planning and Assessment Act 1979:
 - (a) including a decision relating to a development application, an environmental planning instrument, a development control plan or a development contribution plan under that Act, but
 - (b) not including the making of an order under that Act.
- (2) The general manager is required to keep a register containing, for each planning decision made at a meeting of the council or a council committee, the names of the councillors who supported the decision and the names of any councillors who opposed (or are taken to have opposed) the decision.
- (3) For the purpose of maintaining the register, a division is required to be called whenever a motion for a planning decision is put at a meeting of the council or a council committee.
- (4) Each decision recorded in the register is to be described in the register or identified in a manner that enables the description to be obtained from another publicly available document and is to include the information required by the regulations.
- (5) This section extends to a meeting that is closed to the public.

OATH AND AFFIRMATION FOR COUNCILLORS

Councillors are reminded of the oath of office or affirmation of office made at or before their first meeting of the council in accordance with Clause 233A of the Local Government Act 1993. This includes undertaking the duties of the office of councillor in the best interests of the people of Byron Shire and the Byron Shire Council and faithfully and impartially carrying out the functions, powers, authorities and discretions vested under the Act or any other Act to the best of one's ability and judgment.

BYRON SHIRE COUNCIL

BUSINESS OF MEETING

1. APOLOGIES

2. DECLARATIONS OF INTEREST – PECUNIARY AND NON-PECUNIARY

3. ADOPTION OF MINUTES FROM PREVIOUS MEETINGS

- 3.1 Confirmation of Minutes from 17 November 2022 meeting..... 6

4. STAFF REPORTS

Sustainable Environment and Economy

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- 4.2 Biodiversity and Agriculture Projects and Operations Update 17
- 4.3 Brunswick Valley Landcare Support Officer quarterly report, July to
September 2022. 29
- 4.4 Best Practice Management of Camphor Laurel on Rural Land..... 33
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- 4.6 DNA of feral dogs and dingoes..... 51

ADOPTION OF MINUTES FROM PREVIOUS MEETINGS

Report No. 3.1 Confirmation of Minutes from 17 November 2022 meeting

5 **Directorate:** Sustainable Environment and Economy
Report Author: Michelle Wilde, Project Support Officer
File No: I2023/41

10

RECOMMENDATION:

That the minutes of the Biodiversity Advisory Committee Meeting held on 17 November 2022 be confirmed.

15

Attachments:

1 Minutes 17/11/2022 Biodiversity Advisory Committee, I2022/1663 , page 8  

20

BYRON SHIRE COUNCIL

ADOPTION OF MINUTES FROM PREVIOUS MEETINGS

3.1

Report

The attachment to this report provides the minutes of the Biodiversity Advisory Committee Meeting minutes of 17 November 2022.

Report to Council

- 5 The minutes were reported to Council on 15 December 2022. **Comments**

In accordance with the Committee Recommendations, Council resolved the following:

22-718 Resolved that Council notes the minutes of the Biodiversity Advisory Committee Meeting held on 17 November 2022.

Minutes of Meeting

Biodiversity Advisory Committee Meeting

Venue	Cavanbah Centre, Ewingsdale Road, Byron Bay
Date	Thursday, 17 November 2022
Time	9.00am



BYRON SHIRE COUNCIL

ADOPTION OF MINUTES FROM PREVIOUS MEETINGS

3.1 - ATTACHMENT 1

BYRON SHIRE COUNCIL

BIODIVERSITY ADVISORY COMMITTEE MEETING MINUTES 17 NOVEMBER 2022

Minutes of the Biodiversity Advisory Committee Meeting held on Thursday, 17 November 2022

File No: I2022/1663

PRESENT: Cr S Ndiaye, Cr P Westheimer, Cr S Balson, Cr M Lyon

Staff: Shannon Burt (Director Sustainable Environment and Economy)

Sharyn French (Manager Environmental and Economic Planning)

Andrew Cameron (Agricultural Extension Officer)

Caitlin Weatherstone (Project Officer-Koala)

Claudia Caliarì (Biodiversity Projects Officer)

Sarah Nagel (Manager Public and Environmental Services)

Community:

Dave Rawlins (Brunswick Valley Landcare)

David Milledge

Leonard Cronin

Lindsay Murray

James Jackson

Stephen Millard

Cr Westheimer (Chair) opened the meeting at 9.04am and acknowledged that the meeting was being held on Bundjalung Country.

ATTENDANCE VIA AUDIO-VISUAL LINK:

Cr S Balson

Liz Caddick (Biodiversity Team Leader)

APOLOGIES: Liana Joseph, Chloe Dowsett (Coast & Biodiversity Coordinator)

DECLARATIONS OF INTEREST – PECUNIARY AND NON-PECUNIARY

There were no declarations of interest.

BYRON SHIRE COUNCIL

BIODIVERSITY ADVISORY COMMITTEE MEETING MINUTES 17 NOVEMBER 2022

ADOPTION OF MINUTES FROM PREVIOUS MEETINGS

Report No. 3.1 Adoption of minutes of Biodiversity Advisory Committee meeting held 15 September 2022

File No: I2022/1660

Committee Recommendation:

That the minutes of the Biodiversity Advisory Committee Meeting held on 15 September 2022 be confirmed.

(Balson/Westheimer)

The recommendation was put to the vote and declared carried.

BUSINESS ARISING FROM PREVIOUS MINUTES

There was no business arising from previous minutes.

STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

PROCEDURAL MOTION

Committee Recommendation:

That Biodiversity Advisory Committee change the order of business to deal with Report 4.3 next on the Agenda.

(Ndiaye/Westheimer)

The recommendation was put to the vote and declared carried.

Report No. 4.3 Biodiversity and Agriculture Projects Update
File No: I2022/1472

Committee Recommendation:

1. That the Biodiversity Advisory Committee notes the update on current projects and programmes being undertaken by Council staff.
2. That the Biodiversity Advisory Committee requests staff to prepare a report on best practice management of camphor laurel on rural land including clarification of inherent biodiversity values, removal pathways and communications to public on same.
3. That the Biodiversity Advisory Committee requests staff to prepare a report on carbon sequestration and incentive schemes to the next meeting.

(Cronin/Westheimer)

BYRON SHIRE COUNCIL

BYRON SHIRE COUNCIL

BIODIVERSITY ADVISORY COMMITTEE MEETING MINUTES 17 NOVEMBER 2022

The recommendation was put to the vote and declared carried.

Report No. 4.1 Update of constitution following new members
File No: I2022/1181

Committee Recommendation:

That the Biodiversity Advisory Committee note the updated constitution.

(Ndiaye/Westheimer)

The recommendation was put to the vote and declared carried.

Report No. 4.2 Brunswick Valley Landcare Support Officer quarterly report
April to June 2022
File No: I2022/1293

Committee Recommendation:

That the Biodiversity Advisory Committee note the report.

(Westheimer/Rawlins)

The recommendation was put to the vote and declared carried.

There being no further business the meeting concluded at 10.30am.

Report No. 4.1 Meeting Schedule for 2023 Biodiversity Advisory Committee

5 **Directorate:** Sustainable Environment and Economy
Report Author: Arika McElroy, Project Support Officer
File No: I2023/71

Summary:

10 This report advises committee members of the scheduled committee meeting dates for 2023 and informs of the process for agendas.

RECOMMENDATION:

- 15
1. **That the Biodiversity Advisory Committee notes the scheduled meeting dates and times for 2023.**
 2. **That the Biodiversity Advisory Committee advise of any agenda items for future meetings.**

20

Report

The following dates have been scheduled for the Committee's meetings for 2023, to be held in the Conference Room:

- Thursday 16 February, 9.00am
- 5 • Thursday 20 April 2023, 9.00am
- Thursday 29 June, 9.00am
- Thursday 21 September, 9.00am

At each meeting staff will provide report/s on the status of current projects for the agenda.

- 10 A Biodiversity and Agricultural project and operations update report will be provided at each meeting in 2023. A Brunswick Valley quarterly report will be scheduled accordingly. The following reports are also scheduled, in line with 2023 project milestones.

Thursday 20 April 2023:

- Mapping of open forest ecosystems requiring restoration through ecological burning

Thursday 29 June:

- 15
- Koala Variable Message Sign trial results
 - Terms of reference for review of Flying Fox Camp Management Plan

We would like to hear your suggestions for future agenda items in line with the purpose of the Committee, which is stated in the Constitution as follows.

- 20
1. To assist Council in the development, implementation and review of relevant biodiversity plans and policies such as: Biodiversity Conservation Strategy, Integrated Pest Management Plan, Flying Fox Camp Management Plan, Coastal Koala Plan of Management, Pest Animal Management Plan.
 2. To support our Agricultural Action Plan's goal to improve productivity and sustainable land use practices on rural lands in Byron Shire
 - 25 3. To identify and report biodiversity (terrestrial and coastal) and sustainable/regenerative agriculture matters to Council including, but not limited to: issues and concerns; community or collaborative opportunities; grant funding opportunities; special events; consultation and community engagement ideas; government policy; best practice or improved guidelines/guidance.
- 30 It is proposed that meetings can target specific issues related to biodiversity (terrestrial and coastal) and sustainable agriculture and that in order for the Committee to understand the issue and identify opportunities, experts on the subject can be invited to contribute.

BYRON SHIRE COUNCIL

STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

4.1

It is also proposed that meetings can be held outside the Council building within environments that are relevant to that meeting's theme. For example, different formats could be used such as field days and workshops.

- 5 *Note: Strategic coastal planning and preparation of Coastal Management Programs will be reported directly to Council

Committee members may also request items for inclusion in agendas for the above purpose, through the Chair.

- 10 Generally, agenda items are due 5 weeks prior to the meeting date. A reminder will be sent to Committee members by email to meet this deadline. Agenda items are to be requested to the Chair by the below due dates, to allow time for report preparations.

Meeting Date	Agenda item due date
Thursday 20 April	Thursday 16 March
Thursday 29 June	Thursday 25 May
Thursday 21 September	Thursday 17 August

A link from Council's website to the agenda for each meeting will be provided to members, by email, at least 7 days prior to the meeting date.

Strategic Considerations

Community Strategic Plan and Operational Plan

CSP Objective	CSP Strategy	DP Action	Code	OP Activity
1: Effective Leadership We have effective decision making and community leadership that is open and informed	1.1: Enhance trust and accountability through open and transparent leadership	1.1.2: Governance - Ensure legislative compliance and support Councillors to carry out their civic duties	1.1.2.4	Deliver Council meeting secretariat – including agenda preparation, minutes and council resolutions monitoring

15 Recent Resolutions

- 22-744, 15 December 2022

Legal/Statutory/Policy Considerations

Nil

Financial Considerations

Nil

5 Consultation and Engagement

N/a

Report No. 4.2 Biodiversity and Agriculture Projects and Operations Update

Directorate: Sustainable Environment and Economy

Report Author: Lizabeth Caddick, Biodiversity Officer

5 **File No:** I2023/42

Summary:

This report provides the Biodiversity Advisory Committee with an update on current projects and programs being undertaken by the Biodiversity team, including:

- 10 • Wildlife corridor mapping
- Updates to vegetation mapping
- Koala vehicle strike
- Koala habitat restoration
- Pest animal management (wild dogs, feral deer)
- Flying Foxes
- 15 • Bringing Back the Bruns
- Sustainable agriculture program.

20 **RECOMMENDATION:**

That the Biodiversity Advisory Committee notes the update on current projects and programmes being undertaken by Council staff.

25

Report

Wildlife Corridor Mapping

5 A Strategic Planning Workshop was held with Councillors on 6 October to discuss the implications of the Local Government Act management requirements for Community and Crown Land on wildlife corridor mapping.

10 The draft Wildlife Corridor System (Landmark 2022) was on public exhibition from 31 October to 12 December – including a 2 week extension requested by members of the community. 107 submissions were received. The Your Say web page had 1077 page views. For November, this amounted to 20% of traffic to Councils Your Say pages. The wildlife corridor system information sheet (<https://www.byron.nsw.gov.au/files/assets/public/hptrim/environmental-management-planning-wildlife-corridor-mapping/byron-wildlife-corridors-system-information-sheet.pdf>) map had 210 document downloads, which indicates a significant level of interest, given that most documents on your say pages are not downloaded frequently.

15 Staff are currently reviewing feedback and a report will be provided to Council later in the year.

Other Mapping Projects

Updates to Vegetation and HEV mapping

20 *Biodiversity Conservation Strategy Actions: 1.14: Update and maintain Council's vegetation and HEV mapping with revised Plant Community Types (PCTs) and current aerial photography; 1.19 Update vegetation mapping to clearly identify recently listed threatened ecological communities.*

25 Earthscapes Consulting are currently undertaking further updates to vegetation mapping, funded by a \$24,000 grant from NSW DPE Biodiversity Conservation Division. To date, Earthscapes have reviewed the recently released Plant Community Types (NSW State Vegetation Type Mapping) against Byron Shire Council 2021 Vegetation Mapping Updates (reported at last BAC meeting). They are now working with NSW Department of Planning and Environment to review and update Councils High Environmental Value mapping, and to update Council's vegetation mapping in relation to recently listed
30 threatened ecological communities (Coastal Swamp Oak and Coastal Swamp Sclerophyll Forest).

Identifying open forest ecosystems for ecological restoration

Biodiversity Conservation Strategy Action 4.4 Identify priority open forest ecosystems requiring restoration through the reintroduction of fire.

35 This project, funded by a \$11,000 grant from NSW DPE Biodiversity Conservation Division, is using GIS, expert elicitation and ground truthing to identify and mapping open forest ecosystems in Byron Shire that would benefit from the reintroduction of ecological fire management. In fire-dependent ecosystems (including Eucalypt, Brush Box and Paperbark forests and also heathlands), regular fire is needed to maintain shade-intolerant

plant communities and fauna habitat, promote germination of open forest species and maintain canopy tree health, through maintaining appropriate soil chemistry and reducing the risk of Bell Miner Associated Dieback.

5 The map will assist Council and Landcare Groups to identify future priority ecological restoration sites. It will also support the current Good Fire project (funded by InGrained foundation), which aims to build capacity for community to carry out eco-cultural burns in open forest types.

10 An expert stakeholder workshop was held on 29 November to get input on the draft mapping from local expert ecologists and bush regeneration practitioners. The final report and map should be available to present at the next BAC meeting.

Koalas

Koala Vehicle Strike

Several projects are underway to help mitigate the high level of koala vehicle strike experienced in Byron Shire in 2022.

15 A NSW State Government grant of \$15,440 was used to trial the use of relocatable variable message signs at black spots in the shire over the 2022 breeding season (September to December). Two trailer-mounted VMS were deployed for 4 weeks at each of 4 sites to alert drivers about wildlife (Coolamon Scenic Drive, Granuaille Rd, Lismore Rd and Broken Head Rd). Traffic data loggers were installed to monitor the effectiveness of
20 the signs, using traffic speeds as a surrogate. The trial has now ended, traffic data are being collated and will be reported to a future BAC meeting.

25 Geolink have been engaged by DPE to develop a Feasibility Assessment for koala vehicle strike mitigation measures in the key road-strike black spot that extends from Granuaille Rd to Lismore Rd, coming into and out of Bangalow. Biodiversity and Infrastructure Services staff are currently working with Geolink and Transport for NSW representatives to consider suitable mitigation options.

Staff are currently finalising a grant funding agreement with the NSW Government for \$185,028 to install relocatable solar-powered LED radar speed signs and road pavement treatments at key wildlife black spots in the shire (Figure 1), including:

- 30
1. Broken Head Road: Natural Lane to Sugar Cane Rd
 2. Coorabell Rd: Newes Road to Federal Drive
 3. Coolamon Scenic Drive: Montecollum to Hinterland Way

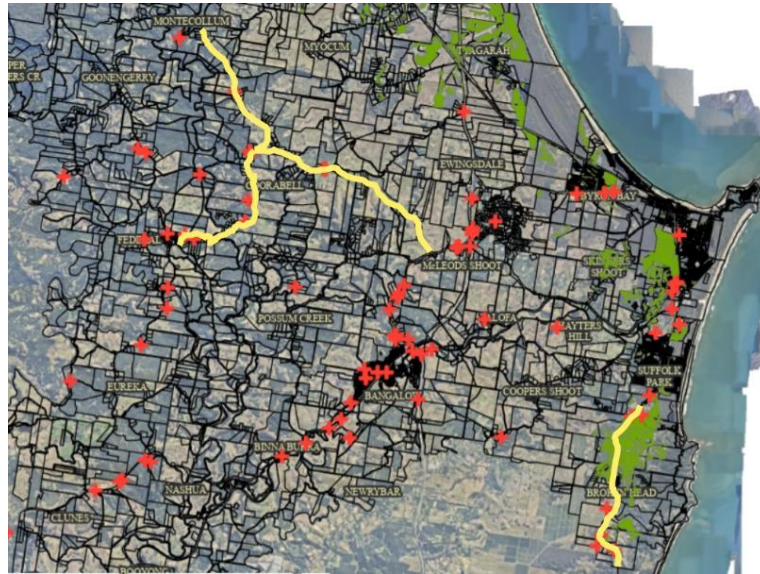


Figure 1. Priority road sections (yellow) and KVS records (in the last 5 years; red crosses). [Green areas show Core Koala Habitat, which for Byron Shire has to date only been mapped in the coastal zone].

- 5 The use of relocatable LED signs (Figure 2) will give Byron Shire Council the opportunity to change the signs' message to reflect relevant wildlife issues and breeding seasons. It will also enable Council to relocate the signs from these locations to new koala vehicle strike hotspots as these arise, where Council is able to fund installation of additional sign-post footings. Periodically relocating signs also helps to manage driver sign fatigue,
- 10 enabling signs to be more effective over the long-term.

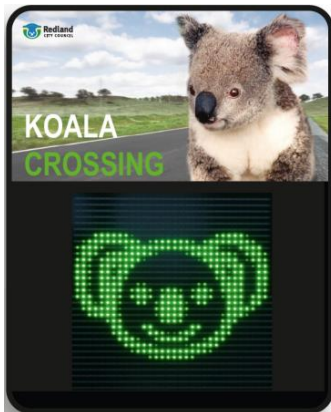


Figure 3. Jenoptik GR 48C 3-colour LED data logging sign 81 x 100 x 4cm.

- 15 Design plans for sign and pavement treatment locations will be finalised in 2023, with sign installation due to commence in 2024. Traffic data loggers will be installed pre and post sign installation to monitor sign effectiveness. The project, including all monitoring and reporting to DPE, is due for completion by early 2026.

Koala Habitat Restoration

BYRON SHIRE COUNCIL

STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

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The 2022 Koala Habitat Restoration project is progressing with a NSW Koala Strategy grant of \$101,211. Work is in progress at six restoration / planting sites.

- 5 Staff are also finalising a NSW Koala Strategy grant funding agreement for \$15,000 to support maintenance and ongoing restoration at several existing koala habitat restoration sites in the shire.

Flying Foxes

The Byron Shire Flying Fox Camp Management Plan 2018-2023 is now due for review. Over the next few months staff will be seeking a contractor to update the plan in relation to current flying fox census data, legislation and emerging research/best practice.

- 10 In December we received a WIRES grant of \$27,100 for the 'No Tree No Me' project. This project will develop a media campaign to explain the importance of flying foxes as regenerators of the bush, and their role in creating habitat for other threatened species, notably koalas. The media campaign will be targeted at a Byron Shire audience, focussing on the key Flying Fox concerns that are raised by our local community. A key focus will be
- 15 working with local schools to educate children, thus promoting long term generational attitude change.

Pest Animal Management Program

Pest Animal Management Plan 2018-23

- 20 The team is in the very early stages of evaluating the outcomes of the PAMP from 2018 and preparing a reviewed plan for the next 5 years. The new plan is likely to include the management of deer in the Shire. A consideration of the new plan will be on the involvement/collaboration of neighbouring Councils in recognition that many of the pests are mobile (e.g. dogs, Indian mynas and deer).

25 Wild Dogs, Cats and Foxes

Minimal trapping has been carried out in the Shire over the warmer months by our contract trapper. The best time to trap is Autumn to Winter. An annual dog, fox and cat trapping report will be available at the end of the June 2023.

Indian Myna

- 30 Councils supply of Myna traps has finally dried up as the people who made them have retired. We are currently searching for people or an organisation to make more of the traps. The Pee Gee traps we use are superior to any available on the market.

- 35 Council's Indian Myna trapping contractor Rochelle Merdith has a database of all traps being used in the Shire and is encouraging sharing of the traps from those that have eliminated the birds in their area to those in need.

Rochelle has created a Byron Shire Indian Myna Action Group on Facebook. So far there are 16 members. Members share their successes, techniques and also use the page to offer assistance and traps to others if required.

Feral Deer

- 5 The Regional Feral Deer Officer (hosted by Tweed Shire Council) is organising a number of staff training, Councillor and Executive workshops and community capacity building events for Byron Shire.

No deer have been sighted in the Shire since the last meeting.

Bringing Back the Bruns

- 10 The Federally funded *Fish Habitat Restoration Project* on the Brunswick River has been delayed this year due to complexity of permitting. Pending suitable weather, erosion control works by Soil Conservation Service will commence once all approvals have been obtained. Due to constraints within the planning framework, development assessment and approval was required which has delayed the timeframe for implementation of the works.

15 Farm Extension

The Byron Farmers Network database now has 350 members and is an excellent resource to share information and advice with the growers community, for both Council and other agencies that work to support farmers in the region.

- 20 The farm extension program is ongoing, with visits, emails and phone conversations with local producers to provide support, advice and information. Council is currently working with 'The Farm' to develop a pilot farmer incubator program, aimed at supporting local people who would like to break into the sustainable farming industry. We are also working closely with Santos Organics to assist development of their local food program and investigating other options to create and encourage local food security in the shire.

- 25 During the period 11 emails total went out to the Byron Farmers Network.

We had a field day at Boon Luck Farms in Tyagarah which had 18 registrations and 15 attendees. For Feb 3rd we have a field day scheduled at Conscious Ground Organics.

Sustainable Agriculture Activities

- 30 Initial meeting held with the Landless Farmers Co Operative which Council has been assisting the development of. This is an imperative step to supporting our farmers who simply cannot afford to own land in this region and crucial to keeping farming in the Byron Shire.

- 35 North Coast Rural Industries Meeting with primary industry heads and other government agencies. North coast industry updates, flood recovery, identifying gaps and opportunities. E2023/8369 (Minutes).

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Australian Biological Farming conference held at Southern Cross University. With local and international presenters, a wealth of knowledge and information to extend to our farmers as well as a great networking opportunity with other farmers and farming groups.

5 Carbon sequestration, a very hot topic in farming at the moment has had continual research and development to apply to our local context. We hosted a successful meeting between The Carbon Bank and local Myocum Graziers to help farmers understand the opportunities that are available.

10 The Farm Incubator Program has officially launched Jan 25th, with Andrew Cameron being one of the main mentors and assisting in the development of the program. Two participants have been selected and first meeting set for first week of February. Another very important part of the puzzle in growing farmers in our region which at this point is vital in sustaining a local agriculture industry.

15 Participant at the Northern Rivers Food Strategic purpose and vision workshop. As a key stakeholder in our region Council's Agricultural Extension Officer was invited to workshop the NR strategy and purpose moving forward.

Strategic Considerations

Community Strategic Plan and Operational Plan

CSP Objective	CSP Strategy	DP Action	Code	OP Activity
2: Inclusive Community We have an inclusive and active community where diversity is embraced and everyone is valued	2.2: Enhance safety and contribute to the physical, mental, and spiritual health and well being of our people	2.2.4: Companion animals - Promote awareness of the requirements of the Companion Animals Act with respect to the ownership of companion animals	2.2.4.3	Facilitate companion animals education
3: Nurtured Environment We nurture and enhance the natural	3.1: Partner to nurture and enhance our biodiversity, ecosystems,	3.1.1: Native species - Use best practice land management to improve	3.1.1.1	Partner with DPE to implement koala vehicle strike mitigation in Byron Shire as part of the NSW Koala Strategy

BYRON SHIRE COUNCIL

STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

4.2

environment	and ecology	ecological resilience and reduce threats to biodiversity		2022-2026.
3: Nurtured Environment We nurture and enhance the natural environment	3.1: Partner to nurture and enhance our biodiversity, ecosystems, and ecology	3.1.1: Native species - Use best practice land management to improve ecological resilience and reduce threats to biodiversity	3.1.1.2	Engage with the community regarding mitigating threats to koalas.
3: Nurtured Environment We nurture and enhance the natural environment	3.1: Partner to nurture and enhance our biodiversity, ecosystems, and ecology	3.1.1: Native species - Use best practice land management to improve ecological resilience and reduce threats to biodiversity	3.1.1.3	Partner with Regional Koala Group to progress koala conservation in Northern Rivers region.
3: Nurtured Environment We nurture and enhance the natural environment	3.1: Partner to nurture and enhance our biodiversity, ecosystems, and ecology	3.1.1: Native species - Use best practice land management to improve ecological resilience and reduce threats to biodiversity	3.1.1.9	Seek funding to implement the Biodiversity Conservation Strategy, Coastal Koala Plan of Management and Flying Fox Camp Management Plan.
3: Nurtured Environment We nurture and enhance the natural environment	3.1: Partner to nurture and enhance our biodiversity, ecosystems, and ecology	3.1.2: Pest and weed management - Use best practice land management to improve	3.1.2.1	Implement Dog, fox and cat trapping program.

BYRON SHIRE COUNCIL

STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

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		ecological resilience and reduce threats to biodiversity		
3: Nurtured Environment We nurture and enhance the natural environment	3.1: Partner to nurture and enhance our biodiversity, ecosystems, and ecology	3.1.2: Pest and weed management - Use best practice land management to improve ecological resilience and reduce threats to biodiversity	3.1.2.3	Participate in Northern Rivers Feral Deer Management group.
3: Nurtured Environment We nurture and enhance the natural environment	3.1: Partner to nurture and enhance our biodiversity, ecosystems, and ecology	3.1.3: Habitat restoration - Restore degraded areas that provide high environmental or community value	3.1.3.1	Update Byron Shire habitat restoration database and DPE Koala Habitat Restoration Archive.
3: Nurtured Environment We nurture and enhance the natural environment	3.1: Partner to nurture and enhance our biodiversity, ecosystems, and ecology	3.1.3: Habitat restoration - Restore degraded areas that provide high environmental or community value	3.1.3.3	Implement 2022 Koala Habitat Restoration Project.
3: Nurtured Environment We nurture and enhance the natural environment	3.1: Partner to nurture and enhance our biodiversity, ecosystems, and ecology	3.1.3: Habitat restoration - Restore degraded areas that provide high environmental or	3.1.3.4	Investigate grant opportunities for improving the Brunswick Estuary ecosystems and river health.

BYRON SHIRE COUNCIL

STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

4.2

		community value		
3: Nurtured Environment We nurture and enhance the natural environment	3.1: Partner to nurture and enhance our biodiversity, ecosystems, and ecology	3.1.3: Habitat restoration - Restore degraded areas that provide high environmental or community value	3.1.3.5	Deliver Federal Fish Habitat Restoration Project
3: Nurtured Environment We nurture and enhance the natural environment	3.2: Deliver initiatives and education programs to encourage protection of our environment	3.2.3: Planning - Plan to improve the quality of the natural environment	3.2.3.1	Update flora and fauna lists for the shire, including status of threatened flora and fauna.
3: Nurtured Environment We nurture and enhance the natural environment	3.2: Deliver initiatives and education programs to encourage protection of our environment	3.2.3: Planning - Plan to improve the quality of the natural environment	3.2.3.2	Update Byron Shire Vegetation and HEV mapping
3: Nurtured Environment We nurture and enhance the natural environment	3.2: Deliver initiatives and education programs to encourage protection of our environment	3.2.3: Planning - Plan to improve the quality of the natural environment	3.2.3.3	Participate in regional coastal and environmental working groups and initiatives
3: Nurtured Environment We nurture and enhance the natural environment	3.2: Deliver initiatives and education programs to encourage protection of our environment	3.2.3: Planning - Plan to improve the quality of the natural environment	3.2.3.4	Identify priority open forest ecosystems requiring restoration through the reintroduction of fire.

BYRON SHIRE COUNCIL

STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

4.2

<p>3: Nurtured Environment We nurture and enhance the natural environment</p>	<p>3.3: Protect the health of our coastline, estuaries, waterways, and catchments</p>	<p>3.3.1: Coastal Management Program planning and implementation - Undertake Coastal Management Program planning and implementation</p>	<p>3.3.1.5</p>	<p>Research the effects of recreational uses on coastal biodiversity and habitats</p>
<p>4: Ethical Growth We manage growth and change responsibly</p>	<p>4.3: Promote and support our local economy</p>	<p>4.3.5: Regenerative agriculture - Develop and implement strategies to support regenerative agriculture, agri-business and farmers</p>	<p>4.3.5.1</p>	<p>Maintain and update Byron Shire Farmer database.</p>
<p>4: Ethical Growth We manage growth and change responsibly</p>	<p>4.3: Promote and support our local economy</p>	<p>4.3.5: Regenerative agriculture - Develop and implement strategies to support regenerative agriculture, agri-business and farmers</p>	<p>4.3.5.2</p>	<p>Provide extension services to farmers to support and promote sustainable agriculture.</p>
<p>4: Ethical Growth We manage growth and change responsibly</p>	<p>4.3: Promote and support our local economy</p>	<p>4.3.5: Regenerative agriculture - Develop and implement strategies to support regenerative agriculture, agri-business</p>	<p>4.3.5.3</p>	<p>Deliver farmer mentoring and farmer education activities.</p>

		and farmers		
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Recent Resolutions

RESOLUTION NUMBER: 22-366

- 5 1. That Council endorses the Byron Shire Wildlife Corridor System for public exhibition, with proposed updates to Council’s Biodiversity DCP (as set out in this report) included as supporting information.
- 2. That following exhibition, Council receives a submissions report to consider key issues raised and formally adopt the new Wildlife Corridor System.
- 3. Following completion of ‘2’ above, that Council:
 - 10 a) update DCP Chapter ‘B1 – Biodiversity’ to reflect the adopted Wildlife Corridor Map and any additional supporting amendments; and
 - b) exhibit the DCP chapter updates in accordance with relevant legislative requirements.

15 **Legal/Statutory/Policy Considerations**

N/A

Financial Considerations

Where relevant, budgets for specific projects noted above.

Consultation and Engagement

20 N/A

Report No. 4.3 Brunswick Valley Landcare Support Officer quarterly report, July to September 2022.

Directorate: Sustainable Environment and Economy

Report Author: Michelle Wilde, Project Support Officer

5 **File No:** I2023/129

Summary:

This report tables the activities of the Landcare Support Officer quarterly report, from July to September 2022.


10

RECOMMENDATION:

That the Biodiversity Advisory Committee notes the report.

Attachments:

15

- 1 Brunswick Valley Landcare Support Officer report July to September 2022, E2022/121863 , page 31 [↓](#) 

Report

Council provided an allocation of funds in the 2022/23 budget to continue to support the Brunswick Valley Landcare, Landcare Support Officer position for 1 day per week to deliver the Land for Wildlife Program and respond to customer enquiries.

- 5 Attached is the quarterly report July to September 2022, from the Brunswick Valley Landcare Support Officer, for the Committee’s reference.

Strategic Considerations

Community Strategic Plan and Operational Plan

CSP Objective	CSP Strategy	DP Action	Code	OP Activity
3: Nurtured Environment We nurture and enhance the natural environment	3.2: Deliver initiatives and education programs to encourage protection of our environment	3.2.2: Environmental education and awareness - Coordinate and support environmental education to the community	3.2.2.1	Support Brunswick Valley Landcare to deliver the Land for Wildlife Program and biodiversity enquiries.

Recent Resolutions

- 10 N/A

Legal/Statutory/Policy Considerations

N/A

Financial Considerations

Funding allocated in 2022/23 budget.

- 15 **Consultation and Engagement**

N/A



Landcare Support Officer Report for Byron Shire Council

1st July – 30th September 2022

LFW

Total of 148 properties registered in Byron Shire

84 registered by BVL, 64 registered by BSC

- Paperwork submitted for
 - 168 Tandys Lane, Brunswick Heads
 - 25 Yelgun Road, Yelgun

LANDCARE GROUPS

- 23 BVL locality groups – 16 working on council owned land (one has become inactive due to illness of coordinator, council regen team now manage this site)
- 3 BVL special interest groups
- 10 Incorporated Landcare groups working in Byron Shire (not under BVL’s umbrella)

PROJECTS

- **Main Arm Fish Habitat** – DPI Fisheries grant \$17,519 complementing Bringing Back the Bruns projects. Project completed.
- **ET Ridge to River: Mooibal Spur Corridor Restoration Stage 1** \$99,873 working on council road reserve and private properties between Tallow wood Ridge Estate and Tristran Drive, Mullumbimby Creek. Project completed.
- **ET Broken Head Costal Corridor Restoration Stage 3** was successful \$170,000 over 4 years.
- **LLS Landslip Recovery** – regional project across 4 northern Landcare networks – assessing 15 priority slides in Byron Shire with soil conservation experts.
- **BVL Flood Recovery Grant** – distributed 60 x \$250 native plant nursery vouchers to private landholders who had been impacted by the floods

COUNCIL

- **Smart Farms workshops** – now complete.
20th August at Tina Sweeneys on soil sampling with John Grant and Dave Forrest – 22 attendees.



2nd September at Conscious Grounds on water management – 20 attendees.



- Alison is working with Liz to re-new the revegetating streams on the Brunswick catchment leaflet.
- Provided letter of support for Main Beach and Clarkes Beach Dune Recovery project.
- Liasied with Dave Filipczyk about work sites for the Mullum Town group.
- Signed a new MOU between Brunswick Valley Landare and council.



- **BSC Compensatory Planting @ Tyagarah** 156 plants - complete
- **BSC Compensatory Planting @ Main Arm** 276 plants - complete

BVL PROJECT OFFICER

- Rochelle is now working mainly working from home 1 day per week on a flexible basis. In addition to this Rochelle has also been working with council on pest animal projects.

ENQUIRY TOPICS/ ISSUES

Phone	Email	Website	Social Media	Walk in	In Person
Forming a locality group	Bush regen contractors	Camping in dunes			Forming a locality group
Advice for private property	funding	volunteering			
Free hessian from Splendour	Biodegradable tree guards	Planting guide			
Vegie planting	volunteering	MLNG			
Funding help for Private property					
volunteering					
Support for project					
7	4	4			1
TOTAL					16

1st December 2022 Report by Alison Ratcliffe

Report No. 4.4 Best Practice Management of Camphor Laurel on Rural Land

Directorate: Sustainable Environment and Economy

Report Author: Claudia Caliarì, Biodiversity Projects Officer

5 **File No:** I2023/79

Summary:

10 At the 17 November Biodiversity Advisory Committee meeting, the committee requested staff to prepare a report on best practice management of camphor laurel (*Cinnamomum camphora*) on rural land including clarification of inherent biodiversity values, removal pathways and communications to public on same.

15 This report provides a brief history of the occurrence of camphor laurel in the Northern Rivers, it's regulatory status, a summary of the positive and negative values of camphor laurel and some guidelines on best practice management, based on the recommendations of the North Coast Weeds Advisory Committee (NCWAC).

RECOMMENDATION:

20 **That the Biodiversity Advisory Committee notes this report.**

Report

5 At the 17 November Biodiversity Advisory Committee meeting, the committee requested staff to prepare a report on best practice management of camphor laurel (*Cinnamomum camphora*) on rural land including clarification of inherent biodiversity values, removal pathways and communications to public on same.

This report provides a brief history of the occurrence of camphor laurel in the Northern Rivers, its regulatory status, a summary of the positive and negative values of camphor laurel and some guidelines on best practice management, based on the recommendations of the North Coast Weeds Advisory Committee (NCWAC)¹.

10 Background

Camphor laurel was introduced into Australia from Asia in 1822, but the earliest planting outside of a botanical garden occurred in the 1870s². In 1959, Romeo Lahey (1960) drew attention to the invasion of the landscape in southern Queensland by introduced weeds - 'forests of camphor laurel' established by birds in parts of southern Brisbane.

15 Through the 1980's there was growing recognition of the species as 'undesirable' by farmers and graziers in the Richmond–Tweed region, which had the highest abundance of camphor Australia³. By the late 1990's camphor laurel had become a major environmental problem in parts of eastern Australia, especially the Richmond–Tweed region. This was a consequence of several decades of land use change accompanying the decline of dairy farming, and the associated lessening of weed control on the former dairying lands².
20 Camphor laurel stands currently represent around 9.13% of Byron Shire area. Figure 1 below shows the current extent of Camphor laurel stands in Byron Shire.

¹ [camphor - NSW North Coast Weeds Advisory Committee](#)

² Stubbs 2012. Saviour to Scourge- a history of the introduction and spread of the camphor tree in eastern Australia

³ Firth, D. J., 1979a. The ecology of *Cinnamomum camphora* (camphor laurel) in the Richmond–Tweed region of north-eastern New South Wales, B. Litt. thesis, University of New England, Armidale. Firth, D. J., 1979b. Camphor laurel: important tree weed in north-east New South Wales, Agricultural Gazette of New South Wales 90, 14–15.

1981. Camphor laurel (*Cinnamomum camphora*)—a new weed in north-eastern New South Wales, Australian Weeds 1

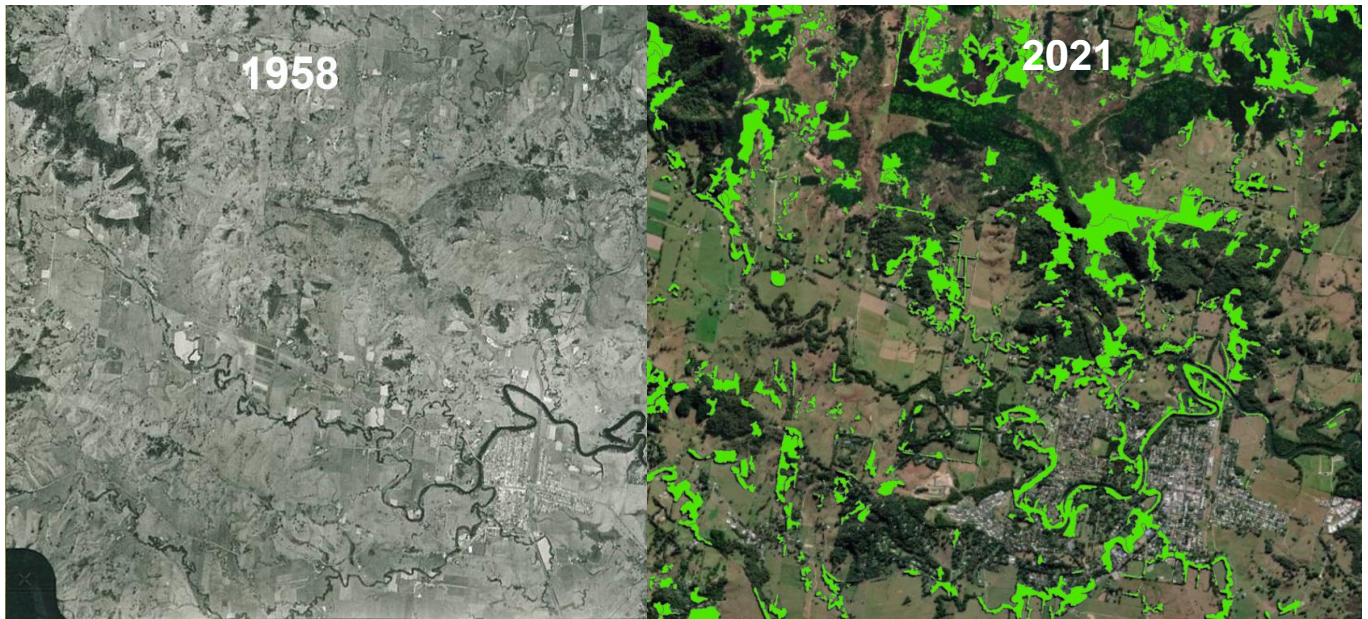


Figure 1. Aerial photos of Mullumbimby and surrounds in 1958 and 2021 showing extent of Camphor laurel infestation (green shading) across the modern landscape.

Regulatory status

5 In the past, Camphor was considered a Noxious weed due to the toxic effects of certain forms of the species, resulting in high levels of invasiveness. In a process known as allelopathy, chemical compounds in the fruit, seeds, leaves, roots, and bark of some camphor trees were thought to have caused decline in native species, as well as providing ecological advantage to camphor laurel by reducing the competitiveness of surrounding vegetation, hence enabling its dominance and persistence⁴. The classification has
 10 changed since the Biosecurity Act 2015, and Camphor laurel is not considered a Weed of National Significance (WONS)⁵.

15 In NSW Camphor laurel is considered a Local Priority Weed under the Biosecurity Act 2015 with the mandatory outcome “Plants under 4 metres in height should be fully and continuously suppressed and destroyed.” In the North Coast Local Land Service Regional Strategic Weed Management Plan⁶ it is considered a species of concern and as high priority for asset protection.

20 Under Byron Shire Council POLICY NO 11/007: [Camphor Laurel Management in Byron Shire Policy - Byron Shire Council \(nsw.gov.au\)](#) Council views Camphor Laurel as a significant environmental weed, albeit one with positive and negative values. As such, effective control and management of Camphor Laurel will involve the assessment of all values in order to develop strategies that will deliver effective outcomes. Due to changes in

⁴ Schenk 2009. Phytochemistry, Allelopathy and the Capability Attributes of Camphor Laurel

⁵ [Weeds profiles - Weeds Australia](#)

⁶ North Coast Regional Strategic Weed Management Plan www.northcoast.lls.nsw.gov.au 2017-2022

regulations such as the Biosecurity Act and Byron Shire Development Control Plan the policy is out of date in places.

Council acknowledges that certain Camphor Laurels may have heritage or cultural significance and may be protected under the DCP⁷.

- 5 Large scale clearing of Camphor Laurel (e.g. for biomass fired power stations), is addressed under Council's DCP. It states that large scale clearing of camphor laurel, involving multiple vehicle trips, heavy machinery and stockpiling, is subject to development consent. For clarity, landholders are best advised to consult their Local Council and/or Local Land Services.

10 **Management of Camphor Laurel by Council**

- Council is not currently involved in any specific Camphor Laurel control projects, although in certain areas Camphor Laurel is controlled by Council staff as part of routine management regimes. For instance, roadside slashing keeps Camphor Laurel on certain country roads from maturing whilst the bush regeneration staff control Camphor Laurel seedlings and individual trees in Council managed areas for the purpose of maintaining natural habitat values. In 2022, Council partnered with LLS and Byrangerie Grass Reserve Trust to remove some large roadside camphor trees on Mafeking Rd, adjacent to Byrangerie Grass Reserve, to protect the ecological values of this open forest reserve.

- 20 Conversion of camphor-dominated areas to native vegetation has also occurred as part of grant-funded habitat restoration projects Council is involved with, including Byron Habitat Corridors and the North-East Hinterland Koala Conservation Project. Council also works closely with groups such as Brunswick Valley Landcare, who undertake numerous grant-funded projects to restore native vegetation in areas dominated by camphor and other weed species.

- 25 Council has also provided community groups with information on Camphor Laurel control and management in relation to landscape planning for property and biodiversity management. The advice hasn't changed throughout the years and examples can be found on a Camphor Laurel Symposium⁸ and the 2009 Big Scrub day presentation⁹.

Positive values of Camphor Laurel¹⁰

- 30
- Its structural attributes are relatively complex and represent an improvement on pasture as habitat for wildlife¹¹.

⁷ [Byron Shire Development Control Plan 2014 Chapter B2 Tree and Vegetation Management - Adopted 11 March 2021 - Effective 22 March 2021.pdf](#)

⁸ Media release - Camphor Laurel Symposium - request for approval from Cr Morrisey

⁹ Draft Big Scrub 2009 Presentation The role of Camphor in rainforest restoration in Byron Shire

¹⁰ DM222973

¹¹ Neilan et al 2006 Do frugivorous birds assist rainforest succession in weed dominated old-field regrowth of subtropical Australia

- Camphor laurel can provide some soil stabilisation on steep lands that had previously been cleared.
- Areas densely infested with Camphor Laurel may reduce growth of more serious environmental weeds.
- 5 • It can provide habitat for Threatened Species.
- Patches of Camphor laurel can provide important steppingstones, linking fragmented rainforest remnants¹².
- With large-scale clearing of lowland rainforest, Camphor Laurel has become an important seasonal food resource for fruit eating fauna.
- 10 • It provides perch sites for seed-dispersing birds to drop a wide diversity of native seeds to the ground. Areas of camphor can enhance an otherwise largely depleted soil seed bank.
- Camphor Laurel may be a highly valued timber resource that can be harvested on a sustainable basis. This type of industry allows for incremental replacement with locally occurring rainforest species.
- 15

Negative values of Camphor Laurel

- As an environmental weed, it is considered as high priority threat to at least 11 species. However, at least 20 other weed species are considered as extreme or very high priority¹³, of far greater concern to the biodiversity of the Shire.
- 20
- Camphor Laurel has extremely vigorous growth, with few predators and well-dispersed seeds that readily germinate, making it difficult and expensive to control. It tends to germinate under fences and power lines (where birds rest and deposit the seed), so can rapidly invade farmland, particularly lands that are not intensively managed.
- 25
- Camphor-dominated areas block the natural succession and regeneration processes, particularly in areas distant from native seed sources.

¹² Date EM, Recher HF (1989) Ecology and management of rainforest pigeons in New South Wales. Report to the NSW National Parks and Wildlife Service, Sydney.

Date EM, Ford hectares, Recher HF (1991) Frugivorous pigeons, steppingstones, and weeds in northern New South Wales. In: Nature Conservation 2: the Role of Corridors. Saunders, D.A. and Hobbs, R.J. (Eds). Surrey Beatty and Sons, Chipping Norton, Sydney, pp. 241-245.

Date EM, Recher, HF Ford H (1992) Status of Rainforest Pigeons in Northern New South Wales. Report to NSW National Parks and Wildlife Service, Sydney

¹³ Downey et al. 2010. Prioritizing weed species based on their threat and ability to impact on biodiversity: a case study from NSM

- While it provides some shade and habitat along waterways, its roots have been implicated in increasing the probability of bank undercutting.
 - Camphor Laurel invasions can alter vegetation community structures and ecological functions.
- 5
- Camphor Laurel has been reported to be poisonous to fingerlings (baby fish), invertebrates and tadpoles¹⁴.

Best practice control and management of Camphor Laurel

10 While Camphor Laurel is highly visible in the local landscape and can have a significant impact on biodiversity values, it also provides biodiversity benefits and needs to be controlled in a long-term, planned and staged manner that considers the existing habitat it provides. The information below is based on the recommendations of the North Coast Weeds Advisory Committee (NCWAC)¹⁵, and provides best-practice camphor management recommendations for different land use types.

15 Management intent for Camphor Laurel shouldn't be based on weed eradication, but on the long-term goals for the site. The main options for Camphor Laurel management are:

1. Clear and replant with site-specific trees (a proven method, but can be expensive, and unsuitable for some sites).
- 20 2. 'Camphor conversion': i.e., strategically kill camphors to promote the growth and regeneration of native plants that have recruited to camphor stands, or that are present in the soil seed bank. This method takes advantage of the presence of native plants in camphor stands, is often cheaper than replanting, and can be used on steep or riparian sites where camphor removal is not a feasible option.
- 25 3. Do nothing and wait for natural regeneration of native seeds deposited in camphor stands by birds and bats attracted to eat the abundant camphor fruit crop. While this is cost free, it may not be effective, particularly in very dense infestations. Furthermore, control of invasive species is a requirement under the Biosecurity Act 2015.

Approaches for removal should be¹⁶:

- 30 1. Staged removal - Mature camphor trees are progressively killed at a site, with months to years between stages. Understorey weeds are killed in first stage of treatment. Subsequently, treated areas only require maintenance weed control.

¹⁴ Davies & Boulton 2009. Great house, poor food: effects of exotic leaf litter on shredder densities and caddisfly growth in 6 subtropical Australian streams

¹⁵ [camphor - NSW North Coast Weeds Advisory Committee](#)

¹⁶ DM963595. Kanowski & Catteral. Converting stands of camphor laurel to rainforest

2. Patch removal - All mature camphor trees and understorey weeds are killed in patches (typically, 0.5 – 1 ha in size). Usually done in areas where the seed bank and seed incursions are rich.

General Best Practice Management Guidelines

- 5 Because guidelines can change dramatically according to the site, resources, goals, accessibility, geographical position, and other variables, we present, in Table 1, some general guidance on how to plan for camphor management, at a property level.

BYRON SHIRE COUNCIL

Table 1. General recommendations for planning Camphor Laurel management

Stage	General Recommendation
Stage 1	<p>Understand and define site goals - these help guide the methodology. Goals might include:</p> <ul style="list-style-type: none"> - Establishing native vegetation, - Reclaiming pasture, - Enhancing wildlife corridors, - Harvesting timber.
	<p>Seek advice from Local Council, Local Land Services or Department of Environment, Land and Water regarding any permits required, before commencing works;</p>
	<p>Seek advice from a local Landcare group or professional bush regenerators on vegetation restoration. Neighbouring landholders may also be able to provide advice on restoration techniques that have or have not worked for them.</p>
	<p>Walk the site to note presence of <u>all weeds</u>, not just Camphor Laurel, including those with higher priority such as Madeira Vine. Understanding weed issues across the site can help ensure camphor management doesn't increase risk of invasion of more problematic species.</p>
	<p>Prepare a plan for the property. Map the location of steep slopes, waterways, access, native vegetation, weed infestations and wildlife corridors.</p>
	<p>Set priorities on which areas to control first as part of a staged plan. Things to consider include:</p> <ul style="list-style-type: none"> - Time and budget available - work on an area that you have the time and resources to maintain. Always allow time and budget for follow up maintenance, - Threatened species - prioritise rare plants/habitats, - Ease - try to work progressively from easy areas that are already regenerating, before moving into more difficult, degraded areas. Weed management can also be more effective when starting at the top of the catchment, - Staged tree removal - large woody weeds provide wildlife habitat. Remove large trees in a staggered way and follow up with re-establishing native species to replace habitat.
Stage 2	<p>Address threats to the vegetation e.g. aggressive weeds and need for fencing. Consider fencing off steep slopes and planting native species before commencing woody weed control.</p>
	<p>Understand seed bank and the distance of native seed source. Consider the need for a planting program to enhance the area of native vegetation;</p>

BYRON SHIRE COUNCIL

STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

4.4

Stage	General Recommendation
	Where planting is required, use locally-sourced native species that are adapted to the site conditions. Depending on the species required, plants may need to be ordered 6-12 months in advance of planting.
	Control all Camphor Laurel seedlings, mature individuals and other weeds area-by-area. Consider initially retaining some mature trees to help maintain bank stability or starting with the bigger trees to reduce amount of seeds in the system;
	Use reduced chemical techniques such as stem injection with glyphosate, scrape and paint or appropriate non-chemical methods where possible. When stem-injecting consider the risks of falling limbs;
	When harvesting timber, consider accessibility and possible soil/site damage.
Stage 3	Return to the site to control suckers and other weeds;
	Regularly control Camphor Laurel seedlings, starting with priority areas, ensuring that corridor values are maintained;
	Assess the amount / diversity of native species / seed bank;
Stage 4	Ensure follow-up control of weeds occurs before starting in new areas.

Next steps

- 5 One of the objectives of Council's Biodiversity Conservation Strategy is that Land managers and residents are provided with accessible information regarding threats to native biodiversity and their individual responsibility to manage these threats (objective 2.2). With the current information available on Camphor Laurel best practice management, there is an opportunity in the future for Council to help share this information with the community (e.g. via Council's website) to help ensure that Camphor Laurel is managed in a way that benefits biodiversity.

Strategic Considerations

10 Community Strategic Plan and Operational Plan

CSP Objective	CSP Strategy	DP Action	Code	OP Activity
3: Nurtured Environment We nurture and enhance the natural	3.2: Deliver initiatives and education programs to encourage	3.2.2: Environmental education and awareness -	3.2.2.1	Support Brunswick Valley Landcare to deliver the Land for Wildlife Program and biodiversity enquiries.

BYRON SHIRE COUNCIL

STAFF REPORTS - SUSTAINABLE ENVIRONMENT AND ECONOMY

4.4

environment	protection of our environment	Coordinate and support environmental education to the community		
3: Nurtured Environment We nurture and enhance the natural environment	3.2: Deliver initiatives and education programs to encourage protection of our environment	3.2.2: Environmental education and awareness - Coordinate and support environmental education to the community	3.2.2.2	Provide coastal and biodiversity information and encourage and support community activities and groups.

Recent Resolutions

N/A

Legal/Statutory/Policy Considerations

POLICY NO 11/007 CAMPHOR LAUREL MANAGEMENT IN BYRON SHIRE

5 Objectives:

1.1. To detail Council's framework for the management of Camphor Laurel (*Cinnamomum camphora*), taking into account the diversity of uses, values and opportunities available.

1.2. To integrate social, economic and environmental considerations associated with management of Camphor Laurel throughout Byron Shire.

10 **Financial Considerations**

N/A

Consultation and Engagement

N/A

Report No. 4.5 Carbon sequestration and incentive schemes

Directorate: Sustainable Environment and Economy

5 **Report Author:** Andrew Cameron, Agricultural Extension Officer
Lizabeth Caddick, Biodiversity Officer
Julia Adams, Sustainability Team Leader

File No: I2023/43

Summary:

10 In November 2022, the Biodiversity Advisory Committee requested staff to prepare a report on carbon sequestration and incentive schemes. This report gives a summary of the work staff are currently researching and understanding on carbon credit schemes that may be applicable for Byron Shire farmers and landholders.

15 Key options available for carbon sequestration in Byron Shire include tree planting and regenerative agriculture. The mild, wet climate here results in rapid plant growth which is beneficial for both these options. The carbon credit market is relatively new and rapidly changing. To date many carbon credit schemes have been aimed at larger land holdings than exist in Byron Shire. However, recently some providers have started to offer programs more suited to this region, council staff are working with providers and local
20 farmers to facilitate participation in these schemes.

The cost of generating carbon credits, and the amount of credits received, can be highly variable, depending on the site, weather and the type of carbon credits generated. Tables 1 and 2 present a range of examples of the cost for generating carbon credits through tree
25 planting and regenerative agriculture.

RECOMMENDATION:

30 **That the Biodiversity Advisory Committee notes this report on carbon sequestration and incentive schemes currently available in Byron Shire.**

Report

In November 2022, the Biodiversity Advisory Committee requested staff to prepare a report on carbon sequestration and incentive schemes.

- 5 Carbon from the atmosphere can be sequestered in a number of ways, including in plants, soils and aquatic systems.

Carbon Offsets/Credits

- 10 Byron Shire Council has a target to have net zero emissions by 2025 for Council operations (Res 17-086). This means that any carbon emissions Council cannot reduce must be offset by purchasing carbon offsets/credits on an annual basis to 'net' off its operational emissions.

- 15 There are many different types of carbon offsets/credits available for purchase around Australia and the world. These offsets can be created in a number of different ways, including through renewable energy, carbon removal technology, reforestation, regenerative agriculture practices, savannah burning and methane gas capture from landfill, just to name a few.

In order to ensure credibility and integrity of these claims, carbon offsets are often verified by third-party certified by agencies around the world. Some international examples include:

- Voluntary Emission Reductions (VERs) with Gold Standard ¹
 - Verified Carbon Units (VCUs) with Verra²
- 20

- 25 In Australia the Federal government administers the Emissions Reduction Fund (ERF)³ under the Clean Energy Regulator. It is the Australian benchmark scheme for generating carbon offsets called Australian Carbon Credit Units (ACCUs) and is highly regarded internationally. As a result, ACCUs are in high demand across the world and the supply is struggling to keep up, increasing ACCU purchase prices.

Local Carbon Offset Opportunities

The sustainability and agriculture teams have been collaborating to identify local carbon offset opportunities for our community, as both a revenue stream for landholders as well as a potential source of offsets for Council to purchase.

- 30 The ERF represents the lion's share of carbon offsets nationally, and it is also currently the most practicable scheme to access and use for carbon projects in the Byron Shire.

¹ goldstandard.org

² verra.org

³ [About the Emissions Reduction Fund \(ERF\)](#)

In Byron Shire there is an opportunity to develop vegetation and agricultural projects for creating ACCUs under the ERF. The two options that are considered most viable for Byron Shire are storing carbon in soil and planting seeds or seedlings on unforested land to establish a permanent forest, i.e. regenerative agriculture and tree planting. These methods often generate the best return when executed on a large scale, however there is potential for a few smaller projects to be established in the Shire.

Sequestering Carbon in the Natural Environment

Carbon sequestration in soil

Soil can hold three times the amount of carbon sequestered by a living plant⁴. Sequestering carbon in soil also provides additional benefits, including increased agricultural productivity and mitigating drought, flood risk and soil erosion, because with every 1% increase in soil carbon soil can hold up to 144,000 litres of water per hectare⁵.

Sequestering soil carbon through regenerative grazing is considered to be the fastest, and most cost-effective way of sequestering carbon in Byron Shire. Over 80% of our agricultural land is grazed, and already a small number of progressive landholders are starting to transform the way they manage their grazing land to improve soil health, ecosystem services and productivity. Regenerative grazing practices use grazing herbivores as a tool to draw down carbon, by rotating animals through small paddocks on a regular basis. This transformation requires education, labour and basic infrastructure, but is efficient and cost-effective compared with other carbon draw-down options. The land and the land-managers are already in-situ, and it also allows the shire to maintain local food security and industry.

Regenerative grazing has produced very positive results in carbon sequestration within soils which has been globally recognised with significant research⁶. The warm, wet growing conditions in Byron Shire create particularly suitable conditions for rapid carbon sequestration. Certain farmers in the Byron Shire just outside of Mullumbimby have seen significantly above average increases in soil carbon as high as 10% over just 5 years, compared to on average around 0.3% over 5 years on larger farms in parts of the country with significantly less rainfall and growing days.

Regenerative grazing goes hand in hand with ecosystem restoration. While cattle are regularly rotated around prime grazing areas, less-productive agricultural land, including steep slopes, gullies, and waterways, can be replanted with native species, providing native wildlife habitat as well as shade for livestock, and erosion and pest control for the farmer. One local farmer for example has converted 15% of their grazing land to rainforest whilst converting their grazing to regenerative practices, increasing productivity, improving pasture and fertility.

⁴ [Damian Carrington, One of Earth's giant carbon sinks may have been overestimated – study, The Guardian, 25 March 2021](#)

⁵ [Jones, C. \(2006\) Catching carbon, storing water.pdf, amazingcarbon.com](#)

⁶ [Sheryl Karas M.A., CRARS staff, Research with Exciting Implications for Regenerative Agriculture and Climate Change, Center for Regenerative Agriculture and Resilient Systems, California State University](#)

Carbon sequestration in trees and plants

Reforestation projects generally involve planting trees in agricultural areas. In doing so, the planted trees take 3-5 years to become established and then begin to sequester enough carbon to generate carbon offsets. The carbon that remains permanently stored in the trees while they grow is referred to ‘carbon stock’ and will continue to be sequestered in trees until they finish their growing cycle, generally after 20-25 years, or if they are burnt in a bushfire (i.e. some carbon is then released back into the atmosphere). This means that these carbon offset projects are subject to a permanence obligation and cannot be logged/destroyed for either 25 or 100 years, keeping the carbon sequestered for the maximum amount of time.

A forest’s carbon stock is estimated by collecting and analysing trees in sample plots using infield measurements, such as full inventory of a particular area and permanent sample plot assessment.

The total carbon abatement from tree plantings is calculated by measuring the change in the amount of carbon stored in a project area through the growth of trees, natural decay, and disturbance events (fire, pest, disease, and storm) minus the emissions resulting from fire and fuel used to establish and maintain the project, e.g. fertiliser and weed control.

The most commonly used tree plantings in Australia are Mallee trees, Koala food/habitat trees, and habitat appropriate rainforest trees. These trees must be planted in either belt or block figurations, or a combination of the two, to achieve forest cover.

Table 1 provides some examples of estimated costs for generating ACCUs using tree planting in Byron Shire. Costs can be highly variable depending on site and weather conditions.

Table 1. Cost of ACCU generation and tree planting in Byron Shire.

Project	Area (Ha)	Avg. ACCUs/ Ha	Planting cost per tree	No. of stems / Ha	Cost of planting	Maintenance cost over 3 yrs (min)	Total tree cost over 3 yrs	Avg ACCUs / yr
Rainforest planting	30	21	\$5.00	600	\$90,000	\$21,000	\$111,000	630
Rainforest planting	52	20	\$5.00	600	\$156,000	\$34,200	\$190,200	1040
‘Koala tree’ planting	25	31	\$5.00	1000	\$125,000	\$30,000	\$155,000	775

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Brunswick Valley Landcare	1		\$18	3000	\$54,000	\$54,000	\$54,000
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Another option that needs further investigation is the potential for blue carbon sequestration. This is the sequestration of carbon through repairing or planting coastal ecosystems, such as mangroves, similar to the process associated with tree planting. It was recently added as a method for ACCU creation⁷ under the ERF.

5 Carbon Offsets as Incentives for Farmers

10 With Carbon becoming the hot topic within farming and environment a plethora of carbon sequestration incentive programs have evolved. The benefit of increasing carbon in our soils goes way beyond financial gains. Increasing soil carbon results in increased drought resilience by increasing soil water storage capacity, as well as better food security and climate resilience through increased productivity.

Council's regenerative agriculture program has mainly focused on soil as the primary way of obtaining carbon credits due to it being a more holistic approach that aligns with our goals of increasing productivity and food security in the most sustainable way possible.

15 We have had discussions with a number of different providers to understand what carbon offset schemes are feasible in Byron Shire. Due to administrative and verification costs, many existing schemes deal only with larger sized properties, and are therefore not applicable to our context, where land holdings are relatively small (in Byron Shire only 200 lots are over 40 hectares, with the largest being only 400 hectares). However, a few organisations are catering for the smaller land holder, and we have developed good relations with these and presented them to local industry via the Byron Farmers Network.
20 Table 2, below shows some estimates of the number of ACCUs that can be generated through soil carbon sequestration in Byron Shire. Costs and ACCUs generated can vary significantly depending on the provider, and on site and weather conditions.

⁷ [Emissions Reduction Fund, 17 June, Tidal restoration of blue carbon ecosystems method, Clean Energy Regulator Australian Government](#)

Table 2. Estimates of ACCU generation through soil carbon sequestration in Byron Shire.

Project Based off 1% soil carbon increase (5yr)	Area	Average ACCUs/ Hectare*	Cost of baseline soil test	Average infrastructure set up costs⁸	Broker Fee	ACCUs for 5-year period - farmer can be paid annually
Agriprove- Soil Carbon⁹	40	124	\$3,500	\$15,000	25%	4,960
Carbon Bank	15	124	\$150	\$5,000	20%	1860

Wilmot Cattle Company is a great Australian example of seeing carbon credits through regenerative ag in action.¹⁰

5 Some of the companies working to help farmers to generate ACCUs and biodiversity credits are listed below:

10 • **Agriprove** – Primarily focus on soil carbon through regenerative grazing under the ERF. Two local farmers already signed up and it will be great to track their progress. Agriprove have also put a proposal to council to help with offsetting carbon emissions with local Farmers. I have several farmers who are very excited by the prospect of selling carbon credits to BSC to help with the goal of BSC getting to net zero by 2025.¹¹

15 • **The Carbon Bank** – CB are working on a model specifically for smaller holdings and looking at carbon as well as biodiversity credits under international schemes (mainly Verra) as the latter evolves into another economic opportunity for farmers. Council has coordinated a meeting between CB founder Mike Smith and our local Myocum Graziers hub, which lead to great interest from farmers. The Carbon Bank have also put a proposal to Council for enabling Byron Shire Council to offset emissions with local farmers by creating VCU's.¹²

20 • **Regen Farmers Mutual** – Have provided a zoom presentation to the Byron Farmers Network with question-and-answer time. We also conducted a live onboarding digital

⁸ Infrastructure costs will differ from farm to farm. Conversion to a regenerative farming system generally requires the farmer to establish more (smaller) paddocks and watering points. The cost of fencing and watering points depends on the size of the farm and what infrastructure the farmer already has in place.

⁹ ACCUs/hectare based on an estimate of 1% soil carbon increase over a 5-year period. In drier parts of Australia the percentage increase may be lower than 1%, however in Byron Shire, where rainfall is high, it is likely to be significantly higher than 1%.

¹⁰ [Toby Grogan \(2017\), Case-study: Carbon positive beef enterprise final, Impact Ag](#)

¹¹ [Carbon Farming Australia | Carbon Credits for Farmers | AgriProve](#)

¹² [The Carbon Bank](#)

farm assessment with staffs own farm to give landholders a live example of how it works and if its of benefit to them.¹³

- **Carbon 8** have recently launched their Carbon incentives program which will also accommodate smaller land holders.¹⁴

5 Strategic Considerations

Community Strategic Plan and Operational Plan

CSP Objective	CSP Strategy	DP Action	Code	OP Activity
3: Nurtured Environment We nurture and enhance the natural environment	3.4: Support and empower our community to adapt to, and mitigate our impact on climate change	3.4.4: Net Zero - Work towards achieving Council's 100% net zero-emissions target	3.4.4.1	Develop a carbon offset policy and procedure for Council in order to achieve net zero emissions.
4: Ethical Growth We manage growth and change responsibly	4.3: Promote and support our local economy	4.3.5: Regenerative agriculture - Develop and implement strategies to support regenerative agriculture, agri-business and farmers	4.3.5.2	Provide extension services to farmers to support and promote sustainable agriculture.
4: Ethical Growth We manage growth and change responsibly	4.3: Promote and support our local economy	4.3.5: Regenerative agriculture - Develop and implement strategies to support regenerative agriculture, agri-business and farmers	4.3.5.4	Promote soil testing to improve soil biodiversity and agricultural sustainability

¹³ [Recording of Environmental Farm Assessment / Digital Twin Demo for Andrew Cameron - Regen Farmers Mutual](#)

¹⁴ [Carbon8 Regenerative Agriculture](#)

Recent Resolutions

- Resolution 17-086 – To achieve 100% net zero emissions by 2025 in collaboration with Zero Emissions Byron (ZEB).
- Resolution 19-634 – That Council become Climate Active certified (formerly The National Carbon Offset Standard) commencing in the 2025/26 financial year.

Legal/Statutory/Policy Considerations

N/A

Financial Considerations

Indicative cost estimates for landholders are provided in Tables 1 and 2, above.

10 Consultation and Engagement

N/A

Report No. 4.6 DNA of feral dogs and dingoes

Directorate: Sustainable Environment and Economy

Report Author: Peter Boyd, Project Officer - Environmental Projects

File No: I2023/45

5 **Summary:**

This report provides the Biodiversity Advisory Committee with a brief overview of dingo-dog hybridisation at a national and local scale as well as what pest animal control Council is doing and why.

10

RECOMMENDATION:

That the Committee notes the report.

15

Report

Committee Recommendation (15 September 2022):

That the Biodiversity Advisory Committee notes the report and requests a report for further information regarding the wild dog DNA results.

5 (Balson/Millard)

10 “Wild dogs (*Canis familiaris*) have been present in Australia for at least 3,500 years. They were likely introduced into northern Australia by seafarers from South-East Asia and traded with the First Australians. Once in Australia these dogs were likely traded between First Australians nations people and at some stage became feral and widespread. Genetic testing has indicated that current dingoes derive from several introductions, but as more samples are tested from a wider area, this conclusion might change. The taxonomy of the dingo has been the subject of considerable debate ranging from it being considered a distinct native species to an ancient breed of dog.

15 Modern dogs have been introduced into Australia over the past 230 years since Europeans first colonised the continent in 1788. These dogs have subsequently interbred with dingoes and contributed to the ever-broadening gene pool of the Australian wild dog population. Today, we use the term “wild dog” to encompass all wild-living dogs, be they 20 pure dingoes, hybrids of dingoes with modern dogs, or free-living modern dog breeds. This is pragmatic because it is impossible to tell the breeding of most wild dogs by simply looking at them”. (Extracted from Freney et al, 2022).

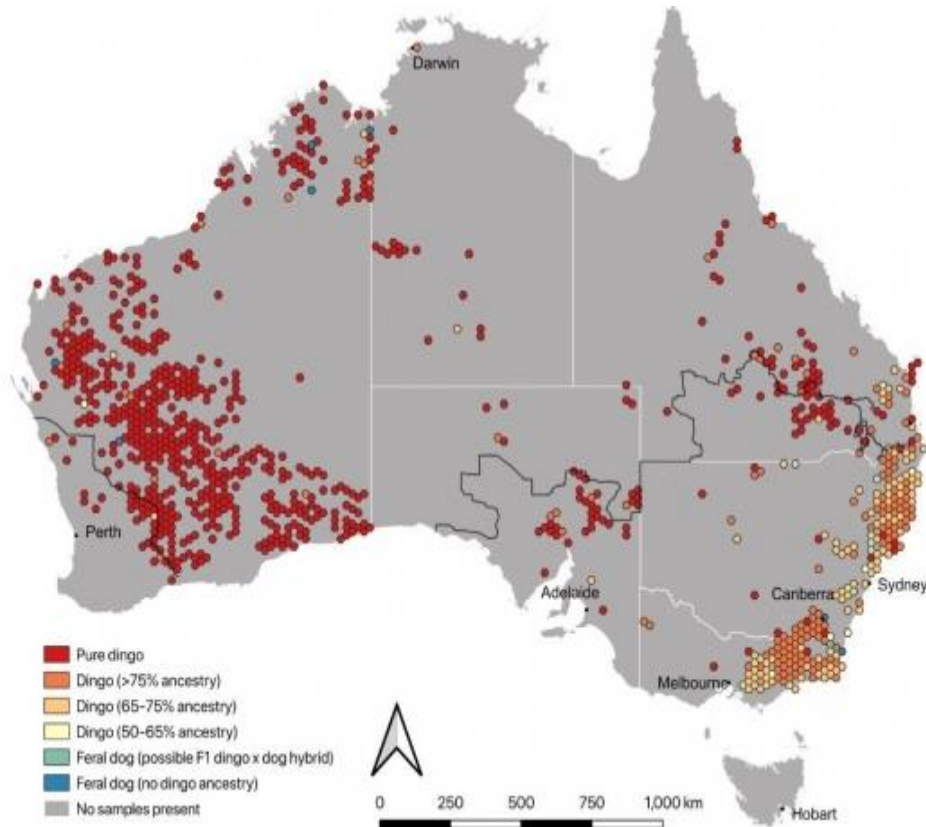
25 The debate among academics is ongoing regarding the classification of a dingo according to the percentage of pure dingo DNA. One example is dingo purity categories, as classified by Stephens et al. (2015), Cairns et al. (2019), and Cairns et al. (2021), which define a dingo as containing over 75% dingo DNA, and a dingo with dog ancestry as having 50-75% dingo DNA. While anything below 50% dingo DNA is classified as either a feral dog with dingo ancestry, or simply a feral dog. This research builds upon Wilton’s 30 (2001) more informal definitions of a pure dingo being 100% dingo DNA, a three-quarter dingo having 75% dingo DNA, and a half dingo or hybrid containing approximately 50% dingo DNA.

Others argue that outside of science, hybridisation of dingoes is not an issue as the hybrids are performing the same ecosystem services as pure dingoes (Hyttén, K. 2009).

National Study

35 The most significant dingo dataset to date was recently analysed to find that 99% of wild canids tested in Australia were either pure dingo or dingo-dominant hybrids (Cairns et al., 2021). The study indicated (but did not qualify) that most hybridisation is taking place in NSW and Victoria due to long-term lethal control methods (e.g. aerial baiting) being used 40 (which may disrupt wild dog social structures) and higher human densities having higher domestic dog populations in South East Australia. In NSW 98.5% of wild canids tested had 50-100% dingo ancestry.

The research analysed DNA from 5039 wild dogs to explore patterns of domestic dog ancestry in dingoes and observations of feral domestic dogs across the continent (Figure 1).



5

Fig 1. The median ancestry of wild canine DNA samples across Australia. Image: Cairns *et al* 2021.

Points highlighted in this study include:

- 10 • The study implied that most hybridisation was taking place in NSW and Victoria due to long-term lethal control methods (aerial baiting) being used and higher human densities having higher domestic dog populations, potentially fracturing dingo social structures and creating more opportunity for contact between domestic dogs and dingoes.
- 15 • Dingo DNA may not be uniform across the country – broader sampling is required across Australia to capture regional genetic variation. It is possible that some dingoes are misclassified as hybrids because of regional variation.
- 20 • Only 31 of the 5039 dogs sampled had no evidence of dingo DNA and were classed as feral dogs, therefore implying that Australia does not have a feral dog problem and that dingo-dog interbreeding in the wild is not as common as previously thought.

- True feral dog populations are rare, globally, and tend to be sustained only where dogs have access to human resources (food, water).
- Canids with pure dingo DNA were found across Australia, therefore it could be assumed that the breed will survive as it has had over 230 years of hybridisation to this point.
- Management of feral, stray or roaming domestic dogs should focus on spaying, neutering, keeping pets and working animals under control and keeping animals confined during the night. Responsible pet ownership and continued exclusion of domestic dogs from protected areas can reduce the occurrence of future dingo – dog hybridisation events.

Local Studies:

Below are the results of two local studies of wild dog DNA. The results are consistent with the observations in the Australia-wide study, being a high percentage of modern dog found in the hybrids caught in our region, where populations live in close proximity to humans.

- 15 The first study was conducted by Byron Shire Council in 2012 (Table 1) and the most recent data is extracted from an unpublished paper from Local Land Services titled *Using DNA for Managing Wild Dogs in the North Coast Local Land Services region, November 2022* (Table 2). The Regional (LLS North Coast Region) average percent of dingo DNA from 338 samples is 69.83%.
- 20 Because of statistical uncertainty and geographic variation, a conservative error of approximately ±10% was estimated. Consequently, any sample with over 90% dingo ancestry were considered highly likely to be a pure dingo and any sample below 10% were most likely a pure modern dog.

Table 1. Results of Dingo purity analysis, Byron Shire 2012

Sample	% of Dingo DNA	Comments
1	80	Hybrid
2	67	Hybrid
3	51	Hybrid
4	66	Hybrid
5	58	Hybrid
6	71	Hybrid
7	62	Hybrid
8	61	Hybrid
9	52	Hybrid
10	81	Hybrid
11	75	Hybrid
12	58	Hybrid
13	56	Hybrid
14	66	Hybrid
15	54	Hybrid
16	69	Hybrid
17	74	Hybrid
18	70	Hybrid

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19	70	Hybrid
20	66	Hybrid
21	69	Hybrid
22	53	Hybrid
23	71	Hybrid
24	68	Hybrid
25	55	Hybrid
26	74	Hybrid
27	56	Hybrid
Average	65%	

Table 1 illustrates result of Dingo purity analysis on 27 wild dogs trapped in Byron Shire in 2012. Average percentage of dingo DNA is 65%. (Helix Molecular Solutions P/L).

Table 2. Results of Dingo purity analysis, Byron Shire 2013-2022

Sample	% of Dingo DNA	Comments
1	71	Hybrid
2	69	Hybrid
3	84	Hybrid
4	66	Hybrid
5	40	Hybrid
6	65	Hybrid
7	51	Hybrid
8	84	Hybrid
9	56	Hybrid
10	66	Hybrid
11	57	Hybrid
12	61	Hybrid
13	78	Hybrid
Average	65%	

5 Table 2 illustrates the result of dingo purity analysis on 13 wild dogs trapped, baited or road killed in Byron Shire between 2013 and 2022. Average percentage of dingo DNA is **65%**. (Data extracted from *Using DNA for Managing Wild Dogs in the North Coast Local Land Services region, November 2022*)

What does Council do?

10 To fulfill its Biosecurity obligation (under the NSW Biosecurity Act 2015), Council engages a trapper to minimise the risk to the community, agriculture and the local wildlife as per the North Coast Local Land Services North Coast Regional Pest Management Plan (2017).
 Councils' trapper monitors and traps wild dogs, cats and foxes on Council lands including the West Byron Wetlands, Byron Resource Recovery Centre and the STP on Valances Rd Mullumbimby. If resources allow and Councils needs have been met, the contracted
 15 trapper may trap on private lands to reduce impacts on wildlife or primary production.

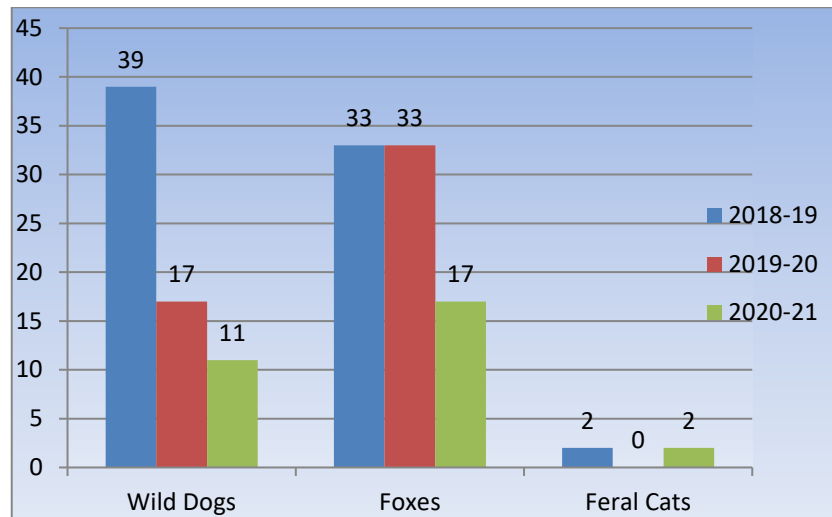


Fig 2. Shire wide trapping results 2018-2021

5 Pest animal trapping is carried out as an action under the *Byron Shire Pest Animal Management Plan (2018-2023)* which is guided by the *North Coast Regional Pest Management Plan (2017)*.

Byron Shire Council

Extract from *Pest Animal Management Plan (2018-2023)* – Executive Summary.

10 The Byron Shire Council Pest Animal Management Plan 2018-23 provides a framework for the management of pest animals on Council managed land but with opportunities for Council to assist with pest animal management on private land when funds allow.

15 The Plan enables Council to meet its statutory requirements under the NSW Biosecurity Act 2015 and Local Land Services Act 2013, whilst fostering a collaborative, cross-tenure approach to pest animal management.

Under the Biosecurity Act 2015 all land managers, regardless of whether on private or public lands have a shared responsibility to manage pests and their impacts.

20 To meet these legislative requirements, Council will focus efforts on Council owned and managed land. Council will support private land managers to fulfil their obligation to manage pest animals and encourage a collaborative approach by offering technical advice and support and acting as a conduit between relevant stakeholders. Where additional or new financial resources can be secured to allow Council to undertake off-tenure management, the Plan identifies priority target areas on private land where Council may undertake targeted pest animal management. Efforts will be prioritised based on
 25 opportunities to complement existing pest control programs, and in areas with high environmental, cultural, social and economic values.

5 The Plan provides desired outcomes, objectives and actions to address and manage the impacts of pest animals. These actions are based on the principles of pest animal management being, prevention, eradication, containment and asset protection. Objectives include increasing community understanding of the benefits of integrated pest animal management, encouraging community-led, coordinated and integrated pest animal control activities, using safe, effective and humane approaches to pest animal management and promoting research and development.

10 Priority pest animals were selected based on regional strategies, local impacts and community consultation, and include free-ranging dogs (wild dogs), European red fox, feral cats, European rabbit, Indian myna and cane toads. Aquatic and insect pest are not included in the Plan. The strategic actions and species-specific actions will guide targeted control of priority pest animals as well as emerging and alert species. The Plan also provides an implementation program that outlines measures of success, stakeholders and responsibilities, and incorporates mechanisms for monitoring, evaluation and reporting of
15 the Plan's effectiveness.

The Plan draws on the experience and knowledge of multiple stakeholders including but not limited to private trappers, NSW State Government agencies and local community members who provided advice and input during the development phase. Our Plan has been developed to ensure that Council meets its statutory obligations, but also
20 complement cooperative management of pest animals undertaken by public and private land managers across Byron Shire. Priorities for pest management within the Shire are identified, and strategies that address the environmental, social, economic and cultural impacts of pests are established.

North Coast Local Land Services

25 **Extract from the *North Coast Regional Pest Animal Management Plan*:**

5.12 Wild Dog

Wild Dog distribution

30 Wild Dogs are present throughout the North Coast region, usually at medium densities. They are found in residential and peri-urban areas, on small, private blocks, on neighbouring agricultural lands (including leased and licensed land), in livestock production areas, crown lands, public estates, parks and reserves. Predation and hybridisation by Wild Dogs are recognised as a key threatening process in NSW (NSW Scientific Committee 2009).

Management goal

35 The goal of Wild Dog management at the regional scale is asset-based protection (manage pest animal populations). Australian dingoes are not an unequivocally defined species or sub-species, and so dingoes of any kind do not meet the criteria for listing as a threatened species (Allen et al. 2017). This means that they can be controlled where they are considered to be a pest.

5 Management strategies focus on asset protection. However as both wild dogs and the assets (e.g. people, livestock, domestic pets, native fauna) are widespread throughout the region and wild dogs have the ability to repopulate management areas in a short time period, there is a need for tenure-neutral, partnership based, landscape scale strategies that address both current and future impacts. (Tables 5.11a-5.11b).

Regional management focus

10 A *North Coast Regional Wild Dog Management Plan (NCLLS 2015)* has been prepared. It is consistent with the national and State plans, guides regional management, and is the main tool to implement Wild Dog management under this Regional Strategic Pest Animal Management Plan.

15 The balance between Wild Dog management and Dingo conservation is an important consideration in the region. The primary focus of Wild Dog management is reducing the negative impacts of wild dogs on commercial livestock (cattle and sheep) and hobby farms (cattle, sheep and other small ruminants) across the region. In doing so, finding a balance between managing wild dogs in areas where they have negative impacts and conserving dingoes is important.

20 The *NSW Wild Dog Management Strategy 2017-2021 (DPI 2017)* promotes a balance between managing wild dogs in areas where they have negative impacts, and preserving the ecological role of dingoes. Strategy 1.2.2 Conservation of dingoes in the NSW Wild Dog Management Strategy requires that this plan and regional Wild Dog Management Plans focus control on areas where the risk of negative impacts are greatest, and not undertake control in parts of the landscape where the risk of negative impacts from wild dogs is low, which allows wild dogs to fulfil their natural ecological role.

25 Involvement of relevant local stakeholders in the development of cooperative and tenure neutral local Wild Dog management plans will be important to achieving balanced social, economic and environmental outcomes.

The focus on this plan is:

- 30 • to develop local Wild Dog plans. (Byron Shire falls within one of 23 local areas, and a Wild Dog plan will be developed by LLS in future under the *NSW Wild Dog Management Strategy*).
- to raise land manager awareness of their obligations of undertaking Wild Dog control in key areas identified in local plans
- to promote effective cross tenure, cooperative asset protection strategies and landscape scale management programs that address impacts.

35 Reference List:

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Strategic Considerations

Community Strategic Plan and Operational Plan

CSP Objective	CSP Strategy	DP Action	Code	OP Activity
3: Nurtured Environment We nurture and enhance the natural environment	3.1: Partner to nurture and enhance our biodiversity, ecosystems, and ecology	3.1.2: Pest and weed management - Use best practice land management to improve ecological resilience and reduce threats to biodiversity	3.1.2.1	Implement Dog, fox and cat trapping program.

Legal/Statutory/Policy Considerations

N/A

15 Financial Considerations

N/A

Consultation and Engagement

N/A