



muswellbrook
shire council

Muswellbrook Shire Council

ORDINARY COUNCIL MEETING

BUSINESS PAPER

TUESDAY 27 JUNE 2023



MUSWELLBROOK SHIRE COUNCIL

P.O Box 122
MUSWELLBROOK
21 June, 2023

Councillors,

You are hereby requested to attend the Ordinary Council Meeting to be held in the Training Room, Level 2, 87 Hill Street, Muswellbrook, NSW 2333 Australia on **Tuesday 27 June 2023** commencing at 6:00 pm.

Derek Finnigan
GENERAL MANAGER



Council Meetings

Meeting Principles

Council and committee meetings should be:

- Transparent:* Decisions are made in a way that is open and accountable.
- Informed:* Decisions are made based on relevant, quality information.
- Inclusive:* Decisions respect the diverse needs and interests of the local community.
- Principled:* Decisions are informed by the principles prescribed under Chapter 3 of the Act.
- Trusted:* The community has confidence that councillors and staff act ethically and make decisions in the interests of the whole community.
- Respectful:* Councillors, staff and meeting attendees treat each other with respect.
- Effective:* Meetings are well organised, effectively run and skilfully chaired.
- Orderly:* Councillors, staff and meeting attendees behave in a way that contributes to the orderly conduct of the meeting.

Public Forums

The council may hold a public forum prior to each ordinary meeting of the council for the purpose of hearing oral submissions from members of the public on items of business to be considered at the meeting. Public forums may also be held prior to extraordinary council meetings and meetings of committees of the council.

To speak at a public forum, a person must first make an application to the council in the approved form. Applications to speak at the public forum must be received by no later than 9.00 am two (2) days prior to the day of the meeting before the date on which the public forum is to be held, and must identify the item of business on the agenda of the council meeting the person wishes to speak on, and whether they wish to speak 'for' or 'against' the item.

Approved speakers at the public forum are to register with the council any written, visual or audio material to be presented in support of their address to the council at the public forum, and to identify any equipment needs no more than 3 days before the public forum. The general manager or their delegate may refuse to allow such material to be presented.

Each speaker will be allowed 2 minutes to address the council. This time is to be strictly enforced by the chairperson.



Declarations of Interest

Statement of Ethical Obligations

Councillors are reminded of their oath or affirmation of office, made under section 233A of the NSW Local Government Act 1993, to undertake the duties of the office of Councillor in the best interests of the people of Muswellbrook Shire and Muswellbrook Shire Council and to faithfully and impartially carry out the functions, powers, authorities and discretions vested in them, under the Local Government Act 1993 or any other Act, to the best of their ability and judgment. Pursuant to the provisions of the Muswellbrook Shire Council Code of Meeting Practice and the Muswellbrook Shire Council Code of Conduct, Councillors are reminded of their obligations to disclose and appropriately manage conflicts of interest.

Section 451 of the Local Government Act requires that if a Councillor or Member of a Council or committee has a pecuniary interest in any matter before the Council or Committee, he/she must disclose the nature of the interest to the meeting as soon as practicable and must not be present at, or in sight of, the meeting, when the matter is being discussed, considered or voted on.

A pecuniary interest is an interest that a person has in a matter because of a reasonable likelihood or expectation of financial gain or loss (see sections 442 and 443 of the Local Government Act).

A non-pecuniary interest can arise as a result of a private or personal interest which does not involve a financial gain or loss to the councillor or staff member (eg friendship, membership of an association, or involvement or interest in an activity). A Councillor must disclose the nature of the interest to the meeting as soon as practicable.

Council's Model Code of Conduct now recognises two forms of non-pecuniary conflict of interests:

- Significant
- Less than significant

A Councillor must make an assessment of the circumstances and determine if the conflict is significant.

If a Councillor determines that a non-pecuniary conflict of interests is less than significant and does not require further action, they must provide an explanation of why it is considered that the conflict does not require further action in the circumstances.

If the Councillor has disclosed the existence of a significant non-pecuniary conflict of interests at a meeting they must not be present at, or in sight of, the meeting, when the matter is being discussed, considered or voted on.



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1. Applications for Attendance via Audio Visual Link

2. Acknowledgement of Country

3. Civic Prayer

4. Apologies and Applications for a Leave of Absence

5. Confirmation of Minutes

Ordinary Council Meeting held in 23 May, 2023

Extra-Ordinary Council Meeting held on 20 June, 2023

RECOMMENDATION

The Minutes of the Ordinary Council Meeting held on **23 May, 2023** and the Extra-Ordinary Council Meeting held on **20 June, 2023**, copies of which have been distributed to all members, be taken as read and confirmed as a true record.

Moved: _____ **Seconded:** _____

6. Disclosure of any Pecuniary or Non-Pecuniary Interests

7. Mayoral Minute

Nil

8. Public Participation

9. Business Arising (From Previous Meetings)

Nil



10. Business (Specific Reports)

10.1. Planning and Environment

10.1.1. Notification of AGL Macquarie (Liddell PS) Planning Agreement

Attachments:	<ol style="list-style-type: none"> 1. Attach A - Draft Planning Agreement - AGL Liddell Power Station Closure [10.1.1.1 - 24 pages] 2. Attach B - AGL Macquarie - MoU [10.1.1.2 - 23 pages]
Responsible Officer:	Sharon Pope - Director - Planning & Environment
Author:	Sharon Pope (Director - Planning & Environment)
Community Plan Issue:	6 - Community Leadership
Community Plan Goal:	Collaborative and responsive leadership that meets the expectations and anticipates the needs of the community.
Community Plan Strategy:	<p>6.2.1 - Maintain a strong focus on financial discipline to enable Council to properly respond to the needs of the communities it serves.</p> <p>Not applicable</p>

PURPOSE

Liddell Power Station closed on 28 April 2023. In the lead up to closure, Council had raised concerns about the economic and social impact the closure would have on the Muswellbrook Shire and wider community.

On 8 September 2021, Council and AGL signed a Memorandum of Understanding (MOU) that included a requirement for preparation of a Planning Agreement.

The purpose of this report is to obtain Council's support for public notification of the draft Planning Agreement attached to this report.

OFFICER'S RECOMMENDATION

Council RESOLVES to exhibit the draft Planning Agreement in Attachment A in accordance with the requirements of the Environmental Planning and Assessment Act 1979.

Moved: _____ **Seconded:** _____

BACKGROUND

On 17 April 2015, AGL announced the intended closure of Liddell Power Station. The closure occurred progressively, with the first turbine ceasing operation in April 2022 and the final turbine unit ceasing operation on 28 April 2023.

Council is concerned about the socio-economic impacts of the closure on the community and local economy. To inform Council of the potential consequences of the closure, the University of South Australia were engaged to prepare a report on best practice mine and power station closures (UniSA report).

AGL did not fully support the findings and recommendations of the UniSA report. AGL and



Council agreed that a detailed Social and Economic Impact Assessment (SEIA) should be prepared to understand the likely impacts and to direct financial and other contributions to minimise the impacts.

AGL and Council signed an MOU on 8 Sept 2021 agreeing, amongst other things, that a Planning Agreement between Council and AGL was the best mechanism for ensuring contributions toward minimising impacts were made. A copy of the MOU is provided in Attachment B.

CONSULTATION

The terms of the Planning Agreement have now been generally agreed and the next step in the process to finalise the Planning Agreement is to publicly notify the draft document for a period of 28 days.

The draft Planning Agreement has been prepared with involvement of:

The General Manager

Council's Corporate Lawyer

Director Environment and Planning

Director Community and Economy

Acting Chief Financial Officer

REPORT

The MOU required a combination of financial contributions to Council and completion of actions by AGL as identified in the SEIA.

It is acknowledged that, to date, under the MOU, AGL has paid \$1.35million to Council. AGL also funded the cost of the SEIA up to a total cost of between \$180,000 and \$200,000.

A draft Planning Agreement (see attachment A) has been prepared that satisfies the requirements set out in the MOU.

AGL agrees to pay the following Contributions to Council:

1. \$500,000, subject to CPI indexation by June 2023;
2. \$500,000, subject to CPI indexation by 10 July 2023;
3. \$500,000, subject to CPI indexation by 10 July 2024; and
4. \$500,000, subject to CPI indexation by 10 July 2025.

The SEIA recommended a range of mitigations to offset potential impacts resulting from the closure of Liddell Power Station. AGL has developed a Community Support Framework to align with these mitigations and is committed to the continuation of such activities, as outlined below:

- continue to engage stakeholders and the community, including but not limited to the continuation of engagement with the AGL Macquarie Community Dialogue Group, with post closure information, including timing and future land use.
- maintain existing investment in community activities;
- identify specific community investment opportunities related to mental health services in the Upper Hunter region;
- include local targets as part of demolition, remediation, and rehabilitation procurement strategy;
- provide opportunities for local indigenous procurement;
- continue support for local business chambers and seek community investment in local



business development programs;

- continue working with all levels of government, local business, and other stakeholders to identify commercial and social development needs and opportunities;
- collaborate with local councils, First Nations Peoples, and other key local stakeholders to identify opportunities for recreational, sporting, and other community assets; and
- continue to pursue commercial site redevelopment opportunities that leverage the local skills base, contribute to regional economic diversification, and create local jobs.

A commitment to completion of these actions by AGL has been included in the draft Planning Agreement.

OPTIONS

The two options are:

Option 1. That Council resolves to notify the draft Planning Agreement for public comment. This is the preferred option as it aligns with the MOU that was agreed between Council and AGL.

Option 2. That Council resolves to make further changes to the Planning Agreement before notifying the Agreement for community feedback. This is not the preferred option, as the Planning Agreement is a voluntary agreement, with the terms currently included having previously been agreed between Council and AGL.

CONCLUSION

A draft Planning Agreement has been prepared in accordance with an MOU AGL and Council signed on 8 Sept 2021. It is recommended that the draft Planning Agreement be publicly notified.

SOCIAL IMPLICATIONS

The aim of the Planning Agreement is to reduce the social impacts arising from closure of the Liddell Power Station.

FINANCIAL IMPLICATIONS

Nil.

STATUTORY IMPLICATIONS

The Environmental Planning and Assessment Act 1979 and supporting Regulations set out the process for finalising a Planning Agreement. The report proposes that the recommended process be followed.

COMMUNITY CONSULTATION/MEDIA IMPLICATIONS

The next step in the process will involve notification on Council's website and Facebook page, and on the Department of Planning's e-planning portal.

Planning Agreement

Muswellbrook Shire Council ABN 86 864 180 944

AND

AGL Macquarie Pty Ltd ACN 167 859 494

Planning Agreement

Date	
Parties	<p>MUSWELLBROOK SHIRE COUNCIL ABN 86 864 180 944 of Campbell's Corner, 60-82 Bridge Street, Muswellbrook, NSW 2333</p> <p style="text-align: right;">(Council)</p> <p>AND</p> <p>AGL MACQUARIE PTY LTD ACN 167 859 494 of Level 24, 200 George Street, Sydney, NSW 2000</p> <p style="text-align: right;">(AGL)</p>
Background	<p>A. AGL owns the Land upon which the Liddell Power Station is located.</p> <p>B. AGL has made application for and has been issued with a Planning Secretary's Environmental Assessment Requirements (SEARS) by NSW Department of Planning and Environment for a proposed State Significant Development Application being Application Number SSD-24937520 (SSDA). The proposed SSDA will seek approval for some of the physical aspects of the Liddell Closure including demolition of the Liddell Power Station site.</p> <p>C. The parties are concerned about the socio-economic impacts of the prospective Liddell Closure on the community.</p> <p>D. Council and AGL are parties to the Memorandum of Understanding on Provision for Socio-Economic Impacts of Closure of Liddell Power Station executed 8 September 2021 (MOU).</p> <p>E. Consistent with its obligations under the MOU, AGL has made an offer in connection with the Liddell Closure to enter into this Agreement to make Contributions for public purposes associated with the Liddell Closure.</p> <p>F. Council has no current plans to raise any Special Rate in connection to the Liddell Closure or the Development against the Land.</p> <p>This Agreement is entered into under Division 7.1 of Part 7 of the Act.</p>

Operative Provisions

1 Definitions

In this Agreement, unless the context indicates a contrary intention:

Act means the *Environmental Planning and Assessment Act 1979* (NSW);

Approval means any certificate, licence, consent, permit, approval or other requirement of any Authority having jurisdiction in connection with the activities contemplated by this Agreement;

Authority means any government, semi-governmental, statutory, administrative, fiscal or judicial body, department, commission, authority, tribunal, public or other person;

Business Day means a day on which banks are open for general banking business in NSW, excluding Saturdays, Sundays and public holidays;

Claim means any claim, loss, liability, damage, proceeding, order, judgment or expense arising out of the operation of this Agreement;

Contributions means a contribution made by AGL under this Agreement, pursuant to Schedule 2;

Development means the development approved pursuant to Development Application SSD-24937520, but excludes any Modification to Development Application SSD-24937520 that is not materially consistent with the Liddell Closure or Development Application SSD-24937520, unless mutually agreed between the parties in writing;

Development Application has the same meaning as in the Act;

Development Consent has the same meaning as in the Act;

Dispute means any dispute between the parties in connection with this Agreement;

Investment Committee means the committee established in accordance with Schedule 3 of this Agreement;

Land means the land owned by AGL as at the date of this Agreement upon which the Liddell Power Station is situated being the land and improvements comprised in the following titles:

Lot 2 DP774681	Lot 11 DP247944
Lot 19 DP247944	Lot 18 DP247944
Lot 19 DP752486	Lot 18 DP752486
Lot 2 DP966589	Lot 2 DP1022827
Lot 116 DP752486	Lot 162 DP752486
Lot 163 DP752486	Lot 601 DP1019325
Lot 2 DP1095515	Lot 1 DP1095515
Lot 2 DP1193252	Lot 4 DP1193430

Law means:

- (a) any law applicable including legislation, ordinances, regulations, by-laws and other subordinate legislation;
- (b) any Approval, including any condition or requirement under it; and
- (c) any fees and charges payable in connection with the things referred to in paragraphs (a) and (b);

Liddell Closure means the closure, decommissioning and demolition of the Liddell Power Station and includes any required associated decontamination and rehabilitation of the Land being completed;

Liddell Power Station means the power station located on the Land which is operated by AGL as part of the integrated power generation complex located between the Muswellbrook and Singleton local government areas;

Modification has the same meaning as in the Act.

MOU means the Memorandum of Understanding on Provision for Socio-Economic Impacts of Closure for Liddell Power Station between AGL and Council, executed 8 September 2021;

Notice means a written notice, consent, approval, direction, order, information, application, request or other communication;

SEIA means the Socio-Economic Impact Assessment and report funded by AGL and prepared by AECOM pursuant to clause 3.2 of the MOU;

Special Rate has the same meaning as in the *Local Government Act 1993* (NSW); and

Upper Hunter Region means the Muswellbrook Shire local government area, the Singleton local government area and the Upper Hunter local government area.

2 Interpretation

In this Agreement, unless the context indicates a contrary intention:

- (a) **(documents)** a reference to this Agreement or another document includes any document which varies, supplements, replaces, assigns or novates this Agreement or that other document;
- (b) **(references)** a reference to a party, clause, paragraph, schedule or annexure is a reference to a party, clause, paragraph, schedule or annexure to or of this Agreement;
- (c) **(headings)** clause headings and the table of contents are inserted for convenience only and do not affect interpretation of this Agreement;
- (d) **(person)** a reference to a person includes a natural person, corporation, statutory corporation, partnership, the Crown and any other organisation or legal entity and their personal representatives, successors, substitutes (including persons taking by novation) and permitted assigns;
- (e) **(party)** a reference to a party to a document includes that party's personal representatives, executors, administrators, successors, substitutes (including persons taking by novation) and permitted assigns;
- (f) **(president, CEO or managing director)** the president, CEO or managing director of a body or Authority means any person acting in that capacity;
- (g) **(requirements)** a requirement to do any thing includes a requirement to cause that thing to be done, and a requirement not to do any thing includes a requirement to prevent that thing being done;
- (h) **(including)** including and includes are not words of limitation, and a list of examples is not limited to those items or to items of a similar kind;
- (i) **(corresponding meanings)** a word that is derived from a defined word has a corresponding meaning;
- (j) **(singular)** the singular includes the plural and vice-versa;
- (k) **(gender)** words importing one gender include all other genders;

- (l) **(parts)** a reference to one or more things includes each part and all parts of that thing or group of things but nothing in this clause implies that part performance of an obligation constitutes performance of that obligation;
- (m) **(rules of construction)** neither this Agreement nor any part of it is to be construed against a party on the basis that the party or its lawyers were responsible for its drafting;
- (n) **(legislation)** a reference to any legislation or provision of legislation includes all amendments, consolidations or replacements and all regulations or instruments issued under it;
- (o) **(time and date)** a reference to a time or date in connection with the performance of an obligation by a party is a reference to the time and date in, Australia, even if the obligation is to be performed elsewhere;
- (p) **(joint and several)** an agreement, representation, covenant, right or obligation:
 - (i) in favour of two or more persons is for the benefit of them jointly and severally; and
 - (ii) on the part of two or more persons binds them jointly and severally;
- (q) **(writing)** a reference to a notice, consent, request, approval or other communication under this Agreement or an agreement between the parties means a written notice, request, consent, approval or agreement;
- (r) **(replacement bodies)** a reference to a body (including an institute, association or Authority) which ceases to exist or whose powers or functions are transferred to another body is a reference to the body which replaces it or which substantially succeeds to its power or functions;
- (s) **(Australian currency)** a reference to dollars or \$ is to Australian currency;
- (t) **(month)** a reference to a month is a reference to a calendar month; and
- (u) **(year)** a reference to a year is a reference to twelve consecutive calendar months.

3 Planning Agreement under the Act

- (a) The parties agree that this Agreement is a planning agreement within the meaning of section 7.4 of the Act.
- (b) Schedule 1 of this Agreement summarises the requirements for planning agreements under s 7.4 of the Act and the way this Agreement addresses those requirements.

4 Application of this Agreement

This Agreement applies to the Land.

5 Operation of this Agreement

- (a) This Agreement commences on and from the date it is executed.
- (b) On and from the date of termination of this Agreement in accordance with clause 9, this Agreement will cease to have effect and the Council will immediately return to AGL any title documentation or other security it holds under this Agreement.

6 Application of s 7.11, s 7.12 and s 7.24 of the Act

- (a) This agreement does not exclude the application of section 7.11 of the Act to the Development.
- (b) This agreement does not exclude the application of section 7.12 of the Act to the Development.
- (c) This agreement does not exclude the application of section 7.24 of the Act to the Development.
- (d) The benefits under this Agreement and the MOU are to be taken into consideration in determining development contributions under section 7.11 of the Act relating to the Development and the Liddell Closure. If required, Council agrees to make a submission to the Department of Planning and Environment confirming the agreement reached between the parties in respect of this clause 6(d).

7 Contributions to be made under this Agreement

7.1 Contributions

- (a) AGL must make Contributions to Council in accordance with Schedule 2 of this Agreement.
- (b) Council will apply each Contribution made by AGL under this Agreement:
 - (i) in accordance with Schedule 3;
 - (ii) for the benefit of the public of the Upper Hunter Region; and
 - (iii) otherwise in accordance with this Agreement.

7.2 Monetary Contributions

- (a) Monetary Contributions paid in accordance with Schedule 2 must be paid by electronic transfer into a bank account, the details of which are to be provided by Council to AGL.
- (b) A monetary Contribution is made for the purposes of this Agreement when Council receives the full amount of the contribution payable under this Agreement in cash or by unendorsed bank cheque or by deposit by means of electronic funds transfer of cleared funds into the bank account nominated by Council.

7.3 Adjustment for CPI

- (a) The amount of the Contributions in Schedule 2 are subject to adjustment for changes in CPI as follows:

$$DCP = \frac{DC \times A}{B}$$

where:

- DCP = the actual Contribution payment amount payable at the time the particular payment is made;
- DC = the particular Contribution payment amount required to be paid as per Schedule 2;
- A = the most recent CPI published by the Australian Bureau of Statistics prior to the date the payment is due to be made; and
- B = the most recent CPI published by the Australian Bureau of Statistics prior to the date of the MOU.

- (b) If after the formula in clause 7.3(a) is applied the Contribution amount will be less than \$500,000, the Contribution will not be adjusted.

7.4 Previous Contributions

- (a) The parties acknowledge that, to date, under the MOU, AGL as a sign of AGL's commitment to contributing to the mitigation of the socio-economic impacts of the Liddell Closure has paid the following amount to Council:
 - (i) \$1.35million, paid to Council on 27 November 2021.
- (b) The parties acknowledge that, to date, under the MOU, AGL has funded the cost of the SEIA up to a total cost of between \$180,000 and \$200,000.
- (c) The parties agree and acknowledge that the contributions made by AGL pursuant to the MOU serve a public benefit and have been made in addition to the Contributions and Continuing Contributions, as outlined in Annexure A, anticipated by this Agreement.

7.5 Continuing Contributions

- (a) The parties acknowledge that AGL is currently making and has agreed to make a number of financial and other contributions to the community, in addition and separate to the Contributions provided by AGL pursuant to clause 7.1(a), to ameliorate the socio-economic impacts of the Liddell Closure.
- (b) The additional and separate financial and other contributions provided by AGL are identified in Annexure A to this Agreement.
- (c) AGL will use reasonable endeavours to provide and/or satisfy the contributions identified in Annexure A.
- (d) AGL will provide an annual report to the Investment Committee containing information not limited to:
 - (i) the status of AGL providing or satisfying each of the contributions identified in Annexure A;
 - (ii) any additional contributions or actions that AGL has undertaken to alleviate the socio-economic impacts of the Liddell Closure; and
 - (iii) objectives and goal relevant to satisfying the contributions in Annexure A in the proceeding 12 months.

8 Registration of this Agreement

8.1 AGL interest

AGL represents and warrants to Council that:

- (a) as at the date of this Agreement it is the registered proprietor of the Land; and
- (b) it has obtained the consent of each person who has an estate or interest in the Land registered under the *Real Property Act 1900* (NSW) to enable registration of this Agreement pursuant to clause 8.2.

8.2 Registration of this Agreement

- (a) AGL agrees to procure the registration of this Agreement under the *Real Property Act 1900* (NSW) on the relevant titles to the Land in accordance with section 7.6 of the Act.
- (b) AGL, at its own expense, will within 3 months after the date of this Agreement, take all practical steps, and otherwise do anything that Council reasonably requires to procure the registration of this Agreement on the titles to the Land under the *Real Property Act 1900* (NSW).
- (c) AGL acknowledges and agrees that Council may lodge and maintain a caveat against the title to the Land reflecting its rights under this Agreement provided that any caveat lodged by Council will be removed contemporaneously with registration of this

Agreement against the title to the Land.

8.3 Removal of Agreement

When requested to do so after termination of this Agreement, Council will promptly execute such documents and take such steps as may reasonably be required to remove notification of registration of this Agreement from the title to the Land. AGL will reimburse Council for its reasonable costs and disbursements in complying with this clause 8.3.

9 Termination

- (a) This Agreement terminates on the declaration by a Court of competent jurisdiction that Development Consent SSD- 24937520 is invalid.
- (b) This Agreement terminates on the date 7 years after the date of closure of the Liddell Power Station (28 April 2023) provided that AGL has provided all of the Contributions required under this Agreement up until that date.
- (c) AGL's obligations under clauses 7.5 and 8.3 continue in effect until fully complied with regardless of any termination of this Agreement.
- (d) This Agreement terminates at such other time as mutually agreed between the parties in writing.

10 Review of this Agreement

- (a) This Agreement may be reviewed or modified by agreement of the parties provided that no review will be undertaken within the 3 years following the date of this Agreement.
- (b) No review or modification of this Agreement will be of any force or effect unless it is in writing and signed by the parties to this Agreement.
- (c) A party is not in breach of this Agreement if it does not agree to an amendment to this Agreement requested by a party in, or as a consequence of, a review.

11 Dispute Resolution

11.1 General

This clause applies to any Dispute arising in connection with this Agreement.

11.2 Notice of Dispute

The party wishing to commence the dispute resolution process must give written notice (Notice of Dispute) to the other party of:

- (a) the nature of the Dispute;
- (b) the alleged basis of the Dispute; and
- (c) the position which the party issuing the Notice of Dispute believes is correct.

11.3 Representatives of parties to meet

- (a) The representatives of the parties must promptly (and in any event within 20 Business Days of the Notice of Dispute) meet in good faith to attempt to resolve the notified Dispute.
- (b) The parties may, without limitation:
 - (i) resolve the Dispute during the course of that meeting,

- (ii) agree that further material or expert determination in accordance with clause 11.6 about a particular issue or consideration is needed to effectively resolve the Dispute (in which event the parties will, in good faith, agree to a timetable for resolution); or
- (iii) agree that the parties are unlikely to resolve the Dispute and, in good faith, agree to a form of alternative dispute resolution (including expert determination, arbitration or mediation) which is appropriate for the resolution of the relevant Dispute.

11.4 Further Notice if not settled

If the Dispute is not resolved within 20 Business Days after the nominated representatives have met, either party may give to the other a written notice calling for determination of the Dispute (Determination Notice) by mediation under clause 11.5 or by expert determination under clause 11.6.

11.5 Mediation

If a party gives a Determination Notice calling for the dispute to be mediated:

- (a) the parties must agree to the terms of reference of the mediation within 10 Business Days of the receipt of the Determination Notice (the terms shall include a requirement that the mediation rules of the Institute of Arbitrators and Mediators Australia (NSW Chapter) apply);
- (b) the mediator will be agreed between the parties, or failing agreement within 10 Business Days of receipt of the Determination Notice, either party may request the President of the Institute of Arbitrators and Mediators Australia (NSW Chapter) to appoint a mediator;
- (c) the mediator appointed pursuant to this clause 11.5 must:
 - (i) have reasonable qualifications and practical experience in the area of the Dispute; and
 - (ii) have no interest or duty which conflicts or may conflict with his or her function as a mediator, he or she being required to fully disclose any such interest or duty before his or her appointment;
- (d) the mediator shall be required to undertake to keep confidential all matters coming to his or her knowledge by reason of his or her appointment and performance of his or her duties;
- (e) the parties must within 15 Business Days of receipt of the Determination Notice notify each other of their representatives who will be involved in the mediation;
- (f) the parties agree to be bound by a mediation settlement and may only initiate judicial proceedings in respect of a Dispute which is the subject of a mediation settlement for the purpose of enforcing that mediation settlement; and
- (g) in relation to costs and expenses:
 - (i) each party will bear its own professional and expert costs incurred in connection with the mediation; and
 - (ii) the costs of the mediator will be shared equally by the parties unless the mediator determines that a party has engaged in vexatious or unconscionable behaviour in which case the mediator may require the full costs of the mediation to be borne by that party.

11.6 Expert determination

If the Dispute is not resolved under clause 11.3 or clause 11.5, or the parties otherwise

agree that the Dispute may be resolved by expert determination, the parties may refer the Dispute to an expert, in which event:

- (a) the Dispute must be determined by an independent expert in the relevant field:
 - (i) agreed upon and appointed jointly by the parties; and
 - (ii) in the event that no agreement is reached, or no appointment is made within 10 Business Days of the agreement, to refer the Dispute to an expert, appointed on application of a party by the then President of the Law Society of New South Wales;
- (b) the expert must be appointed in writing and the terms of the appointment must not be inconsistent with this clause;
- (c) the determination of the Dispute by such an expert will be made as an expert and not as an arbitrator and will be in writing and contain the reasons for the determination;
- (d) the expert will determine the rules for the conduct of the process but must conduct the process in accordance with the rules of natural justice;
- (e) each party will bear its own costs in connection with the process and the determination by the expert and will share equally the expert's fees and costs; and
- (f) any determination made by an expert pursuant to this clause is final and binding upon the parties unless:
 - (i) within 20 Business Days of receiving the determination, a party gives written notice to the other party that it does not agree with the determination and intends to commence litigation; or
 - (ii) the determination is in respect of, or relates to, termination or purported termination of this Agreement by a party, in which event the expert is deemed to be giving a non-binding appraisal.

11.7 No suspension of contractual obligations

Subject to any interlocutory order, the referral to or undertaking of a Dispute resolution process under this clause 11 does not suspend the parties' obligations under this Agreement.

12 Enforcement

12.1 Default

- (a) In the event a party considers another party has failed to perform and fulfil an obligation under this Agreement, it may give notice in writing to the other party (Default Notice) giving all particulars of the matters in respect of which it considers Default has occurred and by such notice require the Default to be remedied within a reasonable time not being less than 30 days.
- (b) In determining a reasonable time, regard must be had to both the nature of the Default and the action required to remedy it and whether or not the continuation of the Default constitutes a public nuisance or raises other circumstances of urgency or emergency.
- (c) If a party disputes the Default Notice it may if the Default Notice relates to a Dispute refer the Dispute to dispute resolution under clause 11 of this Agreement.

12.2 General enforcement

- (a) Without limiting any other remedies available to the parties, this Agreement may be enforced by a party in any Court of competent jurisdiction.
- (b) For the avoidance of doubt, nothing in this Agreements prevents:

- (i) a party from bringing proceedings in the Land and Environment Court to enforce any aspect of this Agreement or any matter to which this Agreement relates; or
- (ii) the Council from exercising any function under the Act or any other Act or Law relating to the enforcement of any aspect of this Agreement or any matter to which this Agreement relates.

13 Assignment

AGL must not assign or deal with any right under this Agreement until this Agreement has been registered against the title to the land.

14 Approvals and consents

Except as otherwise set out in this Agreement, and subject to any Law, a party may give or withhold an Approval or consent to be given under this Agreement in that party's absolute discretion and subject to any conditions determined by that party. A party is not obligated to give its reasons for giving or withholding consent or for giving consent subject to conditions.

15 Council's position

15.1 Agreement does not fetter Discretion

This Agreement is not intended to operate to fetter, in any manner the:

- (a) power of Council to make any Law; or
- (b) exercise by Council of any statutory power or discretion including, but not limited to, any statutory power or discretion of the Council relating to the Liddell Closure or any application for development consent (all referred to in this Agreement as a "Discretion").

15.2 Severance of provisions

- (a) No provision of this Agreement is intended to, or does, constitute any unlawful fetter on any exercise of any Discretion. If, contrary to the operation of this clause, any provision of this Agreement is held by a court of competent jurisdiction to constitute a fetter on any Discretion, the parties agree:
 - (i) they will take all practical steps, including the execution of any further documents, to ensure the objective of this clause 15 is substantially satisfied; and
 - (ii) in the event that clause 15.2(a)(i) cannot be achieved without giving rise to a fetter on a Discretion, the relevant provision is to be severed and the remainder of this Agreement has full force and effect.

15.3 Exercise of discretion

Where the Law permits Council to contract out of a provision of that Law or gives Council power to exercise a discretion, and if Council has in this Agreement contracted out of a provision or exercised a discretion under this Agreement, then to that extent this Agreement is not to be taken to be inconsistent with the Law.

16 Notices

16.1 Notices

- (a) Any Notice that must or may be given or made to a party to this Agreement is only given or made if it is in writing and sent in one or more of the following ways:
 - (i) delivered or posted to that party at its address set out below;
 - (ii) faxed to that party at its fax number set out below; or

(iii) emailed to that party at its email address set out below

Council

Attention	The General Manager
Address	PO Box 122, Muswellbrook, NSW, 2333
Email	records@muswellbrook.nsw.gov.au

AGL

Attention	Teagan Cronin Divisional Governance & Excellence Manager
Address	Private Mail Bag 2 Muswellbrook NSW 2333
Email	tcronin@agl.com.au

- (b) If a party gives the other party 3 Business Days' notice of a change of its address, number or email, any Notice is only given or made by that party if it is delivered, posted or emailed to the latest address or email.
- (c) Any Notice is to be treated as given or made at the following time if it is:
 - (i) delivered, when it is left at the relevant address;
 - (ii) sent by post, 5 Business Days after it is posted.
- (d) If any Notice is delivered, or an error free transmission report in relation to it is received, on a day that is not a Business Day, or if on a Business Day, after 5pm on that day in the place of the party to whom it is sent, it is to be treated as having been given or made at the beginning of the next Business Day.

16.2 Notices sent by email

- (a) A party may serve a Notice by email if the Notice:
 - (i) includes a signature block specifying:
 - a. the name of the person sending the Notice; and
 - b. the sender's position within the relevant party;
 - (ii) states in the body of the message or the subject field that it is sent as a Notice under this Agreement;
 - (iii) contains an express statement that the person sending the Notice has the authority to serve a Notice under this Agreement; and
 - (iv) is sent to the email address specified in clause 16.1(a) or the email address last notified by the intended recipient to the sender.
- (b) The recipient of a Notice served under this clause 16.2 must:
 - (i) promptly acknowledge receipt of the Notice; and
 - (ii) keep an electronic copy of the Notice.
- (c) Failure to comply with clause 16.2 does not invalidate service of a Notice under this clause.

16.3 Receipt of Notices sent by email

- (a) A Notice sent under clause 16.2 is taken to be given or made:
 - (i) when the sender receives an email acknowledgement from the recipient's information system showing the Notice has been delivered to the email address stated above;
 - (ii) when the Notice enters an information system controlled by the recipient; or
 - (iii) when the Notice is first opened or read by the recipient, whichever occurs first.
- (b) If under clause 16.3 a Notice would be taken to be given or made on a day that is not a Business Day in the place to which the Notice is sent, or later than 5:00 pm (local time), it will be taken to have been given or made at the start of business on the next Business Day in that place.

17 Interest to accrue

17.1 Interest

- (a) AGL agrees to pay interest on any amount under this Agreement which is not paid on the due date for payment. Interest accrues daily from (and including) the due date to (but excluding) the date of actual payment and is calculated on actual days elapsed and a year of 365 days.
- (b) AGL agrees to pay interest under this clause on demand from Council.

17.2 Rate of interest

The rate of interest applying to each daily balance is the maximum rate permitted to accrue on unpaid rates by Section 566(3) of the *Local Government Act 1993* (NSW).

18 General

18.1 Relationship of the Parties

- (a) Nothing in this Agreement constitutes a partnership between the parties, nor does it constitute one party to be the agent of the other.
- (b) A party cannot in any way or for any purpose bind another party or contract in the name of another party.

18.2 Entire Agreement

This Agreement constitutes the entire agreement of the parties in relation to its subject matter and, except for the MOU, supersedes all prior agreements, understandings and negotiations between the parties. Subject to any contrary requirement of any Law, no other covenants or provisions are implied or arise between the parties by way of collateral or other agreement. 'The existence of any such implication or collateral or other agreement is expressly negative to the extent permitted by Law.

18.3 Construction

No rule of construction applies to the disadvantage of a party because that party was responsible for the preparation of or seeks to rely on this Agreement or any part of it.

18.4 Confidentiality

The parties agree that the terms of this Agreement are not confidential and this Agreement may be treated as a public document and exhibited or reported without restriction by any party.

18.5 Governing Law and Jurisdiction

- (a) The laws applicable in New South Wales govern this Agreement.
- (b) Each party irrevocably submits to the non-exclusive jurisdiction of the New South Wales Courts and Courts competent to hear appeals from those Courts.

18.6 Counterparts

This Agreement may be executed in any number of counterparts and all such counterparts taken together will constitute the same instrument. A party can execute this Agreement by signing any counterpart. Counterparts can be exchanged electronically by way of email.

18.7 Costs

- (a) AGL must pay to Council the Council's reasonable costs (exclusive of GST) and disbursements in connection with the negotiation, preparation, execution, registration and release and discharge of this Agreement and any other document relating to this Agreement, and for all advertising and associated costs, within 7 days of a written demand by Council for such payment.
- (b) AGL must also pay to Council the Council's reasonable costs of enforcing this Agreement within 7 days of a written demand by Council for such payment.

18.8 Further assurances

Each party must promptly execute all documents and do all things that another party from time to time reasonably requests to effect, perfect or complete this Agreement and all transactions incidental to it.

18.9 Representation and warranties

The parties represent and warrant that they have the power and authority to enter into this Agreement and comply with their obligations under the Agreement and that entry into this Agreement will not result in the breach of any Law.

18.10 Severability

Subject to clause 15 this Agreement must, so far as possible, be interpreted or construed so as not to be invalid, illegal or unenforceable in any respect but if any provision on its true interpretation or construction is held to be illegal, invalid or unenforceable:

- (a) that provision will, so far as possible, be read down to the extent that it may be necessary to ensure that it is not illegal, invalid or unenforceable and as may be reasonable in all the circumstances so as to give it a valid operation of a partial character; or
- (b) if the provision or part of it cannot effectively be read down, that provision or part of it will be deemed to be void and severable and the remaining provisions of this Agreement will not in any way be affected or impaired and will continue notwithstanding that illegality, invalidity or unenforceability.

18.11 Waiver

- (a) A right or remedy created by this Agreement cannot be waived except in writing signed by the party entitled to that right. Delay by a party in exercising a right or remedy does not constitute a waiver of that right or remedy, nor does a waiver (either wholly or in part) by a party of a right operate as a subsequent waiver of the same right or of any other right of that party.
- (b) The fact that a party fails to do, or delays in doing, something the party is entitled to do under this Agreement, does not amount to a waiver of any obligation of, or breach of obligation by, another party. A waiver by a party is only effective if it is in writing. A written waiver by a party is only effective in relation to the particular obligation or breach in respect of which it is given. It is not to be taken as an implied waiver of any

other obligation or breach or as an implied waiver of that obligation or breach in relation to any other occasion.

DRAFT

Schedule 1

Summary of requirements (Section 7.4)

Subject and subsection of the Act	Planning Agreement
Planning instrument and/or Development Application Section 7.4(1)	AGL proposes to make a Development Application, being SSDA 24937520
Description of the land to which the planning Agreement applies Section 7.4(3)(a)	See the definition of Land in clause 1.
The scope, timing and manner of delivery of contribution required by the Planning Agreement Section 7.4(3)(b)	See clause 7.
Applicability of section 7.11 of the Act Section 7.4(3)(d)	Not excluded. See clause 6.
Applicability of section 7.12 of the Act Section 7.4(3)(d)	Not excluded. See clause 6.
Applicability of section 7.24 of the Act Section 7.4(3)(d)	Not excluded. See clause 6.
Mechanism for dispute resolution Section 7.4(3)(f)	See clause 11.
Enforcement of the Planning Agreement Section 7.4(3)(g)	See clause 12.
Registration of the Planning Agreement Section 7.4(3)(g)	To be registered against the Land. See clause 8.
Provisions for enforcement Section 7.4(3)(g)	See clause 12.
No obligation to grant consent or exercise functions Section 7.4(9)	See clause 15.

Schedule 2

Contributions

AGL agrees to pay the following Contributions to Council:

- (a) \$500,000, subject to CPI indexation in accordance with clause 7.3 calculated from 1 July 2022, within 10 Business Days of receipt of an invoice from Council prior to 30 June 2023;
- (b) \$500,000, subject to CPI indexation in accordance with clause 7.3 calculated from 1 July 2022, within 10 Business Days of 30 June 2023;
- (c) \$500,000, subject to CPI indexation in accordance with clause 7.3 calculated from 1 July 2023, within 10 Business Days of 30 June 2024
- (d) \$500,000, subject to CPI indexation in accordance with clause 7.3 calculated from 1 July 2024, within 10 Business Days of 30 June 2025.

Schedule 3

Investment Committee

1 Definitions

In this Schedule 3, unless the context indicates a contrary intention:

Approved Funding Proposal means a Funding Proposal recommended by the Investment Committee in accordance with clause 4.1 and approved by Council in accordance with clause 4.3;

Community Representative means an Investment Committee Member who is not a representative of AGL or Council in accordance with clause 2.1(b)(iii);

Council Representative means a Councillor or employee of Council and appointed by Council to be an Investment Committee Member in accordance with clause 2.1(b)(ii);

Dealing in relation to the Land, means without limitation, selling, transferring, assigning, mortgaging, charging, encumbering or otherwise dealing with the Land;

Funding Proposal means a proposal for Council to spend some or all of the Contribution paid by AGL and which satisfies the Funding Proposal Criteria;

Funding Proposal Criteria means the criteria set out in clause 7 and which a Funding Proposal must satisfy before it can be approved by the Investment Committee;

Investment Committee Member means a member of the Investment Committee;

AGL Representative means an employee of AGL and appointed by AGL to be an Investment Committee Member in accordance with clause 2.1(b)(i); and

Recommended Funding Proposal means a Funding Proposal recommended by the Investment Committee in accordance with clause 4.1.

Terms that are not defined in this Schedule but that are defined in clause 1 of the Agreement, will have the same meaning in this Schedule as the meaning given to the term in the Agreement, unless the context makes it clear that a definition is not intended to apply.

2 Investment Committee

2.1. Establishment and Membership

- (a) As soon as practicable after this Agreement is executed, Council must establish an Investment Committee which must consist of six Investment Committee Members.
- (b) The membership of the Investment Committee shall comprise:
 - (i) two Investment Committee Members appointed by AGL;
 - (ii) two Investment Committee Members appointed by Council;
 - (iii) one Community Representative appointed in accordance with clause 2.3; and
 - (iv) one representative from a government organisation or related entity with a demonstrated interest in the public benefit of the Upper Hunter Region.
- (c) An Investment Committee Member appointed by AGL or Council must act in the best interests of the party which appointed it.

2.2. Chairperson

- (a) The chairperson for the Investment Committee must be a Council Representative.
- (b) The chairperson must be elected to the position of chairperson by a majority vote of the Investment Committee at the first meeting of the Investment Committee.
- (c) If the chairperson ceases to be an Investment Committee Member, then a new chairperson must be appointed by majority vote of the Investment Committee at the next Investment Committee meeting.
- (d) The chairperson will convene and chair the Investment Committee meetings.
- (e) The chairperson will determine the agenda items.

2.3. Community Representative

- (a) As soon as practicable after this Agreement is executed, Council must place an advertisement in the Hunter River Times and on its website and social media platforms for any person interested in the position of Community Representative on the Investment Committee.
- (b) Any resident in the Muswellbrook local government area, who is not eligible for the position of Council Representative or AGL Representative, may make an application to Council to be appointed as the Community Representative on the Investment Committee.
- (c) The Community Representative must be elected by majority vote of the Investment Committee at the first meeting of the Investment Committee from the persons who made an application to Council for appointment.
- (d) The Community Representative is elected to the Investment Committee for a two year period.
- (e) After a Community Representative has held that position on the Investment Committee for a two year period Council must readvertise the position in accordance with clause 2.3 of this Schedule.
- (f) A Community Representative can be re-elected to the position of Community Representative on the Investment Committee if that person has applied again to be a Community Representative on the Investment Committee.
- (g) If a Community Representative is not elected due to a lack of interest by the community in the position of Community Representative on the Investment Committee then provided Council has advertised the position in accordance with clause 2.3(a) the Investment Committee may proceed with operating in accordance with this Schedule 3 with a quorum of at least one Council Representative and one AGL Representative.

2.4. Alternative Investment Committee Member

AGL and Council may appoint an alternate Investment Committee Member who may exercise all powers of the Investment Committee member when attending in place of that Investment Committee Member.

2.5. Term of Investment Committee Member

AGL Representatives and Council Representatives are appointed to the Investment Committee for a four year period, provided that for the initial term, the appointments shall be until the next general election of Council.

2.6. Replacement of Investment Committee Members

- (a) If an Investment Committee Member ceases for any reason to be a member of the Investment Committee or resigns as a member of the Investment Committee:
 - (i) if the Investment Committee Member is an AGL Representative, AGL must as soon as practicable appoint a new AGL Representative;

(ii) if the Investment Committee Member is a Council Representative, Council must as soon as practicable appoint a new Council Representative; and

(iii) if the Investment Committee Member is a Community Representative:

- a. Council must, as soon as practicable, advertise in the Hunter River Times and on its website and social media platforms for any person interested in being appointed as the Community Representative on the Investment Committee; and
- b. the remaining Investment Committee Members at the next meeting of the Investment Committee must appoint, by majority vote, a new Community Representative from the persons who made an application to Council for such appointment (in accordance with clause 2.3).

(b) If an Investment Committee Member:

- (i) dies or becomes bankrupt;
- (ii) in the case of a Council Representative, ceases to be a Councillor or employee of Council, or
- (iii) in the opinion of each of the other Investment Committee Members, consistently fails to perform his or her duties in relation to the Investment Committee,

that Investment Committee Member will cease to be a member of the Investment Committee with immediate effect.

2.7. Meetings of the Investment Committee

- (a) The Investment Committee will determine the frequency of its meetings.
- (b) Despite clause 2.7(a) above, the Investment Committee must meet at least twice per Year.
- (c) Only the chairperson may call a meeting of the Investment Committee.
- (d) Any Investment Committee Member may request the chairperson to convene an extraordinary meeting of the Investment Committee to discuss any matter warranting urgent consideration. The chairperson will determine whether an extraordinary meeting is warranted.
- (e) At least two weeks' notice must be given to all members of any meeting of the Investment Committee (except extraordinary meetings where one week's notice can be given).
- (f) Council may determine the manner in which meetings of the Investment Committee are to be convened and conducted.
- (g) Council or AGL must provide facilities for Investment Committee meetings.

2.8. Proceedings of Investment Committee

- (a) The quorum for meetings of the Investment Committee is one AGL Representative and one Council Representative.
- (b) Meetings of the Investment Committee may be conducted by telephone or other electronic means provided all Investment Committee Members are able to be heard and communicate effectively.

2.9. Liability and Duties

If an Investment Committee Member acts in good faith (which does not preclude acting in the interests of or under the direction of the person appointing that Investment Committee

Member), he or she is not responsible or liable in any manner to any other Investment Committee Member, Council or AGL for any loss or expense.

3 The Role of the Investment Committee

- (a) The role of the Investment Committee is to consider, and, if it sees fit, recommend to Council, Funding Proposals submitted to it for consideration by an Investment Committee Member.
 - (b) The Investment Committee may not recommend a Funding Proposal unless it meets the Funding Proposal Criteria.
 - (c) The Investment Committee will evaluate and provide feedback to AGL on the annual report provided in accordance with clause 7.5.
 - (d) The Investment Committee will report to Council the annual report provided by AGL in accordance with clause 7.5.
-

4 Funding Proposals

4.1 Submitting funding Proposal for Consideration by Investment Committee

Any Investment Committee Member may submit a Funding Proposal to the Investment Committee for consideration, if the Funding Proposal:

- (a) satisfies the Funding Proposal Criteria; and
- (b) has been provided (by post or email) to all Investment Committee Members at least two weeks before the meeting at which the Funding Proposal is to be considered.

4.2 Consideration of Funding Proposal

- (a) All Funding proposals that satisfy clause 4.1 must be considered by the Investment Committee.
- (b) Council will provide the Investment Committee with a comprehensive report on all Funding Proposals.
- (c) A Funding Proposal will be recommended by the Investment Committee for funding if at least 75% of the Investment Committee vote in favour of the Funding Proposal.
- (d) An Investment Committee Member may declare themselves ineligible to vote on a matter where the Investment Committee Member considers that they have a material personal interest in the outcome of the matter and that this may result in a conflict of interest.
- (e) For the avoidance of doubt, where an Investment Committee Member is ineligible to vote at a meeting at which a decision is made, a vote of all remaining eligible Investment Committee Members will constitute a vote of the Investment Committee.
- (f) If a Funding Proposal is not approved by the Investment Committee, the Funding Proposal may be submitted for consideration at one subsequent Investment Committee meeting for further consideration.

4.3 Approved Funding Proposal

- (a) Council may submit a Recommended Funding Proposal to the Muswellbrook Shire Council Councillors for resolution within the budget agreed by the Investment Committee and the timeframe as required by Council.
- (b) Council does not in any way guarantee the outcome of the Recommended Funding Proposal and the Investment Committee acknowledges that any Recommended Funding Proposal is advisory only and the Councillors are in no way restricted in their

decision making.

- (c) The timeframe to implement an Approved Funding Proposal may vary depending on the nature and complexity of the Approved Funding Proposal.
- (d) Council must report to the Investment Committee at the next meeting of the Investment Committee as to the progress and status of all Recommended Funding Proposals, including the amount of available monetary Contributions and where funds have been allocated and spent.
- (e) If, at the termination of this Agreement there are funds that have not been allocated, the Investment Committee will continue to operate until all funds have been expended in accordance with clause 4.2 of this Agreement and which satisfies the Funding Proposal Criteria.

5 Funding Proposal Criteria

- (a) A Funding Proposal must be for a public purpose as defined by section 7.4(2) of the Act and support one or more of the following priorities:
 - (i) regional economic diversification;
 - (ii) new job creation, skills and training;
 - (iii) sustainability and innovation; or
 - (iv) research and development.
- (b) A Funding Proposal may include:
 - (i) the maintenance or fit out of infrastructure;
 - (ii) environmental conservation works;
 - (iii) research, training or education;
 - (iv) community welfare;
 - (v) community events.
- (c) A Funding Proposal submitted to the Investment Committee for consideration must:
 - (i) describe the proposed expenditure including:
 - a. an overview of its benefit to the Upper Hunter Region community;
 - b. the reasons why the Contributions paid by AGL should be spent on the Funding Proposal;
 - (ii) set out an indicative costing for the proposed expenditure including any ongoing costs.
- (d) A Funding Proposal must not be submitted to the Investment Committee for consideration which:
 - (i) seeks to finance endeavours solely for personal gain; or
 - (ii) is from a discriminatory and/or exclusive organisation.

EXECUTED AS AN AGREEMENT:

EXECUTED by **Muswellbrook Shire Council**)
ABN 86 864 180 944 by its authorised)
delegate pursuant to Section 377 of the *Local*)
Government Act 1993 (NSW), in the presence
of:

.....
Signature of Witness

.....
General Manager

.....
Name of Witness (Print)

.....
Name of General Manager

EXECUTED by **AGL Macquarie Pty Ltd ACN**)
167 859 494 in accordance with Section 127 of)
the *Corporations Act 2001 (Cth)*:)

.....
Signature of Director

.....
Signature of Director/Secretary

.....
Name of Director (Print)

.....
Name of Director/Secretary (Print)

Annexure A

Continuing Contributions

The SEIA recommended a range of mitigations to offset potential impacts resulting from the closure of Liddell Power Station. AGL has developed a Community Support Framework to align with these mitigations and is committed to the continuation of such activities, as outlined below:

- Continue to engage stakeholders and the community, including but not limited to the continuation of engagement with the AGL Macquarie Community Dialogue Group, with post closure information including timing and future land use.
- maintain existing investment in community activities;
- identify specific community investment opportunities related to mental health services in the Upper Hunter region;
- include local targets as part of demolition, remediation, and rehabilitation procurement strategy;
- provide opportunities for local indigenous procurement;
- continue support for local business chambers and seek community investment in local business development programs;
- continue working with all levels of government, local business and other stakeholders to identify commercial and social development needs and opportunities;
- collaborate with local councils, First Nations Peoples, and other key local stakeholders to identify opportunities for recreational, sporting and other community assets; and
- continue to pursue commercial site redevelopment opportunities that leverage the local skills base, contribute to regional economic diversification and create local jobs.

19 May 2021

AGL Macquarie Pty Ltd

Muswellbrook Shire Council

Memorandum of Understanding on Provision for Socio- Economic Impacts of Closure of Liddell Power Station

Ref: CLC/AM AGLM29096-9162549 3476-8889-4484v7

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Date

Parties

AGL Macquarie Pty Ltd ACN 167 859 494 of Level 24, 200 George Street Sydney NSW 2000 (**AGL**)

Muswellbrook Shire Council ABN 86 864 180 944 of PO Box 152, Muswellbrook NSW 2333 (**Council**)

Background

- A The Liddell Power Station has operated on the Land since 1971 as part of the integrated power generation complex located between the townships of Muswellbrook and Singleton. AGL owns land which comprises the Bayswater and Liddell Power Stations and spans across the local government areas of Muswellbrook Shire and Singleton. AGL acquired this land in 2014.
- B Parts of the Liddell Power Station operations are the subject of various development consents granted by Council.
- C On 17 April 2015, AGL announced the intended closure of the Liddell Power Station via statements in its Greenhouse Gas Policy that it did not intend to extend the operating life of any of its existing coal-fired power stations and that those existing coal-fired power stations would be closed by 2050. This was further recommitted in the AGL Climate Statement and Commitments released on 30 June 2020.
- D It is anticipated that the Liddell Closure will commence progressively with the closure of the first unit to occur in April 2022 and the remaining three units to close in April 2023, with the intention of supporting system reliability throughout the 2022-23 summer months.
- E AGL is concerned to ensure the Community is appropriately and reasonably supported from the foreseeable adverse socio-economic consequences of the Liddell Closure. Consequently, AGL is already making and has agreed to make a number of financial and other contributions including through programs to the Community, to ameliorate these potential impacts. These committed Current Contributions are described more fully in **Annexure A**. AGL anticipates that it will be making further contributions in addition to the Current Contributions described in **Annexure A**.
- F Council is also concerned about the socio-economic impacts of the prospective Liddell Closure on the Community, in circumstances where a number of mines and other employment-generating businesses located in the Muswellbrook local government area, and the Hunter Region more broadly, are scheduled for closure in coming years.
- G To inform itself regarding these potential consequences of the Liddell Closure, Council procured the UniSA Report. Council's stated intention was, in reliance on the recommendations of the UniSA Report, to consider imposing a special

- rate levied on either thermal coal generation rateable land singularly or thermal coal generation and thermal coal mining rateable land more generally being land which contributes or will contribute to the need for social and economic works, services facilities or activities under the LG Act.
- H AGL asserts that the UniSA Report does not appropriately assess the potential socio-economic impacts of the Liddell Closure. The recommendations of the UniSA Report are not supported by AGL.
- I AGL has engaged an appropriately-qualified consultant to consider the socio-economic impacts of the Liddell Closure and inform AGL in its discussions with Council about proportionate and evidence-based contributions to be made by AGL and others to support the Community through the Liddell Closure.
- J Council and AGL agree that a detailed SEIA:
- a. for the entire Hunter Region is desirable to assess the socio-economic impacts of the prospective closure of not just the Liddell Power Station, but also the many other businesses which are likely to close in the next decade, in response to the region's transition to a carbon neutral future; and
 - b. would enable the parties to better assess the potential socio-economic impacts of the Liddell Closure itself and how best to target and direct the attendant financial and other contributions which should reasonably be made by AGL to manage those impacts.
- K AGL intends to lodge the SSD2 Application with DPIE to seek approval for the physical aspects of the Liddell Closure, including the rehabilitation of the Liddell Power Station site.
- L Melt Hunter Valley Operations Pty Limited established the UHEDC in response to a Council tender for provision of economic and social transition services as a single centre of coordination for such services.
- M Council wishes to ensure there is a mechanism by which AGL is obliged to make a monetary contribution to the Council to support the Community to adapt to the impacts of the Liddell Closure.
- N AGL and Council agree that a VPA between Council and AGL is a more appropriate mechanism than imposition of a Rate as means of ensuring a properly informed and targeted contribution to the Community by AGL towards the anticipated socio-economic impacts of the Liddell Closure.
- O This MOU sets out the pathway towards entry into a VPA between the parties to make such a financial provision.
- P Capitalised terms in this document have the meaning given to them in **clause 9**, unless otherwise defined.
-

Agreed terms

1 Status of this MOU

The parties agree that this MOU is not intended to be, and is not, legally binding, other than **clauses 3.1, 3.4(a), 3.4(b), 4, 5, 7 and 8**, which are binding on the parties on and from the Commencing Date.

2 Objectives

2.1 Council's objectives

The Council's objectives in entering this MOU are to:

- (a) ensure that AGL is obliged, via a VPA, to provide adequate contributions to manage and mitigate the socio-economic impacts on the Community from the Liddell Closure;
- (b) be consulted as a key stakeholder throughout the process of preparation of a detailed SEIA for the Hunter Region relating to the socio-economic impacts of the transition of the region to a carbon neutral future over the next decade; and
- (c) ensure that, as much as possible, the economic and social response to the transition in the Muswellbrook Shire and Upper Hunter Region is overseen by a single centre of coordination between industry, government and knowledge providers. To this end, with AGL's agreement, Council intends to provide to the UHEDC all monetary contributions delivered by AGL under the proposed VPA.

2.2 AGL's objectives

AGL's objectives in entering this MOU are:

- (a) to make an appropriate, fair and reasonable contributions to the Community to manage and mitigate the socio-economic impacts on the Community from the Liddell Closure;
- (b) to ensure that the socio-economic impacts of the Liddell Closure are managed and mitigated as part of a regional response to the prospective impacts of the closure of mines and other businesses in the Hunter Region over the next decade;
- (c) that the socio-economic impacts of the Liddell Closure are properly assessed as part of a SEIA relating to the Hunter Region;
- (d) that the contribution that AGL agrees to make via a VPA, is appropriately targeted and directed to meet the identified impacts on and needs of the Community specifically in response to the Liddell Closure;
- (e) to ensure that the Current Contributions set out in **Annexure A** are appropriately recognised in the context of a proposed VPA; and

- (f) to indicate AGL's intention to establish a community reference group to guide and advise on the detailed SEIA, socio-economic impact mitigation measures, programs, and where funds are to be directed. Representatives from Muswellbrook Shire, Singleton and Upper Hunter Shire Councils will also be invited to participate in the community reference group, as well as representatives from the Federal and State Governments, as appropriate.

3 Intention to enter into VPA

3.1 Up-front contribution

As a sign of AGL's commitment to contributing to the mitigation of the socio-economic impacts of the Liddell Closure and good faith in entering into this MOU, AGL agrees to:

- (a) pay a sum of \$1.35 million to Council within 60 days of the Commencement Date; and
- (b) until such time as the SEIA has been finalised and a VPA agreed between AGL and Council in accordance with **clauses 3.3 and 3.4**, pay up to four (4) annual contributions of \$500,000 to Council, payable within 10 Business Days from the end of each financial year;

on the condition that any such monies are:

- (c) following transfer from Council to the UHEDC, expended by the UHEDC as agreed by Council and AGL and other relevant stakeholders (via a process to be agreed) on programs and initiatives that support the following priorities:
 - (i) regional economic diversification;
 - (ii) new job creation, skills and training;
 - (iii) sustainability and innovation; and
 - (iv) research and development; and
- (d) are credited as public benefit contributions in any subsequent VPA agreed between AGL and Council in accordance with **clauses 3.3 and 3.4**.

3.2 Procuring the SEIA

The parties acknowledge and agree that the SEIA:

- (a) is an essential resource and precondition to determining appropriate contributions to be delivered by AGL in connection with the Liddell Closure;
- (b) will be used by the parties to inform the nature and quantum of contributions to be delivered by AGL under a VPA;

- (c) will be funded by AGL, up to a total cost of between \$180,000 and \$200,000;
- (d) will be based on the preliminary scope identified in **Annexure B**, which is to be reviewed by the community reference group referred to in **clause 2.2(f)** and informed by discussions with the representatives of that group;
- (e) will be procured by AGL and prepared by an appropriately-qualified consultant of AGL's choosing;
- (f) will be prepared in a number of phases (AGL currently anticipates that there will be four phases), with a workshop to be held at the conclusion of each phase with the community reference group referred to in **clause 2.2(f)**, to:
 - (i) present the findings of the work undertaken in the correlating phase; and
 - (ii) receive feedback from the community reference group referred to in **clause 2.2(f)**; and
- (g) once finalised, will be made available to the members of the community reference group referred to in **clause 2.2(f)**.

3.3 Terms of the VPA

The parties acknowledge their intention to enter into a VPA to be made in accordance with **clause 3.4** and on the basis that the VPA will:

- (a) incorporate all the mandatory elements of a VPA under the EP&A Act;
- (b) acknowledge the public benefit contributions already made by AGL in accordance with **clauses 3.1** and **3.2(c)** as if they had been made under the VPA;
- (c) make provision for AGL to deliver additional contributions to assist the Community to adapt to the Liddell Closure, with such contributions to be informed by the findings of the SEIA report, once prepared. Provided that, in any financial year, the value of any such additional contributions will not exceed \$1 million above the Baseline Amount having also taken into account any other Rate or other special contribution imposed by Council on AGL or in relation to AGL's rateable land comprising the Liddell and Bayswater Power Stations.
- (d) given the parties' agreement that a VPA is the appropriate mechanism to fund programs to mitigate any socio-economic impacts resulting from the Liddell Closure, include a commitment by Council to release AGL from liability for any additional contributions above the amounts stipulated in the VPA (whether through the imposition of Rates or other special contribution imposed by Council) in connection with the Liddell Closure;
- (e) include a commitment by Council that Council ensure that the UHEDC administers any monetary contributions delivered by AGL under the VPA to support the following priorities:

- (i) regional economic diversification;
- (ii) new job creation, skills and training;
- (iii) sustainability and innovation; and
- (iv) research and development;
- (f) include a mechanism for AGL and other relevant stakeholders to be consulted in Council's selection of projects and programs that will be funded by monetary contributions delivered under the VPA;
- (g) include a requirement for Council itself and for the Council to procure that the UHEDC to regularly accounts to AGL for the expenditure of the monetary contributions delivered by AGL under the VPA; and
- (h) include an acknowledgement that any contributions made under the VPA would be separate and additional to AGL's community and employee support programs, which AGL intends to continue in relation to its assets in the Hunter Region.

3.4 Reasonable endeavours to enter into VPA

- (a) The parties agree to negotiate in good faith and use reasonable endeavours to enter into the VPA within 4 months following completion and Council's receipt of the final SEIA in accordance with **clause 3.2(g)**.
- (b) Each Party will make available sufficient appropriately authorised, skilled and experienced resources to expeditiously progress negotiations on the terms of the VPA and comply with its other obligations under this MOU.
- (c) The VPA is intended to reflect the matters and principles outlined in this MOU.

4 No fetter

Nothing in this MOU shall be construed as:

- (a) requiring Council to do anything that would cause Council to breach any of its obligations at Law; or
- (b) limiting or fettering in any way the discretion of Council in exercising any of its statutory functions, powers, authorities or duties.

5 Dispute resolution

If a dispute arises in relation to this MOU, the parties will endeavour to resolve it in good faith. If any dispute is not resolved within 20 Business Days by the parties' representatives, the matter will be escalated to the parties' senior management for resolution or dealt with as otherwise agreed between the parties.

If matters remain unresolved following a minimum of two meetings held between Council's General Manager and AGL's senior management, either Party may refer the matter for independent mediation.

6 Notices

6.1 General

A notice, demand, certification, process or other communication relating to this document must be in writing in English and may be given by an agent of the sender.

6.2 How to give a communication

In addition to any other lawful means, a communication may be given by being:

- (a) personally delivered;
- (b) left at the party's current delivery address for notices;
- (c) sent to the party's current postal address for notices by pre-paid ordinary mail; or
- (d) sent by email to the party's current email address for notices.

6.3 Particulars for delivery of notices

- (a) The particulars for delivery of notices are initially:

AGL

Delivery address: Level 24, 200 George Street, Sydney NSW 2000
Postal address: same as delivery address
Email: SRose3@agl.com.au
Attention: Susan Rose

Council

Delivery address: Campbell's Corner 60-82 Bridge St, Muswellbrook NSW 2333
Postal address: PO Box 122, Muswellbrook NSW 2333
Email: Fiona.Plesman@muswellbrook.nsw.gov.au
Attention: Fiona Plesman

- (b) Each party may change its particulars for delivery of notices by notice to each other party.

6.4 Communications by post

Subject to **clause 6.6**, a communication is given if posted:

- (a) within Australia to an Australian postal address, three Business Days after posting; or

- (b) outside of Australia to an Australian postal address or within Australia to an address outside of Australia, ten Business Days after posting.

6.5 Communications by email

Subject to **clause 6.6**, a communication is given if sent by email, at the time the email containing the notice left the sender's email system, unless the sender receives notification that the email containing the notice was not received by the recipient.

6.6 After hours communications

If a communication is given:

- (a) after 5.00 pm in the place of receipt; or
- (b) on a day which is a Saturday, Sunday or bank or public holiday in the place of receipt,

it is taken as having been given at 9.00 am on the next day which is not a Saturday, Sunday or bank or public holiday in that place.

6.7 Process service

Any process or other document relating to litigation, administrative or arbitral proceedings relating to this document may be served by any method contemplated by this **clause 6** or in accordance with any applicable law.

7 GST

7.1 Construction

In this **clause 7**:

- (a) unless there is a contrary indication, words and expressions which are not defined in this MOU but which have a defined meaning in the GST Law have the same meaning as in the GST Law;
- (b) **GST Law** has the same meaning given to that expression in the *A New Tax System (Goods and Services Tax) Act 1999* (Cth) or, if that Act does not exist for any reason, means any Act imposing or relating to the imposition or administration of a goods and services tax in Australia and any regulation made under that Act; and
- (c) references to GST payable and input tax credit entitlements include:
 - (i) notional GST payable by, and notional input tax credit entitlements of the Commonwealth, a State or a Territory (including a government, government body, authority, agency or instrumentality of the Commonwealth, a State or a Territory); and
 - (ii) GST payable by, and the input tax credit entitlements of, the representative member of a GST group of which the entity is a member.

7.2 Consideration GST exclusive

Unless otherwise expressly stated, all consideration, whether monetary or non-monetary, payable or to be provided under or in connection with this MOU is exclusive of GST (**GST-exclusive consideration**).

7.3 Payment of GST

If GST is payable on any supply made by:

- (a) a party; or
- (b) an entity that is taken under the GST Law to make the supply by reason of the capacity in which a party acts,

(**Supplier**) under or in connection with this MOU, the recipient of the supply, or the party providing the consideration for the supply, must pay to the Supplier an amount equal to the GST payable on the supply.

7.4 Timing of GST payment

The amount referred to in **clause 7.3** must be paid in addition to and at the same time and in the same manner (without any set-off or deduction) that the GST-exclusive consideration for the supply is payable or to be provided.

7.5 Tax invoice

The Supplier must deliver a tax invoice or an adjustment note to the recipient of a taxable supply before the Supplier is entitled to payment of an amount under **clause 7.3**.

7.6 Adjustment event

If an adjustment event arises in respect of a supply made by a Supplier under or in connection with this MOU, any amount that is payable under **clause 7.3** will be calculated or recalculated to reflect the adjustment event and a payment will be made by the recipient to the Supplier or by the Supplier to the recipient as the case requires.

7.7 Reimbursements

- (a) Where a party is required under or in connection with this document to pay for, reimburse or contribute to any expense, loss, liability or outgoing suffered or incurred by another party or indemnify another party in relation to such an expense, loss, liability or outgoing (**Reimbursable Expense**), the amount required to be paid, reimbursed or contributed by the first party will be reduced by the amount of any input tax credits to which the other party is entitled in respect of the Reimbursable Expense.
- (b) This **clause 7.7** does not limit the application of **clause 7.3**, if appropriate, to the Reimbursable Expense as reduced in accordance with **clause 7.7(a)**.

7.8 No merger

This **clause 7** does not merge on the completion, rescission or other termination of this document or on the transfer of any property supplied under this MOU.

8 General

8.1 Legal costs

- (a) Except as expressly stated otherwise in this document, each party must pay its own legal and other costs and expenses of performing its obligations under this document.
- (b) AGL will pay the reasonable legal costs of the Council in drafting, negotiating and executing the VPA.
- (c) Each party will pay its own legal and other costs and expenses of drafting, negotiating and executing this MOU.

8.2 Amendment

This document may only be varied or replaced by a document executed by the parties.

8.3 Waiver and exercise of rights

- (a) A single or partial exercise or waiver by a party of a right relating to this document does not prevent any other exercise of that right or the exercise of any other right.
- (b) A party is not liable for any loss, cost or expense of any other party caused or contributed to by the waiver, exercise, attempted exercise, failure to exercise or delay in the exercise of a right.

8.4 Consents

Except as expressly stated otherwise in this document, a party may conditionally or unconditionally give or withhold any consent to be given under this document and is not obliged to give its reasons for doing so.

8.5 Further steps

Each party must promptly do whatever any other party reasonably requires of it to give effect to this document and to perform its obligations under it.

8.6 Governing law and jurisdiction

- (a) This document is governed by and is to be construed in accordance with the laws applicable in New South Wales.
- (b) Each party irrevocably and unconditionally submits to the non-exclusive jurisdiction of the courts exercising jurisdiction in New South Wales and any courts which have jurisdiction to hear appeals from any of those courts and waives any right to object to any proceedings being brought in those courts.

8.7 Assignment

- (a) A party must not assign or deal with any right under this document without the prior written consent of the other parties.
- (b) Any purported dealing in breach of this clause is of no effect.

8.8 Liability

An obligation of two or more persons binds them separately and together.

8.9 Counterparts

This document may consist of a number of counterparts and, if so, the counterparts taken together constitute one document.

8.10 Entire understanding

- (a) This document contains the entire understanding between the parties as to the subject matter of this document.
- (b) All previous negotiations, understandings, representations, warranties, memoranda or commitments concerning the subject matter of this document are merged in and superseded by this document and are of no effect. No party is liable to any other party in respect of those matters.
- (c) No oral explanation or information provided by any party to another:
 - (i) affects the meaning or interpretation of this document; or
 - (ii) constitutes any collateral agreement, warranty or understanding between any of the parties.

8.11 Relationship of parties

This document is not intended to create a partnership, joint venture or agency relationship between the parties.

8.12 Construction

Unless expressed to the contrary, in this document:

- (a) words in the singular include the plural and vice versa;
- (b) any gender includes the other genders;
- (c) if a word or phrase is defined its other grammatical forms have corresponding meanings;
- (d) 'includes' means includes without limitation;
- (e) no rule of construction will apply to a clause to the disadvantage of a party merely because that party put forward the clause or would otherwise benefit from it; and
- (f) a reference to:
 - (i) a person includes a partnership, joint venture, unincorporated association, corporation and a government or statutory body or authority;
 - (ii) a person includes the person's legal personal representatives, successors, assigns and persons substituted by novation;
 - (iii) any legislation includes subordinate legislation under it and includes that legislation and subordinate legislation as modified or replaced; and

- (iv) an obligation includes a warranty or representation and a reference to a failure to comply with an obligation includes a breach of warranty or representation.

9 Definitions

In this document these terms have the following meanings:

Baseline Amount	The sum of all Rates imposed on AGL by the Council in relation to AGL's rateable land associated with the Liddell and Bayswater Power Stations (being assessment numbers 103473 and 103440) in the 2020/21 financial year (adjusted in accordance with any order made by the Minister under s 506 of the LG Act).
Business Day	A day which is not a Saturday, Sunday or bank or public holiday in Sydney.
Community	The regional community in the vicinity of the Liddell Power Station, including the residents of and businesses operating in the Muswellbrook Shire, Singleton and Upper Hunter Shire local government areas.
Commencing Date	The date that this document is executed by all parties.
Current Contributions	Monetary and other contributions, provisions and programs that AGL is making and has agreed to make to support the Community in response to the Liddell Closure, which are set out in Annexure A .
DPIE	The NSW Department of Planning, Industry and Environment.
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i> (NSW), as amended from time to time.
Hunter Region	The local government areas of Muswellbrook Shire, Upper Hunter Shire, Singleton, Dungog Shire, Cessnock, Port Stephens, Maitland, Newcastle and Lake Macquarie.
Land	The land owned by AGL upon which the Liddell Power Station is situated.
Law	Any statute, regulation, rule, proclamation, order, ordinance or by-law whether present or future and whether Commonwealth, State, territorial or local and the common law.
LG Act	<i>Local Government Act 1993</i> (NSW).

Liddell Closure	Closure and rehabilitation of the Liddell Power Station, the Liddell Ash Dam and surrounding buffer lands.
Liddell Power Station	The power station located on the Land which is operated by AGL as part of the integrated power generation complex located between Muswellbrook and Singleton.
MOU	This document.
Rate	All ordinary, special or other rates charges or levies imposed under the LG Act.
SEIA	A Socio-Economic Impact Assessment and report.
SSD2 Application	A State significant development application under Division 4.7 of the EP&A Act to be made by AGL in relation to the Liddell Closure, to decommission and demolish the Liddell Power Station and associated infrastructure and rehabilitate the site in preparation for future redevelopment or other beneficial uses, for which a request for Secretary's Environmental Assessment Requirements is expected to be lodged in the first quarter of the financial year commencing 1 July 2021.
UHEDC	The Upper Hunter Economic Development Corporation Limited (ACN 646 607 285) established by Melt Hunter Valley Operations Proprietary Limited (ABN 75 646 764 070).
UniSA Report	The "Funding Structural Change Report" dated <insert date> May 2021, prepared by University of South Australia and RMIT University for Council.
VPA	A planning agreement within the meaning of section 7.4 of the EP&A Act wherein AGL would make development contributions to Council in connection with the anticipated socio-economic impacts of the Liddell Closure.

Execution

Executed as an agreement.

Executed by AGL Macquarie Pty Ltd

08/09/2021

Company Secretary/Director

~~Director~~ As authorised representative

Markus Brokhof

Name of Company Secretary/Director
(print)

Name of ~~Director~~ (print) authorised representative

The common seal of the **Muswellbrook**)
Shire Council was affixed pursuant to a)
resolution passed on [date] in the
presence of:

Mayor

MARTIN RUSH

Name (print)

General Manager

FIONA PLESMAN

Name (print)

CAMPBELLS CORNER.....
Address (print) MUSWELLBROOK

CAMPBELLS CORNER.....
Address MUSWELLBROOK

Annexure A

Current Contributions

1 Current Contributions by reference to the UniSA Report

Note: The table below identifies, for Council's benefit, the Current Contributions that AGL is making and intends to make and are relevant to the "target items" identified in the UniSA Report. **[Corrs Note: AGL to consider whether it needs to update this table in light of the draft UniSA Report.]**

Target Item	Current Contributions
Domain A – Managing the Closure <i>These are all internal costs to be determined by AGL in its closure planning with involvement of relevant internal stakeholders.</i>	
Social activities in the last two years	AGL hosts several events annually and is currently planning its Liddell 50 th Years of Service celebration scheduled for 21 May 2021.
Personal counselling services	Personal counselling services are included as per AGL's EAP support. Counselling services will be available over the phone and will also be integrated into the Future U Hub service offering.
Government services information sessions	In line with AGL's commitment to no forced redundancies, government services have not been seen in high demand.
Financial advice	Some initiatives are already included in AGL's existing EAP services offering. Most Enterprise Agreement employees will need specialist financial advice via the (defined benefits) superannuation fund. If employees require further detailed financial advice, that would be at their own cost. Other outplacement, support programs are currently being funded by State and Commonwealth Governments. These will be integrated into the Future U Hub.
Final day celebrations	AGL will plan an event to mark the Liddell Closure. As noted above, AGL is already marking Liddell's 50 th year in May 2021 with a celebration for employees. Whilst

	the 50 th anniversary is the current focus, a 'closure' event is also being considered.
Media relations	AGL has a dedicated media team and will manage media relations internally.
Domain B – Redeploying the labour force AGL has made the following commitments to its employees at the Liddell and Bayswater Power Stations: <ul style="list-style-type: none"> - No forced redundancies as a result of the Liddell Closure; - Transferring impacted employees, at their current classification and rate of pay, to Bayswater following the Liddell Closure; - No forced transfer of employees to other AGL business locations outside of the Hunter Region as a result of the Liddell Closure; and - Employees provided the opportunity to undertake relevant training, if required, to enable them to continue in their role or undertake other suitable roles. 	
Employment pathway funding	<p>AGL remains committed to no forced redundancies and is currently looking to maximise redeployment opportunities internally before assessing other options.</p> <p>As part of AGL's planning and ongoing engagement, we understand our workforces' primary preference is to continue AGL employment at Bayswater or within the Hunter Region.</p> <p>Relevant training will be provided to employees with redeployment pathways. It is also intended that AGL will use internal resources and training courses available. Change readiness and leadership is being rolled out on site from April 2021.</p> <p>Further AGL has finalised an EOI for external services to provide job search, resume and interview skills. We are currently working to obtain government funding and partnering with Forsythes Training.</p> <p>AGL spends approx. \$100m on labour at the Liddell and Bayswater Power Stations annually.</p>
Pre-closure advice centre	<p>AGL has recently opened the Future U Hub. P&C support and additional information is now available to employees to support their Liddell Closure planning. The Future U Hub is expected to cost \$305,000 over 4 years.</p> <p>AGL funded training programs and recognition of prior learning accreditation will be provided to employees when redeployment pathways are clear.</p> <p>Government-funded outplacement, training and support services will also become available in the near-term.</p> <p>AGL engages closely with the Federal Department of Education, Skills & Employment, the Federally-funded and Training Services NSW (a division of NSW Department of Education). Through these partnerships,</p>
Post-closure advice services	
Training coordinator	

	opportunities such as subsidised training and career pathway support are identified and leveraged.
Upgrade TAFE training infrastructure	<p>The funding and resourcing of TAFE and its associated infrastructure is solely a matter for the NSW Government.</p> <p>AGL has highlighted the need for a coordinated regional focus on skills and training pathways to support workforce development, identify skills gaps and align with the priority industries as identified in Regional NSW Upper Hunter Futures project.</p> <p>Training infrastructure to support workforce development for Upper Hunter industry and businesses should be a priority for NSW Government, with consultation and support from industry, local councils and business chambers.</p>
Individual training courses	<p>The need for retraining and support programs would be determined by existing skills/qualifications of the workforce, and further exploration of their preferences for employment post closure. P&C will shortly be commencing individual people/career planning sessions to clarify redeployment pathways for each employee at Liddell and Bayswater.</p> <p>Required retraining and pre-accreditation courses will be provided (either by AGL or through government funded programs if available) to employees when redeployment pathways are clear.</p> <p>Government funded outplacement, training and support services will also become available in the near-term.</p> <p>AGL will manage personnel gaps as part of BAU operations by rostering or contingent support.</p> <p>AGL already provides a range of EAP Counselling, financial, personal and family counselling services to employees.</p>
Replacement personnel	
Pre-accreditation courses	
Group vocational retraining services	
Financial counselling and budgeting	
Personal and family counselling	
Infrastructure for personal support	<p>It is appropriate that the respective government bears the cost of funding capacity.</p>
Domain C – Redeveloping the local economy	
Upper Hunter Innovation and Investment Fund	<p>The funds proposed in the UniSA Report are regional in their focus and are traditionally the responsibility of State Government. AGL is engaged, at various levels, in a number of cross-industry and government collaborative groups, that seek to progress key regional strategic growth priorities, attract business and encourage innovation and growth.</p> <p>AGL is developing plans to support the regional economy and community through a range of pathways via its Liddell Transition Community Investment</p>
Upper Hunter Supply Chain Diversification Fund	
Upper Hunter Regional Jobs and Infrastructure Fund	
Upper Hunter Business Support Project	

Next Generation Energy Investment Project	Strategy. It is proposed the Community Investment Fund will support education, training, small business resilience, social and economic capacity building, diversification, and innovation.
Infrastructure for Older People	
Community and Sporting Club Revitalisation Fund	
K-12 School Redevelopment including Early Learning Centre	<p>Public schooling and public early childhood education costs are appropriately borne solely by the NSW Government with contribution from the Commonwealth Government.</p> <p>As part of AGL's social impact approach, many local schools' benefit from targeted community support sponsorship and donations. It is anticipated that this support would continue as part of business-as-usual operations at Bayswater post the Liddell Closure.</p>
Domain D – Coordinating Change	There are a number of regional development groups that involve the collaborative involvement of industry, government and community partners. This is a duplication of efforts with similar objectives.
Domain E – Maintaining social cohesion	<p>AGL has already commissioned a Liddell 50 Year History book which will be published in line with the celebrations in May 2021.</p> <p>AGL will also seek other appropriate opportunities to respectfully honour Liddell's history.</p> <p>AGL also actively engages with Traditional Owner groups, including the Wonnarua Nation Aboriginal Corporation (WNAC) and are working on opportunities that align the objectives of WNAC with the proposed redevelopment of the Liddell Power Station site.</p>

2 Apprenticeships, Graduates & Scholarship Commitments

In addition to the Current Contributions identified in the table above, which responds specifically to the UniSA Report, AGL also makes the following Current Contributions.

Apprenticeships – Planned intake is five (5) new apprentices per year FY22-FY26.

Apprentice FTE	BAY	LID	Total
FY21	21	22	43
FY22	14	13	27
FY23	16	8	24
FY24	20	-	20
FY25	20	-	20

Indicative wage band for apprentices:

	Weekly	Annual
1st	\$1,116	\$58,255.2
4th	\$1,620	\$84,564

Graduates – Eight (8) graduates employed at a time, approx. 3-year program.

Cost ~\$80k per year per graduate.

Scholarships – supporting career pathways and contributing to the skilling in the community's where AGL's operational assets are located. The AGL scholarship program proposes the following:

- A one off payment per student (~\$5,000) to assist with their further education expenses;
- Between 10 and 12 week's paid work experience (~\$20,000 per Scholar). Scholars will present their project achievements to leaders at the conclusion the paid work experience assignment.
- Priority consideration for further paid work experience each year for the duration of their studies.

In addition, at the conclusion of their tertiary studies, scholars are strongly encouraged to apply for Graduate and other employment opportunities within the business.

Annexure B

Preliminary scope of SEIA

Indicative Structure and Activities for Liddell (Hunter Regional) Socio-Economic Impact Assessment and Report

Phase	Activity
Phase 1	Project Direction, Management & Planning Stakeholder engagement kick-off workshop including scope definition and finalisation Knowledge Scan and Documentary Review Stakeholder Mapping and Consultation Planning Phase 1 Report and Phase 2 Plan including required socioeconomic data analysis and reporting
Phase 2	AGL & Stakeholder Phase 2 kick-off workshop Identify socioeconomic connectivity and dependency Scoping of stakeholder issues associated with closure (stakeholder engagement) Phase 2 Report and Phase 3 Plan
Phase 3	AGL & Stakeholder Phase 3 kick-off workshop Impact assessment and prediction (including skills audit, economic impact assessment, impact significance and prediction, strategy development and reporting)
Phase 4	AGL and Stakeholder Review and Engagement Closure workshop Final Report & Recommendations

**10.1.2. Membership into Coalition of Regional Energy Mayors (CoREM)****Attachments:**

1. Attach A - Invitation to join CoREM [**10.1.2.1** - 1 page]
2. Attach B - CoREM Concept Paper [**10.1.2.2** - 5 pages]
3. Attach C - CoREM Terms of Reference [**10.1.2.3** - 4 pages]
4. Attach D - CoREM Identified Issues to address [**10.1.2.4** - 4 pages]

Responsible Officer:

Sharon Pope - Director - Planning & Environment

Author:

Katie McCann (Executive Assistant), Theresa Folpp (Development Compliance Officer)

Community Plan Issue:6 - *Community Leadership***Community Plan Goal:**

Collaborative and responsive leadership that meets the expectations and anticipates the needs of the community.

Community Plan Strategy:

- 6.1.1 - Engage with the community and other stakeholders to determine service level expectations and appropriate measures.
- 6.1.2 - Utilise best practice models of community engagement to ensure decision making is meeting the expectations of the community.

Not applicable

PURPOSE

To provide information to Council regarding an invitation to become a member of the Coalition of Regional Energy Mayors (CoREM).

OFFICER'S RECOMMENDATION

Council APPROVES becoming a member of the Coalition of Regional Energy Mayors (CoREM) for an initial two-year period, following which a review will be undertaken to confirm whether membership should continue.

Moved: _____ **Seconded:** _____

REPORT

On 18 May 2023, Council received a letter inviting the Mayor to participate in the CoREM (see Attachment A).

The CoREM was formed in late 2022 in response to the announcement of Renewable Energy Zones in regional NSW. The objective of the CoREM is to share information regarding the approaches being taken to manage renewable energy projects, and to lobby government and government bodies. Council Mayors and General Managers are eligible for membership.



The proposed structure of the CoREM is eight board members with a two-year term. A Concept Paper and Draft Terms of Reference (to be adopted by CoREM) are provided in Attachment B and C, respectively.

Issues to be addressed by the CoREM include cumulative impacts, new rating categories, Wind and Solar Guidelines, planning agreements, adherence by proponents, EnergyCo Access Fees, funding for Renewable Energy Zone related engineering and documentation, and accommodation. Further detail is provided in Attachment D.

CoREM Meetings will be held following every Country Mayors Association meeting.

CONSULTATION

Consultation has been undertaken with the Mayor, General Manager and Director Environment and Planning.

FINANCIAL IMPLICATIONS

Membership to CoREM is an upfront one-off contribution of \$5,000. Additional contributions may be sought from member LGAs by resolution of CoREM.

Funds are proposed to be used for legal advice and agreements that can be used by participating Councils, creation of a website, room, hire and reasonable meeting expenses.

OPTIONS

Option 1: Council APPROVES becoming a member of the Coalition of Regional Energy Mayors (CoREM) for an initial two-year period, following which a review will be undertaken to confirm whether membership should continue.

Option 2: Alternatively, Council could seek to become a member of the Mining and Energy Related Councils (MERC) for an initial two-year period, following which a review will be undertaken to confirm whether membership should continue. The MERC has a broader scope in that it considers matters related to mining as well as energy generation.

SOCIAL IMPLICATIONS

Finalisation of new rating categories in consultation with CoREM, will assist staff to develop fair and equitable land rating categories for proponents within the Muswellbrook Shire Local Government Area (LGA), with legal costs shared by CoREM member councils.

POLICY IMPLICATIONS

Finalisation of planning agreements in consultation with the CoREM, will assist staff to develop fair and equitable planning agreements for proponents within the Muswellbrook LGA.

18 May 2023

Your ref:

Our ref: AINT/2023/09306

Cr Steve Reynolds
Mayor
Muswellbrook Shire Council
Via email to: Steven.Reynolds@muswellbrook.nsw.gov.au

Dear Steve,

Invitation to join the Coalition of Energy Mayors (CoREM)

On behalf of the Board, I write to formally invite you to join the Coalition of Energy Mayors (CoREM).

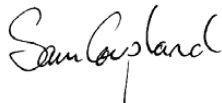
As the Mayor of Muswellbrook Shire Council you will be well aware that the imposition of a Renewable Energy Zone (REZ) on a Local Government Area (LGA) will have a significant impact, both positive and negative. To date, LGAs have not been sufficiently engaged or consulted by state government bodies such as the Energy Corporation, Department of Planning & Environment or the renewable energy proponents, yet we are the ones who will bear the social and financial burden.

By joining together as a coordinated group of LGAs hosting renewables projects we will benefit by sharing information of what works and what does not. We will have greater clout in terms of lobbying government and government departments. Most importantly, by adopting a coordinated approach, we will be better able to shape the way renewable energy proponents operate in our LGAs.

I welcome you to join us in this Coalition. Please find attached the Terms of Reference for your consideration. To accept this invitation, please formalise your acceptance in writing by return email to executiveoffice@armidale.nsw.gov.au. Upon receiving your acceptance, an invoice for your initial contribution of \$5,000 to CoREM will be sent for payment by Armidale Regional Council.

Please contact me on 0402 024 120 or by email at scoupland@armidale.nsw.gov.au if I can be of further assistance.

Yours sincerely



Sam Coupland
Mayor

Encl: Terms of Reference - Coalition of Energy Mayors

Concept Paper – Coalition of Renewable Energy Mayors (CoREM)

28 October 2022

1. Background / Rationale

The imposition of a Renewable Energy Zone on a Local Government Area will have a significant impact, both positive and negative. To date, LGA's have not been sufficiently engaged or consulted by state government bodies (Energy Corporation / Department of Planning) or the renewable energy proponents, yet are the ones who will bear the social and financial burden.

At one end of the spectrum, the nature of how renewables projects come into being sets the scene for social friction in a community. This is initially between host landholders and near neighbours who discover they have been kept in the dark about developments which will fundamentally change their amenity and possibly their livelihood. The social friction will then radiate outwards to the town centres during construction phase as a tight accommodation market is placed under increased stress and the availability of skilled labour is soaked up.

On the positive side, the construction phase will likely last many years and provide a boost to local economies. LGA's should then consider post construction opportunities to build on the renewables projects now in place – e.g green hydrogen production, recycling etc. Forward thinking LGA's may look to partner with renewables companies to solve mutual problems such as housing supply or road infrastructure. There are opportunities to monetise the wave of renewable developments to ensure multi-generational benefits to the community.

What makes a REZ unique is the cumulative impacts of multiple renewables projects coming into being within a defined area. The old rules and ways of doing business are not appropriate for a REZ and it is the responsibility of the LGAs to determine how a REZ is created for the benefit of all in our community.

We aren't requesting a seat at the table – we are the table.

2. Purpose

The purpose of this paper is to stimulate thinking among the Mayors and GM's of REZ impacted LGA's as to how we can move forward as a group. The group will have three distinct objectives:

- i. Set expectations of renewables proponents when they are developing in our LGA
- ii. Appropriate lobbying and representation to Energy Corporation / Department of Planning
- iii. Be the "Authority" of all things REZ as it relates to individual councils

In order to get traction amongst our communities and more importantly the ear of government, it is proposed that CoREM move away from being a loose alliance and adopt a more formal structure.

2.1 Proposed Structure

Board

- 8 members (maximum)
- 2-year term
- Chair + Secretariat from the same council

Financial Contribution

- One off membership fee \$5,000 per participating council
 - Paid on joining CoREM – invoiced by the Secretariat
 - Further financial contribution as determined by the Board
- Funds to be used for
 - Legal advice and agreements that can be utilised by member LGA's
 - Creation of website
 - Room hire and reasonable meeting expenses

Management / Secretariat

- Set out in the Terms of Reference
- Broadly:
 - Chair / Secretariat council responsible for:
 - Managing the finances
 - Reporting on financials prior to each meeting
 - Managing contact list
 - Organising meetings
 - Enacting the decisions of the Board

2.2 Membership

Initially, Mayors (Deputy Mayors as a default) and General Managers from the New England REZ and the Central West Orana REZ plus near neighbours by invitation.

Once group is established it would be open to other LGA's to join if they wish. Board would make the determination on whether or not to admit new members.

2.3 Meeting Schedule

Initially, from 1:30pm at the end of every Country Mayors Association meeting whilst there is a NSW focus.

Board to determine if more meetings needed.

3. Expectations of Proponents

As a guiding principle an LGA should:

- i. Set the standard for how renewables projects will operate within a REZ
- ii. Ensure community interest is not sacrificed for the interest of the few

Setting the standard

- Share information and experiences so to enable each REZ to create their own Statement of Expectations
 - Socialise this extensively so that it becomes lore within the REZ
 - Change the conversation so renewables proponents engage early with council
 - Update as needed and tighten the focus so it is on renewables proponents
 - Suggested items for the Statement of Expectations:
 - Enter into a VPA so that funds are directed into a centralised fund
 - Do away with project specific fund centred around a certain location
 - 'best practice' in relation to decommissioning
 - Transferrable bank guarantee or similar that is linked to the project
 - Community engagement
 - Bring council into the discussion early
 - No ambit claims – treat neighbours with respect – host should not be at less disadvantage than neighbours
- Apply the same expectation for all proponents within a REZ

Community Interest

- Bring renewables proponents into the conversation to link housing strategies and infrastructure planning with what their requirements will be during construction phase
- Centralised benefit fund replaces project specific community funds
- Early engagement between proponents, hosts, neighbours and council – emphasis on keeping communication open and not splitting off into a witch hunt
- Input from council to form part of DA
 - Infrastructure agreements – what does this look like
 - best agreements to use
 -
 - Housing strategy
 - Other

4. Lobbying: Energy Corporation and Department of Planning

CoREM should be a powerful lobbying voice to government and government bodies such as Energy Corporation and the Department of Planning and Environment. Lobbying initiatives may include

Department of Planning and Environment ('DPE')

- i. DPE to ensure that Regional Housing initiatives that bring forward new housing opportunities be prioritised for Renewable Energy Zones (REZ) and Special Activation Precinct areas.
- ii. DPE to require all State Significant Development proposals within the Renewable Energy Zones to supply appropriate housing for construction workers unless they have demonstrated adequately that there is sufficient housing supply in the local area and that such assessment be required to consider the cumulative on housing demand of concurrent projects
- iii. DPE to consult with individual councils as to the most appropriate zones within each LGA to host renewable developments and give preference to those developments that fall within an 'approved' zone
- iv. DPE to prepare a cumulative social, environmental and economic impact assessment for the full development scenario of each Renewable Energy Zone (REZ), both during construction and operation, which includes (but is not limited to) impact on agricultural land and employment and our way of life
- v. DPE to provide monthly updates of new renewables projects they become aware of
- vi. Other

Energy Corporation ('EnCo')

- i. Offset access fees to take into account the VPA a renewables proponent enters into with a council
 - a. EnCo advises they will provide community benefits to an LGA from the access fees they charge proponents to connect to their transmission lines.
 - b. LGA's would be better served by entering into a VPA with a renewables proponent. CoREM requires EnCo to provide a carrot by offsetting the VPA against their access fee
- ii. EnCo to provide appropriate housing for construction workers of transmission lines
- iii. Other

Board to receive submissions from each LGA and prepare a detailed list. Will allow CoREM to formulate a clear expectation of both DPE and EnCo then make initial approaches to:

- i. DPE and EnCo directly
- ii. Local member of the relevant REZ
- iii. Planning Minister – DPE
- iv. Treasurer – EnCo is under the auspices of Treasury
- v. NSW Opposition

5. The 'Authority'

To date, LGA's have not been sufficiently engaged or consulted by state government bodies (Energy Corporation / Department of Planning) or the renewable energy proponents, yet are the ones who will bear the social and financial burden of a REZ.

Change perception

CoREM needs to be seen to have heft about it. This will be slowly built as councils within a REZ develop and stand by a Statement of Expectations and CoREM undertakes lobbying. This will bring us onto the radar of renewables proponents as well as EnCo / DPE and government

There is also a role to play in informing our communities about what a REZ means for them. CoREM can become the single source of truth otherwise vested interests will (or have) fill a vacuum.

The above can be enhanced through the creation of a website. Envisage this will cover:

- CoREM members – lobbying
- Statement of Expectations for each REZ – lobbying (see NE REZ Statement of Expectation)
- Updated list of renewables projects in each REZ – lobbying / community
- Timelines of development in each REZ – community
- What a REZ is / means - community

Share information

One of the key benefits of being part of CoREM is to share information, strategies and experiences. This may include

- What works in terms of change in rating categories
- Housing and related infrastructure pressures
- "Bulk buying" infrastructure agreements
- Application of funds from VPA

Terms of Reference

Coalition of Regional Energy Mayors (CoREM)

28 April 2023

1. Rationale

The imposition of a Renewable Energy Zone (REZ) on a Local Government Area (LGA) will have a significant impact, both positive and negative. To date, LGAs have not been sufficiently engaged or consulted by state government bodies such as the Energy Corporation, Department of Planning & Environment or the renewable energy proponents, yet LGAs are the ones who will bear the social and financial burden.

By joining together as a coordinated group of LGAs hosting renewables projects we will benefit by sharing information of what works and what does not. We will have greater clout in terms of lobbying government and government departments. Most importantly by adopting a coordinated approach we will be better able to shape the way renewable energy proponents operate in our LGAs.

2. Objectives

The objectives of CoREM will be to

- Set expectations and hold renewables proponents to account when developing in our LGAs.
- Be an effective lobbying force to government and government bodies.
- Be the “authority” of all things REZ as it relates to individual LGAs.

3. Structure

CoREM will remain an agile unincorporated entity in the form of a Voluntary Regional Organisation of Councils in accordance with the exceptions provided under s.358(1)(b) of the *Local Government Act 1993*.

To achieve this CoREM will:

- Establish a Board consisting of the entire membership.
- Establish from the Board membership appoint an Executive as follows:

- Four members from the Board; plus
 - Chair (note Armidale Regional Council appointed as the initial Chair).
- Two year term commencing April 2023 – April 2025.
- Chair and Secretariat from the same Council.
- Require a financial contribution from members:
 - \$5,000 per participating LGA on joining
 - Further contribution as determined by the Executive and voted by the membership.
- Responsibilities of the Chair / Secretariat:
 - Facilitating the decisions of the Board and members
 - Managing the financials
 - Managing the contact list
 - Organising meetings
 - Other tasks as directed by the Executive.

4. Decision making

Decision making will be by majority vote (resolution).

5. Eligibility for Membership

Mayors and General Managers of:

- LGAs within a designated Renewable Energy Zone
- LGAs that neighbor a Renewable Energy Zone
- Other LGAs by request.

6. Invitation to join CoREM

Invitation to join CoREM will be by invitation by majority decision by vote of the Board, exercised by the Chair.

7. Membership Contribution

LGAs seeking to join CoREM are required to make an upfront contribution of \$5000 which they authorise the lead council (host Council of the Chair and Secretariat) to utilise for achievement of the objectives of CoREM. Contributions will be held on behalf of CoREM in a reserve of the lead Council. If there is a change in the Chair, this will be handed over to the Council of the Chair for administration.

8. Additional Contributions

Additional contributions may be sought from member LGAs by resolution of CoREM.

9. Cessation of Membership

A member of CoREM can request to leave CoREM by advising the Chair in writing. All financial contributions made to date will be retained by CoREM.

10. Removal of a Member LGA

CoREM may determine to remove a member via majority vote of the Board.

11. Dissolution of CoREM

CoREM may be dissolved via a majority vote of the Board. Any uncommitted contributions would be returned to CoREM members.

12. Delegation to the Chair

- Official correspondence and advocacy activities on behalf of CoREM
- Authorisation of expenditure by the Secretariat for the reasonable expenses incurred by CoREM in pursuit of its objectives.
- Approval of agenda.
- Development and maintenance of website.
- Statements to the media.
- Social media publication.
- Authorising instructions for legal advice.
- Any other powers as resolved by CoREM.

13. Delegation to the Secretariat

- Up to \$2000 per month of expenditure upon authorisation from the Chair in order to undertake activities to achieve the objectives of CoREM.
- Publication to website and social media upon direction from the Chair.
- Authorising instructions for legal advice upon direction from the Chair.
- Establishment and operation of bank account in the name of the lead council to hold financial contributions.
- Operation of the bank account to fulfil the objectives of CoREM.
- All other powers as resolved by CoREM.

14. Confidentiality

Chatham House rules will apply. Members are required to uphold confidentiality of CoREM discussions.

15. Joint and Several Liability

Any member LGA is only liable to the maximum amount of any contributions made to date. No members of CoREM are individually responsible for and debts incurred or torts committed in the name of CoREM.

16. Conduct of Meetings

Guiding principles of the group are:

- Be informed and contribute;
- Freely share information among the group;
- Be honest and objective;
- All members equal; and
- Chatham House rules apply.

17. Priorities / Focus

CoREM will develop and continually update the priorities of the group with a focus on the near term, mid-term and long term.

18. Amendments the Terms of Reference

Amendments to the Terms of Reference may be made by resolution (majority vote) of CoREM.

Coalition of Renewable Energy Mayors

Energy Corporation of NSW (EnergyCo)
Department of Planning and Environment

Issues to be addressed

February 2023



Cumulative Impact

Ask

DPE / EnergyCo to provide sufficient funding for each REZ to prepare a cumulative social, environmental and economic impact assessment for the full development scenario of each Renewable Energy Zone. The study should cover the periods of both construction and operation, which includes (but is not limited to):

- Housing
- Employment
- Infrastructure – roads / waste
- Impact on agricultural land

Comment:

LGA's lack the resources (\$ and personnel) to assess the impact of renewable projects in a timely manner which is leaving communities exposed. A detailed cumulative impact assessment will be essential for LGA's to properly plan for the REZ.

New Rating Categories

Ask

DPE to expand rating categories to enable councils to apply rates specifically for renewable projects.

Comment:

The current rating categories are too broad. The area of a wind tower compared to a solar array may vary enormously. Accordingly, councils should have the option to rate the following categories:

- a. Renewable – Wind
- b. Renewable – Solar
- c. Renewable - Other

Wind and Solar Guidelines – planning agreements

Ask

- i. DPE to amend the Large-Scale Solar Farm Guidelines to remove reference to \$300/MW as a VPA quantum.
- ii. In drafting the amended Wind Farm Guidelines DPE to flag a VPA but not specify the quantum.

Comment:

CoREM Councils are collectively requesting 1.5% of the Capital Investment Value as a VPA quantum. Developers have shown a willingness to contribute to this level.

Intervention by DPE to hamstring councils in this regard breaches all sense of partnership between DPE and Councils that is necessary for a REZ to be successfully implemented.

Wind and Solar Guidelines – adherence by renewable energy proponents

Ask

DPE to work with CoREM to identify elements of the guidelines that need to be enforced, tightened or legislated so that renewable energy proponents are not initially proposing what amounts to an ambit claim for a project. Areas of interest include (but are not limited to):

- Tower setbacks from dwellings
- Visual assessments
- Noise assessments

Comment:

There is significant social friction that arises between host landholders and near neighbours when the existence of a renewable project becomes public knowledge and is further compounded when the project is not remotely close to adhering to the guidelines. This approach is tearing at the fabric of our communities and is being repeated over and over again because of the large number of projects within a REZ.

The guidelines are being abused by renewable developers in that they are initially proposing a project that is well outside the guidelines and then paring it back to show they have listened to the 'community engagement'.

The resultant social friction comes at the cost of the social licence of the REZ.

EnergyCo Access Fees

Ask

Energy Co to confirm that access fees will include \$1,700/MW for community benefit and \$600/MW for employment purposes will be applied in all Renewable Energy Zones.

Comment:

CoREM understands this is the commitment made to CWO REZ and want assurance that the same will be applied to the NE REZ.

Some guidance on the proposed mechanic of how these benefits will be applied would be welcome.

Funding for REZ related engineering and documentation

Ask

Energy Co to provide necessary funding to LGA's to cover the additional engineering work and document preparation required to implement the REZ.

Comment:

The time and financial impost of engineers and associated work to prepare documents such as road infrastructure agreements place an additional burden on councils that are not currently structured to undertake these activities.

Accommodation Solutions

Ask

- i. DPE to ensure that Regional Housing initiatives that bring forward new housing opportunities be prioritised for Renewable Energy Zones (REZ) and Special Activation Precinct areas.
- ii. DPE and EnergyCo to require all State Significant Development proposals within a REZ to supply appropriate housing for construction workers unless they have demonstrated adequately that there is sufficient housing supply in the local area and that such assessment be required to consider the cumulative impact on housing demand of concurrent projects

Comment:

Current housing shortage in regional NSW will be exacerbated by the construction in a REZ. Hotels that are used for tourism should not be considered a housing solution for construction workers.

**10.1.3. Draft Flying Fox Camp Management Policy MSC045E for public exhibition**

Attachments:	1. Attach. A - DRAFT Flying Fox Camp Management Policy [10.1.3.1 - 10 pages] 2. Attach. B - Flying Fox Camp Management Plan June 2023 [10.1.3.2 - 62 pages]
Responsible Officer:	Sharon Pope - Director - Planning & Environment
Author:	Tracy Ward (Sustainability Officer), Madeleine St John (Business Improvement Officer), Chloe Wuiske (Business Improvement Officer)
Community Plan Issue:	3 - Environmental Sustainability 6 - Community Leadership
Community Plan Goal:	An environmentally sensitive and sustainable community Collaborative and responsive leadership that meets the expectations and anticipates the needs of the community.
Community Plan Strategy:	6.2.5 - Implement a comprehensive and targeted business improvement program. 6.2.5.2 - Review the policy management framework.

PURPOSE

To request endorsement from Council to place the attached *Draft Flying-fox Camp Management Policy* on public exhibition.

OFFICER'S RECOMMENDATION

1. Council ENDORSES the attached *Draft Flying-fox Camp Management Policy* to be placed on public exhibition via Council's website for a period of 28 days; and
2. A further report be submitted to Council for consideration of submissions received during the exhibition period.

Moved: _____ **Seconded:** _____

BACKGROUND

The *Draft Flying-fox Camp Management Policy MSC045E* (the Policy) is a new policy which aims to identify the actions that Council and others may take to manage Flying-fox habitat and the amenity impacts of Flying-fox Camps in Muswellbrook Shire to reduce human/bat conflict.

CONSULTATION

MANEX

Director Environment and Planning

Sustainability Officer

Business Improvement Officers



REPORT

Staff have recently reviewed the *Muswellbrook Flying-fox Camp Management Plan* (the Plan). The Plan provides a tool to ensure appropriate management of flying-fox camps. During the review, it was identified that a *Flying-fox Camp Management Policy* is required. A new policy has been drafted and is presented in this report (attachment A).

The *Muswellbrook Flying-fox Camp Management Plan* is attached to this report (attachment B) for supporting information to the Policy.

OPTIONS

Council may:

1. Resolve to endorse the *Draft Flying-fox Camp Management Policy* for public exhibition; or
2. Request amendments to the *Draft Flying-fox Camp Management Policy* prior to public exhibition.

CONCLUSION

It is recommended that Council approves public notification of the *Draft Flying-fox Camp Management Policy* for a minimum of 28 days.

SOCIAL IMPLICATIONS

Nil known.

FINANCIAL IMPLICATIONS

Nil known.

POLICY IMPLICATIONS

The plan was reviewed in line with Council's Policy Management Framework, and it was identified that a policy is required.

STATUTORY IMPLICATIONS

Environment Protection and Biodiversity Conservation Act 1999

NSW Biodiversity Conservation Act, 2016

LEGAL IMPLICATIONS

Nil known.

OPERATIONAL PLAN IMPLICATIONS

6.2.5.2 - Review the policy management framework.

RISK MANAGEMENT IMPLICATIONS

Grey-headed flying-foxes are listed as threatened species under both NSW and Commonwealth legislation, and disturbance to flying-foxes and their habitat is limited by legislation. Grey-headed and Little Red Flying-foxes reside in camps in the towns of Muswellbrook and Denman.

WASTE MANAGEMENT IMPLICATIONS

Nil known.



COMMUNITY CONSULTATION/MEDIA IMPLICATIONS

Public exhibition via Council's website will provide the Community with an opportunity to provide feedback.



**muswellbrook
shire council**

Draft Flying-Fox Camp Management Policy

MSC045E

Authorisation Details

Authorised by:		Internal/External:	External
Date:		Minute No:	
Review timeframe:	4 years	Review due date:	
Department:	Planning, Environment and Regulatory Services		
Document Owner:	Director Environment and Planning		
Community Strategic Plan Goal	3. An environmentally sensitive and sustainable community		
Community Strategic Plan Strategy	3.4 Support initiatives which reduce the community’s impact on the environment		

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1 Policy Objective

To identify the actions that Council and others may take to manage Flying-fox habitat and the amenity impacts of Flying-fox Camps in Muswellbrook Shire to reduce human/bat conflict.

2 Risks being addressed

Grey-headed flying-foxes are listed as threatened species under both NSW and Commonwealth legislation, and disturbance to flying-foxes and their habitat is limited by legislation. This species is highly mobile and camp populations vary widely over time due to food resource availability.

In 2005, flying-foxes established a camp at the confluence of Muscle Creek and the Hunter River. Historically the camp has been occupied by the threatened grey-headed flying-fox (GHFF) with the population varying seasonally over time. In recent years, Little Red Flying-foxes (LRF) have also been occupying the site, intermittently. The land occupied by the main camp area is owned by Muswellbrook Shire Council, Department of Infrastructure – Lands, and the Australian Rail Track Corporation (ARTC).

The Muswellbrook flying-fox Camp is located close to residential and business areas. The Camp's proximity to motels, a caravan park and public facilities including walkways, recreational areas, sporting fields, and registered clubs are of concern for the community and conflict increases when the number of flying-foxes increase.

In December of 2022, a small camp of Grey Headed Flying-foxes was noted in the Denman Van Village. The NSW Department of Planning and Environment was notified. This population will be monitored by Council, along with Muswellbrook camps.

Experience in other locations has shown that attempts to move camps are generally unsuccessful, expensive, and moves the problems to neighbouring areas. Management actions proposed in the Plan aim to reduce the impact of flying-foxes roosting close to residential dwellings and to reduce the risk of disease transmission to the local equine industry.

The Muswellbrook Flying-Fox Camp Management Plan (the Plan), as updated from time to time, provides a tool to ensure appropriate management of the camp.

Given the mobility of flying-foxes and the expected variability of the population of the camp over time, the focus of implementation actions is on:

- Providing residents with car covers and/or pool covers and/or clothesline covers, where they are directly affected by roosting Flying-foxes.
- Providing residents with access to a high-powered water gurney where they are directly impacted by roosting flying-foxes.
- Education and awareness programs.

3 Scope

When approved by the NSW Department of Planning and Environment (in combination with other relevant licence applications and legislative requirements), the revised Muswellbrook flying-fox Camp Management Plan will enable management of the Flying-fox habitat to reduce human/bat conflict and some of the amenity issues that arise from a resident bat population. The Policy applies to:

- Council activities and staff;
- Various government agencies; and
- Residents and ratepayers.

4 Policy Statement

The planned management approach for Flying-foxes is included in Roles, Responsibilities and Delegations

Responsibility for the implementation of these actions is indicated in Table 1.

Table 1. The actions have been determined after consideration of community views, ecological requirements, and legislative/policy controls. The Actions have been grouped into the major thematic areas of:

- Governance
- Routine Management
- Infrastructure
- Restoration & Rehabilitation
- Monitoring
- Flying-fox Species Management
- Resident Assistance
- Community Education

5 Roles, Responsibilities and Delegations

Responsibility for the implementation of these actions is indicated in Table 1.

Table 1: Management Actions

Action ID	Issue	Actions & guidelines	Responsibility	Trigger / Catalyst for commencement
1.1	Car / Clothes-line / swimming pool covers	Provision of these items based upon selection criteria during times of high population occupancy.	Council	Items available on request from Council within available budget. Preference given to but not limited to those who live within a 300 metre radius of the camp.
1.2	Assistance with costs for tree removal.	Will only assist with the removal of Privet or Cocos Palms. Preference given to those living near a camp but all properties within the LGA will be considered.	Council	Will be offered once a year with a limited budget.
1.3	Financial assistance with Biodiversity Conservation Licence.	Resident / business responsible for licence application, and required to ensure it complies with the intent of the CMP.	Council	Only applicable to properties within 300m of Camp boundary. Council will pay the application cost.
1.4	Access to gurney / water cleaners to remove bat excrement	Actioned upon request from residents with affected properties. Whilst preference is given to residents within a 300 m radius of a camp, it is not limited to them. Any resident in the shire can access the gurney. There is yet to be an occasion when the gurney cannot be loaned.	Council	A phone call from an affected resident. Residents within a 300 metre radius from the boundary of a camp have received a letter from Council informing them of this access. However, gurney available to all residents in the shire, with preference given to those who live within a 300 metre radius of the camp.

Action ID	Issue	Actions & guidelines	Responsibility	Trigger / Catalyst for commencement
2.1	Advice on backyard vegetation management	<p>Advice related to trees residents may wish to remove (introduced or naturalised foraging species such as Cocos Palms, Poplars and Silky Oaks)</p> <p>Advice on trees to plant if residents want to encourage bats to forage in their properties.</p> <p>Advice on native fragrant trees that will assist to screen smells from Camp</p>	Council – Sustainability Officers or Ecologist.	Enquiry.
2.2	Health and disease management	<p>Website on health and disease management.</p> <p>“Little Aussie Battlers”: https://littleaussiebat.com.au/</p>	<p>Council</p> <p>Hunter Joint Organisation of Councils</p> <p>Department of Planning and Environment</p> <p>Hunter Local Land Services</p>	Enquiry.
2.3	Regional Flying-fox educational kit	Community education kit was developed to assist residents to understand Flying-fox movement patterns and reduce conflicts with Camps	<p>Council</p> <p>Hunter Joint Organisation of Councils</p> <p>Department of Planning and Environment</p> <p>Hunter Local Land Services</p>	Enquiry

Action ID	Issue	Actions & guidelines	Responsibility	Trigger / Catalyst for commencement
2.4	Advice on how to manage dead or injured Flying-foxes	Information on who to call when sick, injured or dead Flying-foxes are seen	In the first instance contact WIRES – 1300 094 737 Council Department of Planning and Environment	Enquiry.
3.1	Encourage Core of camps away from homes and businesses.	Improve vegetation condition in core of camp sites, to make boundaries less attractive for roosting.	Council	With available funds
3.2	Rehabilitation of damaged areas (due to Flying-fox occupation)	Removal of damaged vegetation and establishment of replacement vegetation.	Council	With available funds when 30000 or more animals arrive and then depart the area.
3.3	Plant appropriate foraging species in areas of the Camp away from residential properties	Strategically plant endemic foraging habitat trees away from residential and employment areas.	Council	With available funds
3.4	Manage buffer zone to reduce conflict between residents and Flying-foxes	Planting of native fragrant trees and shrubs adjacent to dwellings to reduce the noise and smell directly behind	Council	With available funds
3.5	Weed Control	Environmental weed control throughout the Camp area - targeting exotic tree species known to act as potential roosting and foraging habitat (e.g. Camphor Laurel as most on site are immature or have not reached maximum height)	Council	With available funds

Action ID	Issue	Actions & guidelines	Responsibility	Trigger / Catalyst for commencement
3.6	Dangerous Trees on Council owned or managed land	Assessments for potentially dangerous trees	Council	A minimum of yearly or when 30000 or more animals arrive and then depart the area.
3.7	Buffer (Asset Protection) Maintenance	Create buffer around Assets	Council	With available funds
4.1	Flying-fox rehabilitation	Respond to calls of injured or dead Flying-foxes	WIRES will coordinate efforts – 1300 094 737. Department of Planning and Environment	As required
4.2	Alerts (notification of upcoming events, e.g. management activities, heat stress, etc.)	Notification to rehabilitators of any events that will impact on Camp Site or Flying-fox population.	WIRES should be first point of contact and they will coordinate with Department of Planning and Environment and Council.	As required
5.1	Flying-fox Census	Quarterly Flying-fox animal counts to assist with determining likely national population	CSIRO DPE Council	Quarterly monitoring Monthly monitoring in the Hunter/Central Coast region.
5.2	Wildlife / Rehabilitation rehabilitators data collection	Collection and provision of count information, and other data collected when responding to calls	WIRES maintain a database of this information 1300 094 737.	As reported
5.3	Hunter Bird Observers data collection	Collection and provision of count information, and other data collected	Hunter Bird Observers	As reported

Action ID	Issue	Actions & guidelines	Responsibility	Trigger / Catalyst for commencement
5.4	Muswellbrook Shire Council management data	Collection and dissemination of data related to Flying-foxes, and vegetation that may impact on local or regional Flying-fox populations.	Council	Quarterly monitoring as part of CSIRO monitoring plus extra monitoring if numbers increase to more than 30000.
6.1	Camp Management Plan review	Review currency and suitability of CMP	Council	Review in 5 years unless Flying-fox numbers increase considerably for more than 12 months

6 Dispute Resolution

The Director Environment and Planning is the interpreter of this Policy.

7 Related Documents

7.1 Legislation and Guidelines

Environment Protection and Biodiversity Conservation Act 1999
NSW Biodiversity Conservation Act, 2016

7.2 Policies and Procedures

N/A

7.3 Other Supporting Documents

The Muswellbrook Flying-Fox Camp Management Plan

8 Version History

This section identifies authors who reviewed the Policy and the date that it became effective.

Version No.	Date changed	Modified by	Amendments/Previous adoption details
1	8/06/2023	Director Environment and Planning	Draft version



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FLYING-FOX CAMP MANAGEMENT PLAN

MUSWELLBROOK

Camp Management Plan

June 2023 | Muswellbrook Shire Council



This revision was prepared by Muswellbrook Shire Council using the original plan prepared by the Hunter Joint Organisation of Councils



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Disclaimer

This document has been compiled in good faith, exercising all due care and attention. The document has been developed by Muswellbrook Shire Council from the NSW Office of Environment and Heritage "Flying-fox Camp Management Plan Template 2016".

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1. the NSW Office of Environment and Heritage, and consultants Ecosure, in developing the template on which this Camp Management Plan was based. Peggy Eby also provided advice which was included in the template; and
2. Hunter Councils and Strategic Services Australia in preparation of the 2017 Flying Fox Management Plan

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Acronyms and Abbreviations

ABLV	Australian bat lyssavirus
BFF	black Flying-fox (<i>Pteropus alecto</i>)
DoE	Commonwealth Department of the Environment
DPI	Department of Primary Industries (NSW)
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i> (NSW)
EPA	Environment Protection Authority (NSW)
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Commonwealth)
GHFF	grey-headed Flying-fox (<i>Pteropus poliocephalus</i>)
the Guideline	Referral guideline for management actions in grey-headed and spectacled Flying-fox camps 2015 (Commonwealth)
HeV	Hendra virus
LGA	local government area
LGNSW	Local Government NSW
LRFF	little red Flying-fox (<i>Pteropus scapulatus</i>)
MNES	matters of national environmental significance
NPW Act	<i>National Parks and Wildlife Act 1974</i> (NSW)
NPWS	National Parks and Wildlife Service (NSW)
OEH	Office of Environment and Heritage (NSW)
PEPs	protection of the environment policies
the Plan	Camp Management Plan
POEO Act	<i>Protection of the Environment Operations Act 1997</i> (NSW)
the Policy	Flying-fox Camp Management Policy 2015 (NSW)
SEPPs	State Environmental Planning Policies
SIS	species impact statement
TEC	threatened ecological community
TSC Act	<i>Threatened Species Conservation Act 1995</i> (NSW)

Executive Summary

In 2005, flying-foxes established a camp at the confluence of Muscle Creek and the Hunter River. Historically the camp has been occupied by the threatened grey-headed Flying-fox (GHFF) with the population varying seasonally over time. In recent years, Little Red Flying-foxes (LRF) have also been occupying the site, intermittently. The land occupied by the main camp area is owned by Muswellbrook Shire Council, Department of Infrastructure – Lands, and Australian Rail Track Corporation (ARTC).

The Muswellbrook Flying-fox Camp is located close to residential and business areas. The Camp's proximity to motels, a caravan park and public facilities including walkways, recreational areas, sporting fields, clubs are the main areas of concern for the community and conflict increases when the number of flying-foxes increase.

In December of 2022, a small camp of Grey Headed Flying-foxes was noted in the Denman Van Village. The Department of Planning and Environment was notified. This population will be monitored by Council, along with Muswellbrook camps.

Grey-headed Flying-foxes are listed as threatened species under both NSW and Commonwealth legislation, and disturbance to flying-foxes and their habitat is limited by legislation. This species is highly mobile and camp populations vary widely over time due to food resource availability.

The Muswellbrook Flying-fox Camp Management Plan provides a tool to ensure appropriate management of the camp.

Experience in other locations has shown that attempts to move camps are generally unsuccessful, expensive, and moves the problems to neighbouring areas. Management actions proposed in the Plan aim to reduce the impact of Flying-foxes roosting close to residential dwellings and to reduce the risk of disease transmission to the local equine industry.

This review predominantly addresses actions required to assist residents with mitigation of impacts of flying-foxes living nearby.

Given the mobility of Flying-foxes and the expected variability of the population of the camp over time, the focus of implementation actions is on:

- Providing residents with car covers and/or pool covers and/or clothesline covers, where they are directly affected by roosting Flying-foxes.
- Providing residents with access to a high-powered water gurney where they are directly impacted by roosting flying-foxes.
- Education and awareness programs.

The original plan was prepared to identify actions to reduce the impact of flying-foxes on residents, particularly adjacent to the land occupied by the camp, while maintaining suitable habitat to support the population of the grey-headed Flying-fox, a listed threatened species. The plan also provided general guidance throughout the Muswellbrook local government area for Flying-fox camps.

If approved by Environment NSW (in combination with other relevant license applications and legislative requirements), the revised plan will enable management of the Flying-fox habitat to reduce human/bat conflict. Included actions pose little to no direct impact to Flying-foxes, and Council will need to apply for biodiversity conservation license to undertake any work in or around the camp.

1 Overview

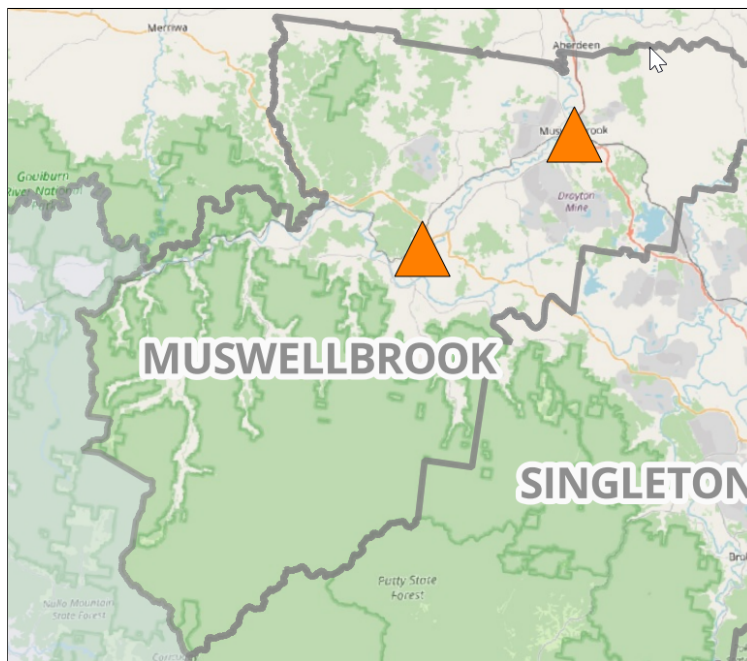
1.1 Background

The original Camp Management Plan was developed as part of a Hunter wide project that developed Flying-fox Camp Management Plans for Central Coast Council, Mid Coast Council, Muswellbrook Shire Council, Singleton Council, Port Stephens Council and Upper Hunter Shire Council in 2017. This is its first scheduled review.

Participating in the original project has enabled strong alignment with the actions of other Councils and the creation of active working relationships with these Councils, so that if any management action undertaken affects the roosting behaviours or Flying-foxes in one jurisdiction, a network of land management / ecology specialists can notify neighbouring Councils of any possible increased Flying-fox movements.

The plan has been prepared to identify actions that are available to reduce the impact of flying-foxes on residents, particularly adjacent to the land occupied by the camp, while maintaining suitable habitat on the site to support the population of the grey-headed Flying-fox, a listed threatened species. The plan also provides general guidance throughout the Muswellbrook local government area for Flying-fox camps.

The purpose of this plan is to identify the various Flying-fox management activities to be undertaken at the Camp. If approved by Environment NSW (in combination with other relevant license applications and legislative requirements), this plan will enable appropriate management of the Flying-fox habitat to reduce human/bat conflict. Included actions pose little to no direct impact to Flying-foxes, and Council will need to apply for a threatened species license to undertake any work in or around the camp. The original plan operated for a period of 5 years. This is its first review. The reviewed plan will operate for 5 years and will be due for further review in 2028 unless camp numbers increase significantly before this plan expires, in which case it will trigger another review.



Map 1: Flying-fox Camps in Muswellbrook LGA

1.2 Objectives

Muswellbrook Shire Council has developed this Flying-fox Camp Management Plan to provide Council, and the community a clear framework for the management of the Muswellbrook Flying-fox Camp.

The objectives of this Camp Management Plan (the Plan) are to:

- minimise impacts to the community, while conserving Flying-foxes and their habitat
- enable land managers and other stakeholders to use a range of suitable management responses to sustainably manage Flying-foxes

The following Plan provides details on the Camps, Flying-fox species, community inputs, management opportunities and an agreed Management Plan designed to achieve the above stated objectives.

The objectives of the plan are consistent with the Office of Environment and Heritage Flying-fox Camp Management Policy (OEH 2015).

1.3 Roles and Responsibilities

There are several organisations with a role in the management of issues related to the Muswellbrook Flying-fox Camps.

1.3.1 Muswellbrook Shire Council

The Flying-fox camps at times occur on Muswellbrook Shire Council managed land, and as the representative organisation of the local community Council plays an active role in developing management actions for these sites.

1.3.2 NSW Department of Industry - Lands

The NSW Department of Industry - Lands is a landowner of portions of Crown Land on which the Muswellbrook Flying-fox Camps are located; subsequently decisions about how to manage the Flying-fox Camp should be made in conjunction with this agency.

1.3.3 NSW Department of Planning and Environment

The Department of Planning and Environment is responsible for administering the Threatened Species Licence and for ensuring the impact of any action affecting threatened species is properly assessed. Any application by DPI-Lands to disrupt the Flying-foxes roosting site (the camp) is assessed by OEH Regional Operations Group Hunter Central Coast (ROG-HCC), Planning and Ecosystems and Threatened Species teams.

1.3.4 Wildlife Care Groups

Injured or distressed Flying-foxes are rescued and cared for by licenced wildlife rehabilitators. Care can be arranged by calling WIRES on 1300 094 737. WIRES will coordinate local rescue groups to assist.

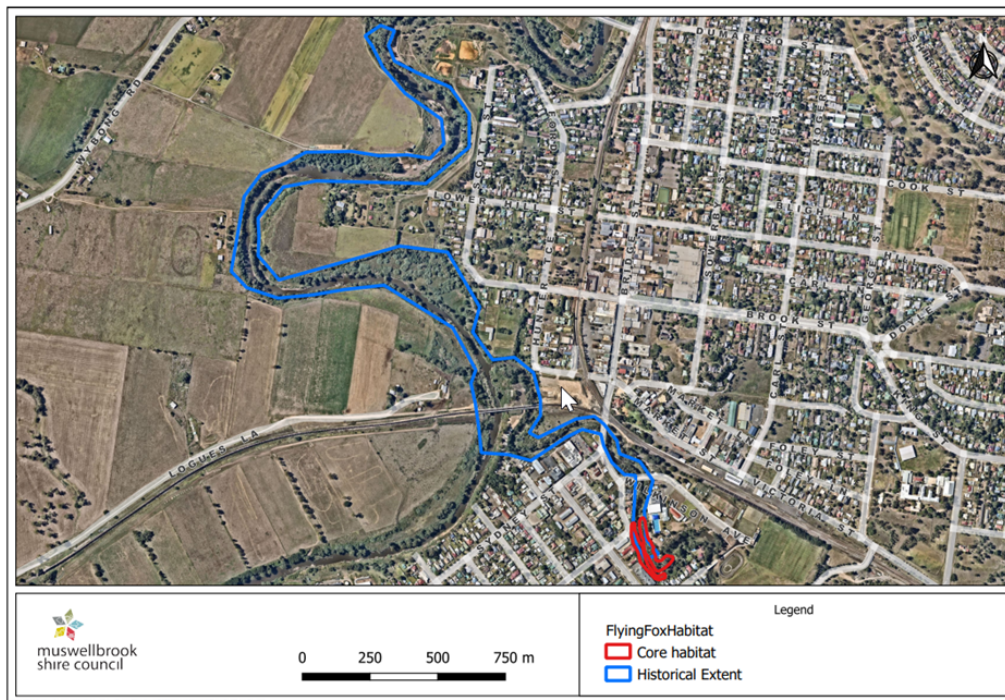
2 Context

2.1 Local Context

2.1.1 Muswellbrook Flying-fox Camp and Surrounds

Grey-Headed Flying-foxes predominantly roost adjacent to the Muswellbrook Aquatic Centre, local motels adjacent to Muscle Creek, ARTC land alongside the Hunter River and the Riverside Caravan Park.

In August 2015, the population of grey-headed flying-foxes peaked at approximately 32,000 animals, they were observed roosting from Scott Street in the north to the Hunter River immediately west of the Caravan Park. Flying-foxes were also roosting on Muscle Creek between residential properties from Wilkinson Street to Wilder Street (Refer to Map 2). Flying-foxes were observed roosting on both sides of the creek, with the majority roosting along the eastern side of Muscle Creek.



Map 2: Muswellbrook Flying-fox Camp location and extent

In December 2022, a small camp of approximately 50 Grey Headed Flying-foxes were observed roosting in Casuarina trees adjacent to the Denman Van Village. By February 2023, this number had swelled to over 1000. (pers. obs. T. Ward) This camp is on predominantly private land but close to Council and Crown land. The extent of the camp is shown in map 3 below.

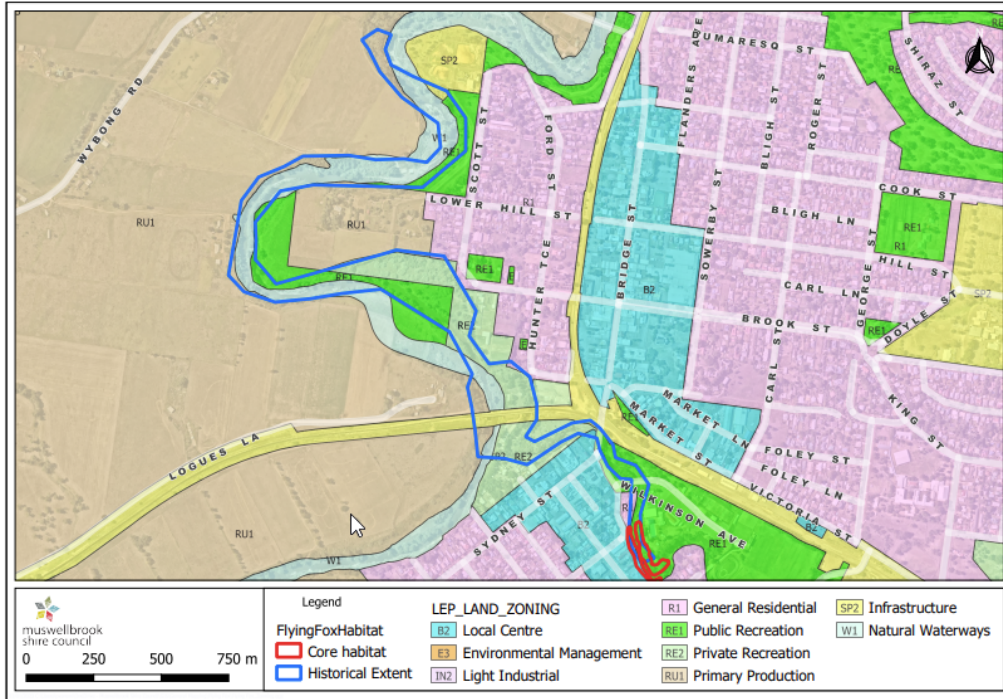


Map 3: Denman Grey Headed Flying-fox Camp location and extent.

2.1.2 Land Tenure, Land Use and Zoning

Details of the land zoning surrounding the Muswellbrook camp are shown in Map 4.

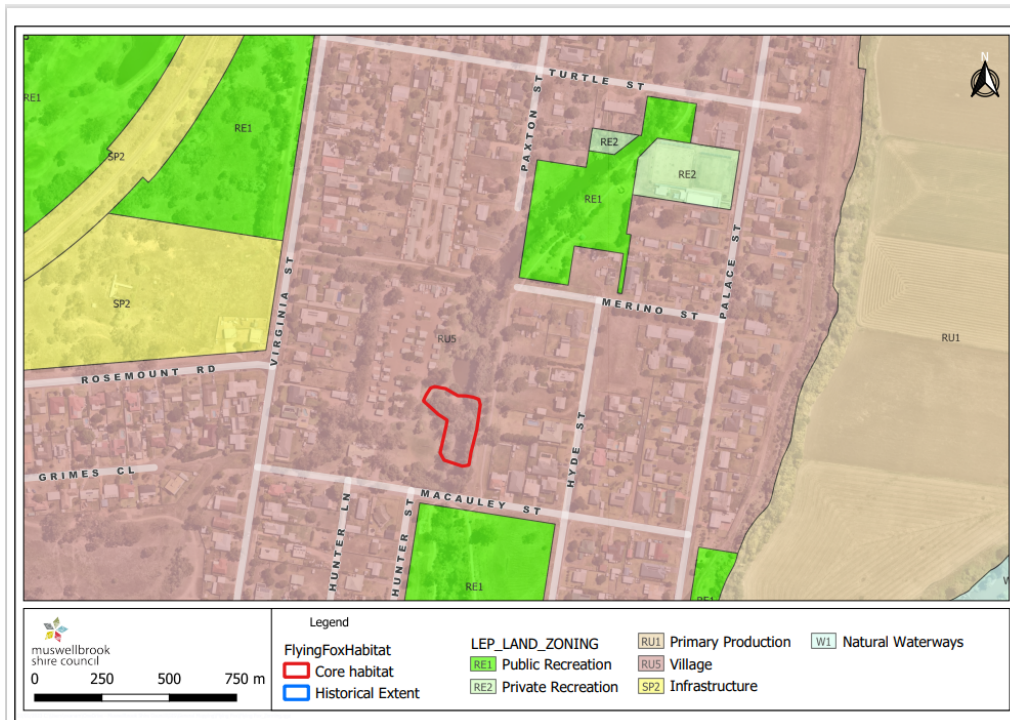
In addition to residential dwellings, several public facilities, services, and businesses are located close to the Camp; these are a school, caravan park, disability services building, hotels and motels, petrol stations, the Muswellbrook aquatic centre and other sporting facilities.



Map 4: Zoning of Land surrounding the Muswellbrook Flying-fox Camp

Details of the land zoning surrounding the Denman camp are shown in Map 5.

This Camp is close to a caravan park, residential properties and passive recreation areas.



Map 5: Zoning of Land surrounding the Denman Flying-fox Camp

2.1.3 Flying-fox Population & Statistics

Scientific Committee Recommendation for Listing as a Nationally Vulnerable Species

Advice to the Federal Minister for the Environment and Heritage from the Threatened Species Scientific Committee (TSSC) on Amendments to the list of Threatened Species under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) recommended that Grey Headed Flying-foxes be listed as vulnerable. They are listed as vulnerable in the *NSW Biodiversity Conservation Act, 2016*.

The Committee noted population size data obtained by fly-out count surveys contain a degree of error that is difficult to quantify (related to the survey methodology; and the comparability of the survey results for the purpose of calculating trends in population size or species abundance). Fly-out counts are acknowledged by the scientific community to be the best method currently available of obtaining reliable and reproducible estimates of abundance (if not actual population counts) for Flying-foxes. The available data for 1989 and 1998-2001 has been obtained using the same survey techniques that are widely acknowledged to be appropriate for estimating the abundance of this species.

The Department of Agriculture, Water and the Environment produced the National Recovery Plan for the Grey-headed Flying-fox *Pteropus poliocephalus* (2021) and within this plan acknowledge many threats to the survival of the Grey-headed Flying-fox including climate change, degradation of roosting and foraging habitats, extreme heat events causing heat stress and heat related mortality.

It is estimated in the EPBC Act that the national Grey Headed Flying-fox population is 680,000 \pm 164,500. (CSIRO, 2015)

The surveys of 1998 -2005 have been compared with surveys conducted as part of the National Flying-fox Monitoring Program conducted since 2012. This program is conducted nationwide on a quarterly basis with representatives performing a count of their local camp and reporting these numbers to the CSIRO. It is suggested that the population remains comparatively stable, rather than being in decline as previously reported. However, the threats identified to Grey-Headed Flying-foxes such as habitat decline due to development, remain and some new threats have arisen, specifically extreme heat events. (CSIRO, 2015)

It was suggested that the projected habitat clearance in northern NSW is the primary ongoing threat to Grey-headed Flying-foxes. One expert stated that annually reliable winter resources are limited in distribution to a narrow coastal strip in northern NSW and Queensland. These coastal areas are targeted for intensive residential development to cater for a projected 25% increase in the human population over the next decade. It was this argument that convinced the Editorial Panel of the Bat Action Plan to identify Grey-headed Flying-foxes as vulnerable, although the Editorial Panel was not unanimous in its decision.

Flying-fox Population at the Muswellbrook Flying-fox Camp

According to the CSIRO census, August is the peak month for Flying-fox activity in Muswellbrook, but this was due to an anomaly in 2015. (See table.) Anecdotal evidence from residents and subsequent year's data suggests that flying-foxes have been observed at the site much longer than the census data suggests. This is thought to be resource driven. (Lunn et al., 2021) The population appears to fluctuate in response to flowering occurring in the Muswellbrook Shire. It is quite possible that these flowering patterns are changing in response to weather pattern changes. (Rosenwig, 2008)

Table 1 – Flying-fox numbers in the Muswellbrook Shire as per CSIRO National Flying-fox Census

	Aug 15	Nov- 15	Feb- 16	May- 16	Aug- 16	Nov- 16	Feb- 17	May- 17	Aug- 17	Nov- 17	Feb- 18	May- 18	Aug- 18	Nov- 18	Feb- 19	May- 19	Aug- 19	Sept -19	Nov - 20	Feb - 21	Mar- 2021	Aug- 21	May 22	June 22	Aug 2022	Dec 22	Feb 23
Hunter Camps	112,6 24	127, 982	269, 317	139, 196	37,6 91	20,5 52	38,7 44	114, 511	37,6 91	138, 593	309, 962	19,9 34	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Muswellbrook Camp GHFF	32000	1000	800	0	0	0	1000	800	NA	10000	800	500	6500	70	NA	10000 *	600	5500	1377	5500	5500	6000	10000	vacant	10000	NA	1289
Muswellbrook Camp LRFF	0	0	0	0	0	0	0	0		0	0	0	0	0		0	0	0	465	1000	1000	0	0	0	0	NA	0
Muswellbrook Camp BFF	0	0	0	0	0	0	0	0		0	0	0	0	4		5*	5	0	0	0	0	0	0	0	0	NA	0
Denman Camp GHFF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	872
% of Hunter Region FF in Muswellbrook	28.4 %	0.8%	0.3%	0%	0%	0%	2.6%	0.7%	NA	7.2%	0.3%	2.5%	0%														

Flying-fox counts did not occur between October 2019 and October 2020 due to Covid 19 restrictions.

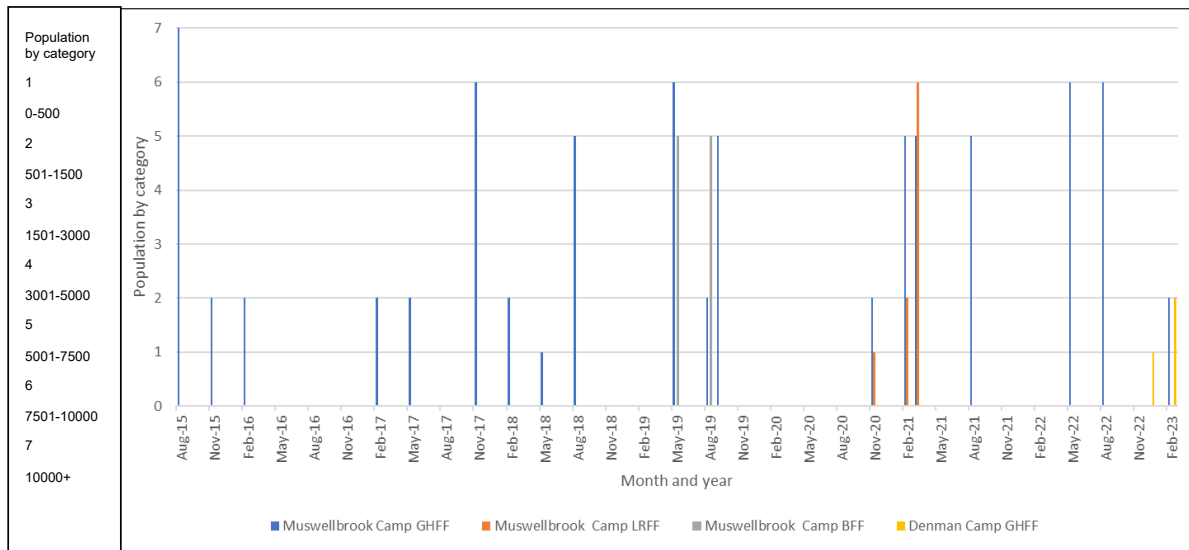
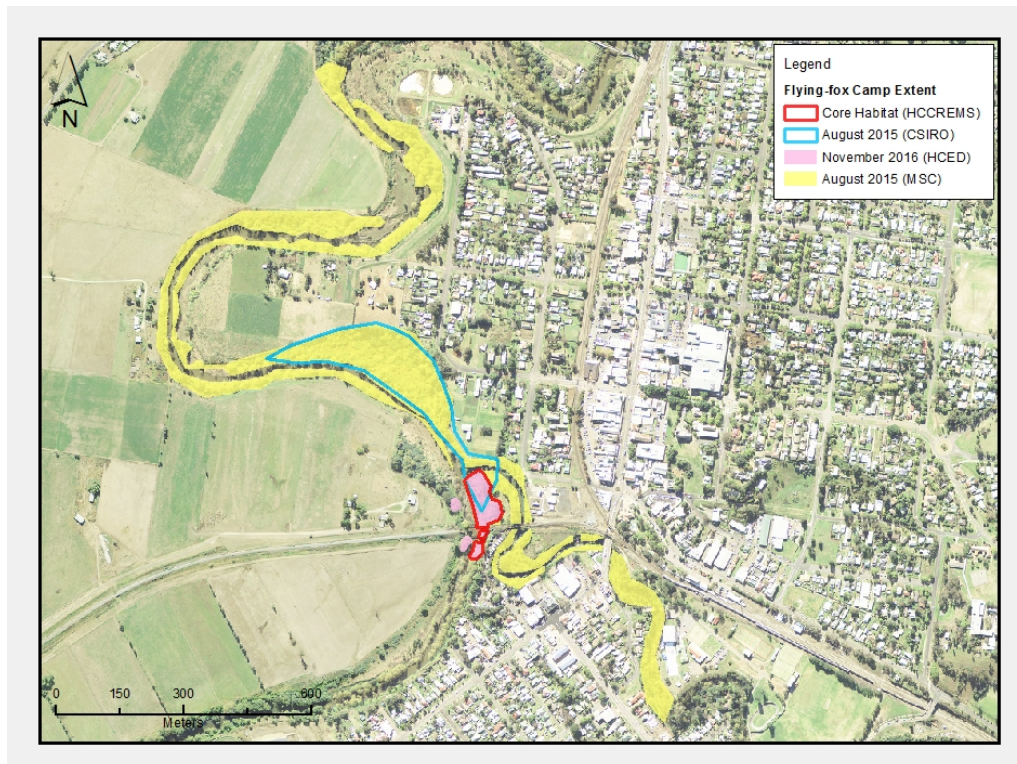


Figure 1: Graph of Flying-fox census results for Muswellbrook LGA Flying-fox Camps

The location and extent of the camp has changed over time, see Map 6 for details on historical camp extent during census surveys.



Map 6: Historical camp extent boundaries as noted during CSIRO Flying-fox census activities

2.1.4 Community Interests and Issues Related to the Camp

Flying-foxes have almost become an accepted part of the Muswellbrook community. Many in the community still object to their presence but since Council began offering car covers, washing line covers and gurney hire to residents affected by flying-foxes, complaints have decreased. There is a sense that Council is doing something. The two affected motels have also received subsidies from Council, as a result of a grant from the Office of Environment and Heritage, to perform property modifications and replace outdoor furniture which had been damaged by flying-fox faeces. Residents were made aware of this assistance via media releases to local papers, local radio news outlets, posts on Facebook and on Council's website and a letterbox drops within a 300 metre radius from the camp. See references for an example of a letter to residents.

Council has only received a total of ten complaints concerning flying-foxes in the past six years. Most of these complaints were in relation to flying-fox droppings on private property. All complainants were contacted by Council officers and offered items such as car covers and washing line covers to protect items from droppings. In addition to complaints made through official channels, there are also complaints made on social media community noticeboards. Anecdotally it is noted that the frequency of these complaints appears to be decreasing when compared to past data.

2.1.5 Management Response to Date

To date Council has monitored flying-fox numbers and health of the population and supplied affected residents with items such as car and washing line covers. Council has also purchased some gurneys which they loan to residents whose premises are affected by bat droppings. Council has also assisted local motels affected by the flying-fox camp's proximity via state government grant funding, replacing damaged outdoor furniture, and supporting modifications to motel properties including funding window replacements and the construction of permanent covered areas for laundering of bed linen etc.

Council undertook a community consultation and education program and has distributed education brochures to residents in the affected zone. These education brochures are available on Council's website and at Council's administration centre. Council continues to meet with affected residents if the population increases. In the case of new camps forming, Council performs a letter box drop of residents within a 300-metre radius of the camp, leaving an information brochure and letter informing residents of the assistance that is available to them.

Council has undertaken large scale revegetation works along Muscle Creek including weed removal, bank stabilisation and plantation of habitat trees.

Council also commenced a "weed tree removal program" with funding from Local Government NSW. This allowed the removal of Cocos Palms and Privet from private properties in 2021 and 2022 with residents being subsidizing for the cost of removal of these trees from resident's properties. This had a twofold benefit: residents saw less flying-fox activity at their properties, and it is believed that removal of these trees also reduced the amount of seed dispersal for these species.

The intention is to consider plans for a flying-fox habitat restoration project in Muswellbrook which will include planting of food trees, roosting trees away from residential areas, but Council is yet to successfully attract grant funding due to a lack of available suitable Council owned land for such a project. Several discussions have been held with different private landholders about possible locations for planting over the past three years, without success to date.

2.2 Ecological Values of Flying-foxes, the Camp and Surrounding Areas

2.2.1 Flying-fox Species Profiles

There are three species of Flying-foxes utilising the Muswellbrook Flying-fox Camps. The Black Flying-fox, whilst recorded occasionally in camps, has only been recorded in very low numbers and on very few occasions. Flying-foxes recorded in high numbers in Muswellbrook camps are the Grey Headed Flying-fox (*Pteropus poliocephalus*) and the Little Red Flying-fox (*Pteropus scapulatus*) - although Little Red Flying-foxes tend to have briefer stays than Grey Headed flying-foxes. (Pers.obs. Ward, T.)

Grey-headed Flying-fox (*Pteropus poliocephalus*)

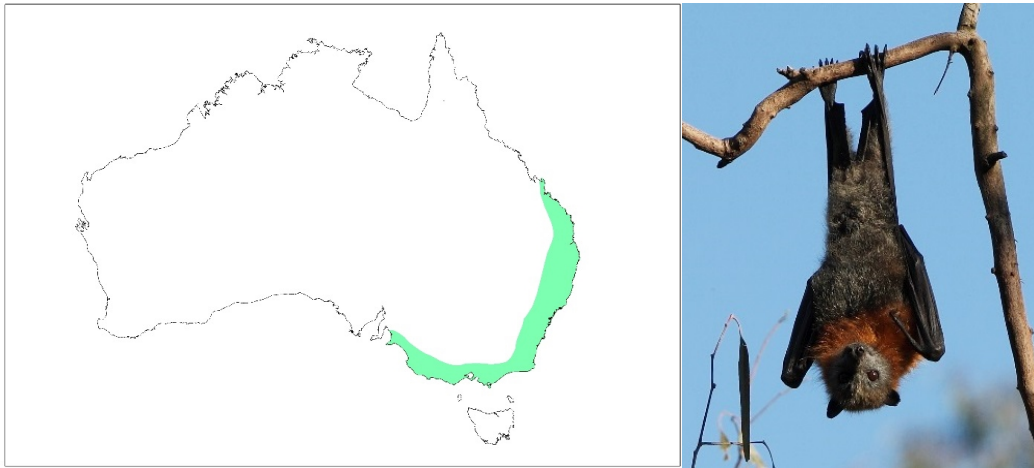


Figure 2: Grey-headed Flying-fox indicative species distribution, adapted from OEH 2015a

The Grey-Headed Flying-fox (Figure 2) is found throughout eastern Australia, generally within 200 kilometers of the coast, from Finch Hatton in Queensland to Melbourne, Victoria (OEH 2015d). This species now ranges into South Australia and has been observed in Tasmania (DoE 2016a). It requires foraging resources and camp sites within rainforests, open forests, closed and open woodlands (including melaleuca swamps and banksia woodlands). This species is also found throughout urban and agricultural areas where food trees exist and will raid orchards at times, especially when other food is scarce (OEH 2015a). Tidemann, C. R., & Nelson, J. E. (2004). Long-distance movements of the grey-headed flying-fox (*Pteropus poliocephalus*). *Journal of Zoology*, 263(2), 141-146.

All the Grey-Headed Flying-fox in Australia are regarded as one population that moves around freely within its entire national range (Webb & Tidemann 1996; DoE 2015). GHFF may travel up to 100 kilometers in a single night with a foraging radius of up to 50 kilometers from their camp (McConkey et al. 2012). They have been recorded travelling over 500 kilometers over 48 hours when moving from one camp to another (Roberts et al. 2012). Grey-Headed Flying-fox generally demonstrate a high level of fidelity to camp sites, returning year after year to the same site, and have been recorded returning to the same branch of a particular tree (SEQ Catchments 2012). This may be one of the reasons Flying-foxes continue to return to small urban bushland blocks that may be remnants of historically-used larger tracts of vegetation.

The Grey-Headed Flying-fox population has a generally annual southerly movement in spring and summer, with their return to the coastal forests of north-east NSW and south-east Queensland in winter (Ratcliffe 1932; Eby 1991; Parry-Jones & Augee 1992; Roberts et al. 2012). This results in large fluctuations in the number of Grey-Headed Flying-fox in NSW, ranging from as few as 20% of the total population in winter up to around 75% of the total population in summer (Eby 2000). They are widespread throughout their range during summer, but in spring and winter are uncommon in the south. In autumn they occupy primarily coastal lowland camps and are uncommon inland and on the south coast of NSW (DECCW 2009).

There is evidence the Grey-Headed Flying-fox population declined by up to 30% between 1989 and 2000 (Birt 2000; Richards 2000 cited in OEH 2011a). There is a wide range of ongoing threats to the

survival of the Grey-Headed Flying-fox, including habitat loss and degradation, deliberate destruction associated with the commercial horticulture industry, conflict with humans, infrastructure-related mortality (e.g. entanglement in barbed wire fencing and fruit netting, power line electrocution, etc.). For these reasons it is listed as vulnerable to extinction under NSW and federal legislation.

Little Red Flying-fox (*Pteropus scapulatus*)



Figure 3: Little red Flying-fox indicative species distribution, adapted from OEH 2015a

The Little Red Flying-fox (Figure 3) is widely distributed throughout northern and eastern Australia, with populations occurring across northern Australia and down the east coast into Victoria.

The Little Red Flying-fox forages almost exclusively on nectar and pollen, although will eat fruit at times and occasionally raids orchards (Australian Museum 2010). Little Red Flying-fox often relocate sub-continental distances in search of sporadic food supplies. The Little Red Flying-fox has the most nomadic distribution, strongly influenced by availability of food resources (predominantly the flowering of eucalypt species) (Churchill 2008), which means the duration of their stay in any one place is generally very short.

Habitat preferences of this species are quite diverse and range from semi-arid areas to tropical and temperate areas, and can include sclerophyll woodland, melaleuca swamplands, bamboo, mangroves and occasionally orchards (IUCN 2015). Little Red Flying-fox are frequently associated with other *Pteropus* species. In some colonies, Little Red Flying-foxes individuals can number many hundreds of thousands and they are unique among *Pteropus* species in their habit of clustering in dense bunches on a single branch. As a result, the weight of roosting individuals can break large branches and cause significant structural damage to roost trees, in addition to elevating soil nutrient levels through faecal material (SEQ Catchments 2012).

Throughout its range, populations within an area or occupying a camp can fluctuate widely. There is a general migration pattern in Little Red Flying-fox, whereby large congregations of over one million individuals can be found in northern camp sites (e.g. Northern Territory, North Queensland) during key breeding periods (Vardon & Tidemann 1999). Little Red Flying-fox travel south to visit the coastal areas of south-east Queensland and NSW during the summer months. Outside these periods Little Red Flying-fox undertake regular movements from north to south during winter–spring (July–October) (Milne & Pavey 2011).

2.2.2 Muswellbrook Flying-fox Camp Descriptions

Flying-foxes predominantly roosted in trees near the caravan park at the confluence of the Hunter River and Muscle Creek until early 2021. The land is owned by ARTC and the Crown.

A smaller roost site occurred concurrently with the Muscle Creek Camp adjacent to the Muswellbrook Aquatic Centre and local motels on a mix of Council owned and Crown Land.

The smaller roost site has now become the main roost site with the camp on ARTC land vacating at the commencement of ARTC bridge duplication works. The numbers can be as high as between 6000 - 10000 at times.

Muscle Creek is adjacent to residential areas, parkland, a Caravan Park, Bowling Club and a Public Swimming pool. The vegetation along Muscle Creek has been modified.

Council has undertaken riparian rehabilitation in the area including removal of weeds and garden escapees that had dominated the riparian zone - there were extensive areas where the weed infestations covered 90 - 100% of the riparian zone with remaining pockets of native canopy species, of River Oak (*Casuarina cunninghamiana*), Rough-barked Apple (*Angophora floribunda*) and White Cedar (*Melia azedarach*).

This area has also had bank stabilization works with funding from various state and federal entities.

In the main Flying-fox Camp area (see photograph 1) the ground cover, shrub layer and vines are dense and weed infested. Vines are dense throughout the casuarina tree canopy. There are areas that have been cleared and mulched with several plantings of locally sourced Eucalypts and Acacias. When the Flying-fox population increases, they roost in trees along the water course to the north, south and east of the core Camp area. There do not appear to be any known roosting sites outside of the vegetated riparian zone, however properties adjacent to the River may experience Flying-foxes nearby when numbers peak.

The tree canopy in the core area is dominated by Casuarina and Eucalypt species. The Casuarina are typically about 20m high with Eucalypts averaging 25m high, all trees provide significant roosting space and protection from heat.

The camp is a known breeding Camp for Grey-headed Flying-foxes.



Photograph 1 – Main roost area over Muscle Creek. The Remington Motel is in the background.



Photograph 2: Main Flying-fox Camp area -this area is bordered by the Muswellbrook Aquatic Centre and the Platypus Walking Trail.



Photograph 3: Denman Flying-fox Camp, this camp extends on to the land owned by Denman Van Village.

2.2.3 Ecological role of Flying-foxes

Flying-foxes, along with some birds, make an important contribution to ecosystem health through their ability to move seeds and pollen over long distances (Welbergen et al. 2020). This seed dispersal mechanism directly impacts on the reproduction, regeneration and viability of forest and bush ecosystems. (Lunn et al. 2021). It is estimated that a single Flying-fox can disperse up to 60,000 seeds in one night (ELW&P 2015). Some plants, particularly *Corymbia spp.*, have adaptations suggesting they rely more heavily on nocturnal visitors such as bats for pollination than daytime pollinators (Southerton et al. 2004).

Grey-headed Flying-foxes may travel 100 km in a single night with a foraging radius of up to 50 km from their camp (McConkey et al. 2012), recent studies have found a reduced foraging radius of 20 km (Boardman, et al. 2021) however this could be due to seasonal flowering. There are records of Grey-headed Flying-foxes travelling over 500 km in two days between camps (Roberts et al. 2012). In comparison bees, another important pollinator, move much shorter foraging distances of generally less than one kilometre. (Zurbuchen et al., 2010).

Long-distance seed dispersal and pollination makes Flying-foxes critical to the long-term persistence of many plant communities (Todd et al. 2022, Westcott et al. 2008; McConkey et al. 2012), including eucalypt forests, rainforests, woodlands and wetlands (Timmiss et al. 2020). Seeds that can germinate away from their parent plant have a greater chance of growing into a mature plant (EHP 2012). Long-distance dispersal also allows genetic material to be spread between forest patches that would normally be geographically isolated (Parry-Jones & Augee 1992; Eby 1991; Roberts 2006). This genetic diversity allows species to adapt to environmental change and respond to disease pathogens. Transfer of genetic material between forest patches is particularly important in the context of contemporary fragmented landscapes. (Lindenmayer et al., 2013)

Flying-foxes are considered 'keystone' species given their contribution to the health, longevity and diversity among and between vegetation communities. (Mo. et al., 2021) These ecological services ultimately protect the long-term health and biodiversity of Australia's bushland and wetlands. In turn, native forests act as carbon sinks, provide habitat for other fauna and flora, stabilise river systems and catchments (Timmiss et al. 2020) and provide recreational and tourism opportunities worth millions of dollars each year (EHP 2012; ELW&P 2015).

2.2.4 Flying-fox Habitat

Vegetation Communities

Vegetation assessments undertaken in 2017 at the at Wilder Street, Wilkinson Street, Mill Street and Brook Street roosting sites identified the dominant tree, shrub and ground cover species within a 20 by 20 metre area. Overall, there was limited native species diversity identified within the rapid assessment sites, which is a result of past extensive clearing of the riparian zone, displaced by exotic species. This area has been subject to extensive revegetation works by Muswellbrook Shire Council and its contractors, including bank stabilization works, weed removal and replanting of vegetation.

Threatened Species & Endangered Ecological Communities

The Muswellbrook Flying-fox Camp contains potential habitat for *Eucalyptus camaldulensis* an endangered population in the Hunter Catchment. The Camp also contains habitat for Hunter Floodplain Red Gum Woodland, listed as an Endangered Ecological Community under the TSC Act.. No other threatened species or populations were recorded during the site assessment undertaken in 2017. It is recommended that a detailed Flora and Fauna assessment be undertaken to identify location and extent of any threatened flora and fauna species which are likely to utilise the riparian habitats. (This was recommended in the last plan and has not yet occurred).

A list of threatened species known to occur within 10 km of the site and are likely to be found on site is provided in Table 1.

Table 1: Threatened species and ecological communities that are likely to occur at the site¹

Species Name	Common Name	NSW Status	Commonwealth Status
Fauna			
<i>Rostratula australis</i>	Australian Painted Snipe	E,P	E
<i>Ninox connivens</i>	Barking Owl		
<i>Melithreptus gularis gularis</i>	Black-chinned Honeyeater (eastern subspecies)	V,P	
<i>Falco subniger</i>	Black Falcon	V,P	
<i>Climacteris picum, mus victoriae</i>	Brown Treecreeper (Eastern subspecies)	V,P	
<i>Phascogale tapoatafa</i>	Brush-tailed Phascogale	V,P	
<i>Petrogale penicillate</i>	Brush-tailed Rock-wallaby	E1,P	V
<i>Burhinus grallarius</i>	Bush Stone Curlew	E1,P	
<i>Nyctophilus corbeni</i>	Corben's Long-eared bat	V,P	V
<i>Stagonopleura guttata</i>	Diamond Firetail	V,P	
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	V,P	
<i>Vespadelus troughtoni</i>	Eastern Cave Bat	V,P	
<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tailed bat	V,P	
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	V,P	
<i>Petroica phoenicea</i>	Flame Robin	V,P	
<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	V,P,3	E
<i>Calyptrorhynchus lathamii</i>	Glossy Black Cockatoo	V,P,2	V
<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bar	V,P	
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V,P	V
<i>Pomatostomus temporalis temporalis</i>	Grey-crowned Babbler (eastern subspecies)	V,P	
<i>Melanodryus cucullata cucullate</i>	Hooded Robin (south-eastern form)	V,P	
<i>Phascolarctos cinerus</i>	Koala	E1,P	E
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V,P	V
<i>Miniopterus orianae oceanensis</i>	Large Bent-wing Bat	V,P	
<i>Miniopterus australis</i>	Little Bent-wing Bat	V,P	
<i>Hieraaetus morphnoides</i>	Little Eagle	V,P	

Species Name	Common Name	NSW Status	Commonwealth Status
<i>Iossopsitta pusilla</i>	Little Lorikeet	V,P	
<i>Tyto novaehollandiae</i>	Masked Owl	V,P,3	
<i>Grantiella picta</i>	Painted Honeyeater	V,P	V
<i>Macropus parma</i>	Parma Wallaby	V,P	
<i>Ninox strenua</i>	Powerful Owl	V,P,3	
<i>Anthochaera Phrygia</i>	Regent Honeyeater	E4A,P	CE
<i>Petroica boodang</i>	Scarlet Robin		
<i>Tyto tenebricosa</i>	Sooty Owl	V,P,3	
<i>Petauroides Volans</i>	Southern Greater Glider	E1,P	V
<i>Myotis Macropus</i>	Southern Myotis	V,P	
<i>Chthonicola sagittate</i>	Speckled Warbler	V,P	
<i>Circus assimilis</i>	Spotted Harrier	V,P	
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V,P	V
<i>Petaurus norfolcensis</i>	Squirrel Glider	V,P	
<i>Lathamus discolor</i>	Swift Parrot	E1, P	CE
<i>Neophema pulchella</i>	Turquoise Parrot	V,P,3	
<i>Daphoenositta chrysoptera</i>	Varied Sitella	V,P	
<i>Haliaeetus leucogaster</i>	White Bellied Sea Eagle	V,P	
<i>Petaurus australis</i>	Yellow Bellied Glider	V,P	V
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	V,P	
Flora			
<i>Acacia pendula</i>	Acacia pendula population in the Hunter catchment	E2	
<i>Commersonia rosea</i>		E1	E
<i>Pomaderris reperta</i>	Denman Pomaderris	CE	CE
<i>Eucalyptus camaldulensis</i>	Eucalyptus camaldulensis population in the Hunter catchment	E2	
<i>Eucalyptus nicholii</i>	Narrow-leaved Black Peppermint	V	V
<i>Lasiopetalum logistamineum</i>		V	V
<i>Diuris Tricolor</i>	Pine Donkey Orchid	V,P,2	
<i>Eucalyptus glaucina</i>	Slaty Red Gum	V	V
<i>Cymbidium canaliculatum</i>	Tiger Orchid (Hunter population)	E2, P,2	
EEC			

Species Name	Common Name	NSW Status	Commonwealth Status
Endangered: Hunter Floodplain Redgum Forest Woodland in the Sydney Basin and New South Wales North Coast Bioregions		E3	
Critically Endangered Ecological Community - Box Gum Woodland		CE	

¹ Source: Atlas of Living in Australia accessed 20/03/2023 Bionet – Wildlife atlas accessed 20/3/2023

1	Sensitivity Class 1 (Sensitive Species Data Policy)
2	Sensitivity Class 2 (Sensitive Species Data Policy)
3	Sensitivity Class 3 (Sensitive Species Data Policy)
CC	Collapsed Ecological Community (Biodiversity Conservation Act 2016)
CH	Critical Habitat (Biodiversity Conservation Act 2016)
E1	Endangered (Biodiversity Conservation Act 2016)
E2	Endangered Population (Biodiversity Conservation Act 2016)
E3	Endangered Ecological Community (Biodiversity Conservation Act 2016)
E4A	Critically Endangered Species (Biodiversity Conservation Act 2016)
P	Protected (National Parks & Wildlife Act 1974)
V	Vulnerable (Biodiversity Conservation Act 2016)
V2	Vulnerable Ecological Community (Biodiversity Conservation Act 2016)

Foraging Areas

Within the Camp

A mature stand of River Redgum (*Eucalyptus camaldulensis*), is located just north of Wilder Street, extending approximately 150m along Muscle Creek, River Redgums extend onto ARTC land north of the Caravan Park, and on Muscle Creek at the end of Gyarran Road, south west of Wilder Street (see Photograph) and within the Caravan Park grounds at Mill Street. River Redgum occurs intermittently along Muscle Creek, the extent and distribution of this species along the entire camp has not been comprehensively mapped.

Other suitable foraging species include Silky Oak (*Grevillea robusta*) Forest Redgum (*Eucalyptus tereticornis*) and Blakely's Redgum (*Eucalyptus blakelyi*) and Prickly-leaved Paperbark (*Melaleuca stypheloides*) which occur intermittently as scattered mature trees or small stands along Muscle Creek (see Photograph).

Flying-foxes are also known to feed on environmental weeds such as Small-leaved Privet, which is widespread at the Denman site and is present close to the Muswellbrook site.



Photograph 4: River Redgum (*Eucalyptus camaldulensis*), an Endangered Population in the Hunter Catchment – preferred Flying-fox foraging habitat at Muscle Creek, near Wilder Street

Within 1km of the Camp

Populations of River Redgum occur within the golf course southwest of the Flying-fox Camp.

Flying-foxes may opportunistically forage on species which occur in backyards including Silky Oaks, Cocos Palms and Broad-leaved Paperbark (*Melaleuca quinquenervia*). Suitable foraging habitat is less evident within residential areas closest to the business district. Flying-foxes will opportunistically feed on planted fruit trees when available.

Several small stands of remnant White Box, Narrow-leaved Ironbark (*Eucalyptus crebra*), Broad-leaved Ironbark (*Eucalyptus fibrosa*), Grey-Box (*Eucalyptus moluccana*), Forest Redgum and Rough-barked Apple occur in residential areas to the south and north of the creek that are likely to attract foraging Flying-foxes.

Within 6km of the Camp

There are a number of remnant native vegetation communities within 6km of the Camp which are known food sources for Flying-foxes, these are:

- Narrow-leaved Ironbark - Grey Box grassy woodland of the central and upper Hunter and associated with the Listed EPBC Act, Critically endangered: Central Hunter Valley eucalypt forest and woodland (Part)
- White Box - Narrow-leaved Ironbark - Blakely's Red Gum shrubby open forest of the central and upper Hunter and associated with the Listed TSC Act Endangered White Box Yellow Box Blakely's Red Gum Woodland (Part).
- Lower Hunter Valley Dry Rainforests - TSC Act Endangered Ecological Community
- Hunter Floodplain Redgum Woodland - TSC Act Endangered Ecological Community
- Central Hunter Ironbark-Spotted Gum-Grey Box Forest -TSC Act Endangered Ecological Community (Peake 2006).

Surrounding the Camps (20km)

The number of Flying-foxes present in a camp is primarily driven by the amount and quality of food available in the local area, relative to that available within migration distance (Tidemann 1999; Eby 1991; Roberts et al 2012). Flying-foxes typically feed within 20 km of their roost (Tidemann 1999), and digital maps of feeding habitat for Grey-headed Flying-foxes have been used to summarise feeding resources within 20 km of the Muswellbrook camp (Eby and Law 2008).

The area surrounding the Muswellbrook camp has been heavily cleared for agriculture and mining. Approximately 17% of land within 20 km of the site supports native forests and woodlands, primarily in small remnant patches. While some dry rainforest occurs in the area, it is rare and rainforest fruits provide sparse food resources for Flying-foxes during late summer and autumn.

Approximately 90% of forested land within 20km of Muswellbrook contains flowering trees visited by Flying-foxes. In total, 10 species of trees in the flower diet of Grey-headed Flying-foxes occur within feeding range of the Muswellbrook camp (Table 2). They vary considerably in the amount of nectar they secrete, the frequency and duration of flowering, their seasonal flowering schedules, and their area of distribution. Interactions between these characteristics determine the influence they have on the presence of Flying-foxes in the Muswellbrook camp and the size of the population. Species with restricted distributions or that produce relatively low volumes of nectar are likely to have a minor influence on the number of Flying-foxes feeding in the area.

Three highly productive species are likely to have a substantial influence (Table 2): Spotted Gum, White Box and Grey Ironbark. Remnant vegetation immediately surrounding Muswellbrook and to the north contains box-ironbark grassy woodlands dominated by White Box. To the south and west lie woodlands dominated by Spotted Gum and Grey Ironbark.

The area surrounding the Denman camp has been heavily cleared for housing, mining and agriculture. Approximately 34.6% of land within 20 km of the site supports native forests and woodlands, with approximately 42% of this within the Wollemi National Park.

The irregular influxes of Flying-foxes to the Muswellbrook camp appear to be driven by flowering of Spotted Gum and White Box. Influxes in 2012 and 2015 were associated with significant flowering of White Box during late autumn and winter; a mass flowering of Spotted Gum coincided with the 2012 event. A resource bottleneck for Grey-headed Flying-foxes occurs during winter and flowering of Spotted Gum and White Box are particularly attractive to Grey-headed Flying-foxes. The length of time the camp is occupied is likely to extend to spring and summer in years when Grey Ironbark flowers well.

Table 2: Characteristics of flowering trees in the diet of Grey-headed Flying-foxes that occur within 20 km of the Muswellbrook camp. Nectar abundance is scored in 4 categories from 0 to 1; the approximate frequency of flowering is also scored in 4 categories relating to % of years; duration of flowering is scored in months. Species likely to play a significant role in determining the number of Flying-foxes present in the camp, as assessed by nectar abundance and area of distribution, are highlighted in grey. Species found in <1% of native vegetation have been excluded. See Eby and Law (2008) for further details.

Species	Common Name	% area of native vegetation	flowering characteristics			bi-monthly flowering schedule					
			nectar abundance	frequency (% yrs)	duration (mth)	Dec-Jan	Feb-Mar	Apr-May	Jun-Jul	Aug-Sep	Oct-Nov
<i>Corymbia maculata</i>	Spotted Gum	25%	1	0.25	4-6			X	X		
<i>Eucalyptus albens</i>	White Box	20%	0.7	0.4	4			X	X	X	
<i>E. siderophloia</i>	Grey Ironbark	15%	1	0.7	2	X					X
<i>Angophora floribunda</i>	Rough-barked Apple	5%	0.5	0.4	1	X					
<i>E. acmenoides</i>	White Mahogany	10%	0.3	0.7	1	X					X
<i>E. fibrosa</i>	Broad-leaved Ironbark	10%	0.7	0.4	2	X					
<i>E. moluccana</i>	Grey Box	50%	0.3	0.7	2		X				
<i>E. propinqua</i>	Small-fruited Grey Gum	5%	0.5	0.4	2	X	X				
<i>E. punctata</i>	Large-fruited Grey Gum	20%	0.3	0.7	1	X	X				
<i>E. tereticornis</i> (inland)	Forest Red Gum	15%	0.5	0.4	2	X					X
						7	3	2	2	1	3

<https://royalsocietypublishing.org/author/P%C3%A1ez%2C+David+J>

Roosting Areas

In August 2015, the population of grey-headed Flying-foxes peaked at approximately 32,000 animals, they were observed roosting from Scott Street in the north to the Hunter River immediately west of the Caravan Park. Flying-foxes were also roosting on Muscle Creek between residential properties from Wilkinson Avenue to Wilder Street (Refer to Map 6). Flying-foxes were observed roosting on both sides of the creek, with the majority roosting along the eastern side of Muscle Creek.

This significant increase in Flying-foxes coincided with the widespread and abundant flowering of Spotted Gums (*Corymbia maculata*). To date, this number of flying-foxes has not returned to Muswellbrook, with population maximums of approximately 10,000 animals since the peak population event. It is likely that these expansions occurred during major flowering events suggesting that the population expansions are resource driven. (Páez et.al, 2018)

Flying-fox roosting locations have been noted for several years since the beginning of the National Flying-fox Monitoring Program which is coordinated by the CSIRO.

The riparian zone throughout the Muswellbrook township is prime Flying-fox roosting habitat. There appears to be limited possible overflow areas within the township, other than along the riparian zone. It is possible however that there may be some large, planted trees within the township that may be suitable enough for flying-foxes to roost in if there were Camp capacity pressures or other reasons why they may feel they have to move camp e.g., disturbance at main Camp. Other potential overflow sites may continue further to the north of the camp and towards Bell Street. Within this area the species and density of the vegetation is consistent with the existing roost area.

The village of Denman is 26 kilometres west of Muswellbrook and recently a camp has been formed there. This could be due to a lack of resources in Muswellbrook



Map 7: Potential Flying-fox Camp overflow areas

2.2.5 Flying-foxes in Urban Areas

Flying-foxes appear to be roosting and foraging in urban areas more frequently. There are many possible drivers for this, as summarised by Tait et al. (2014):

- loss of native habitat and urban expansion -
- opportunities presented by year-round food availability from native and exotic species found in expanding urban areas.
- disturbance events such as drought, fires, cyclones
- human disturbance or culling at non-urban roosts or orchards.
- urban effects on local climate
- refuge from predation
- movement advantages e.g., ease of maneuvering in flight due to the open nature of the habitat or ease of navigation due to landmarks and lighting.

The vegetation along Muscle Creek whilst improving with rehabilitation and local provenance plantings, features densely infested and widespread noxious and environmental weeds, due to the extensive seedbank, providing suitable habitat for Flying-foxes. Further north, south and west of the camp, riparian vegetation is absent due to widespread industrial land clearing, making the riparian zone in Muswellbrook township the only reliable roosting habitat in the immediate vicinity.

The following threats and hazards to the Muswellbrook Flying-fox Camp have been identified:

- Natural food shortages – due to land clearing in combination with poor flowering seasons
- Fruit tree netting – females with young have been observed trapped in netting (2017)
- Limited potential roosting areas – may have to roost in less desirable areas if population grows.
- Heat events – recent heat waves have seen animal deaths throughout the region.
- Disturbance from local residents.
- Barbed wire – fencing across dams in particular poses a 'death-trap' to Flying-foxes
- Powerlines – when there are food shortages, Flying-foxes are more likely to forage in urban areas and there is therefore an increased risk of electrocution.
- Fireworks – Wildlife Rehabilitators often get calls to attend injured animals after fireworks have been set off.

2.2.6 Flying-foxes Under Threat

Flying-foxes roosting and foraging in urban areas more frequently can give the impression that their populations are increasing; however, the grey-headed Flying-fox is in decline across its range and in 2001 was listed as vulnerable by the NSW Government through the TSC Act.

At the time of listing, the species was considered eligible for listing as vulnerable as counts of Flying-foxes over the previous decade suggested that the national population may have declined by up to 30%. It was also estimated that the population would continue to decrease by at least 20% in the next three generations given the continuation of the current rate of habitat loss and culling.

The main threat to grey-headed Flying-foxes in NSW is clearing or modification of native vegetation. This threatening process removes appropriate roosting and breeding sites and limits the availability of natural food resources, particularly winter-spring feeding habitat in north-eastern NSW. The urbanisation of the coastal plains of south-eastern Queensland and northern NSW has seen the removal of annually reliable winter-feeding sites, and this threatening process continues.

There is a wide range of ongoing threats to the survival of the Grey Headed Flying-fox, including:

- habitat loss and degradation
- conflict with humans (including culling at orchards)
- infrastructure-related mortality (for example, entanglement in barbed wire fencing and fruit netting, power line electrocution, etc.)
- predation by native and introduced animals.
- exposure to extreme natural events such as cyclones, drought and heat waves.

Flying-foxes have limited capacity to respond to these threats and recover from large population losses due to their slow sexual maturation, small litter size, long gestation and extended maternal dependence (McIlwee & Martin 2002).

2.2.7 Flying-foxes and Heat Stress

Heat stress affects Flying-foxes when temperatures reach 42°C or more. Over the past two decades, several documented heat stress events have resulted in significant Flying-fox mortality.

When ambient temperatures rise above 35°C Flying-foxes tend to alter their behaviour to reduce exposure to heat. A range of behaviours may be exhibited, depending on multiple variables in their environment. The impacts of heat stress events are likely to vary site by site and can depend on conditions in the preceding days. Ambient temperature alone may thus not be a sound indicator of a heat stress event, and Flying-fox behaviour may provide more reliable information. As Flying-foxes experience heat stress, they are likely to exhibit a series of behaviours indicating progressive impact of that stress, including:

- clustering or clumping,
- panting,
- licking wrists and wing membranes
- descending to lower levels of vegetation or to the ground.

Some of these behaviours may occur outside of heat stress events.

2.2.8 Human and Animal Health

Flying-foxes, like all animals, carry bacteria, viruses and other microorganisms in their guts, some of which are potentially pathogenic to other species. Direct contact with faecal material should be avoided and general hygiene measures taken to reduce the low risk of gastrointestinal and other disease.

Contamination of water supplies by any animal excreta (birds, amphibians and mammals such as Flying-foxes) poses a health risk to humans. Household tanks should be designed to minimise potential contamination, such as using first flush diverters to divert contaminants before they enter water tanks. Trimming vegetation overhanging the catchment area (e.g. the roof of a house) will also reduce wildlife activity and associated potential contamination. Tanks should also be appropriately maintained and flushed, and catchment areas regularly cleaned to remove potential contaminants.

Public water supplies are regularly monitored for harmful microorganisms and are filtered and disinfected before being distributed. Management plans for community supplies should consider whether any large congregation of animals, including Flying-foxes, occurs near the supply or catchment area. Where they do occur, increased frequency of monitoring should be considered to ensure early detection and management of contaminants.

Flying-foxes, like all animals, carry pathogens that may pose human health risks. Many of these are viruses which cause only asymptomatic infections in Flying-foxes themselves but may cause significant disease in other animals that are exposed. In Australia the most well-defined of these include Australian bat lyssavirus (ABLV), Hendra virus (HeV) and Menangle virus. Specific information on these viruses is provided in Appendix 5.

Outside of an occupational cohort, including Wildlife Rehabilitators and vets, human exposure to these viruses is extremely rare and similarly transmission rates and incidence of human infection are very low. In addition, HeV infection in humans apparently requires transfer from an infected intermediate equine host and direct transmission from bats to humans has not been reported. Thus, despite the fact that human infection with these agents can be fatal, the probability of infection is extremely low and the overall public health risk is judged to be low (Qld Health 2016).

More details on diseases and Flying-foxes can be accessed through Muswellbrook Shire Council's website.

2.3 Legislative and Regulatory Context

The Grey-Headed Flying-fox (*Pteropus poliocephalus*) is listed as a vulnerable species under the Federal *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and is therefore considered a 'Matter of National Environmental Significance' and is therefore protected under federal law.

In NSW, the grey-headed Flying-fox was listed as vulnerable under the NSW *Threatened Species Conservation Act 1995* in 2001. This listing is based on scientific evidence indicating a significant decline in the population of the species and that it is "likely to become endangered unless the circumstances and factors threatening its survival or evolutionary development cease to operate" (NSW Scientific Committee 2001).

This means that if present processes continue, the species could become extinct.

The National Recovery Plan means that any actions that could adversely affect the species generally require approval or licensing, and that impacts on the species require assessment.

The NSW Office of Environment and Heritage (OEH) had prepared the 'Flying-fox Camp Management Policy' 2015, intended to empower land managers, primarily local councils, to work with their communities to manage Flying-fox camps effectively. It provides the framework within which OEH will make regulatory decisions. The Policy encourages local councils and other land managers to prepare camp management plans for sites where the local community is affected.

Additionally, any activities undertaken on Department of Education property, will also need to comply with Local Development Consent and the Infrastructure SEPP.

Parliamentary Inquiry into Flying-fox management in the eastern states

In 2016-17 the House of Representatives Standing Committee on the Environment and Energy undertook an inquiry into the increasing tensions being experienced by residents affected by Flying-fox camps.

To gather evidence from the relevant stakeholders and experts within the agreed timeframe, the Committee conducted a roundtable public hearing in Canberra (February 2017). This enabled productive engagement with a wide range of experts and representatives of affected communities. The Committee also received a range of written submissions and correspondence outlining stakeholder experiences and community concerns about local Flying-fox issues.

The Committee agreed that Flying-foxes act as important pollen and seed dispersers for a wide range of native vegetation across the east coast of Australia. Due to their ecological importance in maintaining some of Australia's most significant ecosystems, work needs to be undertaken to ensure the preservation of Flying-fox species across the country.

The Committee further noted the reduction in suitable foraging and roosting habitat, among other factors, has impacted on the population size of several species, leading the Spectacled Flying-fox and Grey-headed Flying-fox to be listed as 'Vulnerable' under the Environment Protection and Biodiversity Conservation Act 1999. The expansion of human populations across coastal New South Wales and Queensland has led to Flying-fox camps becoming increasingly located in urban and rural residential areas, possibly from movements of camps due to loss of natural habitat, or the expansion of human settlement into traditional Flying-fox habitats.

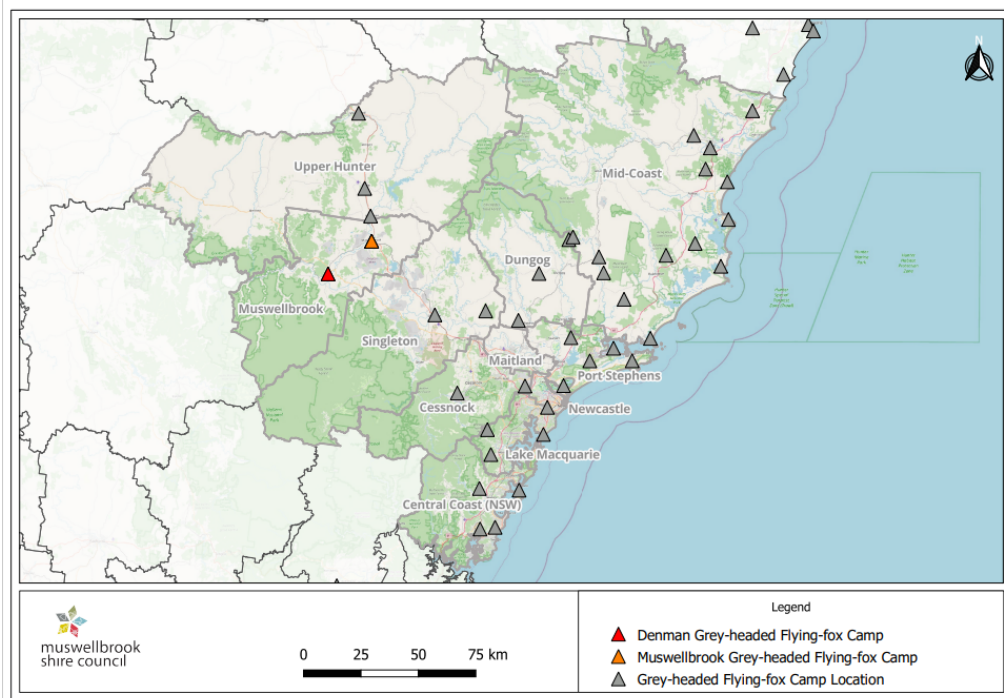
The Committee produced several recommendations that have been forwarded to the Commonwealth Department of Environment & Energy for consideration and action:

1. The Committee recommends that the Australian Government propose a national or eastern states Flying-fox consultative committee or working group to the Council of Australian Governments. The consultative committee or working group would be responsible for centrally compiling information on referrals and management actions, and identifying priorities for legislative harmonisation, research, and funding.
2. The Committee recommends that the Australian Government establish a dedicated funding pool for Flying-fox research and conservation actions, to enable:

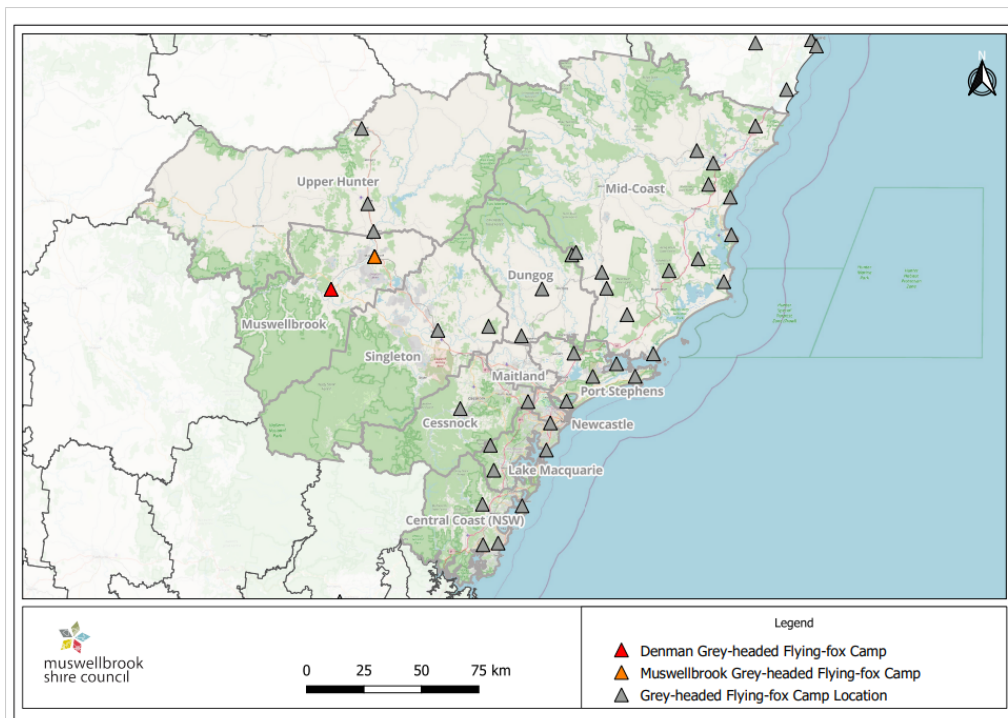
- a. continued funding of the National Flying-fox Monitoring Program for at least the next 10 years.
 - b. committed funding for the priority actions outlined in the recovery.
 - c. plans for both the Spectacled Flying-fox and Grey-headed Flying-fox;
 - d. targeted national research into Flying-fox roosting behaviours and habitat loss impacts; and
 - e. any other research that allows for the timely evaluation of Flying-foxes under the Environment Protection and Biodiversity Conservation Act 1999, informed by rigorous data, at the earliest opportunity.
3. The Committee recommends that the Department of the Environment and Energy develop, in consultation with relevant state and local governments, a tool that assists councils to make decisions on action, referral and education in the most appropriate way, relevant to the Flying-fox impacts in their jurisdiction.
4. The Committee recommends that the Department of the Environment and Energy, in consultation with other relevant organisations, develop a suite of education resources for Australian communities regarding Flying-fox ecology, behaviour, environmental significance, health impacts, and management options. These resources should be promoted by the Australian Government to local councils, communities, businesses and all relevant stakeholders in affected jurisdictions and potentially affected jurisdictions.

2.4 Regional Context

The Hunter & Central Coast Region is home to 83 known Flying-fox Camps (see



Map 3), 54 of which have observed Flying-foxes roosting in them since 2012. It is highly likely that there are additional Camps throughout the vegetated areas (private land and National Parks / State Forest) of the region that are well away from human settlements and are currently unaccounted in the CSIRO National Flying-fox Camp Census.



Map 3: Known Flying-fox Camps throughout the Hunter & Central Coast region.

Ongoing research into Flying-fox behaviours appears to indicate that food shortages precede the abandonment of traditional camps, and the creation of new camps, and many more. Following the 2010 Flying-fox food shortage the number of Camps in Sydney increased from 7 to 22. Occupancy of these new camps did not appear to reduce when food supply increased, suggesting that once roosting and feeding patterns change, the roosting behaviour has been adapted and, in most cases, does not revert to previous behaviours. This has also been played out in the Hunter region.

Overall, the location and scale of Flying-fox Camps in NSW has changed significantly since 2002, when Camps were mostly found in the North of the State, in 2015 following both food shortages, and preferred food flowering events, the Flying-fox populations have spread both South and west, with a number of new camps being created inland, and on the NSW South Coast. Since 2015, most new Camps created have been in vegetated areas quite close to human populations.

Regional Flying-fox Foraging Preferences

In 2019, a report was prepared for Local Government NSW on the mapping of Flying-fox foraging habitat. This report incorporated information vital for Councils to assist in decision making surrounding habitat and foraging plantings. This report will assist Councils with land use planning and will assist Councils to, where possible, preserve areas of high value Flying-fox foraging vegetation, and potentially protect areas suitable for Flying-fox roosting that may have reduced conflict issues (i.e. not be located in close proximity to human settlements). It could also be used for species selection when councils are carrying out planting activities so that preferred foraging species can be planted away from residential areas. Although Flying-foxes are wild animals and it is not possible to predict where they will choose to roost, if there are no alternatives to the current Camp sites, it can be guaranteed the animals will not move on of their own accord.

Management Actions at other Flying-fox Camps

There are 83 known Flying-fox Camps across the region (NSW DPE, 2023), with occupation of the camps varying each season and across each year. This is an increase from the original 59 reported in the first Camp Management Plan. This could be due to increased awareness of Flying-foxes or it could be due to the splintering of larger camps into smaller ones.

The management of Flying-foxes across Councils is a prime issue at present, with councils in the region participating in the development of a Regional Flying-fox Strategy (project being led by the NSW Department of Planning and Environment), party to regional Flying-fox education projects, and participants in a National Australian Research Council Grant project seeking to “link” existing Flying-fox research and solidify knowledge about the species, its value to Australian ecology and how the species can best be supported.

All councils in the Hunter & Central Coast are currently proceeding on the basis that Flying-fox management activities will not include Level 3 actions. Culling of Flying-foxes is now illegal in New South Wales.

There is an active understanding amongst council staff and senior managers that any move to disperse Flying-foxes from one Camp will undoubtedly place stress on other Camps in the region, or more likely (based on research on previous dispersal activities) create a splinter Camp nearby and ultimately cause a new residential area to conflict with the Flying-foxes.

The region, local councils, DPE, Hunter Local Land Services, NSW Department of Industry – Lands and wildlife rehabilitators worked together to develop regionally consistent community engagement and education products in the hope that this can assist residents to understand why the Flying-foxes are in the region, how long they will stay on their migration, and ways that people can manage their property and level of interaction with them. Part of the engagement project will be to address previous negative media stories related to Flying-foxes. This community engagement tool called “Little Aussie Battlers” was assisted by the New South Wales Government through its Environmental Trust. The website for these products can be found here:

<https://littleaussiebat.com.au/Flying-fox-facts/>

3 Community Engagement

Muswellbrook Shire Council undertook a community engagement process in 2017 in the facilitation of the original Camp Management Plan, as detailed below. Council continues to undertake community engagement in the event of an influx of flying-foxes where numbers increase substantially or when Flying-foxes begin roosting in areas where they have not historically roosted.

3.1 Stakeholders and Interest Groups

There are a range of stakeholders who are directly or indirectly affected by the Flying-fox camp, or who are interested in its management. Stakeholders include those shown in Table 3.

Table 3: Stakeholders and Interest Groups in the camp and Plan

Stakeholder	Interest / Reported Impacts
Residents	Odour, noise and droppings
Business owners	Odour, noise and droppings
Indigenous community	Potential to use some LALC land for creation of flying-fox habitat.
Schools	Odour, noise and droppings
Hospitals	Odour, noise and droppings
Airports	Airport managers have a responsibility to reduce the risk of wildlife–aircraft strike. Scone airport is just outside a 20 km radius from the camp.
Equine facilities and vets	Equine facility managers and local vets should be aware of Hendra virus risk and appropriate mitigation measures. Where feasible, all horse owners within 20 km of the camp should be included in such communications.
Orchardists and fruit growers	Fruit growers may be impacted by Flying-foxes raiding orchards. While there are fruit trees within a 20 km radius, they are not being grown for commercial purposes.
Other/adjoining landholders; these may include government departments such as Crown Lands, Transport for NSW / Roads and Maritime Services, or neighbouring councils	Camp areas are a mix of council, Australian Rail and Track Corporation and crown land. Neighbouring councils of Singleton and Upper Hunter have also been impacted by flying-foxes.
Civic leaders and influencers (including local, state and federal politicians)	Muswellbrook Mayor Steven Reynolds – 60-82 Bridge Street, Muswellbrook 65493700 State MP Dave Layzell- 20 Bridge St, Muswellbrook NSW 2333 Phone: (02) 6543 1065 Federal MP Dan Repacholi - 3 Edward St, Cessnock NSW 2325 Phone:(02) 4991 1022
Local government	Local government has responsibilities to the community and environment of the area for which it is responsible in accordance with the Local Government Act 1993. Council is also responsible for administering local laws, plans and policies, and appropriately managing assets (including land) for which it is responsible.
Local Government NSW (LGNSW)	LGNSW is an industry association that represents the interests of councils in NSW.

Stakeholder	Interest / Reported Impacts
Department of Planning and Environment	DPE is responsible for administering legislation relating to (among other matters) the conservation and management of native plants and animals, including threatened species and ecological communities.
Commonwealth Department of the Environment (DoE) (relevant to camps with grey-headed Flying-foxes or other matters of national environmental significance)	DoE is responsible for administering federal legislation relating to matters of national environmental significance, such as the grey-headed Flying-fox and any other federally-listed values of the camp site.
Wildlife Rehabilitators and conservation organisations	Wildlife Rehabilitators and conservation organisations have an interest in Flying-fox welfare and conservation of Flying-foxes and their habitat.
Researchers/universities/CSIRO	Researchers have an interest in Flying-fox behaviour, biology, ecology, and conservation.

3.2 Engagement Methods

Effort was made to engage with the community during preparation of the original camp management plan in 2017 to:

- understand the issues directly and indirectly affecting the community.
- raise awareness within the community about Flying-foxes.
- correct misinformation and allay fears.

The types of engagement undertaken included:

- media (print, social media)
- brochures and other educational material
- website pages and links
- direct contact with adjacent residents including letters, brochures and emails
- shopping centre engagement with information stand
- Radio interview
- Flying-fox Engage online survey

Table 4: Details of Community Engagement Activities undertaken in the development of the original Muswellbrook Camp Management Plan

Date	Consultation Activity
November 2016	Brochure developed by Muswellbrook Shire Council Sustainability and Web design teams.
November 2016	Door knock in affected zone with brochures. 10 Face to Face conversations were held with 30 information brochures delivered. Brochures also left at Muswellbrook Library and Council's Administration building.
6 March 2017	Media Release to local newspaper
27 March 2017	Muswellbrook Chronicle's Facebook Page http://www.muswellbrookchronicle.com.au/story/4555892/help-wanted-for-flying-fox-plan/?cs=1487
28 March 2017	Radio interview on Upper Hunter ABC with Cecilia Connell.
31 March 2017	Article "Help Wanted for Flying-fox Plan" appeared on page 6 of Muswellbrook Chronicle.
11 April 2017	Community Engagement Stand at local shopping centre. Patrons were encouraged to ask questions and complete the Flying-fox Engage Survey.

Since the commencement of this Camp Management Plan, Council has undertaken many community engagement activities.

This includes but is not limited to:

- Ensuring information brochures about flying-foxes are available on Council's website and in Council owned locations such as the administration centre and libraries.
- Door knocking and letterbox drops in areas near Flying-fox camps.
- Regular media releases and engagement with the public when flying-fox numbers increase.
- Offering businesses and residents items such as car covers, washing line covers and the use of a Council owned gurney for the clean-up of flying-fox droppings.
- Running an annual program subsidizing the removal of Cocos Palms and Privet trees from resident's properties.

Council also obtained funding from the state government to assist local motels impacted by the location of flying-foxes. This included assistance with replacing outdoor furniture ruined by flying-fox droppings and property modification including replacing windows in rooms, so odour was reduced and installation of car port like structures over washing lines and other communal areas to prevent flying-fox droppings negatively impacting these areas.

3.3 Community Feedback on Management Options

The use of the Flying-fox Engage online survey was the key engagement tool used to enable Council to receive direct feedback from the community on their experiences living near Flying-foxes and the values they place on them to provide some insight to Council on the management actions they would find acceptable to be employed on site.

Flying-fox engage is an innovative engagement decision support system. The online Flying-fox engage consultation tool was launched in March 2017 and remained open for submissions until the end of May 2017. During this consultation period the Flying-fox Engage website received 51 valid submissions.

Flying-fox Engage is a relatively simple survey methodology that poses 12 questions to users. The response to these questions then produces a ranked list of preferred management options that reflect the values of the survey respondent. The list is then able to be manipulated by the user to manually reorder the preferred list.

The initial ranked list of preferred management options is influenced by a weighting applied to each management option that relates to ease of implementation, cost of implementation, and impact of implementation. The weighting was determined by a panel of experts convened by OEH, and confirmed by Council officers based on any specific issues that affect or influence the Camp at Muswellbrook. Collated responses to the questions are included in Table 5.

When funding becomes available this process should be undertaken again considering the actions that have been undertaken since the last survey.

Table 5: Collated responses to the questions posed in Flying-fox Engage

Question	Responses												
How important is it to you that the Flying-fox camp management option reduces the impact of noise and odour from Flying-foxes roosting at the camp on nearby residents?	<p>How important is it to you that the Flying-fox camp management option reduces the impact of the Flying-fox excrement on the property of nearby residents?</p> <table border="1"> <thead> <tr> <th>Importance Level</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Not important at all</td> <td>12%</td> </tr> <tr> <td>Slightly important</td> <td>4%</td> </tr> <tr> <td>Moderately important</td> <td>18%</td> </tr> <tr> <td>Very important</td> <td>12%</td> </tr> <tr> <td>Extremely important</td> <td>55%</td> </tr> </tbody> </table>	Importance Level	Percentage	Not important at all	12%	Slightly important	4%	Moderately important	18%	Very important	12%	Extremely important	55%
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How important is it to you that the Flying-fox camp management option does not move the Flying-fox camp to other areas that may also be near residents or businesses?	<p>How important is it to you that the Flying-fox camp management option ensures the risk of disease transmission remains low?</p> <table border="1"> <thead> <tr> <th>Importance Level</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Not important at all</td> <td>8%</td> </tr> <tr> <td>Slightly important</td> <td>10%</td> </tr> <tr> <td>Moderately important</td> <td>8%</td> </tr> <tr> <td>Very important</td> <td>12%</td> </tr> <tr> <td>Extremely important</td> <td>62%</td> </tr> </tbody> </table>	Importance Level	Percentage	Not important at all	8%	Slightly important	10%	Moderately important	8%	Very important	12%	Extremely important	62%
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How important is it to you that the Flying-fox camp management option has a low financial cost to residents living near the Flying-fox camp?	<p>How important is it to you that the Flying-fox camp management option has a low financial cost to Council ratepayers?</p> <table border="1"> <thead> <tr> <th>Importance Level</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Not important at all</td> <td>6%</td> </tr> <tr> <td>Slightly important</td> <td>10%</td> </tr> <tr> <td>Moderately important</td> <td>18%</td> </tr> <tr> <td>Very important</td> <td>6%</td> </tr> <tr> <td>Extremely important</td> <td>59%</td> </tr> </tbody> </table>	Importance Level	Percentage	Not important at all	6%	Slightly important	10%	Moderately important	18%	Very important	6%	Extremely important	59%
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Question	Responses																								
How important is it to you that the Flying-fox camp management option can be implemented quickly?	How important is it to you that the Flying-fox camp management option provides a long term solution?																								
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How important is it to you that the Flying-fox camp management option does not disrupt residents and businesses during implementation?	How important is it to you that the Flying-fox camp management option does not harm the Flying-foxes?																								
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How important is it to you that the Flying-fox camp management option does not degrade the natural or ecological values of the site?	How important is it to you that the Flying-fox camp management option does not change the visual appeal or recreational opportunities currently undertaken at the site?																								
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With all questions posed, most respondents suggested they were extremely important. It was only questions related to management actions not disrupting businesses and residents, not harming Flying-foxes, and not changing the visual appeal of the site that respondent's views changed slightly, and more respondents suggested these were less important.

Based on the responses to the questions, Flying-fox Engage was able to rank the various management options that match the responses. Details of the preferred management actions before and after re-ranking is allowed is provided in Table 6.

Table 6: Top 10 community ranked Management Options based on Flying-fox Engage responses

Rank	Initial Result (values based ranking)	Re-ranked result (emotion based ranking)
1	Land-use planning	Land-use planning
2	Subsidising property modification to reduce the impacts of Flying-foxes	Subsidising property modification to reduce the impacts of Flying-foxes
3	Provision of Flying-fox education and awareness programs	Health and safety guidelines to manage incidents related to the camp
4	Health and safety guidelines to manage incidents related to the camp	Guidelines for carrying out operations adjacent to camps
5	Guidelines for carrying out operations adjacent to camps	Provision of Flying-fox education and awareness programs
6	Subsidising services to reduce the impacts of Flying-foxes	Subsidising services to reduce the impacts of Flying-foxes
7	Do Nothing	Research to improve knowledge of Flying-fox ecology
8	Research to improve knowledge of Flying-fox ecology	Revegetate and manage land to create alternative Flying-fox habitat
9	Revegetate and manage land to create alternative Flying-fox habitat	Do Nothing
10	Routine maintenance to improve the condition of the site	Routine maintenance to improve the condition of the site

As shown in Table 6, initial values based ranking suggests the community were in favour of Level 1 actions, with the top 10 responses including low impact actions such as Council managing impacts through land use planning controls, provision of information to affected residents, appropriate management of the Camp site to reduce impacts (routing management) and possible subsidy to affected residents to reduce the impacts they experience. Even after re-ranking, all actions were the same (all Level 1) although in a slightly different order. Management options could be revised if another Flying-fox Engage Survey was undertaken.

When considering just those residents within 300m of Camps (directly impacted) based on information that could be extracted from the survey, the following preferred management list was created (see Table 7)

Table 7: Top 10 ranked Management Options based on Flying-fox Engage responses from directly affected residents from a survey undertaken in 2017.

Rank	Initial Result (values based ranking)	Re-ranked result (emotion based ranking)
1	Land-use planning	Land-use planning
2	Subsidising property modification to reduce the impacts of Flying-foxes	Subsidising property modification to reduce the impacts of Flying-foxes
3	Provision of Flying-fox education and awareness programs	Provision of Flying-fox education and awareness programs
4	Health and safety guidelines to manage incidents related to the camp	Health and safety guidelines to manage incidents related to the camp
5	Guidelines for carrying out operations adjacent to camps	Guidelines for carrying out operations adjacent to camps
6	Subsidising services to reduce the impacts of Flying-foxes	Subsidising services to reduce the impacts of Flying-foxes
7	Do Nothing	Research to improve knowledge of Flying-fox ecology
8	Research to improve knowledge of Flying-fox ecology	Do Nothing
9	Revegetate and manage land to create alternative Flying-fox habitat	Revegetate and manage land to create alternative Flying-fox habitat
10	Routine maintenance to improve the condition of the site	Routine maintenance to improve the condition of the site

Once again, there are largely only level one actions. Some level two actions are related to appropriate management of vegetation to reduce impacts on the properties. Management actions such as subsidies to affected residents were a prominent action, and unsurprising as these respondents are directly affected by the Camp's proximity to their homes.

Provision of items such as car covers and washing line covers to residents and businesses affected by the proximity of flying-foxes has been welcomed by both residents and businesses, it is recommended that this action continues.

In addition to providing preferential management action lists, respondents to the survey also answered several additional questions (see Table 8).

Table 8: Additional Flying-fox Engage Questions

Question	Responses	Number
Have you experienced the Flying-foxes in the camp?	No, I have not experienced the Flying-foxes	16
	Yes, Flying-foxes from the camp roost in trees that are next to or overhang my home	3
	Yes, Flying-foxes leaving and returning to the camp fly over my home	16
	Yes, Flying-foxes stop me from using the area, surrounding services or businesses	1
	Yes, I enjoy visiting the Flying-foxes	9
	Yes, my home is very close to the camp	2
Open ended Question and responses		
If you want to, you can comment on the Flying-fox camp management options we have explored or you can suggest other solutions.	<ul style="list-style-type: none"> I want long-term options like planting roosting and foraging trees outside of urban centers. stop bulldozing their habitat for coal mines stop destroying habitat for mining What would be the natural Flying-fox population balancing factors? I hate them stop destroying their habitat with ...coal mines and intensive agriculture ... 	
If you want to, please provide comments about this Flying-fox camp	<ul style="list-style-type: none"> Harmless. Concerned about increase in numbers. Noise and smell. Have to deal with droppings on vehicle, house and concrete. Do not want another Singleton Park experience It is relatively small and only present for part of the year. leave them there stop destroying habitat for mining I think that they should be moved from the urban area to another suitable site I have seen the destruction they have made in the community in several locations along Muscle Creek and the Hunter River Near hospital Hate them , whatever works Not bothering me Very smelly and very noisy leave it alone 	

The responses to these questions provided even greater understanding to the responses, as only 3 respondents (6%) had direct impact from roosting Flying-foxes, and 16 respondents (31%) experience Flying-foxes flying over their homes as they head out and return from foraging. The implication to this is over two thirds of respondents have no direct impact from the presence of flying-foxes and are just interested in the management of the species. Given the lack of direct conflict experienced by the survey respondents, it is unsurprising that Level 1 actions were the ones included in the preference lists.

4 Management Opportunities

4.1 Site-specific analysis of camp management options

The NSW Flying-fox Camp Management Policy 2015 and Camp Management Plan Template 2016 provide details on acceptable management activities to manage and mitigate human / bat conflict at Camp Sites. The management actions are grouped into three levels, as discussed following.

Routine camp management actions (Level 1 actions)

Routine camp management actions should be clearly identified as Level 1 camp management actions in the camp management plan.

These include:

- removal of tree limbs or whole trees that pose a genuine health and safety risk, as determined by a qualified arborist.
- weed removal, including removal of noxious weeds under the Noxious Weeds Act 1993 or species listed as undesirable by a council.
- trimming of under-storey vegetation or the planting of vegetation
- minor habitat augmentation for the benefit of the roosting animals
- mowing of grass and similar grounds-keeping actions that will not create a major disturbance to roosting Flying-foxes.
- application of mulch or removal of leaf litter or other material on the ground.

Creation of buffers (Level 2 actions)

Creation of buffers can be effective as management actions to nudge Flying-fox populations away from urban settlements. The intention is to create a physical or visual separation from the camp and actively manage vegetation structure and composition to discourage Flying-foxes from roosting close to built up areas.

Actions include:

- clearing or trimming canopy trees at the camp boundary to create a buffer.
- disturbing animals at the boundary of the camp to encourage roosting away from human settlement.

Camp disturbance or dispersal (Level 3 actions)

Camp dispersal is an action that aims to intentionally move entire camps from one location to another by clearing vegetation or dispersing animals through disturbance by noise, water, smoke or light.

Camp dispersal can remove impacts on local communities and is supported by this policy. However, camp dispersal is challenging for several reasons:

- it can be expensive and can have uncertain outcomes.
- dispersal may result in new residential areas being impacted rather than resolving the issue. Past disturbances in Australia have sometimes failed to remove Flying-foxes from the area or have resulted in Flying-foxes relocating to other nearby areas where similar community impacts have occurred.
- attempts to disperse camps are often contentious.
- disturbing Flying-foxes may have an adverse impact on animal health.
- the cumulative impacts of Flying-fox camp dispersals may negatively impact on the conservation of the species and the ecosystem services Flying-foxes provide.

Table 9 provides details on the various management options available, an assessment of cost and effectiveness of the action to address the various conflict issues. The Table also provides details of the assessment undertaken by Council as to the suitability of the actions to be included in the Camp Management Plan. Section 4.2 provides details of the management actions that will be undertaken through the implementation of the Camp Management Plan.

Table 9: Analysis of management options

Management Option	Relevant Impacts	Cost	Advantages	Disadvantages	Suitability Determination
Level 1 Actions					
Education and awareness programs	Fear of disease Noise Smell Faecal drop	\$	Low cost, promotes conservation of FFs, contributes to attitude change which may reduce general need for camp intervention, increasing awareness and providing options for landholders to reduce impacts can be an effective long-term solution, can be undertaken quickly, will not impact on ecological or amenity value of the site.	Education and advice itself will not mitigate all issues, and may be seen as not doing enough.	This action was deemed suitable. Responses from Flying-fox Engage indicated a strong desire from the community for more information on Flying-foxes.
Property modification (e.g. car cover, pool cover, clothesline cover, air conditioners, double glaze windows, etc.)	Noise Smell Faecal drop Health/wellbeing Property devaluation Lost rental return	\$-\$\$	Property modification is one of the most effective ways to reduce amenity impacts of a camp without dispersal (and associated risks), relatively low cost, promotes conservation of FFs, can be undertaken quickly, will not impact on the site, may add value to the property.	May be cost-prohibitive for private landholders, unlikely to fully mitigate amenity issues in outdoor areas.	This action was deemed suitable for residents adjacent to the Camp – to be limited to car covers, clothesline covers, and pool covers. Individual motels affected by Flying-foxes can put proposal to Council to be considered pending available budget. In the past this action has included the replacement of air conditioners, outdoor furniture and windows. It has also included the construction of carport like structures to cover laundry.
Fully-fund/subsidise property modification	Noise Smell Faecal drop Health/wellbeing Property devaluation Lost rental return	\$-\$\$	Potential advantages as per property modification, but also overcomes issue of cost for private landholders.	Costs to the land manager will vary depending on the criteria set for the subsidy including proximity to site, term of subsidy, level of subsidy. Potential for community conflict when developing the criteria and may lead to expectations for similar subsidies for other issues.	This action has limited applicability due to funding constraints. Should funding become available, this option can be further explored. This was the second preference from Flying-fox Engage
Service subsidies (e.g. rate rebates, access to water gurney, etc.)	Noise Smell Faecal drop Health/wellbeing Property devaluation Lost rental return	\$-\$\$	May encourage tolerance of living near a camp, promotes conservation of FFs, can be undertaken quickly, will not impact on the site, would reduce the need for property modification.	May be costly across multiple properties and would incur ongoing costs, may set unrealistic community expectations for other community issues, effort required to determine who would receive subsidies.	This action was deemed suitable. Access to a water gurney could be made available to residents affected by flying-fox droppings with preference given to those within 300m of roosting sites.

Management Option	Relevant Impacts	Cost	Advantages	Disadvantages	Suitability Determination
Routine camp management	Health/wellbeing	\$	Will allow property maintenance, likely to improve habitat, could improve public perception of the site, will ensure safety risks of a public site can be managed. Weed removal has the potential to reduce roost availability and reduce numbers of roosting FFs. To avoid this, weed removal should be staged and alternative roost habitat planted, otherwise activities may constitute a Level 3 action.	Will not generally mitigate amenity impacts for nearby landholders.	This action was deemed suitable
Provision of artificial roosting habitat	All	\$-\$	If successful in attracting FFs away from high conflict areas, artificial roosting habitat in low conflict areas will assist in mitigating all impacts, generally low cost, can be undertaken quickly, promotes FF conservation.	Would need to be combined with other measures (e.g. buffers/alternative habitat creation) to mitigate impacts, previous attempts have had limited success.	This action was not deemed suitable
Protocols to manage incidents	Health/wellbeing	\$	Low cost, will reduce actual risk of negative human/pet-FF interactions, promotes conservation of FFs, can be undertaken quickly, will not impact the site.	Will not generally mitigate amenity impacts.	This action will be included as a risk management response by all responsible land managers
Research	All	\$	Supporting research to improve understanding may contribute to more effectively mitigating all impacts, promotes FF conservation.	Generally cannot be undertaken quickly, management trials may require further cost input.	This action was deemed more suitable to be included in a regional strategy or plan
Appropriate land-use planning	All	\$	Likely to reduce future conflict, promotes FF conservation. Identification of degraded sites that may be suitable for long-term rehabilitation for FFs could facilitate offset strategies should clearing be required under Level 2 actions.	Under current legislation, the environmental impact of new development, including mines, must assess impact on threatened species like flying-foxes. Will not generally mitigate current impacts, land-use restrictions may impact the landholder.	This action was deemed suitable
Property acquisition	All for specific property owners Nil for broader community	\$\$\$	Will reduce future conflict with the owners of acquired property.	Owners may not want to move, only improves amenity for those who fit criteria for acquisition, very expensive.	This action was not deemed suitable due to excessive cost, and limited concern of impacts from neighbouring residents.

Management Option	Relevant Impacts	Cost	Advantages	Disadvantages	Suitability Determination
Do nothing	Nil	Nil	No resource expenditure.	Will not mitigate impacts and unlikely to be considered acceptable by the community.	Due to commitment of Council, this action is not suitable.
Level 2 Actions					
Buffers through vegetation removal	Noise Smell Health/wellbeing Property devaluation Lost rental return	\$-\$\$	Will reduce impacts, promotes FF conservation, can be undertaken quickly, limited maintenance costs.	Will impact the site, will not generally eliminate impacts, vegetation removal may not be favoured by the community.	Only weed species will be considered for removal (such as privet and willows)
Buffers without vegetation removal	Noise Smell Health/wellbeing Damage to vegetation Property devaluation Lost rental return	\$\$	Successful creation of a buffer will reduce impacts, promotes FF conservation, can be undertaken quickly, options without vegetation removal may be preferred by the community.	May impact the site, buffers will not generally eliminate impacts, maintenance costs may be significant, often logistically difficult, limited trials so likely effectiveness unknown.	Could be undertaken but needs time to become effective.
Level 3 Actions					
Nudging	All	\$\$-\$\$\$	If nudging is successful, this may mitigate all impacts.	Costly, FFs will continue attempting to recolonise the area unless combined with habitat modification/deterrents.	Not deemed suitable due to excessive cost.

Management Option	Relevant Impacts	Cost	Advantages	Disadvantages	Suitability Determination
Passive dispersal through vegetation management	All at that site but not generally appropriate for amenity impacts only (see Section 8)	\$\$– \$\$\$	If successful can mitigate all impacts at that site, compared with active dispersal: less stress on FFs, less ongoing cost, less restrictive in timing with ability for evening vegetation removal.	Costly, will impact site, risk of removing habitat before outcome known, potential to splinter the camp creating problems at other locations (although less than active dispersal), potential welfare impacts, disturbance to community, negative public perception, unknown conservation impacts, unpredictability makes budgeting and risk assessment difficult, may increase disease risk (see Section 7.1), potential to impact on aircraft safety.	Not deemed suitable due to excessive cost and the likelihood of shifting the problem onto another section of the community, is high
Passive dispersal through water management	All at that site but not generally appropriate for amenity impacts only (see Section 8)	\$\$– \$\$\$	Potential advantages as per with passive dispersal through vegetation removal, however likelihood of success unknown.	Potential disadvantages as per passive dispersal through vegetation removal, however likelihood of success unknown.	Not deemed suitable for the site as on the Hunter River and cannot change water availability
Active dispersal	All at that site but not generally appropriate for amenity impacts only (see Section 8)	\$\$\$	If successful can mitigate all impacts at that site, often stated as the preferred method for impacted community members.	May be very costly, often unsuccessful, ongoing dispersal generally required unless combined with habitat modification, potential to splinter the camp creating problems in other locations, potential for significant animal welfare impacts, disturbance to community, negative public perception, unknown conservation impacts, unpredictability makes budgeting and risk assessment difficult, may increase disease risk (see Section 7.1), potential to impact on aircraft safety.	Not deemed suitable due to excessive cost and limited likelihood of success.

Management Option	Relevant Impacts	Cost	Advantages	Disadvantages	Suitability Determination
Early dispersal before a camp is established at a new location	All at that site	\$\$– \$\$\$	Potential advantages as per other dispersal methods, but more likely to be successful than dispersal of a historic camp.	Potential disadvantages as per other dispersal methods, but possibly less costly and slightly lower risk than dispersing a historic camp. Potential to increase pressure on FFs that may have relocated from another dispersed camp, which may exacerbate impacts on these individuals.	Not applicable to this Camp, however the plan should address the potential likely sites that may be established in the future.

4.2 Planned Management Approach

The planned management approach included in Table 10 have been determined after consideration of community views, ecological requirements, and legislative / policy controls. The Actions have been grouped into the major thematic areas of:

- Governance
- Routine Management
- Infrastructure
- Restoration & Rehabilitation
- Monitoring
- Flying-fox Species Management
- Resident Assistance
- Community Education

The actions included in Table 10 are directly linked to the management actions discussed in Table 9, but have been directly tailored to actions that will be planned for implementation at the Flying-fox Camp, depending on conditions and funding provision. Responsibility for the implementation of these actions is indicated in the table.

Table 10: Management Actions

Action ID	Issue	Actions & guidelines	Responsibility	Trigger / Catalyst for commencement	Budget
1. Resident Assistance					
1.1	Car / Clothes-line / swimming pool covers	Provision of these items based upon selection criteria during times of high population occupancy	Muswellbrook Shire Council	Items available on request from Council. Preference given to but not limited to those who live within a 300 metre of the camp.	Covers for cars, clotheslines, and swimming pools. \$5000 per annum Gerni for hire – 2 already purchased \$400.
1.2	Assistance with costs for tree removal.	Will only assist with the removal of Privet or Cocos Palms. Preference given to those living near a camp but all properties within the LGA will be considered.	Muswellbrook Shire Council	Will be offered where budget is available.	Between \$5000-10000
1.3	Financial assistance with Biodiversity Conservation License.	Resident / business responsible for development of licence, and required to ensure it complies with the intent of the CMP	Muswellbrook Shire Council	Only applicable to properties within 300m of Camp boundary	Free of charge to residents who live within 300 m radius of the camp. Application costs to be covered by Council.

1.4	Access to gurney / water cleaners to remove bat excrement	Actioned upon request from residents with affected properties. Whilst preference is given to residents within a 300 m radius of a camp, it is not limited to them. Any resident in the shire can access the gurney. There is yet to be an occasion when the gurney cannot be loaned.	Muswellbrook Shire Council	A phone call from an affected resident. Residents within a 300 m radius from the boundary of a camp have received a letter from Council informing them of this access. However, gurney available to all residents in the shire, with preference given to those who live within a 300 metre radius of the camp.	Purchased with grant money from LGNSW. The grant was given to assist residents impacted by the presence of flying-foxes.
2. Community Education					
2.1	Advice on backyard vegetation management	Advice on which trees residents may wish to remove (introduced or naturalised foraging species such as Cocos Palms, Poplars and Silky Oaks) Advice on trees to plant if residents want to encourage bats to forage in their properties. Advice on native fragrant trees that will assist to screen smells from Camp	Muswellbrook Shire Council – Sustainability Officers or Ecologist.	Enquiry from resident.	In kind- flying-fox recurring budget.
2.2	Health and disease management	Website was developed to deliver regional education on health and disease management. "Little Aussie Battlers" can be found at: https://littleaussiebat.com.au/	Muswellbrook Shire Council Hunter Joint Organisation of Councils Department of Planning and Environment Hunter Local Land Services	Was delivered through regional Grant funded project	Funded by NSW Environmental Trust for 2017-19
2.3	Lifecycle and nomadic timing of bat arrival	Website was developed which provides consistent regional information regarding Flying-fox nomadic behaviour.	Muswellbrook Shire Council Hunter Joint Organisation of Councils Department of Planning and Environment Hunter Local Land Services	Was delivered through regional Grant funded project	Funded by NSW Environmental Trust for 2017-19
2.4	Implement Regional Flying-fox educational kit	Community education kit was developed to assist residents to understand Flying-fox movement patterns and reduce conflicts with Camps	Muswellbrook Shire Council Hunter Joint Organisation of Councils Department of Planning and Environment Hunter Local Land Services	Was delivered through regional Grant funded project	Funded by NSW Environmental Trust for 2017-19

2.5	How to manage dead or injured Flying-foxes	Information on who to call when sick, injured or dead Flying-foxes are seen	Muswellbrook Shire Council	Sustainability staff at Council have contacted wildlife rescue groups in Muswellbrook to confirm their ability to care for injured flying-foxes/ abandoned flying-foxes. Still need a plan in case of mass deaths such as those seen in Singleton.	NA
3. Restoration & Rehabilitation					
3.1	Encourage camping away from residential and business uses	Assessment of vegetation condition improvement in core of site, to make boundary less attractive for roosting.	Muswellbrook Shire Council	When budget is available	NA
3.2	Rehabilitation of damaged areas (from Flying-fox occupation)	Removal of damaged vegetation and establishment of replacement vegetation.	Muswellbrook Shire Council	When 30000 animals arrive and then depart from the area with available budget.	As Required
3.3	Creation of wider vegetated areas in the riparian zone, away from residential properties	Planting of appropriate native species in the riparian zone to create Flying-fox roosting habitat	Muswellbrook Shire Council	Part of Riparian Planning	Grant funding
3.4	Plant appropriate foraging species in areas of the Camp away from residential properties	strategically plant endemic foraging habitat trees away from residential areas along the southern side of the reserve.	Muswellbrook Shire Council	Part of Riparian Planning	With available budget
3.5	Manage buffer zone to reduce conflict between residents and Flying-foxes	Planting of native fragrant trees and shrubs adjacent to dwellings to reduce the noise and smell directly behind	Muswellbrook Shire Council	Part of Riparian Planning	With available budget
3.6	Weed Control	Noxious and environmental weed control throughout the Camp area - targeting exotic tree species known to act as potential roosting and foraging habitat (e.g. Camphor Laurel as most on site are immature or have not reached maximum height)	Muswellbrook Shire Council	Part of Riparian Planning	With available budget
3.7	Dangerous Trees	Assessments for potentially dangerous trees	Muswellbrook Shire Council	30000 animals arrive and then depart the area.	As Required
3.8	Buffer Maintenance	Create buffer to residential and business uses	Muswellbrook Shire Council	30000 animals arrive and then depart the area.	With available budget
4. Flying-fox Species Management					
4.1	Flying-fox rehabilitators response	Respond to calls of injured or dead Flying-foxes	Flying-fox rehabilitators	As required	NA

4.2	Rehabilitators alerts (notification of upcoming events, e.g. management activities, heat stress, etc.)	Council to notify rehabilitators of any events that will impact on Camp Site or Flying-fox population.	Flying-fox rehabilitators	As required	NA
5. Monitoring					
5.1	Flying-fox Census	Quarterly Flying-fox animal counts to assist with determining likely national population	CSIRO DPE Muswellbrook Shire Council	Quarterly monitoring Monthly monitoring in the Hunter/Central Coast region.	CSIRO funded by Commonwealth Government Undertaken and funded in kind by Muswellbrook Shire Council.
5.2	Wildlife / Rehabilitation rehabilitators data collection	Collection and provision of count information, and other data collected when responding to calls	Wildlife / Rehabilitation rehabilitators	State of environmental reporting	NA
5.3	Hunter Bird Observers data collection	Collection and provision of count information, and other data collected	Hunter Bird Observers	As reported	NA
5.4	Muswellbrook Shire Council management data	Collection and dissemination of data related to Flying-foxes, and vegetation that may impact on local or regional Flying-fox populations.	Muswellbrook Shire Council	Quarterly monitoring as part of CSIRO monitoring plus extra monitoring if numbers increase to 30000.	NA
6. Governance					
6.1	Land Use Planning	Review new development applications for impact on threatened species	Muswellbrook Shire Council	As per legislation	Recurrent budget activity
6.2	Camp Management Plan review	Review currency and suitability of CMP	Muswellbrook Shire Council	Review in 5 years / when FF numbers increase past current capacity	Recurrent budget activity
6.3	Protocol Development	Fire	Rural Fire Service	Guidelines developed and on Department of Planning and Environment website. See Helping flying-foxes in emergencies Code of practice for injured, sick and orphaned Flying-foxes (nsw.gov.au) Heat stress in Flying-fox camps NSW Environment and Heritage Hendra virus (nsw.gov.au)	Developed, no recurring budget required.
		Heat Stress	Department of Planning and Environment / Wildlife Rehabilitators		
		Community Response to dead / injured animals	Wildlife Rehabilitators		
		Equine	Hunter Local Land Services		

5 Assessment of Impacts to Flying-foxes

5.1 Flying-fox Habitat to be affected

Based on the actions included in Table 10 it is expected there would be little to no negative impacts on the Flying-fox population that utilises the Muswellbrook Flying-fox Camp.

Most actions approved in this Camp Management Plan are considered Level 1 (routine management actions), as the Land Managers have determined the cost and ongoing issues with drastic management actions including nudging, dispersal or culling are inappropriate for the Muswellbrook Camp and will not be undertaken whilst this current Camp Management Plan is in force.

It is expected that if Council is able to secure restoration and rehabilitation funding, the quality and condition of the site will increase, and encourage Flying-foxes to move away from the margins of the site and nearby residential properties. These measures can be implemented at a time when Flying-foxes are not present, and therefore will not disturb or harm individual Flying-foxes.

5.2 Assessment of Impacts to Other Threatened Species or Communities

All required Environmental Assessments will be conducted by Council as part of its normal Environmental Assessment Legislative Responsibilities, prior to works being undertaken.

6 Evaluation and Review

The Plan will have a scheduled review annually, which will include evaluation of management actions against Actions included in Table 10.

The following will trigger a reactive review of the Plan:

- Flying-fox population in excess of 30,000 animals (counted utilising approved CSIRO monitoring methodology) for a period of 6 months or more.
- changes to relevant policy/legislation
- new management techniques becoming available
- outcomes of research that may influence the Plan
- incidents associated with the camps.

Results of each review will be included in reports to Council, and the NSW DPE.

If the Plan is to remain current, a full review including stakeholder consultation and expert input will be undertaken in the final year of the Plan's life prior to being re-submitted to NSW DPE.

7 Plan administration

7.1 Monitoring of the camp

Muswellbrook Shire Council will continue to assist the CSIRO to undertake their quarterly Flying-fox census activities. Wildlife Rehabilitators can access the site as required to attend to the animals, and record information of relevance to Council, the Department of Planning and Environment and CSIRO. Monthly counts will be undertaken as a part of the Department of Planning and Environment Threatened Species Project if time and workload of staff permits. These counts will be made available to the Threatened Species Team at the Department of Planning and Environment.

Additional monitoring and data collection will occur as opportunities arise.

7.2 Reporting

Quarterly reports (following publication of the CSIRO Census Count) will be developed by Muswellbrook Shire Council providing details on management activities at the site, and the Flying-fox population during the quarter.

7.3 Funding commitment

Muswellbrook Shire Council has a responsibility to ensure funding is available to undertake management actions included in this plan. The Plan will operate from 2023 – 2027, forward planning for management actions should be included in each responsible agencies annual budgets development.

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**10.1.4. Muswellbrook Connect**

Attachments:	Nil
Responsible Officer:	Sharon Pope - Director - Planning & Environment
Author:	Michael Brady (Sustainability Officer - Waste)
Community Plan Issue:	<i>2 - Social Equity and Inclusion</i> <i>3 - Environmental Sustainability</i> <i>4 - Cultural Vitality</i> An inclusive and interconnected community where everyone enjoys full participation.
Community Plan Goal:	An environmentally sensitive and sustainable community. A culturally rich and diverse Community with strong identities, history, and sense of belonging.
Community Plan Strategy:	1.4.2 - Advocate for increased medical services in the Shire. 2.1.3 - Consider and deliver social inclusion principles across Council functions. 2.2.1 - Advocate for the needs of people in social housing. 3.4.1 - Continue Community Education Program on water, waste, and energy reduction. 3.4.1.1 - Assist Council, households, and businesses to manage waste effectively and use water and energy efficiently. 6.1.2.1 - Develop and implement a Community Engagement Strategy

PURPOSE

To provide Council with an update on the progress of the Muswellbrook Connect program.

OFFICER'S RECOMMENDATION

Council NOTES the information contained in this report.

Moved: _____ **Seconded:** _____

BACKGROUND

At the 28 June 2022 Ordinary Council meeting, staff submitted a report providing information regarding the Muswellbrook Connect program. The key objective of the Muswellbrook Connect program is to support positive partnerships on all aspects of sustainability, including social and economic outcomes.

The Muswellbrook Connect program is not a forum for community groups to ask Council to solve issues, but is intended as a way for groups to work together to achieve positive outcomes for community benefit. The main purpose of the program is to promote positive connections between groups, as depicted below. As a result of the program, positive



connections have been made by members of the group.



A Muswellbrook Connect community event was proposed to take place in March 2020 as a joint initiative between 'Muswellbrook Healthy and Well' and Muswellbrook Shire Council. Workshops and demonstrations were organised, and schools, preschools and 15 community groups from across the Shire were registered to attend. Due to Covid, however, Council's Sustainability Unit was forced to reconsider the strategy for engaging with the community, and began a series of online videos and events which saw an increase in interest around sustainability and how engage in sustainable activities around the home.

It is proposed that similar events be held in the future.

CONSULTATION

In establishing the Muswellbrook Connect program, a strong effort was made to ensure broad community participation. For example:

- Letters were sent to 32 community groups;
- Media releases
- Hunter River Times article
- Several Facebook posts; and
- An Invitation was made to all Councillors and relevant Council staff.

Updates on the Program are regularly provided to Council in the monthly Planning, Environment and Regulatory Services information report.



REPORT

The most recent Muswellbrook Connect meeting was held on 24 May 2023. Ten representatives from eight community groups attended. Two of the matters discussed at the meeting were:

1. Tidy Towns Awards.

If at least four community groups nominate for an award, Muswellbrook is eligible to nominate for the overall Tidy Towns award. Winning a Tidy Towns award would help promote the work groups in our community are achieving and will contribute to an enhanced sense of community pride.

The most effective way for this outcome to be achieved is not for Council to submit applications for awards, but for community groups to nominate projects that have involved Council. This would reflect positively on Council by demonstrating genuine community engagement.

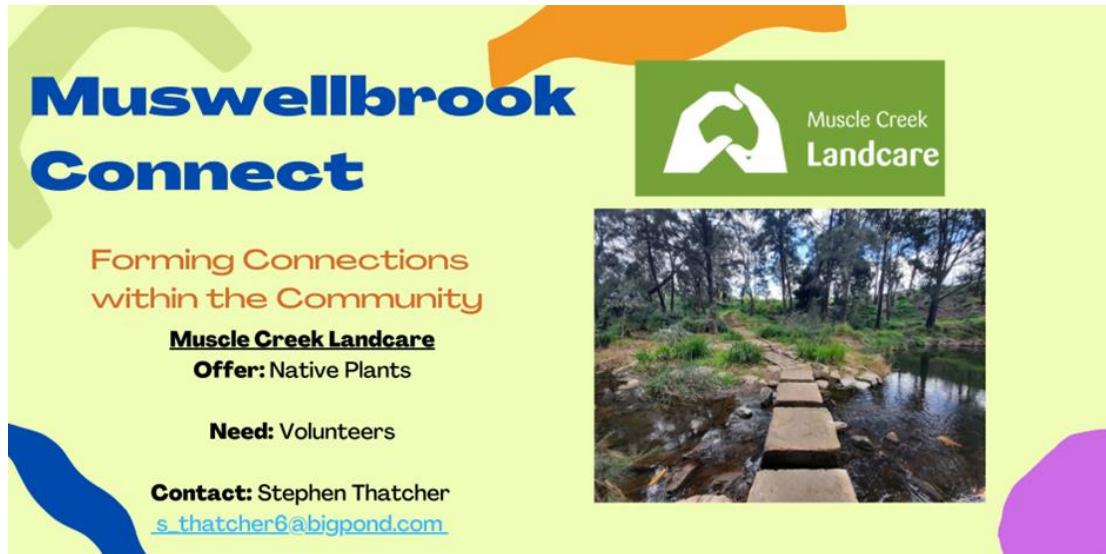
2. Discussions on promotion of groups and health services.

To date, 18 groups have expressed an interest in the program. The key issues considered by the group so far are:

- Groups wanting to promote their services to the wider community.
- Groups looking for more experiences for their students/participants.
- Improving health outcomes in our community, particularly in relation to mental health.

A university work experience student helped develop material that could be used in the future to promote these groups. Two examples are provided below:





Council Staff would also like to run a future Muswellbrook Connect event similar to the one planned for March 2020.

OPTIONS

Council could choose the following options:

1. Council notes the report and the progress of the Muswellbrook Connect program.
2. Council resolves to discontinue involvement in the Muswellbrook Connect program.
3. Council makes suggestions on how the Muswellbrook Connect program could be improved.

CONCLUSION

The Muswellbrook Connect program is a way for community groups to work together for the benefit of the community. The Community Connect program is supported by Council, but is not controlled by Council.

SOCIAL IMPLICATIONS

The Muswellbrook Connect program has considerable positive potential to tackle social issues in the community. The program is aimed at assisting to help foster social cohesion and a sense of pride in the community.

FINANCIAL IMPLICATIONS

The main budget implication is the cost of holding meetings. Any other budget requirements will be required to be funded through Council's approved Sustainability budget.

POLICY IMPLICATIONS

Not applicable.

STATUTORY IMPLICATIONS

Not applicable.

LEGAL IMPLICATIONS

Not applicable.



OPERATIONAL PLAN IMPLICATIONS

Community Strategic Plan (CSP) Goal 2: An inclusive and interconnected community, where everyone enjoys full participation.

CSP Strategy 2.1: Improve the affordability, liveability, and amenity of Muswellbrook Shire communities.

CSP Strategy 2.2: Promote social cohesion and improve connectivity and the delivery of social services within the Shire.

CSP Goal 3: An environmentally sensitive and sustainable community.

CSP Strategy 3.4: Support initiatives which reduce the community's impact on the environment.

Delivery Program Activity 3.4.1 Continue Community Engagement Program on water, waste, and energy efficiency.

Operational Plan Action 3.4.1.1 Assist Council, households, and businesses to manage waste effectively and use water and energy efficiently.

CSP Goal 4: A culturally rich and diverse Community with strong identities, history, and sense of belonging.

CSP Goal 6: Collaborative and responsive leadership that meets the expectations and anticipates the needs of the community.

CSP Strategy 6.1: Enable genuine and well-informed community participation in decision making.

Delivery Program Activity 6.1.3 Enhance Council's communication with the community to build awareness and understanding of Council's activities and Community needs.

RISK MANAGEMENT IMPLICATIONS

Not applicable.

COMMUNITY CONSULTATION/MEDIA IMPLICATIONS

Promoting the services and needs of groups within the Muswellbrook Connect program will assist Council to foster strong, positive relationships with the Shire's valued community groups and the wider community.

**10.1.5. Community Survey - FOGO introduction****Co**

Responsible Officer:	Sharon Pope - Director - Planning & Environment
Author:	Michael Brady (Sustainability Officer - Waste), Joann Polsen (Senior Coordinator Waste Operations)
Community Plan Issue:	3 - <i>Environmental Sustainability</i>
Community Plan Goal:	Collaborative and responsive leadership that meets the expectations and anticipates the needs of the community.
Community Plan Strategy:	<ul style="list-style-type: none">3.4.1 - Continue Community Education Program on water, waste and energy reduction.3.4.3 - Advocate and support Circular Economy principles and Waste Management Initiatives.<ul style="list-style-type: none">3.4.3.1 - Assist Council, households and businesses to manage waste effectively and use water and energy efficiently.3.4.3.2 - Facilitate the introduction of FOGO collection and processing for households and businesses in the Shire.

PURPOSE

To submit for Council's information the results of the recent Community Waste Survey in relation to the rollout of a new Food Organics Garden Organics service.

OFFICER'S RECOMMENDATION

Council notes the information contained in the report.

Moved: _____ **Seconded:** _____

BACKGROUND

In September 2021, a Food Organics Garden Organics (FOGO) Community Education and Engagement Plan (CEEP) was developed for Council. The aim of the CEEP was to guide communications and engagement in support of the transition from a kerbside Garden Organic (GO) only service to a kerbside FOGO service.

One of the initiatives in the CEEP was to undertake a Community Waste Survey with the aim of building a profile of community knowledge, attitudes and behaviours regarding waste management, as well as satisfaction with Council's waste services and facilities. The survey would also provide an opportunity to introduce the proposed FOGO service and assess the community's appetite for FOGO and any concerns regarding the service.

The results of the survey will be used to help tailor the community engagement and education methods and messages. A tailored FOGO education and engagement program will commence at least 12 months ahead of the FOGO collection Commencement Date.



CONSULTATION

Communications and Media Coordinator

Digital Media Officer

EnviroCom Australia

J R Richards & Sons

Manager Waste Operations

REPORT

The results of the Community Waste Survey 2022 are provided in Attachment A. Responses relating to organics start on page 11. A summary is provided below.

Community perceptions of a kerbside FOGO service

Most respondents' comments in relation to the proposed introduction of a kerbside FOGO service were positive. 62% of respondents indicating that they would be very likely or likely to use a kerbside FOGO service for both food and garden waste. Only 11% of respondents indicated that they would be unlikely or very unlikely to use this service for both food and garden waste.

Concerns raised regarding the FOGO Service

Concerns raised regarding the FOGO service were predominantly related to odour, which could be partly attributed to the perception that a FOGO service would be serviced on a fortnightly basis (as the Garden Organics service currently is).

There were also some concerns around changes to the collection frequency of the other kerbside waste services once a FOGO service is introduced.

There were comments about the size of the red lidded bin. 59% of respondents indicated that their 140L general waste bins were between 51% full to overflowing at the time of weekly collection and general waste was the stream most frequently recorded as being presented to kerbside overflowing (20% of respondents).

However, many respondents indicated their preference to have a weekly green lidded bin collection due to the capacity of this bin.

It will help to remind residents that the introduction of a kerbside FOGO service does not mean a change to the volumes of waste being generated, rather it is providing additional opportunities to recover valuable resources and divert waste from landfill.

38% of respondents identified that their garden organics bin was either between 76%-100% full or overflowing when presented to the kerbside for collection. With the introduction of FOGO and the transition to a weekly service, this may help to alleviate some green lid bin capacity issues currently being experienced by some residents.

**Table 1. Survey question 28 from the Community Waste survey**

28. Council will be introducing a FOGO (Food Organics Garden Organics) service in the future where all food waste as well as garden waste can be placed into the green lid bin and the bin will be collected weekly. How likely will you be to use this service for food waste and garden waste material?

	N=551	
Very likely	226	41%
Likely	115	21%
Neutral	41	7%
Unlikely	20	4%
Very unlikely	36	7%
I'd need to know more about the service before I decide	77	14%
I will only use the service for garden waste	31	6%
Other <i>'I am happy to use this system, however I still require general waste to be emptied weekly, as I have dirty nappies / sanitary products that require to be emptied as there is already maggots when emptied weekly.'</i> <i>'Would like to look into getting worm farm'</i>	5	1%

The survey indicates factors that may affect uptake and that need to be addressed in the Community Engagement and Education Plan (CEEP).



29. What factors might prevent you from using your green lid bin for food as well as garden waste? Multiple responses permitted.

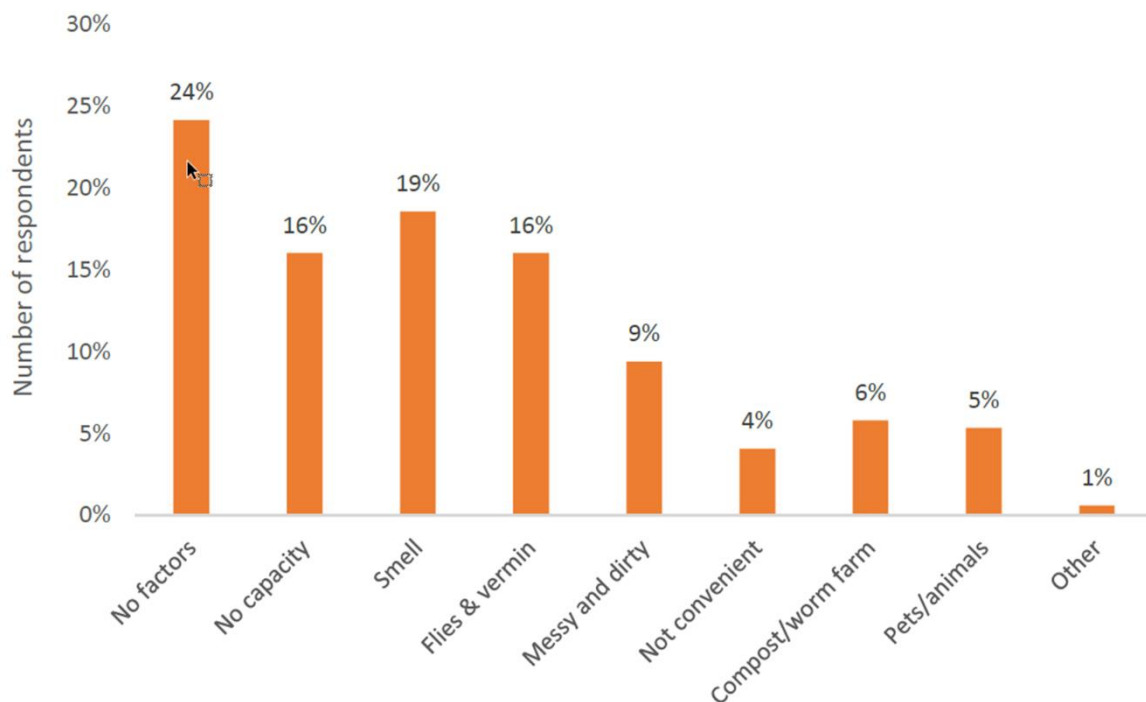


Figure 1. Survey question 29 from the Community Waste survey.

Comments on Potential Solutions

a) Change in collection frequency

With the introduction of FOGO services, up to 37.5% of the waste that residents currently put in their red-lid bins will move into the FOGO green-lid bin. This proportion of waste is the most putrescible, that is, odour generating material. Therefore, it is essential that the green lid bin be collected and processed promptly.

With material transferred into the FOGO bin, the volume and odour of waste in the red lid bin will be reduced. To achieve the maximum economic and environmental advantage of the service, the collection frequency is as follows.

- Green-lid FOGO bin collected weekly.
- Red-lid general waste bin collected fortnightly.
- Yellow-lid recyclables bin collected fortnightly.

This collection frequency is typical for other councils already operating FOGO services.



Figure 2: Graphic showing the transfer of waste from red lid to green lid making the change in frequency of collection necessary.

b) Size of red lid bin

Council's red lid residual waste bin is 140 litres capacity and was introduced at the commencement of Council's 3-bin collection system in 2004-05. 140L bins and smaller for residual waste are common across NSW and Victorian Local Government Areas and more frequently where FOGO collection services are provided.

Currently, most residents find the 140L red-lid bin satisfactory. With the introduction of FOGO the space available in the red-lid bin will increase.

In Muswellbrook and elsewhere across Australia, the overarching goal in waste management is to minimise the amount of waste being sent to landfill. The *NSW Waste and Sustainable Materials Strategy* includes the following targets for the next six years:

- reduce total waste generated by 10% per person by 2030;
- have an 80% average recovery rate from all waste streams by 2030;
- significantly increase the use of recycled content by governments and industry;
- phase out problematic and unnecessary plastics by 2025;
- halve the amount of organic waste sent to landfill by 2030;
- reduce litter by 60% by 2030 and plastics litter by 30% by 2025; and
- triple the plastics recycling rate by 2030.

140L red lidded bins support our work toward these targets. Larger bins would be an unbudgeted capital cost and would move Council away from these targets.



The small number of residents unable to manage with the 140L bin have the option of requesting an additional red lid bin for a fee. Additionally, residents with a medical need, such as at home dialysis, will have higher waste generation rates. A draft procedure exists to help staff assist such residents manage their specific waste, however it is acknowledged that the number of such resident is very low. As an alternative approach, Council may consider medical need requests for reduction or waiver in applicable fees on a case-by-case basis via Council's Hardship Policy.

Other councils who have already moved to FOGO explicitly warn that entertaining weekly/bi-weekly pickups or bigger bins from a small proportion of the residential population is cost prohibitive and increases customer service workload. These councils are now finding it difficult to walk back from these individualised services and the additional cost burden that was impossible to calculate before the service commenced.

c) Smell / Odour

Council will need to educate residents about how to prevent and reduce odour generation. Simple methods such as putting seafood scraps in the freezer until bin day, bin odour improver tags and decanting nappy contents to the toilet, are practical and achievable prevention actions.

As odour and pest issues are heightened in Summer, FOGO rollout after the weather has cooled gives residents the maximum time to adjust before next summer rolls around.

d) Cost

The change to a kerbside FOGO service under the existing waste collection contract results in a minor reduction in cost for the collection of bins from the kerbside, a saving of around 2%.

However, there will be a one off outlay for the initial rollout of caddies and liners of approximately \$150,000. The NSW EPA granted Council "Go FOGO" funding to assist with the cost of caddies and liners in March 2023 which contributes \$10 per eligible household.

There is potential for further fee increases to cover the costs incurred for transport if collected material is transported a long distance for processing, for example.

e) Contamination

With the change in service, some residents may find the new system confusing and may place the wrong things in the wrong bin. Continuation of the CEEP for several months post the rollout of FOGO is essential to embed the changed behaviours.

This key principle is behind the four Phases of the CEEP.



Table 2. Communications and Engagement Phases and Timeframe from the Community Engagement and Education Plan (CEEP)

Phase	Purpose	Indicative Timing
Phase 1	<p>Situational analysis and awareness raising: <i>“Have you heard?”</i></p> <p>In developing the actions in this phase, the following questions are posed (and addressed):</p> <ul style="list-style-type: none"> - What is FOGO? - I already have an existing green waste bin. What is changing for me? - Why is Council doing this? - What will it cost? - What happens to the materials once they are collected 	15 – 9 months pre-service commencement
Phase 2	<p>Pre-rollout preparation, awareness building and preparation: <i>“Are you ready?”</i></p> <p>In developing the actions in this phase, the following questions are posed (and addressed):</p> <ul style="list-style-type: none"> - What is acceptable and not acceptable in my FOGO bin and why? - If my green waste bin is full of garden waste, what do I do? - I don’t need FOGO, I compost/have a worm farm/have backyard pets - I am worried my bin will smell - How do I use FOGO? - How do I get my kitchen scraps from the kitchen to the FOGO bin? - How do I sign up? - Why is Council doing this? 	8 – 1 month pre-service commencement
Phase 3	<p>Service commencement: <i>“FOGO is here!”</i></p> <p>This is the “go live” period; actions in this short phase will focus on reinforcing messaging and monitoring community feedback</p>	Month of service commencement
Phase 4	<p>Post rollout review, monitoring and improvement: <i>“How’s it going?”</i></p> <p>In developing the actions in this phase, the following questions are posed (and addressed):</p> <ul style="list-style-type: none"> - What material is accepted and not accepted in my FOGO bin and why? - Why should I compost/have a worm farm and a FOGO bin? - How do I manage odour? - I don’t have room for food scraps and garden materials 	1 – 6 months post-service commencement



Phase	Purpose	Indicative Timing
	<p>in my FOGO bin – what do I do?</p> <ul style="list-style-type: none">- Why was my FOGO bin not emptied?- Can I get a FOGO bin if I didn't have a GO bin?- What happens to the materials once they are collected?- What difference are we making?	

CONCLUSION

The introduction of a FOGO service represents a significant step toward Council meeting the NSW EPA (Environment Protection Authority) targets for resource recovery and will help to extend the operational life of the landfill, reduce Council's atmospheric emissions and, by producing compost or other soil improvement products, will return carbon and other nutrients to local soils. Although there is still work for Council to do to ensure a successful rollout the results of the survey indicate this is a positive starting point for an education and engagement program with the Muswellbrook Shire Community.



Muswellbrook Shire Council
Community Waste Survey Report

FINAL

December 2022/ June 2023



Project Undertaken by



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Disclaimer

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Acknowledgments

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Project Team

Project Coordinator: Anna Ricketts (NSW Regional Manager)

Project Team: Anna Ricketts (NSW Regional Manager)
Jo Smith (Environmental Consultant)
Eli Todman (Environmental Consultant)

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1.0 Introduction

In September 2021, EnviroCom developed a Food Organics Garden Organics Community Education and Engagement Plan (FOGO CEEP) on behalf of Muswellbrook Shire Council (Council). The aim of the CEEP was to guide communications and engagement in support of the transition from a kerbside Garden Organic (GO) only service to a kerbside FOGO service.

One of the initiatives suggested in the CEEP was to undertake a Community Waste Survey with the aim of building a profile of community knowledge, attitudes and behaviours regarding waste management, as well as satisfaction with Council's waste services and facilities. The survey also provided an opportunity to introduce the FOGO service and assess the community's appetite for FOGO and any concerns regarding the service.

The Community Waste Survey was delivered as both a phone and online survey. The phone survey was conducted across three weeks from 1st July 2022 by an external market research company and reached 300 residents in the Muswellbrook LGA. The online survey was launched to the public via the Council website on Friday 28th October 2022 and closed on Wednesday 30th November 2022. The online survey was delivered via a link to the SurveyMonkey platform and was completed by 259 residents.



2.0 Limitations

The Community Waste Survey was comprised of responses from two collectors – a phone survey element and an online survey. During the analysis of all responses, it appears that the online survey responses may not always be entirely accurate or complete. This is potentially due to the respondent's inability to clarify with a surveyor when they have not fully understood the question or available responses (whereas this was possible with the phone survey), or the online survey allowing more flexibility when it came to skipping questions.

An example can be seen in question 31, which quizzed respondents on where they would dispose of various types of waste. Several respondents marked that they would dispose of gas bottles, fruit and vegetable scraps, pet waste or batteries via Return and Earn collection points. As these items are not recycled at these outlets and would not be physically accepted by any Return and Earn machine, these responses had to be untrue, and possibly due to the respondent misunderstanding the question or available answers.

No questions were skipped by respondents who undertook the phone survey, whereas the online survey did not mandate that all questions were answered and therefore respondents could choose to skip questions as they preferred. All questions on the online survey could have been formatted to require answers from respondents, however, this posed the risk of respondents ending the survey prematurely and submitting no response at all. It was determined that incomplete survey responses were still of value, and of far higher value than no response at all.

This survey attracted 559 respondents in total, which is a good representation of the Muswellbrook LGA, however, should still be regarded as a snapshot of community behaviours and attitudes.

3.0 Results

All phone and online survey results have been aggregated, the results of which are presented in sections 3.1 to 3.7. 'N' refers to the number of respondents who answered that question. Where comments have been made by survey respondents in the online survey, they have been copied directly and any spelling or grammatical errors included, to provide unfiltered feedback to Council.

3.1. Introductory questions

The first four questions were only asked of respondents who answered the phone survey.

1. Do you live in the Muswellbrook Local Government Area?

	N=273	
Yes	268	98%
No	5	2%

2. Do you have a kerbside waste collection?

	N=267	
Yes	260	97%
No	7	3%

3. Would you like to have access to a residential kerbside waste service?

	N=7	
Yes	6	86%
No	1	14%

4. What kerbside waste service would you like Council to provide to you?

	N=6	
Access to all three bins	4	67%
A red lid general waste bin only	1	17%
A red lid general waste and yellow lid recycling bin	1	17%

The following questions were asked of respondents who answered 'yes' to question 2.

5. Which of the following Council-provided waste services do you have at your residence?

	N=559	
General waste (red lid)	559	100%
Recycling (yellow lid)	559	100%
Garden organics (green lid)	541	97%

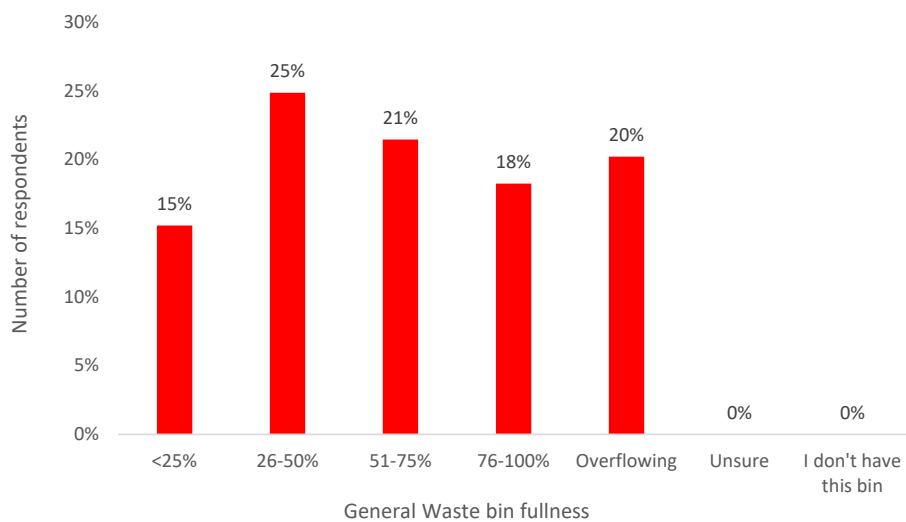
6. Do you use each of the kerbside bins for different types of waste materials?

	N=559	
Yes, I use all three bins for different types of waste	509	91%
I only/mostly use the general waste bin	4	1%
I only/mostly use the recycling bin	-	-
I only/mostly use the general waste bin and recycling bin	43	8%
I do not know what the three types of bins are for	-	-
I use whichever bin is closest	-	-
I use whichever bin has room	1	0.2%
Unsure	-	-
Other 'Need more information on what goes in each bin' 'Need in summer green bin every week'	2	0.4%

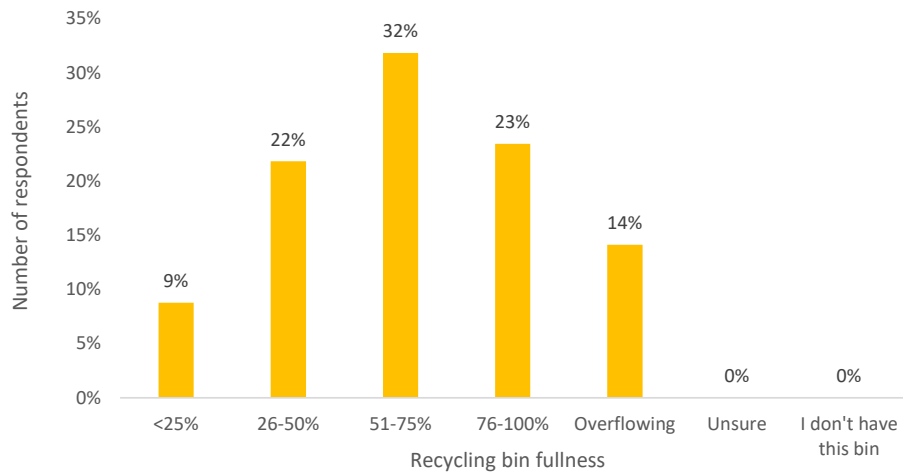
Comments:

- Recycling bin overflowing so unfortunately we have to put some recycling into landfill...Any chance of getting recycling bin emptied weekly?
- I have a gardener so I don't know how much goes in the green bin, sorry.

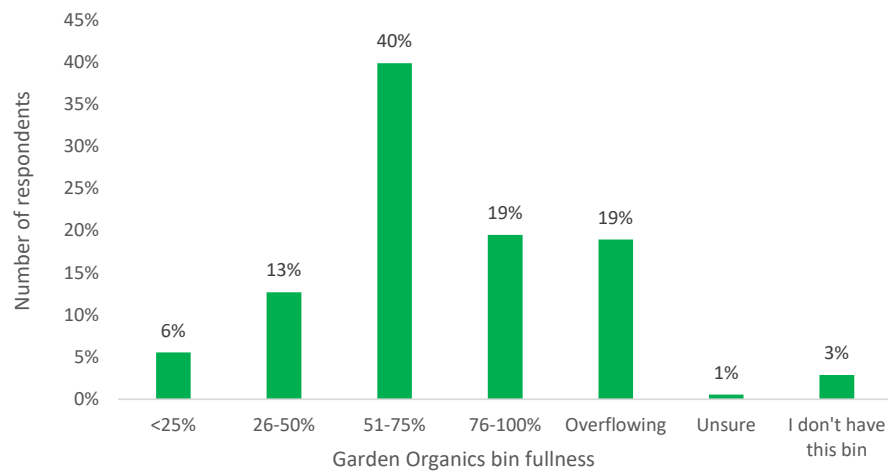
7. Approximately how full are your general waste (red lid) bins when you present them to the kerbside for collection? (N = 559)



8. Approximately how full are your recycling (yellow lid) bins when you present them to the kerbside for collection? (N = 559)



9. Approximately how full are your garden organics (green lid) bins when you present them to the kerbside for collection? (N = 559)



3.2. Waste management behaviours – recycling

10. Does your household separate materials that can be recycled from general waste?

	N=559	
Yes	526	94%
Sometimes	30	5%
No	3	1%

11. How often do you put your yellow lid recycling bin out on the kerbside to be emptied?

	N=556	
Fortnightly	511	92%
Monthly	37	7%
Every couple of months	5	1%
Once every 6 months	-	-
Hardly ever	-	-
Other 'WEEKLY' 'Need more information on what goes in each bin' 'When it's close to full'	3	1%

Comments:

- Need weekly collection as have to put recycling items into the general bin which upsets me
- No sense of the driver breaking more than he needs to and I have little recycling and everything is washed clean so I put it out when nearly full
- Any chance of getting weekly collection
- Probably could leave it monthly to be collected but it may get a bit pongey
- Not enough in it fortnightly
- Not enough in it to make it worth the pull down and up the driveway
- Not enough in it to warrant emptying
- We recycle so well that we need weekly collection or a second recycling bin

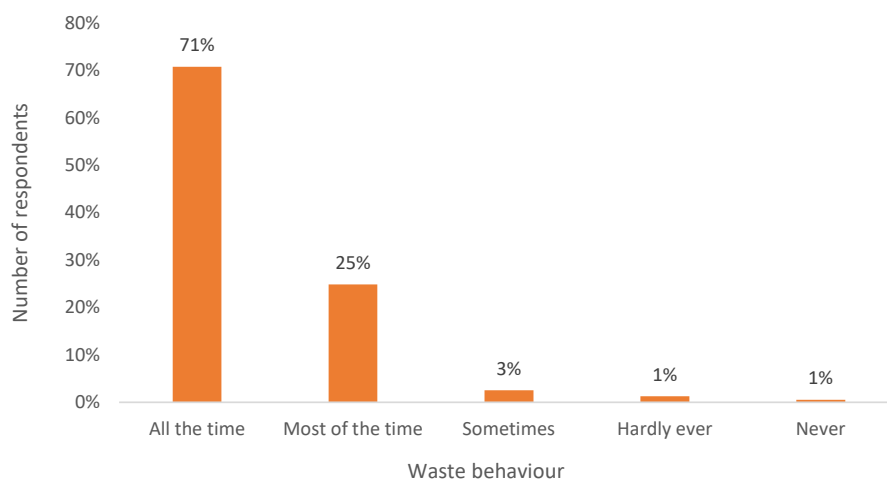
12. How do you separate your recyclable material from your general waste?
Multiple responses permitted.

	N=573	
I have a separate bin for recyclables in the kitchen	408	71%
I store them on the kitchen bench before taking them to the recycling bin	98	17%
I have a separate bin of recyclables in some/most rooms	18	3%
I reuse most materials from craft projects or other uses	2	0.3%
I take my waste out mixed, then separate the general waste from the recycling where my kerbside bins are stored	13	2%
I put my recyclables into a plastic bag and then place it into the recycling bin	3	1%
I put my recyclables into a plastic bag and then empty them out loose into the recycling bin	31	5%
Other	-	-

Comments:

- Nearly everything you buy has too much packaging. Hubby often has to go to tip with a load of cardboard
- If you have a recycling bin handy inside, it's easy to teach kids to recycle & check if got it right
- I wash them n hubby takes out to the recycling bin as his bit of exercise for the day ??
- Doesn't take long to fill my inside recycling bin before kids are called to take outside to big bin

13. Do you empty your recyclable containers of food before you put them in the recycling bin? (N = 555)



Comments:

- I do but can't be sure if the kids shake every bit out before they put things in the bin.....
- Oh heavens yes otherwise what an awful mess and smell my bin would be
- And wash
- Washed out before putting in bin
- We feed the food scraps to chicken
- RED BINNED IF NOT CLEAN

14. Do you rinse your recyclable containers before you put them in the recycling bin?

	N=555	
All of the time	184	33%
Most of the time	200	36%
Sometimes	90	16%
Hardly ever	41	7%
Never	40	7%

Comments:

- Mainly the ones that had milk and the fish tins
- I wash the recycling things in the washup water at the end of my washing up each night and let them drain and dry overnight before putting in the bin
- I do wash them up with my dishes because my bin would get rather smelly as I only put it out every few months when it's full
- Just so my bin doesn't get smelly
- I don't like smelly bins
- Council charges way too much for water as it is so why waste it on rinsing rubbish
- Waste of water and time
- They do rinsing at the recycling facility
- Mainly the milk cartons and fish tins and anything that has blood or meat juices on it
- Waste of my water
- Don't rinse as waste of water and costs
- I only rinse things because I don't have much rubbish in this bin and don't want it to get smelly as it sits there for a couple of months before full
- Only the things that get too smelly sitting in the bin for the month
- Otherwise the bin gets too smelly in the month it sits to be put out
- Mainly the ones with milky content and seafood tins as they make the bin really smelly
- Only because we don't like a smelly bin
- Why would I waste costly water on rubbish
- I rinse everything I put in the recycling bin because I only take it out monthly and my bin would get too smelly sitting in the heat that long
- Waste of time and water cost
- I rinse the ones that might get smelly in the bin over the month till we put it out
- Waste and cost of water
- Why waste our water when the recycling plant has to do it anyway
- Uses too much water
- We like clean bins
- Mainly the milk cartons

15. How confident are you at recycling?

	N=555	
Very confident	244	44%
Confident	222	40%
Somewhat confident	84	15%
Unconfident	3	1%
Very unconfident	2	0.4%

16. How important is recycling to you?

	N=555	
Very important	366	66%
Important	118	21%
Unsure	6	1%
Somewhat important	61	11%
Not important at all	4	1%

17. What factor(s) prevent/might prevent you from separating recyclable material from your general waste? Multiple responses permitted.

	N=639	
No factors prevent me from separating out my recyclables	467	73%
Separating the recyclables is time-consuming/not convenient	19	3%
I do not know how to recycle/which materials can be recycled	13	2%
I do not have enough space to separate waste materials inside my home	12	2%
My recycling bin gets full before service day	65	10%
No one in my household recycles	3	0.5%
I do not have a suitable bag/receptacle to transport recyclables to the bin storage area	2	0.3%
I do not know what happens to my recycling once the bins are collected	22	3%
I do not see the point in recycling	1	0.2%
I doubt that the material is recycled	31	5%
I do not believe that recycling is cost-effective	4	1%
Other	-	-

Comments:

- I sometimes r unsure of some things that can be recycled. And don't have a separate bin for soft plastics
- Although we diligently recycle, I'm aware much of it is not utilised due to contamination from others or insufficient processing facilities.
- Only if there is food on the recyclable product that can't be removed
- Not always sure if the type of plastic is recyclable or what bin styrofoam goes in ?
- If a recyclable item is difficult to wash/rinse with minimal water I put it in red bin because we are on tank water so need to be water wise.
- Needs to be more information what can and can't get recycled
- Red bin fills up way to quick if you don't separate waste. Go back to big red bins like we use to have.

- COST/WASTE OF WATER TO WASH RUBBISH
- There needs to be more definitive information on material that goes into each bin the stickers on bins are not informative enough
- I do recycle, but am not sure if some materials can go in the yellow bin so to avoid contaminating the recycling I red bin it
- Husband has no idea and puts any type of rubbish in recycling and I have to try and get it out before collection.
- Not confident with the numbering system for recycling and what can / cannot be recycled in Muswellbrook
- People who don't recycle are lazy and irresponsible
- The kids are lazy and most of the time I have to sort through the rubbish before it goes to the outside bins which is why I put recycling bins in the bathroom AND kitchen BUT...
- Allow everyone to have the old 44 gallon drum in the backyard and burn everything responsibly like they used to and there wouldn't be this ridiculous huge waste of money associated with rubbish
- I've seen so many documentaries showing recycling waste just being dumped in landfill that it makes you doubt it's worth a the effort at times
- Some plastics I do put in the general bin as I get confused with all the types of plastics
- Some of the types of plastics can be hard to know whether they're recyclable so if in doubt we put them in the general bin

18. Does your household ever place general waste into the yellow lid recycling bin?

	N=557	
Always	-	-
Sometimes	20	4%
Never	537	96%

The following question was asked only of respondents who answered 'Always' or 'Sometimes' to question 18.

19. What factor(s) might lead to general waste being placed in your yellow lid recycling bin? Multiple responses permitted.

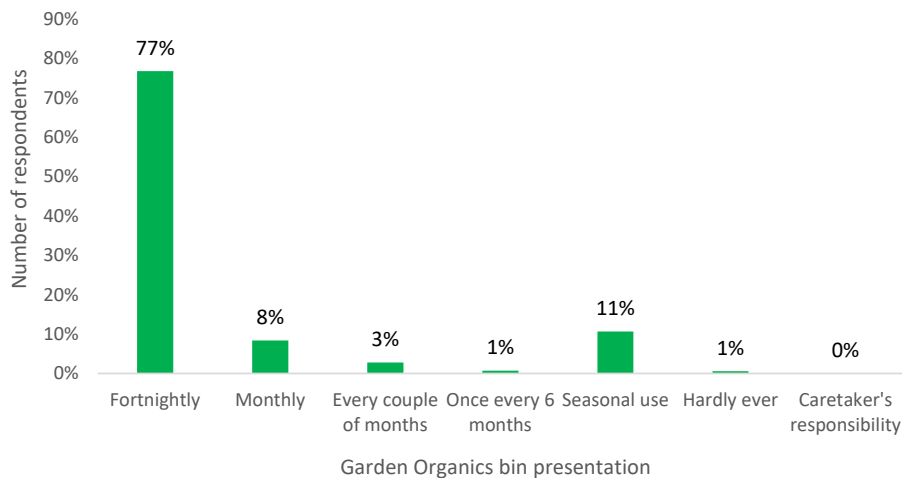
	N=22	
Separating my waste is time-consuming/not convenient	4	18%
I am unsure of what can and cannot be placed in my recycling bin	1	5%
My general waste bin gets full before service day	16	73%
I do not believe that there is a benefit to separating recycling	-	-
I do not see the benefit of recycling	-	-
Other 'Husband is lazy and uses closest bin. I try and get it all back out and point it out to him but he still does it.'	1	5%

3.3. Waste management behaviours – organics

20. Does your household have access to/use the green lid garden organics bin?

	N=558	
Yes	535	96%
No	23	4%

21. How often do you put your garden organics bin out on the kerbside to be emptied?



22. Does your household place garden organics (grass clippings, leaves etc.) in the general waste bin?

	N=533	
Always	51	10%
Sometimes	61	11%
Never	421	79%

23. What factor(s) prevent/might prevent you from using your garden organics bin?
Multiple responses permitted.

	N=327	
No factors prevent me from separating my garden organic waste	213	65%
I do not have a garden organics bin	10	3%
I use a home composting system	26	8%
Separating garden organic material is not convenient	5	2%
Separating garden organic material takes too much time	4	1%

I am unsure of what materials can and cannot be placed into my garden organics bin	9	3%
My garden organics bin gets full before collection day	48	15%
I do not believe that there is a benefit in diverting garden organic materials from landfill	-	-
I doubt that the material is composted	8	2%
Other	-	-

Comments:

- Don't have very much green waste in my garden I allow neighbour to use.
- Live on semi rural land, dispose and recycle green waste our selves
- We always use our green bin, 1 tumbler a compost box and a worm farm. Sometimes we have too much green waste and have had to only once spill over into the red bin. We also put it on our grounds but with snakes about it is a cause of concern with young children.
- Already have 2 green waste bins. Still not enough
- palm branches , larger sticks and branches etc don't fit in the bin
- Bin gets too full in Summer
- We don't have a green lid bin service at our property.
- Not enough green waste in my house
- Charging for dumping green waste is ridiculous. Council makes money on receiving green waste, then charges people to take it. That's double dipping even if you have to pay a contractor to mulch it.
- I don't have much garden organics material at my house
- There needs to be more communication to house bin users prior to any introduction of any changes to see if the present bin types can be utilised
- Large back yard, grass clipping either left on grass or given to the chooks. Almost no gardens or trees that require clipping.
- The garden organics bin according to your website is not a composting system, it would be good to have this as a fortnightly composting system whilst still having the regular waste bin weekly
- Need every week in the spring & summer months
- I never use my green bin.

24. Does your household ever place general waste into the green lid garden organics bin?

	N=554	
Always	-	-
Sometimes	7	1%
Never	547	99%

The following question was only asked of respondents who answered 'Always' or 'Sometimes' to question 24.

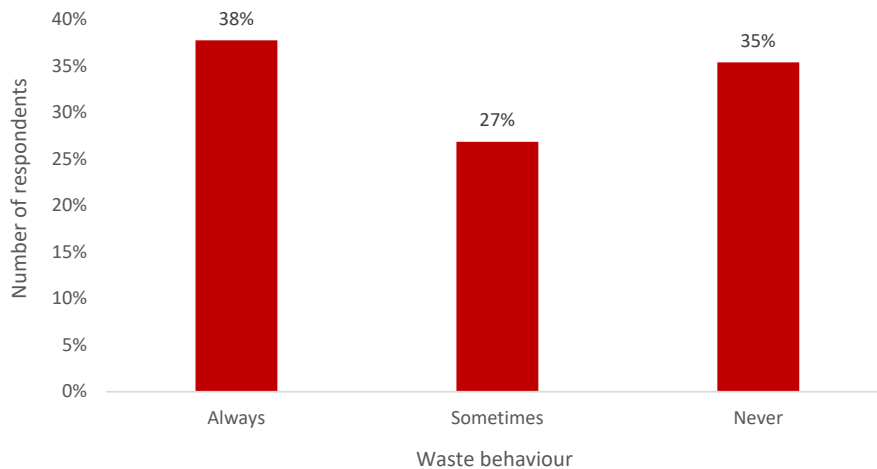
25. What factor(s) might lead to general waste being placed in your garden organics bin? Multiple responses permitted.

	N=8	
Separating my waste is time-consuming/not convenient	1	13%
I am unsure of what can and cannot be placed in my garden organics bin	-	-
My general waste bin gets full before service day	5	63%
I do not believe that there is a benefit to separating garden organics	-	-
I doubt that garden organics are composted	-	-
Other 'The council makes money off my waste when I still pay an exorbitant amount for my rates for no value' 'I've thrown food scraps and coffee grinds in there'	2	25%

Comments:

- Red bin full

26. Does your household separate food scraps from your general waste? (N = 551)



27. How do you most commonly dispose of food scraps? Multiple responses accepted.

	N=482	
Red lid general waste bin	330	68%
Yellow lid recycling bin	1	0.2%
Green lid garden organics bin	16	3%
Compost bin/pile or worm farm	76	16%
Pets/animals e.g. dogs/chickens	56	12%
Other	3	1%

'Also my pet dogs ,But I really have eatable food scraps, As I don't waste food' 'Feed animals & while birds with what ever they eat' 'Depends on the scrap'		
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Comments:

- If I am preparing a meal with lots of vegie scraps then we take them out to the compost
- Dog gets any meat and eggs scraps
- Composting is a good way to reuse food scraps and it's wonderful for your garden soil
- Compost all scraps except for our onion and citrus scraps as the worms don't like them
- Our dog eats some of our food waste
- We give our food scraps to the neighbours for their dog and worms
- We do put meat, seafood, waste in general bin as don't want stray dogs and cats digging through the compost garden and onion and citrus don't compost well
- Our dog eats our meat scraps and we try to compost everything we can
- Very little food waste as our pets devour everything they can
- What our pets don't eat goes in the normal bin though
- We do put food waste that the dog doesn't eat in the red lid bin
- Dog gets all the meat scraps and some of the leftovers that she likes
- We wrap all our vegie and fruit peels in newspaper and put them in the green bin
- It is divided between compost and general waste
- Worm farm and animals
- Green bin and worm farm

28. Council will be introducing a FOGO (Food Organics Garden Organics) service in the future where all food waste as well as garden waste can be placed into the green lid bin and the bin will be collected weekly. How likely will you be to use this service for food waste and garden waste material?

	N=551	
Very likely	226	41%
Likely	115	21%
Neutral	41	7%
Unlikely	20	4%
Very unlikely	36	7%
I'd need to know more about the service before I decide	77	14%
I will only use the service for garden waste	31	6%
Other 'I am happy to use this system, however I still require general waste to be emptied weekly, as I have dirty nappies / sanitary products that require to be emptied as there is already maggots when emptied weekly.' 'Would like to look into getting worm farm'	5	1%

<p><i>'How much extra will this cost the rate payer cause most fucken likely council will charge us three times more'</i></p> <p><i>'We dont have a green lid bin so we wont have the FOGO service either'</i></p> <p><i>'This should be collected fortnightly not weekly, having lived in councils that have this you still have general rubbish requirements weekly. If general waste is collected fortnightly then general waste ends up in the green waste making it pointless'</i></p>		
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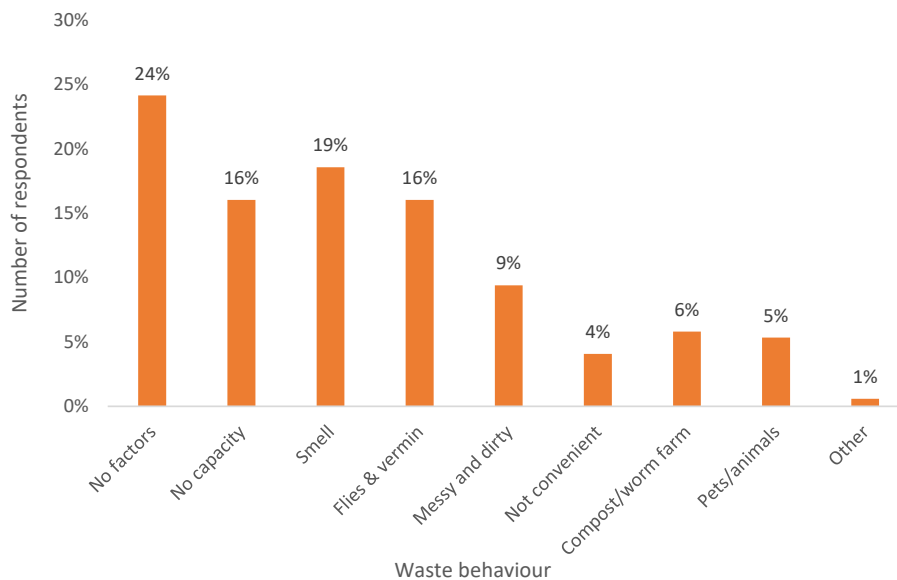
Comments:

- Be handy for the food waste that isn't suitable for the garden compost
- Especially through the summer months
- Only for the food scraps that aren't suitable for the garden compost
- All the food waste that we don't compost
- Live alone and can't afford to waste food on the pension
- This will be good for our meat scraps as don't compost them as it encourages neighbourhoods pets to come into our yard and dig up our gardens
- Would only be my citrus and onion peels and the occasional meat and fish bones that I don't compost
- Oh heck yes if it means weekly collection of green bin
- Our general bin will have barely anything in it between composting, recycling and now FOGO for the meat and citrus scraps
- We used to compost our vegie and fruit peels but since retiring and travelling a bit we've got out of the habit
- Only be the odd bone and a few orange peels as my dog gets any meat scraps and suitable bones and I compost the rest
- I think food scraps going directly into the bins could cause unpleasant odors throughout the neighbourhoods
- I don't waste food as it's too expensive so won't be much except for peelings & the occasional bone but it'll be bare
- This will be great especially for the fruit and vegie scraps our dog doesn't eat
- Only the waste our home compost can't dispose of
- Only waste that we don't compost in our garden
- This will be handy as both 90 now & too old to do our compost gardens
- Will only have the few bits of waste that we don't compost
- Mainly because we compost most of our food waste
- Won't be much as we compost everything possible and dog eats most plate scraps
- Weekly collection of green waste will be great and I will definitely be throwing our food waste in it except for the meat scraps as our pooch loves them
- I used to compost in my garden but too old and weak to dig and toss now
- WEEKLY COLLECTION OF GREEN WASTE WILL BE GREAT and what our dog doesn't polish off can go in there too then..
- Don't have much as compost
- Weekly green waste collection would definitely give me room to put our fruit and vegie waste into the green bin
- If collected weekly I would be ok with as that's the same timeframe of the current general bin collection but not too sure about putting all food waste unsealed in there as messy?
- Not keen on any unbagged food waste going into my clean bins

- We compost but would put the rest in the green bin if that's what council want us to do
- If this can help council with landfill issues
- Only what we don't compost would go in there though
- This is great to see our council introducing this as family and friends have been doing this for a few years in other states
- Used to compost but too hard to dig now
- If Council feels this will make a difference to landfill issues then I am happy to do it
- Only for the few unsuitable things the animals can't eat
- Will only be little, mainly meat scraps and our orange and mandarin skins and the onion peels
- We have already been doing this but happy to add the few bones not suitable for the dog
- Wouldn't this cause an unhealthy situation in the streets with everyone's food waste sitting in the bins for days in the heat unsealed? Blowflies, maggots, stray animals trying to get in bins?
- Living alone and elderly I don't have much rubbish, especially food waste except for peelings and seeds
- I would like more information please
- And then I will make my mind up about this
- As long as the general waste bin is still collected weekly.
- This is a great idea, particularly being weekly pick up as our green bin is always over flowing
- I do not want to have 3 bins inside my house to separate everything
- I will continue to use my compost
- I run a worm farm and composter for my gardens
- It's great I can use it for bones, Will we be able to use it for dog poo
- Nothing left over after composting/worm farm
- Only if our service intervals are not reduced
- We don't have a green bin pickup.
- That'd require us to have another bin inside, which we don't have room for
- I would use it for some food waste that isn't compostable
- I want my red bin emptied every week still. Merriwa have their red bins emptied fortnightly and they are over flowing with dirty nappies and lots of flies and maggots
- I already compost my food scraps
- This doesn't work. We have tried it in Lake Macquarie council before moving here. We ended up having to pay extra to get a weekly general waste service. There was also a lot of people dumping into other people's bins and local bins over flowed. We also found that we smell was terrible with little ones and dirty nappies. This was also evident in the local bins where people were dumping their nappies and house hold waste at parks etc.
- Stupid idea especially considering we have a small red bin. If we have a large red bin it might not be as bad but still stupid idea
- I have a worm farm. My worms keep up most weeks but I highly encourage this program!
- Would like to know about additional cost to get a green bin as not sure we'd use it much (as we can mulch garden waste and don't have much food waste) so concerned about value for money.
- Maybe acasionaly as i don't need to
- I was shocked to know that it doesn't happen already

- We moved from a town where they allow food scraps, tissues, even soiled pizze boxes, as long as they are compostable stuff, be put in the green bin. Was a shock that it was not a thing here. Dont know why bin policies are not uniform state wide. Also, we hope we dont get charged extra for this new service. Thats a no.
- Why would I?
- Will this get emptied weekly?
- That would not change as I already do that so I can't see a reason for change
- Would use new bin as long as we still only have 3 Bins
- I hate the smell of these. I have used at family homes and they are horrible. Not practical for a family.
- Only if room for lawn & garden waste
- As long as emptying of the general waste collection does not get extended to fortnightly. Bin is too small for fortnightly collection.
- I need the red bin weekly

29. What factors might prevent you from using your green lid bin for food as well as garden waste? Multiple responses permitted.



	N=861	
Nothing would prevent me from using my green lid bin for food and garden waste	208	24%
Not enough capacity – I have too much garden waste	138	16%
I'd be worried it would smell	160	19%
I'd be worried about flies and vermin	138	16%
It is too messy and dirty	81	9%
It is not convenient to separate food waste	35	4%
I already compost/worm farm	50	6%

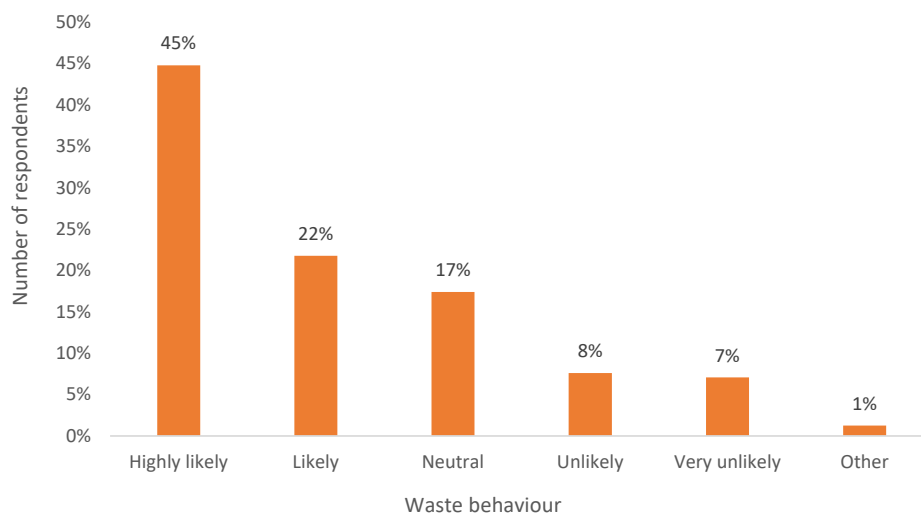
I give all my food scraps to pets/animals e.g. dogs/chickens	46	5%
Other 'As above' 'Minimal good wastage' 'We dont have a green lid bin' 'Food rotting for 2 weeks is going to really stink and what do I do with the food scraps when the bin gets full of lawn clippings? Are you going to come stomp on the bin to pack it down every 2 weeks. I highly doubt it as I'm sure as hell not jumping in to rotten stinking food waste to do it.' 'If general waste is not collected weekly it will end up with general waste as well'	5	1%

Comments:

- Can we wrap the food scraps in newspaper first though?
- Maybe it'd be keener if council would allow the scraps to be wrapped in newspaper first as it used to breakdown well in the garden when we did the composting
- If the green bin was collected weekly then i could fit our food waste and green waste in the same bin
- If definitely weekly collection of green bins then i will have room for the fruit n veg waste n chicken bones not suitable for our dog
- If stick with weekly collection of green bin then we won't have the problem of overflowing bin and will fit the food waste in as well
- This will be great so we can now recycle the food scraps that our dog doesn't eat
- It will only be the waste left that the neighbours dog and worms don't use
- I already compost so there won't be a great deal to put in the green waste bin
- Won't be much as mostly compost food scraps
- If council need us to do this we will but can we wrap the food waste in newspaper first then bin it as open food waste sitting in all our bins is going to create a lot of bad smell in our streets
- Compost most food waste but happy to put the rest of waste in green bin wrapped in newspaper which i believe is ok as will compost with the rest of green bin content
- Are they going to offer the food waste to farmers for fodder, etc like other councils are doing?
- Our dog takes care of all our meat scraps
- We compost but will wrap the remainder of our food scraps in newspaper and put in the green bin as don't like the idea of open food scraps in the bin
- Wouldn't open food waste in everyone's bins make for a huge odour problem in our neighbourhoods?
- This is such an innovative solution to lessen landfill waste especially for those who don't have animals to feed scraps to. Being weekly collection residents should be happy as it's the same time our food waste sits in the general bin awaiting collection
- No. I don't think i can come at the idea of open food waste being in the bin getting hot and smelly. At least it's contained in a bag in the general bin
- Can we wrap the food scraps in paper first before putting in the bin?
- As long as the general waste bin is still collected weekly
- Worm farm would be better option
- My red bin stinking of dirty nappies because not picked up fortnightly

- Often the bin is not collected as it is too heavy with grass clippings and garden waste, so add food scraps and it will be even more heavy
- I'd be worried about unwrapped/unbagged rotting food being in the green bin and making it dirty/slimy/unhygienic.
- No need to change
- I would hate this idea at the expensive of only having our red lid bin collected fortnightly. This is a ridiculous idea, especially for families.
- I also give some of my scraps to my daughters chickens.

30. Council will provide a kitchen caddy and compostable liners to all households with a FOGO (Food Organics Garden Organics) service. How likely would you be to use these to collect and store food waste in your kitchen for the green lid bin? (N = 551)



Comments:

- Great. More convenient than wrapping
- Need more information
- It will need to be a weekly pick up I think
- Need more information
- We know you get the caddy to put the food scraps in
- Will be handy. Do citrus scraps compost? I don't know much about all that
- I will still put food waste in compost but maybe bones and such in the bin
- Unwrapped food could become a very bad odour. Not everyone will use the bins the correct way.
- Will make is convenient to dispose of food scraps
- I'm please we will be able to put food scraps in bags otherwise is would be a health problem
- Very handy idea
- With them supply the caddy and the bags, it should work. Costly maybe
- Need more information
- Need more information
- Council should consider a weekly collection
- Bit worried about flies and chewing creatures
- The bags better be pretty tough and will they be fully disposable

- Will they have compostable bags for food scraps on a regular basis. Need more information
- Very happy with the idea, if it works
- Great being allowed to put food scraps in and know it will all be composted somewhere
- Great idea as long as the council doesn't go broke in the follow-up
- Good idea but we will still compost
- Will need lots of information beforehand
- Depends on the cost
- Council will really have a tough time pushing this. I'm not the only one worried about the hygiene
- I like the idea of a container on the bench rather than a bucket under the sink
- Good idea but I need to know the full story
- Need more information
- Putting meat scraps in with green waste worries me
- Depends on cost
- Will be great to be allowed to put food scraps in those bins for some people
- I need more information
- Bin liner area good idea to keep the bins clean
- Encouraging for those people who don't compost now, to know their scraps will be used and recycled
- guess it won't be too much bother tossing my scraps in the bench top bin first (note: this comment could be interpreted as, 'Guess it won't be too much bother tossing my scraps in the bench top bin first')
- depends on the cost
- need more information before I make a decision

3.4. Waste management knowledge

31. Where would you currently most commonly place the following waste materials?

Note: Green highlights indicate preferred behaviours. Red highlights indicate least preferred behaviours. 'Other' option includes home compost/worm farm, Community Recycling Centre or waste facility).

Material	General Waste bin		Recycling bin		Garden Organics bin		Return & Earn		Other		Don't have any		N
Aluminium cans	2	0.3%	220	37%	1	0.2%	339	57%	7	1%	25	4%	594
Bagged waste items	523	99%	2	0.4%					2	0.4%			527
Batteries (car)	4	1%					4	1%	383	73%	136	26%	527
Batteries (household)	315	60%	2	0.4%			2	0.4%	189	36%	18	3%	526
Cardboard	3	1%	517	96%	1	0.2%			19	4%			540
Chipboard & MDF	174	33%	42	8%	4	1%			73	14%	233	44%	526
Clothes/shoes (old, worn out & unusable)	334	63%	4	1%	1	0.2%	1	0.2%	160	30%	26	5%	526
Coffee cups (takeaway)	149	28%	241	45%	2	0.4%			148	27%			540
Dead flowers, leaves, weeds	91	17%	3	1%	416	78%			21	4%	5	1%	536
E-waste e.g. laptops, phones	15	3%	2	0.4%	1	0.2%			370	71%	135	26%	523
Fluorescent light tubes & globes	231	44%	10	2%					98	19%	181	35%	520
Packaging containing food and drink leftovers	331	61%	151	28%			1	0.2%	2	0.4%	60	11%	545
Fruit and veg scraps	387	72%	2	0.4%	42	8%	1	0.2%	101	19%	4	1%	537

Material	General Waste bin		Recycling bin		Garden Organics bin		Return & Earn		Other		Don't have any		N
Garden hose	310	59%	21	4%					135	26%	56	11%	522
Gas bottles	2	0.4%	6	1%			8	2%	285	54%	223	43%	524
Glass bottles & jars	11	2%	484	91%	1	0.2%	24	5%	9	2%	4	1%	533
Lawn/grass clippings	6	1%	3	1%	477	89%	1	0.2%	37	7%	12	2%	536
Magazines & glossy leaflets	121	23%	342	65%	2	0.4%			8	2%	56	11%	529
Milk bottles	8	2%	502	96%	2	0.4%	3	1%	3	1%	7	1%	525
Nappies	179	34%									341	66%	520
Newspapers	2	0.4%	451	85%	3	1%			18	3%	58	11%	532
Pet droppings	288	55%	1	0.2%	28	5%	1	0.2%	16	3%	188	36%	522
Plant pots	234	45%	48	9%	19	4%			86	17%	128	25%	515
Plastic shopping bags	352	68%	15	3%			1	0.2%	21	4%	126	24%	515
Plate scrapings & leftovers	389	73%	1	0.2%	15	3%			97	18%	31	6%	533
Polystyrene foam	342	66%	32	6%					10	2%	132	26%	516
Scrap steel	124	24%	12	2%			2	0.4%	129	25%	248	48%	515
Shampoo & detergent bottles	112	21%	427	79%					2	0.4%			541
Shredded paper	10	2%	323	62%	2	0.4%			36	7%	146	28%	517
Soft drink bottles	4	1%	204	35%	1	0.2%	322	56%	4	1%	40	7%	575
Soft plastics e.g. bread bags, pasta packets, biscuits wrappers etc.	440	85%	32	6%					42	8%	2	0.4%	516
Steel cans	143	28%	242	47%			36	7%	32	6%	63	12%	516

Material	General Waste bin		Recycling bin		Garden Organics bin		Return & Earn		Other		Don't have any		N
Plastic takeaway containers	151	27%	347	61%					13	2%	55	10%	566
Wood/timber	160	31%	19	4%	16	3%	1	0.2%	106	21%	211	41%	513



32. How would you rate your understanding of what happens to the waste materials from each bin after collection?

General waste bin	N=519	
Poor – I have no/little idea of what happens to the waste materials	34	7%
OK – I have some idea of what happens to the waste materials	209	40%
Good – I understand what happens to the waste materials	276	53%

Recycling bin	N=516	
Poor – I have no/little idea of what happens to the waste materials	78	15%
OK – I have some idea of what happens to the waste materials	238	46%
Good – I understand what happens to the waste materials	200	39%

Garden organics bin	N=517	
Poor – I have no/little idea of what happens to the waste materials	62	12%
OK – I have some idea of what happens to the waste materials	236	46%
Good – I understand what happens to the waste materials	219	42%

Comments:

- I hear that most of Australia's recycling waste is just going into landfill anyway?
- Do they just mulch it all give it to residents
- Would be helpful if council let us know what will be happening with the combined food and greenwaste
- We do often wonder if the recycling waste is being used as seeing documentaries showing recycling is going into landfill now that China doesn't want ours
- Goes to council and they make money by reselling.
- I understand where recycle are to go but do not think it is ways done. There needs to be more information on the items to be place in each bin and more information on about items that should not be placed in any of the bins
- We actually dont know where they get taken and what happens to the rubbish.
- I dont beleave recycle will happen properly
- I once had someone come to the school I taught at and told us the recylcing just gets taken to the dump from here but I am notsure how true that is.
- You sell our green waste back to us how pathetic!
- Can only go by what we are told
- Concept of what happens and actual what happens with recyclables is a bit obscure
- But not sure what happens in Muswellbrook

3.5. Have you heard?

33. Have you heard of the Australasian Recycling Label?

	N=542	
Yes, but I don't understand it	111	20%
Yes, I use it to help me recycle correctly	118	22%
No	313	58%

34. Have you heard of the Community Recycling Centre (CRC)?

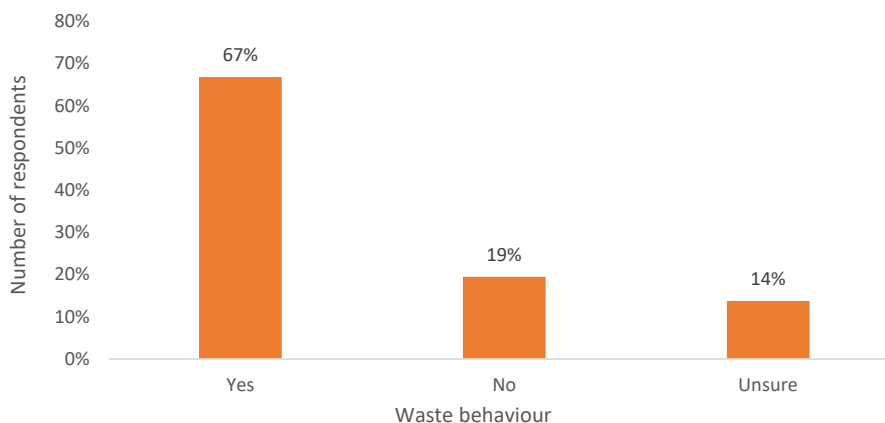
	N=542	
Yes, but I don't use it	134	25%
Yes, I use/have used the CRC	328	61%
No	80	15%

35. Have you heard of Return and Earn?

	N=542	
Yes, but I don't use it	129	24%
Yes, I use/have used Return and Earn	409	75%
No	40	1%

3.6. Waste service satisfaction

36. Do you feel you receive enough information about waste services in your Council area? (N = 539)



Comments:

- As long as I know which bins to put out on which days then I'm right
- An information flyer explaining how and where the 3 types of wastes end up would be helpful for those without a computer

- Except for what really is happening with the recycling waste & what will happen with the FOGO WASTE
- A lot of people are questioning what is truly happening with our recycling waste
- Maybe just an update before they start the FOGO service
- I'd like to see a Voucher System for free rather than the Kerbside Collections
- I just go to the online website if I am unsure
- Have no feedback or anything in regards to waste or any other council services.
- I just feel I am still a little uncertain about some things that can be recycled
- I probably receive the information but haven't seen it/followed it up
- Except for what happens with further processing of recyclables
- Could probably do with more
- The red bin should be bigger if you are going make us only empty it every fortnight
- Not if they're going to change. It would be impossible to cope with red bin collection fortnightly.
- If this goes through I want a bigger red bin
- Only hear when they want to change it
- Receive info but feel it's not specific enough around what can and can't be recycled
- Everyone in the Scone area hate the fortnight pickup of the red lid bin.

37. How would you prefer to receive information about Council's waste facilities and Council's waste collection services? Multiple responses permitted.

	N=539	
Council website	169	13%
Calling Customer Service	14	1%
Community information sessions	8	1%
Waste brochure	141	11%
Library displays	13	1%
Internet	83	6%
Local newspaper articles/advertisements	72	6%
Mail outs to all residents	202	16%
Social media posts	151	12%
Flyer/information in rates notice	206	16%
Shopping centre displays	28	2%
Radio advertisements	29	2%
Information fridge magnets	69	5%
Council events	8	1%
Bin stickers	94	7%
Council's My Waste Bin app	4	0.3%
Other	-	-

Comments:

- I don't believe in fridge magnets
- Via Email as Council website information could get lost
- If this goes through I want a bigger red bin



- Maybe a dedicated question and answer page somewhere online so others can see answers
 - A regular email would be a good reminder
38. Overall, how satisfied are you with Council's waste collection system and waste services and facilities?

	N=539	
Completely satisfied	173	32%
Satisfied	282	52%
Neither satisfied nor dissatisfied	53	10%
Dissatisfied	27	5%
Completely dissatisfied	4	1%

Comments:

- Weekly collection of recycling bin
- I think the fogo service is a wonderful, innovative step forward to dealing responsibly with food waste
- Muswellbrook shire council are just a money grabbing mob and give little back to its residents
- Tip fees pretty harsh though
- Tip fees can be expensive for residents especially when needing to dispose of mattresses, household furniture
- I think the tip fees are way to high for most households and that's why they end up dropping it off along roadsides
- Would like 2 kerbside collections each year please
- Tip fees are too high for residential waste
- Tip fees can be pretty steep though
- I think this new fogo service is a wonderful and innovative step towards bringing the long-term waste issue under control
- It's basic rubbish removal and it's about the only thing the bloody council gives us for our rate money
- But do believe that rate payers especially should be able to get the mulch at no charge. Also would love a couple of kerbside collections each year
- Tip fees are too high so people just drop it along the roadside
- The collection truck is wreckless with the bins leaving them on their sides and often on the road
- Satisfied at the moment but that will change if the red bin collection goes to fortnightly
- Denman steel bin is a skip bit you have to lift heavy things into it such as the scrap metal etc which is hard to do for clients using it. Completely ridiculous
- As mentioned, a larger general waste and more frequent recycling and garden waste collection would be ideal for us a large family.
- I don't believe in brochure or fridge magnets bec they are a waste of money and not substaintable .also most people don't read the brochure in your mail box ,they r just thrown out. with your rate notice is a good idea ,especially for people who don't use social media
- I would like to be able to put food scraps in the green bin. We always have lots of garden waste so i would live it to be collected more often please
- General waste bin needs to be bigger
- I do however need a new bin and not sure how i go about getting a replacement

- Bins are too small!
- More frequently collection of recycling bin
- Our bins get missed to often
- Red bin is far too small for any family, should be the same size as the other bins
- Red bin is far too small
- Green bin should be collected weekly
- If this goes through i want a bigger red bin
- Please do t change it.
- The cost involved to dump any form of waste is extreme. Charge for general waste. But anything that can be resold, reused or recycled including green waste should be able to be delivered for free. This would prevent the dumping of rubbish all over the council area.
- Don't change anything that's not broken
- Red bin too small. Family of 7. It fills up way too fast. We recycle and yellow bin is full before the 2 weeks too. Its very frustrating. We spend heaps going to the trip weekly.
- Need bigger red lid general waste bins
- I think we can do better as a whole. More bins around the area. My son and i are always collecting rubbish at the parks and bins either don't exist or are overflowing. Not good enough for a parent that is trying her hardest to encourage recycle and cleaning up our beautiful planet!
- We need to keep weekly red bin emptying
- Closing duration covid was bs when no contact happened between people anyway. Fj
- Would prefer a bigger red lid bin especially for bigger family and still collect weekly
- Opening hrs need to increase
- But still wish the red bin is bigger for a weekly pick up. Or allow us to have 2 small ones without extra annual cost, just the purchase of an extra small red bin.
- Would definitely like to be able to put food scraps into the green bin asap
- Port stephens offer free green waste days once a month
- Don't change it.
- Not reliable. Depot can be closed. Collection can vary by many hours, it used to ve an hour window.
- Would be good to see the green lid bin empty every week in the warmer weather.
- Not enough room in red bins, and the thought of council moving the collection of these to fortnightly is utterly ridiculous
- Satisfied how it is without change. Needs more information on items to correct bins
- Do not agree with having to pay for disposal of green waste.
- Making an easier way to recycle soft plastics would be beneficial and would encourage me to do it.
- Red bins too small
- Red bin as it's smaller should be larger
- As long as we don't go to fortnight pickup of red bin

3.7. Demographic questions

39. Gender

	N=536	
Female	318	59%
Male	207	39%
Non-binary	2	0.4%
Prefer not to say	9	2%

40. Age group

	N=536	
25 and under	8	1%
26-35	56	10%
36-45	104	19%
46-55	104	19%
56-65	142	26%
66 and over	104	19%
Prefer not to say	18	3%

41. What suburb/locality do you live in?

	N=533	
2333	5	1%
Baerami	1	0.2%
Denman	112	21%
East Brook Links	1	0.2%
East Muswellbrook	1	0.2%
Ironbark	1	0.2%
Martingdale	1	0.2%
McCulleys Gap	6	1%
Muscle Creek	1	0.2%
Muswellbrook	376	71%
North Muswellbrook	1	0.2%
Sandy Hollow	5	1%
South Muswellbrook	1	0.2%
Prefer not to say	21	4%

42. Please describe your household.

	N=535	
Single	84	16%
Couple	211	39%
Family unit 1-2 children	128	24%
Family unit 3+ children	69	13%
Household shared by unrelated people	21	4%
Prefer not to say	22	4%

43. Do you have children under the age of 2?

	N=534	
Yes	36	7%
No	498	93%

44. Does your household speak a language other than English at home?

	N=533	
Yes	11	2%
No	522	98%

Responses:

- Italian
- Filipino
- Chinese (x2)
- Greek
- Japanese
- Pitcairn
- Dutch
- Indonesian
- Sri Lankan

45. How long have you lived in the Muswellbrook LGA?

	N=535	
Less than 12 months	9	2%
1-5 years	75	14%
More than 5 years	451	84%

4.0 Discussion

The Muswellbrook Community Waste Survey responses provide a valuable insight into the waste-related knowledge, attitudes and behaviours of residents in the Muswellbrook LGA, and gives an indication of satisfaction with Council's waste service provision. The survey also provided an opportunity to introduce the FOGO service and assess both the community's appetite for, and concerns regarding, transitioning to a kerbside FOGO service in the future.

The responses, presented in section 3.0 above, have been further analysed and summarised for consideration and discussion as follows:

- Community participation in kerbside services
- Barriers (perceived or actual) preventing effective source separation and resource recovery within the current Recycling and GO streams
- Knowledge in regard to waste management and waste services
- Satisfaction with Council's waste collection services and facilities
- Community perceptions in regard to transitioning from a GO to FOGO service in the future

4.1. Participation in kerbside services

Of the survey respondents, 100% indicated that they had access to a kerbside general waste and recycling service and 97% had access to a kerbside GO service. Very high rates of participation were reported across all three kerbside waste services (general waste, recycling and GO) with 91% of respondents indicating that they use all three bins for different types of waste. 94% of respondents indicated that they separated recyclables from their general waste and 96% of respondents used their garden organics bin. A majority of respondents (71%) identified that they have a separate bin for recyclables in the kitchen, 17% of respondents store recyclables on the kitchen bench before taking them to the recycling bin, and 5% use a plastic bag as a receptacle for transporting recyclables that then get emptied into the recycling bin.

The percentage of respondents that indicated that 'no factors prevented them from separating recyclables or GO from other household wastes' was noticeably lower than the rates of participation figures – 73% and 65%, respectively. This suggests that while most residents are generally able and willing to separate recoverable materials, there are barriers that prevent them from being able source separate and recover all eligible materials all of the time, as discussed further in section 4.2.

92% of respondents presented their recycling bin to the kerbside fortnightly and 7% monthly. For the kerbside GO service, 77% presented their green lid bin to the kerbside fortnightly, 8% monthly and 11% identified that they only use their GO service seasonally.

Across the three kerbside waste streams, respondents' garden organics and recycling bins are most frequently presented at 51-75% full (32% and 40% of respondents, respectively). However, in the recycling stream, 37% of respondents also identified that their recycling bin was either between 76%-100% full or overflowing when presented to the kerbside for fortnightly collection. For the GO stream, 38% of respondents identified that their garden organics bin was either between 76%-100% full or overflowing when presented to the kerbside for fortnightly collection.

The fullness of the general waste bin when presented to kerbside for collection varied more, with no standout category observed among the fullness categories. However overall, 59% of respondents that presented their general waste bin to kerbside indicated that they were between 51% full to overflowing. Of all three waste streams, the general waste bin was the stream most frequently recorded as being presented to kerbside overflowing (20% of respondents). Only 15% of respondents presented a general waste bin that was less than 25% full.

4.2. Source separation and resource recovery barriers

The majority of respondents indicated that there were no factors preventing them from separating recyclables from general waste (73%). Of the potential barriers preventing source separation and resource recovery, the most common was related to their recycling bin being full before collection (10% of respondents), followed by respondents being doubtful that the material is actually recycled (5%) and that they don't know what happens to the recyclable materials after collection (3%).

However, the additional comments from respondents also suggest that there remains some confusion around material acceptability in the recycling bin – particularly in relation to plastics. There may also be a certain element of 'wish-cycling' going on within the community as a result of confusion regarding material acceptability in the recycling stream e.g. *"Not always sure if the type of plastic is recyclable or what bin styrofoam goes in"*. A number of respondents suggested that further education about what materials go in which bin is needed and would be valued. This would also help to minimise contamination incidences and improve resource recovery rates.

While 71% of respondents empty recyclable containers of food before they go in the recycling bin and 69% of respondents rinse recyclable containers most or all of the time, 28% of respondents only emptied food out most or some of the time, and 30% sometimes, hardly ever or never rinsed recyclable containers. This is reflected in the 'waste management knowledge' question (section 3.4) where 28% of respondents place packaging containing food and drink leftovers incorrectly in the recycling bin. While many respondents commented that rinsing recyclables helps to prevent bin odours, there were also a number of comments indicating that rinsing recyclable containers is perceived as a waste of time, a waste of water, costly as water is too expensive, or rinsing being unnecessary because this already happens at the recycling facility.

Considering the GO service, most respondents stated that there were no factors preventing them from using the service (65%). Of the potential barriers preventing resource recovery, the most common was related to their GO being full before collection (15% of respondents), followed by 8% of residents stating that they already compost/worm farm to divert organic waste so the GO service may be perceived as being surplus to requirements.

4.3. Waste management knowledge

Question 31 (section 3.4) asked respondents to indicate where they most commonly disposed of particular waste items and provides an insight into disposal behaviours and source separation knowledge. However, it should be acknowledged that these disposal behaviours may also be influenced by the availability of a convenient service. For example, the high proportion of respondents that indicated that they disposed of 'batteries' and 'fluoro light globes and tubes' in the general waste bin may be a combination of a belief that this is an acceptable disposal method and an unwillingness

to spend the additional time and effort required to dispose of these at the nearest Community Recycling Centre or via participating battery recycling stores.

The frequently reported disposal of household batteries and fluoro light globes and tubes in general waste is of significant concern, due to the safety and environmental hazards presented. The launch of Australia's first national battery recycling program (B-cycle) in February 2022 has made the process of battery recycling more accessible and convenient than ever, with drop-off points in popular supermarkets and retailers such as Woolworths, Coles, Bunnings, ALDI and Officeworks. Council may wish to consider developing targeted communications around the accepted battery types (which includes alkaline and lithium rechargeable batteries, power tool, e-bike and camera batteries in addition to normal household batteries that were accepted at ALDI and Officeworks stores prior to the launch of B-cycle), as well as promoting easily accessible drop-off locations.

Considering the responses to recycling participation questions, a majority of survey respondents indicated that they participate in recycling; present their recycling loosely; and have an internal source of separation system. Further, a majority of respondents indicated that they were very confident or confident recyclers (84%), with 15% of respondents indicating they were somewhat confident. However, surveys can only provide commentary on 'self-identified' behaviours from respondents that have agreed to participate in the survey, likely based on the topic heading. As a result, the assessment of behaviours drawn from survey responses is not as reliable as field observation. The difference between 'actual' and 'perceived' behaviours may require careful consideration, as attempts to change a behaviour that residents are unwilling to admit or unable to identify within their behaviour is not likely to be without its challenges.

From a recycling stream contamination perspective, shredded paper (62%), coffee cups (45%) and packaging with food and drink leftovers (28%) were the items most frequently reported as incorrectly placed in recycling bins. From a resource loss perspective, fruit and vegetable scraps (72%), steel cans (28%), magazines and glossy leaflets (23%), shampoo and detergent bottles (21%) and dead flowers, leaves and weeds (17%) were the items most frequently reported as lost to the general waste stream with viable resource recovery opportunities available via a backyard composting system, the kerbside GO bin or the kerbside recycling bin.

When considering the combined results sample numbers provided in section 3.4, it is evident that a number of respondents chose to skip the questions regarding several waste materials. The opportunity to provide the answer 'Don't have any' exists, and so it is possible that these materials were skipped as a result of low confidence i.e. respondents were unsure of where they should be correctly disposing these items and so chose not to provide a response for them. These materials could be considered as the subject of future education programs, to allow residents to feel confident that they are choosing the correct disposal method for unusual/uncommon, problem or hazardous waste materials.

While a majority of respondents rate recycling as very important or important (87%), a clear understanding of what happens to recyclables and other waste materials post-collection is lacking. Just over half of all respondents felt that they had a good understanding of what happens to general waste materials post-collection (53%), but 61% of respondents indicate that they had only an 'ok' or 'poor' understanding of what happens to recyclable materials post-collection, and 58% of respondents had an 'ok' or 'poor' understanding of what happens to GO materials once the bins are collected. The additional comments suggest that residents would value having access to more

information about what happens to the materials beyond the kerbside which may help to improve resource recovery rates and address some misconceptions.

A majority of respondents use/have used the Return and Earn service (75%) or have heard of the service but don't use it (24%). Similarly, a majority of respondents (61%) use or have used the Community Recycling Centre (CRC). However, 25% have heard of the CRC and don't use it and another 15% have never heard of it. When it comes to the Australasian Recycling Label (ARL), a majority of respondents have never heard of it (58%), whereas 20% of respondents have heard of it but don't understand it. Only 22% of respondents use the ARL to assist them in recycling correctly.

4.4. Community perceptions of a kerbside FOGO service

Currently, 68% of respondents dispose of food scraps via their red lid general waste bin. This could be a result of several constraints, including habits ('this is what I have always done'), a lack of space to set up a backyard compost bin or worm farm; insufficient knowledge of how to better dispose of this waste type; perceived time/inconvenience of additional source separation requirements and system maintenance; lack of confidence using organics recycling systems; and financial constraints. A further 16% of respondents utilised a composting system or worm farm for their food scraps, and 12% of respondents also fed food scraps to pets.

The survey results indicated a good level of support for the introduction of a kerbside FOGO service in the future with 62% of respondents indicating that they would be very likely or likely to use this service for both food and garden waste. Section 3.4 highlighted the disposal of fruits and vegetables as the biggest opportunity for improved resource recovery, with 72% of respondents indicating that these are regularly placed in the general waste bin. In addition to this, over a third of all survey respondents 'never' separate their food scraps from general waste. These responses indicate that there is definite potential and opportunity to implement a targeted behaviour change program to divert this valuable resource from landfill. Food waste diversion through the introduction of a kerbside FOGO service will also reduce landfill generation and greenhouse gas emissions. Council should continue to promote and encourage backyard composting and worm farming through targeted education and engagement as a complement to any future FOGO kerbside service.

A majority of the respondents' comments in relation to the proposed introduction of a kerbside FOGO service were positive. Concerns around the FOGO service were predominantly related to odour which could be attributed to the perception that a FOGO service would continue to be serviced on a fortnightly basis (as the GO currently is). There were also some concerns around changes to the collection frequency of the other kerbside waste services once a FOGO service is introduced.

As addressed in section 4.1, 38% of respondents identified that their garden organics bin was either between 76%-100% full or overflowing when presented to the kerbside for collection. With the introduction of FOGO and the transition to a weekly service, this may help to alleviate some green lid bin capacity issues currently being experienced by some residents.

However, a change in collection frequency for the general waste stream from a weekly to fortnightly schedule may cause more of a concern to residents. 59% of respondents indicated that their 120L general waste bins were between 51% full to overflowing at the time of weekly collection and the general waste was the stream most frequently recorded as being presented to kerbside overflowing (20% of respondents). It will help to remind residents that the introduction of a kerbside FOGO service does not mean a

change to the volumes of waste being generated, rather it is providing additional opportunities to recover valuable resources and divert waste from landfill.

4.5. Waste service satisfaction

The level of satisfaction with the waste collection services and facilities was demonstrated to be positive. The majority of respondents indicated that they were 'Completely satisfied' or 'Satisfied' with these services (84%), with only 6% of respondents indicating a level of dissatisfaction. A high percentage of survey responses indicated satisfaction with the level of waste services information provided by Council (67%), although one-third of respondents were unsure or felt they did not receive enough information (33%).

These outcomes suggest that the public is likely to be receptive to waste-related engagement programs and that there may even be potential appetite. Overall, the most popular avenues for receiving information were via flyers in rates notices, mail outs to all residents, and Council's website also rating more highly than most, closely followed by social media posts. Therefore, these are the most highly recommended avenues for the deployment of future behaviour change engagement programs in the Muswellbrook LGA. The next most popular options were waste brochures, bin stickers, information via the internet and adverts/articles in local newspapers, and so Council may wish to give consideration to these mechanisms also.

While satisfaction with Council's waste service and facilities was positive overall, many of the responses and additional comments suggest that further information and education would be beneficial and well-received by the community.

As a result, the responses and comments from the Community Waste Survey can be used by Council to inform and develop strategic and relevant community education and engagement initiatives to address the specific waste management needs and meet the expectations of the Muswellbrook community. This could be achieved through a range of targeted engagement mechanisms such as collateral development, media campaigns and educational resource development, as examples. This strategic approach is more likely to improve knowledge and understanding regarding preferred waste minimisation, source separation and disposal behaviours; will assist in addressing misconceptions; and, in turn, help to minimise contamination incidences, improve rates of resource recovery, and maximise opportunities for landfill diversion.

5.0 Appendices

Appendix One. Full list of survey questions

1. Do you live in the Muswellbrook Local Government Area?
☐ Yes
☐ No *[If No, thanks and end survey]*
2. Do you have a kerbside waste collection?
☐ Yes **(go to question 5)**
☐ No **(go to question 3)**
3. Would you like to have access to a residential kerbside waste service?
☐ Yes **(go to question 4)**
☐ No *[thank you and end survey]*
4. What kerbside waste service(s) would you like Council to provide to you?
☐ A red lid general waste bin only
☐ A yellow lid recycling bin only
☐ A red lid general waste bin and a yellow lid recycling bin
☐ Access to all three bins- red lid general waste bin, yellow lid recycling bin and green lid garden organics bin
☐ Other: _____

[Thank you and end survey]
5. Which of the following Council provided waste services do you have at your residence? *(multiple responses allowed)*
☐ General waste bin (red lid)
☐ Recycling bin (yellow lid)
☐ Garden organics (green lid)
☐ Unsure
6. Do you use each of the kerbside bins for different types of waste materials?
☐ Yes, I use all three bins for different types of waste
☐ I only/ mostly use the general waste bin
☐ I only/ mostly use the recycling bin
☐ I only/ mostly use the general waste bin and recycling bin
☐ I do not know what the three types of bins are for
☐ I use whichever bin is closest
☐ I use whichever bin has room
☐ Unsure
☐ Other: _____
7. Approximately how full are your general waste (red lid) bins when you present them to the kerbside for collection?
☐ <25% full
☐ 26 - 50% full

- ☐ 51% - 75% full
- ☐ 76% full - 100% full
- ☐ Overflowing
- ☐ Unsure
- ☐ I don't have this bin

8. Approximately how full are your recycling (yellow lid) bins when you present them to the kerbside for collection?

- ☐ <25% full
- ☐ 26 - 50% full
- ☐ 51% - 75% full
- ☐ 76% full - 100% full
- ☐ Overflowing
- ☐ Unsure
- ☐ I don't have this bin

9. Approximately how full are your garden organics (green lid) bins when you present them to the kerbside for collection?

- ☐ <25% full
- ☐ 26 - 50% full
- ☐ 51% - 75% full
- ☐ 76% full - 100% full
- ☐ Overflowing
- ☐ Unsure
- ☐ I don't have this bin

Waste management behaviours – recycling

10. Does your household separate materials that can be recycled from general waste?

- ☐ Yes (**go to qus. 11**)
- ☐ Sometimes (**go to qus. 11**)
- ☐ No (**go to qus. 17**)

11. How often do you put your yellow lid recycling bin out on the kerbside to be emptied?

- ☐ Fortnightly
- ☐ Monthly
- ☐ Every couple of months
- ☐ Once every 6 months
- ☐ Hardly ever
- ☐ This is the responsibility of the site caretaker/ grounds person
- ☐ Other: _____

12. How do you separate your recyclable material from your general waste?

- ☐ I have a separate bin for recyclables in the kitchen
- ☐ I store them on the kitchen bench before taking them to the recycling bin



- ☐ I have a separate bin for recyclables in some / most rooms
- ☐ I reuse most materials for craft projects or other uses
- ☐ I take my waste out mixed, and then separate the general waste from the recycling where my kerbside bins are stored
- ☐ I put my recyclables into a plastic bag and then place it into the recycling bin
- ☐ I put my recyclables into a plastic bag and then empty them out loose into the recycling bin
- ☐ Other: _____

13. Do you empty your recyclable containers of food before you put them in the recycling bin?

- ☐ All of the time
- ☐ Most of the time
- ☐ Sometimes
- ☐ Hardly ever
- ☐ Never

Comment: -

14. Do you rinse your recyclable containers before you put them in the recycling bin?

- ☐ All of the time
- ☐ Most of the time
- ☐ Sometimes
- ☐ Hardly ever
- ☐ Never

Comment: -

15. How confident are you at recycling?

- ☐ Very confident
- ☐ Confident
- ☐ Somewhat confident
- ☐ Unconfident
- ☐ Very unconfident

16. How important is recycling to you?

- ☐ Very important
- ☐ Important
- ☐ Unsure
- ☐ Somewhat important
- ☐ Not important at all

17. What factor(s) prevent/might prevent you from separating recyclable material from your general waste? **[Allow for more than one response]**

- ☐ No factors prevent me from separating out my recyclables
- ☐ Separating the recyclables is time-consuming/not convenient



- ☐ I do not know how to recycle/ which materials can be recycled
- ☐ I do not have enough space to separate waste materials inside my home
- ☐ My recycling bin gets full before service day
- ☐ No-one in my household recycles
- ☐ I do not have a suitable bag/ receptacle to transport recyclables to the bin storage area
- ☐ I do not know what happens to my recycling once the bins are collected
- ☐ I do not see the point in recycling
- ☐ I doubt that the material is recycled
- ☐ I do not believe that recycling is cost-effective
- ☐ Other: _____

18. Does your household ever place general waste into the yellow lid recycling bin?

- ☐ Always (**go to qus. 19**)
- ☐ Sometimes (**go to qus. 19**)
- ☐ Never (**go to qus. 20**)

19. What factor(s) might lead to general waste being placed in your yellow lid recycling bin? **[Allow for more than one response]**

- ☐ Separating my waste is time-consuming/ not convenient
- ☐ I am unsure of what can and cannot be placed in my recycling bin
- ☐ My general waste bin gets full before collection day
- ☐ I do not believe that there is a benefit to separating recycling
- ☐ I do not see the benefit of recycling
- ☐ Other: _____

Waste management behaviours – garden organics

20. Does your household have access to/ use the green lid garden organics bin?

- ☐ Yes (**go to qus. 21**)
- ☐ No (**go to qus. 23 & onwards**)

21. How often do you put your garden organics bin out on the kerbside to be emptied?

- ☐ Fortnightly
- ☐ Monthly
- ☐ Every couple of months
- ☐ Once every 6 months
- ☐ Seasonal use
- ☐ Hardly ever
- ☐ This is the responsibility of the site caretaker/ grounds person

22. Does your household place garden organics (grass clippings, leaves etc.) in the general waste bin?

- ☐ Always
- ☐ Sometimes
- ☐ Never



23. What factor(s) prevent/ might prevent you from using your garden organics bin?

[Allow for selection of multiple answers]

- ☐ No factors prevent me from separating my garden organic waste
- ☐ I do not have a garden organics bin
- ☐ I use a home composting system
- ☐ Separating garden organic material is not convenient
- ☐ Separating garden organic material takes too much time
- ☐ I am unsure of what materials can and cannot be placed into my garden organics bin
- ☐ My garden organics bin gets full before collection day
- ☐ I do not believe that there is a benefit in diverting garden organic materials from landfill
- ☐ I doubt that the material is composted
- ☐ Other: _____

24. Does your household ever place general waste into the green lid garden organics bin?

- ☐ Always (**go to qus. 25**)
- ☐ Sometimes (**go to qus. 25**)
- ☐ Never (**go to qus. 26**)

25. What factor(s) might lead to general waste being placed in your garden organics bin? **[Allow for more than one response]**

- ☐ Separating my waste is time-consuming/ not convenient
- ☐ I am unsure of what can and cannot be placed in my garden organics bin
- ☐ My general waste bin gets full before collection day
- ☐ I do not believe that there is a benefit to separating garden organics
- ☐ I doubt that garden organics is composted
- ☐ Other: _____

26. Does your household separate food scraps from your general waste?

- ☐ Always
- ☐ Sometimes
- ☐ Never

27. How do you most commonly dispose of food scraps? (**Unprompted response**)

- ☐ Red lid general waste bin
- ☐ Yellow lid recycling bin
- ☐ Green lid garden organics bin
- ☐ Compost bin / pile, or worm farm
- ☐ Pets / animals e.g. dogs / chickens
- ☐ Other: _____

28. Council will be introducing a FOGO (food organics garden organics) service in the future where all food waste as well as garden waste can be placed into the

green lid bin and the bin will be collected weekly? How likely will you be to use this service for food waste and garden waste material?

- ☐ Very likely
- ☐ Likely
- ☐ Neutral
- ☐ Unlikely
- ☐ Very unlikely
- ☐ I'd need to know more about the service before I decide
- ☐ I will only use the service for garden waste
- ☐ Other: _____

Comments: _____

29. What factors might prevent you from using your green lid bin for food as well as garden waste? (**Unprompted response, multiple responses allowed**)

- ☐ Nothing would prevent me from using my green lid bin for food and garden waste
- ☐ Not enough capacity- I have too much garden waste
- ☐ I'd be worried it would smell
- ☐ I'd be worried about flies and vermin
- ☐ It is too messy and dirty
- ☐ It is not convenient to separate food waste
- ☐ I already compost /worm farm
- ☐ I give all my food scraps to pets / animals e.g. dogs / chickens
- ☐ Other: _____

Comments: _____

30. Council will provide a kitchen caddy and compostable liners to all households with a FOGO (food organics garden organics) service. How likely would you be to use these to collect and store food waste in your kitchen for the green lid bin?

- ☐ Highly likely
- ☐ Likely
- ☐ Neutral
- ☐ Unlikely
- ☐ Very unlikely
- ☐ Other: _____

Comments: _____

Waste management knowledge

31. Where would you currently most commonly place the following waste materials? [*Participants can select more than one option per item*]

	General waste bin (red lid)	Recycling bin (yellow lid)	Garden Organics bin (lime green lid)	Return & Earn (Drink container drop off points)	Other e.g. compost bin, CRC (Community Recycling Centre), waste facility,	Don't have any/ N/A
Aluminium cans						
Bagged waste items						
Batteries - car						
Batteries - household						
Cardboard						
Chipboard/MDF						
Clothing & shoes (old/worn out / unusable)						
Coffee cups (takeaway)						
Dead flowers / leaves, weeds						
E-waste e.g. laptops, phones						
Fluorescent light tubes & globes						
Fruit & veg scraps						
Garden hose						
Gas bottles						
Glass bottles & jars						
Lawn/grass clippings						
Magazines and glossy leaflets						
Milk bottles						
Nappies						
Newspapers						
Packing containing food and drink leftovers: bottles, plastic takeaway containers etc.						
Pet droppings						
Plant pots						

	General waste bin (red lid)	Recycling bin (yellow lid)	Garden Organics bin (lime green lid)	Return & Earn (Drink container drop off points)	Other e.g. compost bin, CRC (Community Recycling Centre), waste facility,	Don't have any/ N/A
Plastic shopping bags						
Plastic takeaway containers						
Plate scrapings / leftovers						
Polystyrene foam						
Scrap steel						
Shampoo & detergent bottles						
Shredded paper						
Soft drink bottles						
Soft plastics e.g. bread bags, pasta packets, biscuit wrappers etc.						
Steel cans						
Wood / timber						

Comment: -

32. How would you rate your understanding of what happens to the waste materials from each bin after collection?

	Garbage bin (red lid)	Recycling bin (yellow lid)	Garden organics bin (green lid)
Poor - I have no/little idea what happens to the waste materials			
Ok - I have some idea of what happens to the waste materials			
Good - I understand what happens to the waste materials			

Comment: -

Have you heard?

33. Have you heard of the Australasian Recycling Label (ARL)?

- ☐ Yes, but I don't understand it
- ☐ Yes, I use it to help me recycle correctly
- ☐ No

34. Have you heard of the Community Recycling Centre (CRC)?

- ☐ Yes, but I don't use it
- ☐ Yes, I use/ have used the CRC
- ☐ No

35. Have you heard of Return and Earn?

- ☐ Yes, but I don't use it
- ☐ Yes, I use/ have used Return and Earn
- ☐ No

Waste service satisfaction

36. Do you feel you receive enough information about waste services in your Council area?

- ☐ Yes
- ☐ No
- ☐ Unsure

Comment:

37. How would you prefer to receive information about Council's waste facilities and Council's waste collection services?

- ☐ Council website
- ☐ Calling Customer Service
- ☐ Community information sessions
- ☐ Waste brochure
- ☐ Library displays
- ☐ Internet
- ☐ Local newspaper articles / advertisements
- ☐ Mail outs to all residents
- ☐ Social media posts
- ☐ Flyer / information in rates notice
- ☐ Shopping centre displays
- ☐ Radio advertisements
- ☐ Information fridge magnets
- ☐ Council events
- ☐ Bin stickers
- ☐ Other (specify): _____

38. Overall, how satisfied are you with Council's waste collection system and waste services and facilities?

- ☐ Completely satisfied
- ☐ Satisfied
- ☐ Neither satisfied nor dissatisfied
- ☐ Dissatisfied
- ☐ Completely dissatisfied

Comment:

Demographic questions

39. Gender

- ☐ Male
- ☐ Female
- ☐ Non-binary
- ☐ Prefer not to say

40. Age group

- ☐ 25 and under
- ☐ 26-35
- ☐ 36-45
- ☐ 46-55
- ☐ 56-65
- ☐ 66 and over
- ☐ Prefer not to say

41. What suburb/ locality do you live in?

- ☐ _____
- ☐ Prefer not to say

42. Please describe your household

- ☐ Single (go to qus. 43)
- ☐ Couple (go to qus. 43)
- ☐ Family unit 1-2 children (go to qus. 42)
- ☐ Family unit 3+ children (go to qus. 42)
- ☐ Household shared by unrelated people (go to qus. 43)
- ☐ Prefer not to say (go to qus. 43)

43. Do you have children under the age of 2?

- ☐ Yes
- ☐ No

44. Does your household speak a language other than English at home?

- ☐ Yes – please specify: _____
- ☐ No

45. How long have you lived in the Muswellbrook LGA?

- ☐ Less than 12 months
- ☐ 1-5 years
- ☐ More than 5 years

Thank you for taking the time to support improved waste and recycling in the Muswellbrook Local Government Area.

<END SURVEY>





10.1.6.	Monthly Report to Council - Planning, Environment and Regulatory Services
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Attachments:	Nil
Responsible Officer:	Sharon Pope - Director - Planning & Environment
Author:	Michael Brady (Sustainability Officer - Waste), Kelly Lynch (Administration Officer), Tracy Ward (Sustainability Officer)
Community Plan Issue:	6 - Community Leadership
Community Plan Goal:	Collaborative and responsive leadership that meets the expectations and anticipates the needs of the community.
Community Plan Strategy:	6.2.1 - Maintain a strong focus on financial discipline to enable Council to properly respond to the needs of the communities it serves.

OFFICER'S RECOMMENDATION

The information contained in this report be noted.

Moved: _____ **Seconded:** _____

REPORT**PLANNING AND ENVIRONMENT*****Schedule 1: Development Applications Determined (1/5/2023-7/6/2023)***

DA No.	DESCRIPTION	PROPERTY	VALUE
2015.058.002	S4.55 (1A) Modification Garage	40 Carl Street Muswellbrook	\$10,000
2021.008.003	S4.55 (1) Modification - Ancillary Development Shed	12 Octagonal Way Muswellbrook	\$18,000
2023.043.001	Signage to be replaced for current Big W Signage - Marketplace	72-78 Brook Street Muswellbrook	\$62,400
2017.0100.002	S4.55(1A) Modification - Continuation of use - Shooting Range	Dolahentys Road McCullys Gap	-
2021.139.002	S4.55(1A) Modification - Alterations and Additions- Educational establishment	57 Maitland Street Muswellbrook	\$0
2023.034.001	Ancillary Development - Shed	12 Lou Fisher Place Muswellbrook	\$22,000



DA No.	DESCRIPTION	PROPERTY	VALUE
2019.030.003	S4.55 (1A) Modification - Minor amendments consistent with construction certificate plans.	28-32 Maitland Street Muswellbrook	\$0
2023.024.1	Shed	36 Hunter Terrace Muswellbrook	\$52,985
2023.022.1	Strata subdivision of land with existing duplex dwelling	5 Wattle Street Muswellbrook	\$10,000
2023.020.1	Construction of a Single Storey Dwelling	11 Herdsmen Close Muswellbrook	\$579,265
2023.016.1	Dwelling House	16 Martindale Street Denman	\$457,383
2023.013.1	Carport	4 Goruk Close Muswellbrook	\$10,000
2023.018.1	Dwelling House	Rouchel Gap Road McCullys Gap	\$785,294
2023.011.1	Single Storey Dwelling	69 Stockyard Parade Muswellbrook	\$669,210
2022.148.1	CONSTRUCTION OF A SHED (FARM BUILDING)	400 Yarrawa Road Denman	\$52,000
2023.002.1	Ancillary Development - Shed. Demolishing existing garden shed	4 Towarri Street Muswellbrook	\$29,858
2022.153.1	Two (2) lot Subdivision	53 Ford Street Muswellbrook	-
2012.184.2	S4.55(1A) Modification of Development Determination - Condition 1	31 Strathmore Road Muswellbrook	-
2021.146.1	Colourbond Steel Sheds and Transportable Lunchroom	24 Glen Munro Road Muswellbrook	\$117,381
2021.129.1	Animal Boarding & Training Facility	1949 Martindale Road Martindale	\$33,338,800
2022.154.1	Multi dwelling housing - Five (5) single storey dwellings	47 Osborn Avenue, Muswellbrook	\$1,550,000

TOTAL = 20

**Schedule 2: Development Applications Currently Being Assessed****As at 7/6/2023**

DA No.	DESCRIPTION	PROPERTY	VALUE
2023.053.1	Double-sided LED sign	1581 Merriwa Road, Sandy Hollow	\$34,029
2023. 047.1	Industrial Sheds and Lunchroom	26 Glen Munro Road, Muswellbrook	\$117,381
2023.049.1	Double Carport	14 Wilson Street, Muswellbrook	\$13,530
2023.056.1	Geotechnical investigations - potential pumped Hydro project	Limestone Road, Muswellbrook	\$993,939
2023. 054.1	Commercial Storage Building	39-41 Ogilvie Street, Denman	\$121,391
2023.052.1	Shed and Inground Swimming Pool	242-244 Queen Street, Muswellbrook	\$100,000
2021.035.3	S4.55 (1A) Modification - Community Centre Extension	5 Jersey Place, Muswellbrook	\$850,000
2023.051.1	Dwelling	2 Herdsmen Close, Muswellbrook	\$895,572
2021. 094.2	S4.55(1A) Modification Second Storey Addition, Inground Pool Alfresco	20 Cypress Place, Muswellbrook	\$250,000
2023. 055.1	Swimming Pool	10 Chablis Close, Muswellbrook	\$52,000
2023.050.1	Swimming Pool	31 Babbler Crescent, Muscle Creek	\$39,890
2023.048.1	Granny Flat, Double Garage and Driveway	11 Ogilvie Street, Denman	\$150,000
2023. 045.1	Ancillary Development - Shed & Demolition of Existing Shed	73 Ford Street, Muswellbrook	\$63,000
2012. 184.3	S4.55(1A) Modification- Change of Use-Metal Recycling Transfer Facility	31 Strathmore Road, Muswellbrook	-
2023.046.1	Inground Swimming Pool	51 Virginia Street, Denman	\$49,100



DA No.	DESCRIPTION	PROPERTY	VALUE
2023. 042.1	Ancillary Development - Shed	56 Stockyard Parade, Muswellbrook	\$33,005
2023. 044.1	Ancillary Development Shed	17 Lou Fisher Place, Muswellbrook	\$19,600
2023.037.1	Change of Use Health Consulting Room & Additions of an Accessible Ramp	86 Sydney Street, Muswellbrook	\$25,000
2023. 038.1	Construction of thirty (30) multi-dwelling housing (inc.4 adaptable) with associated car parking and landscaping	59 Tindale Street, Muswellbrook	\$4,462,000
2023. 041.1	Steel Frame Industrial structure	12 Wallarah Road, Muswellbrook	\$100,000
2023. 040.1	Steel frame Industrial Structure	4 Wallarah Road, Muswellbrook	\$100,000
2023.026.1	Refurbishment and additions to the Campbell's Corner building including new Council Chambers and Meeting Room, takeaway food shop fitout, new entryway and modified cafe space, fresh produce shop, commercial office fitout and a heritage tile display space	60-82 Bridge Street, Muswellbrook	\$1,261,252
2023.039.1	Shed with attached awning	188 Skellatar Stock Route, Muswellbrook	\$19,465
2023.035.1	Change of use to allow for the ground floor operation of a food bank.	75 Bridge Street, Muswellbrook	-
2023.036.1	Construction of Single Storey Dwelling with Attached Garage	5 Stockyard Parade, Muswellbrook	\$579,540
2023.017.1	Replace Existing Retaining Wall	4 Doyle Street, Muswellbrook	\$53,369
2023.029.1	Dwelling House	6 Stable Close, Muswellbrook	\$538,860
2023.028.1	Dwelling House	27 Stockyard Parade, Muswellbrook	\$597,955



DA No.	DESCRIPTION	PROPERTY	VALUE
2023.030.1	Shed	43 Stockyard Parade, Muswellbrook	\$16,110
2023.031.1	Alterations & Additions to Existing Dwelling to Create a Dual Occupancy with Swimming Pool	84 Palace Street, Denman	\$400,000
2023.014.1	Storage Complex - 103 self storage units and 12 open storage bays	Turner Street, Denman	\$3,555,527
2023.021.1	Shed over existing slab	3 Osborn Avenue, Muswellbrook	\$34,242
2023.023.1	Shed	5 Mussel Street, Muswellbrook	\$18,600
2022.147.1	Change of Use - Tyre Recycling Facility	12 Carramere Road, Muswellbrook	\$2,200,000
2022.121.1	Dual Occupancy and Strata Subdivision	12 Bimbadeen Drive, Muswellbrook	\$675,000
2023. 012.1	Ancillary Development - Shed	40 Sowerby Street, Muswellbrook	\$20,000
2023.004.1	Alterations and additions to commercial premises (Veterinary Hospital)	14 Aberdeen Street, Muswellbrook	\$181,650
2020.131.2	S4.55 (1A) Modification - Dwelling Additions and Swimming Pool	104 Osborn Avenue, Muswellbrook	\$198,000
2022.116.1	Farm Building	161A-161B Goulburn Drive, Sandy Hollow	\$24,139
2022.140.1	Change of Use - Industrial Development	12 Carramere Road, Muswellbrook	\$2,200,000
2022.151.1	Residential Shed	60 Stockyard Parade, Muswellbrook	\$40,000
2022.149.1	Single Storey Dwelling	56 Stockyard Parade, Muswellbrook	\$527,100
2022.129.1	Home Based Hair & Beauty Business	100 Yarrawa Deviation Rd, Yarrawa	\$5,000



DA No.	DESCRIPTION	PROPERTY	VALUE
2022.132.1	Sixty Eight (68) Lot Subdivision and Child Care Centre	9036 New England Highway, Muswellbrook	\$6,705,835
2022.124.1	Shed for Community Facility	17-19 Maitland Street, Muswellbrook	\$182,720
2022.128.1	Single Storey Dwelling	60 Stockyard Parade, Muswellbrook	\$426,445
2022.118.1	Ancillary Development - Shed	7 Shaw Crescent, Muswellbrook	\$48,300
2022.107.1	Single Storey Attached Dual Occupancy & Two (2) Lot Strata Subdivision	48 Finnegan Crescent, Muswellbrook	\$702,182
2017.018.3	S4.55 (1A) Modification - Modification to Outdoor Gaining area and Car Park Arrangement	15 Sydney Street, Muswellbrook	-
2022.095.1	Staged Demolition of Existing Buildings and Construction of New Grandstand and Amenities.	3 Wilkinson Avenue, Muswellbrook	\$9,455,600
2022.092.1	Subdivision of One (1) Lot into One Hundred & Ninety Four (194) Residential Lots	Almond Street, Denman	\$18,284,734
2022.080.1	Remediation and Earthworks	Coal Road, Muswellbrook	\$2,516,829
2022.045.1	Manufactured Home and Associated Structures	120 Yarraman Road, Muswellbrook	\$417,100
2002.205.9	S4.55 (1A) Modification Muswellbrook Coal Mine - Changes in Rehabilitation Framework	Muscle Creek Road, Muscle Creek	-
2022.030.1	Steel Framed Deck 7 Internal Fit Out	93A Hill Street, Muswellbrook	\$30,000
2021.137.1	Change Of Use to Educational Facility	820 Rosemount Road, Denman	-
2021.073.1	Temporary use of the land for receipt and dismantling of rail wagons with off-site disposal	18 Strathmore Road, Muswellbrook	\$50,000



DA No.	DESCRIPTION	PROPERTY	VALUE
2021.058.1	Organics Recycling Facility	252 Coal Road, Muswellbrook	\$3,850,000
2020.102.1	Hotel Accommodation (Royal Hotel)	10 Ogilvie Street, Denman	\$20,000
2020.083.1	Subdivision of one lot (1) into three (3)	60-62 Palace Street, Denman	\$10,000
2020.007.1	Additions and Alterations to existing Hotel	184 Bridge Street, Muswellbrook	\$110,000
2019.053.1	Subdivision of Two (2) Lots into Seventy Five (75) Lots	9027 New England Highway, Muswellbrook	\$4,875,600
2023.062.1	Shed with awning	27 Stockyard Parade, Muswellbrook	\$62,477
2023.061.1	Three (3) Lot Subdivision	Golden Hwy, Giants Creek	\$20,031
2023.060.1	Use and completion of partially constructed covered deck. Construction of awning over BBQ area, WC & Pool pump	22 Lorne Street, Muswellbrook	\$35,000
2023.059.1	Inground Fibreglass Swimming Pool, and Associated Safety Barriers	12 Octagonal Way, Muswellbrook	\$50,750
2023.058.1	Shed	107 Queen Street, Muswellbrook	\$39,956
2023.057.1	Battery Energy Storage System (BESS) and associated shed structures	981 New England Highway, Aberdeen	\$16,900,000
2023.019.1	Change of Use - Home Occupation	16 Burgundy Street, Muswellbrook	\$10,000
2022.018.2	New dwelling	71 Babbler Crescent, Muscle Creek	\$450,000
2021.159.2	Metal garage 75m ² and inground fibreglass pool 39000L	2A Bimbadeen Drive, Muswellbrook	\$20,000

Total = 71



20.1.12 Inspect onsite wastewater sewerage systems to ensure they are installed and maintained in compliance with regulatory requirements.

On-site Wastewater Statistics - 13 Month Analysis (2022/2023)

	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 23	Feb 23	Mar 23	Apr 23	May 23
Applications Received (new installation)	0	0	0	3	2	0	2	0	0	0	2	0	2
Applications Approved (new installation)	0	0	2	2	0	0	0	1	0	0	0	0	0
Inspections (new system)	1	0	0	0	0	0	2	1	0	0	7	0	0
Inspections (existing system)	18	39	1	1	0	0	1	1	0	2	0	0	0

24.1.5 Registration and inspection of regulated premises (caravan parks, food outlets, skin penetration premises, hairdressers, mortuaries, air handling systems) in accordance with regulatory requirements to ensure public health and safety is protected.

	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 23	Feb 23	Mar 23	Apr 23	May 23
Applications Received (new businesses)	0	1	3	3	7	1	1	3	3	13	10	1	13
Inspections (new businesses)	0	3	1	0	8	1	3	1	1	2	2	0	0
Inspections (existing businesses)	12	13	0	0	0	0	5	0	15	3	4	13	16
Reinspections	0	0	0	0	0	0	0	0	0	0	0	0	0



4.1.1.1 Reduce the environmental impact of development on our community by carrying out regular inspection of building sites and monitoring waste.

Building Site Compliance Inspection Statistics – 13 Month Analysis (2021/2022)

	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan 23	Feb 23	Mar 23	Apr 23	May 23
Total Sites Inspected	6	9	0	0	0	23	19	17	17	15	12	11	9
Total non-compliant and educated	0	0	0	0	0	0	0	0	0	0	0	0	1
Total compliance after education	0	0	0	0	0	23	19	0	0	15	12	0	9
Total Penalty Notices Issued	0	0	0	0	0	0	0	0	0	0	0	0	0

14.1.11 Continue surveillance and regulation of illegal dumping on an ongoing basis through participation in the Hunter Central Coast Regional Illegal Dumping Squad

13 Month Analysis (2021/2022)

	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan 23	Feb 23	Mar 23	Apr 23	May 23
Total Investigations	5	3	3	7	1	0	1			4	7	4	4
Total Clean up by Council - insufficient evidence	5	3	2	7	1	0	1			0	0		
Total Clean Up by individual	0	0	1	0	0	0	0			1	6		
Total Penalty Notices Issued	0	0	1	0	0	0	0			0	0		
Court Attendance Notice Issued	0	0	0	0	0	0	0			0	0		
Still under investigation	0	0	0	0	0	0	0			3	1		



24.1.8 Ensure statutory requirements under the Private Swimming Pools Program (Swimming Pool Act 1992) are implemented.

13 Month Analysis (2022-23) – as at 7/6/2023

	Ma y	Jun	Jul	Aug	Sep	Oct	N ov	Dec	Jan 23	Feb 23	Mar 23	Apr 23	Ma y 23	Total
Applications for Compliance Certs.	7	3	1	5	3	3	5	3	1	2	3	0	0	38

Total compliance inspections (not inc. finals for OCs)	4	0	24	18	17	9	4	10	5	11	8	7	4	112
Initial Inspections	3	0	18	11	8	8	1	7	1	3	5	2	1	67
Re-inspections	1	0	6	7	9	1	3	3	4	8	3	5	3	45

Compliance Certs / Occ. Certs issued	4	1	5	13	7	2	3	1	1	1	7	3	6	49
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Fees invoiced	\$14 00	\$49 86	\$28 45	\$24 86	\$38 63	\$47 7	\$1 05 0	\$12 63	\$36 3	\$70 0	\$86 3	\$74 0	\$78 6	\$20,5 97
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Total Pools in Council's SPR = 973

(Note: 1111 records in SPR but 135 have been notified as demolished, 2 are Council's Public Pools and 1 is on Crown Land)

Current Compliance = 28%

**SUSTAINABILITY****21 April to 18 May 2023****Waste Management at Sandy Hollow Public School**

Through funding from Council, Sandy Hollow Public School were able to purchase waste bins. The teachers will teach students about recycling to reduce the amount of waste to landfill they produce. They also received some battery recycling banks so that we can collect used batteries from the community and ensure that these are disposed of correctly.

**Muscle Creek History Sign**

A new sign was installed at the Bell Street section of Muscle Creek. This sign highlights some of the history of this area. Special thanks to Muswellbrook Shire Local & Family History Society and the Muswellbrook Golf Club. This project has been assisted by the NSW Government through its Environmental Trust.





Gene the Gardener Activity Book

The release of Genes Garden Party, proudly written and illustrated by the Warriors.

This follows the first book, Max the minimiser. The Warriors put these together with Sustainability staff to give away at their community events, educating our local community on the importance of/ and how to manage waste.



Bird Watching

Recently a bird watching walk occurred along Muscle Creek with residents. Big thanks Liz and Dave from Hunter Bird Observers Club for joining us and teaching us lots about birds. The next bird watching event will be held in Denman in July. This project has been assisted by the NSW Government through its Environmental Trust.



Picnic at the Park

Sustainability staff attended the Picnic at the Park run by Upper Hunter Community Services.



Youth Group

Upper Hunter Youth Service visited the Sustainability Hub. Sowing a variety of seeds for the youth to grow, plant, look after and eventually cook and eat. We also went for a walk to Muscle Creek.

**River Red Gum Genetics**

We recently had a visit from Tricia Hogbin (PhD) from the Research Centre for Ecosystem Resilience [Botanic Gardens Sydney](#) and Katie Elsley from Saving Our Species.

They are looking at the genetic diversity and climate resilience of our River Red Gums to ensure all the great work our community does planting native seedlings will lead to a healthy population of Hunter Floodplain Red Gum Woodland Endangered Ecological Community along Muscle Creek and the Hunter River. This work will continue as part of the newly Environmental Trust funded Restoration of Muscle Creek through Environmental and Educational Action project.

Flying Fox Camp Management Plan and Policy

The Muswellbrook Flying-Fox Camp Management Plan has been reviewed and updated. This plan provides instructions about managing the impacts of Flying-foxes from Council's perspective. As a part of this review, it was identified that a policy was also required. This draft policy has been developed and should be put on public exhibition soon.

OPENAIR project

The Sustainability Unit is now in the data collection phase of this project. Sensors which analyse PM2.5, PM10 and Nitrogen dioxide have been deployed in three locations across Muswellbrook. This data will be shared with a range of organisations to increase understanding of air quality issues faced by the Muswellbrook community. In later phases of the project, the sensors will be redeployed to locations near the New England Highway to obtain baseline nitrogen dioxide readings prior to the construction and use of the Muswellbrook Bypass. Nitrogen dioxide is emitted by combustion of diesel fuel.

Waste extension

The community continues to be consulted in relation to waste services in non-urban areas.

WIRES signs

NSW Wildlife Information Rescue and Education Service has sent some signs for Council to install, following the recently completing planting of native seedlings for wildlife in care. The signs include contact details for the care of injured wildlife, including Flying Foxes.

Sustainable Futures – Muswellbrook

The popularity of the Sustainable Futures – Muswellbrook Facebook page continues to grow. It has now received 1,664 page likes and 1,797 page followers. This page continues to be a great way for Council to engage with the community around a range of sustainability topics. This includes promoting the Community Recycling Centres, correct waste management practices, sewerage management, the Reuse Shop, soft plastic recycling, Sustainability Hub activities, reducing food waste, plastic free July, worm farms, composting, grant projects and more.