

## Weed Management: A Key Part Of The Araluen Creek Restoration Project

One of the key components of the Upper Deua Catchment Landcare Group (UDCLG), Araluen Creek restoration project is weed management. As part of this a Weed Management Plan was prepared for the UDCLG in 2021.

The plan assessed all the weeds/invasive woody weeds along the Araluen Creek riparian zone including the presence, abundance and classification of weed species within individual properties. It also included recommendations for eradication, control and remediation of the various weeds.

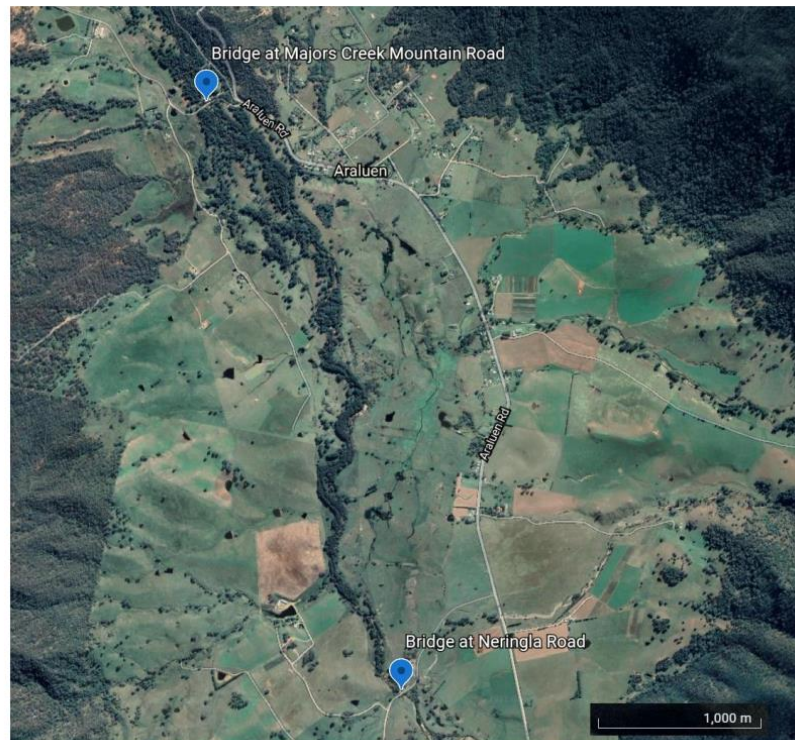
The Araluen Creek Weed Management Plan project area extends between Neringla Road in the south and Majors Creek Mountain Road in the north.

The survey identified seventeen species of weeds including:

- Two weeds of National Significance
- Two State Priority Weeds
- Seventeen Environmental Weeds
- One Local Management Programs Weed
- One Declared Pest Plant (ACT)

The most significant weed species identified within the Weed Management Project area are:

- **African Boxthorn** *Lycium ferocissimum*, a Weed of National Significance, which was recorded within 64 of the 91 survey sections.
- **Broad-leaved Privet** *Ligustrum lucidum*, an Environmental Weed, which was recorded within 71 of the 91 survey sections.
- **Small-leaved Privet** *Ligustrum sinense*, an Environmental Weed, which was recorded within 60 of the 91 survey sections.
- **Blackberry** *Rubus fruticosus species aggregata*, a Weed of National Significance, which was recorded within 19 of the 91 survey sections



Source: Google Earth

The presence of a range of growth stages (i.e. seedling to maturity) of African Boxthorn, Broad-leaved Privet and Small-leaved Privet indicate that the infestation of these weeds is actively increasing.

### Weed eradication and control

The WMP project area is located within a riparian zone, which will restrict the type of eradication and control methods employed if impacts on water quality and biodiversity are to be avoided.

It is therefore recommended that the following methods be applied in order of priority:

- Non-chemical eradication and control methods e.g. mechanical or manual removal.
- Use of chemicals without spraying e.g. cut and paint, direct drill treatments.
- Spray application using only herbicides registered for use in association with waterways.

## Araluen Creek Restoration Project

The Araluen Creek Restoration Project is undertaken by the Upper Deua Catchment Landcare Group (UDCLG), in partnership with Upper Shoalhaven Landcare Council and the South East Local Land Services. They are planning additional works to rehabilitate the Araluen Creek from the effects of drought, bushfires and flooding over recent years. Stabilization of the creek is necessary to prevent further catastrophic outcomes for the Valley and protect those downstream who depend on good water quality.

The Araluen Creek Restoration Project is funded through the Bushfire Community Recovery and Resilience Fund.

## African Boxthorn

Scientific name	Common name	Perennial or Annual	Summary information
<i>Lycium ferocissimum</i>	African Boxthorn	P	<p><b>General notes</b></p> <ul style="list-style-type: none"> <li>• A Weed of National Significance</li> <li>• Originally from South Africa</li> <li>• A quickly spreading and spiny shrub to 5 m tall and wide, spread by seed.</li> <li>• Without effective control, African Boxthorn has the potential to significantly increase and become more abundant.</li> <li>• Once established, it is difficult to eradicate. Sustained effort is required and removal of the taproot desirable.</li> <li>• Both physical and chemical control methods can be used, but any control efforts must be long-term to prevent re-establishment of populations from existing populations.</li> <li>• Prevention is the most cost-effective form of weed control. Early detection and removal will help prevent its spread.</li> </ul> <p><b>Potential impacts</b></p> <ul style="list-style-type: none"> <li>• Once established African Boxthorn can rapidly form impenetrable spiny thickets, reducing stock movement and the land available for pasture.</li> <li>• The fruit is a breeding ground for insect pests such as fruit fly, dried fruit beetles.</li> <li>• The fruit of this species are thought to be poisonous to livestock and humans.</li> </ul> <p><b>Further information</b></p> <p><a href="https://profiles.ala.org.au/opus/weeds-australia/profile/Lycium%20ferocissimum">https://profiles.ala.org.au/opus/weeds-australia/profile/Lycium%20ferocissimum</a></p> <p><a href="https://keyserver.lucidcentral.org/weeds/data/media/Html/lycium_ferocissimum.htm">https://keyserver.lucidcentral.org/weeds/data/media/Html/lycium_ferocissimum.htm</a></p>

## Recommended Control Methods

Scientific name	Common name	Chemical control	Non-chemical control
<i>Lycium ferocissimum</i>	African Boxthorn	<p>Cut and fell small trees. Apply neat Roundup Biactive® or Weedmaster Duo® to the cut stump instantly after cutting.</p> <p>Stem inject large trees with neat Roundup Biactive® or Weedmaster Duo® and leave in situ.</p> <p><b>Further information</b></p> <p><a href="https://weeds.dpi.nsw.gov.au/Weeds/AfricanBoxthorn">https://weeds.dpi.nsw.gov.au/Weeds/AfricanBoxthorn</a></p> <p><a href="https://profiles.ala.org.au/opus/weeds-australia/profile/Lycium%20ferocissimum">https://profiles.ala.org.au/opus/weeds-australia/profile/Lycium%20ferocissimum</a></p> <p><a href="#">Control African boxthorn</a></p>	<p>Pushing out the plants is the most efficient way to control mature thickets.</p> <p>Remove as many of the roots as possible and burn.</p> <p>Removal of the roots is much easier and more effective when the soil is moist.</p> <p>It is important to destroy all plant material after physical removal.</p> <p>Follow-up when regrowth appears and in autumn or when new seedlings appear.</p>

## Blackberry

<i>Rubus species aggregata</i>	Blackberry	P	<p><b>General notes</b></p> <ul style="list-style-type: none"> <li>• A Weed of National Significance</li> <li>• A long lived, sprawling, mound-forming, fast growing shrub to 2-3 metres tall impacting on agriculture, forestry and natural ecosystems.</li> <li>• It forms dense stands in native bush and paddocks forestry and production areas in cool to warm temperate areas, flowering in late spring summer and producing blackberry fruits in summer.</li> <li>• Seeds, usually identical to the mother plant, are spread by birds, animals and water, with established clumps rooting from cane tips each year also resulting in new plants.</li> <li>• In Australia, Blackberry is an aggregate of up to 20 micro-species which all look very similar but react differently to herbicides and control measures.</li> <li>• Physical and chemical control over time can help control blackberries.</li> </ul> <p><b>Potential impacts</b></p> <ul style="list-style-type: none"> <li>• Blackberry can reduce the carrying capacity of agricultural land, reduce stock movement and access to water, refuge pest species such as rabbits, and modify habitats for native fauna.</li> </ul> <p><b>Further information</b></p> <p><a href="https://profiles.ala.org.au/opus/weeds-australia/profile/Rubus%20fruticosus%20aggregata">https://profiles.ala.org.au/opus/weeds-australia/profile/Rubus%20fruticosus%20aggregata</a></p> <p><a href="https://keyserver.lucidcentral.org/weeds/data/media/Html/rubus_fruticosus_sp_agg.htm">https://keyserver.lucidcentral.org/weeds/data/media/Html/rubus_fruticosus_sp_agg.htm</a></p>
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Scientific name	Common name	Chemical control	Non-chemical control
<i>Rubus fruticosus species aggregata</i>	Blackberry	<p>Foliar spray with Roundup Biactive® or Weedmaster Duo®</p> <p>First year plants are easier to kill with herbicide.</p> <p>Well-established thickets may need more treatments.</p> <p><b>Further information</b></p> <p><a href="https://weeds.dpi.nsw.gov.au/Weeds/Blackberry">https://weeds.dpi.nsw.gov.au/Weeds/Blackberry</a></p> <p><a href="https://profiles.ala.org.au/opus/weeds-australia/profile/Rubus%20fruticosus%20aggregata">https://profiles.ala.org.au/opus/weeds-australia/profile/Rubus%20fruticosus%20aggregata</a></p> <p><a href="https://riversofcarbon.org.au/riparian-real-estate-guide-managing-blackberries-around-waterways/">https://riversofcarbon.org.au/riparian-real-estate-guide-managing-blackberries-around-waterways/</a></p> <p><a href="#">Control Blackberry</a></p>	<p>Hand removal (small infestations).</p> <p>Controlled grazing by goats can be effective.</p> <p>Physical control alone is rarely successful because it is difficult to remove all the roots.</p> <p>Cultivation often spreads blackberry further. Slashing can help make access through infestations, but promotes regrowth.</p> <p>After slashing, use a follow-up control.</p>

## Broad-leaved Privet

<i>Ligustrum lucidum</i>	Broad-leaved Privet	P	<p><b>General notes</b></p> <ul style="list-style-type: none"> <li>• An environmental weed in NSW.</li> <li>• A native of eastern Asia.</li> <li>• A small tree usually growing 4 to 12 m tall.</li> <li>• Has relatively large glossy leaves and produces masses of bluish-black fruit during winter.</li> <li>• Spread from gardens and hedges into bushland by birds and other animals that eat its fruit.</li> <li>• Has invaded rainforests, gullies and waterways in the coastal and sub-coastal districts of eastern and south-eastern Australia.</li> </ul> <p><b>Potential impacts</b></p> <ul style="list-style-type: none"> <li>• Broad-leaved Privet can form dense thickets which shade out and displace native species and can also transform the habitat available to native animals.</li> </ul> <p><b>Further information</b></p> <p><a href="https://profiles.ala.org.au/opus/weeds-australia/profile/Ligustrum%20lucidum">https://profiles.ala.org.au/opus/weeds-australia/profile/Ligustrum%20lucidum</a></p> <p><a href="https://keyserver.lucidcentral.org/weeds/data/media/Html/ligustrum_lucidum.htm">https://keyserver.lucidcentral.org/weeds/data/media/Html/ligustrum_lucidum.htm</a></p>
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Scientific name	Common name	Chemical control	Non-chemical control
<i>Ligustrum lucidum</i>	Broad-leaved Privet	<p>Cut and fell small trees. Apply neat Roundup Biactive® or Weedmaster Duo® to the cut stump instantly after cutting.</p> <p>Stem inject large trees with neat Roundup Biactive® or Weedmaster Duo® and leave in situ.</p> <p><b>Further information</b>  <a href="https://weeds.dpi.nsw.gov.au/Weeds/Privet/Broadleaf">https://weeds.dpi.nsw.gov.au/Weeds/Privet/Broadleaf</a>   <a href="https://profiles.ala.org.au/opus/weeds-australia/profile/Ligustrum%20lucidum">https://profiles.ala.org.au/opus/weeds-australia/profile/Ligustrum%20lucidum</a></p>	<p>Manual removal techniques allow for good control of privet with minimal disturbance to the surrounding vegetation.</p> <p>These techniques involve hand-weeding of small and medium-sized privet plants, where the gaps left by weeding must be similar to those that occur naturally after the death of a native plant.</p> <p>Soil disturbance should also be minimised.</p> <p>Earth-moving machinery may be suitable for removal of dense stands of privet if high levels of soil disturbance can be tolerated.</p> <p>Large areas of seedlings or regrowth can be slashed.</p> <p>These methods will reduce the seeding capacity of a large infestation, but will not eradicate it.</p> <p>Follow-up with herbicide control or manual removal may provide higher levels of control.</p>

## Small-leaved Privet

<i>Ligustrum sinense</i>	Small-leaved Privet	<p><b>P</b></p> <p><b>General notes</b></p> <ul style="list-style-type: none"> <li>• An environmental weed in NSW.</li> <li>• A native of eastern Asia.</li> <li>• A large shrub or small tree usually less than 3 m tall.</li> <li>• Has relatively small, paired leaves and produces bluish-black fruit during winter.</li> <li>• Spread from gardens and hedges into bushland areas by birds and other animals that eat its fruit.</li> <li>• Has invaded rainforests, gullies and waterways in the coastal and sub-coastal districts of eastern Australia.</li> </ul> <p><b>Potential impacts</b></p> <ul style="list-style-type: none"> <li>• Small-leaved Privet can form dense thickets which shade out and displace native species and can also transform the habitat available to native animals.</li> </ul> <p><b>Further information</b>  <a href="https://profiles.ala.org.au/opus/weeds-australia/profile/Ligustrum%20sinense">https://profiles.ala.org.au/opus/weeds-australia/profile/Ligustrum%20sinense</a>   <a href="https://keyserver.lucidcentral.org/weeds/data/media/Html/ligustrum_sinense.htm">https://keyserver.lucidcentral.org/weeds/data/media/Html/ligustrum_sinense.htm</a></p>	
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Scientific name	Common name	Chemical control	Non-chemical control
<i>Ligustrum sinense</i>	Small-leaved Privet	<p>Cut and fell small trees. Apply neat Roundup Biactive® or Weedmaster Duo® to the cut stump instantly after cutting.</p> <p>Stem inject large trees with neat Roundup Biactive® or Weedmaster Duo® and leave in situ.</p> <p><b>Further information</b>  <a href="https://weeds.dpi.nsw.gov.au/Weeds/Privet/Narrowleaf">https://weeds.dpi.nsw.gov.au/Weeds/Privet/Narrowleaf</a>   <a href="https://profiles.ala.org.au/opus/weeds-australia/profile/Ligustrum%20sinense">https://profiles.ala.org.au/opus/weeds-australia/profile/Ligustrum%20sinense</a></p>	<p>These methods will reduce the seeding capacity of a large infestations but will not eradicate it.</p> <p>Follow-up with herbicide control or manual removal.</p> <p>Pull or dig out small to medium sized plants by hand.</p> <p>If the root segments break, dig them out to prevent regrowth.</p> <p>Hang plants upside down to dry out the roots.</p> <p>This method minimises impacts on native plants and soil disturbance.</p> <p>Earth-moving machinery may be used for removal of dense stands of privet if high levels of soil disturbance can be tolerated.</p> <p>Large areas of seedlings or regrowth can be slashed.</p>