



UPPER DEUA CATCHMENT LANDCARE GROUP Inc. Araluen Creek Restoration Project 2021-2023

Report compiled and prepared by Cath Harrison, UDCLG Project Community Liaison.



This is a Bushfire Community Recovery and Resilience Fund project through the joint Commonwealth/State Disaster Recovery Funding Arrangement

Table of Contents

Page 3.....	Group introduction Overview & History
Page 4	Araluen Creek Restoration Project Description
Page 5.....	Araluen Valley Map of Project Sites
Page 6.....	Araluen Creek Restoration Project Description & photo Sites 1, 2 & 3
Page 7.....	Sites 4, 5 & 6
Page 8.....	Sites 7 & 8
Page 9.....	Sites 9, 10 & 11
Page 10.....	Sites 12 & 13
Page 11.....	Remediation Strategy
Page 12.....	Project Timeline
Page 13.....	Videographer & Documenting the Project
Page 14.....	Workshops
Page 15.....	Project Facts
Page 16.....	Weed Management – A Key Part of the Araluen Creek Restoration Project
Page 17.....	Landscape Ecology
Page 18.....	Revegetation of Remediated Sites
Page 19.....	Plant Species List
Page 20.....	Testimonials & Acknowledgements

UDCLG Executive

President: Tony Peters

E: antipeters@gmail.com

Secretary: Penny Hayman

E: phhayman@gmail.com

Treasurer: Robyn Clubb

E: clubbr@yahoo.com

Vice President: Helen Waddell

Project & Re-vegetation Information

Cath Harrison

E: cathharri@gmail.com

This document remains the property of the Upper Deua Catchment Landcare Group Inc and cannot be reproduced without permission of the group.

Upper Deua Catchment Landcare Group Introduction, Overview & History.

The Upper Deua Catchment Landcare Group Inc. was formed in 1996. The group started out with the purchase of aerial photographs of the area from Mericumbene in the south, to the Majors Creek escarpment in the upper reaches of the Araluen Valley. Our purpose was to identify areas of erosion, weed infestations and rectifying water quality issues. The Araluen Valley was extremely disturbed with the discovery of gold in 1851. Dredges worked the area for many decades, turning the valley over in search of fortune, leaving behind an environmental disaster.

In the past 27 years the group has been extremely active and successfully undertaken a series of major projects to repair damage with outstanding results. Members have efficiently managed these community projects utilising funding from a variety of sources.

In 2007 the group was awarded the Champion of the Catchment in recognition of outstanding results achieved in stabilization of the creek bed. A system of bedlog constructions (sills) utilizing 200 logs at 16 sites were strategically positioned and anchored in place - slowing the flow, creating in stream ponding, increasing biodiversity and improving water quality and quantity.

Upper Deua Catchment Landcare Group Major Projects 1996 – current:

- Araluen Creek Streambed Controls 1998-2004
- Araluen Creek Streambed Controls Extension – Site 16 2004-2010
- Bridge to Bridge Weed Project Commenced in 2013
- Araluen Creek Restoration Project 2021-2023

The UDCLG mission for riparian restoration:

- Stabilise the creek stream bed by controlling sediment movement.
- Reduce erosion pressures on the streambed and banks by removing debris blockages that divert the stream.
- Improve water quality, environmental health of the stream and increase ponding within the system.
- Improve biodiversity including increase of fish passage and native water-based plants.
- Reduce riparian weeds especially woody exotics including broom, blackberry, privet, seeding willows and the more recent invaders; St John's Wort, African Lovegrass and Madera Vine.
- Revegetate with endemic plants and regenerate degraded locations.

This area was badly impacted in the Black Summer Bushfires leaving a trail of destruction through the local environment. Post fire the environmental damage was pure devastation. With many significant flooding events to follow, we had a huge challenge ahead, hence the importance of the latest Araluen Creek Restoration Project.

Araluen Creek Restoration Project 2020-2023.

UDCLG's 2020 application to the Bushfire Community Recovery and Resilience Fund was successful and the group received \$290,000 to implement sediment control strategies in the Araluen Creek below the Neringla Bridge to its confluence with the Deua River. The lengthy drought, extreme bushfires and sixteen major flooding events in the past 3 years had created such high levels of damage that only major efforts could be employed to stabilise the Araluen Creek and its tributaries.

Together with our partners - Local Land Services, Soil Conservation Service and Upper Shoalhaven Landcare Council we assessed the damage and identified 13 sites requiring immediate attention in order to prevent further catastrophic outcomes for the Araluen Valley and those downstream who depend on good water quality. Improvements in stream stability will improve water quality, biodiversity and agricultural resilience.

Identified sites included stream bed erosion and bank collapse, sediment movement, stream deviations, weed infestation and instability created by the burnt landscape. Continuous and extreme weather events meant remedial action was a matter of urgency to intervene, or risk future weather extremities continuing to adversely impact the water catchment, its tributaries and the riparian zones of the Araluen Creek and Upper Deua river.

The grant success enabled UDCLG to devolve aspects of the project to ensure we maximised the outputs and outcomes from the project. Community involvement, landowner involvement and commitment was facilitated by UDCLG engaging a designated Community Liaison Officer. The project officer provided monthly newsletters and maintained effective communication between landowners, Soil Conservation and other devolved aspects that rested with USLC. USLC managed 6 workshops and engaged the local videographer for a short film of the project. USLC also partnered with us effectively to deliver the re-planting days which were so successful.

The UDCLG received a positive and enthusiastic response from landowners along the Araluen Creek and its main tributaries keen to participate and be part of this vital project. The positive benefits to both the landowner and the health of the creek are extensive and has been proven by past project outcomes increasing water quantity and stabilization of flood damaged locations. In-stream log sills and stabilisation works have remediated many sites along the creek. Log sill installations in situ for many years are still performing well and serving their purpose.

Project Outputs that supported community engagement.

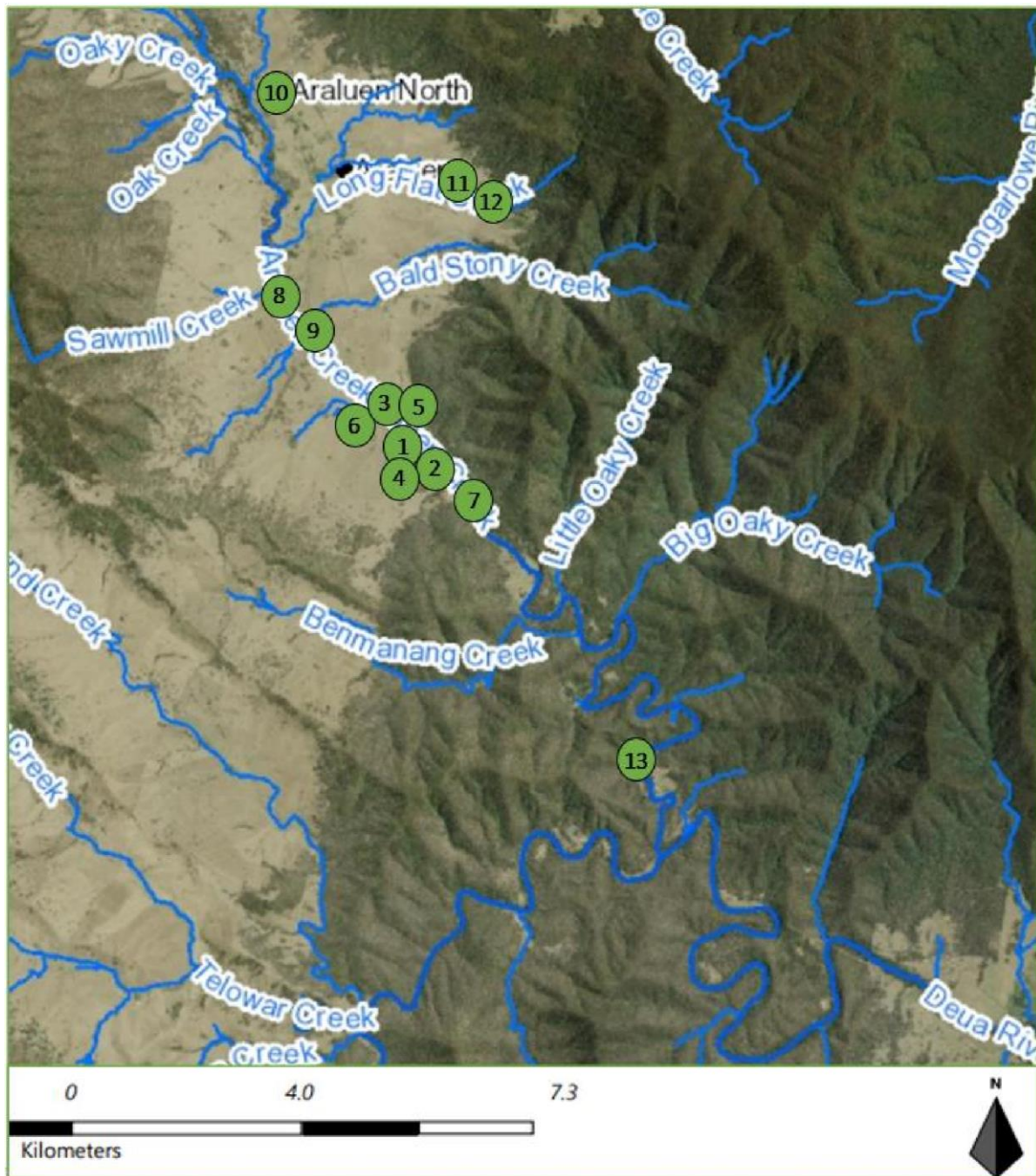
- 17 monthly newsletters distributed to keep the community informed through the project stages.
- Regular Media Releases to Braidwood Bugle, Changing Times and distributed throughout the Landcare network by the Upper Shoalhaven Landcare Council.
- Radio exposure via local community station – Braidwood 88.9 FM.
- 9 workshops of relevance to the project presented by Upper Shoalhaven Landcare Council.
- 3 major planting days with over 60 volunteers in attendance, equivalent to 400 voluntary hours.
- Group meetings and planning meetings held regularly. A total of 700 hours.

The co-ordination of all the facets of the project was supported by monthly meetings and the support of the broader Araluen community.



This is a Bushfire Community Recovery and Resilience Fund project through the joint Commonwealth/State Disaster Recovery Funding Arrangement

Araluen Valley: Araluen Creek Restoration Project Site Locations.



Key:

1. Head-cutting on side creek at dredge hole (L1)
2. Bank erosion in main creek at side creek confluence and outside bend (L3)
3. Minor erosion to flood-runner sediments (M3)
4. Head-cutting in paddock threatening access and creek stability (L2)
5. Big tree choke diverting flows into banks and bed (M1)
6. Erosion at former sand sausage site (M2)
7. Flood diversion leading to severe bank erosion, and other problems (C1)
8. Fallen trees and bed erosion (Lease2)
9. Severe erosion of outside bend (Lease1)
10. Severe bed erosion above main road crossing, Dirty Butter Creek (I1)
11. Washed out crossing and bed erosion (H2)
12. Washed out crossing and bed erosion (H2)
13. Bank erosion and possible flood-runner bed erosion (H&P1)

Araluen Creek Restoration Project Sites.

Site 1. Work ID: L1: Headcutting on side creek at dredge hole.



Before

- Install rock ramp in upper headcut to control drop and prevent upstream migration.
- Modify drainage in paddock to take water away from lower headcut and discharge safely to main creek.

After

Site 2. Work ID: L3: Bank erosion in main creek at side creek confluence and outside bend.



- Install rootballs at confluence point to reduce swirling and erosion.
- Modify shape of inner sandbar on bend to reduce flood pressure on outside of bend.

Site 3. Work ID: M3: Minor erosion in floodrunner sediments.



- Install rootballs in floodrunner to reduce bed erosion.

Site 4. Work ID: L3: Headcutting in paddock threatening access and creek stability.



Before

After

- Install rock ramp to control water and prevent erosion, and stop upstream migration.

Site 5. Work ID: M1: Big tree choke diverting flows into banks and bed.



Before

After

- Realign fallen trees to prevent floodwater causing erosion to bed and banks, and possible causing creek to permanently realign around choke.

Site 6. Work ID:M2: Erosion at former sand sausage site.



Before

After

- Install rootballs at base of erosion to slow floodwater and trap sediment, reducing erosion of the outer bank.
- Possible relocation of sediment on inside of bend.

Site 7. Work ID: C1 Flood diversion leading to severe bank erosion, and other problems.



Before



After



Before



After

- Install rootballs along eroding alignment and open up channel to prevent further erosion.
- Remove large choke in floodrunner.
- Excavate entrance to floodrunner allowing flood capacity.
- Other small-scale bank works by realignment and rootball / fallen tree installation where necessary.

Site 8. Work ID: Lease 2: Fallen trees and bed erosion.



Before



After

- Realign fallen trees to prevent bank scour.
- Install log sill below site to prevent bed erosion migrating upstream.

Site 9. Work ID: Lease 1: Severe erosion of outside bend.



Before

After

- Install rootballs in bank toe to prevent erosion.
- Realignment of channel closer to middle of creek.

Site 10. Work ID: I1: Severe bed erosion above main road crossing, Dirty Butter Creek.



- Install log weir and rock drop structure to prevent erosion migrating upstream.

Site 11. Work ID: H2 Washed out crossing and bed erosion.



Before

After

- Install log sill below crossing site and reinstate crossing with cobble material.
- Place rootballs on eroding bank above crossing site to prevent outflanking.

Site 12. Work ID: H1 Bed erosion downstream of concrete crossing



Before



After

- Install two log weirs with rock drop protection to prevent bed erosion worsening.

Site 13. Work ID: H&P1: Bank erosion and flood runner bed erosion.



Before



After

- Install two layers of root balls to prevent bank erosion and prevent flood runner bed erosion.

Community & Stakeholder Engagement



Remediation Strategies.



Hammering anchor points to cable tie logs in position.



Completed works.

The in-stream works undertaken will support the creek into the future and ensure the Valley is in good condition to meet some of the undoubted challenges that climate change will throw at us.

The Araluen Valley catchment is a unique and dynamic environment. Upper Deua Landcare aim to increase understanding of the area and implement strategies and works that support the installation of erosion controls, management of weed infestations and the rehabilitation of degraded areas due to bushfire and severe flooding.

This highly important project and its outcomes have provided the vital support and assistance to landholders, in partnership with Upper Deua Landcare, to successfully repair and stabilize erosion points along the creek minimizing further damage.

Specifically, the focus was on sites of significant damage below the Neringla Bridge, however landholders along the tributaries of the Araluen Creek were encouraged to register to enable site identification, assessment and remediation.

The UDCLG aim to raise community awareness of the fragility of the catchment and the vital importance of water quality for environmental, residential and agricultural purposes. We want to build community resilience and assist with the recovery and repair of our environment.



Strategic positioning of rootballs.



Truckload of hardwood posts for anchoring of logs and rootballs.

Project Timeline

December 2020	Bushfire Community Recovery & Resilience NSW Funding Application submitted.
April - May 2021	Application Approval - \$290,000 commitment to support the recovery of the Araluen Creek and its tributaries to its confluence with the Deua River. Administration requirements and funding agreement acceptance.
June 2021	Scope of works planning, timeline and stakeholder engagement locked in. Local Land Service, Soil Conservation Service, Upper Shoalhaven Landcare Council, Videographer Clare Young & Community Liaison Cath Harrison.
July 2021	Project information sessions held to provide project scope, seek expressions of interest and support from prospective participants. More than 20 local landholders and interested community members attended the information sessions held on 18 th & 30 th July at the Araluen Hall. Clare Young present recording interviews with participants and members of the Landcare executive. LLS & Soil Conservation Service along with Cath Harrison conducted site assessments and identified 20 sites for remediation.
August - September 2021	Negotiations commence with interested landholders seeking commitment and confirmation enabling the project to move forward with planning and onsite work logistics preparation. Meetings Cancelled due to Covid.
October 2021	Review of Environmental Factors Assessment (REF) undertaken by Greg Stone, BASc.
November - December 2021	Landholder Agreement negotiations complete. 7 landholders committed covering 13 sites Site plans, costing and assessments completed. Species Identification and plant lists prepared for revegetation of sites. Currockabilly Nursery, Monaro Natives and Cool Country Nursery engaged to grow 1500 endemic tube stock for the project. Biodegradable tree guards and hardwood stakes sourced.
January 2022	Supplementary items for participating landholders to exclude cattle from the creek and allow remediation and revegetation of sites including tanks, troughs, pipe, pumps and chemical - quoted and ordered from local supplier. Fencing credits to be made available for participants at their local rural supplier to fence out remediated site.
February 2022	USLC Workshop -Geology & Soils of the Araluen Region presented by Dr Leah Moore of the ANU was held at the Araluen Hall on 26 th February. 30 people were in attendance. This workshop received positive feedback and a call to rerun the presentation again at a later date.
March 2022	Araluen Mountain collapse – access problems in and out of the Valley. Supplementary item of tanks delivered to sites identified where livestock will be excluded. Contractor forced to postpone onsite works until Spring due to constant flooding and high flows at project sites.
April 2022	Tubestock for revegetation delivered to Araluen with planting to be held when sites are remediated.
May 2022	Workshop - Erosion Controls 28 th May. Well attended. Informative workshop led by Andy Taylor, Local Land Services, providing hands on technique to identify and remediate sites of erosion on your own property. Variation to extend the project completion date submitted due to the ongoing floods and site access problems.
June 2022	Workshop - Weed Management. The workshop was led by Daniel Anderson of Apical Bushfire & Planning. Daniel has 20 years of practical experience working with weed management he provided a group of 25 practical and informative advice, demonstration of technique, information on the best tools, how to tackle infestation, control strategy, chemical usage, safety and environmental factors.
July 2022	Workshop Looking After Creeks. Due to adverse weather delays we had to repot some of the tubestock as required to maintain growth. Material delivery to sites commenced.
August 2022	Supplementary items delivered to identified sites. Including cattle troughs and pipe. Material delivery to sites continues.
September 2022	Workshop - Native Seed Collection & Propagation Workshop presented by Lyn Ellis. On Saturday 3 September a workshop on native seed collection and propagation delivered useful, practical advice and hands on technique that gave participants the knowledge needed to collect and propagate native species at home.
October 2022	Consistent wet weather has resulted in onsite works not being able to commence. High flows at sites and boggy conditions.
November 2022	Workshop - Seed Sowing Day was a strategy to reinforce plant stocks for future plantings of locally grown endemic plants. On site works commenced.

- December 2022** Onsite works continue up to 20 Dec for Christmas shutdown, 9 sites completed.
- January 2023** Contractor delays due to unforeseen circumstances.
- February 2023** Contractors completed remediation works on 11 sites. Landholder stock exclusion and preparation for re vegetation. Second Weed Management Workshop with Apical.
- March 2023** Preparing for planting day set for 2nd April and planning timeframe for planting out other sites.
- April 2023** Successful planting day with 25 volunteers, 420 tubestock planted, guarded and watered on showcase site H1. Preparations for further tree plantings in May.

Videographer & Documenting the Project.



Clare Young interviewing Lyall Bogie with Clare Henderson.

Clare Young – Local Filmmaker

Local filmmaker, Clare Young has been engaged to document parts of the project and to help showcase the amazing work we are doing in the community.

Clare said, “that the project brings together two of my passions: supporting the environment to thrive; and providing an opportunity for local communities to tell their stories, so I’m really happy to be able to help.”



Araluen Hall interviewing local residents.



Clare onsite capturing planting day footage.

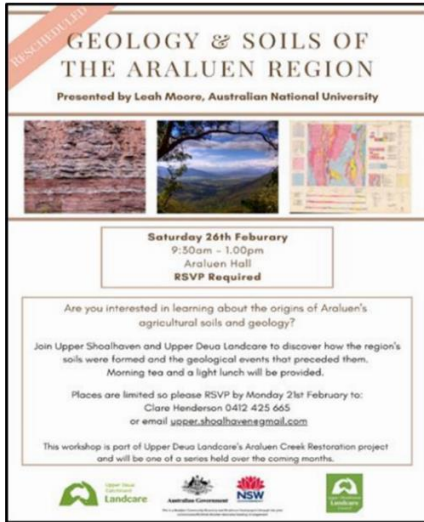


Clare in her element onsite for the home schoolers planting day.

Project Workshops.

A series of engaging workshops have been held in conjunction with the Araluen Creek Restoration Project and run in partnership with the Upper Shoalhaven Landcare Council. These workshops provided participants with practical skills, new learnings and education on issues that are endemic to the Araluen Valley with topics ranging from weed and erosion controls, local geology, native seed collection and propagation. Practical hands-on demonstrations provided participants with techniques on how to identify and remediate potential problems on your property. All workshops were well attended with considerable local community interest and enthusiasm.

GEOLGY & SOILS OF THE ARALUEN REGION
Presented by Leah Moore, Australian National University




Saturday 26th February
9:30am - 1:00pm
Araluen Hall
RSVP Required

Are you interested in learning about the origins of Araluen's agricultural soils and geology?

Join Upper Shoalhaven and Upper Deua Landcare to discover how the region's soils were formed and the geological events that preceded them. Morning tea and a light lunch will be provided.

Places are limited so please RSVP by Monday 21st February to:
Clare Henderson 0412 425 665
or email upper.shoalhaven@gmail.com

This workshop is part of Upper Deua Landcare's Araluen Creek Restoration project and will be one of a series held over the coming months.



SAVE THE DATE

EROSION CONTROL WORKSHOP



SATURDAY 20th NOVEMBER 9.30am - 12.30pm
856 Majors Creek Mountain Road (directions given upon RSVP)

Register your interest to upper.shoalhaven@gmail.com OR 0423 015 291

This workshop will provide landholders with hands-on skills and information on how to treat and prevent erosion after fire. The workshop will cover erosion processes and control techniques, it will help you to identify which control technique is best suited to your catchment size and soil type. The workshop will include low cost soil erosion techniques and more technical erosion structures.

This workshop is part of Upper Deua Landcare's Araluen Creek Restoration project.



UPPER DEUA LANDCARE INVITE YOU TO OUR

native seed collection and propagation workshop



presented by Lyn Ellis
SATURDAY 3 SEPTEMBER 10.30AM - 3.30PM ARALUEN

RSVP TO CLARE@DACELO.COM.AU OR 0412 425 665

Suitable for beginners or those with familiarity with native plant seed collection and propagation. It will cover:

- benefits and importance of local seed
- tools and materials to collect seed
- different seed/fruit types and timing of collection
- techniques to collect seed
- seed processing, storage and record-keeping
- methods of seed propagation and equipment
- making your own propagation mix
- care for your native seedlings

FREE ENTRY, MORNING TEA AND A LIGHT LUNCH PROVIDED PLUS PARTICIPANTS GET A TRAY OF PLANTED SEEDS TO TAKE HOME

This workshop is kindly funded by the Upper Shoalhaven Landcare Council under their Landcare Led Bushfire Recovery Grant Project. The Project has been generously supported by the Australian Government's Bushfire Recovery Program. All website and other material.



WEED MANAGEMENT WORKSHOP



SATURDAY 25TH JUNE 9:30 - 2:30 PM
ARALUEN CREEK, ARALUEN (DIRECTIONS GIVEN UPON RSVP)

Register your interest to Clare Henderson 0412 425 665 OR upper.shoalhaven@gmail.com

At this workshop weed management experts, Apical, will outline restoration, remediation and weed eradication processes and principles. They will also provide practical demonstrations of weed removal and bush regeneration on site along the Araluen Creek. The focus will be on - African Boxthorn, Broad-leaved Privet, Small-leaved Privet and blackberry. Techniques will address management and control measures for different stages of growth - seeding through to mature plants. Morning tea and lunch provided. This workshop is part of Upper Deua Landcare's Araluen Creek Restoration project.



Workshop
Upper Shoalhaven Landcare Council with Upper Deua Landcare Catchment Group
PRESENTS

LOOKING AFTER CREEKS


SATURDAY 23 JULY
9.30am to 1.00pm
Wisbey's Cafe, Araluen

FEATURING
Lori Gould of Rivers of Carbon
www.riversofcarbon.org.au

The workshop will cover:

- riparian management options
- creating healthy riparian areas
- monitoring waterways (waterwatch)
- riparian habitat and indicators.

RSVP
Register your interest to Clare Henderson 0412 425 665 OR upper.shoalhaven@gmail.com
This workshop is part of the Araluen Creek Restoration project.



WEED MANAGEMENT WORKSHOP



SATURDAY 25 FEBRUARY 8:30AM - 2:30PM
ARALUEN CREEK, ARALUEN (DIRECTIONS GIVEN UPON RSVP)

Register your interest to Clare Henderson 0412 425 665 OR upper.shoalhaven@gmail.com

At this workshop weed management experts, Apical, will outline restoration, remediation and weed eradication processes and principles. They will also provide practical demonstrations of weed removal and bush regeneration on site along Araluen Creek. The focus will be on - creepers and native grasses, in particular, Madeira Winter Cherry Vine, an emerging threat in the region and weed grasses such as Serrated Tussock and African Lovegrass. Techniques will address management and control measures for different stages of growth - seeding through to mature plants. Morning tea and lunch provided. This workshop is part of Upper Deua Catchment Landcare's Araluen Creek Restoration project.



Project Facts.

- Voluntary hours committed to planning, meetings, reporting, and delivery of the project through to revegetation of remediated sites: Estimated at over 1,500 hours.
- Six educational workshops were conducted on Saturdays for the Araluen and broader community, in summary:
 - 26 February 2022 – Geology of Araluen Workshop – 30 attended.
 - 28 May 2022 – Soil Erosion Workshop – 15 attended.
 - 25 June 2022 – Apical Weeds Workshop – 25 attended.
 - 27 August 2022 – Riparian Workshop - 25 attended.
 - 3 September 2022 – Seed Collection and Propagation Workshop – 17 attended.
 - 25 February 2023 - Apical Weeds Workshop #2 – 25 attended.
- Project coordination, landholder liaison and facilitation of key deliverables: 700 hours.
- Revegetation of remediated sites with 1500 endemic native species. USLC and UDCLG committed to support and manage 3 community planting days, local plant nursery expert assisted with the selection of planting lists.
- 3 major planting days with over 20 volunteers attending all local folk and helpers from afar. A great day was held with the Braidwood home-schoolers group.
- Materials required for the remediation of identified sites:
 - 460 tonnes of large rocks.
 - 29 truckloads of root balls.
 - 32 x 6 metre hardwood logs.



Delivery of rocks to site.



Planning revegetation.

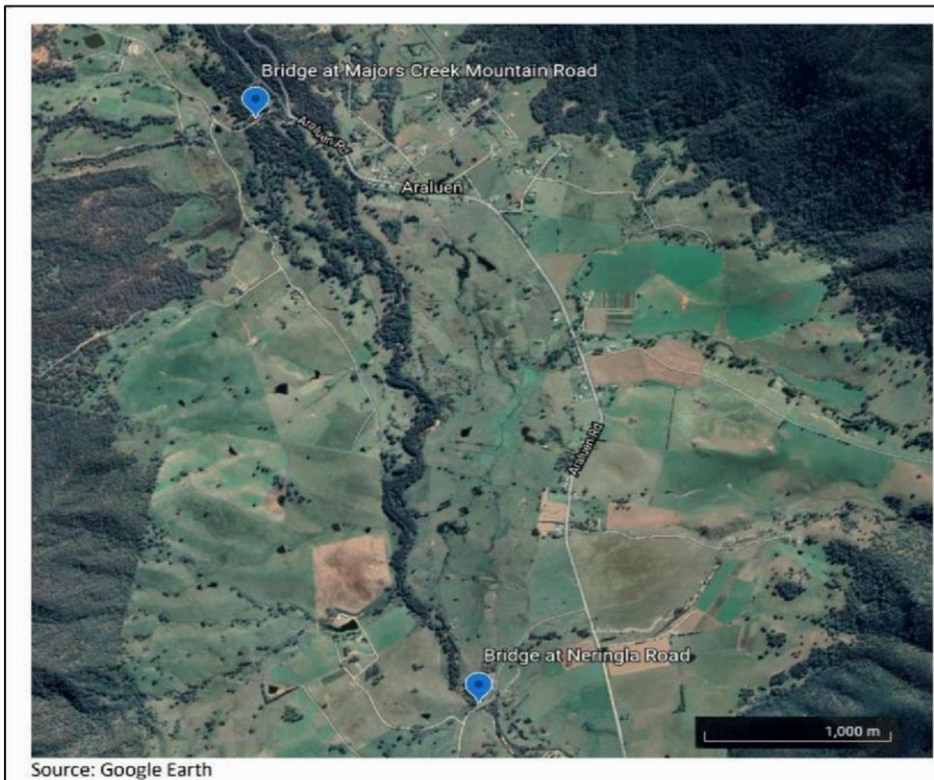


Site Assessments.

Weed Management: A Key Part of the Araluen Creek Restoration Project.

A key component of the Upper Deua Catchment Landcare Group's (UDCLG) Araluen Creek Restoration Project is controlling weeds and a Weed Management Plan was prepared in 2021.

The survey assessed weeds along the Araluen Creek riparian zone from Bridge to Bridge (refer map below). This included presence, abundance, and classification of weed species within individual properties. A total of 91 monitoring sites were assessed. Based on the survey, the report included recommendations for eradication, control and remediation of the various weeds.



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

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 woody 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 (70%).
- **Broad-leaved Privet (*Ligustrum lucidum*)** an Environmental Weed, which was recorded within 71 of the 91 (78%) survey sections.
- **Small-leaved Privet (*Ligustrum sinense*)** an Environmental Weed, which was recorded within 60 of the 91 survey sections (67%).
- **Blackberry (*Rubus fruticosus species aggregate*)** a Weed of National Significance, which was recorded within 19 of the 91 survey sections (21%).

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

Landscape Ecology.

The control or eradication of invasive plants must be undertaken with strategic foresight. All activities must be carefully planned to ensure clear targets can be achieved, and that efforts are directed towards the most beneficial and achievable outcomes for a given project objective at a given point in time.

Refer to your weed management plan - adapt and modify. Update the plan to represent the project progressions. Nothing in ecological science is static. Conceptualize the orders of cause and effect – all inputs create outputs, feedback loops and change thresholds are real and can be measured in biological science. To this end, focus the inputs (effort, resources, investments) into activities that are achievable and measurable. Only start actions that can be finished and only start actions that can deliver a defined goal. Think about successional processes or what comes next. If we intervene in a cycle or trend – then we must change a threshold to achieve a sustainable reward.

Weed control – is a function of stopping the spread of unwanted plants. We can measure this by weed extent, cover, and presence.

Weed Eradication – is a function of changing thresholds in the landscape, replacing a trend or dominant weeds species with something different. Weed eradication has multiple phases and must lead to a new pattern of plant interactions in the landscape to be successful.

Landscape Restoration – is a function of successfully integrating several key actions to influence the balance of interactions (feedbacks – relationships) in a system that creates a new or novel desired balance. Landscape restoration in effect is the sum of all parts and should be measured in qualitative terms. What is the quality of our creations with regard to things like habitat, biodiversity, water quality, soil health, species diversity, local climate and overall resilience?

Daniel Anderson, Apical
August 2022



Daniel Anderson & Jacob Proust of Apical talking weed control techniques at workshop.

Eight information sheets were prepared, circulated to workshop participants, and advertised in various social media, community newsletters and regional media.

- Weed management: a key part of the Araluen Restoration Project.
- Tips for managing privet.
- Tips for managing boxthorn.
- Tips for managing madeira vine.
- Tips for managing blackberry.
- Native seed soil planting mix guide.
- Tips for propagating native tubestock.
- Planting list.

Revegetation of Remediated Sites.



Re Vegetation of Sites

The project has experienced many delays. To get to the revegetation stage was a great achievement and major project milestone. The community planting days marked the project reaching completion.

Volunteers assisted with this component of the project and enabled the planting of 1,500 tube stock across the 13 sites. All planting days were well attended and planting targets reached.

Water Testing

The group has commenced a monthly water testing regime with volunteers testing the creeks water at 6 locations spanning its length from the Majors Creek escarpment to the creek's confluence with the Deua River. Testing will enable data analysis and identify changes in water quality over time.



Nursery purchased tube stock for revegetation.



Endemic seed selection for propagation at workshop.



Sowing local endemic seeds at Native Seed Propagation Workshop as a reinforcement strategy to provide plant stock for further revegetation of remediated sites.



Planting Day 2nd April 2023 – volunteers revegetating remediated site.

Araluen Creek Restoration Project Plant Species List ReVegetation of Remediated sites.

Botanical Name	Common Name	Category
Acacia covenyl	Blue Bush	Shrub
Acacia mearnsii	Black Wattle	Tree
Acacia paradoxa	Kangaroo Acacia	Tree
Acacia pravissima	Ovens Wattle	Tree
Acacia rubida	Red Stem Wattle	Tree
Acacia ulicifolia	Juniper Wattle	Tree
Brachycthon popolneum	Kurrajong	Tree
Bursaria spinosa	Sweet Bursaria	Shrub
Callistemon citrinus	Crimson Bottlebrush	Shrub
Callistemon linaris	Long leaf Bottlebrush	Shrub
Cassinia longifolia	Shiny Cassinia	Shrub
Casaurina cunninghamiana	River Shea Oak	Tree
Carex apressa	Tall Sedge	Grass
Corea glabra	Rock Corea	Shrub
Davisea mimosoides or ulicifolia	Black Leaf Bitter Pea	Shrub
Dianella caerulea	Paroo Lily	G/Cover
Dodonea viscosa	Hop Bush	Shrub
Eucalyptus elata	Sydney River Peppermint	Tree
Eucalyptus fraxinaides	White Mountain Ash	Tree
Eucalyptus melliodora	Yellow Box	Tree
Eucalyptus sideroxylon	Red Ironbark	Tree
Eucalyptus tereticornis	Forest Red Gum	Tree
Eucalyptus viminalis	Manna or Ribbon Gum	Tree
Ficinnia nodosa	Club Rush	Grass
Hardenbergia violacea	Hardenbergia	G Cover
Indigofera australis	Australian Indigo	Shrub
Juncus krausii	Kangaroo Acacia	Grass
Kangaroo grass	Kangaroo Grass	Grass
Melaleuca arachnoides	Spidery Tea Tree	Shrub
Melaleuca linarlifolia	Snow in Summer	Shrub
Melaleuca parvistaminea	Local Paper Park	Tree
Poa lab	Common Tussock	Grass
Polyscias sambucifolia	Elderberry Panax	Shrub
Kunzea ericoides or parvifolia	White Tea Tree	Shrub
Kunzia bagganensia	Badga Carpet	G/Cover
Pultenaea subspicata	Pea Bush	Shrub
Solanum laciniatum	Tasmanian Kangaroo Apple	Shrub
Tasmania lanceolata	Mountain Pepper	Shrub



Testimonials.

“We had a great trip and an awesome day in Araluen. It certainly was a great opportunity to have a receptive group of interested and enthusiastic land managers and naturalists to communicate with and impart some of our derived knowledge”.

“Landcare is a national treasure and represents everything that can be great about Australian community we must protect these collective assets. It was great to see a strong and resilient network – which can lead a resurgence in the valley.”

Daniel Anderson of Apical

“I would like to say thank you to yourself and the Upper Deua Landcare Group for considering my property for rehabilitation funding and works on Araluen Creek. Since the bushfires I’ve tried to be proactive by fencing off the creek and erosion zones from livestock and planting a few trees. So this scope of work you have planned is greatly appreciated to help prevent future erosion to the creek and surrounds”.

Luke Lamont, project participant

At Weed Management Workshop on 25 June 2022:

“Really good workshop on Saturday - I really enjoyed it and learnt a lot - thanks for getting it all set up”.

Laurann Yen

Acknowledgements



This is a Bushfire Community Recovery and Resilience Fund project through the joint Commonwealth/State Disaster Recovery Funding Arrangement



The Upper Deua Catchment Landcare Group Inc. would like to acknowledge the land we live and work on, the Country of the Dhurga Language Group known as Yuin. We acknowledge the traditional owners and original Landcarers, and pay our respects to elder’s past, present and emerging, as well as the first nations people, culture and values that have nurtured this land for thousands of years. We hope to continue to learn and support this practice.



The Upper Deua Catchment Landcare Group wishes to take this opportunity to thank all our local volunteers and supporters who have generously assisted and participated in meetings, workshops and revegetation of sites as part of the Araluen Creek Restoration Project.