



# ***DUMARESQ CREEKLANDS***

***OUR GREATEST EYESORE  
Or  
OUR GREATEST ASSET***



**Presented by Bruce  
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## A HISTORY OF DUMARESQ CREEK

Prior to European settlement Dumaresq Creek was most likely an intermittent upland creek surrounded by native vegetation. In the more sheltered areas patches of New England Peppermint and Black Sally could probably have withstood the low winter temperatures. There would have likely been areas of callistemon and tea-tree thickets and a ground cover of native grasses, lomandra and other juncus. The creek would have not been incised into the landscape as it currently is rather would have had broad flood plains to manage flood events and have been a series of pools and riffles. Very few examples of this sort of ecosystem remain undisturbed in the New England!

The area was probably frequented by aboriginal communities during the warmer months for a variety of sustenance and cultural practices.

With the introduction of European settlement from 1839 onwards, a process of gradual catchment modification occurred. Initially land clearing occurred as grazing moved onto the tablelands then with the establishment of settlements, a gradual urbanization occurred. In 1898 Dumaresq Dam was constructed which changed the hydrology of Dumaresq Creek completely.

All these activities have caused significant changes to Dumaresq Creek. Rural practices have caused increased nutrient loads on the creek and along with Dumaresq Dam have changed the hydrology of the creek significantly. The urbanization of Armidale has further exacerbated this. Perhaps of most concern the additional of significant contamination process, Armidale abattoir, Armidale gasworks, Martin Street industry have all had a lasting impact on Dumaresq Creek.

In 1943 the aerial photo of Armidale shows Dumaresq Creek as an intermittent stream characterised by a series of pools and riffles. (Photo 1, Annexure 1)

## THE PROBLEM

From the mid 1970's to the early 1990's there was a massive explosion of weeds along Dumaresq Creek such as willow, poplar, blackberry, hawthorn, privet, phragmites etc. This caused a number of significant issues for the Armidale community and Dumaresq Creek.

The high density of exotic weeds caused changes to the flow of the creek in flood events. The location of deciduous vegetation close to the creek meant that every autumn a huge organic load was added to Dumaresq Creek causing eutrophication in the creek. Large parts of Dumaresq Creek have effectively become dead zones.

This change in Dumaresq Creek resulted in residents of Armidale starting to demand something should be done to repair the creek. In particular people wanted to be able to see water.

In the early 70's the Foundation Professor of the School of Natural Resources at UNE, Professor John Burton was chairman of a Creeklands Committee of Council when John Failes was Mayor. For a few years Council held a Creeklands Carnival to make people aware of how good an asset the creek could be if properly cleaned up and maintained. The Carnival took the form of a "Henly on Todd" event with open bottom boat races and an annual "Bathtub Derby" with a suitable trophy. Technicians in the School of Natural Resources would spend a few days before getting boats ready and sandbagging the crossings at Dangar St and Faulkner St to ensure there was enough water to float the "bathtubs". This event was hotly contested by particularly University Colleges and Football teams.

In the mid 80' Prof. Burton started a group to discuss what could be done to restore the creek. These meetings continued for a number of years, but with little resolution to the problem, because there were too many conflicting views on how to solve the problem. Professor Burton, an Engineer and Hydrologist, commented that "if a creek or river is allowed to flow freely it has the ability to repair itself both ecologically and hydrologically."

## **A BRIEF HISTORY OF THE FORMATION OF THE ARMIDALE URBAN RIVERCARE GROUP**

In 1996 Bruce Whan was elected to Armidale City Council. Council at the time was going through a revision of its plans of management for parks and recreational areas and also reviewing its flood management policies. Mr Whan was elected as chairman of both the Vegetation Committee and the Floodplain Management Committees of Council.

During that process it became apparent that there was no plan of management at all for the creeklands. Subsequently a Committee called the Dumaresq Creek Catchment Committee was formed to come up with plans to restore Dumaresq Creek, but again there were the same conflicting views. Eventually the committee found enough common ground and out of that process the Armidale Urban Rivercare Group (AURG) was formed and had its inaugural meeting in 2002. Councilor Peter Ducat chaired that meeting and Council deputy Engineer in charge of floodplain management Merv Chapman outlined how Council would support AURG.

Over the nearly 20 years since AURG was formed, the AURG has worked along the creek from UNE to Cookes Road, commencing with our first working bee site at Ken Jones Park in 2002. (Photos 2, 3 & 4, Annexure 1)

Since then more than 100 AURG volunteers have rehabilitated some 4.1 km of creek frontage, planted over 100,000 trees and shrubs and attracted over \$350,000 in grant funding.

## **GOALS OF THE AURG**

The goals of the AURG are:

- 1 Remove exotic vegetation within the creek line to reduce the amount of eutrophication that occurs each autumn along the creek. (Photos 5 & 6, Annexure 1)
- 2 Re-establish locally indigenous vegetation.
- 3 Maintain that native vegetation.
- 4 Through the above processes:
  - a. Enhance the ecological values and functions of Dumaresq Creek for the community;
  - b. Allow the creek to re-establish its natural equilibrium – considering a significantly modified rural and urban catchment that impacts on the creeks flow;
  - c. Looking to allow the creek to re-establish the pool and riffle zones along the creek within the modified environment;
  - d. Allow the creek to "service" the community as a drainage line for stormwater flow through Armidale;
  - e. Recognize the significantly contaminated nature of sections of the creek and provide an ecologically mechanism to manage that contamination.

Our main aim since our inception has been to restore the system of pools and riffles by natural processes. We have achieved that in a number of locations (Photos 7, 8 & 9, Annexure 1). We also aimed to re-establish locally indigenous native vegetation in the riparian area and in doing so to aid wildlife passage through the city from east to west.

### **WHAT AURG HAS ACHIEVED**

- 1 Has been an active community group since 2002.
- 2 Has over 100 members.
- 3 Planted approximately 100,000 plants.
- 4 Gone from a 50% planting success rate to nearly a 90% planting success rate.
- 5 Modified our planting techniques to high density plantings to out compete the weeds and aid long term management.
- 6 Expanded our planting lists with input from the Armidale Tree Group and Southern New England Landcare.
- 7 Removed an unknown amount of exotic tree and weed species along the creek line.
- 8 Brought in nearly \$350,000 in community grants to the Armidale community.
- 9 Restored nearly 4.1km and 8.2 hectares of Dumaresq Creek from UNE to Cookes Road.
- 10 Provided a huge number of educational outreach programs for all schools in Armidale, many multiple times.
- 11 Held large community planting days.

### **HOW WE HAVE INFORMED OUR MANAGEMENT TECHNIQUES**

AURG has developed its clearing and planting programs through an iterative process of learning with input from numerous experts over time. For example, in our initial planting we were getting less than 50% planting success. We are currently around 90% planting success. This increase in success has come from consulting and having input from restoration ecologists, hydrologists and landscape managers. AURG is now considered one of the experts in the New England for high density plantings in very cold climates.

From our beginnings we have relied heavily on the University of New England and in particular the School of Natural Resources and its modern-day equivalents at UNE for both technical and academic guidance. Mr Whan got his initial inspirations to take on the task of restoring Dumaresq Creek from Emeritus Professor John Burton. In his first year Nat Res lectures Prof Burton would draw a sketch of a raindrop and comment that without water there would be no life on earth. His sketch of a raindrop forms the basis of our AURG emblem. (Photo 10, Annexure 1)

Professor Richard Faulkner, former Head of the Department of Environmental Engineering and an expert in hydrology and flood hydraulics was a member of AURG and gave us advice on the formation of pools and riffles, erosion control and factors that caused pools to silt up. Richard was also the lead speaker at "A stream rehabilitation and tree planting field day" held on the banks of Dumaresq Creek on 9<sup>th</sup> Nov. 2003.

Professor Darren Ryder is a Professor in Aquatic Ecology and Leader of the Aquatic Ecology and Restoration Research Centre at UNE. Darren has monitored how successful we have been in restoring ecological value to the creeklands and has advised us on restoring pools and riffles along Dumaresq Creek. In 2019 AURG partnered with Professor Ryder and his group to apply for a grant to construct a wetland near Centennial Close. This was unsuccessful but we were encouraged by how close we came and would like to resurrect this proposal.

Professor Ryder and his group designed a very successful wetland for the Armidale Golf Club and had made submission to Armidale Regional Council about stormwater management options and associated wetlands for the center of Armidale.

Dr Steve Debus from the Zoology Department at UNE and Kath Wray OAM Citizens Wildlife Corridors were also keen members of the group and guided us with our planting patterns and species lists to create good wildlife habitat and the creation of wildlife corridors.

Student members of the Natural Resources Society have also helped out when their studies permit it. In "O week" in conjunction with Southern New England Landcare we assist the UNE Landcare Group by preparing planting sites and providing planting guidance to the 100's of 1<sup>st</sup> year students.

We are also greatly indebted to the keen group of Nat Res technicians who in their spare time formed the initial on-ground workforce to clear woody weeds and prepare planting sites. Also to members of the wider UNE community and citizens of Armidale who have been with the group since the beginning. People such as Trevor Wilson, Paul Lisle, Kate McGregor and Stuart Green were instrumental in setting up and supporting the AURG.

We have also had great support from Natural Resource graduates working in various environmental fields. Stuart Johnson a Rivercare Management officer with the Department of Land and Water Conservation (DLWC) advised us early on to form a Rivercare Group. Back then Rivercare and Dunecare were both being supported by DLWC before they eventually came under the Landcare banner. Mr Johnson also advised us on rehabilitation techniques and bank planting techniques to prevent erosion.

Stuart visited us a number of times to keep the group on track and he was in attendance at the launch of a stage of the Strategic Wildlife Corridors Project adjacent to Consett Davis Field at UNE.

Another Natural Resource graduate, Angus Adair, who works for the NSW Environment Protection Authority, was involved in our first planting at Ken Jones Park. Mr Adair has expertise in bird identification, frog calls and restoration ecology. He also has a broad background on environmental and planning law and specific expertise in the Armidale Creekland contamination issues (Martin Street and Armidale Gasworks). Mr Adair has also made sure that we are fully trained and accredited with certificates such as ChemCert, White Cards and Chainsaw.

In 2006 AURG was invited to become incorporated within the Southern New England Landcare Group (SNELC). This allowed the AURG to concentrate on its activities rather than its incorporation and also gained significant support in grant applications and administration.

Through SNELC the AURG was an active partner in the High-Country Urban Biodiversity Program (Hi-CUB) that was a large NSW Environmental Trust grant that went from 2009 – 2013. During this time AURG planted nearly 20,000 plants with help from the Armidale Tree Group and SNELC with very large active community engagement in the Armidale area. During this time key restoration ecologists such as David Carr and Nic Cobcroft provided guidance on species selection and planting techniques to the AURG. The AURG has further refined these to our processes that we adopt today.

Finally, the AURG has partnered with many local ecological experts in the Armidale community. This has largely been through the Armidale Tree Group and Southern New England Landcare Group.

Currently the group is run by and has substantial input from Mr Whan, Mr Bryan Johnstone, Mr Gordon Bell and Mr John Fitzgerald.

## **WORKING WITH COUNCIL**

The AURG has continued to have a close working relationship with Council staff particularly the Engineering and Town and Public Places sections until about 2012. David Stellar and Richard Morsley have been key in the establishment and support of AURG activities from our inception.

In 2012 new Councilors and Council staff limited the in-kind support from Council. This impacted AURG activities by the AURG having to then cost in the disposal of green waste cleared from the creeklands to be taken to the landfill and the supply of mulch for planting and revegetation activities. In addition to this the AURG then also had to fund the transport costs for the disposal of green waste and the collection and delivery of mulch. A flow on effect of this lack of support from Council has also meant a reduction in our success of grant applications as we struggled to meet in-kind financial contributions.

From 2016 until the present there has been no “in-kind support” from Council. However, Council has recently recognized this issues and are in negotiations with AURG about what support they can provide AURG for the provision of mulch and the removal and disposal of green waste.

Council's Public and Town Spaces section have helped us as much as possible by providing mapping services and with occasional requests for mulch.

In 2008 Councils Public and Town Places section recognized the work that the AURG was achieving along Dumaresq Creek and prepared a plan for this rehabilitation. This plan is titled “*Revegetation Guidelines for the Urban areas of Dumaresq Creek. 2009.*” This plan, which had AURG input, has been formally approved by Council (as POL204), and guides the recreation, use and rehabilitation actions along Dumaresq Creek from east of Cookes Road to west of UNE.

As the name suggests this document is a guide. It breaks the creek down into reaches and has management strategies which are “imposed” on each of those reaches. Those management strategies relate to the community, council and AURG activities in those areas and tries to balance the needs of the community and Council for activities along those sections of the creeklands.

The Guidelines gives AURG a goal to aim for, for each section of the creek. However, it is not until we have cleared a section of creek that we can work out how we can best rehabilitate the creek and what our planting strategy, and community access plan might be. This is because the weeds are so tall and dense in some sections that you have great difficulty fighting your way in to see what is there, let alone imagining how it should be planted.

As we are working on Council land, it is important that we respect what residents are expecting to do in these places. Generally these are areas of high community recreational activities. These activities include running, walking, bike riding, walking the dog, having a picnic and even bird watching and exercising. We like to make our planting areas easily accessible to the public and to do regular maintenance to control weeds, clean up flood debris, remove rubbish and trim trees next to paths. Also, if we can see where residents are walking their dogs or crossing the creek, we try to make these areas more accessible.

The AURG, in consultation with Council Parks and Gardens staff, work to create areas like “native gardens”, where they are kept tidy with formalized mow lines, but still retaining the high biodiversity values that will provide habitat, food and passage to native animals. The AURG believes that this in turn makes residents more confident about walking through these areas and enjoying the wide range of native plants and birdlife.

In 2018 Council engaged community consultation for the creating of the “*Armidale Creeklands Masterplan – Armidale Regional Council*”. This master plan covers the area of Dumaresq Creek from Taylor Street in the east to Markham Street to the west and is basically the city precinct area.

This Masterplan is looking to undertake a variety of works along this section of the creeklands to revitalize and enhance the communities use and experience of this section of the creeklands.

It is noted however that the AURG has done clearing and planting in this zone between Marsh Street and Taylor Street. This section of the creeklands is highly visible to the community as they go along the bike track from the city to east of town or drive along Marsh Street going over Stephens Bridge. The AURG gets many comments from community members of the value of this asset to the city.

## COMMUNITY ENGAGEMENT

Since our inception we have held many community events. Our first working bee on 28<sup>th</sup> July 2002 was sponsored by Armidale Dumaresq Council, Armidale Lions Club, Ducats and New England Toyota. 150 local residents turned up to work and show their support.

We have held special planting days for most educational providers in Armidale from pre-school to University and an international schools event hosted by TAS. A special guest at this event was TAS old boy and Clean Up Australia Founder Ian Keirnan who gave great inspiration to those present.

Schools the AURG has supported in education programs include:

- PLC (plus PLC Sydney)
- Drummond School
- TAS
- AHS
- Duval School
- St Peters Pre-school
- UNE

On occasion AURG have held large community days

- In 2012 we held a mental health planting day with NSW Health as part of Mental Health Month. Over 200 participants turned up and planted 2500 trees in a day. (Photo 11, Annexure 1)
- In 2015 in conjunction with Sport UNE we held a “Mothers Day” planting with over 70 participants and 1000 trees planted. (Photo 12, Annexure 1)
- Between 2009 and 2014 the AURG assisted Southern New England Landcare implement the Hi-Country Urban Biodiversity (HICUB) grant along Dumaresq Creek. This was a \$2 Million grant shared between Armidale, Guyra Uralla and Walcha Councils. During this time, AURG planted nearly 35,000 plants along Dumaresq Creek.

## **CORPORATE SPONSORSHIP**

Over the years we have many local businesses and service clubs that have sponsored plantings or assisted with a service or materials

Local Businesses include:

- Ducats
- New England Toyota
- Armidale Bowling Club (Phil Wheaton)
- Coles
- Marriots Smash Repairs
- Terry Rhodes
- 2Rog
- UNE
- Sport UNE
- NSW Health
- Inglis Plumbing
- Sustainable Living Armidale
- Armidale Regional Council (and its predecessors)
- Armidale Tree Group
- Private donors

Local Service Clubs include:

- Armidale Duval Lions who have sponsored a planting and for the last 14 Years have provided morning tea and lunch to our volunteers at working bees and assistance with planting activities.
- Armidale Dumaresq Lions who provided corporate guidance to get AURG formed, jointly sponsored our first working bee and provide ongoing support.
- Armidale Duval Lions who sponsored a planting

## **OUR NETWORK OF ENVIRONMENTAL ORGANISATIONS**

- Southern New England Landcare
- Armidale Tree Group
- Sustainable Living Armidale
- UNE Landcare

## **OTHER COMMUNITY GROUPS WITH INTERESTS IN THE CREEKLANDS**

As Council would be aware other community groups have expressed interest in influencing Council policy of activities along Dumaresq Creek.

While the AURG supports all community involvement along Dumaresq Creek we ask that Council consideration is given of the scientific, cultural and cost implications of some of the activities proposed by these groups along Dumaresq Creek.

## **INVITATION**

The AURG would like to invite all Councilors to partake in a drive around the Creeklands at a time that is suitable for you all to view the work AURG has done over the last 19 years.

Mr Whan will liaise further with you should you like to take up that offer.