



Swampees give new start to a treasured wetland

Abattoir Swamp doesn't have a name that conjures up a sense of delight and wonder, but there's a lot to love beneath the grisly label.

The 8ha ephemeral wetland was part of a whole string of lagoons formed by the numerous creeks and drainages that characterise the Rifle Creek catchment, between the Mt Lewis ranges to the north-west and the termination of the Kuranda ranges to the south-east.

A soggy history

Once home to Indigenous people such as the Koko Muluridji, Western Yalanji, and Djabugay, the area was traversed by prospectors in the 1870's, then opened up as a vital land route to the goldfields of the Hodgkinson, and finally began to be extensively cleared for diary, cattle and timber between 1910-1930.

After the Second World War, Philip "Sonny" McDowall built a home near the wetland and established a slaughterhouse in 1952 (the area was originally called "Slaughterhouse Swamp", so things have actually gotten better!)

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Kevin Gadd, a Mt Molloy butcher, purchased the property, grazed cattle on the land and used the abattoir to supply his business. Gadd's operation closed in the early 1960s and the land transferred to James Lenehan for grazing until 1989 when he sold it to the Mossman Central Mill.

In 1989-1990 the Mill cleared the remaining trees on the surrounding grazing land as well as felling a line of mature gums north of the swamp in order to plant cane. Plans were drawn up to completely in-fill and level the site for additional cane when a local resident, Maureen Clayton, began to agitate for the wetland's conservation.

Under public pressure, and with the advent of a World Heritage tree-planting scheme, in 1991 the Mill decided to donate the land freehold to Mareeba Shire for management as a conservation reserve. A survey of the wetland's natural features, flora, and fauna was undertaken and a set of Management Guidelines were developed (Newton and Barnes, 1993). The Wet Tropics Tree-Planting Scheme funded the establishment of a boardwalk, bird-watching hide, parking lot, and access track.

After the initial funding was exhausted, ongoing management of the wetland fell to Council's Parks and Gardens and the original focus of ecological and cultural conservation gave way to a perfunctory effort at groundskeeping.





Deteriorating boardwalk in 2014, the result of years of neglect. (Photo courtesy Lindsay Fisher)

Bottom left: Female Magpie goose roosting (Photo Keith Fisher)

Despite this neglect, the wetland continued to provide food and shelter for a marvellous range of fauna, particularly the birds that enchant so many visitors to our region. Abattoir Swamp had a well-deserved reputation as a destination for serious birders around the world. This reputation was, however, fading into memory as invasive hymenachne choked the open waters and feral pigs churned up the edges of the wetland, decimating the macroinvertebrates that provide the basis for so much of the food web.

A re-awakening of interest

In 2016 the Julatten Men's Shed and the local resident's association, JAMARR, took on the challenge of re-building the deteriorating timber walkway. After several weeks of difficult work, it was obvious that the damage was beyond the means of volunteers to repair. Former Mayor Tom Gilmore and Councillor Nipper Brown stepped up as advocates and negotiated a grant



Fresh excavations, filled in 2018 Wet.

through the RISE program to get the walkway rebuilt and up to standard. A later effort saw the property re-fenced and new gates installed. The neighbouring grazier was highly supportive, re-working the fenceline, pulling down the old barbwire, and properly tensioning the new fence.

A long-term solution to management of the property was desperately needed, and JAMARR put forward a draft Management Plan in 2017 for consideration by Council.

This ambitious Plan was welcomed by Council but the governance arrangements were still too unclear for Council to take any action.

Council did manage to inspire action on the wetland in 2018 by securing funds for excavation works, in an effort to re-open the lagoons and provide clear water for birds such as geese, ducks, and swans.

The excavated areas were soon filled with Wet season rains and there was an almost immediate uptick in the number and variety of birds being spotted, much to the delight of the local community and the visitors who come to catch sight of the special creatures we share this region with.

Change of management and the arrival of the Swampees

In 2020 Council decided to seek alternative strategies for managing the wetland and contacted JAMARR to test their interest.

JAMARR invited the Mitchell River Group to respond on behalf of the community.

Mitchell River and Council successfully negotiated a management agreement that gives a wide range of opportunities and responsibilities in exchange for security of tenure for 5 years.

An open call to the community saw the formation of a "management committee" which is auspiced by Mitchell River. The inaugural Convenor is Carol Iles, a widely respected bird guide and co-owner with husband Andrew of the Kingfisher Park birdwatchers lodge.

The Swampees, as they call themselves, have met regularly since mid-2021 and are responsible for significant improvement to the amenities around the parking area as well as a much-needed clean-up of the birdhide.

Carol explains: "Seeing so many helping hands coming from the community has been very encouraging. There's no doubt that people want to see this reserve in good nick, full of interesting plants and animals. We've made a start but there's such a long way to go."



She continues, "Our biggest issue is the hymenachne which has basically turned much of the wetland into a biological desert. It's so thick that it is accelerating sedimentation. Unless we find a way to control it the wetland will likely fill in and we'll lose the open water altogether. I shouldn't like to see that happen, and we're keen to find practical solutions."

The challenge of course is to control the hymenachne without massive applications of herbicides or expensive mechanical controls that could destroy what's left of the biological systems in the wetland.

Looking to the future

Abattoir Swamp is a site for learning. As a fragment of remnant habitat it is an immensely valuable refuge and breeding site for flora and fauna that have been displaced from the rest of the catchment.

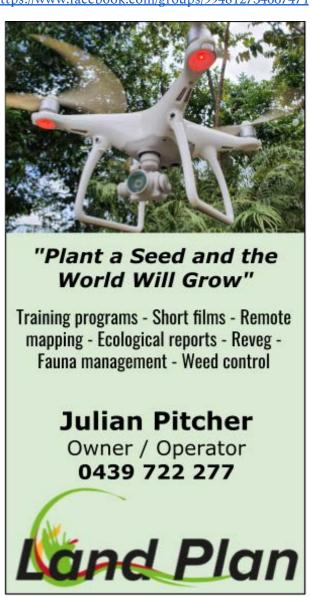
Typical of such remnants, it is surrounded by roads, canefields, and grazing. Fortunately the primary producers are as affectionate of the wetland as the Swampees and have been very cooperative in the effort to coax life back into the reserve.

The lessons that can be learned at this site will be applicable to a large number of other fragments of habitat across the Tablelands. While Abattoir Swamp will never return to the condition it was in when Europeans first encountered it, this jewel may yet offer us a great opportunity to think about the land in a

different light. We are surrounded by "novel ecosystems," that is, the landscape that had been tended by First Nation people for 60 millennia, has been violently upended in the past 150 years, leaving us in the midst of massive unknowns. The cascades of changes are still reverberating through the landscape and we are bobbing in the tumult trying to get a bearing toward calmer waters. How do we nudge the land toward longer biological cycles, and thus discourage the dominance of disruption specialists, like hymenachne and other "weeds"? How do we build ecosystem health and abundance and also support regenerative primary production?

Join the conversation! as-convenor@mitchell-river.com.au

Stay connected with the Swampees: https://www.facebook.com/groups/994812734667471



Comment from the Chair Allan Holmes

It has been my privilege to once again serve as Chairman of this organisation and I thank members for putting their trust in me for 2022.

Our group holds a special place in the Mitchell Catchment. We're one of the country's first catchment management groups to form, and we have played a key role in some of the biggest issues that landholders and conservationists have dealt with in this region.

I'm proud of the balanced positions we have taken as we support the efforts of good land management and responsible resource development. We fully support the notion of "living landscapes providing local livelihoods."

Like many other community organisations, our beloved Mitchell River Watershed Management Group is struggling to attract consistent funding and to secure new members to help carry on our work.

Together with our longest-serving Director, Ian Adcock, I am looking forward to handing this organisation over to new leadership at the AGM in November this year. It's time for fresh ideas and new energy. It's time for others to step up. Is that you?

Best wishes. Safe travelling.

Allan Holmes, Chairman chair@mitchell-river.com.au

2022 Executive Committee

Chair: Allan Holmes

Secretary: John Brisbin

Treasurer: Cheryl Emmerson

Director: Ian Adcock

Contact: secretary@mitchell-river.com.au

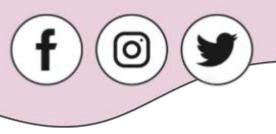
WANTED: Social Media Talent

We create fantastic content about this amazing catchment. Can you help get the headlines and links out onto Facebook, Twitter, and Instagram?

Perhaps you, or someone you know, could spare **an hour a week** to help the group gain visibility in the social media channels?

Get in touch:

secretary@mitchell-river.com.au



We depend on the fine work and support provided by our State Landcare network. Thanks!





Persistence pays off with a new ute



After 5 years of rejection, Mitchell River finally scored a win with the Queensland Government's Gambling Community Benefit fund. The fund has returned over \$1 billion to Queensland not-for-profits organisations over the past 27 years (1994-2021).

Our \$32,000 grant arrived just in time for us to replace the faithful, yet ageing, Mazda BT-50. We managed to secure a favourable trade-in and made a deal on a new Mahindra S10 PikUp from FNQHub in Atherton.

The new vehicle has been fitted out with extra tyre rack and jerry cans by the fine folk at L&M Engineering in Mareeba. A tonneau cover and interior protectors were fitted up by the proud craftsmen at Taylor's Canvas, also in Mareeba.

Secretary John Brisbin notes: "The vehicle feels solid, built like a tractor. We're keen to get this workhorse out across the catchment. It's a real improvement in safety and capability."

The first remote assignment for the ute is likely to be the road down to Kowanyama when it re-opens after the Wet.

John is hopeful: "That road can be a real test for both people and equipment. I'm looking forward to a bit of an upgraded experience in the Mahindra."









Erica Hughes taking a lucky dip for science.

Water Quality funding powers Citizen Science at wetland

Mitchell River has received \$7,000 in funds from JAMARR (Julatten and Mount Molloy Ratepayers & Residents Assn) to support an ongoing program of water quality testing at Abattoir Swamp.

Erica Hughes, a Molloy resident, has brought her citizen science experience to the task and, together with the indefatigable Carol Iles, have started the process of a collection regime.

"We're not sure what we'll find out here," cautions Carol, 'it's a hymenachne desert."

The team will not be directly testing for heavy metals and exotic chemicals that may be part of the run-off from the neighbouring cane farm. These are difficult and expensive tests.

Instead, the team will be looking for health and diversity amongst macroinvertebrates, and testing for the basic water quality parameters such as dissolved oxygen, pH, temperature, and turbidity. A new testing kit has been developed

for this purpose as was made available by Gulf Savannah NRM.

Data from these tests will be available through the Mitchell River website, and will be loosely correlated with data that was collected in decades previous under the Streamwatch program.

Water quality testing can be a lot of fun and quite educational. Volunteers are always welcome! Contact:

as-convenor@mitchell-river.com.au





Site 01 on the Sentinel Network at 28 Feb 2022, showing no signs of Frogbit (Photo: Graeme Weinert, MSC)

Frogbit Sentinel Network update

Amazon Frogbit (Limnobium laevigatum) continues to be a threat to the waterways and ecosystems connected to the Barron. In January (2022) a massive pile-up of frogbit choked up Granite Creek at the north side of Mareeba and demonstrated why this invasive water weed poses such a hazard. WIth heavy rains, the frogbit was swept downstream, out of view...and on to become someone else's problem downstream.

The "someone else" includes all the farms, dams, and habitat from Mareeba to Kuranda, and it also includes the hydro station, and finally Paradise Dam. But even this is a relatively small problem compared to what frogbit can do if it breaks into the Walsh and Mitchell.

Frogbit's incredible growth habits means that it can completely close off the light and air supply to a lagoon in a matter of weeks, creating oxygen-deprived dead zones in some of our most valued wetlands and creeks systems. Farm dams are especially vulnerable: if a farmer is caught unawares, they will be facing major repairs to their filters and pumps in no time. Chairman Alan Holmes cautions: "This is a potentially devastating weed for the Mitchell. We really need land managers and governments to take this seriously or else we invite a terrible ecological and economic catastrophe into our catchment."

The Mitchell River Group has been leading the "Sentinel Network" in an effort to monitor and detect any frogbit in westward-flowing waters. This effort is undertaken by Mareeba Shire Council, building on an idea that the former Senior Lands Officer, Sid Clayton, pioneered in 2020.

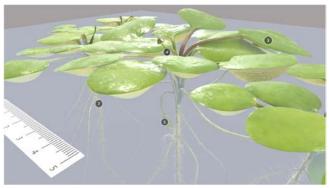
Thanks to the generosity of local land managers we have been able to contribute much-needed funding to keep the Sentinel Network active in 2021 and 2022. Special thanks to EQ Resources, Brooklyn Wildlife Conservancy, and Southedge Pastoral Company for matching and exceeding Mitchell River's seed funding for this important initiative.

Paul Fisk has been working with Lucy Graham, CEO of CAFNEC (Cairns and Far North Environment Centre), to get Frogbit listed as a prohibited weed in Queensland. According to Travis Sydes, Manager of Regional Natural Asset Management & Sustainability for FNQ Regional Organisation of Councils, it appears some progress is in the pipeline.

The Queensland Government recently issued a call for submissions from the aquarium industry and other related commercial stakeholders on the question of listing approx 20 aquatic plants as prohibited weeds. Frogbit made the list, and the review process will take its course, with the Department to formulate a recommendation which goes to the Minister for a decision.

In the interim, you might enjoy learning a bit more about frogbit using this impressive 3D model (click on the link):

RSVP now:
secretary@mitchell-river.com.au



https://sketchfab.com/3d-models/frogbit-limnobium-laevigatum-d8a3ffab6e5646bb99ee226ac06594e





Tilapia update

A summary of the tilapia situation was recently released by researchers from Griffith University. The report was commissioned after the disturbing discovery, in 2017, of Tilapia well downstream on the Walsh.

Many locals know that Mitchell River has been a staunch ally in the effort to contain and control the spread of invasive Tilapia. Director Ian Atkinson asserts: "We've been sounding the alarm on the risk these fish pose to our catchment for years. Mitchell River was a key partner in the effort to get exclusion screens fitted on the downstream offtakes of Tinaroo Dam. We participated in the 2017 rapid response effort. We're very worried about these feral pests."

The research report assessed where tilapia had been found, what sort of environments they seemed to prefer, and then used models to suggest where the fish are likely to become abundant in the future.

The research team were able to sample the tilapia populations in 2018, 2020 and 2021 to obtain data on their likely movements, food sources and population growth. According to the report, key findings include:

- During the study tilapia were found at three sites in the upper Walsh River catchment, with Eureka Creek being the most downstream sighting.
- Population progression is apparent in existing populations in weir habitats with

- increases in abundance and body size of both species observed in field surveys over the course of the study
- The team also found evidence of apparent spread of Mozambique tilapia to Leafgold Weir over the course of the study.
- Currently, tilapia populations in the Mitchell catchment show strong habitat preferences to areas with abundant macrophytes and deeper (>1 m) pools.
- Plant material (macrophytes and filamentous algae) was the main food source supporting the growth and reproduction of both Mozambique and spotted tilapia.
- Estimated movement patterns based on strontium isotope analyses varied between the three sites containing tilapia, with the Eureka Creek population found to be highly resident.
- Both species showed evidence of movement and age did not appear to influence movement of tilapia.
- All tilapia caught in Leafgold Weir in 2019 showed evidence of movement to the weir from elsewhere, most likely originating from Eureka Creek.
- Several tilapia had strontium isotope
 profiles that match mussels from Tinaroo
 Dam. At this stage we cannot rule out the
 Mareeba-Dimbulah Water Supply Scheme
 (MDWSS) as a source of the tilapia incursion
 as more sampling is needed to determine
 the source, including population genetics of
 tilapia from across the region and more
 detailed strontium sampling of Eureka
 Creek.

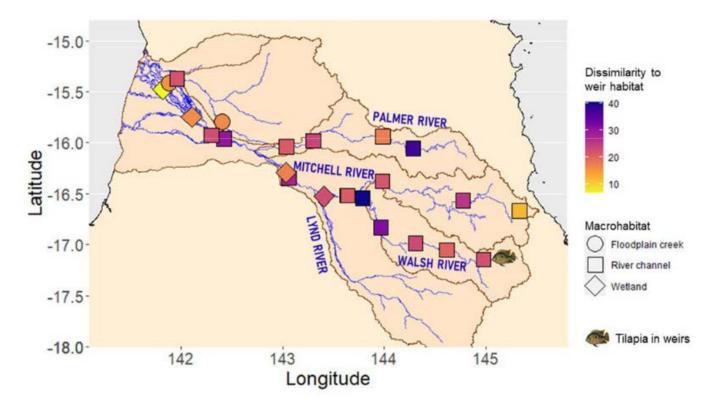


Figure 6. Map of Mitchell River catchment sites surveyed for habitat between 2017 and 2020. Symbol shape depicts macrohabitat type and colour scale shows average squared distances from weir habitats from SIMPER analysis. The distances given in the 0-40 scale are equal to the square of the number of standard deviations of each site away from weir habitat sites. Sites with lower values have habitat characteristics that are more similar to weir habitats than sites with higher values.

The report is available online at: https://research-repository.griffith.edu.au/handle/10072/413556

Kaitlyn O'Mara, Ben Stewart-Koster, Michael Venarsky, 2021. Tilapia Incursion - Mitchell River catchment: Reporting the ecology and movement patterns of new tilapia (Pelmatolapia mariae and Oreochromis mossambicus) populations in the Mitchell River catchment to identify priority areas and actions to mitigate their impacts. Griffith University, Brisbane.

Gulf Savannahs partnership

We're pleased to report that Gulf Savannah NRM invited the Mitchell River executive to meet and discuss shared priorities at a Feb 2022 board meeting.

The meeting was congenial and gave a good chance for new Directors of the NRM group to hear some history and some vision from the perspective of the Mitchell River group.

Gulf Savannah Chair Ellen Weber noted that the NRM space remains difficult to negotiate. Funding is uncertain and government continues to de-prioritise community-led NRM activities. However, Gulf Savannah NRM is going from strength to strength and continues to support the Mitchell River group with office space and collaborative communications.

QWaLC in service

QWaLC (Queensland Water and Land Carers) is a not-for-profit peak body serving a broad church of volunteer groups across Queensland, including landcare groups (and us!).

QWaLC provides liability insurance to over 500 organisations representing 35,000 Queenslanders delivering approx \$55M of contribution to the economy through environmental and community works.

See their refreshed website for more details: https://www.qwlac.org.au

Funding for re-veg corridor secured

Thanks to the patience and persistence of the crew at Gulf Savannah NRM, there will be a new tree-planting project to create a habitat corridor from Bushy Creek to the Abattoir Swamp inlet and extending along the northern boundary slope.

Project leader Leah Nugent met with the Swampees recently to go over the project scope and to figure out how it is all going to happen before 30 June.

Leah is realistic, and confident: "The timelines are incredibly tight, unfortunately, but that's how these things are. We're going to get stuck into the project and I reckon we'll have a good outcome for both the community and the ecosystem we're trying to enhance."

Species selection has been guided by expert input from the contractors, Biotropica, as well as advice from local re-veg veterans including Rupert Russell, who is well-known for picking species that are both tough and beneficial.

Key to the project has been securing approval from the landowners, part of the Quaid family, who are living in the USA. Gulf Savannah's NRM Project Officer, Marcus Mulholland, who wrote the re-veg proposal, said that it was especially tricky to navigate approvals across a dozen timezones. He adds: "We're really thankful to the assistance from Bud Quaid to help us get this project over the line."

The funding originated from the Queensland Government's Natural Resource Investment Program, which also provides major project funding for Gulf Savannah NRM and for the landcare insurance program administered by the Queensland Water and Land Carers (QWaLC).

Mitchell River is deeply grateful to Gulf Savannah NRM for securing this project for the benefit of our region.



Lakeland irrigation scheme

The proposal to dam the North Palmer has been moving forward steadily over the past several years. The development promises to hugely expand agriculture in the Lakeland district, and this could be a welcome outcome.

However, there are concerns that the proposal may not serve the long-term interests of community, culture, and environment. Dams are not necessarily bad, nor are they always good. A proper community conversation and scoping of all the options is essential.

The proposal is being facilitated by our local Regional Development Association, chaired by David Kempton, a well-known solicitor and former LNP member for Cook.

The Mitchell River group has been paid to assist with some of the field work necessary to assess potential impacts from a dam failure.

We are attending briefings and encouraging the RDA to present at public forums to address questions and clarify the specifics of the proposal.

For more information on the project, please search the RDA website at:

https://www.rdatropicalnorth.org.au/

Miners Assn helps seed the future

The Mitchell River catchment has seen waves of mining activity over the past 150 years and is still home to one of the highest densities of abandoned mines in the country. Much of this disturbance was undertaken in the 60's-80's when there was a much lower emphasis on proper regard for the environment.

There are still some "cowboy" operators, both large and small, who prefer to shortcut their legal obligations and these rogue outfits tarnish the reputation of an otherwise proud industry.

The NQMA (North Queensland Small Miners Association) works to lift standards across the industry, and facilitates miners to achieve best practice in our extraordinary northern environment. The NQMA also defends the interests of miners against poorly-targeted regulations and bureaucratic waste.

The most recent edition of the Miner's Right newsletter features a helpful guide on using Australian natives for rehabilitation. The article was written by Amanda Blazely and is excerpted with permission following:

Often simply termed as 'rehab', rehabilitation of the miner's worked site is an integral part of good mining practice. Over the years, longterm miners have witnessed changes to remediation methods prescribed by the relevant department.

Thankfully the draconian practice of burning felled mature trees that posed as a safety concern for the operator if left standing is no longer perceived as 'good practice'. One miner recalls the time they were ordered to burn Queensland red cedar on a tin mining site many years ago! What a terrible waste.

The practice of not burning these once living giants is helpful in the efforts to bring back the site to its original state as best as possible. Placed strategically, they can stabilise the worked creek bank. Positioned in other

disturbed areas, their now horizontal position provides a home for the ground dwelling animals as well as providing a 'wall' for soil to be able to accumulate against, in turn allowing seeds to anchor and germinate more readily.

Acacias - You may have observed a variety of these pioneer plants self-propagating in. They all have the distinct yellow wattle flower. They tend to be the first plant to establish on a disturbed site, hence the name 'pioneer'.

Having the ability to increase soil fertility through nitrogen fixation is reason enough to encourage these shrub - like trees to grow on your disturbed site.

Acacia holosericea (Silky Wattle)





Seed pods are distinctly coiled and contain tiny dark seeds with orange/ yellow ends. As this is low in height the seeds are easy to access. When flowering you can usually find the native bee as well as the larger European bee on the yellow wattle. Doves and pigeons can be observed around the base of the shrub foraging for the tiny seeds. Excellent little seed dispersers!

Grevillea parallella (Silver Oak)



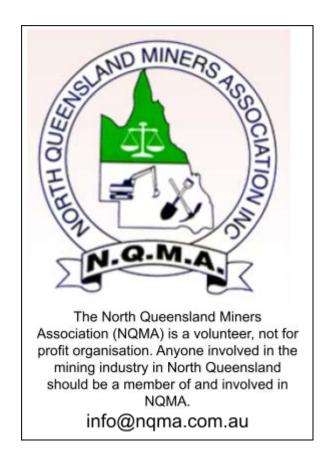






The black cockatoos frequent this tall tree, easily cracking the pod with their strong beaks. Great helpers for dispersal purposes. The large cream grevillea flowers attract a variety of honey eaters including the smaller parrots. Both our native bees and European bees are also attracted to the flowers. When in full flower one can hear the tree humming from the amount of insect life on it.

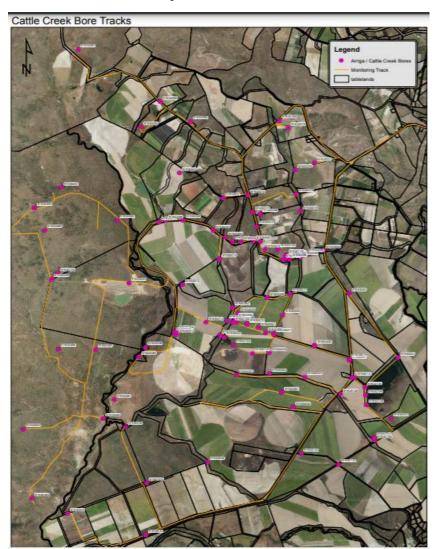
For the rest of the article and to find out more about the NQMA, please visit: http://www.nqma.com.au/





Arriga Plains salt and sog: a report to date

The Arriga Plains project aimed to gain a current understanding of the water tables and salinity levels in the Arriga Plains area, drained predominantly by Cattle Creek which runs into the Walsh River and then the Mitchell River and into the Gulf of Carpentaria.



The project commenced during the latter half of 2017 with a meeting with the major stakeholder's industry organisation in Sept of that year. Importantly, the meeting confirmed stakeholder interest as without their support the project would not be really viable.

A workshop was held in Oct 2017 to present stakeholders with historical actual and modelled information on water tables and salinity levels. At that workshop more than 90% of the land areas was represented by attendees.

Stakeholders discussed and decided to measure the depth-to-water table and measure salinity on functioning bores. This data would be compared the results from 10 years ago to determine trends.

A second workshop was held at the end of Feb 2018 where the comparison was presented to the stakeholder group.

The data demonstrated that there was a rise in

water tables, on average, of 30 cm, though there was considerable variability. Salinity levels had increased marginally, and the area impacted by salinity had grown in size. A number of farmers commented that they were extracting underground water to mix with channel irrigation water in order to lower water table.

The workshop considered the findings and sought a way forward. The consensus was largely about managing the water table situation.

Almost every irrigation area in the world has similar issues with rising water tables and increasing salinity levels. The specific differences are a function of the underlying geology, soil types and time frame in which it happens.

The stakeholder group indicated their interest in (a) undertaking another round of bore sampling to reconfirm the situation; and (b) determining the source of the water that was contributing to the water table rise in

the Arriga Plains.

There is little certainty about the cause of the rising water table. Historically, the area was heavily treed, which accounted for large volumes of water draw-down. After clearing, potential sources of water inflows include:

 Deep drainage from irrigation water applied to cultivated areas of the Arriga Plains

- Deep drainage and natural flows from the Paddy's Green area
- Natural flows through geological connections with nearby Granite Creek

Determining the likely source or sources of water is not an easy or inexpensive exercise. David Morrison from the Queensland Department of Natural Resources made enquiries about oxygen isotope analysis and this revealed it would be an expensive exercise requiring a significant amount of research.

Mitigation responses discussed included: pumping, tree planting, and irrigation scheduling to reduce risk of deep drainage.

In Oct - Nov of 2018 another round of bore sampling was undertaken. The results of the 2017 and 2018 sampling exercises were compared to the information gathered by the Queensland Department of Natural Resources up until 2007. In essence water tables have risen on average by 0.5 metres and salinity levels on average had not changed significantly. This is not the case for every bore in the project area.

The same presentation was made to new and existing stakeholders in late 2021. The presentation was well received as the data assisted identifying particular areas on their farms with high water tables and salinity levels.

Stakeholders were strongly supportive of another sampling run, potentially in Oct-Nov 2023 as that would be 5 years after the last sampling. The data would help show if the situation was stabilising or if water tables and salinity levels are continuing to rise.

This information should then be presented to all land holders in the project area with a view to land holders taking ownership of the situation with land holders in the upper catchment appreciating that minimising deep drainage would help alleviate waterlogging lower in the catchment.

Also land holders lower in the catchment with rising water tables need to know the range of management options to manage the situation.

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The Mitchell River Catchment

