



# North-Eastern Tasmanian Field Naturalists Club Inc.

## The North Eastern Naturalist

Newsletter of the NE Tasmanian Field Naturalists Club

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**MISSION STATEMENT:** It is the mission of this club to encourage the study, appreciation and preservation of our natural and cultural environment, the animals, plants, geology and landforms, including those of the coastal and marine areas in the North East region of Tasmania.

**From the President:** Many of you would be aware of the citizen scientist project *Where? Where? Wedgie!* which was conducted over three days in the last weekend of May. I know of four of our members who took part, selecting a designated 4-km area from a grid map of Tasmania and conducting a series of timed observations during the day.

The sightings of eagles or other diurnal birds of prey were uploaded to an app to be collated by the project organisers, Nature Trackers. Hopefully this will provide valuable information as to the location and

number of these magnificent birds, of which there are currently thought to be fewer than 1000 in Tasmania.

This is the first of a suite of Nature Trackers projects planned to monitor a wide range of threatened species annually. Watch out for the information and training sessions next year; it would be great to see our members being able to contribute to these excellent projects. If you are interested in learning more about this year's project, go to <https://naturetrackers.com.au/index.php>. There are some wonderful photographs on the site.



**Morchella elata – Ross Coad**

### Photos of Northern Tasmanian wildlife



**Lapwing – Mehrdad Abbasian**



**Grey goshawk – Mehrdad Abbasian**

# Program for June-August 2018

***NB Please read the notice at the bottom of this program about the cancellation process***

**NOTE:** The details of the June activity are shown here, but the program for July and August is yet to be finalised.

## **JUNE 9<sup>th</sup>: BRID RIVER RESERVE AT DUNCRAGGEN HILL**

An easy 5-km walk through a little-known Crown River Reserve near Duncraggen Hill, about 7 km south of Bridport. Shorter options will be available as well.

Meet at 10.00 am at the junction of the Duncraggen and Dogwood Park Roads, reached as follows: From Bridport, drive 9 km towards Scottsdale and then turn right along Duncraggen Road, opposite Gillespie's Mill. The junction is 1.8 km along this road. From Scottsdale travel 11 km towards Bridport, then turn left onto Duncraggen Road.

Leader: Mike Douglas 6356 1243

## **JULY 14<sup>th</sup>**

This will be our annual 'at home' day, but will be at Bridport this year instead of at Scottsdale. Although details are still to be determined, it will include a shared lunch and a presentation about the travels of Jill van den Bosch and Ruth Cuff.

## **AUGUST 11<sup>th</sup>**

The AGM will be held on this date. Details are still to be decided, but in addition to the AGM, there will be a showing of a recently-released film about the endangered orange-bellied parrot.

### **Cancellation of Field Nats Outings**

*If there is unpredictable and severe weather, or for any other reason, it may occasionally be necessary to cancel with short notice. Here is the process for cancellation: an outing will be cancelled if the leader considers that the conditions are not safe. If an activity is cancelled, a global email will be sent by 0700 (i.e. 7.00 am) on the day of the outing. If members are uncertain, it is their responsibility to contact Jill, Lou or the leader. Note that phone reception is not always available, so you may have to try alternative numbers.*

## MARCH 2018: SCAMANDER RIVER

By Chris Forbes-Ewan, with Liese Fearman and Todd Dudley; photos by Chris Forbes-Ewan



On a brilliant autumn day, 12 members attended the March activity at Upper Scamander, on the east coast.

Our guide, Liese Fearman, has lived since 1983 on 'Woodspen', a farm that borders the Scamander River, a few kilometres upstream from the sea.

Liese is doing a PhD in the Department of Geography and Spatial Science at UTAS. She is investigating whether the behaviour of the Scamander River today is consistent with long-term natural trends, or represents significant change since European settlement.

The complexity of river systems, which change naturally over different time scales, makes it difficult to differentiate between natural variability and changes humans may have caused. Nevertheless, Australian researchers have shown that our way of life over the past 200 years has impacted many rivers. Land use change is well recognised as a major cause, but other causes are increasingly recognised as significant. The Georges River, which has been impacted by tin mining, is one example. The Scamander River may be another, and very different, example of a river altered by human activities other than land use. Such rivers require different management approaches, in addition to the revegetation activities traditionally used to counteract the impacts of land use change.

Liese has researched the catchment history of the Scamander River based on reports in newspapers published between 1865 and 1935.

Newspapers from this time are accessible through the National Library Archive Trove website. They contain some fascinating stories about this area, which was often in the news. Much of the attention focused on a series of earlier bridges, built at the site of the two in use today. Liese's account of these events has been published in the Tasmanian Historical Research Association's Papers and Proceedings.

Other aspects of the research involve surveying channel cross sections and comparing them to Australian rivers known to have changed, and analysing the energy in river flows using a digital elevation model.

Using an online Community Survey, Liese is collecting information about the many ways in which people interact with the river today, and their observations and concerns. All residents of Scamander, and visitors to the river, are welcome to complete this survey.

Liese is also interviewing older members of the community to learn more about the history of the river within living memory. Liese believes it is important for the community to understand the story of the river so that it may be cared for wisely, today and into the future.

Todd Dudley, President of the North East Bioregional Network also attended the activity. (For information about this network, go to: [www.northeastbioregionalnetwork.org.au](http://www.northeastbioregionalnetwork.org.au))

Todd said that in the 26 years he has lived in the north-east, the biggest environmental impact on this region generally (and he stated that there are several to choose from) has been clearing of native forest to establish plantations of shining gum (*Eucalyptus nitens*) and to a lesser extent, pine trees (*Pinus radiata*). Todd believes that the resulting major adverse environmental effects have been:

- Loss of biodiversity (clearing of native forest to establish pine or eucalypt plantations);
- Sedimentation from clearfelling when establishing and harvesting plantations;
- Damage to native plants as a result of aerial spraying of herbicides (during establishment of plantations) and pesticides (during the maintenance stage); and
- Shooting/poisoning of wildlife during the establishment stage.



The placid, pale-green waters of the Scamander River



Reflections in the tranquil Scamander River

However, Todd is unsure if the establishment of plantations has directly affected the river itself, and he pointed out that many of these plantations failed, so it is clear that this assault on the natural environment will not continue, at least in the foreseeable future.

Work aimed at restoring the natural bush is already occurring in north-eastern Tasmania. For example, a project called Restore Skyline Tier involves the ecological restoration of 2000 ha of poor quality pine plantation back to native forest. To see a short film on this, go to:

[https://www.youtube.com/watch?v=8V\\_mTJs6aEc](https://www.youtube.com/watch?v=8V_mTJs6aEc)

The restoration methodology involves conducting relatively high-intensity ecological burns after the mature pines have been harvested, followed by weeding of remaining pine wildlings. No planting is required, as the fire germinates the still viable native seedbank in the soil (some direct seeding of local provenance eucalypt is undertaken in some cases). So far, 700 ha of healthy and biodiverse native forest has been regenerated, including some areas in the Scamander River catchment.

Before Liese took us on a tour of her farm and the river, she provided us with fascinating background information. Liese said that in Australia flood rates are typically about ten times higher, relative to base flows (flows in dry times), compared to other parts of the world other than South Africa. Combined with steep hills, many of which are bare and rocky, an extensive network of streams, and dry climate with brief intense rainfalls, the Scamander River can experience ‘flashy floods’, i.e. floods which rise quickly to a peak. The Scamander River is also channelled through a natural gorge just short of the sea, leading to a bottleneck situation during floods—a phenomenon that geomorphologists call ‘the bathtub effect’. Bridges over the Scamander River were built just downstream of this point, and these conditions help explain why engineers found it so difficult to design bridges suited to this river.

The engineers involved with several of the early Scamander bridges were considered to be world class. Because the Scamander River constituted a barrier to free movement up and down the east coast, these bridges were expensive and properly constructed (at least by the standards that applied in Europe and North America, where flood levels are relatively lower). In all, starting in 1865, six bridges were built at this site before those we see today. The construction methods and details were modified with each bridge, in an attempt to produce one that would last.

Five of the bridges were destroyed in a similar way—floods carrying logs and trees jammed the bridge, blocking the gorge and trapping water in the basin behind it. The bridge effectively became a dam, with water flowing rapidly through a few small gaps. The force of fast-flowing water, and pressure from built-up water and debris, was enough to sweep each bridge into the sea.

Finally, after a parliamentary enquiry, a steel and concrete bridge was constructed. Completed in 1935, it had an engineered life span of 80 years. It stood the test of time and the massive floods, and is still standing, but its condition is deteriorating. About 20 years ago it was replaced as the major bridge across the river by the current concrete one.

Liese then took us for a tour of Woodspen and along the river bank. She is clearly smitten with the natural beauty of her surroundings (as were the Field Nats members who took part in the tour).

In addition to the river, Liese showed us two small wetland areas on her farm. The water holes at the heart of each wetland were surrounded by samphire (*Sarcocornia quinqueflora*), a small succulent that is typically found in salt marshes.



Water holes surrounded by samphire (*Sarcocornia quinqueflora*)

There are six natural wetlands on Woodspen, each with its own unique community of plants and animals. Their salinity levels are affected by differences in how they fill with brackish water from the river and fresh water from rain, leading to considerable variation in their living communities.

We returned to Liese's home for lunch, followed by another guided tour that included a panoramic view from a cliff overlooking a peninsula where the Right Arm meets the main river.



**Junction of the Right Arm of Scamander River with the main river**

Nearby, at Prices Reach, we saw steep riverbanks with deep indentations. Several large trees have fallen into the river because their roots were exposed by erosion, and parts of the bank have fallen off in blocks. This area has been affected by the floods of the past, and is vulnerable to changes in water level that happen when the barway is opened. Prices Reach has been used by generations of Tasmanians for water skiing, and has seen more boats with increasingly powerful motors in recent years. This is an area where the impacts of human activities are making themselves felt, and the challenges we face in caring for the river are most evident.

We then walked down to the river at a point where there is a sandy beach beside the fast-flowing, pale-green water, with Tasmanian Ironbark (*Eucalyptus sieberi*) growing in profusion on the steep slopes on the opposite side. Todd told us that in Tasmania, *E. sieberi* is found only in the north-east (mostly in Break O'Day municipality); it is also native to Victoria and NSW.

Liese mentioned that alluvial tin mining occurred here sporadically many years ago, but yields weren't great enough to sustain a mining industry.

NE Field Nats is very grateful to Liese and Todd for giving up their valuable time to share their knowledge (and love) of the natural environment around the Scamander River.



***Eucalyptus sieberi* (Tasmanian ironbark) growing on the opposite side of the river**

Liese said she is grateful to the field naturalists who attended for their insights and shared knowledge, and that it is a rare privilege to have the company of such keen and observant naturalists in the very special environment in which she lives and conducts her research.

Liese commented that living at such a complex site makes managing the land challenging and leads to endless questions.

She appreciated having the opportunity to answer some of these questions. She also mentioned that, following our visit, some of her favourite plants and birds now have names and personalities!

### Post-Script:

The bird life is prolific around Scamander River—during the walk, the keen twitchers in the group heard and/or saw many native birds, including:

Superb fairy-wren, Striated fieldwren, Scarlet robin, Dusky robin, Flame robin, Tasmanian native hen, Green rosella, Grey shrike thrush, Kookaburra, Black swan, Chestnut teal, Wood duck, Black duck, Little pied cormorant and White-faced heron

### Links

Scamander River Community Survey - Press Ctrl and click on the link below:

<https://docs.google.com/forms/d/e/1FAIpQLScm2Z3XJBr2kmec7BAunyXCAuAvNKwLLeDUYVhXFNYPbouuqw/viewform?c=0&w=1>

The first page of the survey contains information UTAS requires. Scroll down the page and click *Next* to reach the questions. If you choose to do the survey, be sure to press *Submit* at the end, or your answers will be lost.

You can search for articles about the Scamander River and other topics of interest in the digital newspapers section of the NLA Trove website – <https://trove.nla.gov.au/newspaper/?q>

These links will take you directly to a couple of interesting articles:

<https://trove.nla.gov.au/newspaper/article/9224503> and <https://trove.nla.gov.au/newspaper/article/51668102>

Liese Fearman’s article ‘Bridging the Scamander – a most treacherous river’ can be purchased at the THRA website (with all proceeds going to the THRA):

<https://search.informit.com.au/browseJournalTitle;res=IELHSS;issn=0039-9809>

## APRIL 2018: DORSET DREDGE

By Revel Munro, with Chris Forbes-Ewan and Lou Brooker

Photos by Penny Reeves, Revel Munro and Garry Richardson

The April activity involved a visit to the historic Dorset Dredge, near Gladstone in north-eastern Tasmania.

The day was off to a shaky start because of a serious 'weather alert', with uncertainty about the time of a predicted rain event. Despite the threat of inclement weather, 26 members and guests attended.

Four experts on the history (both natural and human) of north-eastern Tasmania donated their time to tell us about the dredge. Revel Munro was the most prominent guide, with Mike Douglas, Jeff Jennings and Garry Richardson playing supporting roles.

Peter Boyle and Lloyd Reeves had done a fantastic job cutting a track so the group could get closer to the dredge than the usual access point. Penny Reeves distributed a set of interesting historical photos for members and guests to view.

With the weather threatening to turn bad, there was just enough time to listen to the talks by the history experts, have lunch, take photos, and (for some) to climb on the dredge for a closer look before heavy rain put an end to proceedings.

By the time everyone had returned to the cars they were drenched. Some people, who apparently weren't already drowned enough, decided to 'drown their sorrows' at the Gladstone pub with a quick drink before returning home.

Despite the damp ending, the day was considered a great success. NE Field Nats are very grateful to Revel, Mike, Jeff and Garry for so generously sharing their knowledge.

### Some historical information about the dredge

Alluvial tin mining had been conducted in the Gladstone area since the late 19<sup>th</sup> century, with mixed results. Much of this was small-scale mining, typically involving one or two miners at each site.

Some larger mines were established in the early days, usually employing five or six people, and often using large steam engines to drive the water pumps. Bullock teams were used to move the steam engines and plant between mines.

Other mines in this area (e.g. Black Duck, Aberfoyle and Canary mines) used sluicing mining methods, with water principally coming via the 53-km Mt Cameron water race. This was a late-19th century feat of engineering that brought water from the Great Musselroe River, which has its source in the Blue Tier.

Some short-lived experiments were conducted on the effectiveness of steam-driven dredges for tin mining in the north-east, but with mixed results.



On the track to the Dorset Dredge – Penny Reeves



During World War II Australia's usual sources of tin became unavailable due to Japanese occupation of south-east Asia. To help alleviate this shortage, in 1943 the Commonwealth Government decided to relocate a large electrically-driven dredge from Redlands in Victoria to South Mount Cameron. This was a major undertaking; it took approximately one year for the dredge to be dismantled for transport across Bass Strait and then to be reassembled on Dorset Flats. In 1944, the re-assembly was complete and the dredge started mining.

The dredge floated on a pond of water and worked units of ground termed 'paddocks'. Substantial efforts were made to minimise flood exposure from the Ringarooma River, including the frequent building of diversion levees.



**The Dorset Dredge in 1979, before it capsized – Revel Munro**

The size of the pontoon and bucket ladder allowed mining to a depth of about nine metres. The electric cable that provided power had to be floated across the water to the dredge—a potentially dangerous practice, but one that could not be avoided.

Occasionally the power went off, leaving the bucket ladder under water and 'sanded up'. On one occasion the power failed when the bucket was at its full depth of nine metres. It cost around 10 000 pounds (\$20 000) to free the system up and get the dredge working again.

The workforce—consisting only of males—numbered in the range 40–50. These men worked in three shifts so the dredge operated continuously, regardless of the weather. A clearing gang would clear the land ahead of the dredge. Sometimes bulldozers were used for this purpose.

There was only one bad accident—a young man was fatally injured when he slipped and fell from the top of the dredge onto buckets below. Adding to the tragedy, his father saw the fall. He took his son to hospital, but he died the following day.

In the period 1944–1962, while in the South Mount Cameron region, the dredge made a profit for the Commonwealth Government for all but one year.

In 1962 the dredge was sold to Storeys Creek Tin Mining Company for 22 250 pounds (\$44 500). It was then dismantled again and moved (by road) to the old Black Duck mine site area (called The New Dorset by the company). Here it was reassembled, but with a new, enlarged pontoon and a substantially lengthened bucket ladder. The dismantling and re-assembly (with modifications) took about one year to complete. The additions were required because the tin-bearing sediments were deeper than at South Mt Cameron. In its new location, and following the renovations, dredging was possible to a depth of 15 metres.



At the site of the capsized dredge, with our guide Revel Munro (centre) explaining its history – Garry Richardson

The dredge would not have passed current noise abatement legislation—it was so loud, it could reportedly be heard in Gladstone, about five kilometres away!

The dredge was then operated alongside the Ringarooma River, first downstream and later upstream. Tin recovery was often less than prospective drilling had indicated. Patchy ground and losses of fine tin led to multiple ‘on again /off again’ management decisions in its final years. In 1971 the dredge finally ceased operations and was put on ‘care and maintenance’ in a natural backwater of the Ringarooma River.

In the early 1980s it was used as a source of mine treatment plant parts. After 1982, large portions were removed for scrap metal. In August 1988 the increasingly listing and unstable dredge completely capsized during a severe flood. It remains on its side to this day, a poignant, difficult-to-access relic of a bygone era.

In 2016, Jeff Jennings placed a beautifully compiled video on Youtube. The video shows historical photos of the dredge and aerial footage taken by Jeff’s drone. To access the video, go to: <https://www.youtube.com/watch?v=kgsaN3uX90A>

## MAY 2018: TASMANIAN DEVIL FREE-RANGE ENCLOSURE

By Lou Brooker and Scott Bell, with Chris Forbes-Ewan; photos by Penny Reeves and Scott Bell



**The view from Scott Bell's property – photo by Penny Reeves**

The May activity was our second visit to Scott Bell's property at Little Pipers River (our previous visit having been in 2011). A total of 18 members and guests attended.

With the support of Landcare Tasmania, a company known as Esmerelda Enterprises Environmental manages the property of 240 hectares, which has a variety of types of coastal bush vegetation, including several rare species.

Within Scott's property, and under a separate contract with the Department of Primary Industries, Parks, Water and the Environment (DPIPWE), a 22-hectare enclosure has been established to house a population of Tasmanian devils who are free of the devastating devil facial tumour disease. Known as the Free Range Enclosure (FRE) it was created by the Save the Tasmanian Devil Program under a lease arrangement with Scott, who was one of our guides on this visit. Steve Cronin, who prepared the plan for setting up the nature reserve, was the other guide.

Two fences, each nearly two metres high, ensure that no infected devil will be able to enter the enclosure. The outer fence is made of chain mesh and the inner one consists of corrugated iron. The devils in the enclosure therefore constitute an 'insurance population', i.e. if Tasmanian devils become extinct in the wild, healthy devils from the enclosure could be used to re-establish the species in Tasmania.

The enclosure is large enough to allow devils to free-range, but small enough to allow close monitoring of their health. Field officers from DPIPWE visit twice a week to make a predetermined amount of food available, distributed among the feeding stations that are scattered throughout the FRE. In addition, scats are collected for parasite analysis, and motion camera data is downloaded.



**Entrance to the Free Range Enclosure – Scott Bell**

Every four months, a team from Hobart visits the enclosure. All the devils are live-trapped, weighed and measured. In addition, their oral cavities, pouches and teats are checked, blood samples are taken, and adults are inspected for wounds. Imps (baby devils) are also inspected.

In addition, a program of genetic swapping is carried out in different parts of the country, to reduce the risk of in-breeding.

Unfortunately, parasites have become a major problem, so the enclosure is being destocked at present and will remain empty until Christmas, when it will be stocked again, hopefully after the parasites have disappeared.

Since our last visit in 2011, when there were 18 devils in the enclosure, the population of devils has increased, and the feral cat problem has decreased. Successful breeding has taken place each year, and devils from the FRE have been used to establish or bolster existing populations in other areas of Tasmania—including Maria Island and Cradle Mountain.

We walked through some of the 11 vegetation communities on Scott's property. These communities have standard TASVEG code names. Those we passed through include DAC, the code for *Eucalyptus amygdalina* coastal forest and woodland; and BGM, for buttongrass moorland.

Mike Douglas was able to interpret a small area where there was conglomerate rock from the Tertiary period (which finished about 2.5 million years ago). Alluvial rocks of different types had washed down from a higher altitude and were deposited on the block.



**Walking through *Eucalyptus amygdalina* coastal forest and woodland, one of the of 11 vegetation communities on Scott's property – Penny Reeves**

We also spotted an interesting fungus, a member of the species *Boletellus ananiceps* (see photo to the left).

In February 2008, shortly after Scott acquired the property, a bushfire started near Bellingham and then rapidly moved east, burning thousands of hectares of forest, plantation timber, and fences. Scott was away at the time of the fire; when he returned, the landscape was barely recognisable as the property he had recently bought.

However, during our visit it was clear that the vegetation has largely recovered from the fire—apart from the occasional blackened tree trunk, the flora looked lush and healthy. (As an aside, Scott mentioned that when he returned to his property after the fire had subsided, he discovered five small, abandoned marijuana plantations that had previously been hidden by thick bush. Scott



***Boletellus ananiceps* – Penny Reeves**

didn't mention what effect, if any, the burning of these plantations had on the local human population!

We spent some time in a massive area of *Acacia suaveolens*, which has two common names—sweet wattle and sweet-scented wattle. They were spectacular, being about a metre tall and in full flower.



*Acacia suaveolens* (sweet-scented wattle) in full bloom – Penny Reeves

We had lunch at Scott's new house, and then were entertained (and challenged) by a quiz that required participants to interpret a series of photographs on the wall.

Here we were also able to see and hold a section of an ancient fossilised log. This log had been caught in a massive river system and then buried under four metres of sand and gravel. Subsequently, the log was overlaid by the last local lava flow from regional volcanic activity. The exposure of the log to intense heat in the absence of oxygen led to it being completely carbonised. The log remained buried until it was uncovered in 2010 by an excavator that was digging a dam on the Little Pipers River flats.

Analysis at QVMAG and UTAS suggested an age of more than 20 million years for the log, with the most likely species being a pine, possibly related to the Queensland hoop pine. Bark features and growth rings/morphology are still clearly visible. Scott has retained samples of the log protected in a water bath, with no apparent deterioration over eight years.

Then it was back to the cars for a drive along other tracks. This time we traversed the SCH (coastal heathland) and SHU (inland heathland); went past a tiny relic area of *Dicksonia antarctica* (man fern in Tasmania, tree fern on the mainland); then through SLW (*Melaleuca* scrub); and finally through BSC (*Banksia* scrub/woodland), which was full of busy honeyeaters.

NE Field Nats is very grateful to Scott and Steve for taking us on this informative and entertaining guided tour of Scott's fascinating property.