Find a Frog in February – 2021 Report

Prepared by the Mary River Catchment Coordinating Committee



BACKGROUND to FFF

2021 is the fifth year for the MRCCC's Find a Frog in February (FFF) citizen science program that encourages and processes frog records from the community during the month of February. It is

delivered throughout the Mary River, Noosa River and Burrum River catchments and coastal catchments in between (see map). This area is administered by four local Councils; Sunshine Coast, Noosa, Gympie and Fraser Coast who all provide support. Additional participant in-kind ratio is \$4 for every \$1 funding. The program targets the whole community through displays, meetings, workshops, Bushcare groups, school involvement and widespread media coverage.

SUMMARY OF THE 2021 FFF PROGRAM

The onset of 2021 brought a widespread yearning for rainfall across the study area. 2020 had been so dry; well below average falls since March reflecting the long, dry months we now expect during spring and summer. Despite the prevailing conditions, our frogs, and those searching for them, became somewhat active from December through to February thanks to regular showers across parts of the study area. A small flush was even experienced in the Mary River. Temperatures in the second week of February were unexpectedly low and, for many frogs, the window of opportunity to breed was very narrow or even non-existent.

Conditions such as these don't mean our noisy amphibious friends have disappeared with the dust, as most of our species are well adapted to prolonged dry. However, it does reduce their detectability, so vigilance is required to find them. Adverse conditions remind us of the need to continue surveying and monitoring year after year to keep an eye on their long-term persistence. Even our common and often encountered species are susceptible to changes that can easily be undetectable to us.

Participation and the number of sites surveyed were lower than the fabulous results of 2020, but a good response considering the weather conditions. The 2021 FFF team consisted of 102 Frog Finders surveying 124 locations. 1355 records of 31 species came in, including five threatened frog species from our streams and coastal wallum ecosystems.

Schools and Bushcare groups were active again this year. We worked with four local schools (one in each shire) and Bushcare groups from Noosa and Poona areas. Funding again has been proudly supported by the following Councils:









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HIGHLIGHTS AND OBSERVATIONS FROM FFF 2021 (see report for further detail):

- Extended northern known limit for Litoria verreauxii verreauxii (Whistling treefrog) to Pinbarren area.
- Litoria pearsoniana (Cascade treefrog) recorded east of Gympie during school monitoring event.
- Litoria brevipalmata (Green-thighed frog) found in non-breeding habit near Bundaberg (unusual as this species is very cryptic unless breeding)
- New Mixophyes iteratus (Giant barred frog) sightings for Maleny area.
- Yellow mutant *Litoria gracilenta* (Graceful treefrog) at Peregian (along with an albino tadpole of an unconfirmed species likely *Litoria peronii*, Emerald-spotted treefrog)
- Four schools involved in frog monitoring.
- 26 people joining on frog surveys through the Cooloola BioBlitz at wallum wetlands near Rainbow Beach. This activity was also linked to a Bushfire project looking at recovery of frogs after the 2019 wildfires (proudly supported by the Australian Government Department of Agriculture, Water and the Environment 'Wildlife and Habitat Bushfire Recovery Program').
- Online interactive mapping updated to include 2021 data.

DATA MANAGEMENT

All information that comes to the MRCCC through the FFF program is identified, where possible (that's about 99.9% of the time due to the high quality of photographs and recordings), and provided back to the participant. We occasionally refer to technical support for second opinion to further increase the reliability of more challenging records (our gratitude goes to Harry Hines and Ed Meyer). We attribute the hierarchy of reliability of the Queensland Government's WildNet database (e.g. verified, confirmed, unconfirmed) to each record and enter all records to that storage system. Our preference for WildNet is based on knowing how reliable each record is, as well as the requirement for Councils, planners, consultants and developers to refer to the data it holds for their assessments. Sometimes this is the only source of information that is accessed for making very important decisions for the management of our natural areas and species. Species lists for an area can be accessed by the public through 'Wildlife online' at

<u>https://apps.des.qld.gov.au/report-request/species-list/</u>. WildNet record locations are also available through the Queensland Globe app (go to 'Add layers – Biota – WildNet' and choose the type of fauna and flora records desired, or inspect diversity per 10x10 metre grid.

WEATHER CONDITIONS

The table below shows that rainfall totals for February 2021 were not conducive for frog activity (unlike February 2020 which was a most fabulous month for frog breeding!), making it less likely for people to encounter frogs by call and visual observations. Temperatures were also lower than average during the second week of February; both conditions resulting in low numbers of frogs detected during a single encounter.

Rainfall during December 2020 and January 2021 was available for some but not widespread. All four regions received well below median rainfall in February. Gympie and Maryborough received well below median rainfall for both January and February and only a fraction of what they received at the same time last year. Maleny and Tewantin, while receiving less than expected rain for February, did receive good falls in December and January with Maleny recording double its median rainfall for December, with some follow-up, higher than average falls in January.

Table 1. February 2021 rainfall totals (mm) (Bureau of Meteorology)

Location	2017	2018	2019	2020	2021
Maryborough	5.6	137	32	345	22
Gympie	21	282	35	184	25
Tewantin	41	394	37	510	93
Maleny	60	413	122	396	114



Litoria gracilenta Photo: Y. Yamamura

FFF ACTIVITIES 2021

Addressing the 2020 appraisal

The following components of the program were highlighted during FFF 2020 and addressed in planning and delivery of FFF 2021 by the MRCCC staff, external technical advisors, community members, groups, and government agencies:

- Redesign of the data collection sheet for improved use for data entry.
- Review of school material and data sheets.
- Targeting low participation areas Fraser Island and coastal areas.
- Further emphasising habitat needs of species.
- Encouraging community participants to monitor their site/s.
- Provided a 'Frog hop' (progressive frog surveys) in a western sub-catchment with targeted promotion to local communities, naturalist groups and schools.
- Support provided to the 2020 monitoring schools.
- Initiated monitoring in an additional school in some shires.
- Further investigated a data submission platform such as iNaturalist or tailored FFF phone application.
- Investigated a QuestaGame style phone application competition to encourage surveys.
- Continued workshops targeting low participation areas where possible.
- Obtained survey number and survey site numbers per council area from FrogID.

Media

Media items prepared and delivered as follows:

- Media releases
- School notices for inclusion in newsletters and to inform teachers of available resources
- MRCCC Facebook posts x 32 (532 likes, comments and shares).
- Find a Frog in February Facebook Group 471 members (Australia, New Zealand, Peru and USA). 76 posts in February alone with photos and discussion amongst frog enthusiasts and the MRCCC.
- Initiation of a weekly frog quiz question on Facebook.
- Radio interviews x 4, TV news interview x 1, newspaper interview x 1
- Local newsletter/paper articles
- Queensland Museum Frog guides or Boomerang Bags gifted to 41 new participants.
- Data verification, management and submission to the Queensland Government WildNet database
- Promotion of the Frog ID Key developed by Jono Hooper as a useful identification tool
- MRCCC website FFF page with updates

Activities

Displays, workshops, school presentations and group/school monitoring activities were provided as follows:

Table 2. Workshop and presentations delivered and participant numbers

Local gov't.	Event
area	
Sunshine Coast	Public presentation at Mary Cairncross Reserve facility
Sunshine Coast	Mapleton State School monitoring survey (2 nd time) on Baxter Creek at the school grounds
Sunshine Coast	Noosa District High School (Pomona campus) presentation and monitoring survey (3 rd time) on Belli Creek
and Noosa	at 'Mimburi'
Noosa	Noosa and District Landcare presentation to Skilling Queensland group
Noosa	Public workshop and survey to Noosa and District Landcare members (Rural Futures Centre and Cooroora
	Creek
Noosa	Public workshop and surveys for Noosa coastal Bushcare groups at Sunshine Beach and local reserves
Noosa	Presentation to Year 3 classes x 3 at Pomona State School
Gympie	Gympie East State School presentation and monitoring survey (1 st time) on Deep Creek
Gympie	Cooloola BioBlitz presentation and surveys in the wallum wetlands near Rainbow Beach
Fraser Coast	Tinana State School presentation and monitoring survey (2 nd time) of the wetlands of Woocoo park
Fraser Coast	Public workshop and surveys to Poona Bushcare group on Scrubby Creek and surrounds



PARTICIPATION OUTCOMES OF THE PROGRAM

The following table provides totals and a breakdown of involvement and records for each local government area:

	Total	Sunshine Coast Council	Noosa Shire Council	Gympie Regional Council	Fraser Coast Regional Council	Other
Frog Finders	102	26	19	33	18	6
Number of workshop participants	171	26	90	30	25	-
Number of school group participants	134	55	66	30	35	-
Surveys *	155	34	35	55	31	6
Survey sites *	124	24	32	34	28	6
Frog records	1355	280	277	436	198	167
Species	31	20	15	21	13	5
Threatened species #	6	4	2	5	1	-

 Table 3. Numbers of participants and frog records with council area breakdown

* Numbers of surveys and survey sites are from the FFF program only and do not include data from FrogID.

Threatened species - Stream dependant species: Adelotus brevis (Tusked frog), Litoria pearsoniana (Cascade treefrog), Mixophyes iteratus (Giant barred frog). Wallum species: Crinia tinnula (Wallum froglet), Litoria olongburensis (Wallum sedgefrog).

The number of people conducting frog surveys in 2021 was lower than the previous February with it's perfect frog activity conditions but higher than the very dry February of 2019 (343 Frog Finders in 2020 and 77 in 2019), and the total number of records submitted (1344) were on par with drier conditions (1,368 in 2019 and 7,946 in 2020).

The total participants, surveys and frog records coming from FFF participants over the five years that the program has been running are as follows:

	2017	2018	2019	2020	2021	Total
Frog Finders *	76	142	77	343	102	740
Surveys	70	218	127	221	155	791
Survey sites	61	128	90	141	124	544
Frog records	390	2358	1368	2892	1355	8363
Species	22	23	22	28	31	32
Threatened species	3	4	2	5	6	6

Table 4. Cumulative outcomes of the FFF program since its inception

* Numbers of participants are solo surveyors only and does not include workshop survey attendees

An unknown number of additional surveys and survey sites were conducted by people who submitted through the FrogID app.

SPECIES ACCOUNTS

Despite the dry conditions and low frog counts, this year saw three species recorded for the first time. As seen in Table 5 below, they are *Limdodynastes fletcheri* (Barking frog), *Pseudophryne coracea* (Red backed broodfrog) and *Uperoleia fusca* (Eastern gungan). As shown in Figure 1, the steady increase each year in the species recorded, as people from different locations and habitats submit their observations.

Table 5. Species recorded during Find a Frog in February – yearly comparison

		Status	<u> </u>				
Scientific Name	Common Name	(Qld.)	2017	2018	2019	2020	2021
Adelatus brevis	Tusked frog Vulnerable						
Crinia parinsignifera	Beeping froglet						
Crinia signifera	Clicking froglet						
Crinia tinnula	Wallum froglet	Vulnerable					
Limdodynastes fletcheri	Barking frog						
Linnodynastes peronii	Striped marshfrog						
Linnodynastes tasmaniensis	Spotted marshfrog						
Linnodynastes terraraeginae	Scarlet-sided pobblebonk						
Litoria brevipalmata	Green-thighed frog						
Litoria caerulea	Green treefrog						
Litoria chloris	Orange-eyed treefrog						
Litoria dentata	Bleating treefrog						
Litoria fallax	Eastern sedgefrog						
Litoria <u>o</u> racilenta	Graceful treefrog						
Litoria latopalmata	Broad-palmed rocketfrog						
Litoria nasuta	Striped rocketfrog						
Litoria olongburensis	Wallum dedgefrog	Vulnerable					
Litoria pearsoniana	Cascade treeftog	Vulnerable					
Litoria penonii	Emerald-spotted treefrog						
Litoria rothii	Northern laughing treefrog						
Litoria rubella	Naked treefrog						
Litoria tyleri	Southern laughing treefrog						
Litoria verreauxii verreauxii	Verraux's treefrog						
Litoria wilcoxii	Stony-creek frog						
Mixophyles fasciolatus	Great barred frog						
Mixophyles iteratus	Giant barred frog	Endangered					
Flatyplectrum ornatum	Ornate burrowing frog						
Pseudophryne coracea	Red backed broodfrog						
Pseudophryne raveni	Copper-backed broodfrog						
Lipenoleia fusca	Dusky toadlet						
Lipendeia laevigata	Eastern gungan						
Rhinella marina	Cane toad	(Exotic)					
	No. of species		22	23	22	28	30
	Cumulative species		22	26	27	28	32
	Total species				32		

(Cells marked green indicate species recorded in any given year)

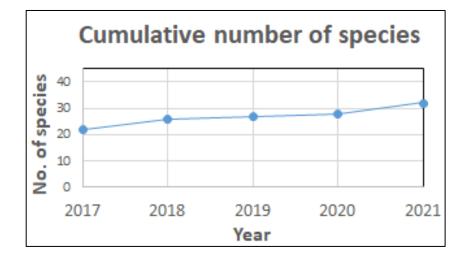


Figure 1. Increase in species recorded during the five years of the FFF program

The map in Figure 2 shows a good spread of surveys carried out by participants this year and the in all Council areas, particularly in and around population centres. This reflects the broad awareness of the program built over five years, our encouragement of participants to monitor previously surveyed sites, the provision of public workshops, and support for school activities. Participation gaps still exist on Fraser Island, sub-catchments to the west of the Mary and the Jimna area.

Our on-line interactive map is available at <u>https://mrccc.org.au/frog-in-february/</u> (see directions in Figure 4).

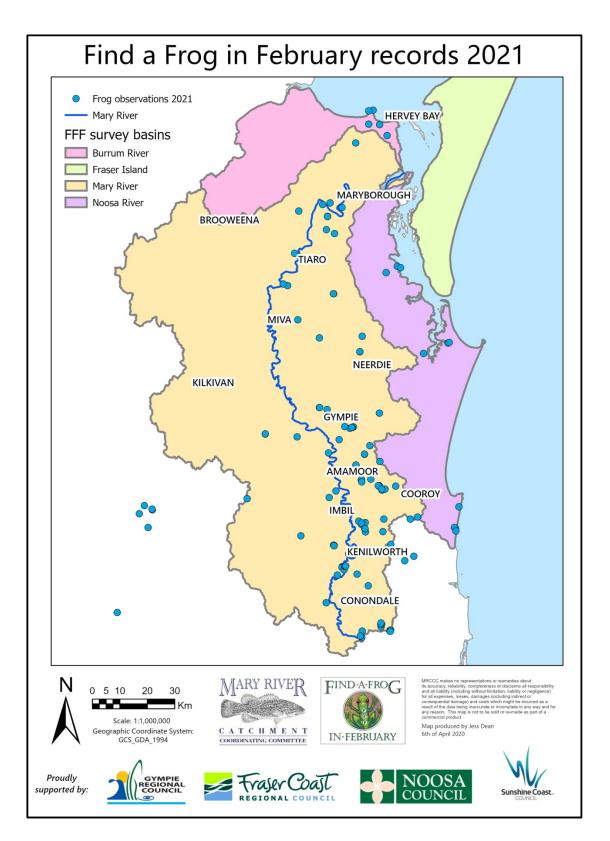
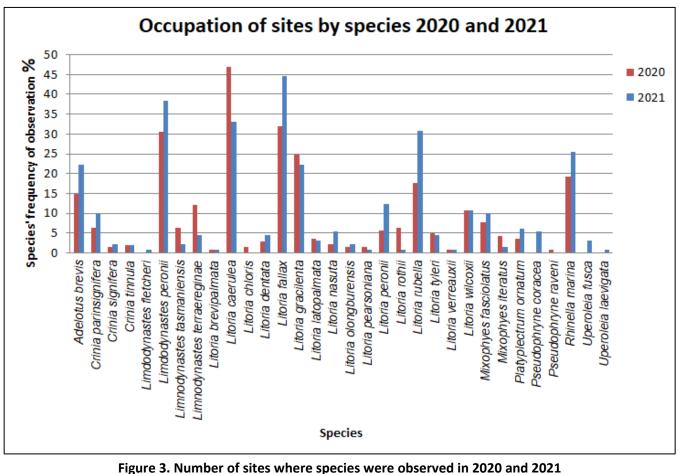


Figure 2. Locations of frog surveys by FFF Frog Finders during 2019-2020 (excluding FrogID records)

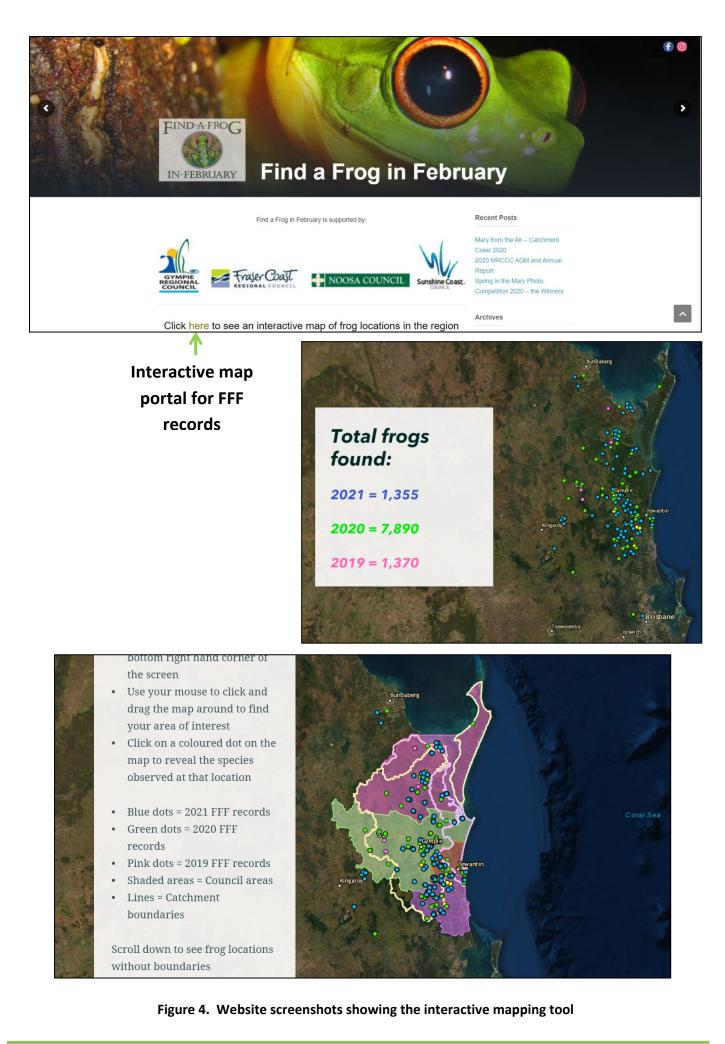
As all species have their particular requirements for habitat and environmental conditions; whether broad or specific, the species composition at sites can provide interesting insights into the condition of our environment generally. Many of our local frog species are adapted to breed in still water bodies and/or the occasional presence of temporary water following heavy rain e.g. *Limnodynastes peronii* (Striped marshfrog), *Litoria fallax* (Eastern sedgefrog) and *L. rubella* (Naked treefrog). They are drought-hardy and, as Figure **3** shows, such species are found at a high percentage of sites surveyed. Of course, *Rhinella marina* (Cane toad) joins that group and we would all be familiar with that species' breeding activity in dams and puddles following rain.

Some species burrow underground when it's dry so are not as detectable as the more observable species. Burrowers include *Lymnodynastes terrarreginae* (Scarlet-sided pobblebonk) and *Platyplectrum ornatum* (Ornate burrowing frog), the latter often turned out of a sand pile. Several species are rarely observed reflecting their narrow habitat characteristics, for example *Crinia tinnula* (Wallum froglet); a species specific to wallum wetlands. Some are cryptic for much of the time, becoming active and vocal mostly after heavy rain such as *Litoria chloris* (Orange-eyed treefrog) and *L. brevipalmata* (Green-thighed frog).

One species that most people find endearing and familiar to their homes and gardens is *Litoria caerulea* (Green treefrog), and we would all be shocked and concerned should these smiling lumps of green become scarce. It is concerning that the incidence of this species dropped significantly this year compared to 2020 and this could be in part due to the excellent breeding conditions and emergence of metamorphs en masse in February 2020 along the coastal areas. Unfortunately, we have seen the Chytrid fungus becoming prevalent along the eastern seaboard during 2021 and it's a possible reflection of mortality. One resident in Kenilworth has reported that nine of her 12 known Green treefrogs have died recently. It highlights the importance of monitoring a site regularly regardless of the status of species and the sense of unnecessary repetition when no change occurs; this is a good outcome.



(Number of surveyed sites in 2020 = 141, number of surveyed sites 2021 = 124)



FUTURE PLANNING FOR 2022 FFF

Observations from the 2021 FFF program:

- Improved data sheet is greatly easier to use for data entry.
- Reviewed school material and data sheets provided improved communication and data gathering
- Excellent participation at workshops in Noosa Shire.
- Gympie Shire participation encouraging (i.e. number of participants, and numbers of species and records)
- Noosa District State High School staff are ready to run monitoring on their own next year.
- A good number of species observed but numbers are lower due to dry conditions.
- Extension of range for Litoria verreauxii verreauxii to Pinbarren area.
- Uptake of the weekly quiz was not very high.

Considerations for 2022 FFF:

- Target low participation areas Fraser Island, coastal and western areas.
- Further emphasise habitat needs of species.
- Encourage community participants to monitor their site/s.
- Hold a 'Frog Hop' progressive frog survey night in western Fraser Coast region.
- Hold a frog, threats, weed and water awareness event in the Gympie Shire.
- Participate as group leader at the 2022 Cooloola BioBlitz.
- Continue to support school frog monitoring in 2022 existing and new schools.
- Install coastal wallum monitoring sites Fraser Coast, Gympie and Noosa shires.
- Contract the development of a data submission platform for FFF.
- Continue workshops targeting low participation areas where possible.
- Add FFF logo on Boomerang Bags that are given as 1st timer participant gifts.
- Review the weekly quiz to encourage participation.
- Participate as leaders of groups at the Cooloola BioBlitz 2022.

ACTIVITIES IN SHIRES - Sunshine Coast Council

School monitoring survey – Mapleton State School



Mary Cairncross workshop and survey





ACTIVITIES IN SHIRES – Noosa Shire Council (and Sunshine Coast in part)

School monitoring – 'Mimburi' (Noosa District State High School)





Coastal Bushcare Groups workshop and surveys



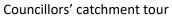
Noosa and District Landcare workshop and surveys



Pomona State School class presentation



Find a Frog in February 2021 Report





ACTIVITIES IN SHIRES - Gympie Regional Council

School monitoring – Gympie East State School







Limnodynastes peronii (above) and Rhinella marina (below)





ACTIVITIES IN SHIRES – Fraser Coast Regional Council

School monitoring – Tinana State School





Litoria fallax Limnodynastes tasmaniensis



Poona Bushcare Group workshop and surveys



Participant resources

Revised data sheet (Council acknowledgement)



Funding acknowledgement

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Media articles – a few examples

https://www.facebook.com/7NEWSWideBay/videos/216632306187961/?vh=e&d=n

Schools' notice - November 2020



DeA Fraser Coast Community Forum

Come along and hear about all things amphibian from MRCCC's Frog Lady, Eva! She'll be covering the importance of these creatures, along with supplying you with all of the information you need to become a **Citizen Scientist!**

If you would like further information about these events, please call the MRCCC Resource Centre on (07) 5482 4766. If you would like to find out more information about Find a Frog in February, head to our website: http://mrccc.org.au/frog-in-february/.

A big thank you to Gympie Regional Council, Noosa Council, Fraser Coast Regional Council and and Sunshine Coast Council for coming on board for FFF once again this year!







MRCCC AGM presentation - October 2020



FFF and Bushfire presentation to Federal Ministers; Hon. David Littleproud MP and Llew O'Brien MP



NSC Councillor and Mayor tour 1st February 2021 at Mary River cod hatchery



Public presentations



World Wetlands Day website

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Convention on USA Wetlands Day 2 February 2021 Wetlands and water
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EVENTS NEW EVENT
Find a Frog in February
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Annual citizen science frog searching program that allows everyone to contribute to the knowledge, understanding and management of our frogs and their habitats. The study area is the Councils of the Sunshine Coast, Noosa, Gympie and Fraser Coast, all of which provide funding to the program. This area includes the remarkable Mary River and adjacent, fragile coastal catchments. 1/4 of the frogs in this area are either extinct or threatened due to the development pressure on habitats and the effects of the Chytrid fungus at high altitude. The project aims to raise awareness of the general public, have schools and Bushcare groups involved in long-term monitoring to keep a watchful eye on populations during this era of unpredictable climatic shifts, and to receive, identify and store record from all over the area.