Find a Frog in February – 2022 Report

Prepared by the Mary River Catchment Coordinating Committee



FIND a FROG in FEBRUARY

2022 marks the sixth year of the Find a Frog in February (FFF) citizen science program that encourages the local community to send in frog observations during the month of February each year. It is delivered throughout the Mary River, Noosa River

and Burrum River catchments and adjacent coastal catchments (see map), and is generously funded each year by the four local councils; Sunshine Coast, Noosa, Gympie and Fraser Coast. Participants and technical supporters provide in-kind support through their participation that is 4 times the funding provided. The program provides educational material and support to Bushcare groups, schools and the broad community to help improve our knowledge of frogs; their location, population trends, habitat needs, and threats. Increased knowledge enables improved understanding and management of habitats.

SUMMARY OF THE 2022 FFF PROGRAM

The prevailing La Nina conditions provided a high number of rainy days and severe flooding during the 2021/22 frog breeding season. The Mary River and its catchment experienced a significant and widespread flooding event in February, and several more during the following months. Scheduling of some FFF activities were interrupted due to poor access and high safety risks but opportunities for frog finding were generally fruitful. Such conditions favor many of our local frogs that are well adapted to ephemeral water bodies such as dams, gullies and soaks.

The 2022 FFF community consisted of 384 participants sending in photos, recordings and descriptions of frogs from 827 locations. 4715 records of 32 species came in, including six threatened frog species from our waterways and coastal wallum ecosystems.

The FFF team provided seven workshops for the community, two webinars for the general public, a class lesson for primary schools, and a survey evening with Tewantin State school students.

This year we invited submission of observations through the FFF project in iNaturalist. It proved to be the platform of choice for over 250 people who submitted 1549 frog records. Observations coming to this on-line platform are verified by at least one local expert, and are often vetted by several people with excellent or good identification skills.

Find a Frog in February is proudly supported by the following councils:





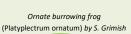














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WEATHER CONDITIONS

The table below shows high and extreme rainfall totals for February 2022. Such conditions are very conducive for frog activity; warm, wet, long-term water supply for egg and tadpole development. Perhaps though, it's not always the best for frog finding if flooding results! Probably due to consistent wet conditions, many FFF participants ventured out for frog searching with very fruitful results.

Rainfall from October 2021 through to January 2022 was well above average and much of the Mary River catchment and adjacent coastal areas were saturated leading in to February. All four Council areas of the program area then received very high rainfall in February and Gympie and Maryborough experienced severe flooding. Maryborough received around twice its February mean rainfall of 173mm/annum, Tewantin received over three times its annual mean of 210mm/annum while Gympie and Maleny both received over four times their February mean rainfall of 170 and 210mm respectively.

Table 1. February 2022 rainfall totals and means (mm) (Bureau of Meteorology 2022)

Location	2017	2018	2019	2020	2021	2022	Mean
Maryborough	5.6	137	32	345	22	312	173 1870-2022
Gympie	21	282	35	184	25	733	170 1870-2022
Tewantin	41	394	37	510	93	795	235 1895-1996
Maleny	60	413	122	396	114	959	210 1898-2022 Beewah



FFF 2022 ACTIVITIES, PARTICIPATION AND FROG RECORDS

The following table provides a Council breakdown and totals for community participation and incoming frog records.

Table 2. Numbers of participants and frog records with Council area detail

	Sunshine Coast Council	Noosa Shire Council	Gympie Regional Council	Fraser Coast Regional Council	Other^	Total
Frog Finders	210	79	86	130	3	384
Number of workshop participants	63	90	102	24	-	279
Number of school group participants	40	14	0	0\$	-	54
Surveys *	240	141	152	346	6	885
Survey sites *	346	105	135	237	4	827
Frog records	1128	1477	716	1256	38	4715
Species	22	20	20	23	7	32
Threatened species #	3	5	2	2	0	6

^{*} Numbers of surveys and survey sites are from the FFF program and iNaturalist and do not include data from FrogID.

The number of participants, surveys and frog records coming from FFF participants over the six years of Find a Frog in February are provided in the Table 3. Cumulative outcomes of the FFF program since its inception in 2017

[#] 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).

[^] Warwick, South Burnett & Charters Towers Shires.

^{\$} Webinar provided to schools.

Table 3. Cumulative outcomes of the FFF program since its inception in 2017

Year	2017	2018	2019	2020	2021	2022	Total
Frog Finders	76	142	77	343	102	384	1124
Surveys	70	218	127	221	155	885	1676
Survey sites	61	128	90	141	124	827	1371
Frog records	390	2,358	1,368	7,892	1,355	4,715	18,078
Species	22	23	22	28	31	31	33
Threatened species	3	4	2	5	6	6	6

The number of people conducting frog surveys in 2022 was an increase on the previously well-attended event in 2020 while the total number of records submitted (4715) were lower than came in during 2020. Numbers of frog individuals observed or heard can vary greatly according to the current conditions as well as prevalent breeding and survival conditions prior to a survey. The extreme wet weather experienced in February 2022 created ideal conditions for many species but likely deterred some others, such as stream dependent frogs, due to the fast flows along waterways.

The map in Figure 1 shows a good spread of surveys carried out by participants this year in all Council areas. This may reflect broader awareness of the program built over six years, repeat participants who are encouraged to monitor sites annually, the provision of public workshops and support for school activities. Participation gaps still exist on K'gari (Fraser Island), sub-catchments to the west of the Mary River and the Jimna area in the upper catchment.

The map below shows the spread of records coming to the MRCCC directly during FFF 2022 and our on-line interactive map is available at https://mrccc.org.au/frog-in-february/

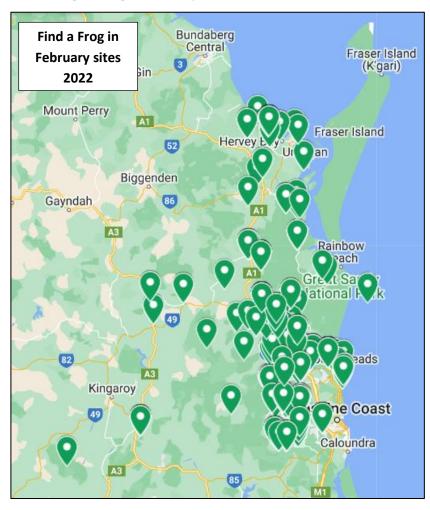
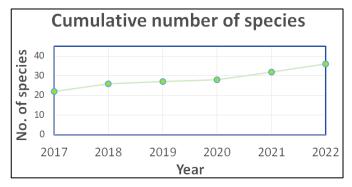


Figure 1. 2022 frog record locations (only observations submitted directly to the MRCCC, not iNaturalist or FrogID)

Four species were recorded for the first time as shown in Table 4 below. They are *Crinia deserticola* (Desert froglet), *Limnodynastes salmini* (Salmon-striped frog), *Litoria freycineti* (Wallum rocketfrog) and *Litoria inermis* (Bumpy rocketfrog).

Table 4. Species recorded during Find a Frog in February – yearly comparison

Scientific Name	Common Name	Status (Qld.)	2017	2018	2019	2020	2021	2022
Adelotus brevis	Tusked frog	Vulnerable						
Crinia deserticola	Desert froglet							
Crinia parinsignifera	Beeping froglet							
Crinia signifera	Clicking froglet							
Crinia tinnula	Wallum froglet	Vulnerable						
Limdodynastes fletcheri	Barking frog							
Limnodynastes peronii	Striped marshfrog							
Limnodynastes salmini	Salmon-striped frog							
Limnodynastes tasmaniensis	Spotted marshfrog							
Limnodynastes terraraeginae	Scarlet-sided pobblebonk							
Litoria balatus	Slender bleating treefrog							
Litoria brevipalmata	Green-thighed frog							
Litoria caerulea	Green treefrog							
Litoria chloris	Orange-eyed treefrog							
Litoria fallax	Eastern sedgefrog							
Litoria freycineti	Wallum rocketfrog	Vulnerable						
Litoria gracilenta	Graceful treefrog							
Litoria inermis	Bumpy rocketfrog							
Litoria latopalmata	Broad-palmed rocketfrog							
Litoria nasuta	Striped rocketfrog							
Litoria olongburensis	Wallum sedgefrog	Vulnerable						
Litoria pearsoniana	Cascade treeftog	Vulnerable						
Litoria peronii	Emerald-spotted treefrog							
Litoria rothii	Northern laughing treefrog							
Litoria rubella	Naked treefrog							
Litoria tyleri	Southern laughing treefrog							
Litoria verreauxii	Verraux's treefrog							
Litoria wilcoxii	Stony-creek frog							
Mixophyes fasciolatus	Great barred frog							
Mixophyes iteratus	Giant barred frog	Vulnerable						
Platyplectrum ornatum	Ornate burrowing frog							
Pseudophryne coracea	Red backed broodfrog							
Pseudophryne raveni	Copper-backed broodfrog							
Uperoleia fusca	Dusky toadlet							
Uperoleia laevigata	Eastern gungan							
Rhinella marina	Cane toad	Exotic						
Cells marked green indicate	No. of species		22	23	22	28	30	32
species recorded in a given year	Cumulative species		22	26	27	28	32	36
	Total species				3	6		



Error! Not a valid bookmark self-reference. shows the steady increase each year in the species recorded, as people from different locations and habitats submit their observations. 45 species are known from the program area. Six threatened species were recorded from throughout the project area.

Species that are known from the program area that have not yet been detected are as provided in the table below.

Figure 2. Increase in species recorded during the six years of the FFF program

Table 5. Undetected species, their habitat type/s and shires known from

Species name	Common name	Habitat	Shire/s
Assa darlingtoni	Pouched frog	Rainforest and adjacent wet sclerophyll forest	SCC
Cyclorana alboguttata	Greenstripe frog	Grasslands and open forest	SCC, NSC, GRC, FCRC
Cyclorana brevipes	Superb collared frog	Grasslands and open forest	FCRC
Cyclorana novaehollandiae	Eastern snapping frog	Variable, not at altitude	FCRC
Limnodynastes dumerilii	Grey bellied pobblebonk	Woodland, heathland, farmland	GRC
Litoria cooloolensis	Cooloola sedgefrog	Wallum wetlands	SCC, GRC, FCRC
Litoria revelata	Whirring treefrog	Rainforest, wet/dry sclerophyll forest	SCC
Mixophyes fleayi	Fleay's barred frog	Rainforest at high altitude	SCC
Pseudophryne major	Great brown broodfrog	Dry forest, woodland, sclerophyll forest, heathland	SCC, NSC, GRC, FCRC
Uperoleia rugosa	Chubby gungan	Grassland, dry sclerophyll forest, open woodland	GRC, FCRC

As all species have their particular habitat requirements and environmental conditions. Whether broad or specific, the species composition at a site can provide interesting insights into the condition of our environment. Many of our local frog species are drought resilient and adapted for breeding in still and ephemeral water bodies, for example Limnodynastes peronii (Striped marshfrog), Litoria caerulea (Green treefrog), L. fallax (Eastern sedgefrog), L. gracilenta (Graceful treefrog) and L. rubella (Naked treefrog). They are widespread and have been recorded at a high percentage of sites surveyed, as Figure 3 shows. Of course, Rhinella marina (Cane toad) joins that group and we would all be familiar with the breeding habitat preference for dams, and soaks following heavy rain.

Two species that most people know well from their homes and gardens are Litoria caerulea and L. fallax. It is concerning that the incidence of these species have dropped again this year. Excellent breeding conditions were prevalent in early 2020 and emergence of L. caerulea metamorphs en masse was observed by many people along the coastal areas in February that year. Unfortunately, Chytrid fungus has impacted populations along the eastern seaboard during 2021 and again in 2022 and is a likely cause for reduced observations. Only two records of L. caerulea came in for the whole Sunshine Coast Council area this year. Such trends highlight the importance of regular site monitoring regardless of the status of species; disregarding any ideas of senseless repetition or disappointment with years of similar observations; this is a good outcome!



Litoria caerulea by J. Hampson



Litoria gracilenta by R. Porter



Litoria fallax by A. Sylvester



Limnodynastes peronii by S. Grimish



Litoria rubella by C. Head

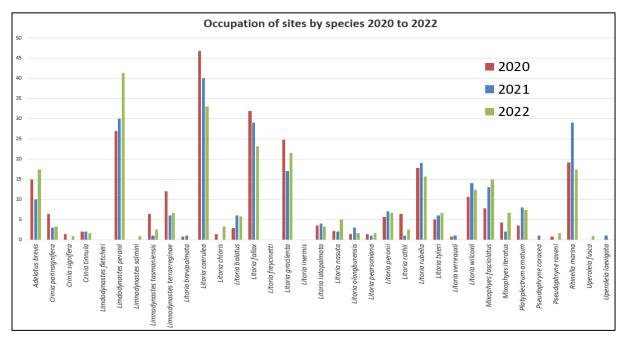
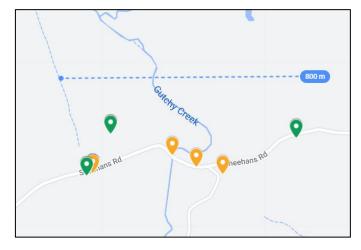


Figure 3. Number of sites and frequency of species observed from 2020 to 2022 (MRCCC data only)

(Number of surveyed sites in 2020 = 141, 2021 = 124 2022 =)

Species richness can be relatively high in unexpected parts of the FFF program area. The number of species at the location shown below, from records sent in over three years, is typical of many areas. 10 species have been observed in an area of only 10 hectares. Habitat types include an ephemeral creek and wetlands, road drains, dry bushland and a few houses with gardens. The road drainage has created a small ephemeral marsh that regularly attracts several species. The species found in this area are:

- Limnodynastes peronii
- Limnodynastes tasmaniensis
- Limnodynastes terraereginae
- Litoria caerulea
- Litoria fallax
- Litoria latopalmata or L. nasuta
- Litoria rothii
- Litoria rubella
- Litoria tyleri
- Litoria wilcoxii



Observations are enhanced by the abundant rain that has been prevalent over the past three years. Two of the species were recorded in 2021 and 22 while all others were active in 2020. This could of course reflect the effort of the observer rather than the weather. Again, it highlights the importance of monitoring sites year after year to determine species richness, temporal presence/absence and population dynamics.

DATA MANAGEMENT

All information that comes to the MRCCC through the FFF program is identified, where possible (that's about 99.9% of records due to the high quality of photographs and recordings people submit), 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). Each record coming to the MRCCC is attributed a level of confidence using a hierarchy system of reliability developed by the Queensland Government's WildNet database (i.e. verified, confirmed, unconfirmed). Every iNaturalist record that comes to the FFF project is identified by our local expert and may be further verified by others in the region with excellent identification skills.

iNaturalist data and those coming directly to the MRCCC are provided to the WildNet database by the MRCCC. Our preference for WildNet is based on its backing by the Queensland Government, its management by a dedicated and experienced team, and its capability to store extraneous information belonging to a record. It is the key dataset of reference for Councils, planners, researchers, consultants and developers. Oftentimes this is the only source of information that is accessed for making important decisions for prioritisation and management of our natural areas and species.

Species lists for an area can be accessed by the public through 'Wildlife online' at https://apps.des.qld.gov.au/report-request/species-list/. 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).

FFF ACTIVITIES 2022

Media

Media items were prepared and delivered as follows:

- Media releases to mainstream media outlets and local newsletters
- School notices for inclusion in newsletters and to inform teachers of available resources
- MRCCC Facebook posts x 35
- Find a Frog in February Facebook Group 563 members (Australia, New Zealand, Peru and USA). 160 posts by group members. Photos and discussion amongst keen froggers and the MRCCC.
- Initiation of a weekly frog quiz question on Facebook.
- Radio interviews x 4
- · Local newsletter articles
- Queensland Museum Boomerang Bags gifted to 52 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

Educational activities

Displays, workshops, school presentations and group/school monitoring activities were provided to the community as listed in the following Table 6.

Table 6. Workshop and presentations delivered and participant numbers

Local gov't. area	Event	No. of participants
Sunshine Coast	U3A at Maleny - FFF program	20
Sunshine Coast	Gheerulla Hall - Gheerulla Garden Club – FFF workshop and frog surveys	22
Sunshine Coast	Conondale - Upper Mary landholders – FFF workshop and frog surveys	21
Noosa	Noosa & District Landcare Webinar - FFF program	20
Noosa	Coastal – Peregian Community House – FFF workshop and frog surveys	20
Noosa	Tewantin State School – frog surveys/monitoring	14
Noosa	Land For Wildlife at Cooroora Park – Cane toads, frogs and FFF information	30
Noosa & Gympie	CCV Field Day at 6 Mile rest area – FFF information	40
Gympie	Off-Grid Expo – QFS stall with FFF information	50
Gympie	Mothar Mountain Hall - 6 Mile Creek – Creek Health workshop and frog surveys	32
Fraser Coast	Toogoom Community Hall – FFF workshop and frog surveys	24
Fraser Coast	Webinar – Frog information class session no. 1	-
All	MRCCC Annual General Meeting – FFF workshop and frog surveys	75
All	MRCCC General Meeting (Zoom) – FFF promotion and introduction to iNaturalist	24



<u>ACTIVITIES IN SHIRES</u> – a photographic sample - Sunshine Coast Council

Gheerhulla Garden Club



Upper Mary - Conondale



<u>ACTIVITIES IN SHIRES</u> – a photographic sample – Noosa Shire Council

Peregian Workshop

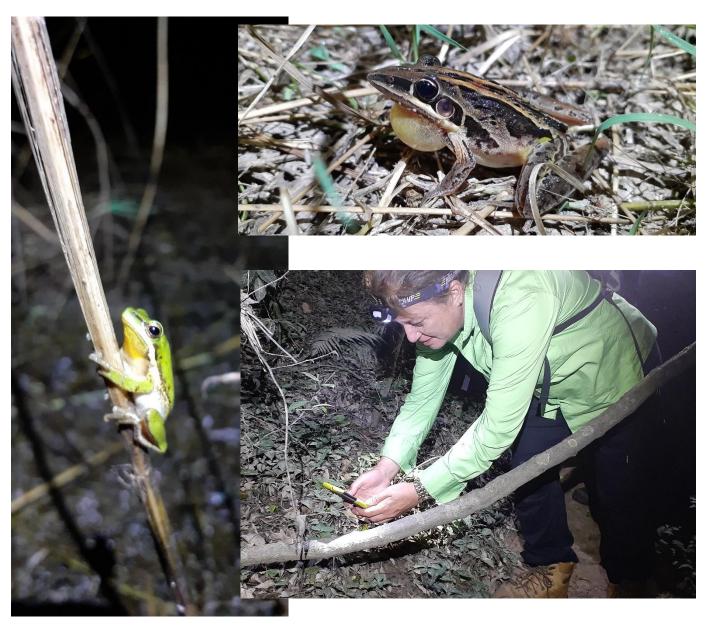


Tewantin State School surveys



<u>ACTIVITIES IN SHIRES</u> – a photographic sample - Gympie Regional Council

Mothar Mountain waterway information session and frog surveys

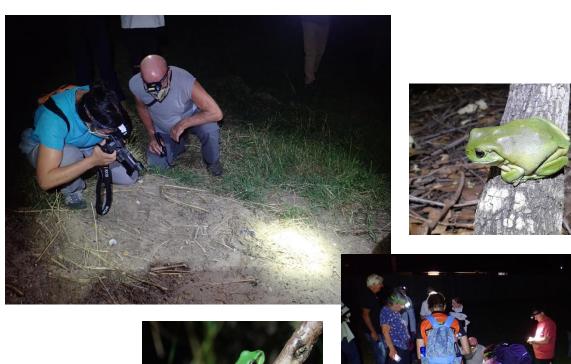




<u>ACTIVITIES IN SHIRES</u> – a photographic sample – Fraser Coast Regional Council

Toogoom Workshop and surveys

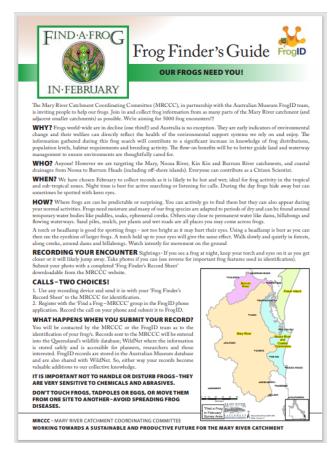




Participant resources









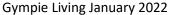
Funding acknowledgement





Old Frog Society Frogsheet - Mid-summer 2022







Cr. Jess Milne with Rainbow Beach News Feb 2022