

# AFRICAN CLAWED FROG CAPTURE TECHNIQUES

---

## TECHNICAL SHEET

DOI: 10.48716/FTLC-002EN

Version 03.2022

LIFE CROAA program

LIFE15 NAT/FR/000864



This technical sheet was produced within the framework of the European LIFE CROAA program "Control strategies Of Alien invasive Amphibians - 2016-2022" (LIFE15 NAT/FR/000864) whose main objective is to contribute to the improvement of the state conservation of native amphibian species, in particular by preserving them from the impact of invasive alien species.

This program was coordinated by the Société Herpétologique de France and carried out in collaboration with seven partner structures.

Find out more : [www.life-croaa.eu](http://www.life-croaa.eu)

### Actors of the LIFE CROAA project involved in the drafting of the technical sheet:

- Laurent Barthe, Director of the Société Herpétologique de France ;
- Myriam Labadesse, project manager at the Société Herpétologique de France, in charge of coordinating the LIFE CROAA project (contact@lashf.org) ;
- Audrey Trochet, population monitoring project manager at the Société Herpétologique de France ; Agnès Merletin charge of the "Invasive Alien Species" project at the Société Herpétologique de France ;
- Axel Martin, technical coordinator of LIFE CROAA for the Community of Communes of Thouarsais (biodiversite@thouars-communaute.fr);
- Bastien Martin, LIFE CROAA coordinating technician for the Loire-Anjou-Touraine Regional Nature Park, Biodiversity and Landscapes Department (info@parc-loire-anjou-touraine.fr) ;
- Maëlle Ladislas, LIFE CROAA technical coordinator for the Loire-Anjou-Touraine Regional Nature Park, Biodiversity and Landscapes department (info@parc-loire-anjou-touraine.fr).

### Citation du document :

Merlet A., Labadesse M., Ladislas M., Martin A., Martin B., Trochet A., & Barthe L. (2022), Technical sheet, African clawed frog capture techniques, Société Herpétologique de France. 27 pages.

DOI: 10.48716/FTLC-002EN

### LIFE CROAA project partners



### With the financial support of





# TABLE OF CONTENTS

---

The African clawed frog, an Invasive exotic species in France.....	4
Know how to identify the African clawed frog.....	5
Prerequisites for catching African clawed frog.....	6
Obtaining waivers.....	6
Protect yourself and the environment.....	6
Collection of spawnings.....	8
Observation and sampling period.....	9
Sampling method.....	10
[Manual sampling].....	10
Tadpole capture.....	12
Observation and capture periods.....	13
Capture methods.....	15
[Net catching].....	15
[Capture by trap].....	15
Juveniles and adults capture.....	16
Observation and capture periods.....	17
Capture methods.....	18
[Capture by trap].....	18
[Specific trap: trap and keepnet combinaison].....	20
[Capture with net].....	21
[Containment of lagoon bassin].....	23
Accompaniment and follow-up.....	25



# THE AFRICAN CLAWED FROG, AN INVASIVE EXOTIC SPECIES IN FRANCE

An [invasive alien species](#) is defined as a species introduced by man outside its natural range (voluntarily or fortuitously) and whose establishment and spread threaten ecosystems, habitats or native species with ecological consequences, and/or economic and/or negative health ([IAS Resource Centre](#)).

Originally from southern Africa and introduced to France several decades ago, the African clawed frog (*Xenopus laevis*) is now one of France's invasive alien species. The species is listed in [annex 1 of the ministerial decree of February 14, 2018](#), which means that its introduction is prohibited on national territory.

Widely used in research laboratories since the 1950s, this species was released in Deux-Sèvres following the closure of a breeding centre for animal experimentation.

It thus colonized several departments of metropolitan France, such as Deux-Sèvres, Maine-et-Loire, Vienne and Loire-Atlantique. Three new populations were discovered in Gironde (2015), in the North (2018) and in Haute-Garonne (2019).

➔ [Learn more about invasive alien species regulations](#)

Several legal texts address the issue of invasive alien species at national, European and international levels. In France, the [National Invasive Alien Species Strategy](#) was drafted in 2016. It aims to protect marine, freshwater and terrestrial ecosystems, as well as the animal and plant species they host, from the risks and effects associated with biological invasions. Its general objective is to strengthen and structure collective action concerning prevention and awareness, the establishment of surveillance and rapid reaction systems, long-term management means, including the restoration of ecosystems, and the improvement of knowledge.

Guided by these European and national strategies, study and control actions against the clawed frog have been tested by professionals from local authorities and environmental associations ([LIFE CROAA project](#)), in order to identify the species, limit its dispersion and if possible to reduce its impact on the natural environment.

**This sheet aims to list a series of capture techniques to be implemented in the field to control African clawed frogs.**

➔ [Learn more about Species targeted by LIFE CROAA](#)





# KNOW HOW TO IDENTIFY THE AFRICAN CLAWED FROG

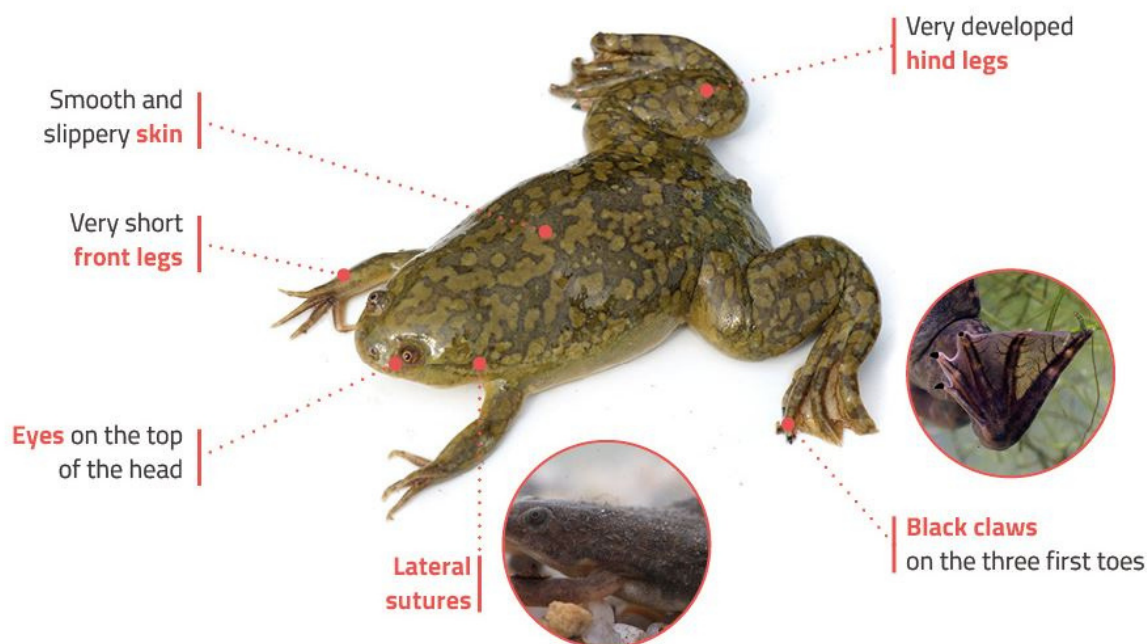
The African clawed frog has morphological characteristics that differentiate it quite easily from other species of amphibians present in France. This essentially aquatic species is however difficult to observe in the wild.

Before any implementation of capture systems, it is essential to know how to identify it in order to declare an exact presence and to avoid any confusion.

Find the identification keys for this species on the SHF website:

[lashf.org/fiches-techniques/](http://lashf.org/fiches-techniques/) > Section "Management of invasive alien species" > "Inventory sheet of the African clawed frog (LIFE CROAA)".

The actors who will take charge of the captures of African clawed frogs will have to carry out training, to be repeated each year, and which will relate to the recognition of the different stages of development of the African clawed frog and the differential diagnosis with the stages other species of amphibians, the behaviour of the species, its periods of activity, etc.



(c) Matthieu Berroneau

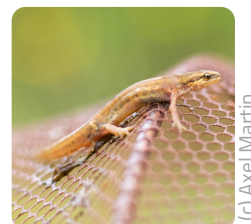


# PREREQUISITES FOR CATCHING AFRICAN CLAWED FROGS

## Obtaining waivers

Regardless of the stage of development, your actions to capture African clawed frogs are likely to result in the accidental capture of other amphibian species.

The latter are all protected in France according to the [decree of January 8, 2021 setting the list of amphibians and reptiles represented on metropolitan territory protected throughout the national territory and the terms of their protection](#).



(c) Axel Martin

Any capture and manipulation, even temporary, is therefore subject to obtaining a derogation which is the subject of a prefectural decree. This derogation request must be submitted to the [Regional Environment and Housing Development Departement](#) in your region. The lead times can be quite long, think about doing it in advance.

As head of the French national network, the SHF coordinates control actions for this species, so we invite you to contact us before any trapping operation in order to:

- Be accompanied for the implementation of a procedure respecting the regulations;
- Know the methods of taking care of individuals;
- Upload your observation and capture data.

>> Contact us: [contact@lashf.org](mailto:contact@lashf.org)

## Protect yourself and the environment

### Hygiene protocol

Before and after any handling of amphibians, a hygiene protocol must be respected to prevent the transmission of diseases specific to these species, such as ranavirose or chytridiomycosis, responsible for the death of many species of amphibians, reptiles or even of fish (see access to the protocol on page 7).

### Appropriate clothing in the field

Clothing covering at least the legs and thighs, with boots or hiking shoes is recommended in the field.

**Over-trousers** such as a fishing raincoat can be used and will be easy to disinfect with a disinfectant such as Virkon®.

The outfits of the agents carrying out the capture actions should ideally **be washed every week and between each change of water points to avoid storing any pathogens on the clothes**. This disinfection step must be carried out at a certain distance from water points to prevent any release of the product into the aquatic environment.





**Rubber gloves** are essential for handling individuals in order to avoid contact with their mucus, but also contact with water contaminated by the possible presence of nutria (leptospirosis). Wearing gloves for trapping in a wastewater treatment plant (STEP) is also compulsory in order to avoid biological risks such as the presence of viruses in the water (model of gloves recommended in the equipment and cost section of each technique of trapping).

We recommend that you wear a light lifejacket during field operations near deep water bodies. As a safety measure, it is also advisable to work in pairs on most actions.

Find the protocol for disinfection and use of Virkon® on the SHF website:

[lashf.org/fiches-techniques/](http://lashf.org/fiches-techniques/) > Section "Our other technical sheets"

> "Hygiene protocol for amphibian disease control in the field"



The capture techniques presented below have been tested as part of the LIFE CROAA program in several departments in western France.

A certain amount of information is provided to you in order to maximize your chances of capture (periodicity, climatic and geographical conditions, type of body of water, etc.) and is based on field observations. It will therefore be necessary to adapt your control plan to your territory and its geographical and climatic specificities.



# COLLECTION OF SPAWNINGS

---

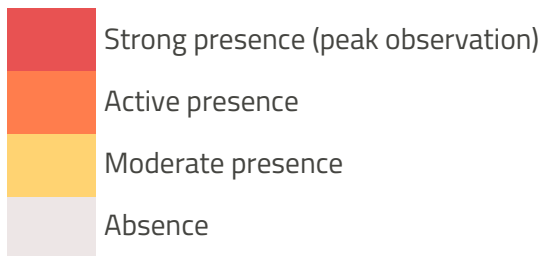
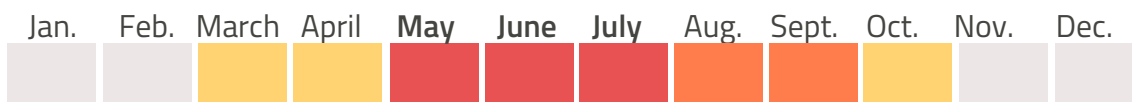




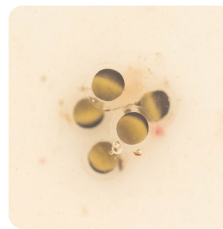
## Observation and sampling periods

The African clawed frogs clutches are generally observed from March to October with a peak in detection in the months of **May, June and July**.

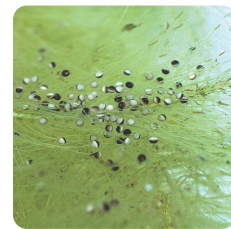
The spawning process is triggered as soon as the water temperature reaches 15°C, but they are most often found when the water temperature approaches 19-20°C. Particular attention must therefore be paid to the temperature of the water in order to maximize your chances of sampling.



The female African clawed frog can lay 300 to 2,500 free eggs per spawning. The eggs are light brown in colour and bicoloured (lighter below than above). They are generally laid in isolation; it is however possible to find them in clusters (rarer observation).



(c) Axel Martin



(c) Claude Miaud

The observation and sampling of clutches in the natural environment are very complicated due to the small size of the eggs (1 mm in diameter) and their arrangement.

Field experiments have shown that most of the eggs were found glued to traps, used for catching juveniles and adults and more exceptionally at the bottom of the water.

In order to optimize your time in the field, it is therefore recommended to take egg samples during your adult and juvenile capture phases.

**Find the identification keys for eggs and clutches on the SHF website:**

[lashf.org/fiches-techniques/](http://lashf.org/fiches-techniques/) > Section "Management of invasive alien species" > "Inventory sheet of the African clawed frog (LIFE CROAA)".



## Sampling method

### > MANUAL SAMPLING

#### [MATERIAL AND COST]

- **Water thermometer:** choose a professional model. **From €60 per unit depending on the model.**
- **Gloves:** Waterproof rubber dish cleaning gloves with sleeves. Choose a model neither too wide nor too tight to put them on and take them off easily and maintain a flexible grip. They can be disinfected, washed and used several times; however, be sure to choose a resistant model. **From 5 to 7 € per pair depending on the model.**
- **Plastic buckets or bins:** Seaux avec couvercle hermétique de 30 L, pour le conditionnement des pontes prélevées. **10 à 15 € l'unité selon le modèle** (exemple de fournisseur : Rolléco - 7,28 € l'unité).
- **Landing net:** Small professional landing net with 200 mm frame and net with 1 mm mesh. **Around €100 per unit depending on the model.**
- **Fishing Boots:** All-terrain rubber boots. They will have to be cleaned systematically from one water point to another (see hygiene measures). **From 40 to 100 € per pair depending on the model.**
- **Waders:** Neoprene material for fishing (entering the water). They will have to be cleaned systematically from one water point to another (see hygiene measures). **From 65 to 140 € per unit depending on the model.**



(c) Axel Martin

#### [IMPLEMENTATION]

There is currently no specific technique for harvesting African clawed frog eggs, harvesting must be done manually and opportunistically.

Seeing eggs on the ground is quite rare. Similarly, taking an exhaustive sample of the egg laying will be quite exceptional. To optimize your time, it is therefore advisable to carry out your operations of research and collection of eggs at the same time as the actions of capturing adults.

The landing net can in this context also be an exploitable tool for catching juveniles and adults.

- After checking the temperature of the water using your thermometer (to find out if it is conducive to the discovery of eggs), visually prospect the favourable areas.
- In the event of proven identification of an egg-laying African clawed frog in the natural environment, proceed to sample it manually or using a dip net. Take care beforehand to clear the location of the egg laying before recovering it (cutting vegetation if necessary, without disintegrating it) :
- Once the egg has been collected, place it on the banks at a good distance from the water point (minimum 3 m) in order to dry it out. Every precaution must be taken to promote rapid drying (hot and dry days and times. If there is a risk of rain, bury the eggs). A verification of the drying is carried out one hour after the eggs have been taken out of the water and then four days later. Several passes through the dip net will be necessary to recover all the eggs.



(c) Gabriel Michelin

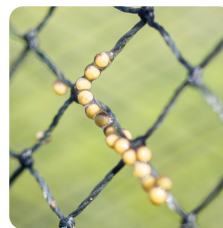




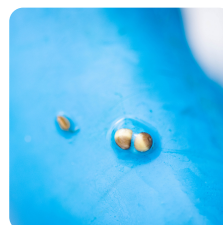
- In the case of a trap sample, the procedure is as follows:

The trap with eggs is removed from the site and undergoes a cleaning treatment in the room with disinfection with Virkon®. Leave the product to act for a minimum of 1 hour, then proceed with rinsing using a high-pressure cleaner on a surface far from any water point or gutter (choose a lawn or stabilized ground, etc.). Then let the trap dry for a day in the sun before returning to the water.

**NB:** Be careful, the eggs are particularly sticky and can remain on your gloves and clothes. Remember to remove them before returning to the water.



(c) Axel Martin



(c) Axel Martin

If your equipment (outfit, gloves) is used on several sites, remember to systematically disinfect your outfit as well as your equipment from one place to another, so as not to spread pathogens harmful to native amphibians.

**Find the protocol for disinfection and use of Virkon® on the SHF website:**

[lashf.org/fiches-techniques/](http://lashf.org/fiches-techniques/) > Section "Our other technical sheets" > "Hygiene protocol for the control of amphibian diseases in the field".



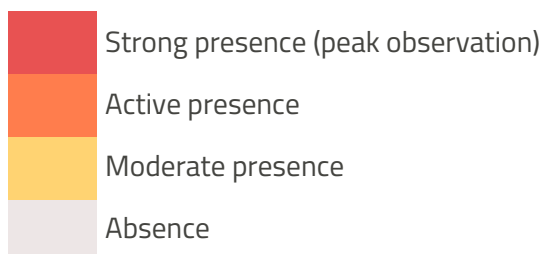
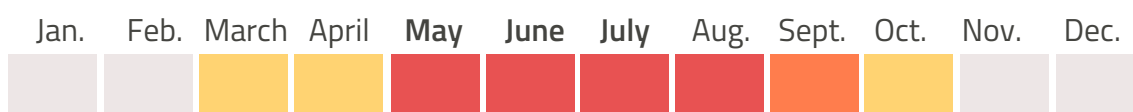
# TADPOLES CAPTURE

---



## Observation and capture periods

Winter is a period of low activity for individuals. On the other hand, they are observable over a period extending **from mid-March to October**. The ideal water temperature for detection is close to 19° -20°C. Tadpoles concentrate in groups in the open, shallow and warm waters of water bodies, and usually in shaded areas. These groups are easily spotted in the absence of vegetation. The sunshine criterion should be considered because better luminosity on the body of water makes it easier to detect tadpoles rising to the surface to breathe.



In order to best control the populations that occupy your body(ies) of water, it is recommended to regularly capture tadpoles (once a week in an opportunistic manner in addition to trapping juveniles and adults), with actions from the start of the season (March/April) and by intensifying efforts in the months of May to August.



(c) Axel Martin

Find tadpole identification keys on the SHF website:

[lashf.org/fiches-techniques/](http://lashf.org/fiches-techniques/) > Section "Management of invasive alien species" > "Inventory sheet of the African clawed frog (LIFE CROAA)"



(c) Matthieu Berroneau



## Capture methods

### > NET CATCHING

#### [MATERIAL AND COST]

- **Water thermometer:** choose a professional model. **From €60 per unit depending on the model.**
- **Gloves:** Waterproof rubber dish cleaning gloves with sleeves. Choose a model neither too wide nor too tight to put them on and take them off easily and maintain a flexible grip. They can be disinfected, washed and used several times; however, be sure to choose a resistant model. **From 5 to 7 € per pair depending on the model.**
- **Plastic buckets or bins:** Buckets with hermetic lid of 30 L, for the conditioning of the eggs collected. **€10 to €15 per unit depending on the model** (example of supplier: Rolléco - €7.28 per unit).
- **Landing net:** Small professional landing net with 200 mm frame and net with 1 mm mesh. **Around €100 per unit depending on the model.**
- **Fishing Boots:** All-terrain rubber boots. They will have to be cleaned systematically from one water point to another (see hygiene measures). **From 40 to 100 € per pair depending on the model.**
- **Waders:** Neoprene material for fishing (entering the water). They will have to be cleaned systematically from one water point to another (see hygiene measures). **From 65 to 140 € per unit depending on the model.**



(c) Axel Martin



(c) Axel Martin

#### [IMPLEMENTATION]

After having visually prospected the areas favourable to tadpoles (banks of bodies of water, aquatic vegetation, tail of ponds, etc.) and in the event of proven identification, proceed to capture the individuals.

- Several dip nets are made in the areas where tadpoles are detected: give about ten dip nets if visual detectability is not satisfactory (for example if the water is turbid or if more than half of the site is vegetated).
- Take care not to damage the aquatic vegetation or the bottom of the body of water when using your landing net. Perform slow movements, passing close to the bottom without removing the substrate or the sediments.
- Trapped African clawed frog tadpoles are counted and placed in plastic tubs or buckets. They must be quantified and separated by date of capture and by basin.



(c) Gabriel Michelin



(c) Axel Martin

As head of the French national network, the SHF coordinates control actions for this species, so we invite you to contact us before any trapping operation to find out how individuals are taken care of:

[contact@lashf.org](mailto:contact@lashf.org)





## Capture methods

### > CAPTURE BY TRAP

#### [MATERIAL AND COST]

- **Water thermometer:** choose a professional model. From €60 per unit depending on the model.
- **Trap with net with double entrances**, foldable, round or square. Catfish trap type. Fine stitches of 5 mm maximum. Average dimensions of 30 x 60 cm. From 10 to 20 € per unit depending on the model. These traps adapt perfectly to shallow water bodies. Take note of the information on page 16 for the choice of your trap.

NB: The trap must be equipped with a surface holding device (empty plastic bottle or pool rope float).

This device allows captured species to breathe on the surface and avoid drowning while waiting for the traps to be changed (every 24 hours).



- **String:** To attach the trap to a fixed element placed on the bank (tree, fence post or rebar to be installed yourself), in order to facilitate its recovery during surveys. Ref: Corderie Mesnard, 200 m spool, standard halyard, Ø 2 mm. €10.50 per spool.
- **Plastic buckets or bins:** Buckets with hermetic lid of 30 L, for the conditioning of the eggs collected. €10 to €15 per unit depending on the model (example of supplier: Rolléco - €7.28 per unit).
- **Gloves:** Waterproof rubber dish cleaning gloves with sleeves. Choose a model neither too wide nor too tight to put them on and take them off easily and maintain a flexible grip. They can be disinfected, washed and used several times; however, be sure to choose a resistant model. From 5 to 7 € per pair depending on the model.
- **Fishing Boots:** All-terrain rubber boots. They will have to be cleaned systematically from one water point to another (see hygiene measures). From 40 to 100 € per pair depending on the model.
- **Waders [optional]:** Neoprene material for fishing (entering the water). They will have to be cleaned systematically from one water point to another (see hygiene measures). From 65 to 140 € per unit depending on the model.
- **Polarized glasses [optional]:** Reduces reverberation and increases contrast to better spot tadpoles in the water. From €100 per unit depending on the model.
- **Binoculars [optional]:** For occasional observation of individuals from dawn to dusk. From €300 per pair to benefit from professional equipment.

#### [IMPLEMENTATION]

Refer to the "Capture by trap" implementation of the juvenile and adult stage below.



## Choose a trap adapted to the biodiversity in the field

Two types of foldable double-entry traps can be used in the field:

- Trap with 10 mm mesh.
- Trap with finer mesh of 1 to 5 mm maximum.

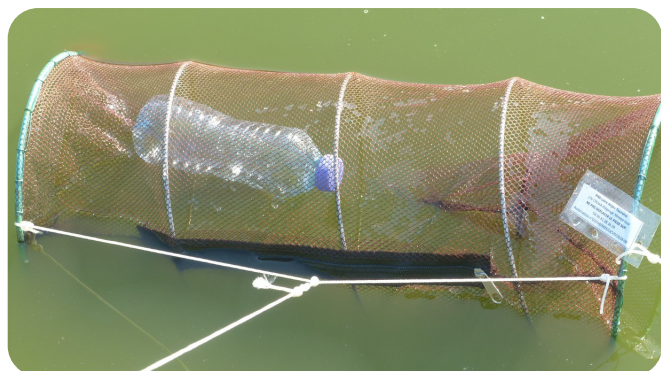
The use of one or the other will depend on the biodiversity found in your body of water and more particularly on the presence or absence of newts.

In fact, the use of fine-mesh pots quickly became essential for all water points that could accommodate newts. Indeed, a high risk of mortality by drowning has been observed for these species with traps with meshes that are too wide (the heads of individuals trying to escape remaining stuck in the meshes of the trap).

**Traps with a mesh of less than 5 mm are therefore very strongly recommended for sites rich in amphibians, in particular as soon as the presence of newts is possible.**

Traps with 10 mm mesh are recommended for bodies of water occupied by fish, or purification lagoons, where no newts are likely to be present. These traps have the advantage of being stronger and less expensive.

### Fine mesh traps (less than 5 mm)



(c) PNRLAT



(c) Axel Martin

### Large mesh pots (10 mm)



(c) Axel Martin



(c) Bastien Martin



# CAPTURE OF JUVENILES AND ADULTS

---

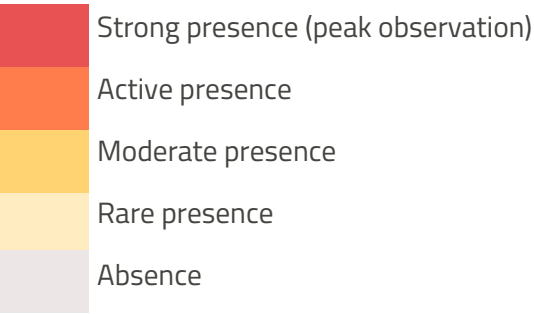
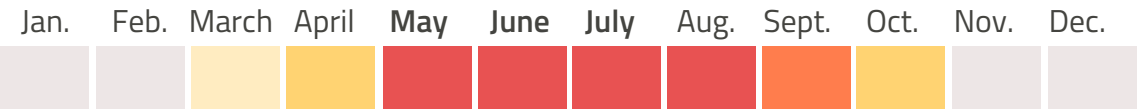


### Observation and capture periods

Observations of African clawed frogs juveniles and adults are possible **from March until October**. The peak of activity of individuals extends from **May to September** during the breeding season, but the species can easily be detected until October or even November if the temperatures are mild.

According to field observations and scientific literature, African clawed frogs are active as soon as the water temperature reaches 14-15°C, with optimum activity around 19 to 22°C (cf. study by Casterlin, ME and Reynolds, 1980. Hydrobiologia).

It has also been observed that there is a clear pause in the activity of individuals during the winter (hibernation).



Find the identification keys for juveniles and adults on the SHF website:

[lashf.org/fiches-techniques/](http://lashf.org/fiches-techniques/) > Section "Management of invasive alien species" > "African clawed frog inventory sheet (LIFE CROAA)".



(c) Axel Martin



(c) Axel Martin



## Capture methods

### > CAPTURE BY TRAP

#### [MATERIALS AND COST]

- **Water thermometer:** choose a professional model. From €60 per unit depending on the model.

- **Trap with net with double entrances,** foldable, round or square, Catfish trap type. Fine stitches of 5 mm or 10 mm maximum. Average dimensions of 30 x 60 cm. From 10 to 20 € per unit depending on the model. These traps adapt perfectly to shallow water bodies. Take note of the information on page 16 for the choice of your trap.

NB : The trap must be equipped with a surface holding device (empty plastic bottle or pool rope float).

This device allows captured species to breathe on the surface and avoid drowning while waiting for the traps to be changed (every 24 hours).



(c) Axel Martin

- **Bait:** Dog food (about €6.5/kilo) is to be used to bait your traps and try to improve your catch rate. Place these baits in a small sausage of about 5 cm, in a small resealable net (usually sold with the trap). Be careful, however, they are likely to attract other exotic species potentially present in your bodies of water (crayfish, catfish, etc.). These invasive species must never be returned to the water (for more information, consult the French [Invasive Alien Species Resource Centre](#)). With regard to the other catches (native species of fish and amphibians), it will be necessary to check the traps every 24 hours to release the individuals not concerned by your capture plan.
- **String:** To attach the trap to a fixed element placed on the bank (tree, fence post or rebar to be installed yourself), in order to facilitate its recovery during surveys. Ref: Corderie Mesnard, 200 m spool, standard halyard, Ø 2 mm. €10.50 per spool.
- **Plastic buckets or bins:** Buckets with hermetic lid of 30 L. For the conditioning of the individuals sampled. 10 to 15 € per unit depending on the model. Example of supplier: Rolléco – €7.28 per unit.
- **Gloves:** Waterproof dishwashing gloves with sleeves. Choose a model neither too wide nor too tight to put them on and take them off easily and maintain a flexible grip. They can be disinfected, washed and used several times; however, be sure to choose a resistant model. From 5 to 7€ per pair depending on the model.
- **Fishing Boots:** All-terrain rubber boots. They will have to be cleaned systematically from one water point to another (see hygiene measures). From 40 to 100 € per pair depending on the model.
- **Waders** [optional]: Neoprene material for fishing (entering the water). They will have to be cleaned systematically from one water point to another (see hygiene measures). From 65 to 140 € per unit depending on the model.
- **Binoculars** [optional]: For occasional observation of individuals from dawn to dusk. From €300 per pair to benefit from professional equipment.





## [IMPLEMENTATION]

If juveniles and adults are active with a water temperature from 14°C, the ideal water temperature for captures is 22°C (cf. study by Casterlin, M.E. and Reynolds, 1980. Hydrobiologia).

Remember to regularly check this data using your thermometer to optimize your capture plan.

For an optimal capture rate, count 2 to 3 traps for 100 m<sup>2</sup>. If the surface area of your water point is greater, plan a number of traps proportional to the aforementioned indication for 100 m<sup>2</sup>. For bodies of water from 800 m<sup>2</sup>, it will be necessary to cap the number of traps at 10 maximum, in order to optimize your capture sessions (logistics and time spent).

- Position your traps in the evening (previously baited with dog food placed in a sausage about 5 cm per trap) close to the banks (1 or 2 m) and at the edge of the seagrass so that they touch the bottom a little. If the pond is very shallow (< 30 - 40 cm), they can also be placed in the middle of the pond.

The laying time of the traps must be a full night to ensure the capture of the individuals (with a statement the next morning. Count 24 hours of laying maximum).

As a reminder, the traps must imperatively float and be placed horizontally so that the captured individuals can come up to breathe (place a float or an empty plastic bottle inside the trap to create buoyancy). They must also be firmly attached using a string to a fixed element (stake, tree) positioned on the bank so that they do not drift.

- All the traps must then be checked every morning, during the 4 days following the first laying of the traps. African clawed frogs captured daily must be counted (if possible, indicate the number of individuals captured by stage and sex - see sheet proposed in appendix 1) and placed in the buckets provided for this purpose (pour a background of water into the receptacles before placing the African clawed frog there to limit their stress).



(c) Axel Martin



(c) SHF / CCT

The recommended capture plan is as follows:

Trapping sessions from April to September, intensifying your efforts from May to August (periods when the numbers captured are the greatest) with daily trap setting and recording (set time of 24 hours maximum). In summer, the water level drops, making it easier to detect African clawed frogs, especially tadpoles and adults who come to breathe on the surface, and warmer water makes individuals more active and easier to capture.

Plan 4 sessions of 4 successive days during the periods most favourable to capture. Depending on weather conditions, the trapping period may start earlier and end later.

As the head of the French national network, the SHF coordinates control actions for this species, so we invite you to contact us before any trapping operation to find out how to deal with individuals:

[contact@lashf.org](mailto:contact@lashf.org)



If your traps are used on several sites, remember to systematically disinfect your outfit as well as the equipment used between each place, so as not to spread pathogens harmful to native amphibians. Find the protocol for disinfection and use of Virkon® on the SHF website:

**Find the protocol for disinfection and use of Virkon® on the SHF website:**

[lashf.org/fiches-techniques/](https://lashf.org/fiches-techniques/) > Section "Our other technical sheets" > "Hygiene protocol for the control of amphibian diseases in the field".

#### NOTES AND TIPS [FEEDBACK]

- If you observe a drop or a sudden stop in catches, the cause of which does not seem to be the drop in temperatures, it is recommended to change the bait (test the crayfish noquette - €7.5 per kilo). This change will allow you to check if this decrease is related to the effectiveness of your traps (population drop) or to a fatigue related to the bait.
- A recent study (Lorrain-Soligon et al. 2021. Manag. Biol. Invasions) also recommends planning capture sessions outside of full moon periods. Indeed, it demonstrated that African clawed frogs are less active at high light intensity (and therefore more difficult to capture).

### > SPECIFIC TRAP: TRAP AND KEEPNET COMBINATION

A new experimental trap was tested within the framework of LIFE CROAA and obtained very good results. This trap combines a "classic" trap with a floating fishing net, making it possible to obtain a vertical trap, positioned in the middle of bodies of water. It is particularly recommended for deep water bodies, large bodies of water, storm basins or lagoons.

**This trap has been the subject of a dedicated sheet available on the SHF website:**

[lashf.org/fiches-techniques/](https://lashf.org/fiches-techniques/) > Section "Management of invasive alien species" > "The keepnet: trapping system for capturing African clawed frogs (LIFE CROAA)".

The notes and tips for this innovative trap are the same as for the so-called "classic" trap system (see above).



(c) Maelle Ladjias



(c) Axel Martin



## Capture methods

### > CAPTURE WITH CAST NET

#### [MATERIALS AND COST]

- **Water thermometer:** choose a professional model. From €60 per unit depending on the model.
- **"Cast net" type fishing net:** Foldable mesh and retractable and portable net, with 6 entrances. Diagonal of about 93 cm. From 20 to 30 € per unit depending on the model. (photos opposite).
- **Bait:** Dog food (about €6.5/kilo) is to be used to bait your traps and try to improve your catch rate. Place these baits in a small sausage of about 5 cm, in a small resealable net (usually sold with the trap). Be careful, however, they are likely to attract other exotic species potentially present in your bodies of water (crayfish, catfish, etc.). These invasive species must never be returned to the water (for more information, consult the Invasive Alien Species Resource Centre). With regard to the other catches (native species of fish and amphibians), it will be necessary to check the traps every 24 hours to release the individuals not concerned by your capture plan.
- **Plastic buckets or bins:** Buckets with hermetic lid of 30 L. For the conditioning of the individuals sampled. 10 to 15 € per unit depending on the model. Example of supplier: Rolléco - €7.28 per unit.
- **Gloves:** Waterproof dishwashing gloves with sleeves. Choose a model neither too wide nor too tight to put them on and take them off easily and maintain a flexible grip. They can be disinfected, washed and used several times; however, be sure to choose a resistant model. From 5 to 7€ per pair depending on the model.
- **Fishing Boots:** All-terrain rubber boots. They will have to be cleaned systematically from one water point to another (see hygiene measures). From 40 to 100 € per pair depending on the model.
- **Waders** [optional]: Neoprene material for fishing (entering the water). They will have to be cleaned systematically from one water point to another (see hygiene measures). From 65 to 140 € per unit depending on the model.
- **Binoculars** [optional]: For occasional observation of individuals from dawn to dusk. From €300 per pair to benefit from professional equipment.



(c) Maelle Ladislas



(c) Maelle Ladislas



## [IMPLEMENTATION]

The process of setting up the cast net is identical to that of setting up the classic traps. Refer to this part.

**NB :** As soon as the height of water becomes greater than the trap itself, its implementation is complex: with a float within it, the cast net will tilt vertically, making the entry points less accessible. The trap is then rendered ineffective.

Moreover, its lightness does not allow it to be placed as far away as a trap. It will therefore be necessary to favour the edges of the water point for its positioning.



As head of the French national network, the SHF coordinates control actions for this species, so we invite you to contact us before any trapping operation to find out how individuals are taken care of:

[contact@lashf.org](mailto:contact@lashf.org)

If your equipment is used on several sites, remember to systematically disinfect your outfit and your equipment from one place to another, so as not to spread pathogens harmful to native amphibians.

Find the protocol for disinfection and use of Virkon® on the SHF website:

[lashf.org/fiches-techniques/](https://lashf.org/fiches-techniques/) > Section "Our other technical sheets" > "Hygiene protocol for the control of amphibian diseases in the field".

## NOTES AND TIPS [FEEDBACK]

- If you observe a drop or a sudden stop in catches, the cause of which does not seem to be the drop in temperatures, it is recommended to change the bait (test the crayfish noquette - €7.5 per kilo). This change will allow you to check if this decrease is related to the effectiveness of your traps (population drop) or to a fatigue related to the bait.
- A recent study (Lorrain-Soligon et al. 2021. Manag. Biol. Invasions) also recommends planning capture sessions outside of full moon periods. Indeed, it demonstrated that African clawed frogs are less active at high light intensity (and therefore more difficult to capture).





## Capture methods

### > CONTAINMENT OF LAGOON BASIN

One of the key elements in the fight against the proliferation of juveniles and adults of African clawed frogs lies in the establishment of containment facilities for lagoon basins or water settling basins. In fact, these artificial basins are environments highly appreciated by the African clawed frog: it finds there the optimal conditions for its development (relatively warm stagnant water, high concentration of organic matter). It is therefore essential to prevent its installation in this type of basin, and to prevent any dispersal of individuals to new surrounding sites (ponds, ponds, streams, etc.), to preserve local species.

This device has been the subject of a dedicated sheet available on the SHF website:

[lashf.org/fiches-techniques/](http://lashf.org/fiches-techniques/) > Section "Management of invasive alien species" > "Confining a lagoon against the dispersal of African clawed frogs (LIFE CROAA)".



(c) Axel Martin



(c) Axel Martin



(c) Maud Lardon





# ACCOMPANIMENT AND FOLLOW-UP

As head of the French national network, the SHF coordinates control actions for this species, so we invite you to contact us before any trapping operation in order to:

- Be accompanied for the implementation of a procedure respecting the regulations;
- Know the methods of taking care of individuals;
- Escalate your observation and capture data:
  - For each capture technique and during your trap readings, record your observations of African clawed frogs in a field sheet (see an example in appendix 1). Any observation of other amphibian species (by visual, auditory observation, or capture) must also be mentioned in your field sheet.
  - Enter all your data respecting the elementary exchange data of the SINP (DEE) (French network). If you do not have a suitable tool, the SHF makes its own available to you to enter your amphibian and reptile data by creating a dataset adapted to your structure and your program (metadata): [geonature.lashf.org](https://geonature.lashf.org)

> Contact us: [contact@lashf.org](mailto:contact@lashf.org)



(c) Axel Martin



LAND SHEET		
Observation of African clawed frog - Passage n° ...		
Observer name:		Date:
Geographical coordinates, name and description of the environment:		
Air (°C) and water (°C) temperature		
Weather report	Rainy / cloudy / sunny	
Rains		
African clawed frog	Observation method	Quantity
Spawning	Visual observation / landing net	
Tadpoles	Visual observation / landing net / trap	
Juvenile.s	Visual observation / landing net / trap	
Adult.s Female.s	Visual observation / landing net / trap	
Adult.s Male.s	Visual observation / landing net / trap	
TOTAL		
Other species (specify species, stage and sex):	Observation method	Quantity
	Visual observation / landing net / trap	
	Visual observation / landing net / trap	
	Visual observation / landing net / trap	
	Visual observation / landing net / trap	
	Visual observation / landing net / trap	
TOTAL		





LIFE15 NAT/FR/000864

