



Environmental Permit

Environment Protection Act (CAP. 549)

Permit number:
NP0017/20

Approved documents
NP0017/20/11A

The Environment and Resources Authority (hereinafter the Authority; the Competent Authority or ERA) in exercise of its powers under the Environment Protection Act (CAP. 549), hereby authorises:

Mr Alexander Borg Galea obo Ambjent Malta (hereinafter “the Permit Holder”), Of / Whose Registered Office (or principal place of business) is at

Head Office
Ta’ Qali National Park
Ta’ Qali ATD4000

Management and control of crayfish populations at

Wied Speranza, Wied Għajn Żejtuna and Wied tal-Baħrija and removal of *Arundo donax* from Għajn Żejtuna

The validity of this permit is **one (1) year** from the granted date below. An application for renewal of this permit is to be submitted at least **one (1) month** prior to expiry of this permit.

Signed	Date
<p style="text-align: center;">Anthony Aquilina Unit Manager (Permitting) F/ Director Environment and Resources</p>	<p style="text-align: center;">Permit Granted: 18/02/2020</p>

Authorised to sign on behalf of the Competent Authority

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Conditions

Introductory Note

The permit is granted in accordance with the provisions of the Environment Protection Act and Regulation 18(2) of the Flora, Fauna and Natural Habitats Protection Regulations, 2006 (S.L. 549.44), hereinafter referred to as the Regulations, for the purpose of the activities that shall be carried out within the Special Area of Conservation (SAC) of 'Rdumijiet ta' Malta: Ir-Ramla ta-Ċirkewwa sal-Ponta ta' Bengħisa' (MT 000024).

The Environment and Resources Authority (ERA) is also granting you permission in accordance with the provisions of the Environment Protection Act and Regulation 43(a) and (d) of the Flora, Fauna and Natural Habitats Protection Regulations, 2006 (S.L. 549.44), for the purpose of exempting the Permit Holder from the prohibitions on operations or activities referred to in Regulation 25(1)(a) and (b) of the same Regulations to capture, handling and disturbance of protected aquatic specimens, in line with Regulation 44(a) and (d) of the said Regulations.

The activity shall, subject to the conditions of this Permit, be managed, controlled and carried out as described in the NP Application, approved documents, and/or as otherwise previously agreed in writing by the Authority.

Status Log

Detail	Date
<i>Application NP0017/20</i>	27/12/2019
<i>Permit Issued</i>	18/02/2020

Pre-Commencement of activities/ work

1. The Permit Holder shall advise of the dates of works at least seven (7) days prior to the commencement on ced.nature@era.org.mt. In the case of change of date, the permit holder is to inform ERA of such a change at least two (2) days in advance. In the case of short-term cancellation of the activity (especially outside office hours), the Authority should be contacted on 9921 0404.

Permitted Activities

2. The Permit Holder is authorised to carry out the activities and the associated activities specified in Table 1

Table 1.

Activity	Description of specified activity	Limits of specified activity
Removal of alien species and removal of <i>Arundo donax</i>	As described in the approved project description statement NP0017/20/11A	(i) Capturing by means of traps, transporting and destroying of <i>Procambarus clarkii</i> at locations in Wied Speranza, Wied Għajn Żejtuna and Wied tal-Baħrija;

(ii) Handling of accidentally captured protected aquatic fauna and releasing;

(iii) Removal of *Arundo donax* from location of Għajn Żejtuna

Site

3. The activities authorised under condition 2 shall be affected in the locations as marked on the site plans in Figure 1, 2 and 3 in the approved project description NP0017/20/11A.

Conditions of Activity/Work

4. Activities are to be held according to the approved Project Description Statement NP0017/20/11A.
5. This Permit is only valid and restricted to the handling and releasing of any accidentally captured legally protected aquatic species and their immediate release, and the collection and destruction of *Procambarus clarkii* only.
6. The permit holder shall ensure that disturbance of any specimen of protected species or to protected habitats is kept to a minimum. It is the responsibility of the permit holder to ensure that no harm is caused to the environment either intentionally or accidentally. Attention must also be afforded to the whole environment of the SAC in view of the protection status of the area.
7. This Permit does not cover the taking of any specimens of protected species from the wild and any protected species accidentally captured shall be immediately released within the same area.
8. Trampling should be avoided by using existing paths (if present). Access shall be exclusively on foot, and without disturbance to the flora and fauna on site.
9. Specimens of *Procambarus clarkii* shall be destroyed after they are captured, in line with methods which respect animal welfare, while thirty (30) dead specimens of *Procambarus clarkii* shall be handed over to the University of Malta for research. Other alien invasive species caught in the trap will be euthanized and delivered to the Malta Herpetological Society to be used as food.
10. Three (3) traps will be deployed in each location totalling nine (9) traps. All the traps shall be geotagged. The traps shall be checked every 72 hours in Wied Speranza and checked every 48 hours in locations where the local crab is known to occur namely in Wied Għajn Żejtuna and Wied il-Baħrija and any accidental catches of protected species shall be released immediately in line with the approved method statement NP0017/20/11A.

All the traps will be re-deployed after every visit and left on location during the lifetime of this permit.

11. The removal of invasive alien species of *Arundo donax* to enable access at the location of Għajn Żejtuna shall be carried out only using hand held tools and in accordance with

the methodology of the *Guidelines on Managing non-native plant invaders and restoring native-plant communities in terrestrial settings in the Maltese Islands (MEPA 2013)*.

12. Removed alien species of *Arundo donax* shall be shredded (either on site or in a permitted waste disposal facility) in a contained manner and carted away with securely covered waste carriers registered in accordance with the requirements of the Waste Management (Activity Registration) Regulations 2007 (S.L.549.45) and Waste Regulations 2011 (S.L.549.63) , including where necessary through the Consignment Permit procedure.

Otherwise, debris from the removed *Arundo donax* shall be destroyed on site through incineration through controlled fires. No open fires are allowed and controlled fires are only being permitted for the incineration of any plant and tree debris within an appropriate enclosed skip.

Fires are prohibited in wind forecasts of Force 4 or stronger, and are to be entirely spent before sunset.

The Permit Holder is to inform ERA on the chosen process concerning disposal of the removed alien species seven (7) days prior to the carrying out of the procedure as well as provide details on this in the report of the activities held that is to be submitted in line with condition 23.

Certificates of destruction at the waste facility are also to be provided to ERA along with the report of the activities held.

13. Rubbish disposal facilities shall be provided by the organisers on the day and any waste generated during the activity is to be collected immediately and disposed of accordingly in accordance with the Waste Management (Activity Registration) Regulations 2007 (S.L. 549.45) and the Waste Regulations, 2011, (S.L. 549.63), including where necessary through the Consignment Permit procedure.
14. All works shall be carried out between sunrise and sunset.

General Conditions

15. The 'Permit Holder', is responsible to ensure that all reasonable precautions are taken so that the activity conforms to the conditions in this Permit and the procedures outlined within the Permit application.
16. The activities covered by this permit are restricted to the Permit Holder, employees and/or volunteers and contracted parties commissioned for such activities/works under his supervision and direction, who shall all be made aware of this Permit and the contents within.
17. The Permit Holder is not exempt from any other legislation or regulations, codes of practice, conditions or requirements imposed by any other competent authorities, including the obtaining of permits, licenses, or clearances to undertake works authorised by this Permit, including from site owners.
18. The following activities are strictly prohibited:
 - a. the deliberate picking, collection, taking, cutting, uprooting, harming, destroying or damaging deliberately destroying, keeping, transporting,

- selling, buying exchanging, offering for sale or for exchange, importing or exporting in any way of any specimen of wild flora, except as permitted;
- b. the deliberate hunting, killing, capturing, taking, harming, disturbance particularly during periods of breeding, rearing, hibernation and migration, destruction and deterioration of breeding sites or resting places, pursuing, taking or attempting to take, deliberately killing or attempting to kill, deliberately destroying, keeping, transporting, selling, buying exchanging, offering for sale or for exchange, importing or exporting any specimen of any specimen of wild fauna, except as permitted;
- c. cutting or damaging of reeds, tree branches etc;
- d. planting of vegetation, shrubs and/or trees or the introduction of any flora or fauna into the site or its environs;
- e. introduction, removal, significant movement and re-engineering, and/or collection of sand, shingle, stone, soil and/or sediment;
- f. excavation works and any physical modification of the vegetation cover, the ground and landform of the site and its surroundings;
- g. generation of excessive noise, including extremely loud music or the use of noisy generators, or light pollution through the use of floodlights;
- h. disposal, discharge or spillage of oil, fuel, paint or other pollutants, or of solid waste, ash or combustibles;
- i. lighting of fires.

19. ERA may request updates and/or further information on the activity in question as deemed necessary.

20. The conditions imposed shall be adhered to throughout all the activities. Failure to do so may result in enforcement action and cessation of any related works or activities.

21. The Authority may add, amend, suspend or revoke this Permit or part of this Permit in cases of fraud, where public safety or significant environmental damage or risk is concerned, where there is an error on the face of the record or where there is a breach of one or more permit conditions after a written warning is given by the Authority or in any eventuality that gives the Authority enough reason to suspend or revoke this Permit.

ERA may impose other additional rules or conditions, or may amend one or more of the listed rules or conditions, as it deems necessary for the proper conservation of a protected site or area, biodiversity and the environment in general, and to ensure public safety

22. The Permit Holder may apply for a variation of the Permit and shall seek the Authority's written agreement prior to any operational changes, by sending to the Authority:

- a. Written notice of the details of the proposed change, including an assessment of its possible effects or risks to the environment from the approved activity;
- b. Any relevant supporting information;
- c. Any relevant supporting assessments and drawings, and;
- d. The proposed implementation date.

Any such change shall only be implemented following the issue of a variation of the permit by the Authority.

23. In accordance with Regulation 46(4) of S.L. 549.44, a brief report with photos of the activities held, including any publications as a result of the activity, is to be provided to ERA by the Permit Holder within one month of the expiry of the permit, and is to be submitted to nature.permitting@era.org.mt. Information that should be treated as confidential as outlined in Regulation 48(4) of S.L. 549.44 shall be specified.

A template for the report is available at <http://era.org.mt/en/Documents/Activity%20Report%20template.doc>

Additionally, progress reports shall be submitted every three (3) months and shall include:

- a) Photographic evidence of the deployment and baiting of traps;
 - b) Photographic evidence of each visit to each trap showing the catches and including dates and locations;
 - c) List the number of crayfish collected including dates and locations;
 - d) List the number and species of any non-targeted species accidentally captured including dates and locations;
 - e) List the number and species of protected species accidentally captured and released including dates and locations.
24. Any accidental handling, capture or collection of specimens or part thereof, whether dead or alive, of species listed within Schedule V and VI, and endemic species not listed in Schedule X of the Flora, Fauna and Natural Habitats Protection Regulations (S.L. 549.44) shall be reported on nature.permitting@era.org.mt within seven (7) days of sampling of the specimen provided that the permit holder may only keep such specimen or part thereof for scientific research purposes. The Authority may request additional information from the permit holder, including but not limited to, an application for authorisation for the keeping of such specimens or samples.
25. The Authority may add, amend, delete or substitute any of the conditions of this Permit after notifying the Permit Holder of its intention and after describing the changes to the Permit Holder. This is without prejudice to any prevailing circumstances that would preclude the Authority from following such a procedure.
26. The Authority may suspend or revoke this Environmental Permit in line with the provisions of CAP 549.
27. The Permit Holder shall notify the following matters to the Authority in writing at least 10 working days prior to their occurrence:
- a. Any change in the Permit Holder's trading name, registered name or registered office address;
 - b. Any change to particulars of the Permit Holder's corporate identity.
28. Upon the joint application of a Permit Holder and a proposed transferee, the Permit Holder may request to transfer an environment permit. The permit shall not be transferred from the Permit Holder without prior approval from the Authority. Upon the Authority's decision to transfer the permit to the transferee, all rights, obligations, liabilities shall subsist onto the transferee.
29. In accordance with Regulation 47 of S.L. 549.44, details of the Permit Holder together with the details of conditions imposed in this Permit shall be maintained by the Authority in a register available for public inspection or maintained in electronic form.
30. ERA may inspect and monitor the activity at the expense of the Permit holder at rate and arrangement communicated by ERA's Compliance and Enforcement Directorate to ensure the safeguarding of the natural assets. ERA may also appoint other on-site monitors at the expense of the Permit Holder to act as an on-site liaison between the Permit Holder and ERA if the case arises.
31. The Authority's representatives may inspect and photograph any part of the site/activity and ask for any closed or locked areas to be opened and may demand to be provided with any proof, documentation, plans, receipts or any other records.

32. This Permit including any Variation Notices or amendments to it shall be made available for any inspection by ERA officials at all times, or any legally recognised compliance and enforcement officials, when requested.
33. Whenever there is a conflict between the conditions of this Permit and approved documents, the conditions of the Permit shall prevail.
34. ERA shall not be held liable for any accidents or injuries which may occur during the activities being permitted through this Permit. It is the responsibility of the Permit Holder to ensure that all safety measures are taken.
35. This permit is without prejudice to any liability of the Permit Holder under the Act and to any punitive measures the Authority may wish to take with respect to works already carried out without permit.
36. The validity of this permit is **for one (1) year** from the granting date of this permit. The Permit Holder may apply for a renewal to this Permit expressing his/her intention at least four (4) weeks prior to the expiry of this permit. Request for renewals shall only be considered upon confirmation of compliance with Permit conditions and fulfilment of documentation as requested by this Permit.
37. Any aggrieved person may appeal from this decision before the Environment and Review Tribunal within 30 days in terms of Article 63 of the Environment Protection Act.



MINISTRY FOR THE ENVIRONMENT,
SUSTAINABLE DEVELOPMENT AND CLIMATE CHANGE

Nature Permit Application

Application for the management and control of alien invasive crayfish
populations at three sites:-
Wied I-Isperanza, Wied Għajn Żejtuna and Wied il-Baħrija

Mr. Ryan Cilia

Ambjent Malta
Valley Management
Research Officer (Ecology)

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Project Description

Pursuant to an agreement between the Environment and Resources Authority (ERA) and Ambient Malta (AM), measures will be taken to remove and/or control the alien and invasive (henceforth abbreviated to AI) crayfish species found at the three agreed locations: Wied I-Isperanza, Baħrija and Għajn Żejtuna.

An exterminator specialist was entrusted to carry out these exercises using constructed traps which will be baited depending on the location and the presence of other fauna within the area of works. The chosen methodology consists of placing three geotagged rectangular, baited traps at each of the three sites which will be visited periodically to remove captured specimens and rebait the traps. The traps will be redeployed after every visit for the entire duration of the project. The coordinates of the traps will be provided to the competent authorities upon deployment. Photographic evidence of the deployment and baiting of traps will be provided with the progress reports which will be submitted every three months. The progress reports will include additional photographic evidence of each visit to each trap and will list of the number of crayfish collected clearly stating the date and from which location and trap these were collected. The reports will also include information on the number and species of the non-targeted fauna accidentally captured.

These projected works will consistently and regularly reduce AI crayfish specimens from the identified sites, aiming to effectively control numbers and possibly, eradication. The project will identify shortfalls that arise during the whole exercise so as to inform future management plans and population controls in other areas where the aforementioned AI species area present.

Moreover, specimen of the crayfish species will be used to carry out Trophic Level Analysis and Genetic Analysis to better understand this species, and the impact and place in the habitat in which it is found. This would further educate the possible impacts the introduction of such AI species has on local native flora and fauna and possible measures which will help mitigate such negative impacts.

Area of Study - Wied il-Baħrija



Figure 1 Showing a Map for the area of Wied il-Baħrija

Area of Study - Wied L-Isperanza

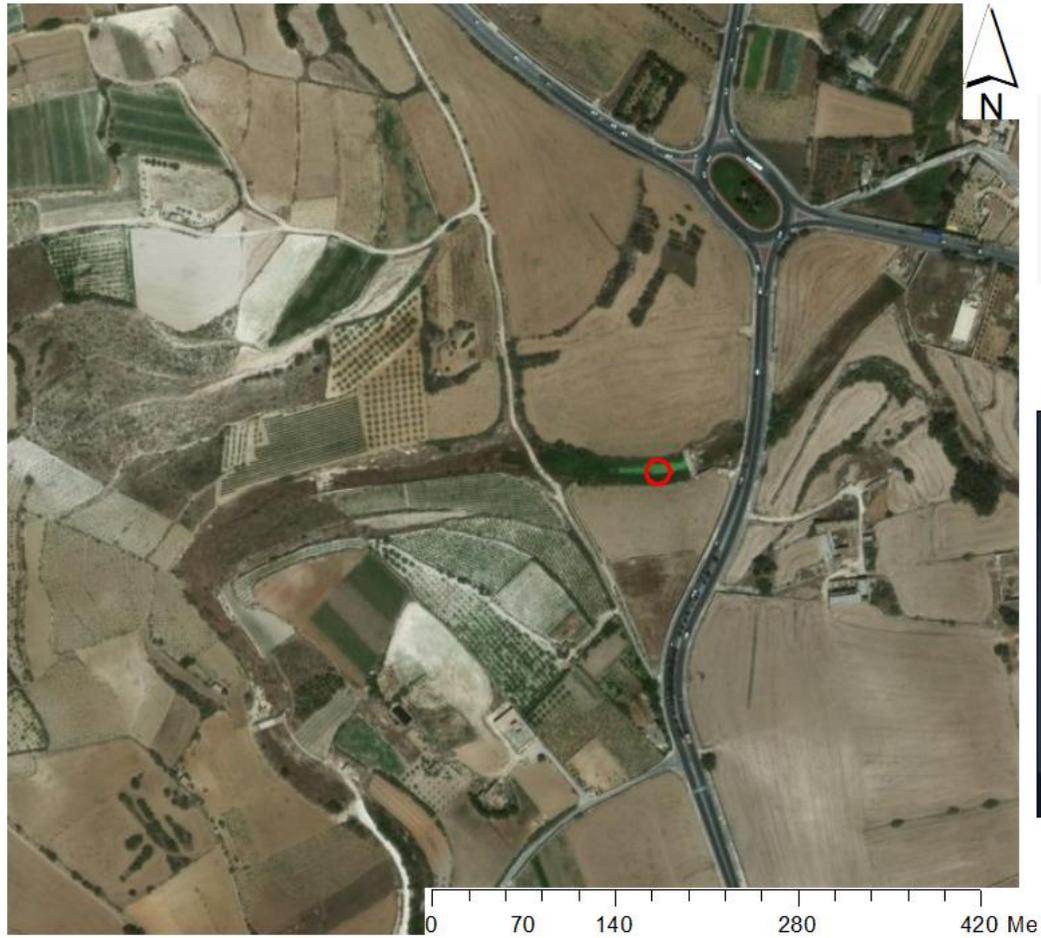


Figure 2 Showing a Map for the area of Wied L-Isperanza

Area of Study - Għajn Żejtuna



 AMBJENTMALTA

Date created: 16/12/2019



Figure 3 Showing a Map for the area of Wied Għajn Żejtuna

Aim of Project

- a. To produce detailed methodology for the eradication and/or control of AI freshwater crayfish; *Procambarus* species at three pilot sites (Wied l-Isperanza, Wied Għajn Żejtuna and Wied il-Baħrija).
- b. Provide at last 30 samples to University of Malta for each *Procambarus* species collected for a trophic position study.
- c. Identify shortfalls and possible improvements to the methodology which will be implemented in the overall management plan for the management of all the locations where AI crayfish is present.

Justification for project

Crayfish have been introduced in several locations (practically on every continent, apart from Australia and Antarctica), mostly for aquaculture, live bait or for aquarists (Hobbs et al. 1989). In Malta it is likely that it was an intentional introduction possibly by hobbyists who stopped caring for their pet crayfish, and, reluctant to euthanize it, released in the wild. In Malta crayfish as live-bait are not known to be used. Crayfish in Malta have little to no natural predators, as we do not have any large predatory fish species and other species which might compete, prey on the crayfish are very limited in their distribution throughout the island. Therefore, with little to natural predators, crayfish have been exceptionally successful at colonising several areas including ephemeral and permanent streams and ponds around the Maltese Islands. Unfortunately, it is likely that this is of a detrimental effect to native flora and fauna including to the protected *Discoglossus pictus pictus*, larvae, which were observed to be eaten by the AI crayfish species. Crayfish are also in direct competition with the *Potamon fluviatile lanfranconi*, an endangered protected endemic species limited only to sparse disconnected areas.

Consequently, it is of paramount importance for Malta to produce an effective management plan for the management of this highly prolific, AI species in order to ensure the survival of Maltese native fauna and flora.

Therefore, this initial pilot study would inform measures for the complete eradication or at least control of the population of the AI crayfish species. The chosen locations include areas which are well-known for the presence of *Potamon*, namely Baħrija, another area where the presence of *Potamon* is confirmed but the population and distribution is limited, and an area, where *Potamon* is known not to be present. This would help identify shortfalls occurring at the three different scenarios

where different measures might have to be taken to ensure minimal impact on native flora and fauna, while effectively controlling the population increase and spread of the crayfish.

Brief project outline

Possible AI species hotspots will be identified at the three (3) sites listed, namely, Wied l-Isperanza, Wied Għajn Żejtuna and Wied il-Baħrija. At least three (3) traps, consisting of square mesh trap with one conical opening will be deployed at each site. The mesh sizes for the traps will be of 10mm with a length of 50cm and width of around 15cm and having an opening of 12-13cm in diameter. This would allow any other smaller fauna to escape the trap easily. This creates a bias, where only larger individuals will be captured in the traps. However, it will allow species such as *Discoglossus pictus pictus* to also escape the traps, minimizing bycatch and the impact on native fauna and flora.

Starting date and estimated duration of project including dates[s] and time[s]

The works are projected to start beginning of January 2020 and ending December 2020 or for one year from the acquisition of the permit.

The site/geographic area of the activity

All three areas do not require permission from any landowners since all access points are from public land. In areas such as Għajn Żejtuna, some *Arundo donax* might need to be cut back to provide access to the exterminator specialist. The site locations are; Wied l-Isperanza: 35°54'10"N14 °24'28"E; Wied Għajn Żejtuna: 35°57'42"N14 °22'06"E; and Wied il-Baħrija: 35°54'04"N14 °20'30"E. The general location could be seen in Figure 1, for Wied il-Baħrija, Figure 2 for Wied L-Isperanza, and Figure 3 for Għajn Żejtuna.

How many persons are involved per visit?

The visits will be carried out predominantly by one or two field experts.

How will the site be accessed?

The site will be mostly visited by car, following which the field experts will proceed on foot to the exact location, since most locations are inaccessible with any other mode of transportation.

Description of the method to be used for the project

Rectangular “trappy” style traps will be constructed by the recruited expert using materials such as “chicken wire” or wire mesh similar to the one shown in Figure 4. These traps will be baited with pork skin and fat (where *Potamon fluviatile lanfrancoi* is not present) and with saltwater fish (where *Potamon fluviatile lanfrancoi* is known to occur (Wied Ghajn Żejtuna; Wied il-Baħrija), since these seem to be much less attracted to saltwater fish. Therefore, this would reduce the amount of accidental catch of the protected freshwater crab. Moreover, in areas where the *Potamon* is known to occur, the traps will only be placed partially submerged to allow for an area where the crab could surface within the trap to avoid any accidental mortality. Three (3) traps will be deployed at each location (as seen in Figure 1, Figure 2 and Figure 3) and these will be visited on a regular basis (every 72hrs for areas without *Potamon* and every 48hrs for areas with *Potamon*). The AI crayfish will be manually removed from the traps and placed in plastic buckets for ease of transportation. All the crayfish catches will be transported in buckets to the Ambjent Malta main offices and euthanized under the supervision of one of Ambjent Malta’s officers. At least 30 specimens from each species of AI crayfish captured will be handed over to the University of Malta where research is already being undertaken. The provision of additional specimen will aid ongoing comprehensive research which includes Trophic Level Analysis and Genetic Analysis in conjunction with an Ecosystem sampling study. These are to be stored and transported at -20°C for preservation until they get to the University of Malta. The other euthanized specimen not needed by the University of Malta will be delivered to MHS rescued exotic species in captive condition in terrariums and vivariums (as food) in controlled conditions. The specimen captured will be taken and euthanized so as to reduce the population size of the AI crayfish as much as possible. Moreover, any other possible alien species such as other alien crayfish species caught in the traps will be disposed of in the same manner. The traps will be redeployed after every visit for the entire duration of the project.

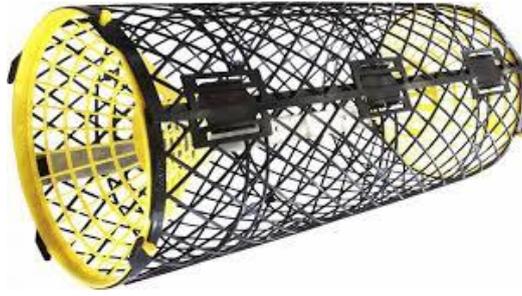


Figure 4 Showing an example of trappy™ crawfish trap (as an indication of the traps that will be constructed)

Safety equipment

Appropriate attire will be used when visiting the traps, including proper footwear and hand gloves. Moreover, any time the specialist exterminator will visit the traps, he is to notify his colleagues so as to ensure that should anything happen, his whereabouts are known. Finally, the specialist exterminator will also carry a mobile phone with him at all times.

References

Hobbs, H., Jass, J., & Huner, J. (1989). A Review of Global Crayfish Introductions with Particular Emphasis on Two North American Species (Decapoda, Cambaridae). *Crustaceana*, 56(3), 299-316. Retrieved from www.jstor.org/stable/20104461