

# Pitfour Fly Fishing Club

Established 2011

17 January 2012

## Method Statement

A sample was sent to the laboratory on 27/9/11. The lice were identified as *Argulus Foliaceus* by the Marine Laboratory in Torry Aberdeen on 2/11/11. *Argulus Foliaceus* is predominantly a still water species, and is a native parasite in the UK. See attached document.

This Method statement has been drawn up using as much advice and information as we can possibly gather. We have consulted the Fish Health department at Marine Scotland and the Scottish Environment Protection Agency Fish Ecologists and Animal Health and Veterinary Laboratories Agency (AHVLA) and Local Regulation Officers and this method of *Argulus* control is considered the most appropriate and best possible method to reduce and manage *Argulus* within Pitfour Lake.

We propose a multi-pronged approach using the most ecological measures possible. Firstly we intend to put barley straw into the burn feeding the lake, therefore improving water quality and reducing Cyprinids, and reducing the algae bloom. The bales will be contained in nets in sausage shapes, along the burn so as not to block the migration of brown trout to their spawning grounds. The straw can be taken out and replaced whenever necessary. The straw that is removed will be disposed of in Hamish Watsons muck midden on the farm, as agreed. Additionally we will put a number of bales around the lake at strategic points for extra help with the water quality. Under no circumstances will we be using any chemicals to combat the lice problem.

We would like to remove the fish infected with hundreds of lice; also if fish are caught with a secondary fungal infection, these will also be dispatched and disposed of. The advice we have obtained, is to have a freezer and store infected and culled fish until enough have been gathered for disposal. The fallen stock system will be employed and the fish taken away by Douglas Brae or North East fallen stock. Both of these operators are licensed to dispose of our fish. See attached email document. We have no intention of killing all the fish. Since we got advice from Dan Stewart at Marine Scotland Science, our members have been taking fish and significantly lessened the available hosts leaving the lake poorly stocked at present. This policy has therefore all but eradicated this particular part of our problems.

We aim to remove as much weed as possible during the winter, we intend lowering the level of the lake by means of removing one stone at the sluice by the temple, this will slowly drop the lake by between 12 and 18 inches, as discussed on your visit. This action will facilitate weed removal around the edges and thus reduce the amount of *Argulus* eggs that are attached to the

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weed, therefore limiting the number of Argulus that can hatch in spring. The clearing of weed around the edges will enable us to remove weed that we cut as part of routine maintenance during the summer. It is very important to remove as much weed as possible to help the lake keep cool. Argulus thrives in warmer water and if we can keep the temperature of our lake as low as possible it will help us reduce the lice numbers. The more weed we remove, the fewer surfaces Argulus has to lay their eggs on, and less hiding places to ambush fish. The method of disposal will be by transporting the weed to the park on the north side of the lake well away from any water course, and allowed to rot down and dry out. We feel that the lake will need to be left at the lower level for about three months in the first year, as we as a club do not have the money or machinery to dig out the weed at the edges, and are reliant on the owner to do this as and when he can. However as winter is running out we may have to postpone this until next year. The sluice will be used yearly to lower the lake by same amount, and in subsequent years the lake will remain lowered from November through until the end of February when water temperature will be below 10<sup>0</sup>C, as Argulus do not lay eggs below this limit. This lower lake level will allow for as much freezing as possible, this will kill any Argulus eggs that are exposed to the frost as suggested in EA guidance. The lowering of the lake will also facilitate removal of any new weed growth. We do not intend draining the lake.

The use of wooden or plastic structures placed in the water during the spring and summer for the Argulus to lay their eggs on, these can be of a simple construction, with variable depth settings to maximise efficiency. Every week these structures will be removed and dried out, thus killing off the eggs that have been laid. This method has been proven on various waters and would seem to be a good reliable and environmentally friendly way of dealing with each cohort as it is in its egg stage. This will only be effective if as much weed as possible is removed.

We would look to stock with Rainbow trout and if affordable with 200 Brown trout throughout the course of the year, we intend to stock between a quarter to a half the number of fish stocked at any one time last year. The Brownies are far hardier than the Rainbows, and seem far more resistant to infection. As we are a fishing club we simply must stock fish as no stock equals no club. We feel that stocking rainbow trout, along with a membership that will catch and eat them, will allow us to take a lot of Argulus out of the lake. We have already raised the bag limit, and are encouraging a catch and eat policy rather than catch and release which was the policy in our first year. It was suggested by Ecologists that no closed season over the winter period will be beneficial as fish capture over this period will reduce the *Argulus* spp. Population. We intend to stock approximately 100 four to six pound fish and 100 smaller fish in late February and a further 200 in March if the February stock has been taken by members. We have to take account of the otters, mink herons and cormorants who all feed on this lake daily.

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We have not stocked since the end of August, and as a result our stock levels are very low at the moment, and we feel we must be seen to introduce enough fish to satisfy the members. As we are only just starting our second year as a club it is important to ensure membership renewal. We would not stock again until the end of the avoidance period of April/May as suggested by EA guidance. Stocking will resume in June with another batch of 200 Rainbows and possibly Brown Trout. After this, fish will only be introduced when a significant percentage have been taken out, therefore maximising fish turnover. Studies suggest that rainbows are preferred by Argulus and it is important to have a turnover fish such as a rainbow. We are going to keep a register of fish kept, and a log of Argulus infested fish, and despatched fish. Our members will be educated on all matters regarding Argulus identification and management, and will be asked to follow a strict code of practice with regard the filling in of the above mentioned logs and registers. We are producing a pamphlet in bullet form to be printed and handed to all members. We will make every effort to attempt to quantify the infestation, and see if, and which of our measures are successful. We already have a chemical dip for nets waders etc and members have been encouraged to use this facility, thus stopping the spread of Argulus to any other water.

It may be of benefit to block off the area known as the arm by means of a small stone/earth dam at each side of the arm. The arm is badly overgrown and probably harbours Argulus. This will facilitate the cooling of the lake and to stop Argulus spreading down to the main lake.

During the second year, we may clean out the arm, and incorporate it back into the main lake. The measures adopted in year one will continue to be in place and acted upon, during year two and subsequent years.

We feel that with the support and guidance of SEPA and Marine Scotland Science and scientific advice from all the relevant government bodies, and a continual program of eradication, weed removal, careful stock management by introducing smaller batches of fish, and cooling of the lake, will in time reduce the numbers of lice drastically.

We the committee of PFFC are dedicated to dealing with this problem for the future of our club and for future generations of fishers, walkers and bird watchers alike, and will take any action within our means, that the regulator deems necessary.

Dave Saltmarsh PFFC Hon. Secretary