



Virtual Fisheries Forum 29/03/2022 (Managing Invasive Plants).

Q&A session

Q. What is the best course of action/control for Canadian pondweed & water lilies?

A. (Andrew) Break it down into 3 types of removal. Chemical, manual and mechanical removal. The best option or combination to go for is very site specific depending on the quantity of weed and extent of removal you're aiming to achieve.

A. (Ian) To add to Drew's point, timing is a key aspect to consider as applying Glyphosate for instance when the lily flowers are dying back but still on the surface, they will take the chemical back to their roots/rhizomes. You will also need the right Environment Agency qualifications/licenses to spray near water. Contact the Angling Trust Environment Team to discuss this further after the meeting.

A. (Emily) The Environment Team has Ian and Drew as it's officers and they are available to provide advice on management issues. The best person to contact depends on your approximate location. Drew typically covers south of Nottingham and Ian North of Nottingham. One personal opinion on managing weed is there is a lot of discussion about using dyes however, I would be reluctant to take this route because these dyes are indiscriminate and block light to everything beneath the water. If the dead weed is not removed from the water, then there is higher risk of Oxygen crashes due to bacterial decay/biological consumption.

A. (Trevor) Just to pick up on lily/elodea management you can only spray the lilies with Glyphosate once the leaves are on the surface (emergent). In my view it doesn't work very well and you also cannot apply this chemical on submerged plants at all. The glyphosate would need to sit upon emergent leaves for over 24 hours to have a systemic effect. This can present an issue during poor weather.

Q. Is there anyone who has experience to control and manage the Invasive aquatic weed (water hyacinth). Especially how to remove or control expansion of water hyacinth and how to minimize impact of water hyacinth on fish biodiversity?

A. (Trevor) If it really is water hyacinth (this plant is tricky to identify) then that is very relevant as this plant is banned from sale in England/Wales. I would be very keen to learn more about this case history. If it is water hyacinth, then it is unfortunately notoriously difficult to manage once established but theoretically it should not be surviving our cold English winters. Please contact me after this meeting to discuss your case.

Q. We are in process of producing a safeguarding policy for a series of angling events. Should the policy allow for exposure to possible harmful invasive plants?

A. (Alex) My gut feeling would be yes for example if giant hogweed is present then it is important to have precautions in place for reducing risk of exposure to as low as reasonably practicable.

A. (Ian) I would certainly include giant hogweed and Japanese knotweed. I would also include some kind of check clean dry protocols within the policy.

A. (Trevor) Be aware that there are native plants out there which can cause harm such as water dropwort and these should be considered.

A. (Ian) Good point, there are numerous like aconitum/wolf's bane is probably one of the most poisonous plants out there and I've seen it growing in/around fisheries.

Q. How are the Environment Agency eradicating water primrose?

A. (Trevor) Mechanical removal for large infestations and glyphosate treatment for any exposed foliage. Another more drastic method is simply completely filling stillwater sites in and create another from scratch.

Q. Thanks Trevor - are there policies/ controls for Lemna (is it considered invasive) since this has become a huge issue in our local river resulting fish kills?

A. (Trevor) There are many species of Lemna including both native/non-native varieties. They can all be very invasive and hard to manage. I've often seen sites where floating pennywort has been removed then Lemna seems to colonise almost filling the vacuum left behind from the pennywort absence. On large sites it's best to try and fill habitat capacity with plants you want there to prevent invasion by species like Lemna which need a void to jump on to become established most of the time. There is not a good method for managing Lemna sadly.

Q. Pennywort in the Colne Valley is far more prolific below the Maple Cross sewage works. We have drone footage showing tanks full of it. When the Water Company dumps raw sewage into the Colne it is also dumping Pennywort. If we can't effectively legislate against the sewage, can we use the existing illegality of deliberate spread?

A. (Trevor) Yes that would certainly constitute release of plant listed under section 9 into the wild so if there is evidence this occurring (deliberate transfer from a contained system into a river) that is a clear breach. I have not personally experienced Pennywort on a water treatment works. It is not unusual to find pennywort abundant below a treatment works but this is largely due to warmer water and nutrient inflow.

Q. Got a river section with Himalayan balsam. We rent the section. Who is responsible for getting rid of it, us or the landlord? Who do we approach for help on the correct methods of eradication?

A. (Trevor) Generally it is the landowner. The lease agreement may have clauses regarding the maintenance of the waterway but generally it will ultimately fall to the landowner.

A. (Ian) HB is a very damaging to fishing as it causes banks to be destabilised and erode with more sediment entering water thus causing sedimentation which impacts spawning success and invertebrate survival. It really is one to be proactive at getting on top of! The Angling Improvement Fund will help out with supplying funding for equipment to cut back balsam but not for this current round of AIF funding. On the 16th May the invasives orientated AIF will open for applications.

A. (Trevor) Make sure when strimming or brush cutting balsam that you cut below the node. Also disperse the cut off plants ideally spreading

them out on surfaces they will dry out because if you pile them up in a heap there will be enough collective moisture to complete their life cycle and disperse their seeds.

Q. what is the best way to control floating crystal wort?

A. (Emily) Floating crystal wort (*Riccia fluitans*) is an aquatic liverwort that is native to the UK. It tolerates a wider range of environmental conditions including water harness, pH and temperature. From what I have read this liverwort likes to have a high supply of nutrients. Although this wouldn't represent a quick solution, exploring ways to reduce the nutrient levels at your site may provide benefit to reduce the prevalence of this species. Manual removal may also present a way to reduce the population of this species. However, unfortunately it appears difficult to manage (much in the same way as Lemna species) so this would mainly be an approach to control the species and limit its spread across the site. My only final suggestion would be look at the tree growth around your site. If you have cover on most sides, removing some trees may allow increased wind flow across the water surface which would prevent this species growing across the entire surface.

Q. The EA form for spraying licenses asks for an Ordinance Survey map reference for the top and bottom of the area to be sprayed. What would the references be if you have 14 miles of river to cover?

A. (Ian) The top and bottom limits for the stretch of river in question. A grid reference will be fine.

Q. Is there currently any quantitative evidence on the way floating pennywort affects fisheries catch?

A. (Emily) Not to my knowledge. It clearly is a problem for fishing causing obstruction and negatively impacting habitat structure but in terms of a specific study of fishery performance there is no quantitative evidence yet.

A. (Trevor) Without a doubt invasives like pennywort will degrade anglers fishing experience but as above the quantitative data is not yet out there. This does not just apply to anglers and pennywort but for other pursuits and with other invasive plants. In economics this would be seen as a negative impact upon consumers "willingness to pay".

A. (Ian) I have been working with a club in Liverpool and they have experienced a massive drop in membership due to floating pennywort.

Q. How do AT members feel about joint partnerships, like the current FP Thames Pilot, with the paddling community to combat INNS?

A. (Alex) I can tell you from the people I have spoken to it has been received very positively.

A. (Emily) As above, the work in the Thames project and the whole GB floating pennywort strategy overall, the idea is to bring people that are equally impacted by INNS together to coordinate together against them. This has been predominantly positive.

A. (Trevor) I think it send out 2 messages. Firstly, that paddlers and anglers agree this is a problem and will work together showing the extent of the problematic impacts. Secondly it reflects very well of the 2 disciplines representative bodies that they are willing to put aside their differences for the greater benefit of the river/general environment. Prime example of stakeholder cooperation.

Q. Once you have removed the balsam can you "Burn the ground" and will this remove the seeds?

A. (Trevor) I would not try to burn the ground because it is usually quite wet. It is better to try and fill the ground/"blank canvas" with native species of plants so that there is competition for space and resources making it much harder for the invasives to become established again. A common weakness of glyphosate controlling is that it kills the invasive plants but nothing replaces them so inevitably re-establishment occurs once again!

A. (Ian) There is a contracting company who will perform control via electrocution but as Trevor points out this is not a one stop fix as ongoing control is needed.

Q. I asked the relevant body for a license (North Yorkshire) to trap Red Crays but my request was declined. They said they no longer gave out licenses in case we accidentally caught a white clawed cray. I said let me get this straight, you won't let me trap the creature that is killing the white clawed Crays because there is a chance, I catch the very creature that's being killed.

Do you guys think this is as ridiculous as I do? There's no way a white cray will live in my lake as it's too silty.

A. (Trevor) There is a postcode system in place. The reason crayfish trapping licenses are limited in some areas is that there is a concern for accidental trapping of native white clawed crayfish. Also, we find that crayfish trapping very rarely has a significant impact as it selects the larger crayfish which if left un-trapped would predate upon the juvenile crayfish helping to reduce population booms. Trapping has to be maintained at a very intense level for a noticeable effect, beyond what most volunteer clubs could realistically manage for the durations also required.

Q. Are there any plans to try and use biological controls on signal crayfish like an equivalent crayfish plague virus for signals as opposed to the native white clawed?

A. (Ian) There has been some work with gene editing that could apply for crayfish in the future. The theory is that it will make all individuals female and would kill off a population in 5 generations. There are also exploring this for grey squirrels. There has also been some work on male sterilisation, enabling castrated males to be returned to the water to predate on smaller juveniles, but no targeted plague like viruses as yet.

A. (Trevor) There is lots of options being trialled for signal crayfish. Gene editing is a controversial one but nothing is off the table. Some very good work has been done on Exmoor regarding sterilisation but the nothing has been shown to be highly effective yet despite a lot of effort searching.

Key contacts from this forum meeting:

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