Stocking with farmed fish.

As the Wild Trout Trust (WTT), we often hear the same reasons given by different people for wanting to continue to stock rivers with fertile farmed brown trout. To answer these questions, we take a pragmatic approach informed by evidence gathered from a wealth of scientific literature.

The detailed list of scientific references, fishing club case studies and videos mentioned in the answers below are available on the Trout Stocking page on the WTT website: http://www.wildtrout.org/content/trout-stocking.

Here are some of the statements and questions we hear and our responses:

1. ***There are no wild fish in our river because we have been stocking with farmed fish for 100 years***
   or
   Fertile farmed trout (diploids) are an essential addition to the breeding stock in the river. Without them, we wouldn't have as many fish.

Farmed brown trout are selectively bred by the farmer to do well in a fish farm environment; research has shown that they do not do well for very long in a river environment. However, in some cases, fertile farmed brown trout do survive long enough to interbreed with wild trout. How much interbreeding takes place is enormously variable over time and place, but is commonly in the range of 20-25%. Wild trout are very well adapted to their particular local environment. The offspring that result from interbreeding between farmed and wild trout have been shown to be significantly less fit for the river environment than pure wild fish. There are examples of clubs who have been convinced that the 'wild' trout that they find in their waters are the offspring of their stocked fish, or that by stocking with farmed trout fry they are boosting the 'wild' trout population. Very recent developments in genetic 'finger printing' allows identification of the origin of fish and wherever scientists look, the contribution of farmed fish to the population is very little or zero.
What we don't know is how much bigger the wild population would be if they were not continually exposed to spawning with farmed fish.
For more on this topic, see the video 'Risk of Fertile Stock Fish' on the WTT Trout Stocking web page http://www.wildtrout.org/content/trout-stocking

2. *All our wild fish were wiped out by pollution and we restocked with farmed fish so there are no wild fish to preserve.*

Wild trout are incredible survivors, bouncing back from very hard knocks like pollution and habitat alteration (once it is put right). They will re-populate stretches of river wiped out by pollution (as long as they can access them) by migrating from small tributaries, upstream and downstream or via sea trout - which is how all our wild resident brown trout arrived after the last ice age. Wild trout are naturally very adaptable and will populate any 'empty' stretch of river that they can access and if the habitat is right. If we remove barriers to migration and create the right habitat, trout populations do naturally come back once the water quality has improved. Where the wild trout population of a river is completely lost and cannot be repopulated naturally from tributaries or sea trout, the best practice is to move a selection of wild trout from a well-populated, similar river nearby. These fish

will be much better adapted to survive than farmed trout (but please note this requires permission and considerable technical expertise – please ask the WTT for advice!).

3. *If we didn't stock, our members would be unhappy and our catch returns would go down*

There is a long tradition of fishing clubs stocking farmed trout in the river to have larger or more numerous fish to take for the table and to satisfy members' expectations. The number and size of trout stocked is often based on history rather than analysis of available habitat. The evidence both from academic research and from club catch returns shows that a remarkably low percentage of stocked farmed fish are actually caught, often in the range of 10-30% of what was stocked. There are some good examples where clubs have ceased, or significantly reduced stocking levels, and catches of wild fish and returns of stocked fish have actually gone UP!
There is research and anecdotal evidence that suggests that fishermen aspire to catch wild trout, and feel a greater sense of achievement at catching a wild trout than farmed, stocked trout.

4. *The Wild Trout Trust is anti-stocking*

In an ideal world, all fisheries would be able to be managed as wild trout fisheries, and money would be invested by clubs and owners in improving habitat for all life stages of trout so that the fishery performs as well as it can for the fishermen, the fish and all wildlife.
However, we recognise that we don't have an ideal world. Some fisheries will stock with farmed fish because anglers wish to regularly take fish for the table or because the fishing pressure is such that a wild trout, catch and release system is not sustainable or because of insurmountable constraints on the wild population.
In this case, it is better to stock with infertile triploid trout, and to stock at an appropriate density and size for the available habitat.

For more information on how to stock appropriate levels of farmed fish, see the video 'Improved Trout Stock Management' on the WTT website http://www.wildtrout.org/content/trout-stocking

5. *Does the Wild Trout Trust support the EA's policy of using only infertile, triploid trout for stocking?*

If stocking with farmed fish is deemed necessary for whatever reason, then using triploid trout is the 'least bad' option because it means that the wild population will not be adversely affected by interbreeding with farmed fish.
Prof Andy Ferguson of Queens' University Belfast carried out a review of the available science on the interbreeding of farmed fish with wild fish in 2006, and that review concluded that:
'genetic changes caused by stocking with farm-reared brown trout are almost always detrimental to the fitness and survival of individual populations and potentially to the long-term survival of the species'.
The WTT has reviewed the relevant research since 2006 as it has become available, and it continues to support the same conclusion. Following review of the science in 2006, the EA undertook a consultation with all interested parties (fishing clubs and fish farmers were included) and announced the policy in 2009 (National Trout & Grayling Fisheries Strategy -New rules to protect wild brown trout). That policy - to allow only infertile triploid trout to be stocked into rivers – comes into effect in 2015.

6. *Triploids don't rise and sit in shoals on the bottom of the river. Fishermen don't like them.*

The research suggests that there is little difference between the behaviour of fertile (diploid) and infertile (triploid) fish. How farmed fish behave is very largely a function of how they have been managed in the fish farm (for example, fed on floating pellets before releasing into the river) and the way that they are introduced into the river. Trickle stocking, where fish are put into the river in small numbers throughout the season and in a variety of locations, is the best practice both in terms of value for money and minimising the impact on wild fish.
Research has taken place to see if anglers can tell the difference between diploid and triploid stocked trout in terms of the way they behave when caught. It showed that anglers could not tell the difference between diploid and triploid trout.

7. *Triploids eat more than diploids and will eat bullheads, salmon and trout parr and smolts and damage the balance in the river.*

Research by Stirling University has shown that there is no difference in diet between diploid, triploid or wild fish – they all eat any food that is available to them - although research carried out in the River Itchen by CEFAS over a time period that included a smolt run showed that triploid trout do not eat smolts, or indeed very much at all! Anecdotal evidence from fish farmers suggest that triploids are more shy feeders than diploids in a farm environment
In order to reduce pressure on food supplies and lies over winter, it is recommended that stocked fish of whatever type are removed from the river at the end of the season and either killed or over wintered in stews. The practice of feeding trout with pellets in the river over the winter is poor practice and not legal without a discharge consent. Throwing trout pellets into the river is the same as a farmer throwing in a bag of fertiliser. It leads to an artificial boost in nutrients and can promote algal blooms.

8. *Triploids are genetically modified and I don't agree with GMOs*

The term GMO refers to organisms that have had genes from a different organism added by man, and this cannot occur in nature. For example, an early example of a GMO was a tomato with a gene from a winter flounder (fish) added to make the tomato more tolerant of frost.

Triploid trout only contain the genes of trout, and the 'triploidy' function does occasionally occur naturally in the wild.