

DESTRUCTION OF THE FISH STOCKS AND THE FISHING EXPERIENCE ON THE TISZA-SECTION AT SZEGED

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Abstract: As nature-lovers, we think important to pay attention to our environment, to help and protect nature through our activities and to show an example for our fellow-creatures. That is why we regard important to write about the river Tisza at Szeged and to collect the problems, which involve the river, and to give suggestions, solutions to their management and prevention.

Key words: fishing, agriculture, environmental protection, hobby, social impact

1. INTRODUCTION

It is important to emphasize that the described, observed problems have reference to the section of the Tisza at Szeged, though it is probable that they can be experienced in most of the Hungarian waters. In our opinion, the problems that influence – negatively in this case – the fish stocks and the fishing experience on the river can be divided into two types.

The first type is the group of problems, which the natural conditions are responsible for example, the irregular floodings of inappropriate length and the non-optimal weather conditions. The other type is the group of factors which humans should be blamed for. There is a very strong connection between the two groups of problems, since some of the natural conditions can be eased by humans, while nature can moderate some damages caused by humans, too. These jointly cause the spoilage of higher and higher measure of both the fish stocks and the fishing experience.

2. PROBLEMS CAUSED BY NATURE

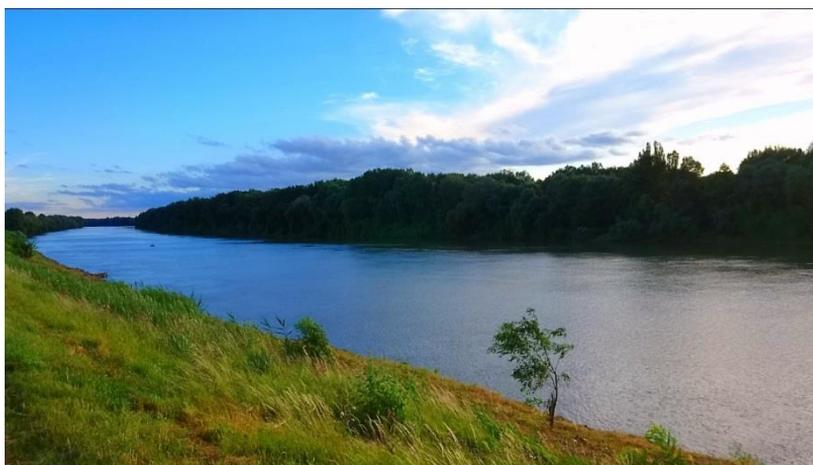
Frequent and successful spawnings are of extreme importance in formation of the fish stocks. It is essential that the successive generations can have the opportunity for the undisturbed spawning from year to year in order to have a continuous and abundant stock. Some things are indispensable for the successful spawning of fish. The most important ones are the water of proper quality and temperature and the suitable place. Basically, spawning of most fish species is related to the spring floodings when the river leaves its bed and floods the floodplain. The fish use the floodplains for spawning because the lush undergrowth, the slowing backwash and the lessening wave motion

give protection for the spawns, also the warmer temperature of the shallow water makes it possible that the spawns can hatch and the young fish can survive more easily in the early period. The problem caused by nature interferes this process in this period of fish reproduction. The higher average temperature in winter and the little amount of winter rainfall do not cause floodings of proper length and proper runoff so that the fish reproduction can be realized in a suitable way. It is nature that causes this problem, which greatly influences the spawning and the survival chances of young fish. At the same time, regarding the fish species in the Tisza, it should be humans, who have to manage the negative effect of this type caused by nature.

3. PROBLEMS BROUGHT ABOUT BY HUMANS

It is the human, who influences the fish stocks and so the fishing experience of waters most. If somebody observes the Tisza only from the distance, he cannot see what situation the river really is in. Those, who observe her from the distance, can see only a calm river, a nice environment.

Figure 1 The Tisza at Szeged



Source: Author's picture (2016)

You can discover more only when the observer has a closer look at the river, her banks and the floodplain. Then you can see the damages caused by humans.

The first of the activities from the past, which forced the river and her flora and fauna to change drastically, was the regulations of the river. Cutting the meanders and squeezing the river between dams launched the long change the effect of which we have started to feel only recently. The river got squeezed between narrow frames, she was seen through the eye of an engineer and was transformed as if she were an engineering construction and not a living organism. (Stündl, L. 2013) They wanted to press her between borders, which

are useful for the people living along the river; because it reduces the damages caused by the floodings, but does not exert both the river and fishstocks harmfully in the long run. The effects of the regulations could not be felt at once. Neither the fish stocks nor the fishing experience was reduced. In our opinion, the abundant fish stocks of that time had the way for spawning to maintain the stocks.

However, since the cyanide pollution of 2000 the fish stocks of the river have not been able to fully regenerate. It is when I would refer back to the river regulations, since because of the narrow floodplains and the long straight sections due to the meanders cut the floodings on the river are fast, so they do not provide enough time for most fish species to spawn in a proper quality. That is why they cannot reproduce themselves in the necessary quantity to maintain the fish population. Though, it would be necessary to experience spawnings of proper quality because due to the cyanide pollution the fish stocks have drastically reduced in the related section of the Tisza and the population remained is not able to spawn in the desired way, therefore the fish quantity in the river is continuously decreasing since there is not enough after-growth. Of course, this problem can be solved only by the government; the 'average' person cannot influence it.

The next severe problem caused by people is the waste in the floodplain, on the riverbanks and in the water. It is a problem against which even an 'average' person can do something. If somebody looks at the water not from the distance but closer, he can observe that there is a huge amount of waste in the floodplain, on the banks and even in the water, too.

In the forthcoming chapters, I am describing the effects of these above-mentioned problems and their possible solutions.

3. EFFECTS OF THE ENVIRONMENTAL POLLUTION

Problems described in the previous chapter have negative effects not only on the environment but on people, too. One of the main reasons of the effects on the environment is the waste along the river by which the ecosystem suffers a great damage. As the effect of the polluted environment and other harmful human activities, species, which are more sensitive to the changes in the environment can, disappear from the local ecosystem. (Horváth, L., Béres, B., Urbányi, B., 2011) In the long run it will result in the system of species of improper biodiversity or of autochthonal species in improper number. Besides, these activities may bring about the spread of plant and animal species non-sensitive to these changes, which will form a not so indigenous, entirely different environment in the long run. It cannot be accepted that the image of both the river and her environment change so much, so people have to work against this harmful transformation, and they have to make possible for the autochthonal species to have the proper number of individuals in the area.

The effects of these problems involve not only the nature but people, too, who visit the river: they may be families on a trip, people doing some sports or anglers who spend most of the time “together” with the river. These people go out to the nature to do their hobbies or relax in a nice environment. (Zsóter 2007) However, this experience cannot be perfect being horrified by what they can see because of the pollution.

Figure 2 An example to the environmental pollution



Source: Author's picture (2016)

4. DESTRUCTION OF THE FISHING EXPERIENCE

The gradual destruction of the fishing experience involves several reasons. One of them is that there have not been enough fish stocks since the cyanide pollution of 2000. Because of the above-mentioned reasons, the fish stocks are not able to increase the population drastically. The first reason is that there are no conditions in the spawning period, which would make reproduction of proper quality possible. The other problem is the poaching on the river. As a result, the fish stocks on the Tisza decrease and less and less sexually matured fish will be able to reproduce themselves; also the number of individuals of the species will be greatly reduced. The other reason for the destruction of the fishing experience is the mentioned environmental pollution. The experience is entirely destroyed if anglers have to cultivate their hobby in an environment full of waste. Of course, this situation can be tinged a little if we add that mostly the group of anglers is responsible for the pollution who is not interested in the nice part of this sport but is motivated by the loot and the money obtained for the fish. Anglers who pursue their passion not from the banks but from a boat have to face this problem, too, because they can find waste in the river, as well.

4. SUMMARY AND SOLUTIONS

Since the problem is complex, so is its solution. In order to improve the fish stocks, the spawning conditions have to be improved artificially, which could be done with the artificial swelling of the river. A reservoir system should be constructed which could help increase the time of floodings safely, this way a suitable condition for spawning could be created artificially. (Hegyí, Á. 2014) Besides, it is necessary to stock the fish, which is getting more frequent nowadays, but it is still not enough due to the lack of financial sources. Fishing is banned in order to improve the fish stocks, although –in our opinion – it does not necessarily result in the increase of the fish stocks to an extent, which has been expected. It was not fishing which seemed to be the biggest problem but the poaching beyond measure, which is still there. This problem and the environmental pollution, too, could be abolished with very strict and frequent supervisions, which cannot be seen in this Szeged section of the Tisza (Figure 3) now. Not even in the inner city section where there are lots of anglers, and people damage the river with waste.

Figure 3 The beloved section of the Tisza in the inner city



Source: Author's picture (2016)

Of course, problems do not have to be managed only but it is also very important to prevent them. The forthcoming generation and their parents have a crucial role in it. We think that in case of young and middle-aged adults there is a chance to change attitudes. In case of children – optimally – the information about the importance of environmental protection come from two directions. One of them is their parents. It is important that the parents do not neglect this importance. The other source is the schools. Today, schools are putting a bigger emphasis on the environmental protection but in our opinion, it should be more local. Of course, global environment protection is of the same importance but

protection of the local environment should be emphasized, too, since we who live close to the river can have the greatest effect on it.

In many cases, children learn to angle from their parents, grandparents. This process makes it possible that they can learn the proper behaviour on the river and thus the protection of the river, too. The humane treatment of fish, the protection of the environment and reduction of the environmental damages should also be very imperative for an angler. That is why courses for angling exams, written leaflets have to put a bigger emphasis on them.

We think that development and formation of human thinking will be the key to the hope that the fish stocks and the fishing experience of the Tisza – and probably in most of the waters in Hungary – will be of excellent quality again. It needs a lot of work and dedication without doubt but it is in our responsibility that the forthcoming generations can see the experiences and beauty given by the Tisza. To achieve this goal professional knowledge, dedication, call and love of nature have to be alloyed.

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