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The Killer Traps of Waters; Parachute Fishing Net Bingöl Example

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Tırıvırı, Parachute fishing net, Göynük Stream, Murat River, Bingöl

Abstract: This study was carried out to draw attention and create awareness on hunting materials prohibited to use and very dangerous for water ecology which is called Tırıvırı (Turkish name) and defined as a killer tor or Parachute Fishing Net (PFN). It was carried out in a part of Göynük Stream (Bingöl) creek bed at various times during the years 2015-2016-2017. The study had been carried out in about 40 km of the Göynük Stream, separated from the Murat River by three steps towards its upstream. These sections were taken as; Genç county railway bridge-Kervansaray (18 km), Kervansaray-Ilıcalar (11 km), and Ilıcalar-Alatepe (12 km). In these sections, there were found 45 in the first, 52 in the second, 33 in the third interval, and 130 in total old and new looking fishnet residues were determined of the creek bed. Throughout the study, only the Tırıvırı (PFN) trashes outside the stream could be counted, and it can be estimated that the amount that cannot be counted in the water is 3-4 times of those detected. It has been attempted to give the awareness that the hunting material is only a spending day activity whereas the adverse effects continue for years.

Suların Katil Tuzaklari; Tırıvırı Bingöl Örneği

Anahtar Kelimeler
Tırıvırı, Paraşüt ağ, Göynük Çayı, Murat Nehri, Bingöl

Öz: Bu çalışma; tırıvırı, katil tor veya paraşüt ağ olarak tanımlanan, kullanılması yasak ve su ekolojisi için oldukça tehlikeli olan av malzemesi üzerine dikkat çekmek ve farkındalık oluşturmak amacıyla yapılmıştır. Çalışma, 2015-2016-2017 yıllarının muhtelif zamanlarında Göynük Çayı (Bingöl) dere yatağının bir bölümünde yürütülmüştür. Çalışma Göynük Çayı'nın Murat nehri bağlantısından itibaren membaına doğru üç etaba ayrılan ve yaklaşık 40 km'lik uzunlukta dere yatağında gerçekleştirilmiştir. Bu bölümler; Genç demiryolu köprüsü-Kervansaray (18 km), Kervansaray-Ilıcalar (11 km), Ilıcalar- Alatepe (12 km) olarak ele alınmıştır. Bu bölümlerden dere yatağının birinci aralığında 45, ikinci aralığında 52, üçüncü aralığında 33, toplamda 130 adet eski ve yeni görünümlü tırıvırı kalıntısı tespit edilmiştir. Çalışma boyunca sadece suyun dışındaki dere yatağında rastlanan ağ kalıntıları sayılabilmiş, su içinde kalıpta sayılamayan miktarın ise tespit edilenlerin 3-4 katı olabileceği tahmin edilmektedir. Çalışma süresinde avlaklarda rastlanan tırıvırı avcılarına bu av malzemesinin sadece günü kurtaran bir etkinlik olduğu, ancak olumsuz etkilerinin uzun yıllar devam ettiği bilinci verilmeye çalışılmıştır.

1. INTRODUCTION

According to the data on fisheries of the world 89.09 million tons in 2010, and 92.5 million tons (80.5 from the seas, and 11.9 from inland waters) in 2017 fishery products were caught. In Turkey, although there were 0.50 million tons in 2000, only 0.31 million tons of hunting was performed in 2018 [1, 2]. Despite the worldwide increase, one of the major causes of the reduction in this amount is also arising from unconscious and forbidden fishing in Turkey which is surrounded by the sea on three sides and is rich in freshwater.

In recent years, amateur angling is widely defined in our country as an activity in which fishing for sport or hobby purposes and commercially that are not sold. In the studies conducted in Turkey, subjects such as socio-

economy of amateur angling, fishing efficiency and amateur angling certification status have been investigated. Studies on the damages of prohibited fishing materials used in amateur fishing to aquatic creatures are limited [3].

One of these prohibited fishing materials is the use of Tırıvırı (PFN) (called in Turkish) which is very dangerous hunting equipment. Tırıvırı - Parachute fishing net is made of a low-density weak line of various sizes which is used in connection with a fishing line and prepared for hunting by attaching a lead weight to the inner side close to the tying part of the launch line [4] (Figure 1-2). Tırıvırı (PFN) easily breaks and it remains in the water for years if it gets caught in an obstacle in the water. With this feature, it is strictly prohibited to use because it poses a great threat to natural life. Tırıvırı (PFN), which is a natural killer since the broken parts have been left in water for years, also destroys the spirit of amateur fishing [5].

Figure 1. A: "Tırıvırı (PFN)" ready to use, B: Tırıvırı (PFN) packages caught in control [6]

It is reported that Tırıvırı (PFN) which is made of nylon can remain in the water for about 200 years without rot [7]. The Tırıvırı (PFN) pieces are stuck in the water environments, by taking the other materials from the environment into their structure, slow down the flow rate of the water with the sets formed in front of the stream and cause the aquatic organisms to be stuck in the environment (Figure 2A). Thus, it will cause environmental pollution and trapping of aquatic organisms.

Hungry animals that feed on aquatic organisms such as fish and frogs are caught in this trap when they come close to eating the creatures caught in the water (Figure 2B). For this reason, the animals are living in aquatic environments such as aquatic birds (ducks, storks, herons, cormorants, etc.), otters and water snakes die by suffocation or starvation [8].

Figure 2. A: Vicinity of the Sivas Eğri bridge [9], B: From media [10]

As a result of the negotiations with the Undersecretary of the Ministry of Interior and his deputy on 13 January 2005, the prohibition of Tırıvırı (PFN) in the whole country was initiated by the Amateur Fishing Association officials. Article 23 (a) of the Law on Fisheries, entitled General Prohibitions, Restrictions and Obligations contains the provision "The minimum qualifications and conditions for the procurement means used in the supply of seafood shall be determined by the regulation." By this regulation; published in the Official Gazette dated 05.11.2008 and numbered 27045 2/1, article 42, paragraph 7, of the General Communiqué on fisheries fishing for commercial purposes, and according to Article 14, Paragraph 7 of the Communiqué No: 2/2 Regarding Amateur (Sportive) Fishing "The production, sale, storage, and use of fishing equipment called Tırıvırı-parachute nets are prohibited"[Notification 2008].

2. MATERIAL AND METHOD

Göynük Stream; it is derived from the three branches that emerge from the village of Kale in the southeast of Karlıova, the village of Kaynak in the west of Karlıova and the village of Taşlıçay. Following the water fountain, many small and large streams join the tributaries and reach the Murat River [11]. Tırıvırı (PFN) trashes counted and noted during many academic studies conducted by our team in the creek at various times of 2015-2016-2017. The study area was carried out approximately 40 km which was divided into three sections from the connection of Murat River to the upstream. These sections; Genç railway bridge-Kervansaray (18 km), Kervansaray-Ilıcalar (11 km), Ilıcalar-Alatepe (12 km) (Figure 3).

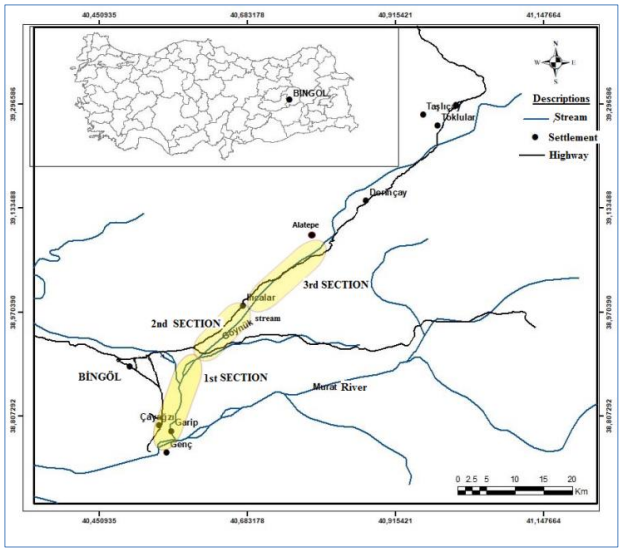

Figure 3. Study area map

As shown in Table 1, it is mostly within walking distance from the settlements close to the creek and also the hunting material is very easy to transport. Therefore, it makes it possible for individuals of all ages to hunt.

Table 1. Settlements close to the study area (Villages and hamlets)

No	Settlements	Distance to Göynük Stream (km)
1	Bingöl Center	0-10
2	Ekinyolu	5
3	Sarıçiçek	2
4	Çeltiksuyu	0.5
5	Güveçli	2.5
6	Small Tekeören	5
7	Big Tekeören	0.3
8	Ormanardı	4
9	Çayağzı	0.3
10	Garip	0.25
11	İncesu	6
12	Kardeşler	15
13	Köklü	2.5
14	İçpınar	3
15	Ilıcalar	0.5
16	Ağaçeli	4
17	Yenibaşlar	0.4
18	Elmalı	0.5
19	Alatepe	1.2
	Mean	2.94

3. RESULTS

130 Tırıvırı (PFN) trashes were counted along the study area was carried out approximately 40 km which was divided into three sections from the connection of Murat River to the upstream. Among these sections; 45 in the first (18 km), 52 in the second (11 km), and 33 in the third (12 km) section were counted. Throughout the study, only the Tırıvırı (PFN) trashes outside the stream could be counted, and it can be estimated that the amount cannot be counted in the water is 3-4 times of those detected.

Table 2. The amount of Tırıvırı (PFN) collected in the study area

Section	Study area	Distance (km)	Tırıvırı (PFN) (N)	Intensity (N/km)
1	Genç-Kervansaray	18 km	45	2,50
2	Kervansaray-Ilıcalar	10 km	52	4,73
3	Ilıcalar-Alatepe	12 km	33	2,75
	TOTAL	**40 km**	**130**	**3,25**

The distance of the study area to the settlements varies between 0-10 km. (Table 1). The Genç railway bridge, where the first section began, is within walking distance of the town centre and has become a place frequently visited by the people of the district for fishing. Especially on holidays, it is possible to see people who are fishing on the bridge with Tırıvırı (PFN) and various angles. It is also possible to reach the Kervansaray area at the beginning of the 2nd section and which is about 11 km away from the city centre, by any kind of car. Because there are promenade areas along the stream, the highway passes exactly over the stream, and so it is very easy to access.

It was observed that all kinds of solid and liquid household wastes have been discharged to the area where Ilıcalar Creek and Göynük Stream meet. The municipality has already declared that it has given up transport the waste dump to this area, but the people still dump their excavation and personal waste here. However, it is known that the operating wastes of the thermal springs are discharged into this area. Since it is given to Ilıcalar Creek without any treatment, Wastewater of thermal facilities within the settlement area of the town, stream water is 16-17 ^{0}C even in winter months. When the water temperature is 8-10 ^{0}C in the Göynük stream, the water temperature in Ilıcalar creek is 16-17 ^{0}C. Due to this reason, it's observed that the fish turned to this creek before the date indicated as the forbidden season (Breeding periods) and there was an intense accumulation of fish such as breeding ponds in the areas where water is ponded. Because of these reasons, people of all ages living in the region are fishing with Tırıvırı (PFN) in this section (Figure 4)

Figure 4. An old man is going fishing with Tırıvırı (PFN) nearby Ilıcalar

Since the Tırıvırı (PFN) material is weak and easy to tear, it is almost impossible to pull it out of the place where it is attached, and because of the cheapness of the product, there is no risk and trouble of picking it up and often stays where it has remained. However, since it does not rot in time, it continues its effects as a trap for living things in the water for a long time (Figure 5).

Figure 5. Snake and fish [10]

There are 5 irrigation and one hydroelectric power station dams on the Göynük stream. Especially in autumn and winter months, the opening and closing of the dam gate create a change in water flow, and the stream bed causes movement and due to this movement, Tırıvırı (PFN) remains to cause many aquatic organisms to be attached especially fish. In time, the snake comes to eat the fish trapped in the Tırıvırı (PFN), the crabs come to eat the snake that attaches to the net, and even the waterfowl wants to eat these aquatic animals, cannot escape. During the study, predominantly fish, occasionally snakes, frogs, crabs and even cormorants were caught and the majority of the aquatic organisms attached to the Tırıvırı (PFN) remains in the stream bed were killed. Besides, according to the news on the internet, fish, snakes, crabs, shrimps, and various water birds stuck in these traps and died in a terrible way (Figure 6).

Figure 6. Shrimp [10]

4. CONCLUSION, DISCUSSION AND SUGGESTIONS

Parachute is a fishing method that harms fish stocks in inland waters. It is known that the fishing tool is known as Tırıvırı (PFN) damages fish stocks; however, its use in inland waters has been increasing every year. Tırıvırı (PFN) caught by the rocks on the bottom of the stream, remains there for years and keeps on damaging fish and the other living organisms [12].

This hunting material, which can be used in any water environment such as rivers, lakes, ponds and even seas, due to its nylon structure, can remain in nature for years. This trap can be stacked even in the propellers of boats, and make the vehicles inoperable. Moving from the place with the movement of water facilitates the damage given for many years (Figure 7). Tırıvırı (PFN) is very harmful to aquatic organisms such as trout, freshwater mullet, mackerel, freshwater crayfish and also other organisms such as snakes and birds [12].

Figure 7. A: Rotten fish, B: Angling Tırıvırı (PFN)

In this study, especially during breeding periods, the movement of the fish towards the upstream is increased and at the same time fishing with the prohibited hunting material Tırıvırı (PFN) is highly preferred. Everyone who goes fishing can use the Tırıvırı (PFN), because it does not require any training or expertise, therefore it is common and very easy to use.

In their study, Akkuş and Bozaoğlu (2019) determined that the use of Tırıvırı (PFN) is very common (86.4%) among amateur hunters. The rate of those who do not use it is 11.4% and the rate of fishermen who do not have any information about the Tırıvırı (PFN) is 2.2% [13]. In the study conducted by Ateşşahin et al. (2014), it was reported that the rate of amateur hunters using Tırıvırı (PFN) in Elazig was 5%, the rate of those who did not use it was 65%, and the rate of those who did not know it was 4% [14]. Dönel and Yılmaz (2016) reported that the fish living in Gaga Lake in Ordu province were mainly caught with a fishing rod and parachute [15].

Until a few years ago, the manufacture of these nets was mostly of far eastern origin, and they illegally entered Turkey in various ways. However, these networks are manufactured in Turkey or imported and transformed into finished products, and unfortunately, they distributed and sold although they were prohibited by law or regulation. Tırıvırı (PFN) is very easy to obtain and anyone can purchase this prohibited hunting material for a small fee. New and impatient hunters can buy Tırıvırı (PFN) from a hunting market in the city centre for a small fee such as 4 or 5 TL. People, who do not have a hunting license or do not know whether or not it is prohibited, use this hunting material quite extensively.

As a result; How to fight the Tırıvırı (PFN)?

- As this struggle depends on individuals, first of all, the struggle should be started in the family and schools, and the future generations should be raised with this awareness.

- The love of nature and the amateur fishing spirit should be expanded to the general public, and strong non-governmental organizations should be established with the participation of these persons in at least one association

- Non-governmental organizations should provide information about Tırıvırı (PFN) damages so that the public should be informed about the issue with associations and media (Figure 8).

- In the interviews about nature and hunting, the subject should be brought up frequently and the damages should be explained.

- People in hunting areas should be told about the damages caused by hunting with Tırıvırı (PFN) to nature and sustainable amateur fishing, and they should be invited to the struggle.

- We should warn businesses that are selling Tırıvırı (PFN). In the case of continuity of sales, damages to our environment should be announced.

- If necessary, they should be informed to the responsible institutions and organizations via notice telephones [5]

- Awareness of all fisheries stakeholders is needed for the development of sustainable fisheries. It should be underlined that this fishing material is the cause of ghost hunting in aquatic and terrestrial environments, so it should never be used [12].

Figure 8. Public spotlight on destroying future [16]

Native American says “When the last tree is cut down, the last fish eaten, and the last stream poisoned, you will realize that you cannot eat money” [17].

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