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# Pollution Problem of Kilicozu Creek (Kirsehir)

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**ABSTRACT**
Kirsehir Kilicozu Creek originates from the northern slope of Baran Mountain and runs to the north first and then makes a wide bow towards the south and passes Cogun, Kirsehir and Guzler and joins Kizilirmak. It length is approximately 80 km and is known as Arasozu up until Cogun. Kizilirmak is intertwined in the area between Cogun and Taka regions and receives Igdelioz and Salgosteren at the west and receives Bas Creek at the east. Kirsehir-Kilicozu Creek is used for irrigation mainly. Cogun Dam was built on the Creek in the second half of 1960s by State Hydraulic Works with intense works. İgdeli, Kilicozu and Guzler irrigation regulators were built on the Creek. The water regime of the Creek is irregular. Its water is reduced during the arid summer months considerably. It floods in winter and spring months after torrential rains. The Creek surged and flooded because of heavy rains and melting snow on January 23-24, 1966 and the agricultural areas in the valley floor remained under water and 41 buildings in Kirsehir were severely damaged.

**Key Words**: Kilicozu Creek, environmental pollution, science education

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## INTRODUCTION

Rivers, lakes and seas make up surface waters. Water sources remain constant despite of rapid increase of the world population and this necessitates that these resources are not polluted and they are used very carefully. We can prevent pollution and extinction of our water sources with simple precautions that we can take without disrupting our life quality by conscious water use. Furthermore, water is polluted with domestic and industrial wastes in Turkey, whose three sides are surrounded by seas and which consists of many surface and underground water sources. Disposal of these wastes to water sources without treatment and disposal of solid wastes to the receiving environment irregularly and wrong agricultural insecticide application and fertilizer use pollute surface waters.

## POLLUTION PROBLEM OF KIRŞEHİR KILIÇÖZÜ CREEK

Kılıçözü Creek goes through the center of Kırşehir and this increases the importance of the Creek in terms of hygiene. However, the researches I conducted showed that Kılıçözü Creek did not conform to hygienic conditions. Factors including canalization, garbage, and thermal water wastes have been increasing pollution day by day. As the photos show, pollution of the creek that passes through the settlement locations leads to foul smells and visual pollution and people are affected from this negatively.

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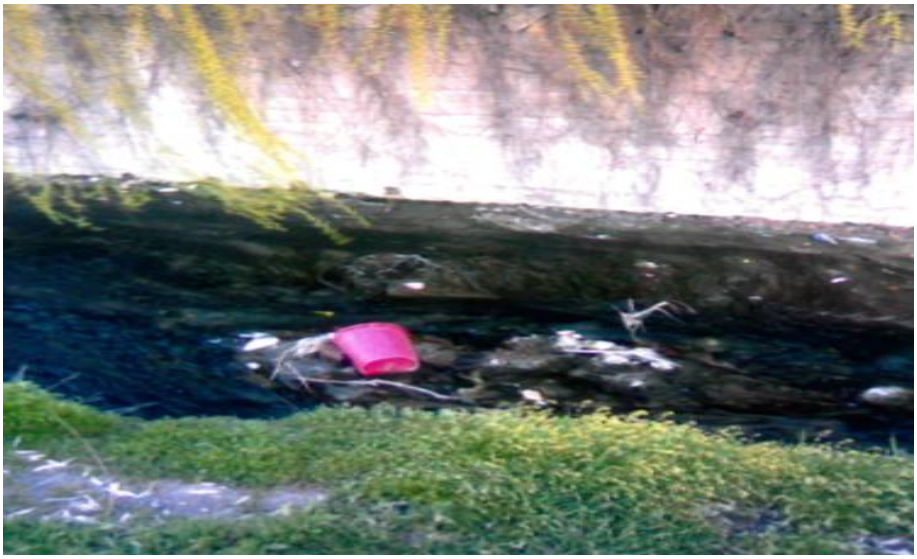

**Figure: 1**

**Figure: 2**

Some plants that are in contact with the water in Kılıçözü Creek decrease pollution slightly however they are also affected from pollution in conclusion.

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**Figure: 3**

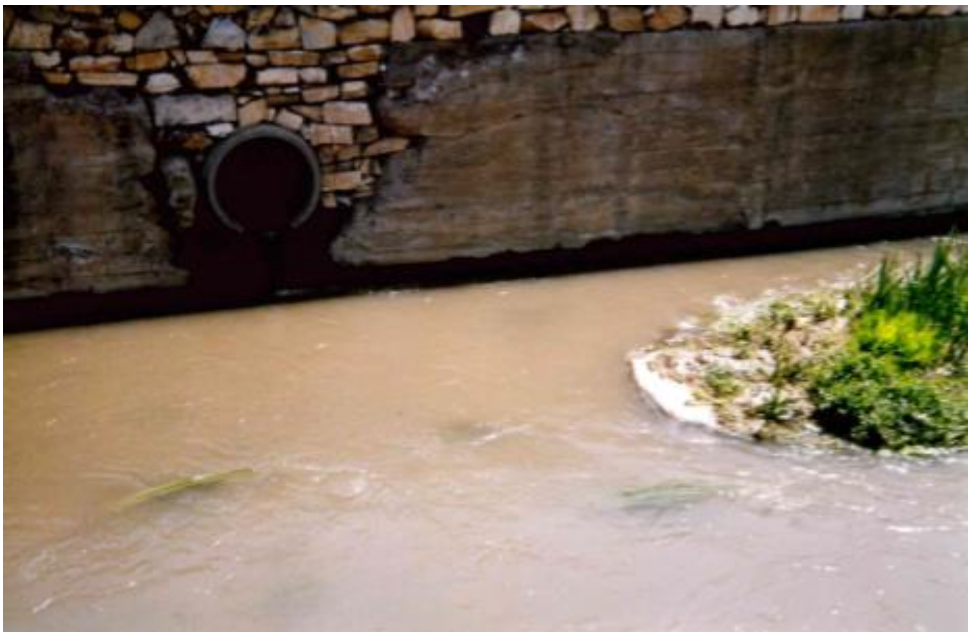

**Figure: 4**

Plants that are in contact with water are as follows;
Phragmites austuralis (Cav.)
Frin ex Steudel
Typha latifolia L.
Junaus inflexus L.
Lemna minor L.
Cardaria draba (L.) Desv.
Potamopeton pectinalis L.
Elodea canadensis michx.
Polygonum lepatifolium L.
Chenepodium albüm L.
Ranunculus aqualtilis L.
Plantego major L.
Equisetum hyemale L.
Salix alba L.

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Nastirtium officinale R. Br.
Carex divulsa sthokes
Cardaria draba (L.)Desv.
Trifolium repens

**Figure: 5**

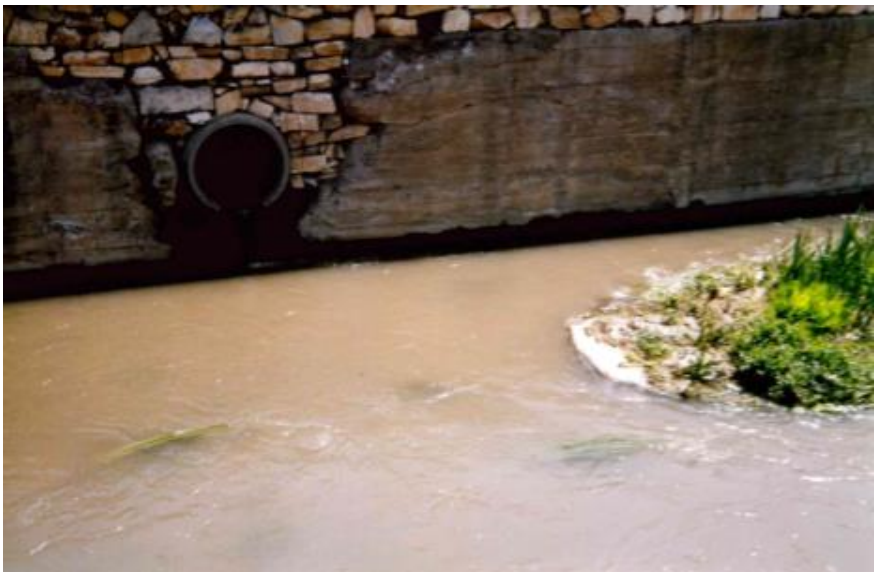

**Figure: 6**

Tortoises, water voles, water snakes and carps are observed in Kılıçözü Creek fauna.
Cyrinus corpio (carp)
Arvicola amphibins (water vole)
Natrix natrix (semi aquatic snake, ringed snake)
Natrix tessellata (dice snake)
Emys orbicularis (European pond turtle)
Rana ridibunda (marsh frog)

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In case immediate actions are not taken to protect environmental health in Kırşehir Kılıçözü Creek, all to this natural environment will face with extinction risk. A stream ecosystem may become extinct completely. The most critical way of protection stream ecosystems is to prevent mixing of garbage, canalization and chemical pollutants to streams. Municipalities and Governorships have great role in this issue. Public needs to become conscious and protective cautions need to be enforced as soon as possible.

**Figure: 7**

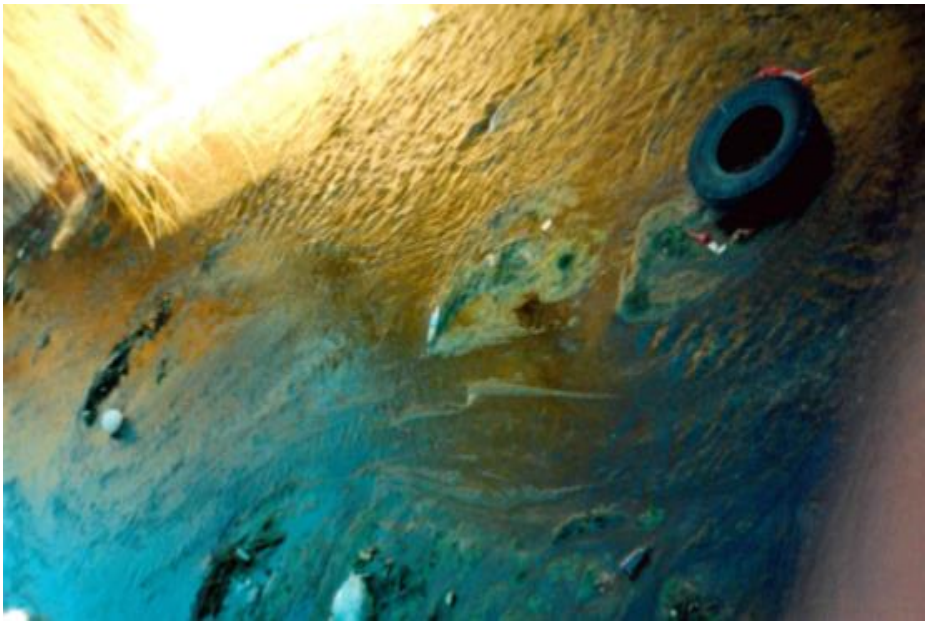

**Figure: 8**

**ASSESSMENT**
**EFFECTIVE FACTORS IN STREAM POLLUTION**
Water pollution expresses dumping of materials and energy wastes that could generate preventive destructions observed as negative changes that are observed as the negative change of chemical, physical, bacteriologic, radioactive and ecologic properties of water sources and would create preventive destructions direct or indirect destructions in biological sources, human health, water products, water quality and for the use of water for other purposes.
Factors that could create pollution in surface waters:
**1.** Viruses

**2.** Infectious living beings
**3.** Organic substances
**4.** Industrial wastes
**5.** Synthetic detergents
**6.** Radioactivity
**7.** Agricultural pesticides
**8.** Artificial and natural agricultural fertilizers
**9.** Bacteria

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