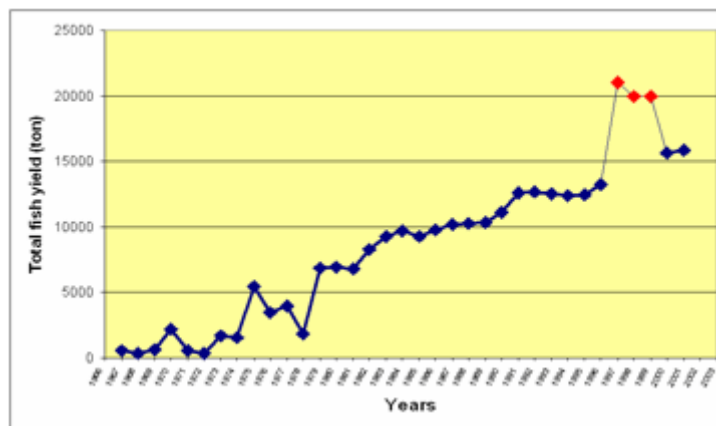


PEARL MULLET FISHERY

Pearl mullet fishery has developed in relation to various life cycles of fish. During spawning migration, some traditionally simple fishing techniques are used at river mouths or along rivers. Beyond that period, it involves fishing in waters of Lake Van up to 60 m. level of depth. During reproduction period, any fishery or use of fishing gear between April 15-June 30 is strictly prohibited by the Ministry of Agriculture and Rural Affairs. The major aim of fishing ban during this period is to encourage professional fishery by local people who are still more into illegal fishing.

The pearl mullet fishery constitutes almost 1/3 of total inland fish production in our country which is currently around 40-50,000 tons. There had been an ever increasing trend for the pearl mullet fishery up until 2002.



Pearl mullet fishing from 1966 to 2002

Only after the importance of conservation efforts was appreciated both by the public in general and local villagers in particular, the amount of illegal fishing during reproduction period has begun to decrease. In addition to campaigns by our association to raise public awareness, the gendarmerie in rural areas and police force in central provinces have taken an active role to prevent illegal fishing. As a

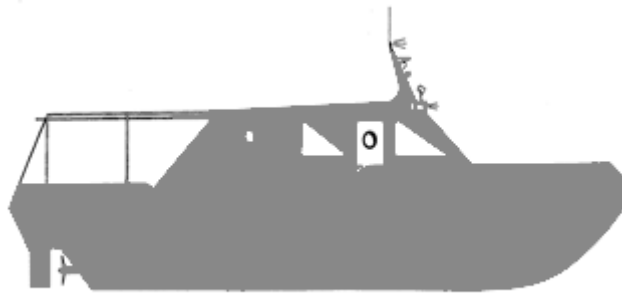
result of increasing support by the provincial or district offices of the governorships, the amount of total pearl mullet production has decreased to around 10,000 tons with illegal fishing to 4,000 tons accordingly. Such a decrease in the amount of total fish pearl mullet production has not taken place in parallel with a decrease in total revenue derived from fishery, but on the contrary, it led to a further growth in it. The increase in prices for fishery products has taken place due to the decreasing amount of illegal fishing activities at the spawning period. As a result, the dollar amount of total turnover in fishery products has also increased from 3.5 to 7 million.

PROFASSIONAL FISHERY

Due to the fact that the distribution of pearl mullet can be seen in the lake beyond the reproduction season, the professional fishery takes place in a 290-days period of time except for April 15-June 30. The pearl mullet fishing is practiced traditionally by boats 8-16 m long using trammel and gill nets at 60 m water depth of Lake Van .

Fishing boats are built by 4 skilled craftsmen at boatyards located around the lake. There was no project design used in building boats until 2003. Based on their long years of experience and their budget available, craftsmen built fishing boats of various qualities. With the support of the United Nations Development Program for Global Environment Funds Small Grants Project (UNDP-GEF/SGP), a model boat project has been developed by Assoc. Prof. Öner ŞAYLAN and naval engineer Haluk ŞİŞMANYAZICI in accordance with the characteristics of Lake Van and various demands from local fishermen. As this design project was handed out to boat builders around the lake, they were also trained on how to build fishing boats to meet the project requirements. On the other hand, an application was forwarded to the Undersecretariat of Maritime Affairs for this model boatbuilding project to be accepted as a legal obligation within Lake Van area. Not all but at least a majority of

new fishing boats today are being built to meet the project requirements. The engine power of fishing boats ranges from 30 to 250 HP. Fishermen prefer powerful engines because they also use such boats for sighting during summer months. But engines with higher horsepower mean much higher daily diesel usage which further leads to lower profits from fishery. For this reason, the maximum length is 12 m and maximum engine power is 60 HP as determined for the model boat.



The Model Fishing Boat for Lake Van

Fishing starts in July immediately after the reproduction period ends. Villagers tend to think that agricultural activities are more important than fishery at summer. Therefore, not all but only some boats engage in fishery. Those who are finished with their grain harvest, clover cutting or grass cutting-collecting activities earlier than others will start fishing immediately nearby the shores of the lake. Due to such reasons as hot weather, less consumption of fresh fish during summer months, etc., fishermen do not use all of their fishing nets at this time of the year. They only use between 3 to 6 nets for fishing purposes. Simple monofilament nets are mostly used during summer months. The use of such nets was first recommended by Assoc. Prof. Mustafa SARI, and they have gradually become more widespread in the region. Technicalities of trammel and gill nets are provided below:

Inner net mesh size: 20-22 mm

Outer net mesh size: 90-120 mm

Hanging ratio: 0.45-0.55

Inner net twine tickness: 210 d/1-2

Outer net twine tickness: 210 d/2-4

Monofilament twine tickness: 0.17-0.20 mm

Lead type: 30 g

Float type: 3-5 cm diameter

Total net number into one group net : 3 number

Maximum net length on a fishing boat: 5000 m

Mean net length on vessels: 4500 m

In October, 80% of fishermen start fishing with all of their nets available. Those engaged in sugar beet production at Gevaş region can usually start fishing in November as soon as they are finished with their work. Fishnets are drawn very early in the morning each day, and fishers cast their nets again after collecting fish. Each fishing boat has a net of 4500 m long on the average. Such a long net can only be drawn until the evening after cleaning all of the fish collected. First, the fisherman cleans his nets and later casts them at suitable areas. In other words, he leaves all of his nets in the lake since the day he first started. This causes them to deteriorate quickly. There are usually 2-5 people working at every fishing boat whose meal expenses are paid by the boat owner. The tradition of getting their share out of total fish yield when fishing European anchovy or pilchard is not a common practice around Lake Van . Usually family members work at fishing boats and non-family

members are paid daily. There is no mechanization at fishing boats to help net setting and drawing. Hydraulic winch barrels were first used at the end of fishing boats around Gevaş region in 2004. Since then it has gradually become more widespread in other regions as well. Human power is still used for drawing nets at fishing boats with no mechanization.



Setting of trammelnet



Handling of trammelnet

Professional fishery is encouraged by both governmental and non-governmental organizations. As a result of such incentives, the number of fishing boats has increased by 60% in 2006 when compared to 1996 figures. The fishing ban during reproduction period and rising income level from professional fishery are other influential factors on this increase.

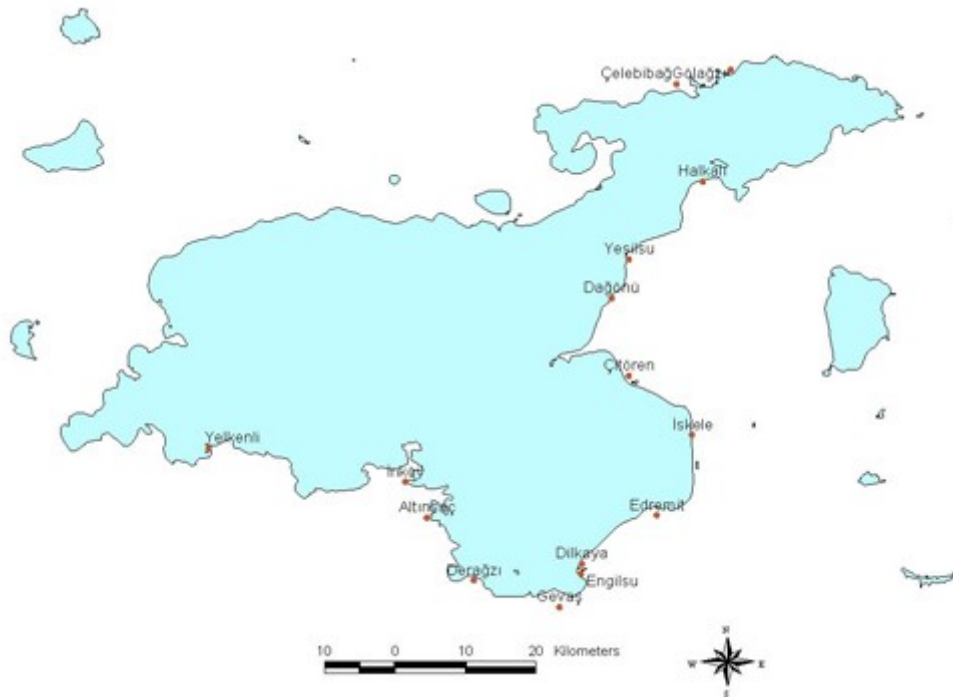


Fishing in winter time



A fishing boat

But the most significant factor that delays any further development of professional fishery is the lack of fishing ports around the lake. If enough fishing ports and boatyards are built for 15 fishing villages around the lake to benefit from, the share of professional fishery yield out of total fish production will also increase.



Settlements of professional fishing

Marketing: Fishers market their products at their own villages and at also wherever they can pull their boats along the roadside. Fish are bought daily by wholesaler trucks at such places. The relationship between fishers and wholesalers goes much beyond any buying-selling activity. The wholesaler gives cash advance to those fishermen in need of money during non-fishing periods. The fisherman in return is obliged to give its entire yield to this particular wholesaler only. The wholesaler brings along daily whatever is needed by the fisherman and his family from the city. On his way to buy fish, the wholesaler does not only provide such daily needs as bread or diesel oil but also a wide range of materials from engine parts ordered by the fisherman to some stationary items needed by family members. Furthermore, the wholesaler takes such products as yoghurt, cheese, eggs, etc. from the fisherman and brings back money to him after selling them in the city. This fiduciary relationship is quite primitive but it involves an effective marketing mechanism. Because the wholesaler buys all fish available from the fisherman. He starts reducing the price

only after the fisherman provides fish in higher amounts one week after the other. In this case, the fisherman draws some of his nets and continues fishing with the rest to prevent any further fall in prices. The wholesaler keeps fish he bought late in the evening at his own place and distributes them to retailers very early in the next morning. Those fish that can not be distributed by retailers are sent back to the fishermen living nearby villages. If not, the wholesaler keeps the amount of fish left at a cold storage room. In Van provincial center, fish are sold at local markets or at selling points announced by the municipality. Sometimes street peddlers on tricycles sell fish at neighborhoods. The total amount of fish provided by professional fishery is usually consumed when fresh.

ILLEGAL FISHING AT REPRODUCTION PERIOD

Looking at the historical development of fishery, we can say that the first fishing activities had begun when pearl mullets migrated intensively to rivers for spawning. During this period, fish moves in big shoals to rivers. So, fishers can easily catch pearl mullets at those primitive stone embankments they piled up along the stream beds without even using any fishing gear. As of March, pearl mullets moving closer to outfalls in big shoals need to wait shortly for physiological adaptation as explained earlier at section Spawning Migration. It is during this waiting period that fishers use beach seine nets at river mouths which is prohibited at inland waters.



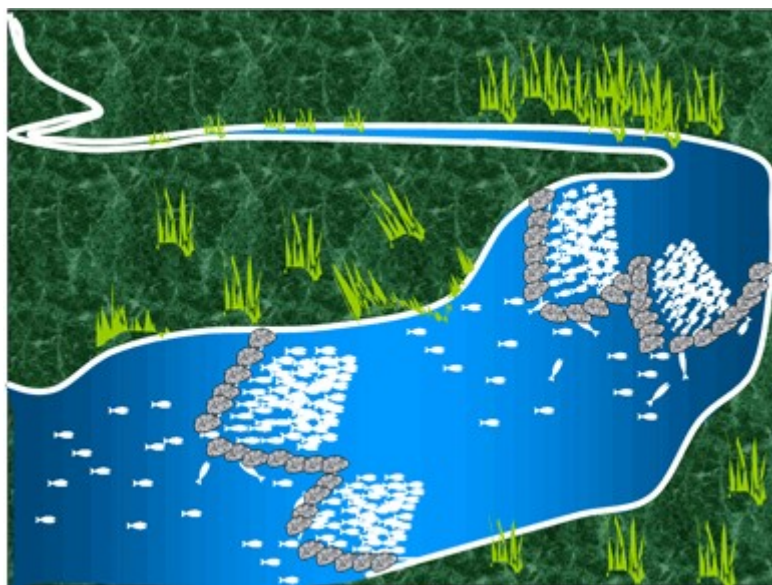
The pearl mullet catching with beach seine net at river mouths

Since fishing with beach seine nets is prohibited today, fishers use them illegally. Of those nets used for fishery, the wing tip is 50-500 m, depth is 2-20 m, length of net pocket is 5-18 m, and pocket mesh length is 14-18 mm. Such illegal nets are mostly obtained from Trabzon , Mersin , Istanbul and Adana . Only a few of them are produced by some local fishermen around the lake. Even though beach seining fishery has decreased considerably in recent years, it is estimated that there is still illegal fishing with a total of 40 beach seine nets. Depending on the level of fish migration and weather conditions, it is possible to draw 1-5 tons of fish at a time using one net only. When fishing illegally, nets can be drawn 3-6 times a day from sunset to sunrise. In this case, the amount of fish illegally caught by beach seining at one night ranges from 5 to 30 tons. As the lake water gets blur at streams and river mouths during rainy or windy nights, fish population tends to move away from the shore. And as a result, the fishing efficiency of beach seining also decreases.



Beach seine net fishery in Ercis-Çelebibag

Passing river mouths, pearl mullets move to rivers for spawning but they are still threatened by illegal fishing. Illegal fishing can be done by piling up stones when there is low rate of flow or sandbags at a higher rate to build primitive embankments along the river. It is also done by nailing nets on each side of the river. This method of fishing with net embankments is locally called as **burgan** or **çiğ**. Since there has been more of coastguarding at river mouths by fishery protection vessels in the last decades, the number of such barriers or embankments built along rivers tend to increase.



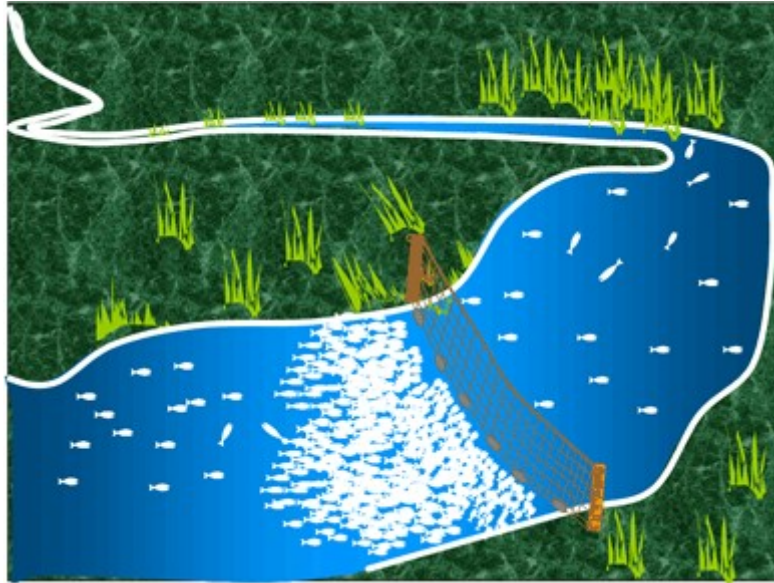
The barriers built piling up stones along rivers

Depending on the level of fish migration, the total fish yield may range from 2 to 10 tons daily.



A barrier on Bendi Mahi River (Muradiye-YIBO around)

Since fishing is illegal during the reproduction period, the easiest method is also the most popular one. Therefore, in recent years local fishermen prefers illegal fishing by nailing nets on each side of the river to build embankments (burgan or çığ) more than beach seining. During daytime, if you wander along the river, you can only see stakes or fixing points they are nailed on. Nets are fixed when fishing at night, and are drawn back after hauling. Setting nets in this way seems to be more practical than others.



Burgan or cig build on rivers

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