

Tuna farming

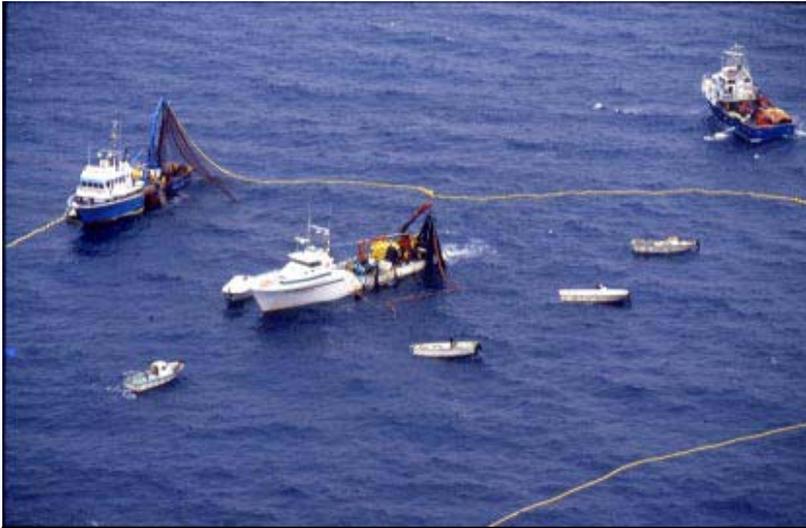


Figure 1. French purse seiners fishing tunas in the north-western Mediterranean.

Tuna farming has opened up a new section in the markets, but mainly in the Japanese one, which will further increase the demand for bluefin tuna and make the situation of wild stocks even more perilous. The tuna is a much appreciated fishery product (Figure 3) and the rapid increase in tuna penning has

changed fishing strategies in the Mediterranean. Nearly all fish caught by purse seiners (Figure 1) are now transferred to cages for fattening (Figure 2), rather than sold directly. With the new practice the reliability of catch statistics has further deteriorated – an already serious problem hampering efforts to properly manage the eastern Atlantic bluefin tuna population. In addition, demands from the tuna farming industry have created increasing fishing pressure on small pelagic fish stocks. Some of these fisheries are poorly regulated and affect stocks already in decline, such as the anchovy. The low conservation factor from feed to tuna meat also makes tuna farming a wasteful practice. The consequence could be the collapse of the eastern Atlantic bluefin tuna stock within the next years,

unless fishing pressure is significantly lowered and tuna farming is regulated by the management bodies responsible.



Figure 2. Transferring tunas in cages to the pen for fattening and pens for fattening bluefin tuna in Murcia (Spain).

In 1998 ICCAT indicated a strong decline in the spawning stock biomass since 1993, as well as an increase in fishing mortality rates. The spawning biomass was estimated to be less than 20% of the 1970 level. The analysis also indicated that future catch levels in excess of 33,000 tonnes would not be sustainable and only catches of 25,000 tonnes or less would halt the decline in biomass. In 2001 it expressed concern about intense fishing pressure on small tunas.



Figure 3. Bluefin tuna, market of La Boqueria in Barcelona (Spain).

Regulation has lagged behind this new industry and many fish farms are switching to bluefin tuna. All the sea bream farms in Malta, for example, have applied for tuna licenses.

Most of the Mediterranean catch quota for Bluefin Tuna (*Thunnus thynnus*) is already used for farming (fattening) purposes (4,446 t). During the last 3-5 years there has been a very important development of tuna farms in the Mediterranean, now reaching about 20 farms.

An ad hoc Working Group of the General Fisheries Commission for the Mediterranean (GFCM) and the International Commission for the Conservation of Atlantic Tuna (ICCAT) agreed a definition for this practice in order to be sure that the same process is had in mind when considering the Bluefin Tuna Farming. The agreed definition is the following: "Tuna farming currently involves the collection of wild fish, ranging from small to large specimens, and their rearing in floating cages for periods spanning from a few months up to a few years. Fish weight increment and change in the fat content of the flesh is obtained through standard fish farming practices. Confinement of captured fish during short periods of time (2-6 months) aimed mostly at increasing the fat content of the flesh, which strongly influences the prices of the tuna meat on the Japanese sashimi market,

can also be referred to as 'Tuna fattening'. Future tuna farming practices may evolve to encompass a closed life cycle, i.e. the rearing of larvae in laboratory conditions".

The table 1 includes some data from ICCAT and "Fish Information and Services Int'l Co. Ltd. & DOTT Symposium" in order to show the evolution and the importance of the Bluefin Tuna Farming process in the Mediterranean bearing in mind that, in recent years, fish farmed bluefin tuna has reached an average price in early 2000 of 4500 yen per Kg.

Table 1. - Japanese Import of Mediterranean farmed bluefin tuna and total catch in tones of this species in the Mediterranean (ICCAT)

Tonnes	1997	1998	1999	2000	2001 (1)	2002
Spain	261	1456	3346	5806	5839	6006
Italy					115	1640
Malta				16	842	2311
Croatia		103	277	664	1349	3190
Others						5
Total	261	1559	3622	6487	8146	13153
Catches	26813	24036				

(1) Farmed production in Spain was 7000 t in 6 farms, in Croatia 3000 t in 6 farms and in Malta 1200 t in 2 farms

Although, FAO statistics do not consider this production, which only in Spain for the year 1999 was estimated at over 3000 tons. For the region, it is estimated that about 70% of the Mediterranean recommended catch quota is already being used for this production, which is mainly exported to the Japanese market.