

Life Transport of Pelagic Fish

Introduction

Pla too (Indo-pacific mackerel) is the most regular found pelagic fish in gulf of Thailand. Thai fisherman always told us that Pla too is very sensitive and will immediately die when caught. So, what make they feel like that?



Photo from Wikipedia

In the open sea, pelagic fish swim in big school as their defend mechanism. Thousands of their eyes sharply detect every motion near by even tiny movement of unknown object. All the school will immediately response in the same way, escape the predator or retreat the prey. They feel safe when they dart left, right, back and fort in the open water. Their glittering silvery skin and their fantastic schooling motions act as their idealistic shelter.

The school will form up in condense circular shape, when the fishing net engulfs their school. All the fish alert and dart any direct to escape when the net is pulling up. Their snout and belly are seriously injured by pushing and rubbing the net. Their scales are rubbed out of their skin blown in the water. The flapping fish on the deck can't survive how hurry we try to push them back into the water.



Platoo in aquarium

Actually, Indo-pacific mackerel is a very tough fish and easily adapt to captive environment. They can easily train to feed on pellet feed and also with automatic feeding machine. The only problem is how to transport them alive to our land base aquaculture facilities.

Collection and transportation method

Fishing gear

Bamboo stake trap is the selected fishing gear to collect indo-pacific mackerel life specimen. This kind of fishing gear mostly located in shallow water not far away from sea shore. The return trip back to village's fishing pier is less than 2 hours by fishing boat. The fisherman seines the trapped fish in their bamboo stake trap everyday. Their seine net is rather small, around 20-30 meters in diameter. Catching will be done at lowest tide period just before the coming up tide. Catching amount per trip is not much, so it is quite simply to handle.



Traditional bamboo stake trap



Working on boat

Bamboo stake trap catch variety of pelagic fish, squid and some seasonal migrated species including neritic tuna. The species composition always changes season to season and each lunar cycle. We have to request the fishermen to inform us when there is small school of our target fish homogeneously trapped in their fishing gear. The unwanted animals are squid, spiny fish, and mucus releasing fish. Even such a big school of our target fish homogeneously is not convenient to handle.

The knotless seine net is recommended. Most of the traditional bamboo stake trap fishermen have small mesh size knotless seine net because there are sometimes a bulk of small size Anchovy species were trapped. The big knot net will injure the fish too much. It will cause high mortality rate and the survive fish take a long time to recover. Catching can be done day or night and it will be very nice if clam sea.

Equipment

Scoop net made of soft net is required. We can use towel to make our scoop net. The towel cloth is soft enough but will not let water easily flow trough, so we have to cut a lot of small holes. The handle length should be around 1.5 meter or long enough to reach the fish in the net depending on the boat height from water level. The scoop net should have diameter around 30 centimeters and depth 40 centimeters.

The bowl lining with towel or sponge sheet is necessary to prevent the fish bumping with the bowl. The bowl should contain water volume around 20 liters, so it is not too heavy to carry by one person. The plastic bag is also good for reduce snout injury from bumping to the tank wall.

We need a dark color round tank diameter around 1 meter for transporting fish on board. Tank should contain water 60-80 centimeters in depth and cover with net to prevent fish jump out. The 12 volt DC air pump is convenient to get power supply from battery of the fishing boat. Strong air bubble from approximately 3 air stones can supply enough oxygen for 150 medium size indo-pacific mackerel in the transportation tank.



Soft scoop net

We need the same equipments to transport the fish from fishing boat to the truck at the landing spot and to land base aquaculture facility.

Holding method

The fisherman must stop hauling their seine net when fish school is condensed. Scooping small numbers of the fish each time and then pushing in the bowl lining with towel as fast as possible. The bowl should already contain water around 15 centimeters in depth. We should hurry carrying the bowl to the transportation tank and dip the bowl in to the tank and then gently select our target fish by hand. The only keys of successfulness are the shortest time out of the water and not injure our target fish

Exchange water with fresh sea water if necessary while traveling back to fishing pier. Transfer the fish from transportation tank on boat to transportation tank on truck and to holding tank with soft scooping net and bowl lining with towel.

Land base aquaculture facilities

Holding tank can be any shape but have to wide enough so that the fish can swim in circle. In order to achieve high survival rate and rapidly adaptation to captive environment, the first holding tank should big enough. If the tank is too small, the fish will show signs of stress. Clean disinfected seawater is also necessary in the first holding tank to prevent infection of the wound in injury fish.



Feeding with floating pellet

Chemical treatment must be done to get rid of external parasite. The most frequency found is *Argurus* sp. that can be treated by using 0.25 ppm of dipterex or 50 ppm of formalin. The serious injure fish should keep in another tank to treat with anti-biotic. Daily exchange water with clean

disinfected sea water is possible to recover the fish in case of little injure. It takes around 2 to 5 days to recover in case of none or little injures fish. The serious injure fish might take around 2 to 3 weeks to recover.



Egg development

Life zooplankton is the fastest accept feed for Indo-pacific mackerel. We use adult artemia as first feed. Artemia can stay a life for along time in the fish holding tank without spoiling water quality until they are consumed. By using life adult artemia, the fish will accept feed with in a week and ready to train to accept pellet feed. When the fish start to accept food, it is sign of successfulness.

When the fish are already adapting to captive environment and accept supplementary feed, it is very easy to hold, transfer and do anything with them even display in aquarium. With good sanitation and husbandry, we can keep Pla too in rearing tank for years.

Spawning and larva development

Platoo can spawn in the captivity. They can spawn all year round and the spawn start at night of day 8 – 9 of lunar calendar. Larva development is very fast. They can reach 3 inch in only a month after hatching day.



26 day old larva