# SEA PANGINE

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#### **OBJECTIVES**

• Increase recruitment

Rehabilitate the stock on a long-term basis

#### Site selection

- The site must be at lower tide level, so seawater can be filled by gravity;
  - There must be no pollution issues
  - The salinity should be over 27 ppt
  - Sandy or sand-muddy bottom is better
  - 2-metre depth is needed (no less than 1.5 m)

### Release time

High predation pressure

Releases preferably when main predator less active

## Steps involving in Ranching

- Broodstock collection
- Broodstock care in land-based tanks
- Spawning stimulation
- Fertilisation
- Hatching
- Nursery of juveniles

#### Care to be taken

Protect the broodstock and their larvae against the predators

Increase the availability of natural feed like algae and copepods and accumulating organic debris

Improve the habitat for aestivation and hibernation.



SEA RANCHING



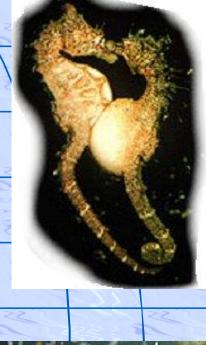






A Sea Horse is a fish not an invertebrate. It can reach 10in, long This animal is mostly found in the Indo-Pacific ocean, where it swims slowly among seaweed and algae. Their colors vary with locality, from black to brown, white, yellow, and even red individuals. Sea Horses will eat copepods, adult brine shrimp, mysid shrimp, young fry fish, fresh dead food, newly hatched guppies, mysis, and krill.

- The female seahorse lays her eggs into a pouch located on the ventral surface of the male. (This is not always done without mishap). The male then fertilizes and broods the eggs.
- The female seahorse can lay about 200 eggs.
- Inside the pouch the young are nourished by their father's blood supply, until they are fully formed young juveniles.
- The young leave the pouch between 4 and 6 weeks after fertilization.





# Repruduction

- The male gives birth by writhing to and fro and flexing the pouch muscles, forcing the young fish out on their own. The vigorous muscular spasms may expel the young with considerable velocity. In some larger species, the male helps the young seahorses escape his pouch by rubbing his abdomen against a rock.
- After "birth" the male flushes out his brood sac by expansion and contraction to expel egg remains and other debris to prepare for the next breeding season.
- Three broods a year are possible.

