Native and Non-native Marine Aquaculture Species

California's native marine species supply immeasurable benefits to recreational, commercial and educational pursuits. It has been found that non-native species also can enhance these opportunities, and the Department of Fish and Game (DFG) has, in the past, played a lead role in the introduction of non-native plant and animal species for these purposes.

For example, throughout the 1930s, DFG conducted successful experimental plantings of non-native oyster species in a number of water bodies, thus initiating the importation of non-native oyster seed to supplement commercial shellfish aquaculture in California. The responsible and controlled use of non-native species by aquaculturists when native species alone cannot provide an ample supply can be an effective resource management tool. It can relieve the pressure on overburdened and collapsing wild populations, contribute to water quality through monitoring and pollution prevention and promote sustainable resource stewardship. It also can be an important economic contributor by producing state taxes and fees, stable jobs and environmentally sustainable food sources.

Not all non-native species are beneficial, however, and many unintentional introductions into the wild through marine aquaculture have resulted in negative impacts on the environment. The non-native predatory oyster drill, a snail that "drills" into an oyster shell to feed on the inside soft tissue was inadvertently introduced into California waters, and has been a significant threat to legitimate oyster populations. Intentional and illegal introductions of species, such as the Chinese mitten crab, also have occurred, typically by individuals who do not have an understanding of the potential environmental damage these non-native species can cause.

As the state's resource steward, DFG is vigilant in its protection of all marine and terrestrial species. It strives to prevent the introduction or spread of undesirable or detrimental species of plants and animals, and works closely with the Fish and Game Commission (FGC), which has a central role in marine aquaculture oversight. DFG issues specific permits required by state law in order to import, transport and/or stock most live aquatic plants and animals in many of the state's waters. These permits are reviewed carefully by DFG experts, and a risk analysis is conducted to consider the potential benefits against the potential threats from a non-native species on the state's aquatic resources and native wildlife. FGC can promulgate regulations to restrict or ban the importation, transportation and/or stock of species determined to be detrimental. Additionally, FGC approves all bottom land leases for marine aquaculture uses, which it can revoke at DFG's recommendation for identified noncompliance with the provisions of the lease and/or state law. FGC also sets the fee schedule for marine aquaculture leases, which, by law, should support FGC and DFG efforts related to marine aquaculture. These fees, last set 25 years ago, are currently under review for potential adjustment.