# CORMORANT PREDATION ON FISH

During 1975 the Department was approached to control the increasing flocks of cormorants on the Mandurah estuary. Large numbers of birds had been noticed taking small fish, mainly cobbler, to the possible detriment of the local fishery. Complaints had also been received on fouling and tree damage.

To substantiate an immediate plan of action, a departmental officer researched various references to determine the following situation.

Cormorants feed on fish and crustaceans almost exclusively; the fish include both commercially valuable species and many of no commercial value.

The species taken by cormorants varies according to feeding habit and circumstances. Evidence presented by McNalley on the feeding habits of cormorants in Victoria indicates that birds will feed on whatever prey may be taken in quantity with the least effort.

In view of this, there are likely to be circumstances when fish of commercial value are readily available and are then eaten in large numbers. However, there is no evidence to show that any species of cormorant is a predator of significance on the marine-estuarine fisheries.

Of the five species of cormorants found in Victoria, only the Black Cormorant, *P. carbo* can be considered as a predator of any significance in relation to fresh water, estuarine and marine fisheries. The greater size of this bird allows it to attack fish of marketable size, whereas the small cormorants, when they take commercially valuable fish, take only those in the early stages of growth, when mortality from other causes is so high that the activities of these birds are relatively insignificant.

Gut samples analysed by D. L. Serventy (1937) taken from the Mandurah area, show that a large proportion of fish eaten by the Large Pied Cormorant *P. varius* and the Black Cormorant *P. carbo* were mainly young cobbler. The small numbers of birds examined for this area may have biased the results, depending on the location where these birds were taken. However, it is significant to note that in the Swan estuary the diet of the Large Pied Cormorant *P. varius* consisted mainly of Gobbleguts, Gobies and Hardyhead which are of little commercial significance. This further supports McNalley's statement concerning the adaptive feeding habits of these birds.

Cormorants have been credited with the ability to consume large quantities of fish in relation to body weight. Estimates varying from ounces (grammes) to 15 pound (6·8 kg) weight of fish have been given.

Westmore (1927) states that captive *P. auritus* were given from 3/4 to 1 pound (·45 kg) of fish per day for six days per week. Madsen and Sparck (1950) mentioned that cormorants on a daily ration of ·75 kg of fish were able to successfully breed in captivity. The maximum intake, allowing for a margin of safety at any one time was 2 pounds (·90 kg) of fish (McNalley 1957). During the day, cormorants normally make one and not more than two trips to the fishing grounds.

Feeding estimations by Junor (1972) demonstrated that the White-breasted Cormorant chicks consumed 18 per cent of their body weight per day. At the flying stage, daily intake was down to 16 per cent of their body weight. Some birds also showed tendencies of gluttony, i.e. consume 36 per cent of body weight on one day, 23 per cent on the next day following, and for the next two days refused food.

This investigation of the feeding habits of cormorants in the Perth and Mandurah estuaries has established that the birds feed on young cobbler and non commercial species of fish. However, the commercial production of cobbler in the Mandurah Fishery rose from 72 343 kg in 1971 to 105 517 kg in 1975.

There is nothing in these figures to suggest that the State needs to interfere with cormorant populations.

The Conservator of Wildlife is of the opinion that no attempt should be made to control cormorant populations either by attacks on their rookeries or on the birds themselves. These birds play a role in the ecology of the estuaries and, like most animal populations, their populations fluctuate according to natual laws including the availability of their food supplies.


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