

## The Cormorant Controversy

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**\*\*\*Note: Figures may be missing from this format of the document**

Birds and humans have coexisted for thousands of years but not always harmoniously. In this article, I will address how human behavior has affected bird populations both intentionally and unintentionally. As you know, humans eat birds, but did you know that we also use bird feathers for fashion and furniture? We have even trained birds to hunt rabbits and catch fish.

Today, federal and state laws in the United States prohibit the killing of birds for their feathers, and similar legislation regulates the hunting of game birds. But despite these efforts, the relationship between birds and humans is strained, particularly in the case of cormorants. Students can learn a great deal by studying this controversial bird, including how human behavior affects the environment.

Cormorants—large, black, water birds with long, slender necks—are social, web-footed, fish eaters that dive deeply and swim underwater in flocks to catch fish. These opportunistic feeder. use their slender, hooked beaks to take whatever fish are available. Some people call the cormorant the "submarine bird" because it swims so deep in the water and disappears for long periods of time only to resurface in an unpredictable spot. When its long neck and pointed head sticks up out of the water, it resembles a periscope. The double-crested cormorant is the most common species in the eastern United States. Its scientific name is *Phalacrocorax auritus*, which means bald crested crow. The double crest, which appears during its short breeding season, is formed by long, upcurled crown

### **Fowl fishing**

Cormorant fishing is a traditional way of fishing in many Asian countries, and an historical tourist attraction in Japan and China. Fishermen catch fish by tossing the birds, a half dozen at a time, into the water.

The birds are on a leash and have rings around their necks that prevent the birds from swallowing the fish. The person fishing then slowly pulls the leash to bring the bird back toward the boat. The fishermen stroke the cormorants' throats until they cough up the fish that they have caught.

feathers on either side of its head. These dark vulture-like birds, perch with their wings half open to dry. Cormorants use their powerful legs to help propel them through water and ready them for take-off. If you see a bird running on the water, readying for take-off, it's probably a cormorant.

### *Birds and humans*

In the 1950s the pesticide DDT was synthesized and sprayed over large expanses of low-lying areas and coastal plains to kill mosquitoes. As a result DDT became concentrated in many birds' bodies—fish eat mosquitoes and many birds eat fish, cormorants included. The high levels of DDT resulted in eggshell thinning: When cormorants sat on their eggs to incubate them, the eggshells cracked. The use of DDT severely reduced the North American populations of this species, wiping them out completely in some areas.

Rachel Carson, an ecologist, wrote *Silent Spring* to address the dangers of pesticide use.<sup>1</sup> In the 1970s laws restricted the use of DDT, and bird populations that had been dwindling began to increase. These birds included bald eagles, osprey, brown pelicans, and cormorants. Although the cormorant population has increased in recent years, they face yet another threat.

Fishing for some is an important source of revenue, and although cormorants have been protected for 25 years under the federal Migratory Bird Treaty Act, the fishing industry is calling to limit the expanding populations of this bird. Anglers argue that competition from cormorants is hurting their businesses and their livelihoods. The reality is that cormorants and fishermen are competing for limited fish and shellfish.

In North Carolina as well as 12 other states, aquaculturalists have been granted predatory control rights, or the right to kill cormorants. Have students complete the investigation on page 19 to better understand the population dynamics of cormorants. Follow up with a brief discussion in preparation for an in-class debate of the cormorant issue.

### *The cormorant debate*

To prepare students for the debate, have them search the Internet for general information about cormorants and specific information about the cormorant controversy. The Internet is a rich resource of information on this controversial topic. Some excellent sites include [birds.cornell.edu/fnysbc/cormoran.htm](http://birds.cornell.edu/fnysbc/cormoran.htm), [www.1000islands.net/cormorant/](http://www.1000islands.net/cormorant/), and [www.montelis.com/satya/cormorants.html](http://www.montelis.com/satya/cormorants.html).

Have students consider how the rapid increase in the cormorant population over the past 20 years has affected sport fishing and aquaculture. Next, have students read and debate both sides of this controversial issue. Students should also generate a management plan based on the discussion.

Students' plans should use population modeling to explore the various management options and identify a course of action for the U.S. Fish and Wildlife Service. Students' management plans should include the following categories: ideal number of cormorants, ways to control the population growth, and recommendations on how to resolve the issues with anglers. Wildlife biologists write management plans as a way to guide future action on managing species.

### *Counting cormorants*

Biologists have long studied cormorant populations, and the results of their surveys and data from historical accounts are listed below. Using the data, graph the number of breeding pairs of cormorants in the population each year. Study your graph and then answer the questions below.

## Cormorant population (number of breeding pairs) along the North Atlantic Coast<sup>2</sup>

Year	Number of breeding pairs of cormorants
1920	10
1930	100
1940	1,000
1950	10,000
1960	1,000
1970	17,000
1980	50,000
1990	100,000
2000	???

1. What trends do you notice in the cormorant population?
2. What might cause a decrease in the number of cormorants?
3. Which year had the most cormorants?
4. Which year had the fewest cormorants?
5. Why doesn't the population increase every year?
6. How is the cormorant population growth similar to human population growth? How is it different?
7. This population of cormorants was from a specific geographic region of the United States. How might your graph look if you were graphing data for the total U.S cormorant population?
8. What would happen to the cormorant population if one species of fish in this community were eliminated?
9. Predict what the population of cormorants will be in the year 2000 and explain your prediction.

### *Side one*

#### **Cormorants--A predatory bird that must be controlled**

The following viewpoint is based on *Outdoors: Facts and Figures about Cormorants*, written by Larry Rea.<sup>3</sup>

In the spring of 1998, the U.S. Fish and Wildlife Service issued a depredation order allowing catfish farmers and aquaculturalists in 14 states to kill double-crested cormorants. The following are highlights of the depredation order.

Double-crested cormorants may be killed only during daylight hours by shooting them (nontoxic shot), and aquaculturalists must possess the appropriate state permits. The shooting of cormorants must be in conjunction with an established nonlethal harassment program. Decoys, taped calls, and other devices may be used. Shooters must keep a log and record the date and number of birds killed each month. The log must be maintained for three years.

The commercial aquaculture (catfish, trout, salmon, tilapia and hybrid striped bass, baitfish, and ornamental fish) industry has grown rapidly in the United States. The market for channel catfish is the largest segment of the industry, accounting for about half of the industry's value. The number of catfish farms in the United States

increased 44 percent between 1982 and 1990, and production was estimated at 496 million pounds, worth \$353 million.

In 1998, the size of the North American breeding population of double-crested cormorants was estimated at 360,000 pairs, close to 2 million birds. Cormorants breed throughout much of the coastal and interior regions of North America. As of 1992, they had been found breeding in 40 of the 50 states. In the catfish producing states, only Florida and California have sizable breeding populations. Cormorant wintering populations are concentrated in coastal states and provinces from North Carolina to Texas in the east and California to British Columbia in the west. In the mid-South, there are appreciable concentrations inland.

In the Mississippi Delta, cormorants fly 40 kilometers from their night roosts to feeding sites. These birds spend about 18 percent of daylight hours feeding; 88 percent of their foraging is done at catfish ponds, while 12 percent is done near roost sites. Actively feeding cormorants in commercial catfish ponds capture an average of five fish per hour; the average cormorant forages for nearly an hour each day.

### *Side two*

#### **Cormorants--A migratory bird thus must be protected**

The following viewpoint is taken from an Internet site for anglers ([www.pisces.demon.co.uk/corm.html](http://www.pisces.demon.co.uk/corm.html)). This website is maintained by an international group committed to the anti-angling campaign.

Anglers say, "Cormorants are stealing our fish." But what cormorants are doing is feeding themselves and their families, while anglers catch for the sheer pleasure of it. Surely cormorants' survival should be put before the pleasure of anglers.

Anglers say, "Cormorants are ravaging fish stocks." Yet the government currently issues licenses to kill fish-eating birds where there is serious damage to fish stocks. This is not enough for bloodthirsty anglers who are obviously having trouble proving such cormorant damage. This is hardly surprising because there is no conclusive evidence that cormorants damage fish stocks. In fact, recent studies find no evidence that cormorants are responsible for reduced fish stock.

In another study, commissioned by the National River Authority, it was maintained that no serious damage by cormorants has been established. The cormorant should not be used as a scapegoat when there are many other possible factors affecting fish populations, such as angling, pollution, high-seas netting, acid rain, and poaching.

Anglers say, "Cormorants are not native to inland waters where they are doing the damage." Cormorants have used inland waters for many years. The numbers inland have increased as fishermen have driven cormorants further inland in search of food. It is time the fishing industry take responsibility for decimating fish stock to the extent that populations may never recover.

The current calls by anglers to deprive cormorants of protection is ill-founded and unjustified. Mass killing of cormorants is unacceptable. We must agree upon nondestructive methods that will work in the long term.

#### Note

Information on the Atlantic Coast population of Cormorants can be found at [northeast.fws.gov/newea/vteadone.himi](http://northeast.fws.gov/newea/vteadone.himi). The best population summaries to date are in the 1995 cormorant symposium proceedings, published by the Colonial Waterbird Society.

The U.S. Fish and Wildlife Service, Office of Migratory Bird Management maintains a cormorant webpage at [www.fws.gov/r9mbrrmo/issues/cormorant/cormorant.html](http://www.fws.gov/r9mbrrmo/issues/cormorant/cormorant.html).

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2. Spendelov, J.A., and S.R. Patton. 1988. National atlas of coastal waterbird colonies in the contiguous United States: 1976-82. U.S. Fish and Wildlife Service *Biological Report* 88(5): 326.
3. Rea, L. 1998. *Outdoors: Facts and figures about cormorants*. Scripps Howard News Service [www.krmediastream.com](http://www.krmediastream.com) or [www.newslibrary.com](http://www.newslibrary.com).

### *Resources*

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