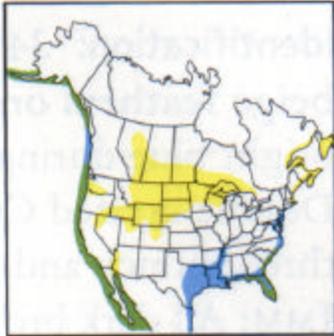


LIVING with WILDLIFE

Cormorants



Cormorants are found throughout the northern United States and Canada. In the winter they are found along the coasts and along rivers and lakes in the central northern states and in east Texas and Louisiana.

IDENTIFICATION

Cormorant is the common name for 30 species of birds that occur world-wide. Six are found in North America. The most common North American cormorant is the double-crested cormorant. Adults are mostly black with slender beaks, long snake-like necks and short stiff tails. They often use their tail as a prop when they perch. They have a hooked bill and some birds have a yellow-orange throat patch. Cormorants have short legs and **webbed** feet for swimming. Both the legs and feet are black.

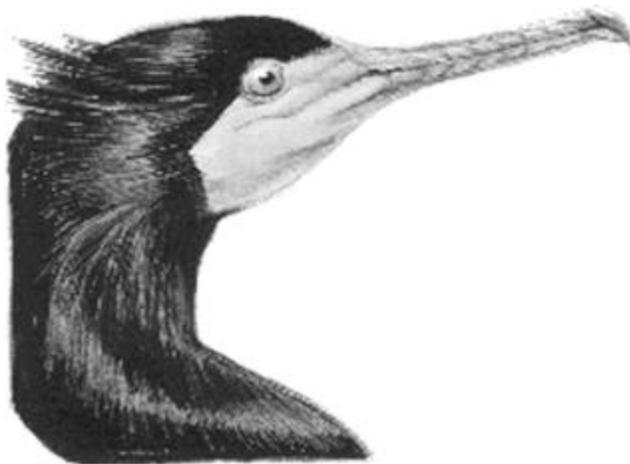
HABITS

Cormorants are **aquatic** birds found on inland lakes, rivers and swamps as well as on the coast. Double-crested cormorants are daytime feeders that hunt alone or in flocks that may number 600 birds. Cormorants feed by diving and swimming underwater. They

stay under water up to 70 seconds. They eat mostly fish and sometimes small **invertebrates** such as crayfish. Cormorants use their webbed feet to propel them underwater. Cormorants run along the surface of the water to gain enough speed for flight.

Cormorants have no oil glands to grease their feathers and repel water. Therefore they sometimes perch with their wings spread out in the sun and breeze to dry their feathers after fishing underwater.

Cormorants are sociable birds and almost always nest in **colonies**. Their nests consist of sticks and other drift material and are built on the ground or in trees near water. They usually lay three to four eggs. Both male and female birds share nest-building, incubation and feeding of the chicks. The birds have the unusual habit of incubating their eggs by wrapping the webs of their feet around them. The young become fully independent after about ten weeks.



Phalacrocorax auritus
Double-Crested Cormorant

can dive to depths of 5 to 60 feet below the surface and

Improving water quality by preventing pollution has resulted in a thriving cormorant population.

Living in Harmony, Living in Conflict

Living in harmony . . .

Most of the time, cormorants and humans live in harmony.

- People enjoy watching these diving birds in their natural environment
- Cormorants are an important regulator of nature's complex food web, helping to keep fish from overpopulating streams and lakes
- Cormorants are an important **environmental indicator species**—when cormorants are healthy and thriving then the environment is healthy and thriving

Living in conflict . . .

- Cormorants consume commercially reared fish
- Cormorants destroy trees and natural vegetation
- Cormorants can displace desired nesting birds and animals
- Cormorants pose hazards to aircraft
- Cormorants can carry diseases that are infectious to humans
- Cormorants may eat the same fish that recreational and subsistence fishermen catch

Preventing Damage Done by Cormorants

Many control methods are used to prevent damage caused by cormorants. Both lethal and non-lethal methods are used. Often a combination of methods works the best. Using a combination of management methods is called **integrated pest management (IPM)**. The purpose of IPM is to reduce damage done by the birds rather than eliminate cormorants.

Some non-lethal methods include:

- completely or partially enclosing small ponds with screen, netting or overhead wire
- using frightening devices such as **pyrotechnics** (projectile firecrackers), eyespot balloons, automatic

exploders, scarecrows, flash tape, distress call units, sirens/horns and vehicles.

- relocating winter roosts away from aquaculture sites
- providing alternate food sources
- modifying aquaculture practices

Some lethal control methods that might be used after obtaining permission from both state and federal agencies include:

- shooting cormorants
- egg oiling or removing eggs
- nest removal



For over 2,000 years the Chinese and Japanese have been using cormorants to help them fish.

Economics of Damage

Aquaculture, fish farming, is the raising and selling of fish for profit. Aquaculture is one of the fastest growing industries in the U.S. **Catfish**, trout, salmon, striped bass and ornamental fish are the most common fish raised. Cormorants hunt where there are a lot of fish. This is exactly what the cormorants find at fish farms. The aquaculture industry

loses millions of dollars worth of fish to cormorants. In Mississippi, cormorants have been reported to eat more than \$3 million dollars worth of catfish each year. Producers spend more than \$2 million trying to prevent damage.

Legends and Folklore

The word "cormorant" comes from the Latin name *corvus marinus* which means "sea crow." Other names used for the double-crested cormorant are water turkey, water buzzard, crow-duck, Farallon cormorant, Florida cormorant, shag, Taunton turkey and white-crested cormorant.

In Asian countries, the cormorant is used to harvest fish. A ring is placed around the bird's neck so it cannot swallow the fish. The cormorant dives into the water, catches the fish and brings it back to the boat where the handler grabs the fish.

Double-crested cormorants were abundant during the 1940s. However, the numbers of cormorants declined in the 1960s and 1970s. This decline was due to humans collecting eggs for food and destroying the birds' nests. Contaminants in the water and food supply are also believed to have lowered their numbers. In 1972 the double-crested cormorant was added to the list of species protected un-

der the Migratory Bird Treaty Act. By the 1980s most cormorant populations began to increase. This increase was due to reducing human persecution, reducing levels of environmental contaminants, especially DDT, an abundant supply of fish (in part from the expanding aquaculture industry), and development of good colony sites on man-made lakes. Today, cormorant populations are at an all-time high.



Your turn . . . Calculating the cost . . .

The cost of frightening programs varies depending on the types of techniques used, the species of birds involved, the size of the farm and road conditions. Following is an example of daily cost for a typical scaring program on a farm of 500 acres of ponds.

Labor (10 hours @ \$8.00/hour)	\$ 80.00
Vehicle expense (100 miles @ \$.30/mi)	\$ 30.00
Pyrotechnics & Ammunition (used to scare birds)	\$ 16.30
Total Costs:	\$126.30

How much would a frightening program cost at a farm for 150 days?

What would the costs be for the following farm?

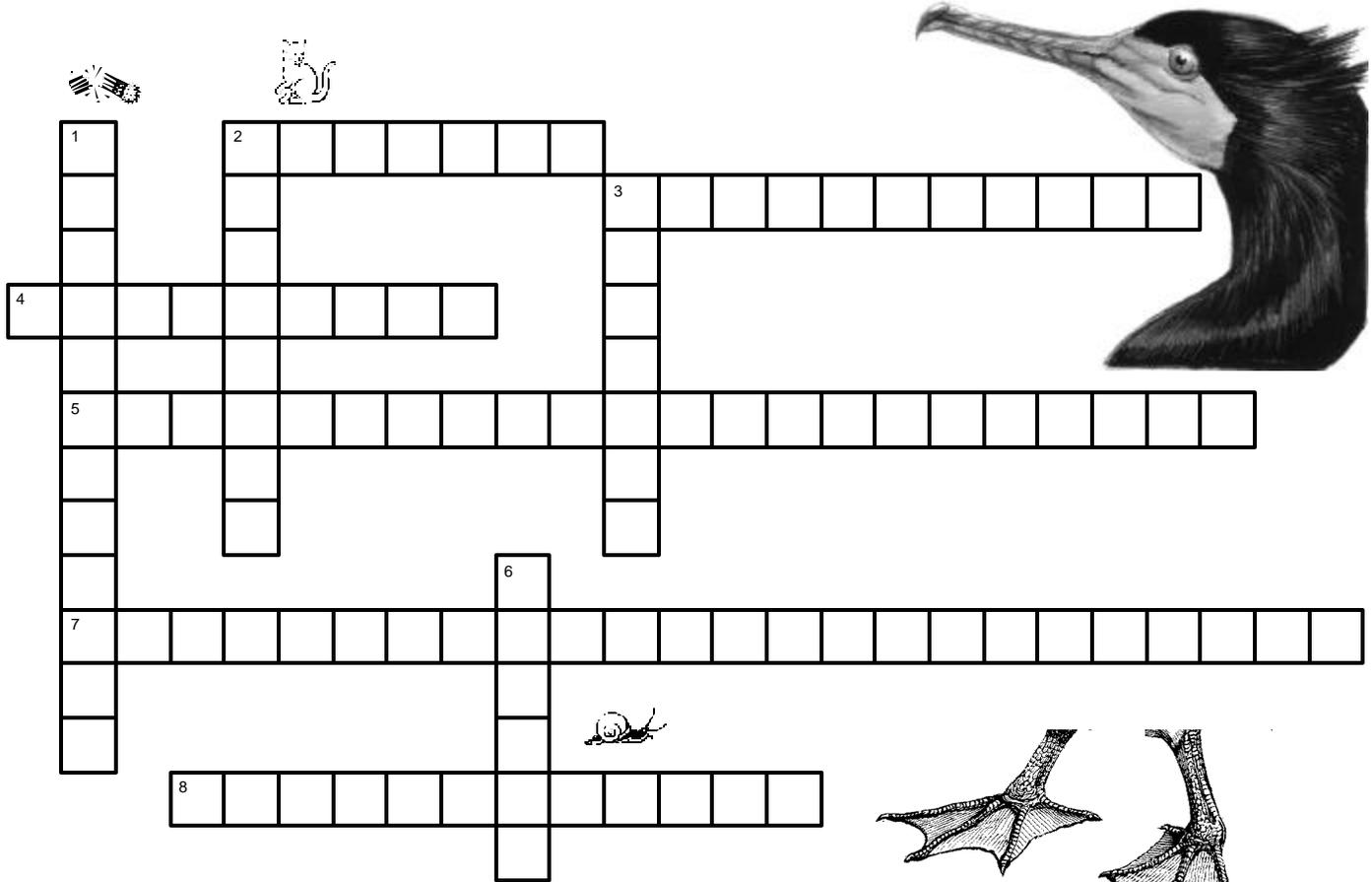
Labor (15 hours @ \$9/hr)	_____
Vehicle Expense (250 miles @ \$.25/mile)	_____
Pyrotechnics (200 rounds @ \$36.50/100 rounds)	_____
Ammunition for harassment (25 rounds @\$5.24/25 rounds)	_____

What is the daily total? _____

How much would it cost for 90 days? _____

ACROSS: 2 – catfish, 3 – aquaculture, 4 cormorant, 5 – environmental indicator, 7 – integrated pest management, 8 – invertebrate
DOWN: 1 – pyrotechnics, 2. colonies, 3. aquatic, 6. webbed

CROSSWORD REVIEW



ACROSS

2. A type of fish raised in farms
3. Another word for fish farming
4. Common name for several web-footed black birds with slender beaks
5. When the decline in the number of a species of animals *indicates* pollution or other problems in the *environment*

7. What IPM stands for
8. Crayfish is an example of this type of animal

DOWN

1. Firecrackers are an example of this
2. Groups of birds nesting together are called...
3. Having to do with water
6. This type of foot makes it easier for birds to swim

Additional Resources

Wildlife Activity Book and
1998 Wildlife Issue of the
Colorado Reader
Colorado Foundation for
Agriculture
P.O. Box 10
Livermore, CO 80536

Jack H. Berryman Institute
for Wildlife Damage
Management
Utah State University
Logan, Utah 83431-5210

Websites:
Cc.usu.edu/~rschmidt/welcom.html

USGS Patuxent Wildlife Re-
search Center Bird Identifica-
tion: www.mbr-pwrc.usgs.gov



This activity sheet has been developed by USDA Wildlife Services. For more information about cormorants contact your state's Wildlife Services office or USDA Wildlife Services at 301 734-7921.