

**Fall
1990**



Nature Detectives

Who's been here? What were they doing and why were they doing it? When did it happen? Nature detectives try to answer questions like these by looking for clues and evidence of the activities of creatures in the outdoors.

Have you ever wondered about teeth marks on the trunk of a tree, or strange footprints in the snow or mud? If you have, then you are already a nature detective.

THEME:

CATTAILS

What plants grow around the edge of many ponds and lakes, and have both male and female flowers on the same spike? Cattails! Why are they named cattails? The name cattail seems to fit especially well during the fall when the ripened spike looks like a cat's furry tail.

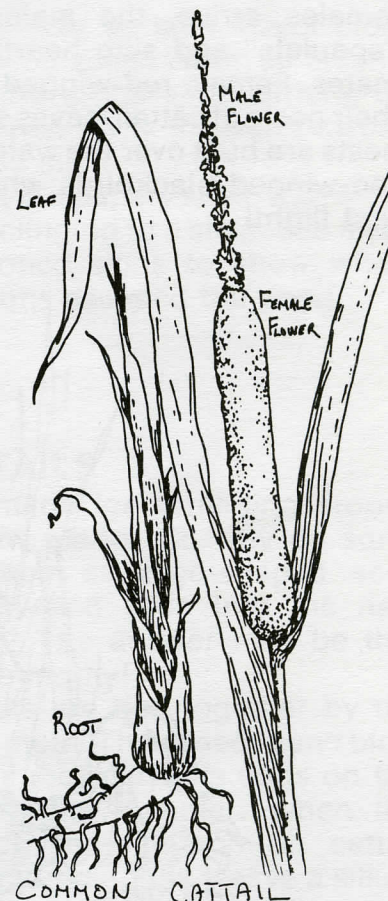
Each brown "tail" tops a stalk that may be six feet (2 m) tall. Each tail is made up of thousands of flowers. In spring, look for the yellowish male flowers that appear at the thinner top of the spike. Look for the brown female flowers below the male flowers. One ripened spike may release two million seeds. (Wonder who counted them?) These seeds are suspended from silky hairs and get carried away by the wind.

Once they land in a suitable place, they will grow into new cattail plants. What is a good place? Any place with shallow water or wet, muddy ground all year. Cattail roots need constant moisture.

Who lives in the cattail habitat? Read on to find out.

CATTAIL CHALLENGE

Can you think of a better name for the cattail plant? Invent a new name and bring your ideas to the Nature Detectives' program on September 15 for the **Grand Cattail Renaming Contest!**



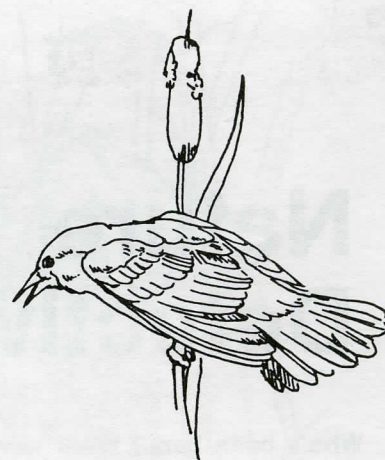
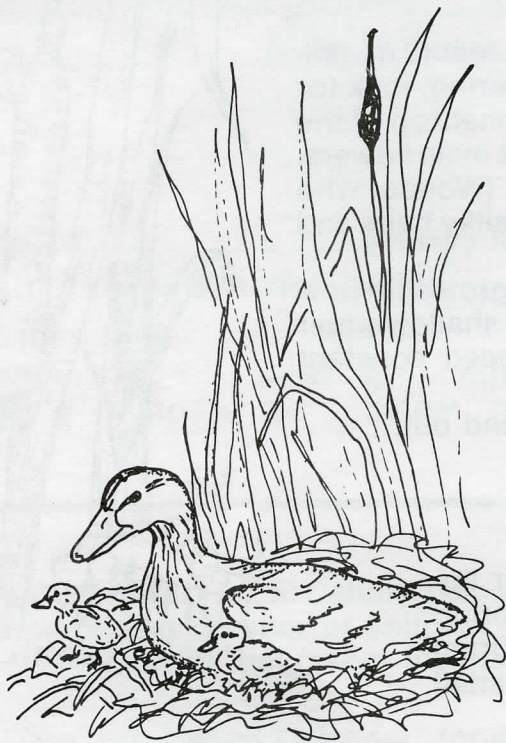
AT HOME IN THE CATTAILS

Many animals make their homes in the cattails. Spring peeper frogs lay their eggs in shallow water where cattails grow. Tadpoles hatch from the eggs. They have tiny beaks which they use to scrape algae from underwater stems of cattails and other aquatic plants. This is the young tadpole's primary source of food.

The nest of the tiny marsh wren is a sphere of woven cattail leaves attached to a cattail plant. It sits above the water like a house on stilts! The male wren weaves the nest, and the female lines it with feathers and soft plants.

Mallard ducks build their nests on the ground among cattails. A dense colony of cattails provides good cover, which is important for ground-nesting birds. (Why?) Ducklings eat dragonfly nymphs that crawl from the muddy pond bottom, up the cattail stalks, to the surface.

Red-winged blackbirds may be the first animals you notice in the marsh. Each spring the males arrive early and choose nesting sites in thick stands of cattails. When the females arrive, the males flash their red "epaulets" and sing heartily to attract their mates. Female red-winged blackbirds weave their nests of cattail leaves and grasses. Some nests are built over the water. Watch out baby red-winged blackbirds when you take your first flight!



CATTAILS TO THE RESCUE

Imagine you lived several hundred years ago. There were no grocery stores or shopping malls. You had to find food. You had to make tools, clothes, and your home, from materials found in nature. One plant that would come in handy is the common cattail.

Native Americans knew this plant well. They used it year-round. In spring, when tender cattail shoots began to grow, Indians harvested them to eat raw or cooked. In early summer, young flower spikes could be roasted or boiled, and eaten as we eat corn on the cob today!

Later in summer, male flowers were covered in yellow pollen. Indians collected the pollen in baskets (woven of cattail leaves?) to use as flour. In fall, downy seeds of the female flowers were gathered. The down was used to pad a baby's cradle board or perhaps to line his diapers.

Starchy cattail roots were dug in the fall, and either eaten right away, or dried for winter use. Imagine snow blowing around your winter lodge. You could pound some dry cattail roots into flour, add fat, dried berries, and water, and bake the mixture in coals from your cooking fire. Mmm! Nothing like a tasty cattail-flour cake on a cold day!

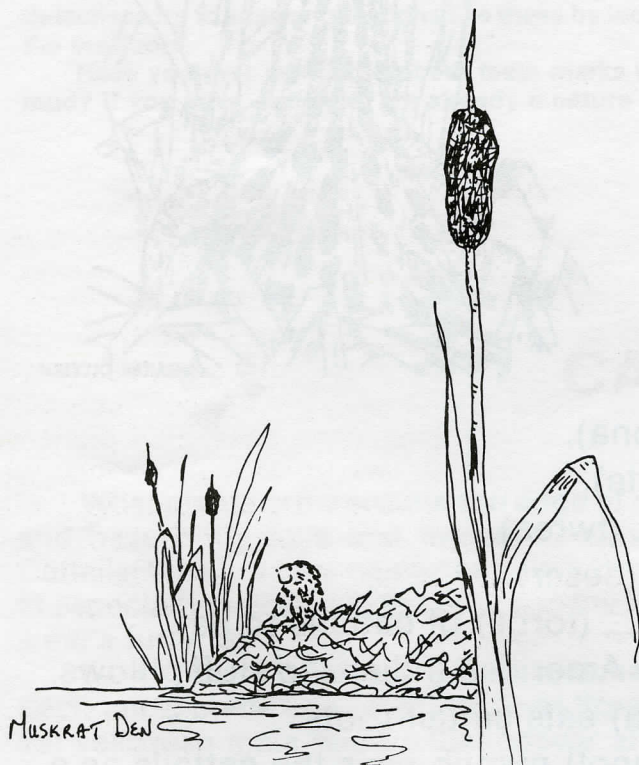
ATTENTION: Never collect or eat wild plants, unless you are with an adult who is an expert at identifying edible plants. Many plants are poisonous! Only collect plants on your own property, or on other private property where you have been given permission to collect.

GREAT MUNCHING MUSKRATS

What on earth would muskrats do without cattails? The rhizomes (roots) of cattails provide nutritious, starchy food which is the main part of the muskrat's diet.

Piles of cattails provide shelter. Beneath the heap, which looks like a miniature beaver lodge, is a small chamber where the muskrat lives.

Look for flattened places along the edge of the pond which are littered with untidy bits of chewed cattails. That's a muskrat banquet table! Does it smell musky?

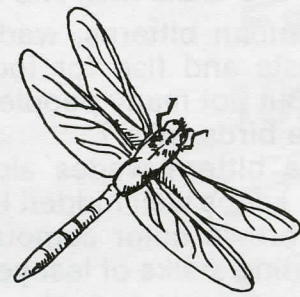


SEED STORMS

What if all the cattails around a pond shed their seeds at once? It would be a seed storm! This can happen on windy days when the cattails are at the right stage of ripeness.

But cattail seedlings are few and hard to find. Adult cattail plants give off chemicals which may be toxic to their own seedlings! This is nature's way of stopping overcrowding, of making sure seeds only grow where there will be enough space.

The seeds that succeed some place else get to start a whole new cattail colony. How does this colony spread? Underground rhizomes (roots) of existing plants sprout new shoots and begin to grow.



DAMSELS AND DRAGONS

Dragonflies and damselflies begin life as "monsters of the deep." Before they hatch into fancy fliers, the nymphs (juveniles) prowl the pond bottom for prey. They eat heartily. They grow and grow. With their tiny wing buds and large pincer claws, they look quite different from adult dragons and damsels!

Then transformation time comes! The nymphs climb out of the pond, using handy cattail-ladders or other plant stems. They cling to their escape plants and split out of their tight skins.

The wings unfold as blue insect blood pumps into the wing veins. Warm air finishes the job, drying the wings and warming the flight muscles. Then away the adult insects fly, masters of the air.

All that is left is a papery shell, with a split in the back, still clinging to a stalk. See if **you** can find abandoned skins to show where damsels or dragons escaped the pond.

MOTHY CATTAILS

Seeds are made for spreading around and growing new plants. So why do some cattails keep their sausage-shaped seed heads all winter, and even into the next growing season? The answer may be that those cattails are **mothy**!

Those cattails are tied together by the silk of the cattail moth. Their seeds can't blow away. The cattail moth lays its eggs on the cattail flowers in the summer. When the caterpillars hatch they munch on cattail seeds. At the same time they weave a silken winter home in the cattail head.

This story sounds like a tongue twister! "Cozy caterpillars curl in chewed cattails."

NOW YOU SEE ME, NOW YOU DON'T

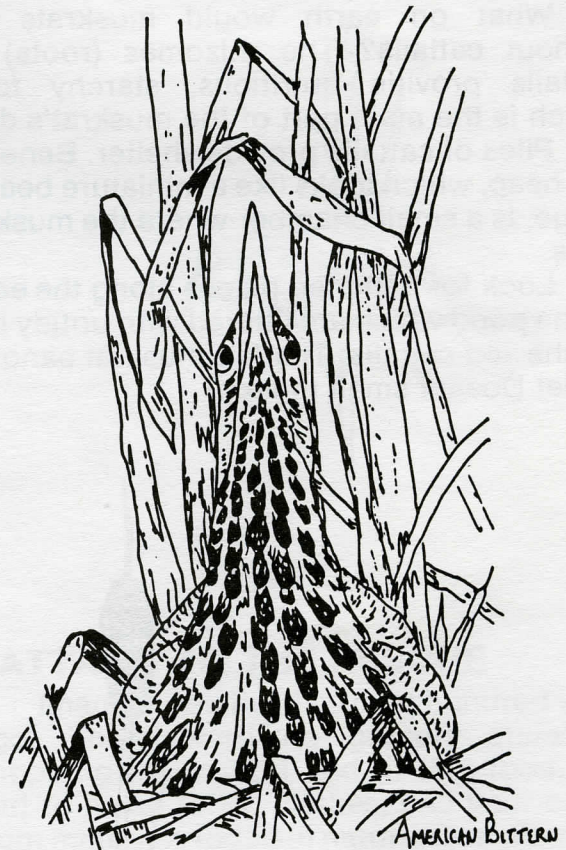
American bitterns, wading birds, make their nests and fish for food in the cattail marsh. But not many people get to see these secretive birds. Why?

As a bittern wades along the shallow shore, it keeps well hidden in the cattails. Its streaky brown color camouflages it among the standing stalks of last year's growth. But color alone is not enough.

When the bittern is startled, it freezes! It stands tall and absolutely still, with its beak pointing to the sky. It doesn't move a millimeter! And it looks like **just another cattail**.

What if the cattails sway in the wind? Why, the bittern sways too!

For a great book about life in the cattails, read **Between Cattails** by Terry Tempest Williams.



CATTAIL SCRAMBLE

1. A cattail is a kind of _____ (ltpna).
2. Cattails have long _____ (msste).
3. Cattails live near (or in) _____ (twrea).
4. Cattails are also called _____ (deser).
5. American Indians ground _____ (toros) of cattails to eat.
6. The _____ (edses) were used by American Indians to stuff pillows.
7. The furry _____ (ktrmsua) eats cattail roots.
8. The _____ (fdayrgnol) nymph uses the cattails as a ladder.
9. The cattail _____ (tmho) lays its eggs in cattail flowers.
10. Cattail roots are also called _____ (zmeoshri).

ANSWERS: 1. plant 2. stems 3. water 4. reeds 5. roots 6. seeds 7. muskrat 8. dragonfly 9. moth 10. rhizomes

NATURE DETECTIVES: Cattails help make the marsh. The marsh provides home and food for a surprising number of animals. Come and meet some of them at Walden Ponds. Discover what it is that makes the marsh an ideal home.

See "Discover Nature Calendar" for details.