

Attracting And Maintaining Wildlife



Ponds attract a wide variety of wildlife. They use the pond for water, food, shelter and nesting habitat. Observing animals in and around the pond is a pleasurable activity for many pond owners and they often would like to increase the abundance and variety of wildlife that use their ponds. Variety and numbers of wildlife can be increased by enriching the pond habitat and surrounding environment with food plots, nesting sites and cover. Choice of foods to provide and habitat improvement to make depend on the types of wildlife the pond owner would like to attract. This fact sheet describes food and habitat enhancements applicable to many common species including:

- **Waterfowl and other birds**
- **Deer**
- **Non-game species**
- **Aquatic species**
- **Reptiles and amphibians**
- **Food Plots**

Food plots can attract many wildlife species. However, they are a supplement not a replacement for natural foods. A variety of native plantings of trees, shrubs and other vegetation are required to supply food to a diverse and abundant wildlife population throughout the year.

Wildlife prefer edges of habitat. Examples include where forest meets grassland, or where

tall grass and shrubs meets short grass, they also prefer to feed on the edges of food plots. This is why food plots are utilized most when they are planted as long, narrow strips. Plots 1/4 acre in size are large enough to provide some foods for wildlife throughout the year. Smaller plots are often necessary where acreage is limited but can still provide enough food to encourage regular visits by many wildlife species. Plant food plots in 10 -15 ft. wide strips. Strips can be as long as is convenient for the location. A 10 ft. wide strip 1100 feet long equals a 1/4 acre. Combination planting of grain and forage species are best for small plots. Food species planted depends on type of wildlife desired. Cut or bend ripe grain to increase wildlife access to the food. Do not become concerned about weeds in food plots. Many of them also serve as food for wildlife.



Food plots are most attractive to wildlife when there is escape cover nearby. For waterfowl, food plots planted near the pond provide ready escape from predators. Plots located near woodlands also offer cover for many wildlife species.

It is important to exclude livestock from the food plots. They can quickly trample and consume the plots before wildlife can use them. Also, some food plot species may be poisonous to livestock.

Waterfowl

Optimum pond requirements for waterfowl and fish are not the same. An ideal waterfowl pond should be easily drained and refilled, have shallow sloping banks to encourage growth of rooted aquatic plants and sized 3-5 acres in surface area. About 1/3 of the pond should be in flooded timber.

Draw down water in waterfowl ponds in early May about 2 weeks before planting to allow soil to dry. Disc or roto-till then plant Japanese millet in strips around the shoreline at a rate of 20 lb/acre. Begin flooding the pond in September through late October just before and during waterfowl migration.

Most fish ponds are not as large as the ideal waterfowl pond might be and their banks are more steeply sloped to reduce aquatic vegetation growth. However, within restraints imposed by the average fish pond, much can be done to improve waterfowl habitat. If the pond level can be lowered enough to expose 2-3 feet of shoreline, Japanese millet can be planted in the exposed area May through July. Autumn rains will usually refill the pond in time to provide food for waterfowl in late fall and winter.

Where it is not possible to drain or lower pond levels, food plots containing Japanese millet and corn can be planted in long, narrow strips near the pond. Leave a grass buffer between food

plot strips and the pond to prevent soil erosion that will muddy pond water.

Inviting large numbers of waterfowl can have detrimental effects to the pond. Some species eat large numbers of fish and can disrupt fish populations. Also, waterfowl waste stimulates growth of algae and other aquatic vegetation. Aeration may be necessary to maintain water quality.

Some waterfowl such as scaup, redhead and other diving ducks have a diet that consists of 20-50% animal matter, usually insects, snails, mussels and small fish. These organisms are usually present in abundance in any pond with rooted aquatic vegetation. Stocking the pond with 1-3 lb of fathead minnows per surface acre can provide additional forage for game fish as well as some waterfowl species. Provide some cover and breeding habitat for the fathead minnows by sinking 3-4 cedar trees per acre near shore in 2-4 feet of water.

Soft, rooted aquatic plants are the primary food source for many waterfowl species. These plants grow best in clear, shallow areas of the pond. A pond that is heavily stocked with grass carp or is treated with herbicides to control aquatic vegetation will not be attractive to waterfowl. Strive for a balance of sufficient vegetation control to provide a healthy fish community and convenient angling while



Table 1. Nesting box dimensions for various bird species.

Species	Hole Diameter	Height of hole above floor	Floor size (inches)	Birdhouse depth (inches)	Height above ground (feet)
Bluebird and other small birds	1/12	6	5 x 5	8	5-10
Red-headed Woodpecker	2	9-12	6 x 6	12-15	12-20
Flicker	2.5	14-16	7 x 7	16-18	6-20
Screech Owl	3	9-12	8 x 8	12-15	10-30

leaving enough rooted aquatic plants to provide some food for waterfowl. A good compromise is to leave 15-20% of the pond in some form of rooted, aquatic vegetative cover. These plants also provide the protection bluegill and other forage fish species need to maintain adequate populations and prevent excessive predation by largemouth bass.

Common native aquatic plants that provide food for waterfowl include:

Smartweed, *Polygonum spp.*

Pondweed, *Potamogeton spp.*

Bullrush, *Scirpus validus*

Naiads, *Najas spp.*

Sedges, *Eleocharis spp.*

Muskgrass, *Chara spp.*

Hornwort, *Ceratophyllum spp.*

Milfoil, *Myriophyllum spp.*

Watershield, *Brasenia schreberi*

Nesting structures for waterfowl

Islands offer secure nesting areas for many waterfowl species. However, they are best constructed when the pond is built or drained dry. In small ponds, Islands can be of any size up to about 1 acre in area. Islands larger than this size are likely to harbor a permanent predator population. Island elevation should be 1-2 feet above the emergency spillway, 50 feet from shore if possible and in water at least

2 feet deep. Island slope to the water should be 3:1 to 5:1. for easy water access and to reduce wave erosion. Rip rap may be necessary on the prevailing wind side of the island to reduce erosion. Immediately plant cover crops of wheat or rye grass after island construction. Permanent cover can consist of bermuda grass, native grasses and willow trees. Willows sprouts will help stabilize banks and prevent erosion.

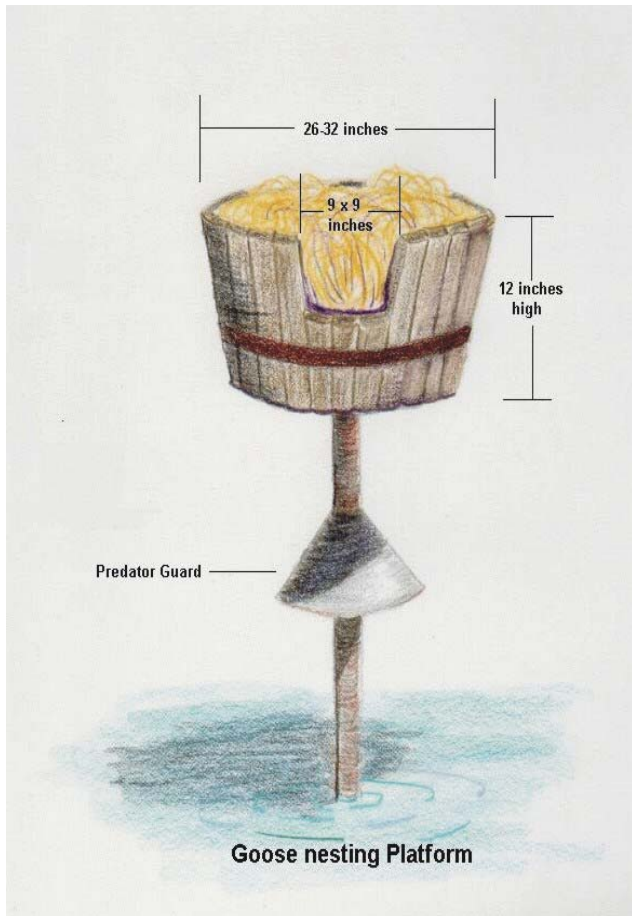
Construct no more than 1 small island per surface acre of water.

Round hay bales

Round bales of wheat straw or other coarse grass can be used as goose nesting sites. Mallard ducks will also use the bales although not as readily as Canada geese. Place the bales on end in about 2 feet of water, 50 feet from shore, or in smaller ponds, as far out as the bale can be placed at the 2 foot water level. Bales will last 2-3 years depending on the type of grass in the bale. Use 1 bale per surface acre of pond.

Nesting platforms

Nesting platforms for Canada geese can be purchased or constructed. To construct a goose nest box, use the bottom third of a 55 gallon barrel, (12 inches high). Any similar tub or wooden box can be used. Size should be 26-32 inches in diameter. Drill holes in the bottom for drainage and cut out



a 9 inch x 9 inch notch along the edge of the barrel. This opening is the exit for the goslings. Without an opening the goslings will be trapped in the nest and die. Fill the nest to the top with straw.

Mount the nest on a wooden platform or directly to a 1 1/2 - 2 inch pipe or a pair of "T" posts. The nest should be 4-5 feet above water level. A cone shaped predator guard placed 3 feet above the water level will increase survival of eggs and newly hatched goslings. (See diagram.). Nests should be at least 150 feet apart and no more than 1 per surface acre of pond.

Wood ducks and nesting boxes

Wood ducks can be attracted to many ponds using wood duck nesting boxes. Wood ducks begin looking for suitable nesting locations in March. Wood ducks naturally lay a clutch of about a dozen eggs in tree cavities near bodies of water. The eggs hatch in 32 days and ducklings are immediately ready to leave

the nest. Ducklings are able to fly after about 9 weeks. Nesting success in natural tree cavities is only about 30% due to predation by raccoons, snakes and other animals. Nesting boxes, properly located and constructed with predator guards can have success rates of 50-60%.

Construction

Build the nest box with rough cedar or redwood for durability. Use 1" x 12" lumber for material efficiency and ease of construction. It is important to attach a strip of 1/4 - 1/2 inch hardware cloth to the inside of the box from the bottom of the nest box to the entrance hole. This ladder allows ducklings to climb out of the box after hatching.

Drill a few holes in the bottom to drain water.

Hinge the roof or one side to make annual cleaning easy. Add a 4 inch layer of wood shavings in the floor of the nest box. Do not use sawdust as it retains moisture.



Wood duck nesting box

Mounting

Mount the nest box to a 1-2 inch diameter metal or PVC pipe using 2 “U” bolts placed through the back of the box.

The pole should be about 8-10 feet long. The nest should be as far from shore as possible in 2-3 feet of water and 4-5 feet above the water surface. Attach a predator guard onto the nest box pipe 3 feet above the water. Use 1 nest box per surface acre of water. If possible, locate the nest in flooded timber.

Shore and wading birds

Shore and wading birds including herons and egrets prefer large areas of shallow water (6-18 inches) where they can catch small fish. Stock 1-3 lb of fathead minnows per surface acre to provide forage for wading birds, cormorants and kingfishers. Nearby large trees also encourage roosting if the pond contains an abundance of small fish. **Warning!** Large numbers of fish eating aquatic birds can become a problem for the pond owner whose primary interest is fish. Herons and cormorants can eat 1 lb or more of fish each day per bird. Some wading birds also harbor tapeworms that can infect fish and produce yellow or black grubs in the flesh and skin.

Other birds

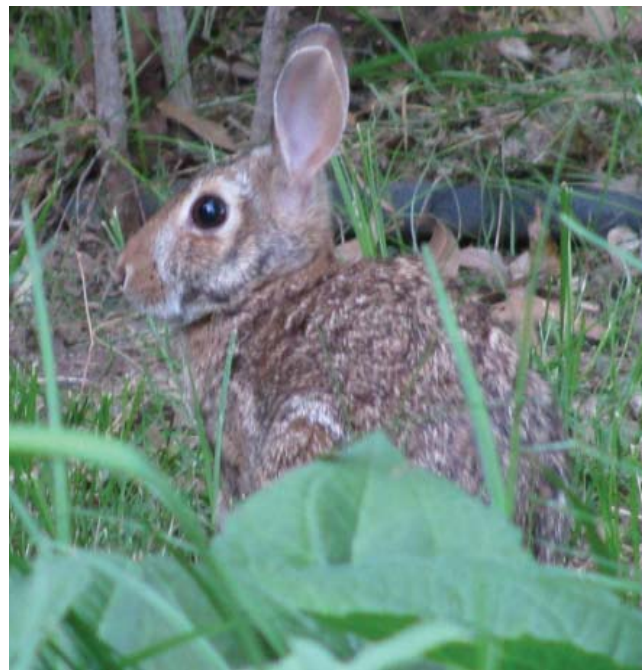
Purple martins are a good bird species to encourage around ponds that are near the home or used for fishing, because they consume large numbers of flying insects. However, the martin's and other bird's and bat's reputation for consuming mosquitos is overrated. Although birds and bats consume thousands of mosquitos and other small insects, many thousands more are produced. Expect to swat mosquitoes regardless of the number of martin houses or bat boxes employed.

Erect martin houses on poles 12-18 feet high around the pond in open areas 40-60 feet away from trees taller than the martin house. Space houses at least 40 feet apart. Martins are most attracted to white houses and are most likely to occupy houses within 100 feet of human habitations. Martins avoid houses with vines climbing the mounting pole or if located in tall brush. In Oklahoma, established martin houses should be cleaned and in place for use by early February. New houses should be opened for use in mid-March.

A variety of seed and fruit eating birds can be attracted to the pond with bird houses, (Table 1) feeding stations and food plots. Plant popcorn, berries, sunflower, millet, milo, service berry, wild plum and mulberry in wild bird food plots.

Rabbits

Rabbits can be encouraged to visit the pond site by providing ample cover in the form of green brier, black berry patches or brush piles. Brush piles should be about 10 feet in diameter and 3-4 feet high. Plant small food plots 1/8 of an acre or smaller near cover. Clovers, winter rye grass, lespedeza, peas, wheat or vetch are good choices in rabbit food plots. Plant a mixture of species to ensure forage throughout the year.



Brush piles can be an attractive to a wide variety of wildlife species. Brush piles will attract mice, voles and other rodent species; which are preyed upon by coyotes, foxes, bobcats and various snake species.

Squirrels

Mature hardwood forest with plenty of oak and hickory tree species for food and dens is the natural habitat for squirrels. Woodlot habitat near the pond



can be supplemented by providing squirrel nest boxes, and feeding stations stocked with corn and nuts. Plant food plots of sunflower and corn near wooded areas.

Raccoons opossum and other small mammals

Raccoon and opossum can often be seen visiting the pond; usually in early morning and late evening. Raccoon wade near shoreline and feed on mussels, crayfish and other aquatic organisms. Both species are attracted to fruit. Persimmon, wild plum, crab apple and berry bushes will bring these and other fur-bearing mammals to the pond.

Deer

Deer are often seen at dawn and dusk as they water at the pond bank. Cover and a food supply near the pond will increase opportunities for deer to use the area.

In woodlands deer browse can be increased by timber harvest and tree thinning. Openings in the forest created by harvest allow growth of young trees and shrubs that provide food for deer. Do not remove

oak, hickory, pecan, walnut or other nut producing trees which also are a major food source of the deer.

Food plots should be at least one acre in size if possible. Plant corn, soybeans, winter rye, cowpeas, oats, wheat, clovers, Jerusalem artichoke and fruit trees in the food plots. Deer are attracted to fruit trees and will eat fallen fruit when it is available.

Feeding stations can be maintained near the pond. Fill feeders with corn and provide apples and other fruit when available. Salt blocks also attract deer. Use caution when using salt around ponds. Too much salt washing into a pond during rains can damage or kill aquatic plant and animal life. Salt kills nearby vegetation if placed on the ground creating bare areas of soil that are prone to erosion. Salt blocks are best housed in a hooded weather proof bin made for the purpose.

Reptiles and amphibians

Like other wild creatures, reptiles and amphibians need food and cover. Most ponds contain enough natural food to support healthy populations of these organisms.

Frogs and salamanders are most abundant in ponds containing no largemouth bass. However, they can still exist in large numbers if plenty of cover in the form of rooted aquatic vegetation and grassy banks are available.

Aquatic vegetation is also used for egg laying sites for frogs, toads, newts and salamanders.

Brush piles can be placed in shallow water around the pond to provide cover for amphibians. Small fish will use the brush for protection from predators and snakes will climb into brush above water to bask.

A small, shallow, well oxygenated pond is ideal habitat for most amphibian species. A garden pond with land access, rock crevices for cover and plenty of insect life can be used as an amphibian refuge.

Frogs and salamanders have moist membranous



skin that is vary sensitive to environmental irritants. **Avoid pesticide use** in ponds where amphibians are to be encouraged.

Most **aquatic snakes** feed on fish, frogs and occasionally young birds. Cover is critical to maintaining snake populations. They need shaded resting areas away from summer sunlight. Thick vegetation and shrubs along the shoreline, rock piles and fallen trees in and around the pond will provide habitat suitable water snakes and a variety of terrestrial snakes.

Turtles

Turtles are often perceived to be pond problems. This is usually not true. Our most common pond turtle is the red-eared slider. This turtle feeds mainly on aquatic vegetation and dead organisms. It will try to feed on fish hung on stringers but does not often feed on fish swimming in the pond. Snapping turtles do eat fish but only a few each year. Their populations in ponds are usually small and they have little impact on fish populations.



Many aquatic turtle species require a basking area, usually a log or rock pile in the water or on the shoreline. Basking warms the turtle and aids digestion. Snapping turtles bask in shallow water with only their head sticking out, but can be seen roaming about in search of egg laying sites which can be far from water. A large sand or mud bank on the shoreline or near the pond will provide many turtle species with a suitable nesting site.

Crayfish

Many aquatic and terrestrial animals feed on crayfish. Because they are such a popular food item, their numbers tend to be small in ponds with developed fish populations. Crayfish survival can be increased by providing cover in the form of aquatic vegetation and rock piles.

Leave 15-20 percent of the pond covered in aquatic vegetation. Rock piles or rip rap also provide good shelter areas for crayfish. Rip rap, spread 2-3 feet above and below the waterline on erosion prone banks provides great habitat for these crustaceans. Use 3 inch diameter or larger rock to create the habitat. Crayfish will inhabit crevices between stones.

Remember, all wildlife need food, shelter and breeding habitat. Provide or supplement these necessities and you will begin to see an increase in diversity and abundance of the wildlife that live in or visit your pond.

