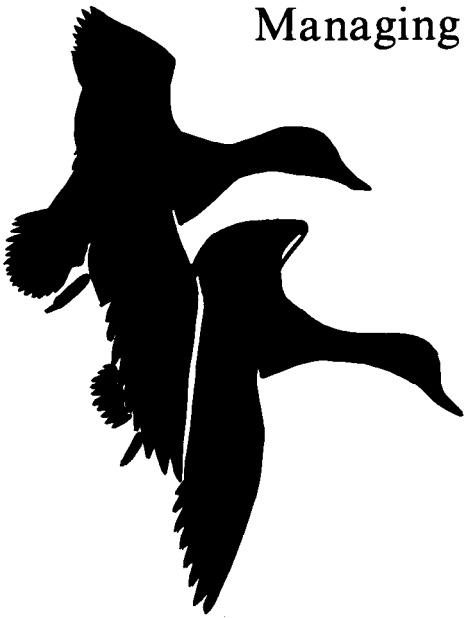
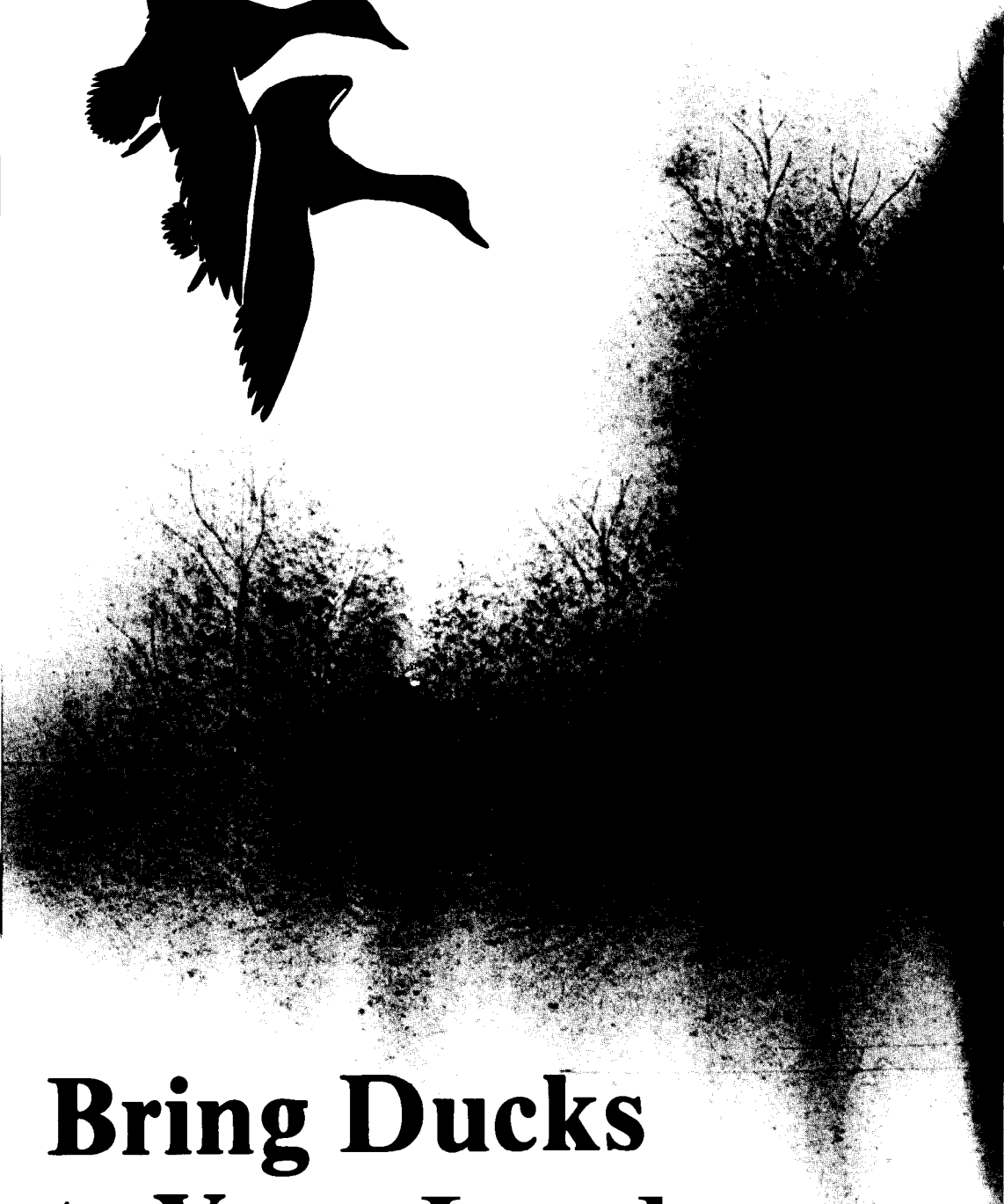
Managing Wetlands for Waterfowl in the Southeast





Bring Ducks to Your Land

Cooperative Extension Service /The University of Georgia /College of Agricultural and Environmental Sciences /Athens

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Ponds and other wetlands provide habitat for ducks and other wildlife seldom seen elsewhere. Simple management methods can change a barren pond to one that produces several good duck hunts a year. Habitats which can be managed for waterfowl are embankment ponds, beaver ponds, green tree reservoirs, or natural marshes. Ponds with very shallow, tapering edges are the easiest to manage. There are more opportunities with ponds or areas where the water level can be regulated at will. Certain natural wetlands, especially very old ones like cypress ponds, Carolina bays, and some other types of unusual ponds may be best managed by leaving them as they are.

Wetlands for Ducks: Ready Made or Manmade

Managed wetlands for ducks can be natural or manmade. Will ducks come to them? Think as a duck would to predict success. Is the area protected from disturbance by people, traffic, and dogs? Is there good cover? Is it in a flyway or do ducks concentrate nearby? Is the area several acres or more? Can abundant duck food be produced? If the answer to all of these questions is yes, success is almost guaranteed. However, good results on ponds of only one or two acres have been achieved in areas where no ducks visited previously. Ducks will discover new water areas and if these are to their liking, they will return year after year.

How does one choose the spot for a waterfowl wetland? Natural wetlands are obvious and can sometimes be improved for ducks. Often new wetlands can be made where there was no water before. Water in fall and winter is needed to attract ducks for hunting. The area can be dry for the rest of the year. If one desires to increase production of young wood ducks some areas should be kept flooded in summer. A flat bottomland (wooded, clear, or in pasture) which receives runoff water can be used. All you need is a low dam with a water level control that will automatically maintain the level you choose during winter. See Figure 1. Deep water is unnecessary; you can achieve best results with one or two feet of water. Some waterfowl managers consider 10 inches of water ideal for mallards and wood ducks.

The water supply for a winter wetland may be stored nearby in a pond or an irrigation reservoir. It may also come from a well, stream, bayou or tidal creek. Flooding can be done by gravity flow, low-head turbine pumps, or runoff. Runoff is unreliable however. Dry weather in October and November may ruin your chances for success.

Draw Down Then Re-Flood for Ducks

The key to providing abundant seed crops for wintering waterfowl is water level management. The basic strategy is to draw down the water level in early spring and allow preferred weeds to grow, then re-flood in late summer or early fall to allow ducks easy access to food plants. Generally the most desirable waterfowl food plants are the first ones to establish themselves on bare soil. These annual plants grow from seed each year. They are encouraged when you reduce competition from less desirable perennial plants. This is done mainly by flooding at the right time, but harrowing, cultivation, and fire are also useful tools for managing food plants.

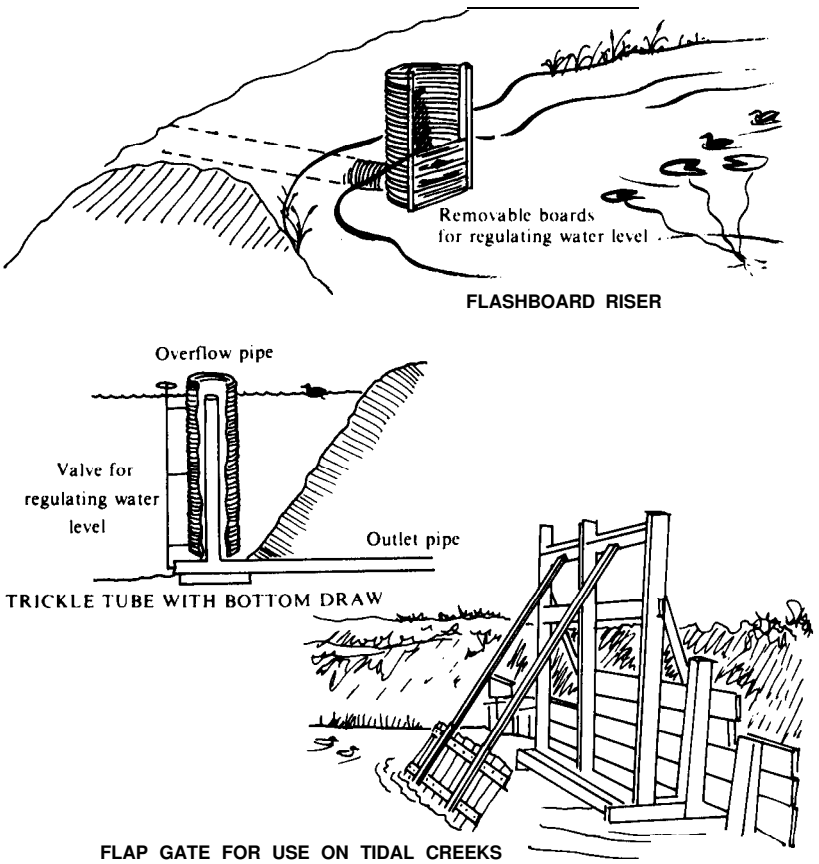


Figure 1. WATER CONTROL DEVICES

Native Weeds for Ducks

Native weeds may provide excellent natural duck food; they are cheap to produce, do well on poor soil, do not require fertilization and are unlikely to be ruined by flocks of blackbirds. Figure 2 illustrates some desirable native weeds. Draw the water down in winter or early spring before bud break. If native plants, especially smartweeds and tear thumbs *(Polygonum spp.),* Asiatic day-flower *(Aneilema sp.),* native millets *(Echinochloa spp.),* and certain other large-seeded annual plants seed in naturally, let them grow. Water during drought periods with brief floodings of one or two days if practical. Re-flood the area with 12 to 18 inches of water two to four weeks before migrant waterfowl are expected to arrive in fall.

If preferred duck foods do not grow voluntarily in your pond you can gather them or their seeds in other ponds nearby. It is not necessary to buy native plants if you can identify the species for which you are looking. If you do buy native plants, use only those proven in your area. Wild millets, smartweeds, and Aneilema are good choices for the south. Many plants for sale are suitable only in specialized situations. For example, sago pondweed needs hard water and does poorly in softwater areas of the Southeastern Piedmont. Wild rice does best in clear, cool, slow-moving water. It rarely grows in a muddy, stagnant pond.

Smartweeds are among the easiest of the annual plants to manage. This duck food is naturally present in most wetlands. Smartweed seeds may lie dormant in the soil for years waiting for the right opportunity to germinate and grow. One way to encourage them is to burn the area as soon as possible after drawdown. When the soil is dry enough to support machinery, disk lightly. Soil disturbance seems to help smartweeds develop. If possible let cattle into the field after plant growth is well established and graze lightly. Cows dislike smartweed and will graze off the competing plants first. Remove cattle as soon as smartweed competition has been reduced. If native grasses bearing large seeds are abundant, grazing may be undesirable as many of these grasses produce good duck food.

The methods for producing annual weeds for ducks are draining, burning, discing, and grazing. One or all of these methods may do an excellent job. Since results vary from area to area experience will teach you what is best for your land.

Flooded Woodlands for Ducks

Woodlands can be managed as a green tree reservoir. A green tree reservoir is a bottomland hardwood forest which is shallowly flooded in fall and winter. Deciduous trees are not killed by winter flooding when trees are dormant. In fact, winter flooding enhances the growth of many hardwoods species. Ducks are attracted to green tree reservoirs to feed on mast, especially acorns, that falls into the water. The main requirement for managing water level is a low dam suitable for making a temporary

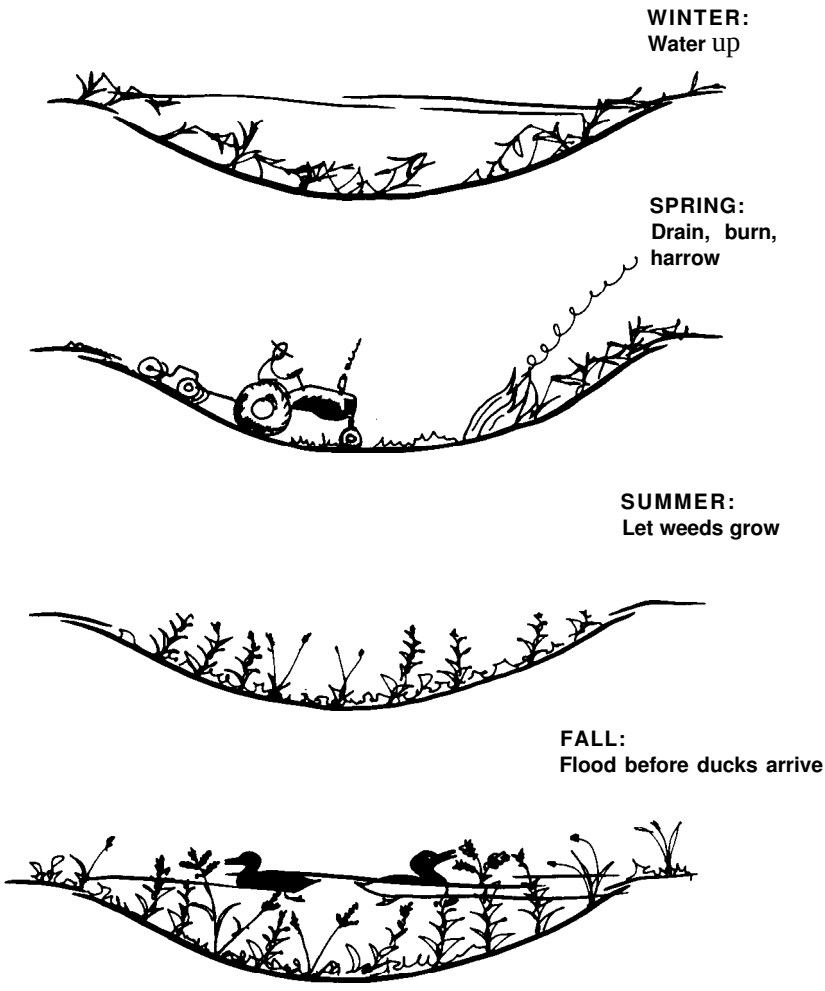


Figure 2. ANNUAL WEED MANAGEMENT
This method is especially good for smartweeds.

backwater one or two feet deep. The water can come from a small stream or an embankment pond uphill from the reservoir. A green tree reservoir can often be made be damming a small creek where it joins a river in a flat bottomland. There is usually a natural levee along the edge of the river to help hold back the water.

In the fall, close the dam to impound water after trees are dormant. Retain water until after ducks have left or until early spring or when tree buds begin to swell, whichever is sooner. Do not allow water to stand on trees in leaf. During summer, thin woods by harvesting undesirable trees.

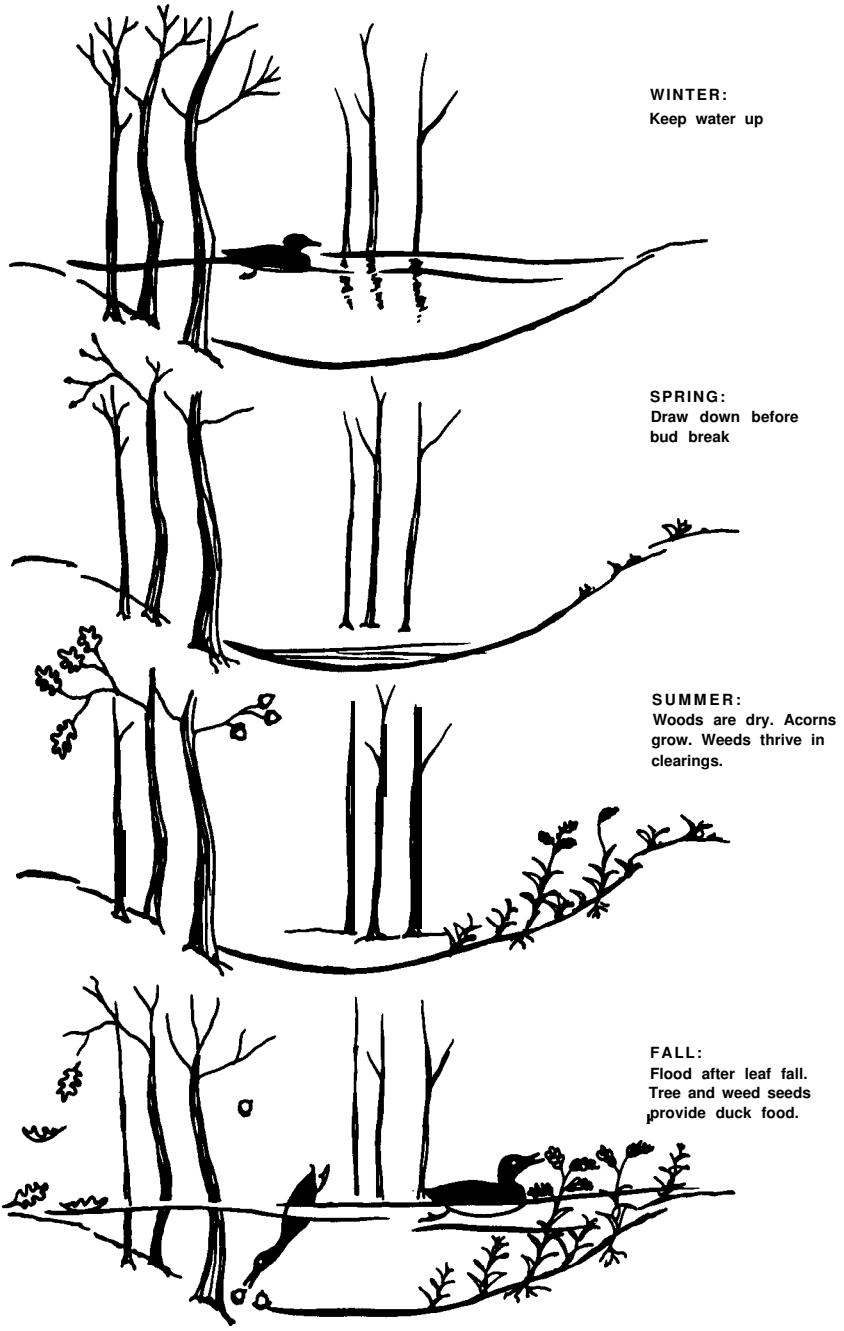


Figure 3. FLOODING & DRAWDOWN SCHEDULE FOR WOODLANDS

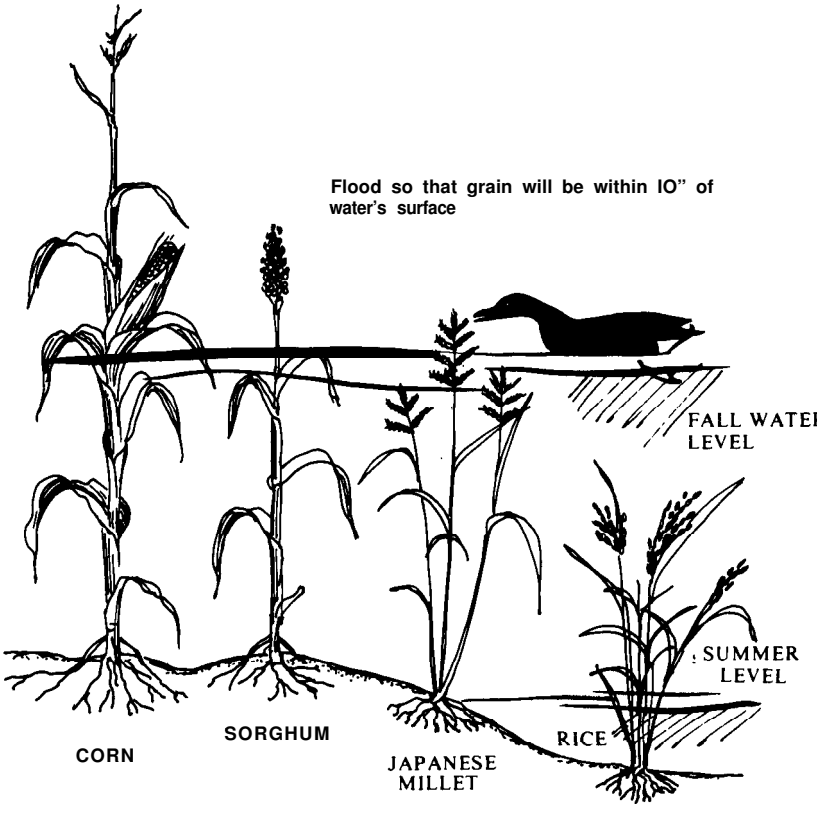


Figure 4. CROPS FOR DUCKS

Save trees with good timber potential as well as those that produce waterfowl food. Oaks are by far the best trees for producing duck foods but sweetgum, bald cypress, tupelo, and some other species are also important. Dense thickets provide good roosting cover and should be left. Desirable weeds are likely to develop in clearings and on log loading decks. If suitable soils and open areas are present, corn, sorghum or other grains can be planted to supplement mast crops. See Figure 3.

Cultivated Crops for Ducks

Corn and sorghum are good crops for clearings in green tree reservoirs or for open manmade ponds. Drain pond in early spring. Choose varieties of the correct height for the depth of the flooding. Plan to have ears or seed heads within 10 inches of the water's surface. Plant the best varieties and cultivate and fertilize as recommended for high production in your area. Follow normal procedures for planting, tillage, and fertilization. In the fall before ducks arrive re-flood to a depth that allows ducks easy access to grain. See Figure 4.

Japanese millet is a good choice for lands too wet for corn or sorghum. It is an improved variety of wild barnyard grass adapted to wet soils and requires no soil preparation or care. Maturation time is 75-110 days, depending on the variety.

The following plan should produce a good crop. Lower the water level in July. Broadcast Japanese millet seed at a rate of 20 lbs/ acre immediately after mud is exposed. Fertilizing with 500 lbs. of 5-10-10 per acre will greatly increase seed production. Raise the water level slowly in October. Eighteen inches is an ideal depth. Avoid submerging plants completely unless large numbers of blackbirds attack the crop. In this case flood the crop completely until the waterfowl season starts so small birds cannot get the seed. Lower the water to expose the seed when ducks arrive. See Figure 5.

In certain cases it may be illegal to hunt waterfowl over planted crops. ***Know your state and federal laws.*** If crops are grown for harvest do not leave any portion of the field unharvested. You may hunt over unharvested fields but do not smash crops down to make them more attractive to ducks. Such actions are interpreted as baiting which violates federal laws. Penalties for violating waterfowl hunting laws are severe.

CONVERTING BEAVER PONDS TO DUCK PONDS

Beaver ponds can be managed to produce duck food in the same way described previously for native weeds or flooded woodlands. If trees are still alive in the beaver pond, manage as a green tree reservoir. If trees are already dead use the plan for producing annual weeds or Japanese millet.

To manage a beaver pond successfully for ducks, it is necessary to break the dam and install a drain pipe. Break the dam in winter or early spring at the point where the water is deepest. Native annual weeds will grow on the exposed mud. If you plant Japanese millet break the dam in late June or July. A large diameterperforated drain pipe can be installed in place of the home made drain systems described below.

Construct and install drains as follows:

Beaver Pipe: A beaver pipe is a tube of rough lumber open on one side. It is usually more effective than a 3 log drain. The beaver pipe was developed by Henry Laramie.

(a) Make a wooden tube of rough lumber 12-16 feet long. Three sides of the tube can be l0-12 inch boards. The remaining side and ends should be closed with 2-3 inch wide slats nailed crosswise 2-3 inches apart.

(b) Place the tube with the slats facing sideways in the cut in the dam with the upstream (intake) end completely covered by water and stacked down at least one foot lower than the downstream end. If the end of the drain in the pond is exposed above the water beavers are likely to plug it up.

Three-log Drain: A three-log drain is made of three logs fastened together

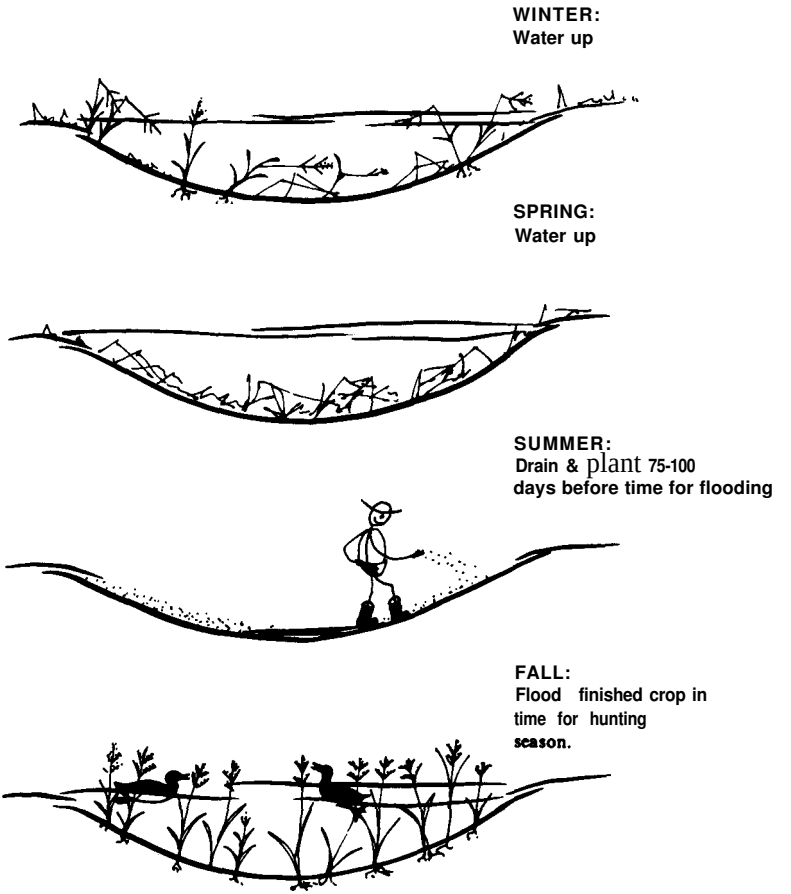


Figure 5. JAPANESE MILLET DRAWDOWN & PLANTING SCHEDULE

and wrapped in perforated roofing tin. The three-log drain was developed by Dale Amer.

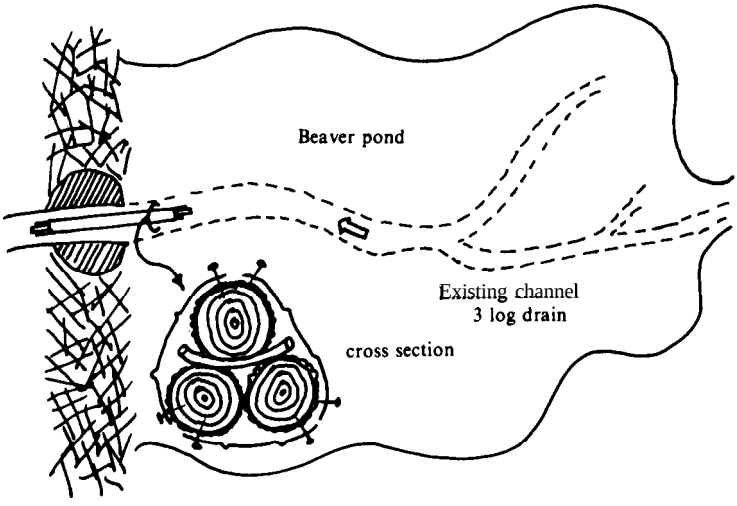
(a) Fasten three logs together with nails and short pieces of wood, as illustrated in the drawing. Logs should be about 6-9 inches in diameter and 12-16 feet long.

(b) Select a piece of tin about 2 1/2 feet wide and 6-g feet long, pound it full of holes with an ax, and lay it on the bottom where the dam is broken.

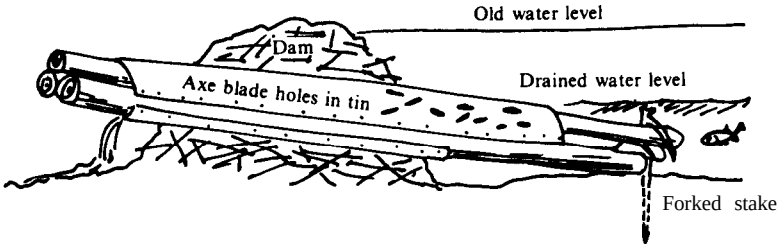
(c) Place the three-log drain on the top of the tin with the upstream(intake) end completely covered by water and at least one foot lower than the outlet end. Peg down logs on the upstream side with a forked stick.

(d) Place a piece of tin over the top of the logs and pile mud and sticks on top.

Check drains frequently while seed crops are growing as beavers will sometimes plug drains. Remove drains after crops are mature. Beavers will usually plug up the hole in the dam and reflood the pond. See Figure 6.



AERIAL VIEW OF BEAVER POND WITH 3 LOG DRAIN



CROSS SECTION OF BEAVER DAMS SHOWING
3 LOG DRAIN (above) and BEAVER PIPE (below)

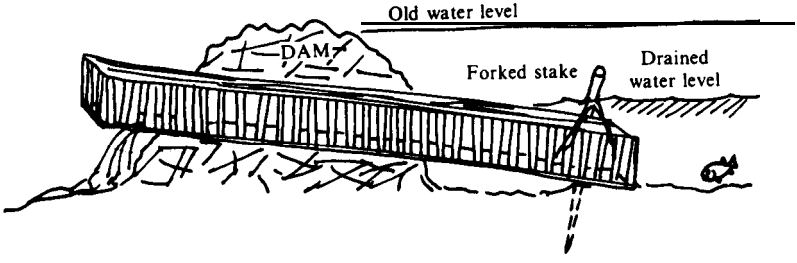


Figure 6. IMPROVISED DRAINS FOR BEAVER PONDS

MANAGING MARSHES

If the water level in the marsh can be regulated, follow one of the management plans already described. No management is required if the marsh is abundantly stocked with desirable waterfowl food plants. See Figure 7. If the marsh is choked with less desirable waterfowl plants as cattails, giant cutgrass, buttonbush, and alders, you must set them back to make room for more desirable plants. Fire is sometimes a useful tool in such cases. An early spring burn with the wind may be successful even when the marsh is full of water. Another possibility is to wait for a drought and then burn. It is often difficult to predict what plants will follow the fire. Frequently, however, they will be more desirable than those which were destroyed. Always obtain permission from proper authorities before burning.

When land is dry, herbicides can be used to make clearings in undesirable vegetation. Herbicides can also be used to kill undesirable aquatic vegetation. Cattails, spatterdock, and waterlilies are poor waterfowl food plants. Get professional advice before attempting chemical control. Herbicides are likely to kill both desirable and undesirable waterfowl plants and should only be used as a last resort.

Undesirable plants in tidal or brackish marshes can be killed by allowing saltwater to enter the marsh. Control the inlet with a flashboard riser or flapgate. See Figure 1. Plant succession is likely to provide better waterfowl foods for two or three years after which time it may be necessary to again let in saltwater and repeat the cycle.

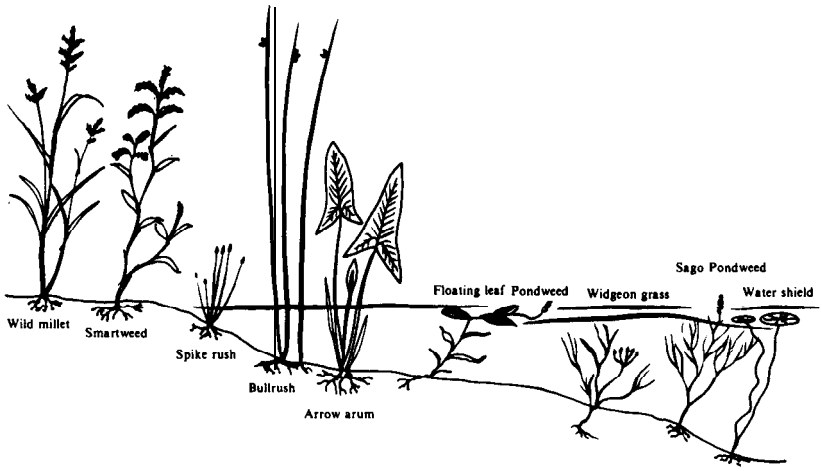


Figure 7. DESIRABLE MARSH PLANTS FOR DUCKS

FISH PONDS AND DUCKS

Ponds constructed for fish are difficult to manage for waterfowl because their steep banks provide scant area for growing waterfowl food plants. If a portion of the pond has shallow edges, a July drawdown of one or two feet will provide an area to sow Japanese millet, corn, or sorghum. WARNING: ***A summer drawdown will increase the risk of an oxygen depletion and resultant fish kill.*** Drains in fish ponds should be designed to remove water form several feet below the surface. This is because surface water is richest in oxygen. A compromise between fish and waterfowl management can be made by drawing down the water in late winter. By summer the fish popuIation will have had a chance to partially adjust to the reduced water volume. Deep water ponds with two to five feet of water at the edges can grow watershield and pondweeds for ducks. The compromise is not optimum for fish or ducks.

Drawing down a fish pond ***in winter*** to provide water for a waterfowl area below is often good practice. During cold weather oxygen depletion is rarely a problem and a winter drawdown may be good fish management in overstocked ponds.

PROVIDE NESTING HABITAT

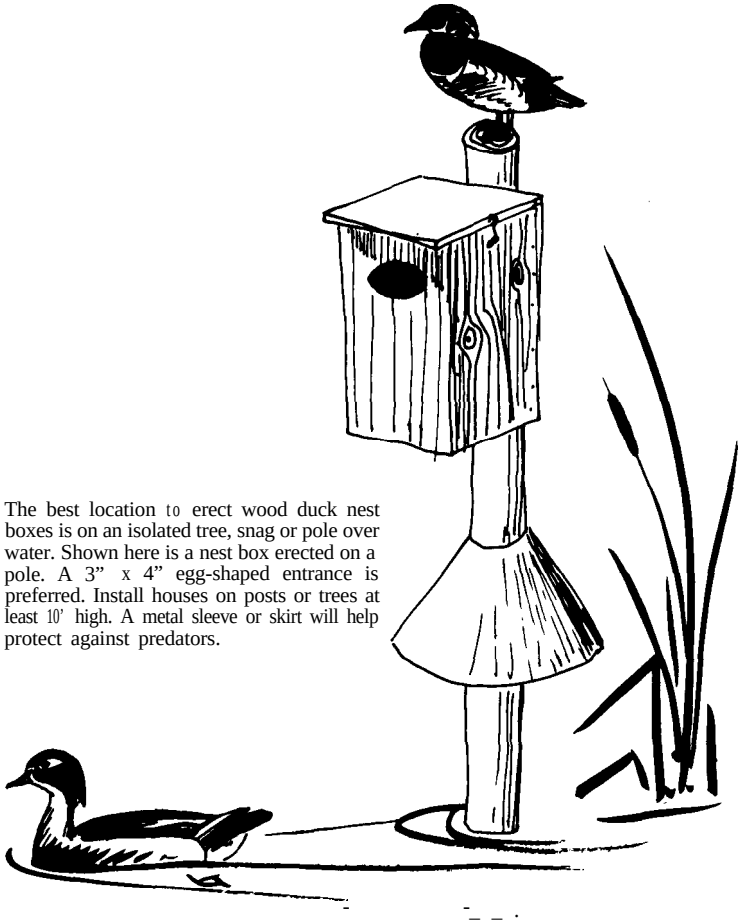
Most ducks leave the South in spring for their northern nesting grounds. Many wood ducks however, remain in the South. To provide for them, save some water in spring and summer. Draw down the edges but keep a small "core" pond in the middle. Install wood duck boxes, up to one per acre, and you can raise your own ducks. Allow dense aquatic plant growth. Place wood duck nesting boxes (Figure 8) where ducks can easily see them. Avoid disturbing the nest boxes during the nesting season. Watch from a distance with binoculars if you are curious.

Never install a wood duck house without a predator guard on the pole or tree or your efforts will go to the benefit of a raccoon, opossum, or black rat snake. These animals have their place but it is not in a man-made wood duck house. A predator guard can be made form sheet metal in the form of a skirt extending out at least 15" from the pole. A 30-inch sleeve of sheet metal will do, but it's not as effective as the skirt. For details of nest box construction see Georgia Extension Service Bulletin 649 "WANTED: More Wood Ducks in Georgia."

HUNTING SUGGESTIONS

You can drive ducks from a good pond by over-hunting. Allow some ducks to remain on the pond overnight. They will attract others. Leave the pond early enough in the afternoon so-that ducks can come in to roost. Give the pond several days rest between each hunt. A large pond or marsh can be hunted frequently if certain sections are left unhunted. Ducks held in these refuge sections will attract others to provide continuous hunting.

Properly managed duck hunting areas can be leased for several dollars



The best location to erect wood duck nest boxes is on an isolated tree, snag or pole over water. Shown here is a nest box erected on a pole. A 3" x 4" egg-shaped entrance is preferred. Install houses on posts or trees at least 10' high. A metal sleeve or skirt will help protect against predators.

Figure 8. WOOD DUCK NEST BOX WITH PREDATOR GUARD

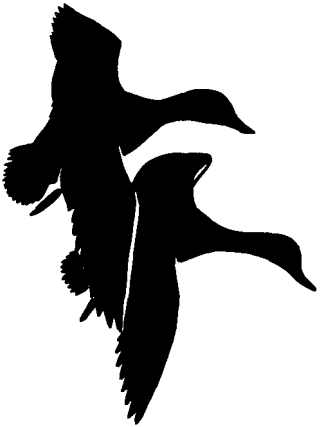
per acre per year. Superb areas often attract exclusive clubs requiring high membership fees. Select hunters who will help you achieve your goals. Insist on discipline in following hunting laws and giving the area a rest between hunts. Undisciplined hunters can ruin a good waterfowl area. When leasing duck hunting land remember that what determines the quality of a hunting experience is how many ducks the hunters see. If a man sees a hundred ducks in a day and bags one it's a great day. If he sees two and gets them both it is only fair.

SUMMARY OF TECHNIQUES AND STRATEGIES

1. Choose a suitable spot for waterfowl management.
2. Provide for cover.
3. Produce duck food from trees, native weeds, or crops.
4. Follow proper schedules for draining and flooding.
5. Hunt the area conservatively. Do not drive ducks away by overshooting.
6. Maintain the water area until spring to send ducks to their nesting grounds in good strong condition.
7. Learn all federal, state, and local waterfowl hunting regulations.

DO YOUR OWN WATERFOWL RESEARCH

The foregoing plans should produce more duck food, and more ducks during'fall and winter than if you did nothing to your wetland. A great many unknown variables affect plant succession. Soil type, moisture, season of drawdown, land-use history, and other factors all act together to influence the plants that grow in your pond. Keep accurate records of what you do and when you do it so that you can duplicate your work exactly when you get a good result. Gather seeds from wild plants; open the crops of the ducks you shoot and match the seeds inside with your collections. In this way you can determine what seeds ducks choose. Compare your findings with others. Good luck and good hunting.



Wildlife 1-3

Circular 718 **Reprinted December 1993**

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, The University of Georgia College of Agricultural and Environmental Sciences and the U.S. Department of Agriculture cooperating.

C. Wayne Jordan, Director

UPD 934470

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