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**Remember Wildlife When You Plan Water Developments**

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Water Development, Wildlife

South Dakota is in the midst of a water management revolution. More has been accomplished in the last 15 years than since the birth of the state.

But along with improved water management practices has come the problem of maintaining satisfactory wildlife habitats—a problem of concern to both land owners and sportsmen. With cooperation from both, much can be done to make water management projects favorable to good agricultural land use, and at the same time propagate wildlife.

This is an especially important time to consider what can be done. South Dakota has 98 small watersheds that could profit from development. Seven are already authorized for construction; seven more are being planned. Leaders in six more have submitted application for planning assistance. Others are considering doing so in the near future.

Then, too, several irrigation districts will need to be formed to make the huge Oahe and Randall development projects a reality. Corps of Engineer projects are being proposed on the Sioux and Vermillion Rivers. On the main stem of the Missouri River, the last of four giant South Dakota dams is being constructed.

WHAT WATER RESOURCE DEVELOPMENT WILL MEAN TO WILDLIFE

Projects designed to manage water so that it will be more useful to man may be good or bad for wildlife. Benefits depend for the most part on how much consideration is given to wildlife in the early stages of planning. Plenty of water does not necessarily insure plenty of wildlife.

Water is a necessity for waterfowl, but even they will not nest and raise young on just any body of water.

The old potholes or sloughs that were so plentiful when South Dakota was young make the ideal nesting area for waterfowl. Many of these were shallow and did not have water in them the year around.

After mother duck has her babies off to a good start she wants to take them onto larger, more permanent bodies of water. Lakes Whitewood and the Oakwood Lakes are examples. Here the young are reared during the summer months.

Lowland areas are important to almost all game and furbearers, because of the taller vegetation usu-
ally found in them. Pheasants, deer, hungarian partridge, grouse, and quail all make use of such cover. Even cottontail rabbits may use it as escape cover.

WHERE WE ARE TODAY

Since South Dakota became populated the ever increasing pressure for crop land has caused many of the good wildlife habitats to suffer a net loss. This has been a natural result of our attempt to live off the land by a means accepted as proper and just by our standards. Even the most ardent sportsman should recognize that this situation is an outgrowth of man's desire for greater economic gains and not a willful attempt to destroy wildlife habitat. The property owner, on the other hand, should acquaint himself with what wildlife development could mean to himself, his community, and his state.

WHAT WILDLIFE MEANS TO SOUTH DAKOTA

Studies show that South Dakotans are enthusiastic sportsmen. Of the some 267,000 rural South Dakota people, about one-third hunt and fish. Out of 413,000 people living in cities and towns in the state, about one-fourth hunt and fish. This represents a 10% increase in the last 10 years. The studies also show that these people spend about 30% more time in pursuit of these sports than they did 10 years ago. This places South Dakota near the top, among all states, in residents who hunt or fish.

Pleasure and recreation to people of the state is

Most water resource developments, like the one shown in this artist's drawing, can be built to encourage wildlife habitat. Borrow for the dam can be taken so that small areas adjoining the pond will have only a little water in them when the pool is full. In the borrow area it is sometimes possible to leave an "island" area that is surrounded by water. If planted to a good cover grass, the areas will resemble potholes and will make good nesting areas while the pool itself makes a good place for the mother duck or other waterfowl to rear their young.
One-third of her rural and one-fourth of South Dakota's city people hunt or fish or both. In the last ten years the number of resident hunters and fishermen has gone up about 10%, while they spend 30% more for these sports.

Only part of the story. Large amounts of money are also pumped into the state's economy as a result of non-resident hunting. In the spring of 1960 a study was made of just what non-resident pheasant hunting in 1959 meant to the economy of South Dakota. A conservative estimate was that it totalled about 10 million dollars. This is about 85% of the cash farm income from flaxseed or about twice the income from wool in South Dakota in the same year. It was almost 9% of the cash income from all crops and about 2% of the income from livestock and livestock products. It is evident, then, that wildlife not only gives South Dakotans pleasure, but it also puts dollars in their pockets.

There is every reason to believe that more residents and non-residents will desire to harvest our wildlife in the future.

**PROPER DESIGN OF WATER RESOURCE DEVELOPMENTS**

Most types of water resource development projects can be initiated in South Dakota only after creating a legal sponsoring body made up of the people served by the developments. Examples of these sponsoring or supervising groups are watershed districts, soil conservation districts, irrigation districts, or conservancy sub-districts.

These districts, working through their elected directors, should safeguard the wildlife interests in the developments while supervising and approving the main objective of the particular project. If wildlife considerations are brought in as an "afterthought" when all other requirements have been met, disagreements usually result. If wildlife is considered *early in the planning stage*, appropriate places for mutually acceptable wildlife developments, can be agreed upon more easily.

Most water resource development structures can be designed to encourage wildlife habitat.

Borrow for dams can be taken in such a way that small areas adjoining the pond will have only a little water in them when the pool is full. In the borrow area it is sometimes possible to leave an "island" area that is surrounded by water. These areas, if planted to the appropriate cover grass, will resemble potholes and make waterfowl nesting areas and habitat for other wildlife. The pool itself will serve as a rearing area for young ducks. Even stock water dugouts can be made with a shallow seeded area in one end that serves the same purpose. Livestock must be fenced out of these shallow areas.

Irrigation canals and laterals also make excellent wildlife habitat if consideration is given to proper cover and food plantings.

When river channels are straightened a so-called "oxbow" is often left. Many times the areas cut off have little agricultural value because they are small and often inaccessible. Such areas can be developed into excellent wildlife habitat.

Water resource development projects, except for the very large ones, give most of their non-wildlife benefits to people of the immediate area. Benefits from wildlife habitat built into the project, however,
Marshes and other lowland areas are still of prime importance to most game and furbearers. Taller vegetation in these areas provide good cover for pheasants, deer, partridge, grouse, quail, and many other game animals. If wildlife are more widely diffused. Waterfowl, for example, reared in a particular project will migrate great distances and benefit many hunters. Deer, on the other hand, would migrate relatively short distances.

This brings up the question of who should pay for the wildlife part of the project. No standard answer can be given to this question. Each project is considered early in the planning stage of the water development project, areas like the one shown above can be at least partially saved, or even created, for wildlife use.

must be considered on its own merits. The size of the project and the kind of wildlife that would adapt to it will indicate the proper financing arrangement.

Arriving at equitable financing agreements is one more reason why wildlife should be considered early in planning the project.