

## THE SCS IN WILDLIFE MANAGEMENT

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Abstract: The U. S. Department of Agriculture, Soil Conservation Service recognizes that fish and wildlife on farm or ranch lands are agricultural crops. The Soil Conservation Service gives technical assistance in the conservation, development and utilization of land and water areas for the preservation, or production of fish and wildlife. The Soil Conservation Service has offices in nearly every county assisting private landowners in the locally formed and governed Soil Conservation Districts. Available to the county offices from Area and State offices are specialists in a wide variety of fields, including plant sciences and fish and wildlife biology. In all aspects of its wildlife program the Soil Conservation Service maintains close cooperation with the California Department of Fish and Game.

To improve waterfowl habitat in the Suisun Marshes, for example, management plans have been completed for 21 waterfowl clubs and 56 more cooperating clubs have plans in varying stages. During the past four years planning and technical assistance has been given clubs for installation of over 25 structures and more than 30 miles of ditches for water control. Similar planning and technical assistance is given for development and management of upland game habitat. Working in cooperation with Wildlife Habitat Committees of Soil Conservation Districts over 60,000 adapted plants have been planted by landowners in the last four years in three central California counties resulting in over 50 miles of hedgerows for wildlife.

Assistance is also provided for management of ponds and reservoirs on farms and ranches for recreational and income-producing fish production.

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I take this opportunity to discuss with you, my fellow members of the California-Nevada Section of The Wildlife Society, the policies of the Soil Conservation Service regarding fish and wildlife, how we do our job, some of the results, some of our future plans, and how SCS helps landowners with wildlife management. I will not have time to include the Small Watershed Program, but it was discussed at an earlier annual meeting by Paul M. Scheffer.

In Northern Yolo County, 30 miles northwest of Scaramento, Heidricks Brothers had 50 acres of barren alkali soil. It was through their Soil Conservation District, they requested assistance of the Soil Conservation Service in developing the wildlife potential of the area. Ken Bigelow, District Conservationist for Yolo County, along with Ronald Anstead of the California Department of Fish and Game assisted Heidricks with plans to bring water to the area to develop and manage a waterfowl habitat. SCS engineering technicians designed the needed water control structures and surveyed for their installation. The Agricultural Conservation Program (ACP) of the USDA Agricultural Stabilization and Conservation Service (ASCS) provided some financial assistance for converting the farmland to waterfowl habitat.

Pond areas were planted to plots of safflower, grain sorghum and salt-marsh (alkali) bulrush (Scirpus robustus) for waterfowl food. On higher ground along one side of the ponds plantings were made of big saltbush (Atriplex lentiformis), saltcedar (Tamarix gallica), and pappasgrass (Cortadenia seloana). The wildlife committee of the Soil Conservation District provided the plants. This area of alkali soils is now being utilized within its capability providing a haven for waterfowl, pheasants and other wildlife species.

A couple of months ago I drove by Heidricks' ponds and a flock of about 300 geese and numerous ducks were feeding. They were the only ponds in the area with any birds. Heidricks Brothers got above average shooting success, from the eight blinds in the ponds this past season. Now this spring, the pond is providing a resting place for waterfowl feeding in the surrounding area. Marginal cropland has been put to a beneficial use for wildlife.

The Soil Conservation Service is an agency of the U. S. Department of Agriculture. Our national policy states:

"The primary objective of the USDA-SCS is to assist soil conservation districts and watershed organizations to establish and maintain a coordinated technical soil and water conservation program within the capabilities of the land and in keeping with the public welfare and the needs

and desires of individuals and organized groups. Soil Conservation Service recognizes that fish and wildlife on farm or ranch lands are agricultural crops, and that the planned production of such fish and wildlife is a specific kind of land or water use. The SCS gives technical assistance in the conservation, development and utilization of land and water areas for the preservation, or production, or fish or wildlife as either the principal or secondary crop. Full consideration is given to the multiple use of wildlife facilities to provide income-producing recreation as a part of the total agricultural enterprise."

The SCS has local offices in nearly every county. Service personnel at these offices work directly with locally formed and governed Soil Conservation Districts on a wide variety of soil and water conservation problems. Work unit offices are generally staffed with soil scientists, engineers, and conservationists with training and experience in the many aspects of soil and water conservation. Available to the county offices from area and state offices are specialists in a wide variety of fields including plant sciences and fish and wildlife biology.

In California Wendell Miller is the state-wide biologist, stationed at the State Office in Berkeley. Ron Bachelor is the Nevada biologist. I'm in the Sacramento Area Office. Several local soil conservationists have wildlife degrees and quite a few have considerable experience in the field. We maintain close cooperation with the California Department of Fish and Game.

When a landowner cooperates with a Soil Conservation District and requests assistance with wildlife developments, we assess the potential of his property and furnish planning and technical assistance for his consideration. We can also, upon request, furnish technical information and assistance to private consultants usually on such things as soils, engineering and management specification, and general background information. This has been done for broad area plans in the Grasslands and Suisun Marshes and on individual properties. Especially where large developments are planned we encourage landowners to acquire the assistance of private consultants.

Soil Conservation Service work unit offices in most counties have basic information useful to wildlife managers, public and private. Large scale aerial photos and detailed soil maps, descriptions and interpretations, along with adapted plant species are available. Detailed information on specific properties may be made available, with written permission of the landowner or his representative.

## WATERFOWL HABITAT MANAGEMENT

I think the best way to explain what we do in assisting landowners to manage wildlife is to quote a few examples.

In the early '60's landowners in the Suisun Marshes, on the western edge of the Sacramento Delta, realized the need to organize efforts to preserve the marshes for waterfowl and to improve waterfowl habitat. They formed a Soil Conservation District, under state laws, covering 54,000 acres of marsh and some surrounding land and water. The elected five man board of directors, headed by Dr. Coon, requested technical assistance from the SCS and the California Department of Fish and Game. I was a member of the Dixon Work Unit staff assigned to the district.

The Frost Slough project in the Suisun SCD is an example of how a Soil Conservation District works. The Frost Slough area includes a little over 4,000 acres on the northeastern side of Grizzly Island, eight miles southeast of Fairfield. The original tidal marshes have been leveed and reclaimed for agriculture during the early part of the century. With increasing difficulties in obtaining good quality water for irrigation, and gradual build up of soil acidity the area has reverted to marsh. There is still a limited amount of grazing in the area. Land elevations are at sea level and water levels in the ponds must be controlled by tide gates under the levees.

Lack of proper soil and water management resulted in the growth of large areas of pickleweed and other plants that have little or no value to waterfowl. Excessive salt concentration built up in pond bottoms. Tide gates and ditches had become inadequate for proper drainage and circulation of water. Most clubs could not solve their own problems without affecting and being affected by, the actions of others.

At the request of the district landowners, personnel of the Department of Fish and Game and SCS examined the area in detail and developed alternative proposals to improve the waterfowl habitat. Under the auspices of the district, the eight hunting clubs decided on their course of action and applied for and obtained Federal cost-sharing under the Agricultural Conservation Program (ACP). The cost share amounted to 50% reimbursement of all costs upon completion of the job. The district then requested us to prepare a Group Plan of Operations for the project. The final approved plan consisted of detailed maps of each property and engineering drawings and specifications for tide gates, flashboard structures, levees and ditches needed to properly regulate the water. The management needed to grow good waterfowl food plants was carefully spelled out.

On the individual clubs 22,000 cubic yards of earth were moved to dig 70 new ditches (a total of 30,300 feet) and cleaned some old drains for flooding, circulation, and controlling drainage. Twenty-six 2 x 2 foot redwood boxes with flashboards, and two pipes with flashboard risers were installed to control water levels and circulation. Four 48-inch and two 36-inch automatic drain gates were installed and an older gate reset to grade. On areas that had insufficient waterfowl food plants, alkali bulrush seed was planted by air. The total cost of the project exceeded \$36,000.

Waterfowl ponds in the Frost Slough area now have facilities for proper flooding, circulation, and relatively rapid drainage of surface waters. All property owners have agreed to follow a water management schedule to promote growth of the variety and quantity of food plants necessary to hold and support waterfowl.

Habitat improvement and management plans have been completed for 21 individual waterfowl clubs in the Suisun Marshes. Fifty-six more cooperating clubs have plans in varying stages. During the past four years, planning and technical assistance has been given clubs for installation of over 250 structures and more than 30 miles of ditches for water control. The estimated cost to the club owners exceeds \$200,000. Additional clubs have also done considerable work following the example of their neighbors.

#### UPLAND GAME HABITAT MANAGEMENT

In upland game habitat management the Service also works closely with the California Department of Fish and Game. Where habitat management is the major concern, such as on licensed pheasant clubs, SCS engineers, plant-materials specialists, and biologists work together to plan improvement of wildlife habitat. For example, the Cache Slough pheasant club, located about an hour's drive from here west, releases 40,000 pheasants each year for paid members and guests. Controlled by a small corporation they own or lease over 3,000 acres of irrigated land.

The Ulatis Soil Conservation District had assisted former owners in developing the same area for irrigated row crops and pasture. When the owners decided to establish a licensed pheasant club, SCS biologist and plant-science specialists worked with the local Fish and Game representative to modify the program for pheasant habitat. The Soil Conservation District supported successful efforts to have the legislature reclassify the area from Zone A to Zone B. The more liberal regulations that govern Zone B pheasant clubs allow fuller use of the land for recreational hunting.

We helped them plan habitat improvement and management and recommended grasses and shrubs suitable to their various soils. By providing technical assistance we helped the owners receive monetary assistance for improving their wildlife cover through various programs of the USDA Agricultural Stabilization and Conservation Service. Also, they have acquired plants through the program of the Wildlife Habitat Committee of the Ulatas, Dixon, and Suisun Soil Conservation Districts.

Wildlife Habitat Committees have had outstanding success improving habitat for upland wildlife, mainly for pheasant (Phasianus colchicus), quail (Lophortyx californica), and songbirds. These committees have been formed in Sacramento, Yolo, and Solano Counties because of the growing concern over the loss of habitat associated with more intensive farming. The committees are formed under the leadership of the Soil Conservation Districts and include members of local sportsmen organizations. Department of Fish and Game and SCS personnel serve as advisors.

Landowners interested in improving wildlife habitat on their properties apply to the committee for assistance. Then representatives from Fish and Game and/or the SCS meet with the landowners and develop a plan. The wildlife committee then makes plants, adapted to his soils, available to be planted and cared for according to the plan.

Some of the planting stock for the committees has been made available from the Department of Fish and Game. The Solano County Wildlife Habitat Committee has an agreement with the California Department of Corrections Medical Facility at Vacaville to produce approximately 10,000 plants, in gallon cans, for use mainly in the county. The Yolo County committee has a similar agreement with the Sheriff's Department.

In the intensively cropped irrigated farm land of Solano County, Dick Raycraft, hoping to re-establish quail coveys lost when he leveled the last slough, set aside a couple of acres near the farm headquarters and planted two 300-foot rows of multiflora rose (Rosa multiflora), a row of quail bush, and two dozen pampasgrass and pyracantha (Pyracantha crenato-serrata). Raycraft also planted dwarf acacia (Acacia cyclops) and pampasgrass around his reservoir and along drain ditches.

Charlie Misuraca planted a row of dwarf bluegum (Eucalyptus globulus compacta) along the side of his corrals, and his son established a row of Arizona cypress (Cupressus arizonica) behind his barns to provide the wildlife some needed escape and nesting cover while also serving as a windbreak.

Frank Steiner planted shrubs between his farm road and an old slough. Mr. Ries planted short strips of multiflora rose, pampasgrass, pyracantha, and dwarf acacia along his boundary fence line. A rural cemetery district planted a row of multiflora rose along an adjoining ditch. Another farmer planted the hard-to-work point of a triangular field, and a spot behind his irrigation pump.

Joe Farnham, Post Office employee and part time farmer in Yolo County, planted five acres along a creek to shrubs and food plants providing a welcome sanctuary for pheasants, quail, doves (Zenaidura macroura), rabbits, and many songbird species. Farnham built an "observatory" in a large tree overlooking his plantings from which visitors can observe and photograph the wildlife.

Harry Fredricks had problems cultivating under Pacific Gas and Electric's power-transmission towers, and annually cursed the weeds growing under them. So, with assistance of the Yolo County Wildlife Habitat Committee, he requested and obtained permission to plant low-growing shrubs for wildlife under them. Now the towers have been transformed into pleasant islands of wildlife habitat. The Yolo County Committee also purchased, with state grant-in-aid (PL-1144) money, over 20 quail guzzlers and helped ranchers install them.

In the three counties, more than 60,000 plants have been distributed in the last four years, resulting in over 50 miles of hedgerows! The Department of Fish and Game formerly had problems in the fall, finding good locations to release pheasants, but now the habitat plantings provide good sites.

## FISHERIES

Management of ponds and reservoirs, on farms and ranches for recreational and income-producing fish production, has great potential in California. SCS engineers help design over 300 ponds each year for various purposes in California. Most of these are eventually stocked with fish either by the owners or through the Department of Fish and Game.

Work unit offices provide information on pond management to landowners. We are now providing forms for pond owners to keep track of their fish production. We plan to help interested pond owners set up more intensive management plans for their waters.

Drawing on the successful experience of channel-catfish (Ictalurus punctatus) in the southern states, we believe there is ample opportunity for catfish production here in the west. John Paulson in the northern San Joaquin Valley northwest of Stockton, planted 750 seven-ounce catfish in a .6 acre reservoir a year ago last June. The fish were fed 3% of their body weight per day of commercial catfish pellets. When removed and sold after five months, they averaged 16 inches and weighed a pound and four ounces each, for a total weight gain of 628 pounds.

Paulson utilized drain-water from his tile drains for the pond. The mineral content is too high for irrigation. He also has a 30-acre field of soil with a high water table that he plans to convert to catfish ponds. There are areas in central and southern California that can be utilized to produce catfish.

The Service will continue to work closely with the California Extension Service and the Department of Fish and Game to provide technical advice for, and to encourage fish farming as an alternative land use where applicable.

### PLANT MATERIALS

SCS technicians, and all professionals in wildlife management need more information on plant species that are suitable for high-quality habitat. The USDA Soil Conservation Service Plant-Materials Center in Pleasanton has testing programs under way with food and cover plants for waterfowl and upland game habitat. These are cooperative endeavors with the California Department of Fish and Game and the University of California Agricultural Extension Service.

Under this program, plant materials are obtained from all over the world. They go through initial testing at the center to check their growth habit and performance in this climate as compared with common plants known to have wildlife value. Plants showing promise go through further testing at field sites, such as in plots at the California Department of Fish and Game Graylodge Wildlife Management Area. Those demonstrating a potential in this second phase of testing are released, through our local offices, for final tests in field size plantings on farms of selected Soil Conservation District cooperators.

Although this plant testing program is still relatively new, some results are already apparent. For example more than 500 potential waterfowl food plants have already been tested. Several of the smartweeds (Polygonum spp.) show considerable promise. The saltbushes (Atriplex spp.) particularly Atriplex lentiformis and A. canescens show promise for upland wildlife habitat in California.

### UTILIZATION

I would like to quote a couple of sentences from a paper presented by Wayne Long at The Wildlife Society meeting last year in Sacramento (Long, Wayne. 1968. Wildlife Recreation on Private Land - A Look to the Future. Calif. Nev. Section, The Wildl. Soc. Trans. 3:91).



"Now what about the landowner: Should he be able to capitalize on the wildlife and make a business of it? I say, why not? and it is about time. The wildlife are a product of the land and really no different than any other resource that he may be managing such as timber or range. His land is the most important single denominator to wildlife population, yet in the big business of hunting, he has been the one not getting a share of the pie."

Large numbers of private landowners have an opportunity to improve habitat and to obtain profitable economic return. In our contact with landowners, SCS continually encourages them to make full use of their property by managing their wildlife crops for recreation uses.

The wildlife crops can be utilized for pay hunting or fishing, or by the landowner and his friends and business associates, or simply through enjoyment of the aesthetic values.

Pressures on our wildlife populations and their habitat are steadily increasing. It is imperative that all of us do all we can to assist private landowners to fully utilize their land for wildlife as a principal or secondary crop.