OVERVIEW OF THE SAVE OUR SOILS PROGRAM IN WEST CENTRAL SASKATCHEWAN

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Introduction

During the 1980's land degradation issues were brought to public attention through the release of the report "Soil At Risk" by the Standing Senate Committee on Agriculture, Fisheries and Forestry. The Prairie Farm Rehabilitation Administration (PFRA) estimates that each cultivated acre of prairie soil loses an average of four tons of soil each year, resulting in $6 million of lost farm income.

From 1985 to 1989 soil conservation was targeted towards individual conservation groups under the direction of PFRA, with funding under the ERDA Agreement. In addition, eleven district agricultural extension boards were involved in a three year program supported by the Canada-Saskatchewan Subsidiary Agreement on Agriculture under the ERDA Agreement through the Agriculture Development Fund (ADF). Districts from the West Central Region involved in the former Save Our Soils (SOS) program included Biggar, Davidson, Kindersley and Rosetown.

The Accord on Soil Conservation that was signed on April 12, 1989 between the Federal and Saskatchewan governments resulted in a three year, $54 million Agreement on Soil Conservation. The three year, $14 million Save Our Soils program is under the Agreement. This program is funded through PFRA and ADF to:

1. Reduce soil degradation on individual farms and effect land use changes in order to maintain or enhance the productivity of the soil resource and to reduce the off-farm impacts of soil degradation.

2. Extend the knowledge of soil conservation technology, practices and soil quality trends and to enhance the transfer of this information to support awareness and on-farm activities.

3. Foster a long-term soil conservation ethic and increase the awareness and understanding of soil degradation and conservation.

Program Structure

The West Central Regional Conservation Team (RCT) was formed in 1989 to facilitate the implementation of the program through the Agriculture, Development and Diversification (ADD boards). Agencies represented on the RCT include Saskatchewan Rural Development (Extension and Lands), PFRA, Saskatchewan Parks Recreation and Culture, Soil Survey, Saskatchewan Soil Conservation Association (SSCA), ADF and Ducks Unlimited.

The SOS program is directed by the Implementation and Steering Committees (Figure 1). The Implementation Committee is comprised of federal and provincial employees, and is responsible for developing, updating and monitoring the program. The Steering Committee is comprised of federal and provincial employees, and producers. It is responsible for reviewing provincial objectives and ADD board proposals, and providing recommendations to the Implementation Committee.

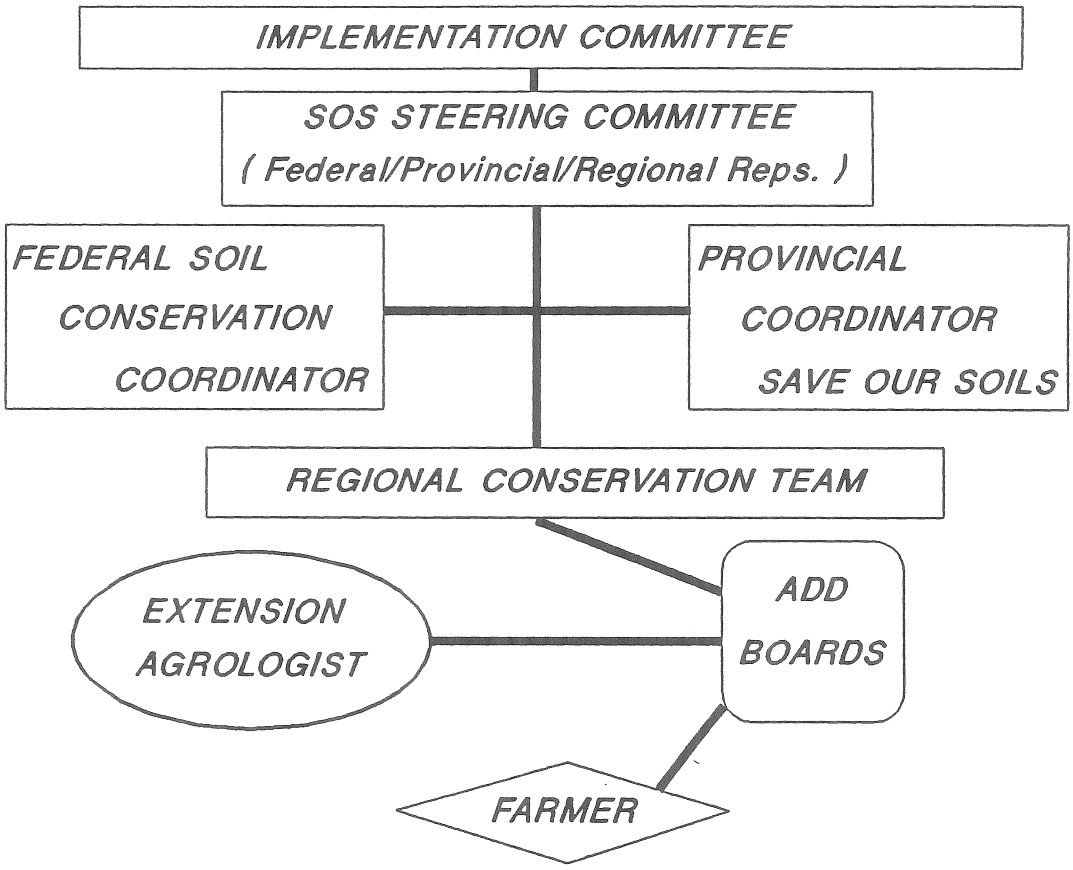

Figure 1. Implementation structure of the SOS program.

There are 43 ADD districts in Saskatchewan. ADD boards are comprised of elected municipal representatives and have set up committees and hired technicians to implement the SOS program. Extension Agrologists from Rural Development are responsible for working with the ADD boards and SOS technicians on a daily basis. Much of the current success of the SOS program is due to their effort. The seven ADD districts in the region have been allocated a total of $3 million under the SOS program.

Program Priorities

As per Figure 2, the West Central Region is comprised of ADD districts 15, 16, 17, 22, 23, 24 and 40. The dominant rotation in the region is wheat-fallow. Other rotations include lentils or oilseeds on fallow followed by a cereal, and continuous cropping on irrigated land. The frequency of tillage in the fallow year varies from two in the southwest to six or seven operations in the northeast. Application of 2,4-D in the fall or spring is common in the west side of the region. Chemfallow is widely accepted but would be used more if the cost of herbicides was reduced.

Wind erosion is of prime concern because of its severity in the drier areas and the large number of acres affected (mostly fallow). It also has the greatest potential to manage using feasible practices.

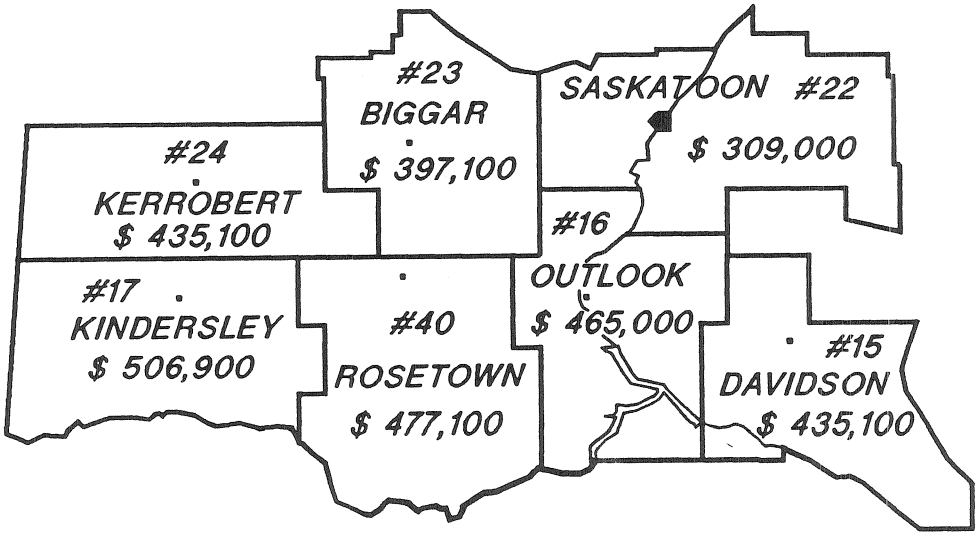

Figure 2. Total funding available to ADD boards to March 31, 1993.

The RCT has ranked soil degradation issues for the region as follows:

1) Wind erosion
2) Salinization, water erosion and organic matter loss
3) Solonetzic soils and soil acidity.

The RCT strategy to reduce soil degradation that has been adopted by the ADD districts is as follows:

1) **Wind Erosion**
- High Priority: residue management (herbicide substitution, wide blade tillage, low crown sweeps, reduced tillage speed and depth, direct seeding, straw spreading and snow trapping), grass/annual barriers, strip cropping and field shelterbelts.
- Low Priority: annual cover crops, shelterbelt renovation and wildlife shelterbelts.

2) **Salinity**
- High Priority: forage establishment.
- Low Priority: extended crop rotations and rehabilitation of saline areas.

3) **Water Erosion**
- High Priority: residue management (herbicide substitution, wide blade tillage, low crown sweeps, reduced tillage speed and depth, direct seeding, straw spreading and snow trapping), contour strip cropping and field gully management.
- Low Priority: annual cover crops and erosion/run-off control structures.

4) **Organic Matter Enhancement**
- High Priority: forage establishment.
- Low Priority: green manure and extended rotations.

Program Activities in 1990

Promotion of wind erosion control and shelterbelt establishment involved two thirds of ADD boards' demonstration budgets (Table 1). The most common practices demonstrated to control wind erosion included 2,4-D for winter annual control, direct seeding into stubble, fertilizing eroded knolls, grass/annual barriers, conservation fallow (wide blade and chemical) and chemical fallow.

Table 1. 1990 SOS Program Activities in West Central Saskatchewan

Practice	1990 Budget	*1990 Actual	*Quantity	#Applicants
Wind Erosion	$247,410	$286,932	63,306 ac	418
Shelterbelts	244,400	125,226	1,325 mi	283
Water Erosion	42,425	9,092	185 ac	18
Organic Matter	53,000	80,986	6,334 ac	105
Salinity	108,400	93,202	5,348 ac	128
Special Projects	33,536	13,442		25
Total	**$729,171**	**608,880**	**75,173 ac**	**977**
			1,325 mi	

*Based on initial applications.

The Biggar District (#23) ran an effective residue management demonstration program. Producers had a choice of three specific menus which included varied quantities of tillage and chemicals. The three wide blades available for demonstration covered over 8,000 acres. The Kerrobert District (#24) had 18 direct versus conventional seeding sites which involved cooperation among producers, equipment dealers and the ADD board. Although results were variable, the importance of good residue management at harvest was made apparent.

Actual shelterbelt establishment and maintenance was only half of expected due to tree shortages and producer attitudes. As tree planting involves some inconvenience and a change in attitude, more extension is required in this area. The Brock Shelterbelt Club, a producer initiated organization which has planted over 120 miles of trees the past two years, is participating in the SOS program. The Biggar ADD board had a successful contract program for shelterbelt establishment. More districts will be providing this service in 1991. Contract maintenance will also be offered, as adequate weed control continues to be a concern.

Many of the residue management practices recommended to control wind erosion will in some cases also control water erosion. Of the practices specific to water erosion control, grassing of field gullies was the most common. However, many of the approved projects will have the work done in 1991. Other practices such as annual cover crops, contour strip cropping and runoff control structures were not widely promoted.

Forage establishment, green manuring and extended crop rotations were promoted as methods of organic matter enhancement. The demand for forage establishment exceeded expectations due in part to the availability of two PFRA grass drills. Forage establishment was also the most popular method for controlling salinity, with over 5,000 acres being seeded (Table 1). Some of the special interest projects carried out included applying manure or extra fertilizer to eroded knolls, and deep ripping of solonetzic soils.

The intent of the SOS program is to increase producers' awareness of proven conservation techniques. Many demonstrations were signed to increase local awareness. Other extension methods used included producer meetings, mailouts, trade fair booths, field days and bus tours. The RCT also sponsored a regional conservation tour of the Kindersley and Rosetown districts and has held eight conservation field trips for school children.

Future Direction

In 1991 ADD boards intend to spend more time one on one with individual producers. Many districts will be setting up conservation farms to demonstrate a number of practices. These highly visible sites will provide better extension opportunities. Newsletters and local media will be used to a greater degree. The RCT is producing a number of conservation fact sheets specific to west central Saskatchewan, which will assist producers with implementing conservation practices.

Tree plantings are expected to more than double in 1991, as the PFRA Shelterbelt Centre increases tree availability and more producers become convinced of the benefits of trees. It is anticipated that the shelterbelt program will be extended past three years, as tree supplies will be inadequate to allow producers to take full advantage of allocated funding. Advertising on a provincial basis will continue to target both rural and urban audiences. Administratively, forms are being streamlined and guidelines are becoming more flexible.

The RCT feels confident that the three year SOS program is step in the right direction towards improving the soil conservation ethic in west central Saskatchewan.

References

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