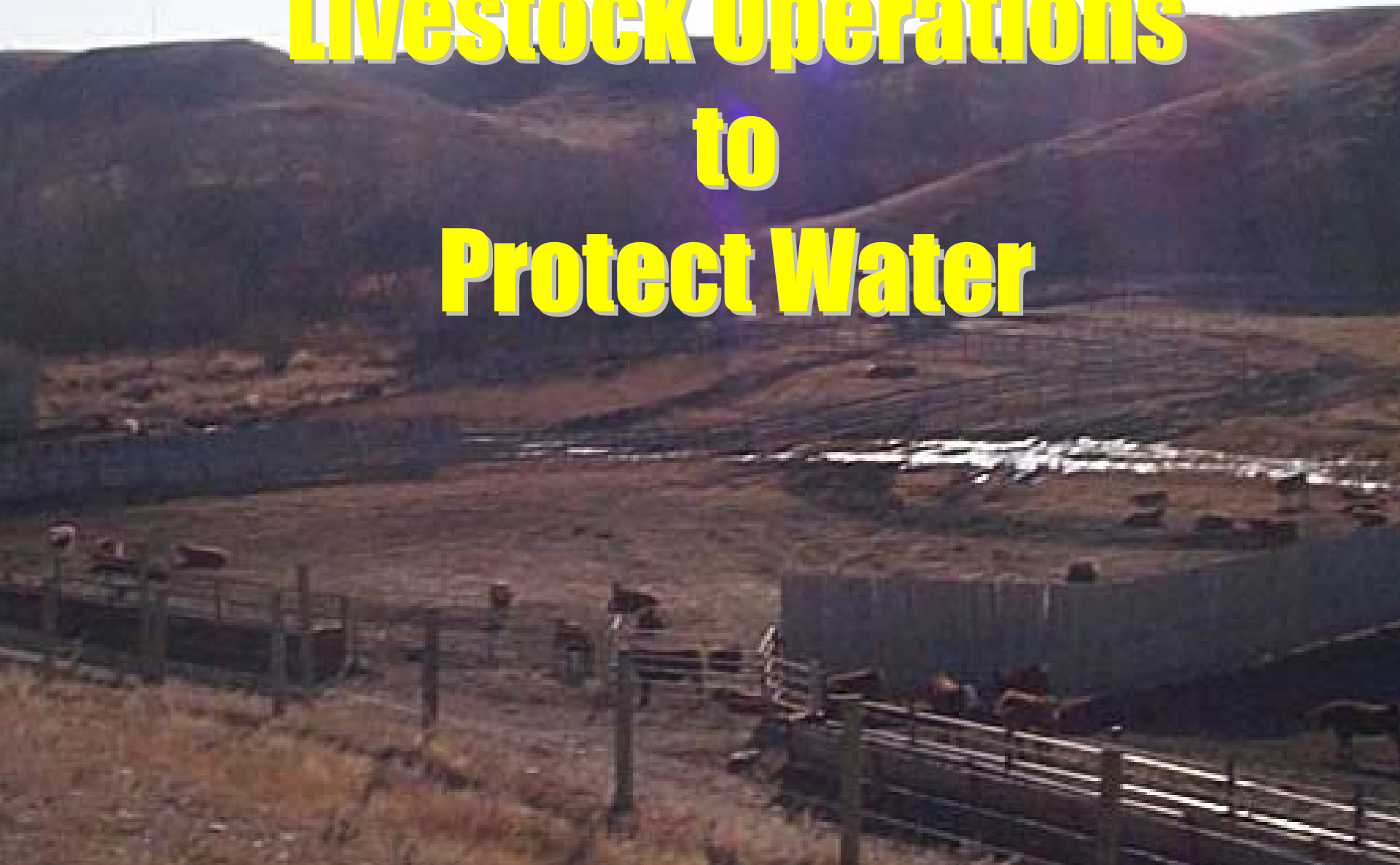
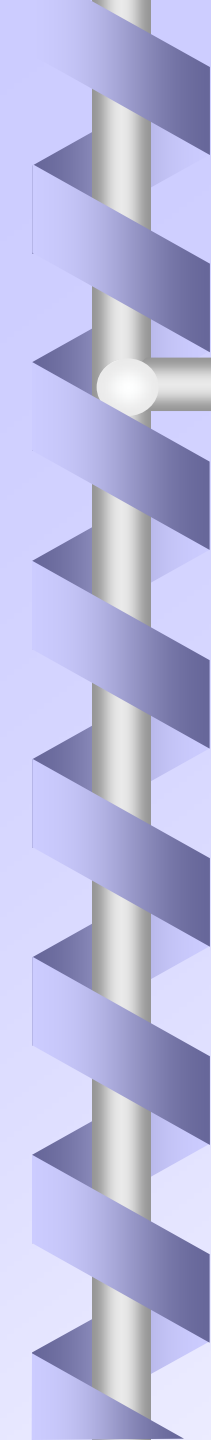


Establishing and Managing Livestock Operations to Protect Water

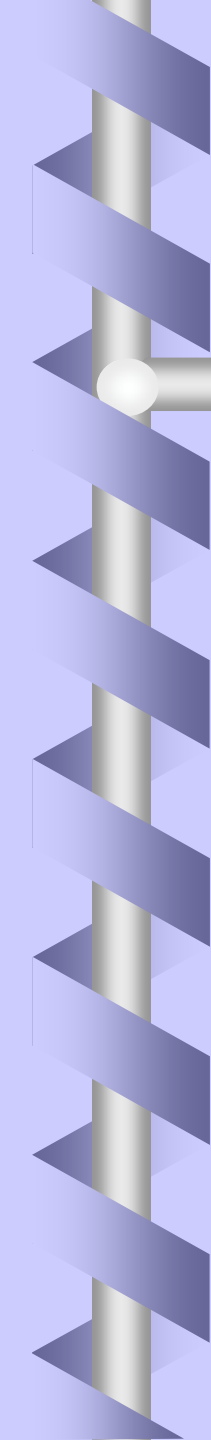




Saskatchewan Agriculture and Food

The Agricultural Operations Act

Inspection and Regulatory Management



The Agricultural Operations Act

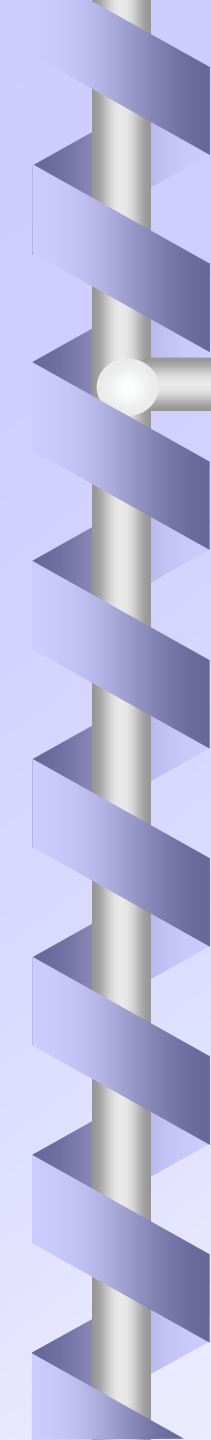
✧ **Proclaimed November 28, 1996**

✧ **Proclamation provided:**

Regulations

Appointment of the Agricultural Operations Review Board

Repeal of The Pollution (by Livestock) Control Act, 1984



Agricultural Operations Act

Intensive Livestock Provisions

- ✧ **ensure that ILO's develop and operate according to plans which protect ground and surface water**

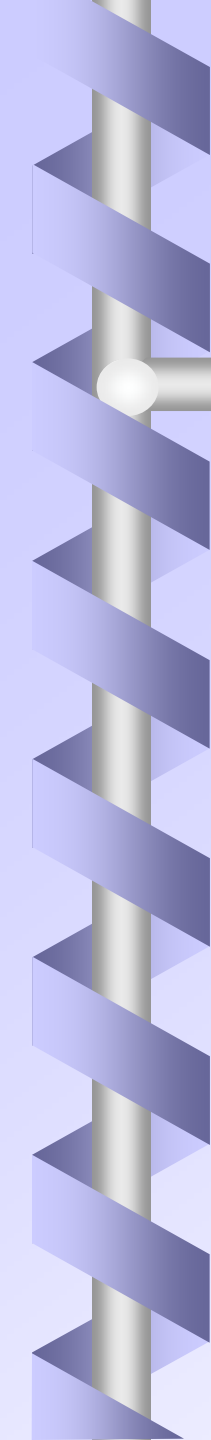
Nuisance Provisions

- ✧ **protects farmers from unwarranted nuisance lawsuits**
- ✧ **provides a mechanism for resolving disputes of nuisance**

Intensive Livestock Provisions

Deals with establishment of any new or expanding ILO

- * submit plans for approval**
- * producer follows his/her plan of how the manure will be stored and handled**



Intensive Livestock Provisions

WASTE STORAGE

- **Cattle Pen area**
- **Storage Pond**
- **Site Specific Evaluation**
- **Design based on conditions**
- **Sensitive sites may be refused**

WASTE MGT.

- **manure and dead animals**
- **use manure as a fertilizer**
- **written agreements for access to land**

Approval is required for Intensive Livestock Operations that:

- involve 300 or more animal units
- contain an earthen manure storage



An aerial photograph of a rural farmstead. The farm includes several red barns, white silos, and smaller outbuildings. There are large green fields, some with rows of crops, and a line of trees with yellowing autumn leaves. A small pond is visible near the farm buildings. A multi-lane road runs along the right side of the image, with a white car visible. The overall scene is a typical agricultural landscape.

Approvals are required for livestock operations that involve more than 20 animal units if...

- located within 300 metres of surface water not contained on operator's property; or
- within 30 metres of a domestic water well not controlled by operator.



Definitions

✧ **Animal Unit is essentially 1000 pounds of cattle, pig, chicken, horse, sheep, goats, elk, deer or bison**

✧ **Intensive Livestock Operation means confining animals to a space of less than 370 square meters per animal unit**

- **11 cows per acre**

Animal units are used in defining an intensive livestock operation.

Animal unit (AU) is a means to compare different livestock operations based on animal weight or nutrient output

1 AU = 1 cow or bull
= 1.5 feeder animals
= 2 replacement heifers
= 4 calves

Information for Waste Storage Plans

Holding ponds

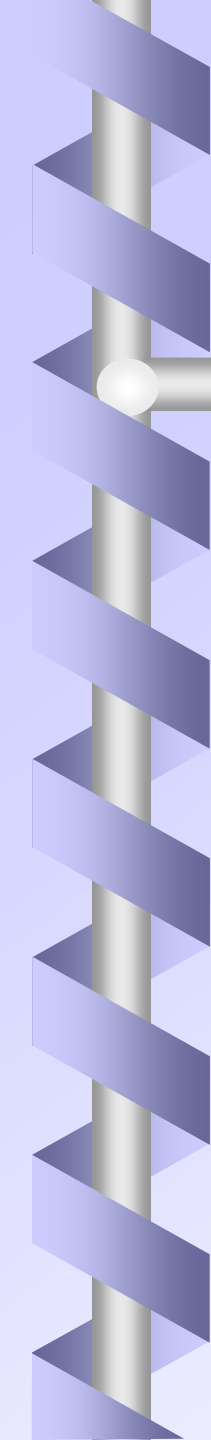
- * Location**
- * Size**
- * Groundwater Records**
- * Water Table**
- * Soils**
- * Construction Techniques**
- * Monitoring**

Typical Beef Cattle Site Investigation

- * **Prescreening - well records, topographical maps, air photos.**
- * **Test holes - minimum 1 m. below holding pond.**
 - soils analysis
 - water levels after 24 hr.
- * **Detailed site investigation may be required - consultant.**







Typical Holding Pond Design

- * Topographic survey to define runoff area.**
- * 7.5 cm(3 in.) runoff from contributing area.**
- * Shallow evaporation ponds, or**
- * Deep holding ponds for large feedlots or limited area - may require emptying.**
- * Disc and compact surface.**
- * Engineered design may be required.**
- * Monitoring wells may be required.**













Information for Waste Utilization Plan

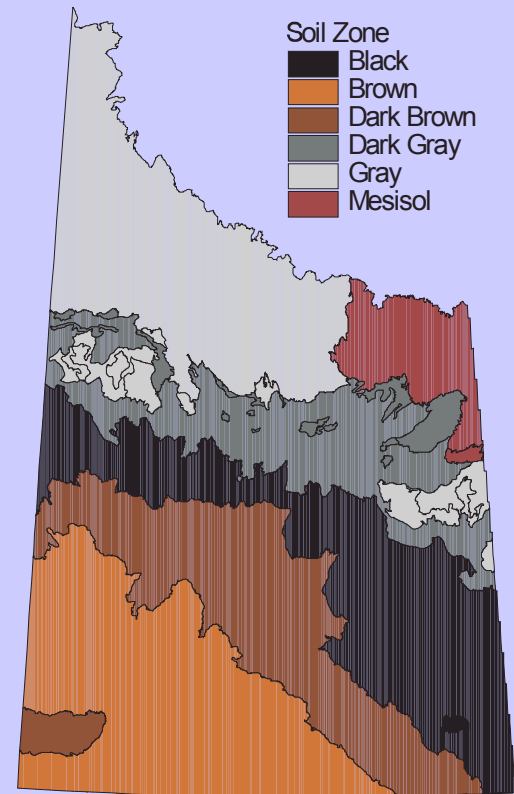
Manure Use

- * Nutrient Content**
- * Volume**
- * Method of Application**
- * Crop Nutrient Requirements**
- * Land Areas**

Manure Utilization

- **Balance nutrient application to crop use according to:**

- **Soil climatic zone**
- **Intended cropping patterns (crop rotation, continuous cropping/summer fallow)**
- **Manure nutrient content**
- **manure nutrient losses: due to application method**
- **soil tests**
- **Manure application frequency**



BMP's

- manure application to land should maintain minimum 30 m separation distance from water courses
- 300 m setback (no incorporation)
- contaminated runoff shall be contained on operator's property (feedlots and stockpile areas)









Information for Waste Utilization Plans (cont'd)

DEAD ANIMALS

- expected death loss
- interim storage procedures
- final disposal





Making Application



Regional Specialist Lead Contact

- guides preparation of application**
- forwards package to Provincial Specialist**

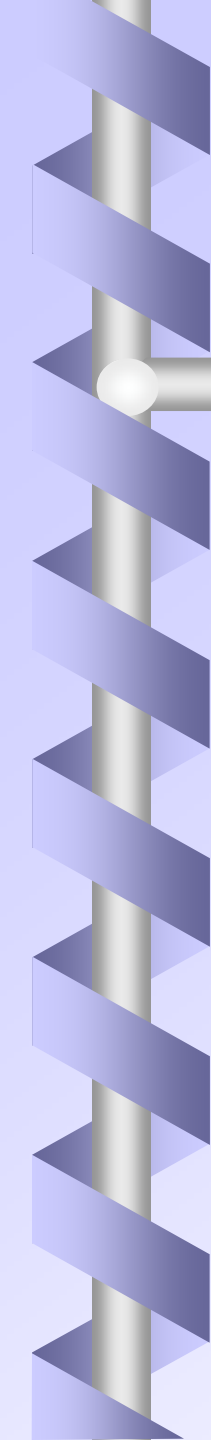


Referrals based on set triggers

- Saskatchewan Environment**
- Saskatchewan Watershed Authority**
- Rural Municipality**
- Saskatchewan Government Relations and Aboriginal Affairs**
- Saskatchewan Highways and Transportation**
- any other Agency Necessary**

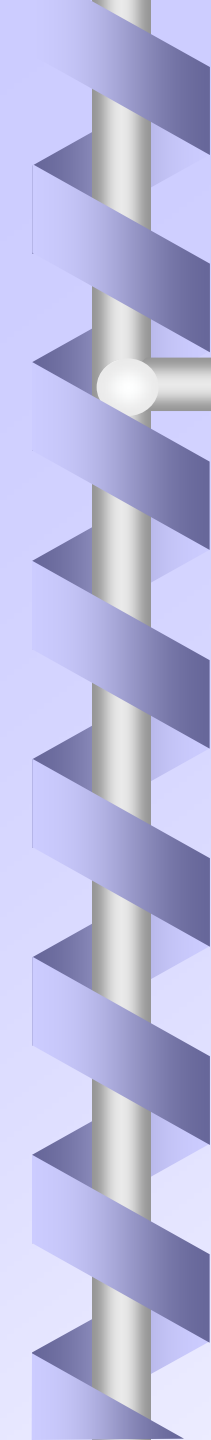
The Review

- ✧ **proximity of water resources**
- ✧ **adequacy of the geotech evaluation**
- ✧ **soil conditions**
- ✧ **adequacy of storage design**
- ✧ **adequacy of dead animal management**
- ✧ **nutrient balance of the management plan**
- ✧ **land area available for spreading**



Permits, Approvals, Licenses

- ✧ **Agriculture, Food & Rural Revitalization**
 - *The Agricultural Operations Act*
- ✧ **Saskatchewan Watershed Authority**
- ✧ **Saskatchewan Environment**
- ✧ **Highways and Transportation**
- ✧ **Municipal Government**
- ✧ **Health**
- ✧ **Local Municipality**



PFRA Assistance

- ✧ **Water Supply Development**
- ✧ **Site Survey**
- ✧ **Design for Runoff Containment**

Rural Municipalities

- ✧ **Authority for land use / siting**
 - **roughly 298 rural municipalities**
 - **about 1/2 have by laws in place**
 - **local support is critical**

Attitude!

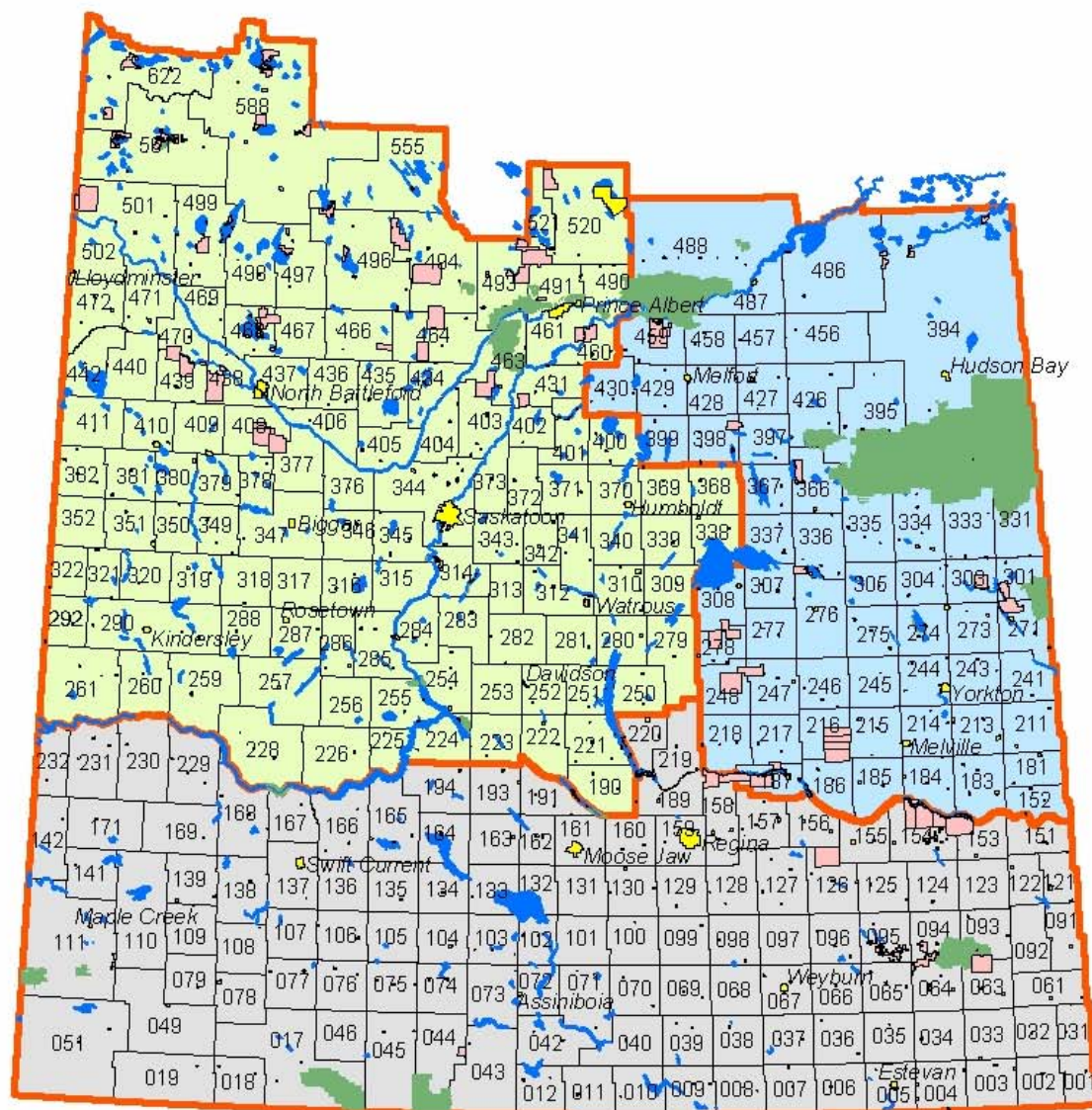


FARM FACTS

Self Evaluation
for Approval of Plans
Under *The Agricultural*
Operations Act

Produced by Saskatchewan Agriculture and Food

Agricultural Operations Regions



Agricultural Operations Regional Offices

Saskatoon:	Bill Henley	933-5095
	Ken Mcknight	933-5322
	Wendi Dehod	933-8343
Weyburn:	Randy Vopni	848-2379
	Lisa White	848-2833
Yorkton:	Brian Campbell	786-1505
	Darren Stovin	786-5835

Legend

- Cities & Towns
- Indian Reserves
- Parks
- Rivers
- Water Bodies
- Ag Ops Regional Boundaries
- Saskatoon Region
- Weyburn Region
- Yorkton Region



THANK YOU FOR YOUR ATTENTION!

**Randy Vopni
Sask. Ag., Food & Rural
Revitalization
Weyburn
Ph. (306) 848-2379**