Submission to
Saskatchewan Watershed Authority

Public Consultations on
Conserving Our Water:
A Water Conservation Plan for
Saskatchewan

Presented by
The National Farmers Union
Saskatoon, Saskatchewan
February 7, 2005

Introduction:

The National Farmers Union (NFU) welcomes this opportunity to present the views of its family farm members on the issue of water conservation. The NFU is a nation-wide, direct-membership democratic organization made up entirely of family farmers. The NFU is committed to maintaining the family farm as the primary food producing unit, strengthening rural communities and building environmentally-sound, sustainable local economies.

Water conservation is not a new issue for residents of rural Saskatchewan. Farm families know all too well that good quality, abundant, clean water is not something to be taken for granted. In many parts of this province, scarcity of good water has been a recurring problem because of the heavy reliance on unreliable and intermittent surface sources and lower-quality groundwater sources such as deep aquifers.

Water is essential to all life, and its value therefore cannot be measured solely in purely economic terms. Water plays a priceless, irreplaceable role in the ecology of the prairie region and the planet as a whole. Rather than being viewed strictly as a commodity to be traded or a resource to be exploited, water should be recognized as a part of the "global commons" – a gift of creation that is given to all who inhabit the earth. As an organization of farmers, the NFU believes that responsible stewardship of the land, water and air is a fundamental requirement for a healthy food system and a healthy society. Sacrificing long-term ecological viability for short-term financial gain is potentially disastrous in the long run. Each generation has the responsibility of ensuring that our finite water supply is not permanently withdrawn from circulation or degraded in quality.

At the NFU National Convention in December, 1998, the NFU adopted the following policy proposals for the management of water in Canada, based on the principle that water is a basic human right and not a commodity for exchange in the international marketplace:

1. No bulk exports of water;
2. Water ownership and control must remain in public hands, not in the hands of private corporations;
3. Water must not be transferred between drainage basins;
4. Clean water supplies must be enhanced by promoting conservation and protection of water resources;
5. Potable water must be protected;
6. Industrial water usage should only be permitted if comprehensive, independent studies show there will be no adverse effects on underground aquifers.

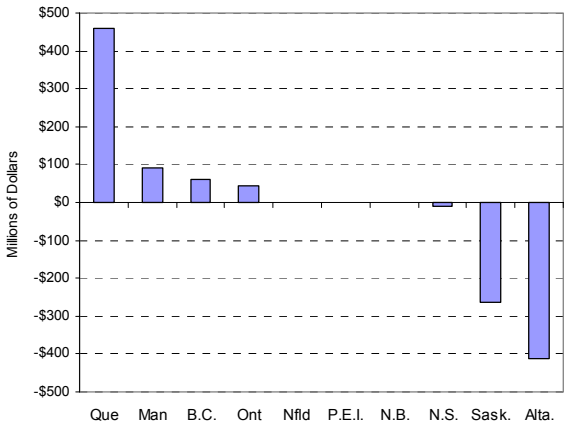
Water: A public or private resource?

While the NFU believes the issue of water conservation is important and deserving of a full round of public consultations, there is concern among our membership that the current initiative may be driven by vested interests, which are promoting industrialization of the rural areas and concentration of ownership of production and processing facilities

under the guise of "economic development". In February, 2004, the federal Agriculture Department announced over $200,000 in CARDS funding for Saskatchewan Agrivision Corporation Ltd (SAC) to conduct a study aimed at expanding irrigation, intensive livestock operations and secondary food processing in Saskatchewan through diversion of surface and groundwater resources. At that time, Agriculture Minister Bob Speller suggested "Saskatchewan uses only 3.5 percent of its available surface water," implying that water flowing through the province in the major river systems was essentially wasted. Speller added that "over the coming years, the multiple benefits of increased, efficient water usage will kick-start new value-added ventures in agriculture. As well, people across the province will learn more about their water, its use and its conservation."[1] The concern we have is that the central issue of "conservation" may be glossed over in the quest for "increased, efficient water usage" to "kick-start" privately-owned agribusiness ventures which are heavily subsidized by funds from the public treasury.

SAC has been advocating a "50-year plan" for water since 2002. SAC's 50 Year Plan, written by Graham Parsons of Clifton Associates Ltd., was unveiled at a conference November 4, 2004, entitled "Drought-proofing the economy". That conference was co-sponsored by Saskatchewan Agriculture, Food and Rural Revitalization, Agriculture and Agri-Food Canada, Western Economic Diversification Canada, Clifton Associates Ltd, and the Western Producer. Also at the conference, the formation of an official-sounding "Saskatchewan Water Council" was announced with SAC President Red Williams proclaiming Wayne Clifton as the Council's Chairman. Many conference speakers pointed to southern Alberta's massive irrigation development and highly-concentrated feedlot sector as examples of what can be done in Saskatchewan.

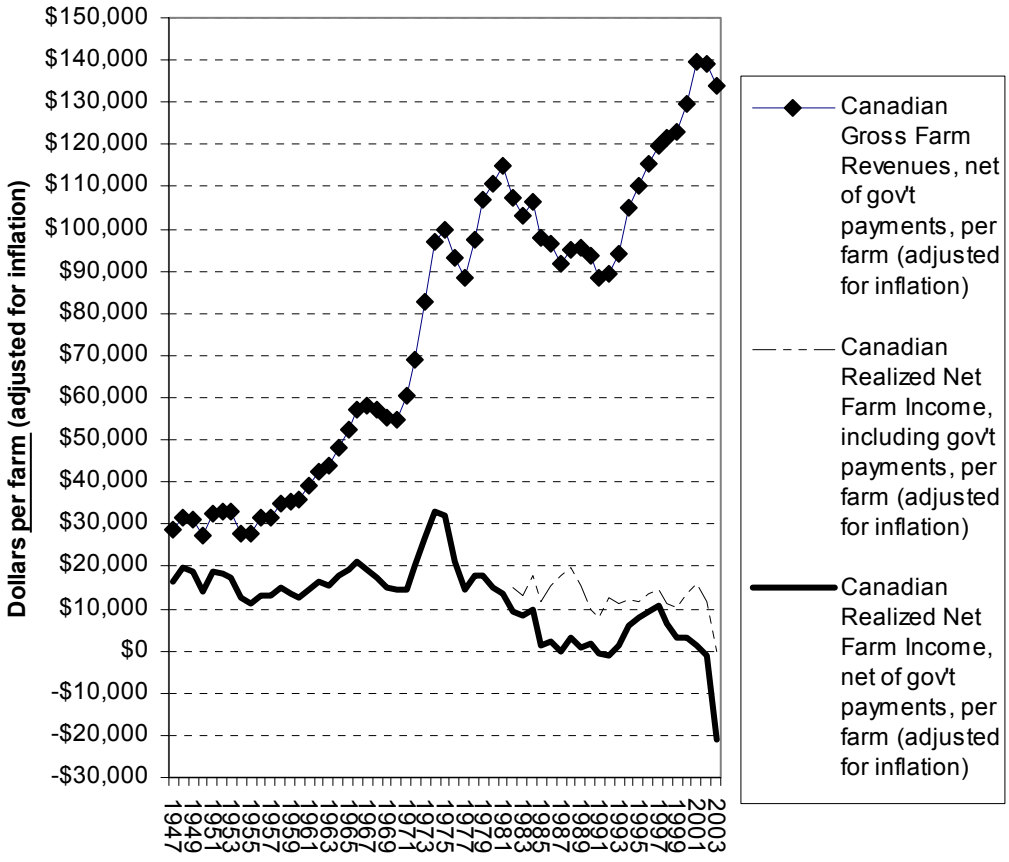
But has the intense capitalization in so-called "value-added" industries created prosperity in rural Alberta? The most recent figures on realized net farm income from Statistics Canada reveal that, far from achieving prosperity or even stability, Alberta's farmers are suffering the worst farm income crisis in history.



2003 Realized Net Farm Income by Province (Source: Statistics Canada)

[1] "50-Year Water Plan Project Ready to Begin,", Agriculture and Agri-Food Canada news release, issued from Regina, SK, February 23, 2004.

Southern Alberta's "Feedlot Alley" is reeling from the effects of depressed livestock prices created in part by the closure of the US border to exports of live cattle under thirty months in May, 2003. The volatility in the sector, however, is also attributable to manipulation of market prices through contracting of supplies by Tyson and Cargill. These two giant US-owned packing plants were instrumental in squeezing out independent packers until they gained a monopoly position in the market. The Alberta Government, which pursued a strategy similar to that advocated by SAC now in Saskatchewan, was instrumental in providing incentives to these companies over the past two decades. The strategy of promoting "value-added" processing industries, at the expense of farmers who provide cheap raw materials to make those value-added industries profitable, is a strategy that can only perpetuate the fundamental crisis in rural areas. The problem is not that there is a *lack* of production, or *inefficient* production, which requires injections of outside capital from investors to "kick-start" the economy. There is already a massive amount of wealth created in rural communities. Gross farm income, an indicator of both the high level of efficiency of farmers as well as the amount of wealth produced by farmers, is at near-record levels. However, realized net farm income is at record low levels. The average farm last year lost between $20,000 and $30,000. Clearly, the problem is that this wealth is expropriated by input suppliers, processors, wholesalers, transportation companies, and retailers.



2003 Canadian Gross and Realized Net Farm Income per average farm (Source: StatsCan)

The 50 Year Plan put forward by SAC Ltd. is neither "visionary" nor original. It borrows heavily from a 1985 report by Abrahamson and Ireland, which identified 1.5 million hectares of irrigable land in Saskatchewan. The 1985 study recommended diverting water from the North Saskatchewan River to Lake Diefenbaker; a recommendation echoed by the SAC report.

The SAC report goes further, however, by advocating construction of up to two dozen dams and reservoirs on waterways across the province. Among the largest of the dams to be constructed would be the Highgate Dam on the North Saskatchewan River and the Meridian Dam on the South Saskatchewan River. The Highgate Dam would flood 90,000 acres, with questionable benefits. A study in 2002 by the Alberta and Saskatchewan governments has already concluded the Meridian Dam would cost about $5 billion in construction costs for the dam itself, irrigation infrastructure and highways, bridges, roads and oil wells. The report also concluded that the best return on investment expected from that dam would be 33 cents on the dollar.[2]

The SAC recommendations include wholesale expansion of irrigation to 10% of the arable land in the province, and massive injections of public funds to build the infrastructure to service dozens of large-scale intensive livestock operations and vegetable processing facilities. The SAC report demands a ten-year commitment of $300 million from the provincial and federal governments to "create a $475 million program cost-shared with the private sector and municipalities." However, when public funds from the universities and municipalities are factored in, the actual private-sector share would amount to only $75 million of the total budget expenditures.

The other key recommendation in the SAC proposal is that all stakeholders, including farmers and taxpayers, be sold on the idea that a great deal of public money must be spent "to assist in the efficient use and allocation of existing water supplies and the consideration of new water related development opportunities including the CWDCs (Comprehensive Water Development Corporations), storage development, water rights trading and strengthened irrigation agencies."[3]

The SAC Report proposes to "maximize the wealth from the waters flowing through Saskatchewan" not only by means of water diversions aimed at creating irrigation and processing investment opportunities, but also by **creating a speculative market for trading water rights**. "In many parts of the world, water is being rationed, prices and markets are developing in water rights to improve efficiencies in the use of water."[4]

The creation of a privately-traded market in water rights represents a threat to the public's right to freely access water. This development, touted as a method for enhancing

[2] "North Sask. Dam proposed", Brian Zinchuk, Western Producer, April 29, 2004.
[3] "Water Wealth: A 50 year water development plan for Saskatchewan, Executive Summary, page iii, Clifton Associates Ltd. November 4, 2004.
[4] "Water Wealth: A 50 year water development plan for Saskatchewan, Executive Summary, page i, Clifton Associates Ltd., November 4, 2004

conservation by limiting waste, will instead create waste and increase costs by adding a layer of speculation to the water delivery system.

The creation of a market in water rights will inevitably lead to public-private partnerships as municipal governments enter into deals with private water-rights holders. In other countries where this trend has occurred, the outcome has been higher user fees, a reduction in public accountability, and declines in service.

Declining water flow at the source

Conservation is the key to ensuring Saskatchewan's long-term water future. In the long run, the sources of water which feed the central plains area are declining, and a strategy of steadily-increasing withdrawals cannot be sustainable.

While Saskatchewan is noted for its large number of fresh water lakes in the north, the majority of the population relies heavily on a limited number of surface water drainage basins. The Saskatchewan River system, in particular, accounts for almost all the water destined for domestic, agricultural and industrial use. In rural Saskatchewan, residents and municipalities tap into underground aquifers to draw necessary supplies.

Saskatchewan's water supplies are not limitless. Deep aquifers are created as a result of seepage of water over long periods of time, and significant drawdowns for large industrial or agricultural projects may render them incapable of recharging to full capacity. The likelihood of global climate change also poses a double threat to Saskatchewan's surface water drainage basins. Anticipated droughts would mean less rainfall for the Churchill River system that relies on rainfall and snowpack in northern Saskatchewan. The Saskatchewan River system would be affected not only by reduced snowpacks on the eastern slope of the Rockies, but also by the shrinking glaciers in the Columbia Icefields, the main sources of water that supply the rivers. According to Dr. David Schindler, a professor of biological science at the University of Alberta, the global warming trend is causing the glaciers in the Rockies to recede rapidly, with some disappearing completely by 2050.[5] The water flow at the delta of the Saskatchewan River is less than one-fifth of what it was a hundred years ago,[6] a factor which has contributed to the decline in water quality of Lake Winnipeg, one of the largest freshwater lakes in the world. Lower water flow leads to less dilution of nutrients such as phosphorus and nitrogen, which in turn leads to increasing "eutrophication" or buildup of algal toxins.

In addition to the environmental causes leading to declining water flows, there are also increasing demands from Alberta's industrial, oil and gas, intensive livestock and large-scale irrigation operations. The Alberta oil industry injects an estimated 278 billion litres of fresh water every year into the ground to recover oil from underground reservoirs.[7] It takes roughly one barrel of water to get a barrel of oil out of the ground, and the oil

[5] "Agribusiness Drawing Down the Water", Union Farmer Quarterly, published by the National Farmers Union, Summer, 2004
[6] "Agribusiness Drawing Down the Water", Union Farmer Quarterly, Summer, 2004
[7] "Oil and Water Don't Mix", Union Farmer Quarterly, Summer, 2004

companies in Alberta use an estimated 100 barrels a day, or 3 gallons a minute, every day of the year. This water is never replaced in the hydrologic cycle. It cannot evaporate or fall as rain. It is taken completely out of the equation. The Alberta Government, through the Energy and Utilities Board (EUB) regulates water allocations to the oil companies, but it does not charge for the water that is wasted in this manner. Groundwater contamination from this practice, and from the failure of the oil and gas companies to properly seal coalbed methane (CBM) wells and abandoned wells, has permanently ruined many aquifers throughout Alberta.

In addition to the large number of wellsites, the increasing number of roads for energy exploration and the extension of energy pipelines is having a profound effect on water drainage patterns across Alberta. The loss of over half the native grasslands in Alberta and the re-routing of surface drainage through culverts into rivers and streams means groundwater aquifers are not being recharged, and there is an increased burden of nitrogen, phosphorus and other chemicals carried downstream into Saskatchewan.[8]

Saskatchewan is moving toward increased oil and gas exploration, but not enough is being done to protect the environment, particularly underground water sources. Between 1995 and 2002, the amount of land disturbed by wellpads in the province increased by 41%.[9] Saskatchewan also collects considerably less in royalties than other jurisdictions such as Norway and Alaska. Additional royalties could be used to bolster the resources of the Department of the Environment in the province.

The lack of information on the effects of withdrawals of groundwater from aquifers in Saskatchewan was recently underlined in dramatic fashion when residents of the Vanscoy/Grandora area west of Saskatoon experienced sudden and dramatic drops in well-water levels. Many residents also reported contamination of their wells as a result of the withdrawal of millions of litres of water by TransGas Pipelines to create underground storage caverns for natural gas.

There is also a serious lack of knowledge about the long-term consequences of surface water diversion on underground aquifers. Natural floods in the past have played a significant role in recharging groundwater. The provincial government no longer collects data on aquifer water levels.

The NFU recommends that the Saskatchewan Government initiate a thorough, ongoing compilation of data on the province's underground aquifers to monitor and protect this important source of groundwater from contamination due to oil and gas activity in Saskatchewan.

Intensive livestock operations

The rapidly increasing number of large intensive livestock operations, encouraged by this provincial government, raises serious concerns about both the quality and quantity of

[8] "Alberta's wealth has environmental cost", Barbara Duckworth, The Western Producer, February 2, 2005
[9] "Taxpayers missing out on oil and gas revenues", Pembina Institute News Release, August 17, 2004.

water resources. Not only are large amounts of water required for an intensive hog operation, for example, but the dangers of water pollution from spills, leaks from manure holding lagoons and surface runoff and leaching from liquid manure are very real.

A 5,000 sow hog operation requires a minimum of 100 million gallons per year, and a 20,500 head feedlot requires a minimum of 75 million gallons annually. The actual usage on these operations is not metered. Water quality for hogs must be almost as high as that required for people. Because hog operations do not treat water themselves, the same high quality water which is used for watering the hogs is also used for liquefying the manure waste and flushing it out. In this manner, millions of gallons of excellent water are converted into contaminated waste. This large amount of liquid manure waste can potentially pollute watersheds through the leaching of nitrogen and phosphorus into both ground and surface waters. Eutrophication of surface waters from phosphorus and nitrogen can create long-term ecological disasters, such as that which is occurring in Lake Winnipeg at the present time.

Pouring provincial money into infrastructure for intensive livestock operations in the hope that this will create economic stability and long-term prosperity goes against the evidence gained from past experience. Large-scale hog barns owned by Saskatchewan Wheat Pool, Premium Pork and Community Pork Ventures have all ended up in bankruptcy or are currently staving off creditors. Despite long-term, country-wide industrial pork overproduction due to governments promoting such ventures, prices have remained well below costs of production for many years. Intensive feedlots, as mentioned earlier, are also in serious financial difficulty.

Rather than promote intensive livestock operations, the provincial government should be promoting smaller-scale, family farm production using more environmentally-sustainable production methods. Because they are widely dispersed, family farm livestock production allows a mixture of crops and livestock with appropriate crop rotations. There is no need to liquefy manure in these smaller operations. Instead, dry manure or composting of manure can be used, thereby preventing run-off of liquid nitrogen and phosphorus. Most importantly, the family farm's ability to raise livestock on pasture land allows the land itself to resist erosion through year-round grass cover.

Intensive, large-scale irrigation

Large-scale irrigation, fed by an infrastructure costing hundreds of millions of dollars, is seen by many advocates as the best method for "drought-proofing" Saskatchewan and ensuring annual productivity increases in major field crops and vegetables. The irrigation, they claim, would boost vegetable acreage and create a steady supply of raw product for processing plants, which would also use copious amounts of fresh water. Proponents point to the massive acreage covered by large-scale irrigation projects in southern Alberta as evidence that Saskatchewan has lagged behind in value-added ventures.

But is large-scale irrigation the panacea for farmers confronted with low commodity prices as well as periodic droughts? Will massive amounts of public investment in

secondary processing plants pay off for the province? Again, past experience casts doubt on these assumptions.

Manitoba potato producers invested heavily in irrigation and expanded potato acreage over the past few years in an effort to supply McCain and Simplot processing plants in Carberry and Portage la Prairie respectively. This spring, however, potato farmers are facing a 20% reduction in contract volumes, and 115 workers at the McCain plant in Carberry are losing their jobs after the company announced it was closing a production line at the Carberry plant. The potato acreage is being cut back by 12,000 acres. At its peak, potato production in Manitoba two years ago was 103,000 acres. Since then, acreage has been scaled back by 20%.[10] The past two years have seen considerable consolidation in the sector; growers are quitting because of low returns, and Midwest Foods (a partnership between Nestle and Simplot) was bought out by McCain. Is it realistic to expect that Saskatchewan farmers will be able to supply potatoes cheaper than Manitoba growers? And is expanded production at lower prices the answer to declining farm income? Common sense, and the statistics cited earlier, suggest otherwise.

Relatively small-scale irrigation on low-lying land with ideal soil conditions, raising specialized fruit and vegetable crops for niche markets, or for producing hay and other forage crops on family farms, can be a useful and worthwhile endeavour in many instances. But in the end, irrigation farming depends on economics and the ready availability of large quantities of water. If massive amounts of public funds are needed to construct an infrastructure to bring water to marginal land, the long-term damage to the soil could far outweigh any benefits. A recent study showed that the vast majority of Saskatchewan's soils are not suited to irrigation. Only 49,773 hectares are rated "excellent" for the purposes of irrigation, while 4,877,405 hectares are rated "good".[11] According to the PFRA, "Areas rated as excellent or good are for the most part irrigable; fair areas are marginally suited to irrigation, and proper management would be required to reduce the risk of these soils being adversely affected by irrigation waters. In addition, "irrigation suitability ratings do not take economics, agronomy, water availability and quality or climate into consideration."[12] Even in the Lake Diefenbaker area, where irrigation is most developed, fully 68% of the irrigated acreage is on land which is rated as less than ideal for the purpose.[13]

The potential for increases in salinity for soils subject to repeated and extensive irrigation has never been fully studied in Saskatchewan. When the Gardiner Dam project was originally debated in Saskatchewan in the 1960s, many soil scientists at the University of Saskatchewan were skeptical of the soil's capacity to withstanding the upward leeching of salts due to evaporation. A study was undertaken on the university grounds where the

[10] "Potato sector reeling from cutbacks", Laura Rance, Farmers Independent Weekly, January 27, 2005
[11] "The Potential For Irrigation Expansion in Western Canada" by Terry Hoppe, Resource Analyst, Agriculture and Agri-Food Canada, PFRA, March 6, 2003. www.agr.gc.ca/pfra/pub/irrexpan.htm
[12] "The Potential For Irrigation Expansion in Western Canada", ibid.
[13] "Potential for Irrigation Expansion in Western Canada, Terry Hoppe, PFRA, ibid

soil composition was similar to the lands around Lake Diefenbaker, but the project was never completed because the test plots were paved over.[14]

Small-scale irrigation does not require massive earthen dams, many hundreds of kilometers of pipelines and large pumping stations. Individual family farms near easily accessible sources are able to draw sufficient amounts of water without upsetting the ecological balance of the land.

The viability of large-scale irrigation, however, even if low-pressure, efficient technologies are employed wherever possible, is only possible if huge public subsidies are forthcoming to offset the infrastructure costs. The beneficiaries of these large mega-projects are most likely to be shareholders of private companies involved in construction and possible trading of water rights. The history of the irrigation infrastructure in southern Alberta is instructive in this regard,[15] as the financial speculations of Sir Alexander Galt, combined with his political connections, allowed him to use millions of dollars in public money to finance a considerable railway, coal-mining and agricultural empire.[16]

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[14] Oral conversation with Red Williams during SAC meeting in Outlook, March 29, 2004

[15] It began in 1882, when the North Western Coal and Navigation Company based out of England and headed by Sir Alexander Galt established coal mines at present-day Lethbridge. Galt lobbied the federal government to amend the Federal Land Act and was subsequently given 965 hectares per kilometer to construct a 177-kilometre narrow gauge railway to connect to the CPR main line at Medicine Hat. He was given an additional land grant (644 hectares per kilometer) to rebuild the same track to standard gauge. Galt got yet another land grant from the government to the tune of 1610 hectares per kilometer to build another railway to link up to smelters in Montana. In the end, Galt accumulated nearly 400,000 hectares of land for constructing two railways which were necessary to make his coal mines profitable. Galt flipped some of the land he received from the federal government to the Mormon Church in 1886 in a deal with C.A. Card, a Mormon leader from Logan, Utah. The deal hinged on the importation of Mormon settlers to bring irrigation to 75% of Galt's land holdings. The Mormon church agreed to buy nearly 4,000 hectares of land and to rent a further 291,400 hectares for five cents per hectare annually. But Galt's company was unwilling or unable to furnish the capital to complete the irrigation works, so the federal government picked up the tab. William Pearce, federal Superintendent of Mines for the government, pushed through the Northwest Irrigation Act in 1894. Under this act, government survey crews drew up plans for the construction of irrigation works to service lands settled by the Mormons, by diverting water from the St. Mary River. Construction started in 1896 under the auspices of the Canadian North-West Irrigation Company. Another Galt-owned railway was completed in 1902, and two years later, the irrigation company and the railway company merged to create the Alberta Railway and Irrigation Company. In 1912, the CPR bought this company out, effectively gaining control of the vast irrigation works in southern Alberta. Not surprisingly, the CPR failed to perform routine maintenance on the irrigation facilities, and by 1946, they were considered obsolete. The CPR paid the Alberta government $100,000 to take the whole thing off its hands. The St. Mary's Dam was built in 1948 by the province with some assistance from the federal government.

[16] Galt was born in England in 1817 and emigrated to Canada in 1835 when his father, John Galt, became Commissioner of the Canada Land Company and a member of the Family Compact in Upper Canada. Alexander Galt himself soon became commissioner of a similar land company in Lower Canada. In 1858, he was chosen minister of finance of Upper and Lower Canada, and after Confederation in 1867, he became Canada's first Minister of Finance. He was Chief Commissioner of the British American Land company and President of the St. Lawrence and Atlantic Railway. After a stint as Canada's first High Commissioner to London, he returned to Canada and set up the coal mining company in Lethbridge.

Conclusion:

The National Farmers Union believes that water plays a priceless, irreplaceable role in the ecology of the prairie region and the planet as a whole. Rather than being viewed strictly as a commodity to be traded or a resource to be exploited, water should be recognized as a part of the "global commons" – a gift of creation that is given to all who inhabit the earth. As an organization of farmers, the NFU believes that responsible stewardship of the land, water and air is a fundamental requirement for a healthy food system and a healthy society. Sacrificing long-term ecological viability for short-term financial gain is potentially disastrous in the long run. Each generation has the responsibility of ensuring that our finite water supply is not permanently withdrawn from circulation or degraded in quality.

The NFU recommends that Saskatchewan adopt a water strategy that is based on a family farm system of food production, and reject a policy of industrialized food production involving intensive livestock operations and inappropriate large-scale irrigation based on massive water diversions. We also recommend the Saskatchewan government recognize the limitations of the surface and groundwater supplies in our province and take increased measures to enhance conservation.

All of which is respectfully submitted
By the
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February 7, 2005
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