

Water Dispatch

water information and commentary

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WID photo

Economic Study Confirms Irrigation Yields Strong Return on Investment

The Alberta Irrigation Projects Association (AIPA) recognizes the importance of exploring the overall economic effect of irrigation in Alberta. In a year like this year, with low rainfall through the greater part of the growing season, it is easy to see the benefits of irrigation. It is also important to examine exactly how the investment made by individual farmers, irrigation districts and the government is returned in terms of dollars. The AIPA commissioned a study to look at exactly that, and the results are in.

Some of the findings include:

- About \$3.6 billion was contributed annually to Alberta's Gross Domestic Product (GDP) by the irrigation industry.
- For every \$1 in irrigation sales, the total GDP increased by \$2.54 and labour income by \$1.64.
- Every \$1 million in irrigation sales increases total employment by 39 jobs.
- Every cubic meter of water delivered generates \$3.00 to the provincial GDP and \$2.00 in labour income.
- Every \$1 invested by the Government of Alberta in irrigation generates \$3.00 in added revenue.

- Irrigation sales are about \$2,400/ha compared to \$329/ha for dryland production.
- Sales of irrigation crop and livestock products generated \$1.7 billion annually to the Alberta GDP.
- Processing of irrigation-related products also generated almost \$1.7 billion to the Alberta GDP.
- Irrigation generated about \$1.3 billion annually to the Governments of Alberta and Canada, with revenues always exceeding expenditures.
- Irrigation water and infrastructure used for non-irrigation purposes generated an additional \$85 million to the provincial GDP and \$71 million in labour income. Examples include recreation, drought mitigation and hydropower.

Some benefits are hard to measure in terms of dollars and cents, but they undoubtedly increase value to the regions in which irrigation districts operate. For example, there has been over 32000 hectares of habitat development for wildlife populations and increasing biodiversity. Also, long term drought mitigation and management provides benefits to many communities, and improves security going forward in a time where droughts may increase in frequency, duration and intensity. *Continues on page 3*

2001 & 2015 Compared: A Look at two Dry Growing Seasons

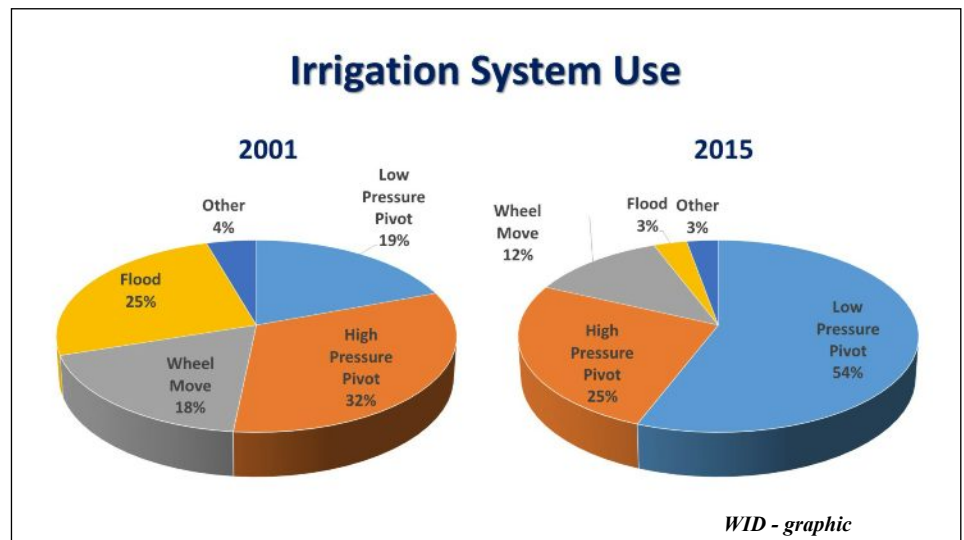
2001 and 2015 were two extremely dry growing seasons in recent history. When we compare the two years, 2015 saw lower rainfall levels in the growing season than 2001, and yet 2015's water usage was lower. The WID and its water users have made many improvements to their systems over the past 15 years. The increase in water efficiency shows how the improvements are paying off.

"For most of the 2015 growing season, there was less precipitation than there was in 2001," WID General Manager, Erwin Braun explained. "Yet we diverted 25000 acre feet less water in 2015 than we did in 2001." There are a two main reasons for this difference. One is the changes farmers have made to their equipment, the other is improvements the WID has made to its water delivery systems.

"The water users are a big part of ensuring we have efficient water use in our District, and their investments make a huge difference," Braun said. In 2001, only 20% of the irrigation in the WID was done using low pressure pivots. By 2015, that had increased to 54%. In that same time period, flood irrigation went down from 25% to 3%. This type of improvement means less water needs to be diverted to irrigate the same amount of land.

The WID has also made a significant effort to increase water use efficiency. "We've rebuilt a lot of the canals. They're now lined, don't leak, and we can provide a lot more of the water we divert to the farmer," Braun explained. "We've also converted a lot of canals to pipeline, and those are a lot more efficient. They don't leak, there's no evaporation, there's no seepage. All of the water in the pipeline goes right to the farm."

In 2001, the WID had just 67km of pipeline, and in 2015 that has increased to 333km. The rehabilitated lined canals have increased greatly as well. "As a result, when we compare these two years we are a lot more drought resilient," said Braun. "That's a good thing."



Greater Funding Available Through Growing Forward 2

The Alberta Government announced changes to the Irrigation Efficiency Program under the Growing Forward 2 initiative. Under the program, irrigators who purchase new equipment to improve their on-farm efficiency may be eligible for 40% reimbursement of their costs.

Changes include:

- Maximum reimbursement increased from \$5000 to \$15000 for upgrade from gravity or side-wheel system to a new low pressure pivot system.
- Irrigators may apply for one grant payment per year, increased from once during the five-year program.
- This program covers upgrades to existing systems, and not purchasers for irrigation expansion.

Some of the eligible upgrades are:

- Purchase of low pressure center pivots.
- Adapting high pressure center pivot systems to low pressure.
- Making upgrades to pumps.
- Adding controllers and software to allow for variable rate irrigation.

Low pressure pivots are currently the most efficient on-farm system, with about 85-98% application efficiency. They also save their users time and energy, making them a valuable investment for water users. Contact the WID for more information.

Full details of this program are available at www.growingforward.alberta.ca

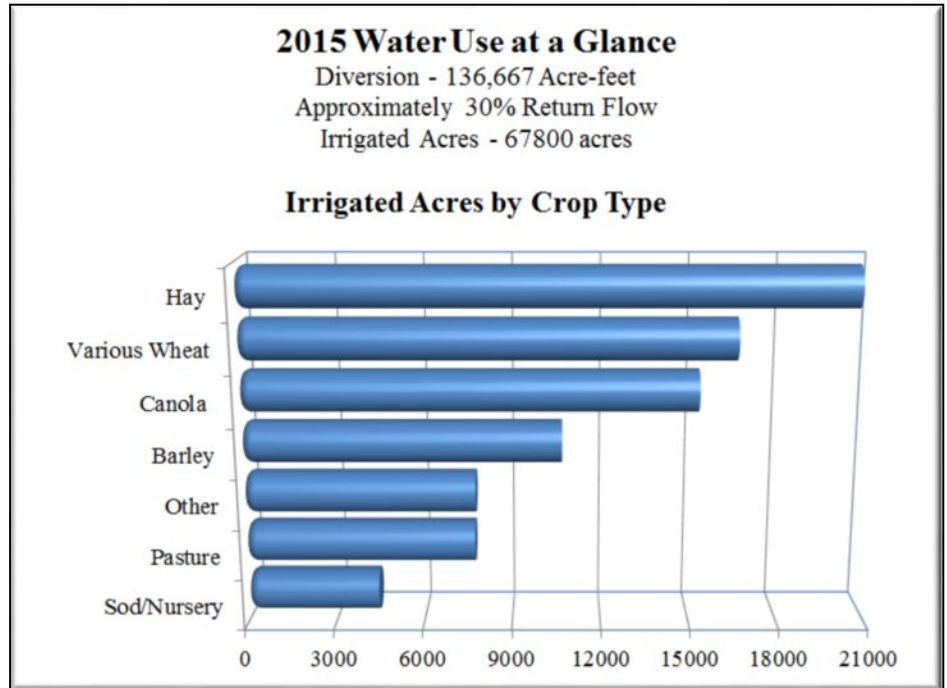
Langdon Reservoir Expansion Perfectly Timed to Aid with High Water Demands in a Challenging Season

From the 16th of April straight through to the middle of August, the WID's staff was hopping, ensuring that water was available for water users. The dry summer meant that water use was high, and minimal snow pack meant that the Bow River was low. Those factors combined to present challenges in ensuring steady water supply to everyone in need.

Last winter, the WID expanded the Langdon Reservoir to twice its volume. This was its first season after the expansion, and it couldn't have been better timed. The low snowpack and rainfall led to very high demand on stored water. WID's Water Master, Brian Sander explained, "Langdon reservoir was really valuable this year. To have that bonus bank of water sitting was a real asset to the district for sure."

The water levels in the Langdon Reservoir got down to just below the original fill point. Since the volume doubled with the recent expansion, the reservoir could have been drained if it had been at its original levels.

Despite the challenges, all water users received the water they required.



***The Langdon Reservoir capacity was doubled last winter to 12000 acre/feet.
This provides increased drought insurance for the District.***

Economic Study Continued from Page 1

"We know that we need to continue to improve on our infrastructure – that rehabilitation work must continue, but we also want to show that it's a good investment," WID's General Manager, Erwin Braun said, noting that these numbers strengthen the argument for more investment into irrigation going forward.

"More and more people don't know about irrigation – about the good things we're doing. By releasing this study and allowing the press to share the story, it helps to educate people," Braun explained. "I think it's good for our water users to know as well. They are in an industry that is benefiting the local economy, as well as the overall economy in Alberta."

The full study, *Economic Value of Irrigation in Alberta*, completed by Paterson Earth & Water Consulting Ltd, is available at www.aipa.ca

WID Moving Ahead of Rehabilitation Timeline this Winter

The mild fall weather combined with lower material and labour costs has the WID optimistic about the upcoming construction season. WID workers are putting in 13km of pipeline in the Standard area, and contractors are rehabilitating 9km of C canal.

The pipeline will offer a huge increase in water efficiency over the existing ditches. The new pipeline means there will be decreased water loss and quicker response times when any change to the water supply is required.

Jeremy Hemsing, Manager of Operations and Maintenance spoke of the new pipeline, “I think it’s one that the water users in that area have been looking forward to for a long time. I think they’ll be very pleased with the final product when it’s all said and done. We should gain a lot of efficiency.”

The WID is also continuing with the rehabilitation of C Canal near Keoma. With the old canals, this area lost a lot of water due to seepage in the sandy soil. Contractors have been hired to put in 9km of gravel buried polyethylene liner.

This project starts at Range Road 265 and was initially planned to entail replacing only 6km. “The original plan was just to go to our Salt Lake Spillway, but when we put the project out for tender, we were offered very competitive pricing. We extended our contract 3km further to Range Road 262,” Hemsing explained.

The WID is very pleased to be able to move ahead of the rehabilitation schedule during this time of lower construction costs.



WID crews bore under Highway 561 to install pipeline - WID photo



C Canal undergoing preparation for liner installation - WID photo

Investment in system upgrades conserves water, but has other benefits as well. The rehabilitation of Secondary A Canal resulted in an 8 hour decrease in delivery time to the end of the system.

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