



Eastern Irrigation District

*More Than Just
Water*

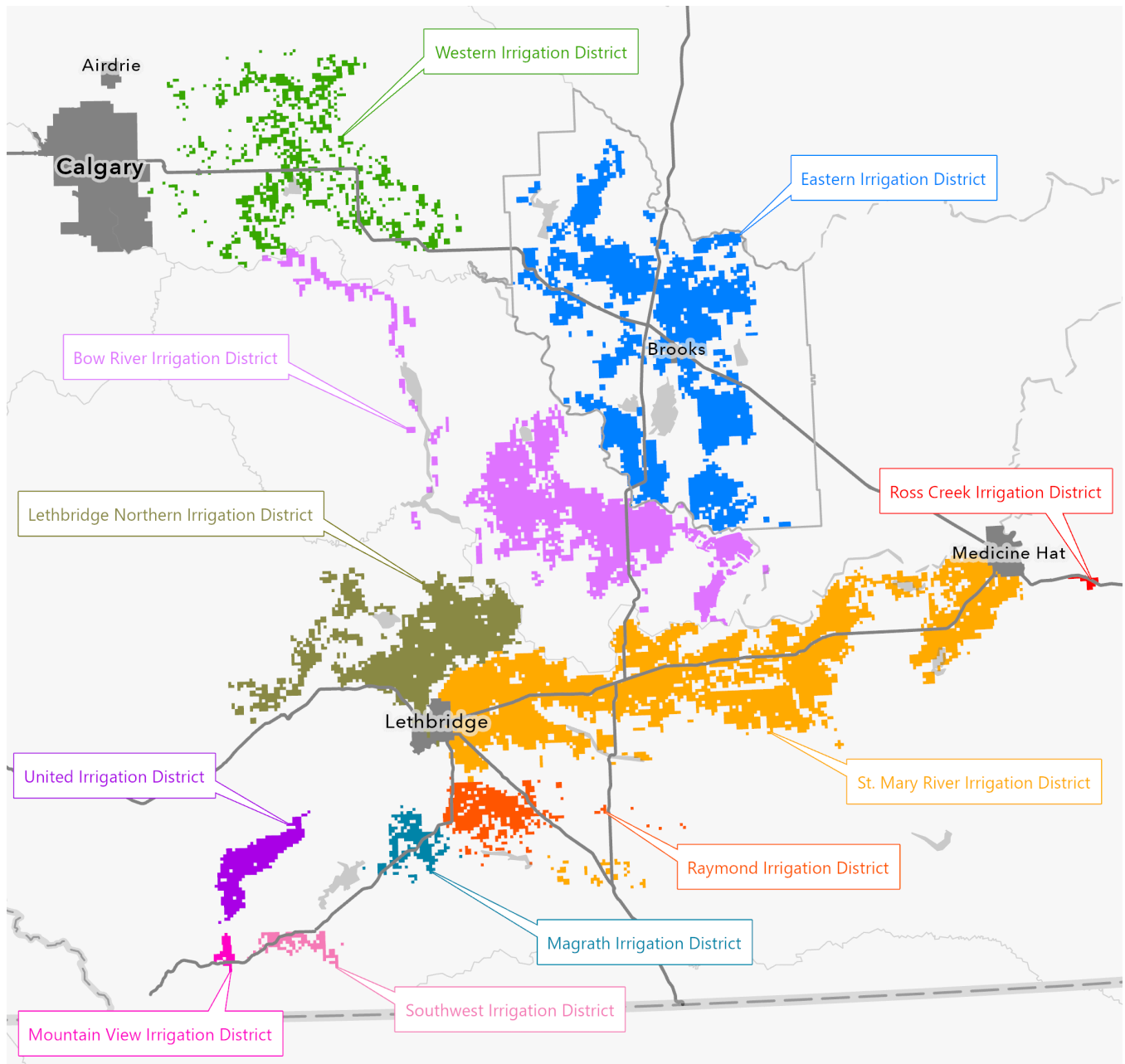


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About



Map of Alberta Irrigation Districts

(Government of Alberta, Esri Canada, Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, NRCan, Parks Canada)

The Eastern Irrigation District (EID), one of 11 irrigation districts in southern Alberta, operates under the authority of the Irrigation Districts Act (RSA 2000 c. I-11).

It is also governed by the Water Act (RSA 2000, c. W-3) which, through licenses issued, authorizes the District to divert and use water from the Bow River at the Bassano Dam.

The EID encompasses an area of 600,000 ha (1.5 million ac) and is bounded by the Red Deer River to the northeast and the Bow River to the southwest.

The District's primary business is the management of an extensive raw water distribution network in support of irrigated agriculture.

In addition to conveying raw water to over 129,500 ha (320,000 ac) of irrigated farmland owned by private families and corporations, the EID also conveys raw water through its distribution network to benefit municipal, industrial, wildlife habitat, and recreational purposes.

The EID is governed by a Board of 7 Directors elected by and from the approximate 900 irrigators of the District. The Board of Directors set policy and bylaws and give direction to management and staff. The EID is managed on a day-to-day and year-round basis by a professional staff of approximately 75 individuals, being assisted by seasonal staff in summer.



History

In 1903, the Dominion Government of Canada approved a 1,214,000 ha (3,000,000 ac) land grant to the Canadian Pacific Railway Company Ltd (CPR) as the final compensation package for the construction of the Trans-Continental Railway. The area now known as the Eastern Irrigation District (EID) was part of this land grant and was referred to by the CPR as the Eastern Section lands. The CPR welcomed the land transfer but felt settlement of the Eastern Section lands would be challenging because of the lack of precipitation in this area, known as the Palliser Triangle.

The CPR believed the actual value of the land granted to them was less than the value calculated by the Dominion of Canada for payment. To add value to the land grant, the CPR convinced the Dominion of Canada to allow development of an irrigation conveyance system on the Eastern Section lands. The proposed headworks of the irrigation system, to be located on the Bow River, would divert water into a network of canals to supplement precipitation and assist in the production of crops in the Eastern Section lands.

The CPR began construction of the Bassano Dam on May 10, 1910. This dam would serve as the diversion works required to bring water from the Bow River onto the plains region to allow for irrigated farming. In addition to building the Bassano Dam, the CPR constructed an elaborate network of canals, flumes, syphons, drains, reservoirs, and spillways. Much of the original construction was completed in just 4 years.

For close to 20 years the CPR owned and operated the irrigation conveyance infrastructure. Their ownership of the system coincided with the economic depression and drought of the late



Bassano Dam, October 1911

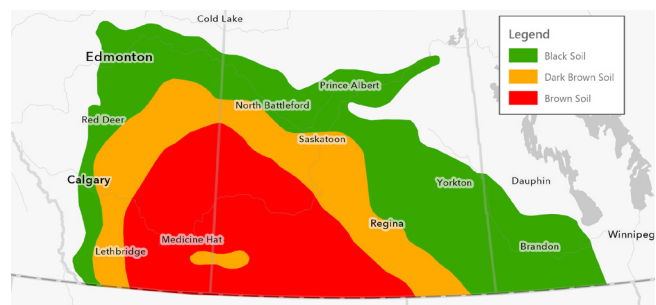
1920s and 1930s. Plunging commodity prices resulted in many landowners being unable to sell and ship their products to market. As a result, many landowners, not able to sell their products and make their payments to the CPR, made the decision to leave the area and the operation of the irrigation system became a non-profitable venture for the CPR, a company whose main operations were already significantly impacted by the economic depression.

By the mid-1930s, a growing number of landowners from within the Eastern Section became more and more frustrated with the CPR's operation of the irrigation conveyance system. As a result, in 1935 a group of landowners from within the Eastern Section approached the CPR proposing to take over ownership and operation of the irrigation conveyance system.

The Eastern Irrigation District was formed on April 23, 1935,









and received ownership of the irrigation system, 404,685 ha (1,000,000 ac) of land within the region, and a cash reserve fund of \$300,000 to assist with startup operations of the District.

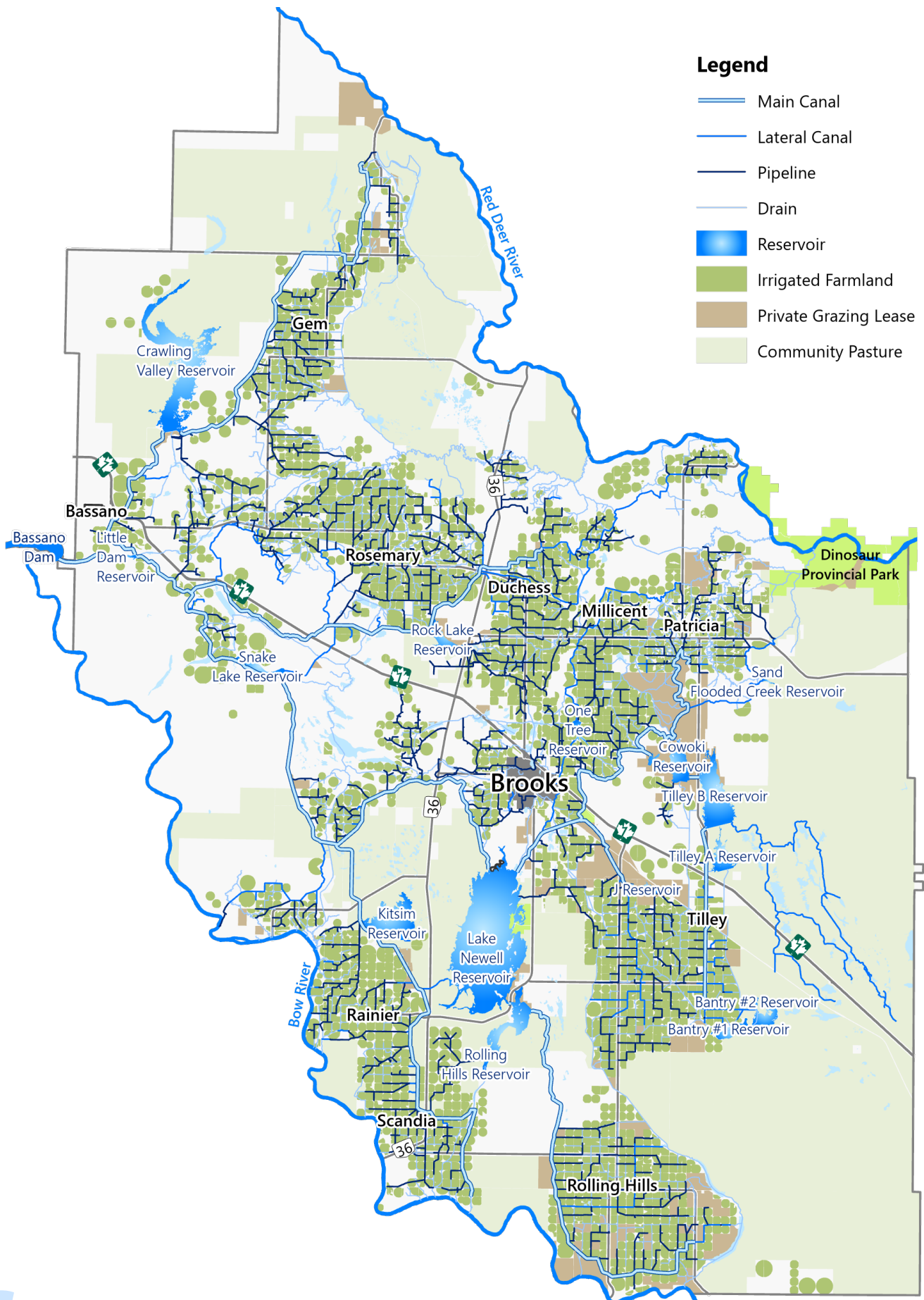
The early achievements of the CPR in constructing the irrigation infrastructure were then, and remain today, impressive. Lake Newell Reservoir is more than 16 km (10 mi) long and 6.5 km (4 mi) wide, an inland sea in a region naturally devoid of water. Across a valley, north and east of Lake Newell Reservoir, the CPR constructed the Brooks Aqueduct, an engineering and construction marvel that has since been recognized as one of Canada's most impressive construction projects.



Palliser Triangle
(Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, NRCan, Parks Canada)

Legend

-  Main Canal
-  Lateral Canal
-  Pipeline
-  Drain
-  Reservoir
-  Irrigated Farmland
-  Private Grazing Lease
-  Community Pasture



Conveyance System

Bassano Dam

The Bassano Dam, owned and operated by the EID, is located approximately 6 km (3.7 mi) southwest of the Town of Bassano at the area on the Bow River known as Horseshoe Bend. Since 1914, water from the Bow River has been diverted from this location into an intricate irrigation conveyance system to serve the development of irrigated agricultural land within the District's boundaries, and for the resulting municipal, industrial, habitat, and recreational needs. Construction of the Bassano Dam began in September 1910 and was completed in the spring of 1914. The official opening took place on May 2, 1914, with a total construction cost of just over \$1.4 million.

After 70 years of operation, the original structure was beginning to deteriorate. In the 1980s, the Prairie Farm Rehabilitation Administration (PFRA) rehabilitated the Bassano Dam by rebuilding the upper (above ground) concrete for the spillway and adding a 400 m (¼ mile) long fuse plug near the west end of the earthen dam, bringing the dam up to safety standards of the day. Refurbishing work began in January 1985 with 2.5 years required to complete the project. This major facelift cost \$14 million with the result

being a very modern, motorized dam capable of diverting 100 m³/s (3,500 cfs) into the District's water system.

In 2008, the EID undertook another upgrade on the Bassano Dam structure with all gate motors having been replaced and automated to a computer software system. This brought control and monitoring of the dam into the digital age, allowing the Dam Supervisor to respond to the flows of the river and demands from the water users at the click of a button, contributing to the efficient management of water diverted from the Bow River.

Virtually all the water found and used within the boundaries of the EID originates from the Bow River at the Bassano Dam.

This includes water to irrigate over 129,500 ha (320,000 ac) of farmland, water to supply over 12,140 ha (30,000 ac) of managed wetland habitat, water requirements for local industry, and the domestic needs of a population base close to 22,500 people.

The 2013 Flood

A “One in 100 Years Flood” occurred June 21 & 22, 2013, on the Bow River system due to extreme rainfall. Up to 345 mm (13 ½ in) of rain fell in parts of the mountains, following a wet spring.

The maximum operating capacity of the Dam is 3,400 m³/sec (120,000 cfs) at operating level. The highest flow rate passed over the dam previously was 2,540 m³/sec (90,000 cfs) in 1929. In 2013, the flood peaked at 4,200 m³/sec (148,000 cfs). This flow was almost 65% higher than any previous flood flow observed by the Bassano Dam in its history. The water level on the upstream side of the spillway was 1.4 m (4.6 ft) above normal operating level.

As part of the PFRA rehabilitation in the 1980’s, a 400 m (¼ mile) fuse plug was built into the west end of the earth dam, meant to wash out creating a channel releasing the water from upstream of the dam structure, with the water bypassing the dam through the flood plain area and returning to the bed of the Bow River downstream of the Spillway. Due to the unprecedented flows during the 2013 flood, the District mechanically removed the clay cap of the fuse plug to ready the plug for washout and prevent the main structure from major damage. The water level was within 0.45 m (18 in) of washing out the fuse plug. The 100-year-old Dam held without the necessity of using the fuse plug, only incurring approximately \$300,000 in repairable damage.

The Bassano Dam is rated as a “High Consequence Dam” because of the extreme economic loss if a failure were to occur.

Had the earthen fuse plug washed out, half the irrigated area of the District/County of Newell would have been without water for the rest of the year. If the concrete spillway was lost, the entire irrigated area of the District/County could have been without water for years during the process of rebuilding, and the social and economic loss would have been staggering.



Aftermath of the Flood: Construction of the Emergency Spillway



After the 4,200 m³/s (148,000 cfs) 2013 flood of record, a Dam Safety Review of Bassano Dam was completed. This review recommended that the design inflow for Bassano Dam should be 7,500 m³/s (264,860 cfs), 1/3 between 1:1,000 year flood and the Probable Maximum Flood – PMF. This required the construction of a new emergency spillway, and the \$46 million project was approved in partnership with the Provincial Government as part of an extensive southern Alberta flood mitigation program.

The spillway was completed in the spring of 2019. With this new Emergency Spillway, along with the existing spillway, the Bassano Dam can handle a flood equal to 2013 at normal summer operating levels and can handle a flood 1.7 times larger than 2013, before having to use the fuse plug.

Brooks Aqueduct / Main Bantry Canal

The Brooks Aqueduct was required to carry irrigation water across a valley to feed water to the regions that are now known as Millicent, Patricia, and Tilley. These areas include close to $\frac{1}{4}$ of the irrigated land within the EID. The CPR began construction of this structure in 1912, with water running through the Aqueduct in the spring of 1915. The result was the longest structure of this design in the world.

During its history, the Brooks Aqueduct was plagued with problems of deteriorating concrete requiring annual maintenance work. By the 1970s, it had inadequate capacity to handle the increasing water demands. The structure conveyed water across the valley until 1979 when it was replaced by a new earthen canal. The canal is capable of carrying close to 50% more water than the original Aqueduct.



Aqueduct Drone Photo
(Donated by Inge Ellefson)

Lake Newell Reservoir

The body of Lake Newell Reservoir begins approximately 6.5 km (4 mi) south of the City of Brooks, running 16 km (10 mi) long and reaching 6.5 km (4 mi) wide at its widest point. It has a surface area of 68 km² (26 mi²), making it one of the largest manmade lakes in Alberta. The reservoir has a total shoreline of approximately 70 km (43 mi), a maximum depth of just under 20 m (65 ft) and holds 260,238 ac-ft at full supply level (FSL). The reservoir is fed via the East Branch Canal and Lake Newell South Feeder, bypassing the Snake Lake Reservoir, seeing the water conveyed 73.2 km (45.5 mi) from the Bassano Dam. The reservoir is foremost in its operational significance to the EID, feeding the Main Bantry Canal, Scott Pipeline, and Rolling Hills Reservoir, overall supporting over 57,546 ha (142,200 ac) of irrigated farmland. Pursuant to District operations and in response to weather extremes and available river diversion, Lake Newell Reservoir can be drawn down as low as 3 m (10 ft) below FSL and still meet all irrigation, municipal, industrial, and rural supply demand.

Kinbrook Island Provincial Park is located on the east side of the reservoir and can be reached via Secondary Highway #873 or by using the new Kinbrook Connection Pathway.

Crawling Valley Reservoir

The south end of Crawling Valley Reservoir begins 8 km (5 mi) north and 6 km (4 mi) east of the Town of Bassano, running approximately 16 km (10 mi) north and 2 km (1.6 mi) across at its widest point. It has a surface area of approximately 25.4 km² (9.8 mi²), a maximum depth of 16 m (52 ft) and holds 107,216 ac-ft at full supply level (FSL), making it the second largest body of water within the EID. The reservoir is fed via the North Branch Canal, seeing the water conveyed a short 24.1 km (15 mi) from the Bassano Dam. The reservoir feeds the North Branch Canal and Secondary B and C North Branch Pipeline, ultimately supplying over 14,285 ha (35,300 ac) of irrigated farmland.

Crawling Valley Reservoir is a very important addition to the water delivery system of the EID. This reservoir provides water delivery security to the northern section of the District, whereas in the past, this region was served directly from river diversion. This reservoir serves as another tool in the overall water management operations of the EID.

Crawling Valley Campground is located on the south end of the reservoir and can be accessed from Highway #1.



Rolling Hills Reservoir

Rolling Hills Reservoir begins approximately 17.5 km (11 mi) south of the City of Brooks, running 9.8 km (6 mi) long and 1.6 km (1 mi) wide at its widest point. It has a surface area of approximately 8.8 km² (3.4 mi²), a maximum depth of 12 m (39 ft) and holds 43,778 ac-ft at full supply level (FSL), making it the third largest body of water within the EID. The reservoir is supplied via an outlet directly from Lake Newell Reservoir; however, the water is conveyed 86.2 km (53.6 mi) from the Bassano Dam to that point. The reservoir feeds the Rolling Hills Canal and supports over 14,366 ha (35,500 ac) of irrigated farmland.

In 2003, the reservoir was expanded making it a tremendous benefit to the future management of the District's water diversions and supply. During the expansion of the Reservoir, a tiered campground was built on the west side of the reservoir and can be reached from Secondary Highway #873.

Snake Lake Reservoir

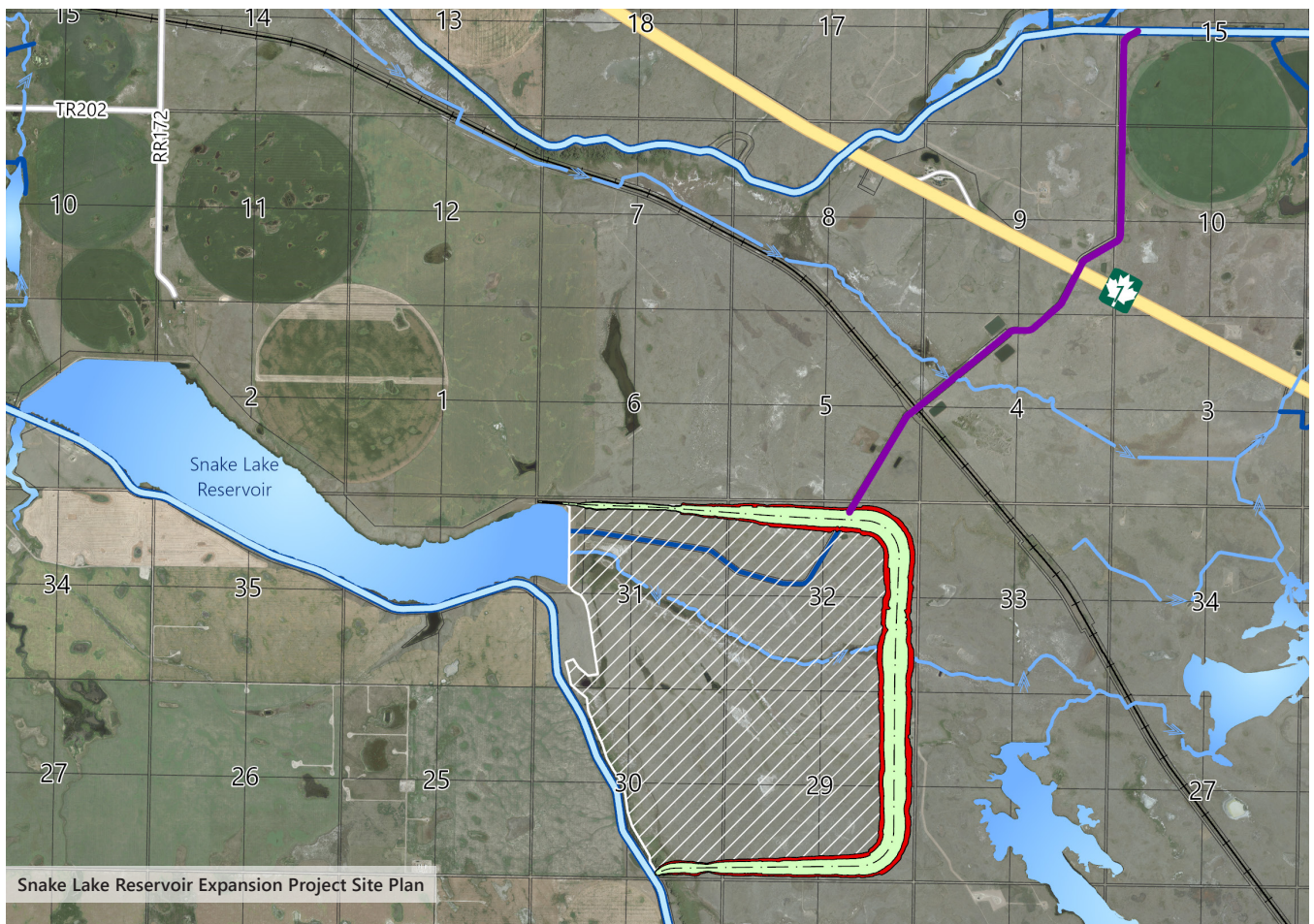
Snake Lake Reservoir is located approximately 15 km southeast of Bassano and 32 km northwest of Brooks, within the EID. In its present state it is 4.8 km (3 mi) long and .9 km (.6 mi) wide at its widest point. It has a surface area of approximately 3.06 km² (1.2 mi²), a maximum depth of 11.7 m (38.5 ft) and holds 15,667 ac-ft at full supply level (FSL). The reservoir is currently contained by 2 earth-fill dams: 1 along the east end and 1 along the west end. The reservoir is fed from the East Branch Canal, with water conveyed a short 25.2 km (15.7 mi) from the Bassano Dam. Outflow from the reservoir is through the East Dam Outlet Structure, located near the north end of the East Dam. Water is conveyed from the reservoir via the Snake Lake Canal to the Springhill Canal, which supplements acres with 3.5 inches to approximately 20,234 hectares (50,000 acres) downstream.

Snake Lake Reservoir Expansion Project

The Board of Directors has given approval to expand the size and capacity of Snake Lake Reservoir, which will help offset the direct use of water from the Bow River when it tends to run lower in the summer. Earthworks will include the construction of approximately 8 km of earthen berms, up to 20 m (65 ft) in height, enlarging the surface area to 11.1 km² (4.3 mi²).

Total storage in the expanded reservoir is estimated to be 70,000 acre-feet which would support the 20,234 hectares (50,000 acres) downstream with 16.8 inches of water, excluding evaporation and operational spill.

A new low-level outlet structure will be constructed at the north end of the expanded reservoir to deliver water into the Snake Lake Canal, which will have its capacity increased to approximately 800 cfs under the IRP program to fully support the downstream acres. The expansion will be funded up to \$218 M under the Alberta Irrigation Modernization (AIM) program, which consists of a 30% grant from the Alberta Government and 50% financing through the Canada Infrastructure Bank, and the remainder through the EID Capital Works program at an estimated cost of \$273 million. Project updates are ongoing.



Engineering & Construction

Rehabilitation Programs

The Eastern Irrigation District (EID) owns, operates, and maintains the infrastructure on its lands and utility rights-of-way, including all reservoirs and the Bassano Dam. The vast majority of its infrastructure is designed, managed, and constructed in-house, with Operations Staff assisting construction crews in winter. **For the past 30 years**, through 2 separate programs (GOA Irrigation Rehabilitation Program and EID Capital Works Program), **the District has undertaken an extensive rehabilitation plan, averaging \$22 million/year**. This plan has saved significant water through efficiencies by lining main canals to prevent seepage and by replacing smaller lateral canals with buried pipelines to prevent seepage and evaporation losses and decrease operational spill. The goal of all rehabilitation programs within the District is to improve the efficiency of the overall system. This is achieved by reducing water losses as well as improving technologies that allow more efficient and monitored movement of water through the system.

Rehabilitation of irrigation infrastructure includes:

- replacing above ground canals with buried pipelines (up to 60" in diameter) (some portions of pipelines are twinned)
- lining above ground canals
- installing/replacing automated water control structures
- establishing flow measurement sites

In an effort to ensure that all drainage systems function at optimum levels, the EID and the County of Newell have entered into a Drainage Rehabilitation Agreement funded at a 50/50 cost share arrangement. The coordinated rehabilitation of this infrastructure not only minimizes costs for both parties, but also minimizes issues with jurisdictional water flow.

For more information on the rehabilitation and maintenance programs visit https://www.eid.ca/documents/board/Annual_Report_EID_2024.pdf



C Springhill Pipeline Installation



Turnout from East Branch to Spinghill

Operations

The Bassano Dam is the EID diversion headworks on the Bow River. Water in the Bow River basin is fed by annual mountain snowpack and precipitation, with a very small amount of glacier melt. The Eastern Irrigation District (EID) diverts water under the authority of licenses issued by the Government of Alberta.

Maximum total diversion and maximum rate of diversion parameters are adhered to by the District, along with monitoring and reporting requirements. For downstream users and the health of the river, the District maintains flows passing the dam that are above or well above the minimum rate required. Within the District's operations, the EID further strives to ensure all categories of its water conveyance, evaporation, operational spill, and farm spill are quantified. Additional District automation, accurate digital records of Water Operators, and timely water on/off orders from irrigators help the EID skillfully manage the water in its conveyance system.

Since 2006, the EID has contributed financial and in-kind support to the Irrigation District Water Quality Monitoring program. Currently, the program collects water samples at 15 different locations across the EID, four times over the irrigation season. Results are published on the IDWQ.ca website.

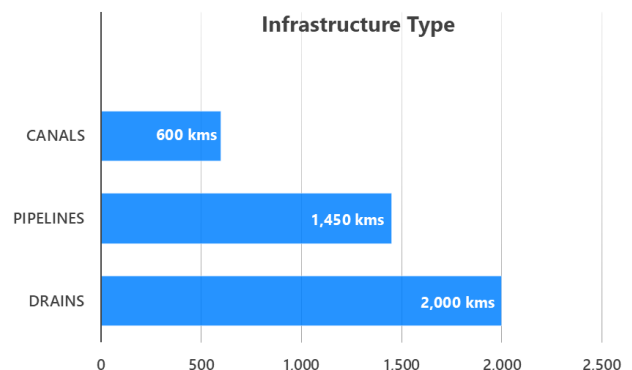
Water is first conveyed through the Main Canal, branching off to East Branch and North Branch

canals. Through these arteries, water is provided to 13 storage reservoirs, 600 km (372 mi) of canals, and 1,450 km (870 mi) of underground pipelines. 46% of the District is currently served directly from river diversion (the water is not stored or does not pass through a significant reservoir) and the remaining 54% of the District is served from one of the reservoirs that is filled from river diversion.

The reservoirs allow the EID to serve different areas of the District, meet demand fluctuations, and store and provide water security in years when the flow of the Bow River is reduced due to drought conditions. Canals and pipelines convey water to irrigate over 129,500 ha (320,000 ac) of farmland, 1,500 rural residences, 25 industries and large feedlots, approximately 12,140 ha (30,000 ac) of managed wetland habitat, and the domestic needs of a population base close to 22,500 people. The primary function of 2,000 km (1,243 mi) of natural and constructed drains is to remove excess water from the farm, moving it back into the EID conveyance system or back into the river system.

The Dam Supervisor monitors river flows upstream and downstream to assess water volumes approaching the dam and what is being spilled over the dam. This helps to ensure enough water is being diverted to the District's users as well as being passed to downstream users. The District has 15 Water Operators

who respond to requests for water and control the flow of water through the canals, pipelines, and reservoirs in their area. North and South Divisional Superintendents oversee operations, irrigator concerns, and maintenance activities in their region. An Operations Manager oversees all aspects of operations, receives daily reports on pending orders, system flows, and reservoir levels; and in turn communicates with the Dam Supervisor to ensure enough water is being diverted at the main canal to feed the canal system and supply water to the irrigators and other users, while also ensuring enough water is being diverted downstream.



The EID is committed to continually enhancing efficiencies in its conveyance system and operating practices and in promoting efficiencies for its users.

Converting open ditches and canals to pipelines and converting to more efficient methods of irrigation allows the District to irrigate more area without increasing the amount of water being diverted at the dam. Since modernization of on-farm irrigation equipment and District conveyance infrastructure began to accelerate in the 1990s, a downward trend of water to the farmgate has been realized. The District is currently using approximately the same amount of water to irrigate over 129,500 ha (320,000 ac) of land as was used in 1935 to irrigate 40,468 ha (100,000 ac).

With technology advancements and an increasing demand for irrigation information and management tools, the District has deployed IRMA (Irrigation Recording & Management App). This app is a web-based tool that has been developed in-house to record and display water usage, flow rates, irrigation method, and crop type on all irrigated parcels within the EID, along with canal flows, reservoir elevations, and water orders. This management tool aids Operations staff in daily water management procedures and acts as an informational tool for irrigators to view real-time water usage on their irrigation parcels. Advancements in technology have also permitted 60% of District infrastructure to have some sort of automation; with 1 canal moving towards being fully automated (automation controlling flows throughout the system).

The EID is committed to responsible stewardship of water.

The District has adopted a 4-stage drought plan within its Maximum Water Bylaw that sets reduced limits for the maximum amount of water per irrigation acre, and corresponding advisement for other users, when experiencing varying moisture conditions and water supply.

In 2024, Water Sharing Agreements for 4 Alberta river basins were facilitated by the Government of Alberta (GOA) with the cooperation of irrigation districts and other major stakeholders.



North Bantry Drone Photo
(Donated by Inge Ellefson)



Corn Field East of Rolling Hills

Irrigated Agriculture

Crop & Irrigation Statistics

40% of food production in the world today is grown on irrigated land. Much more can be grown with irrigation than from precipitation alone. The average annual precipitation within the EID is 30 cm (12 in) with an average of approximately 15 cm (6 in) falling during the growing season. This average is much less than the water requirements to successfully grow most agricultural crops. Of the 45 different types of crops grown in Alberta's irrigation districts, only 10 of those crops could be grown here without irrigation, and with much less yield. The stability of an on-demand water supply from irrigation districts translates into broader food security and a major boost to the local economy, let alone the societal benefits for its residents and the environmental habitat it sustains. Half of the raw product for Alberta's multi-billion-dollar food processing industry comes from irrigated land.

In Alberta, 4.4% of the cultivated land base is irrigated within the 11 irrigation districts, generating 27% of the total primary agricultural sales.

A 2021 Study of the Economic Value of Alberta's Irrigation Districts found that:

- annually, irrigated land in the province provides:
 - ◇ **\$5.4 billion** to Alberta's total GDP
 - ◇ **46,000** full-time equivalent jobs
 - ◇ **\$3.2 billion** in direct labour income
 - ◇ **\$102 million** to Alberta's GDP from activities related to operation, maintenance, and rehabilitation of irrigation infrastructure
 - ◇ **\$500 million** in specialty crop sales (almost half of the total revenue from all irrigation crop sales)
 - ◇ **38%** of Alberta's total livestock sales
 - ◇ **27%** of Alberta's total agricultural sales
 - ◇ **\$47 million** in savings for conveying municipal water supply to almost 50,000 Alberta residents
 - irrigated crop and livestock production generates **8 times** more revenue per hectare than dry land
 - every **\$1** invested by the Government of Alberta to irrigation districts returns **\$3.56** in revenue to the province
 - water conveyance infrastructure supports hydropower generation, other agricultural activities, municipalities, industry, businesses, drought and flood mitigation, wildlife and wetlands, and recreation opportunities
 - at least 45 types of crops, plus market gardens and nursery stock, are grown in Alberta irrigation districts
-

Lands & Reservoirs

The Eastern Irrigation District (EID) manages its land and water bodies with a multi-use philosophy which benefits everyone (irrigated agricultural producers, beef producers, the energy industry, recreationalists, hunters, researchers, etc.).

Approximately 90% of District owned lands is dryland prairie. The primary use of these lands is for cattle grazing. The major economic benefit from these lands is from oil and gas surface leases. Grazing lands support local private producers, the practice is an ideal grass management and fire prevention strategy, and it coexists well with Ducks Unlimited projects and oil and gas surface leases. In addition to being the chief revenue stream, the social and educational benefit of District lands is a natural fit for hunters, recreationalists, and researchers.

While the water itself belongs to the Crown, the infrastructure of reservoirs is owned and operated by the District. For a fee, the EID conveys water to its ag producers, other water users, and other license holders. Some water bodies have supported private businesses in the past such as a commercial fishery and waterski school; however, most activities on reservoirs are recreational. Campgrounds, public beaches, and marinas are located at Lake Newell, Rolling Hills, and Crawling Valley reservoirs.

EID Pasture Lands

The District has approximately 217,000 ha (535,000 ac) of community pastures which consist of approximately 201,000 ha (496,000 ac) of native prairie and approximately 16,000 ha (40,000 ac) of re-grassed (tame) pastures which are grazed during the first part of the growing season, with cattle being moved to native prairie fields as the season progresses. On average, 17,000 cow/calf pairs are grazed each year on EID community pastures. Approximately 625 bulls are added to the pastures during the breeding season. The land is leased to 10 Grazing Associations (GA). Two areas not leased to a GA are utilized as "swing fields", one in the north and one in the south, enabling an annual redistribution of cattle to balance grazing needs and grass supply throughout the District and ensuring the fair allocation of cattle to all irrigators that wish to pasture cattle on EID lands. Improvements, such as cross fencing and the installation of additional water lines, water tanks, and dugouts, have increased the availability of pasture, and as a result, the carrying capacity has significantly increased over the past several years.

The District also leases approximately 20,000 ha (50,000 ac) of pasture as Private Grazing Leases (PGL), approximately 100 in total, to eligible irrigators.

Irrigated Leases

2,350 ha (5,806 ac) of District owned lands are developed irrigated farm leases. Leased by term agreement, the parcels provide an opportunity for farmers to expand their farming operations, provide an important revenue stream for the EID, and support the District's mandate to promote and sustain irrigated agriculture.

Irrigation Development

When developing any parcel of land for irrigation, whether District owned or farmer owned, requirements include but are not limited to: soils meeting provincially regulated requirements for irrigation; irrigation acres being available, approved, and purchased via the District's Irrigation Acres Bylaw and Capital Assets Charges Bylaw; the feasibility of conveying water to the parcel; and the landowner deeming the project economically viable for them to develop.

Because of on-farm conversions to more efficient methods of irrigation and efficiencies gained when rehabilitating the EID conveyance system, the District has been able to increase its expansion limit (the maximum number of acres allowable to be assessed as irrigation acres) twice since 2003, while staying well within its allotted volumetric water license. Farmer irrigation developments are ongoing, as well as the District's consideration and construction of feasible projects on EID owned parcels where the soil is well suited for irrigation.



Fall Round Up on Community Grazing Pasture

Energy Industry

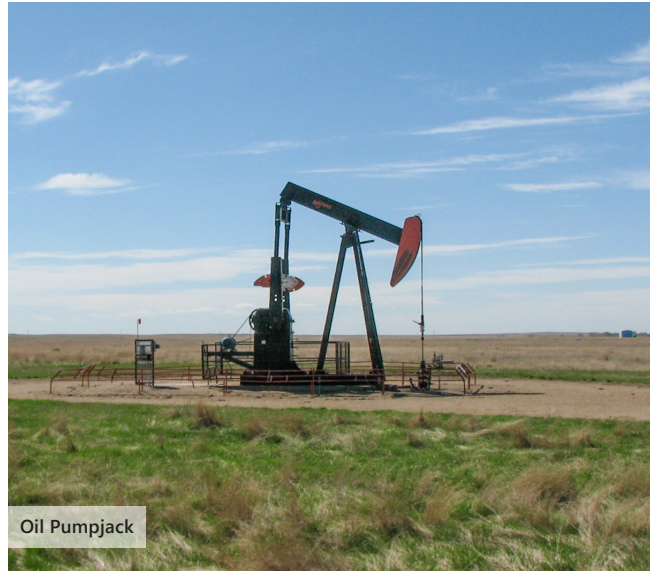
Oil and gas development within the EID requires access to fresh water to carry out their operations. Approximately 39 oil and gas companies currently operate on EID owned land with over 8,300 surface leases. The oil and gas revenue stream from District owned lands has allowed the EID to undertake several initiatives, the foremost being an aggressive infrastructure rehabilitation plan over the last 30 years. Once abandoned, surface lease sites are reclaimed as per the Alberta Energy Regulator criteria.

Other companion uses of District lands are being explored, such as solar energy production, to diversify revenue streams as a decline in oil and gas revenues is experienced. To date, one solar project has been constructed on District lands.

Research Access

A number of research projects are permitted to occur on District lands and wetlands with focuses on:

- various wildlife
- at-risk or endangered species
- paleontology



Oil Pumpjack



Research Dig Site



Mussel Infested Watercraft, Mix of Quagga and Zebra Mussels



Zebra Mussel

Aquatic Invasive Species (AIS)

Aquatic invasive species are extremely detrimental to Alberta irrigation as they will:

- pose a threat to the management and operation of irrigation conveyance infrastructure (including reservoirs)
- require permanent maintenance to unclog irrigation outlets/intakes, pipelines, screens, etc.
- cost millions of dollars in maintenance costs, infrastructure damage, and control measures
- deplete the quality of water risking food and crop production
- restrict availability of water for municipalities and acreages

What can YOU do to prevent the establishment and spread of aquatic invasive species into Alberta's waterbodies?

- If you are entering the Province with watercraft (motorized, canoe, kayak, paddleboards, other non-motorized watercraft, etc.) it is the law to stop for an inspection at an open Provincial inspection station. If you do not pass an inspection station you can call the Provincial AIS Hotline at **1-855-336-BOAT (2628)** to arrange for an inspection.
- Always **CLEAN, DRAIN, and DRY** your watercraft when removing it from any waterbody, reducing the potential of transporting any species from one waterbody to another.
- Report any suspected invasive species by calling the Provincial AIS Hotline at **1-855-336-BOAT (2628)**.
- Do not dump fish, plants, or invertebrates from household aquariums or backyard ponds into any waterbody.
- When planning a backyard pond development use only native vegetation and know which

aquatic plants are not native and/or invasive at www.abinvasives.ca.

- It is illegal to move live fish from one waterbody to another and illegal to use live bait when fishing.

In 2018, the EID initiated an Aquatic Invasive Species Prevention Program. **All boaters wishing to access EID reservoirs must follow approved prevention procedures and complete a watercraft information form** stating they will not knowingly spread aquatic invasive species. As part of the program, trailered watercraft must only be launched from approved boat launches and boaters must check in with the campgrounds, marina, or EID office before launching. Canoes, kayaks, and other non-trailered watercraft may continue to be launched at random locations, but the boaters must check in with the campgrounds, marina, or EID office before launching. Boaters can visit Lake Newell Resort Marina, Rolling Hills Campground, or Crawling Valley Campground to register for the program.

Please clean, drain, and dry your watercraft before moving to a new waterbody and do not release garden plants or pets into the wild.



Hunting & Public Access

The EID manages its land and waterbodies with a multi-use philosophy which benefits everyone.

The EID includes within its boundary the majority of the County of Newell. Almost all the land within the EID is privately owned with the District being the largest private landowner. In addition, many of the irrigation ditches within the EID are not on EID lands and the landowner has control of public access to these waterways.

Public access is generally permitted on the EID community pastures, with written permission being mandatory for hunters; however, certain guidelines are to be followed:

- DO NOT DISTURB LIVESTOCK. No public access near cattle.
- All automobiles MUST stay on established roads or designated routes where posted. No exceptions. No off-highway vehicles.
- Hunting and fishing are generally permitted on EID owned community pastures during the legal season by individuals in possession of the appropriate recreational licenses. NO HUNTING PERMITTED NEAR LIVESTOCK.
- Leave gates as you find them.
- No open fires permitted. Extreme caution must be used to prevent grass fires. EID lands may be closed to public access during high fire hazard conditions.
- No camping permitted, except in designated campgrounds.
- Pets must be supervised and kept under control at all times.
- OBEY ALL SIGNS. Some areas may have designated routes, some areas may be foot access only, or in some cases have temporary closures to public access.
- Only launch boats from approved launches.

By adhering to these simple access rules on EID owned lands and asking for permission to access other private lands, you are investing in the future.

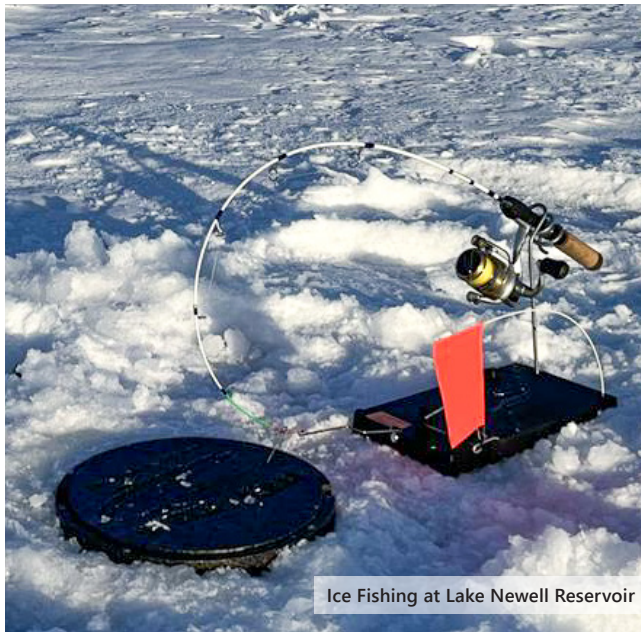
Remember that access to these private lands is a privilege not a right. Please "Use Respect" and enjoy your visit to the EID.

Ice Fishing

All EID access rules remain in force during the winter. When accessing EID reservoirs:

- Keep highway vehicles on established roads and trails.
- No fires or camping on shore.
- Pets must always remain under control.
- If off-highway vehicles are to be used to access the ice, offload from the closest established trail, and then take the most direct route on and off the ice.

Ice conditions on EID reservoirs change frequently throughout the winter. Always use extreme caution when accessing reservoirs in the winter and do not assume what was safe ice yesterday is safe ice today. All individuals accessing EID lands and reservoirs do so at their own risk.



Ice Fishing at Lake Newell Reservoir

Canal/Drain Ownership & Salvage Fishing

In general, large canals and drains are owned by the EID and public access is allowed, unless otherwise indicated. Smaller canals and drains are often not owned by the EID and not open for public access.

Salvage fishing after the canals have been dewatered has always been a popular activity. A \$5.00 salvage licence is required and can be obtained from the Fish & Wildlife offices in Medicine Hat, Lethbridge, Hanna, Calgary, or Edmonton. The license allows a set number of sportfish of any size to be harvested from the dewatered canals using gear otherwise not permitted. Please respect gates, instructional signs, and neighbouring landowners when salvage fishing. Use extreme caution if salvage fishing around EID water control structures.

Trapping

The EID permits trapping furbearers on EID lands and in EID waterbodies. Trapping may occur from October 1st – April 30th, but snaring may only occur between December 1st and February 28th. Trapping for nuisance aquatic species may occur at any time of year. Contact the EID to receive trapping permission, your trapping identification number, and/or if you believe there to be a serious issue with traps or snares located on EID land. Even during winter when the cattle are no longer on EID land pets must be kept under your control. All individuals accessing EID lands and reservoirs do so at their own risk and assume all responsibility for their pets.

Community Investment

It has been the longstanding practice of the Eastern Irrigation District (EID) to invest in the local area and southern Alberta region by contributing to initiatives which benefit the greater community.

Funding

Local and/or regional funding has been directed to:

- water related programs, research, sponsorships, and subsidies
- agricultural programs
- habitat support
- reservoir multi-use
- community projects

The EID is dedicated to supporting and giving back to its local rural communities within the County of Newell and to the City of Brooks. The EID has made in-kind, monetary, or rent reduced contributions to projects that benefit the communities as a whole.



Donation to EID Aquatic Center



Donation to HALO



Education

The EID continues to bring awareness to the importance of water in this region that, without irrigation, would not be able to support local businesses, municipalities, ag producers, or much of the habitat. The EID contributes to and collaborates with several like-minded organizations, such as Ag for Life and the Classroom Agriculture Program, that promote a better understanding of irrigated agriculture and of where food comes from.

Bassano Dam Tours

The EID showcases tours of the Bassano Dam to local classrooms, the public, and for various events to underline the history, engineering, and importance of this location and structure for the District.

The Bassano Dam is located on the Bow River, 6 km (4 mi) southwest of the Town of Bassano and provides the life blood of the EID. For more information or to schedule a tour please call: (403)-362-1400.

Irrigation Canal Safety

The EID, in partnership with Ag for Life, has presented numerous irrigation canal water safety presentations to elementary schools within the District. These presentations highlight the importance of using caution and staying away from irrigation canals, control structures, spillways, and other water conveyance infrastructure.

RiverWatch Field Trips

RiverWatch Institute of Alberta is a non-profit organization, established in 1995 by a group of local Calgary teachers to help educate students on river health, environmental monitoring, and what they can do to maintain the health of rivers. Today, the program has grown into tours of nearly 150,000 participants on 6 major Alberta waterways.

Although the EID supports local classroom attendance to this program, please refer directly to the RiverWatch website at <https://www.riverwatch.ab.ca/> for complete information regarding their tours.

Classroom Agriculture Program

The Classroom Agriculture Program (CAP) is dedicated to teaching Grade 4 and 5 students in Alberta the importance of agriculture in their daily lives and in Alberta's economy. CAP's objectives continue to carry the positive message that Alberta agriculture:

- adds directly to the economy,
- provides employment in both primary and secondary sectors, and
- has definite value for the everyday life of Canadians.

In turn, students learn:

- an appreciation of Alberta food production and processing,
- the need to protect and preserve the land base which supports the production of food for Canadians,
- the importance of soil conservation, and
- the career opportunities throughout the entire spectrum of agriculture, including support industries.

For more information visit

<https://www.classroomagricultureprogram.ca/>

Scholarships

The Eastern Irrigation District Scholarship Program was established in 2008 to support its local students in furthering their education and trades skills.

As of 2024, a total of \$747,000 has been granted to 388 recipients within the District.

Scholarships are awarded for trades, diplomas, certificates, or degrees in any career field:

- Post-secondary education at a university - \$2,000
- Diploma or technical program - \$2,000
- Certified trades - \$1,000

For information on further requirements, or to obtain an application form, visit

<https://www.eid.ca/scholarships.html>



EIDNet

EIDNet is a local Wireless Internet Service Provider (WISP) that services the EID / County of Newell and all the communities within. It is a service of the EID and is based out of the main EID Office in Brooks and branches out through the countryside using a network of 18 towers.

EIDNet currently has more than 1,800 local farms, ranches, businesses, and individuals as customers, serving community hubs and outlying rural areas, many of whom would not have affordable internet service without EIDNet.

With an increase in automated technology required by irrigators and for the operations of the EID, and in addition to the growing number of streaming services, a dramatic increase in bandwidth is required by EIDNet customers. In order for EIDNet to continue to meet customer requirements now and into the future, EIDNet has invested in a 4-phase plan to increase bandwidth and replace the backhaul radios with fibre on 14 of EIDNet's 18 towers. Phase 1, Phase 2, and Phase 3 are now complete. As a result of the fibre network, EIDNet has been able to deploy new technology to provide up to 500Mb services to the communities reached by the network.

For EIDNet service plans and other enquiries go to www.eidnet.ca, or call 403-362-1401, email eidnet@eidnet.org, or visit the EID Office in person.



Recreation

Recreational activities abound on District owned lands and reservoirs, including hiking, boating, fishing, bird watching, and hunting. Camping is allowed at designated campgrounds, 2 of which are EID owned: Rolling Hills Reservoir Campground and Crawling Valley Campground. There are 3 Provincial Parks within the EID boundaries: Dinosaur Provincial Park, Kinbrook Island Provincial Park, and Tillebrook Provincial Park. Parks and EID have partnered through the years with various access, land use and grazing agreements, water conveyance, and patrolling of lands.



RHRC Phase 1, 2012



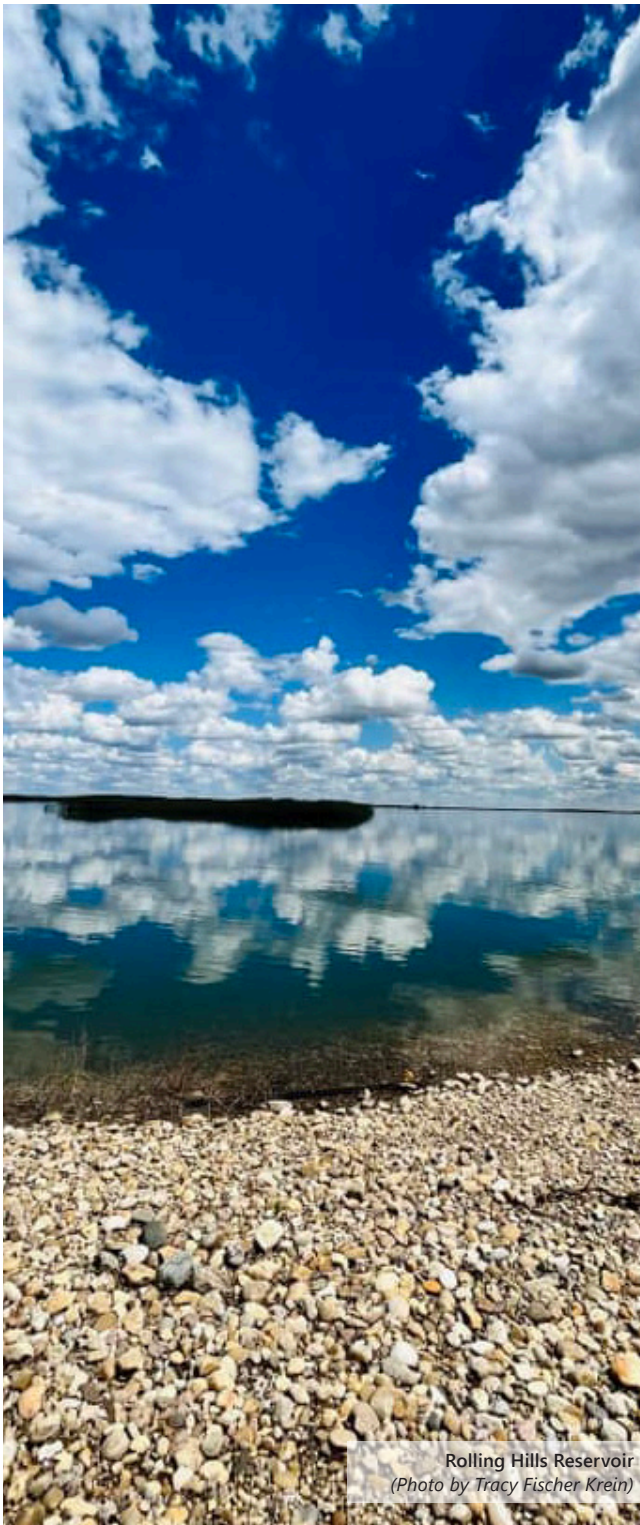
Prairie Wind Regatta on Lake Newell Reservoir

Rolling Hills Reservoir Campground

Rolling Hills Reservoir Campground (RHRC) is located 19.7 km (12.2 mi) south of Brooks on Secondary Highway #873, on the west side of the Rolling Hills Reservoir.

The RHRC is owned and operated by the EID. The campground features 35 seasonal and 110 daily campsites, with some pull through sites, each outfitted with 15, 30, and some 50 amp electrical outlets. Amenities include 2 large group camping areas, 2 sandy beaches with sheltered swimming areas, 1 on-leash dog beach, boat launch and 82 boat slip marina, 2 playgrounds, access to potable water, sani-dump station, and washroom, shower, and laundry facilities. The campground opens in mid-May and closes in September.

We invite you to come for a visit, enjoy the sun, bring your boat, and enjoy one of the many benefits of irrigated agriculture. For more information about the campground visit <https://www.eid.ca/rhrcampground.html> or call the EID office at 403-362-1400 or 403-363-5603 during the camping season.



Rolling Hills Reservoir
(Photo by Tracy Fischer Krein)



Crawling Valley Campground Marina

Crawling Valley Campground

Crawling Valley Campground is located on the south end of Crawling Valley Reservoir, 8 km (5 mi) north and 4.8 km (3 mi) east of the Town of Bassano and can be accessed from Highway #1. It is owned by the EID and operated by the Crawling Valley Recreation Society. The campground features 164 powered campsites, (daily, seasonal, or group), 7 tenting sites, swimming beach, boat launch and 80 boat slip marina, playground, sports court, camp kitchen, access to potable water, sani-dump station, and washroom and shower facilities.

Along with its agricultural importance, the reservoir offers a multitude of recreational benefits such as camping, boating, fishing, and hunting.

The campground opens May 1 and closes September 30 every year. For more information about the campground visit <http://www.crawlingvalleycampground.ca/> or call 403-641-4095.

Kinbrook Island Provincial Park

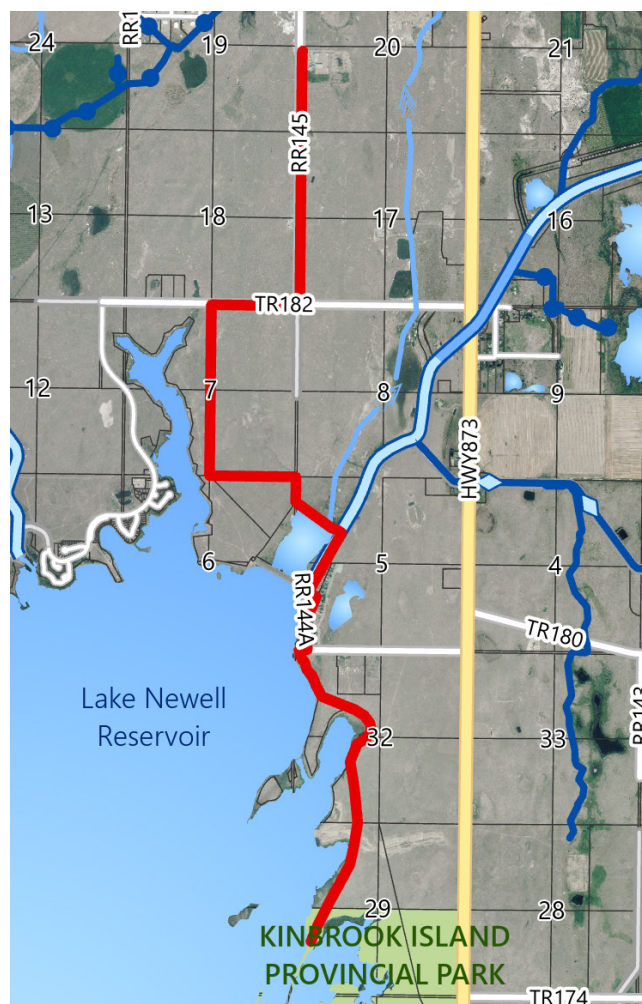
Kinbrook Island Provincial Park is located on the east side of Lake Newell Reservoir, one of the largest manmade lakes in Alberta, and can be reached via Secondary Highway #873, 12 km (7.5 mi) south of Brooks or by using the new pathway that connects the City of Brooks to the Park. The Island is connected to the mainland by a paved road built on a causeway. The Park covers an area of 38 ha (95 ac) with 57 private cottages and a public campground. Amenities include 199 campsites (most are powered), a group camping area, large swimming beach, boat launch and marina, 2 playgrounds, sani-dump station, access to potable water, and washroom and shower facilities.

The campground is open May 1 – October 31 each year, and winter camping is available. For more information visit <https://www.albertaparks.ca/parks/south/kinbrook-island-pp/information-facilitiescamping/kinbrook-island/>.



Kinbrook Connection Pathway

A newly constructed paved pathway connects the City of Brooks to Kinbrook Island Provincial Park and grants hikers, cyclists, and wildlife enthusiasts a safe off-highway route. A partnership between the County of Newell, City of Brooks, EID, and donors, the shared pathway is just over 12 km (7.5 mi) long, utilizes a steel bridge to span the Main Bantry Canal, and will have benches, shade shelters and informational signs placed along the path. It features views of the prairie, Lake Newell Reservoir, and wildlife habitats.



Habitat

The irrigation system has created unique habitats within the cultivated portions of the District. The canal and reservoir system provides thousands of hectares of wildlife travel lanes, nesting areas, and staging habitat for many species which are not naturally found in this area. As the conveyance system is rehabilitated, irrigators may enter into agreements with the District in some cases to maintain a portion of the existing habitat or may choose to create alternate habitats with planting sites through the PHD program.

Partners in Habitat Development

Partners in Habitat Development (PHD) is an initiative developed to work closely with landowners, irrigation districts, and municipalities in the cultivated areas of southern Alberta to create and preserve wildlife habitat.

The Program assists landowners with planning project sites and purchases seedlings and materials for the site. Staff assist the landowners by planting, mulching, and early maintenance of the newly created shelterbelt.

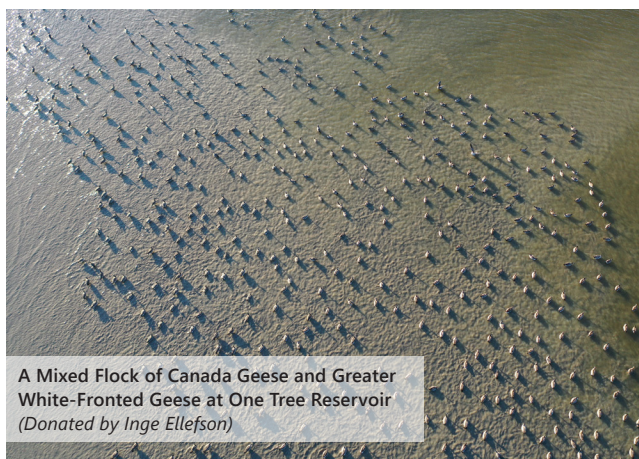
Within the EID, the project has planted over 589,000 trees and shrubs, provided grass seed for 149 ha (368 ac) of nesting cover, provided approximately 144 km (89 mi) of fencing material to control livestock access to habitat sites, developed 42 wetland projects and developed habitat projects with over 200 landowners on over 350 project sites. Typical shelterbelt planting sites are pivot corners, field edges, and small pastures. Site size may range from 2 to 20+ rows with 200 to 2,000+ seedlings being planted onsite.

Ducks Unlimited Partnerships

The EID strives to manage its reservoir and land resources with a multi-use philosophy,

fulfilling the District's mandate to provide water to the irrigation farmers while also considering wildlife habitat requirements and recreational opportunities of the area. Ducks Unlimited Canada has been operational in the EID since the 1940s and the EID currently has the highest concentration of projects within all the irrigation districts. Within the EID, over 12,140 ha (30,000 ac) of wetlands are managed by Ducks Unlimited with a 30,000 ac-ft water license conveyed through the water conveyance infrastructure.

A Cooperative Ventures Program was initiated in 1987 to promote the multiple uses of water. The goals were to improve grazing potential, increase wildlife production, provide recreational opportunities, and help replace habitat lost by canal rehabilitation. The development of the Aqueduct Marshes, Carol Walker Project, Contra Costa, Dean Martin Project, Kinbrook Marshes, and Newell Backflood were partnered between the EID, Ducks Unlimited (Canada), and the Alberta Fish and Wildlife Division, with the District supplying much of the land and conveying the water and partners supplying the biological knowledge and financing. Waterfowl are the most noticeable benefactors of this program, but these wetlands also become home to a variety of wildlife species including deer, shore birds, upland birds, and small mammals.



A Mixed Flock of Canada Geese and Greater White-Fronted Geese at One Tree Reservoir
(Donated by Inge Ellefson)

Eastern Irrigation District

P.O. Box 128
550 Industrial Road West
Brooks, Alberta
T1R 1B2, Canada

Phone: 403-362-1400

Fax: 403-362-6206

email: eid@eid.ca

web: www.eid.ca

