



Fact Sheet

Residents of the Souris River Basin have long suffered from extreme variation in seasonal water flow. Such alternating cycles of drought and flood severely affected water users and limited future development in the area.

The Rafferty-Alameda Project was developed over the 1988-95 period as a multi-purpose project to provide water for the area, including the Shand Power station near Estevan, and as flood protection for residents downstream in Saskatchewan and North Dakota, including the city of Minot. The project also ensures a more reliable water source is available for municipal, domestic, irrigation and recreational use in the Saskatchewan portion of the basin.

What is the Rafferty-Alameda Project?

The project consists of the Rafferty Reservoir on the Souris River near Estevan and the Alameda Reservoir on the Moose Mountain Creek near Oxbow. It also includes a 10-kilometre diversion channel connecting Boundary and Rafferty Reservoirs, which allows water to be diverted from Long Creek into Rafferty Reservoir.

What is the capacity of the reservoirs?

The interim Full Supply Level (FSL) of Rafferty Reservoir is 549.5 metres. With the initial filling of the reservoir in 1994, Rafferty Reservoir has risen from 536.5 m to 549.5 m. In four years, 1997, 1999, 2001 and 2005, Rafferty flood storage has been used to reduce downstream flooding. At the interim FSL, the reservoir stores approximately 392,000 cubic decametres (dam^3), while at the maximum flood level (554 m), the reservoir has a capacity of 630,000 dam^3 .

Alameda Reservoir has an FSL of 562.0 metres, with storage capacity at this level of 105,000 dam^3 . Following interim operating agreements, Alameda Reservoir was filled to FSL in 1999. Flood storage has been used in two years, in 2001 and 2005. The maximum flood elevation of the reservoir is 567.0 m, with a storage capacity of 189,500 dam^3 .

Who owns the Project?

The Saskatchewan Watershed Authority owns the Rafferty-Alameda Project and is directly responsible for its operation and maintenance. The Authority also owns the Gardiner and Qu'Appelle Dams on Lake Diefenbaker and operates and maintains 41 other water storage facilities located throughout the province.

Rafferty Dam and Reservoir Specifications

Earthfill Dam	
Length	1300 metres
Height	20 metres
Volume of earthfill	2,200,000 cubic metres
Spillway	
Length	148 metres
Width	27 metres
Discharge capacity	542 cubic metres per second
Reservoir	
Design FSL	550.5 metres
Effective drainage area	2,420 square kilometres
Length	57 kilometres
Maximum depth	15 metres at FSL
Area	4,880 hectares (12,060 acres) at FSL
Storage at FSL	439,600,000 cubic metres

Alameda Dam and Reservoir Specifications

Earthfill Dam	
Length	1660 metres
Height	42 metres
Volume of earthfill	2,900,000 cubic metres
Spillway	
Length	224 metres
Width	42 metres
Discharge capacity	1,400 cubic metres per second
Reservoir	
Design FSL	562.0 metres
Effective drainage area	2,140 square kilometres
Length	23 kilometres at FSL
Maximum depth	35 metres at FSL
Area	1,240 hectares (3,065 acres) at FSL
Storage at FSL	105,000,000 cubic metres

Contact Information

For more information on the Rafferty-Alameda Project, contact Mr. Russ Johnson, P.Eng., Engineer Specialist, Dam Safety and Major Structures, at the Saskatchewan Watershed Authority office in Moose Jaw by phone at (306) 694-3956.

General information about the Saskatchewan Watershed Authority, our programs, Fact Sheets and forms can be found on our website at www.swa.ca.