Prior to the operation of this reservoir, daily flows at Galt often fell below 50 c.f.s. during the summer and on one occasion reached a low of 26 c.f.s. Since its construction the discharge from the reservoir has maintained a minimum of 200 c.f.s. at this point. The lake also serves as a recreation centre and many summer cottages, service camps and public areas have been constructed along the shoreline.

A rolled earth embankment with concrete spillway section, the dam has a height of 75 feet and a length of 2,300 feet. The reservoir has a maximum surface area of 1,830 acres and a capacity of 49,600 acre feet. It was constructed at a cost of $2,060,000 during the years 1939 to 1942.

The Conestogo Dam and Reservoir is located near Glen Allen and will control run-off from a drainage area of 219.5 square miles. The project cost was $5,400,000. The dam is an earth-filled gravity type structure with a central concrete spillway section fitted with four submerged sluice gates. This dam is 80 feet high and 1,790 feet in length and creates a V-shaped lake each arm of which is six miles long. This reservoir will provide 45,060 acre feet of storage for flood control and summer flow. Like the Shand Reservoir, this lake has also brought about the development of cottage sites and recreation areas around the shoreline.

Luther Marsh Dam and Reservoir—located at the headwaters of the Grand River near Monticello, was completed in 1953 at the cost of $233,806. This reservoir has a storage of 10,000 acre feet. Water is discharged to augment the summer flow in the Grand River. The reservoir has greatly improved the wildfowl habitat making this Southern Ontario's best duck-hunting grounds.

These three projects on the Grand River, like the Fanshawe Dam on the Thames, were financed jointly by the Government of Canada (37½ per cent), the Government of Ontario (37½ per cent) and the participating municipalities (25 per cent).

B. IRRIGATION AND DOMESTIC WATER SUPPLY

Water requirements for irrigation and domestic uses have increased rapidly in the past two decades. The needs will be much greater in the coming decades as population pressures intensify. At the present rate of increase the population doubles in 30 to 35 years, and the rate of water use increase is greater than the rate of population increase.

The streams in some localities are pumped heavily for irrigation even in non-drought years. Farmers farther away from the streams have pumped heavily from ground water and still been frustrated for lack of sufficient water for their thirsty crops.

The advantages of reservoirs on the streams to meet needs of water supply have been indicated as a benefit associated with flood control. In addition to large reservoirs on main streams, irrigation requirements can often be met economically from small reservoirs in upstream areas supplying a few farms directly. Where the geology does not suit the establishment of surface reservoirs, ground water reservoirs may be used if the recharge can be kept equal to the demand.

The Conservation Branch has made irrigation water supply studies for the Ganaraska and Big Creek Conservation Authorities in which a combination of surface and ground water supply areas has been suggested to meet the needs. In regions where there will be intensive pumpage from ground water it is important that the aquifer be adequately recharged. In same cases special work must be undertaken to recharge ground water reservoirs. This process