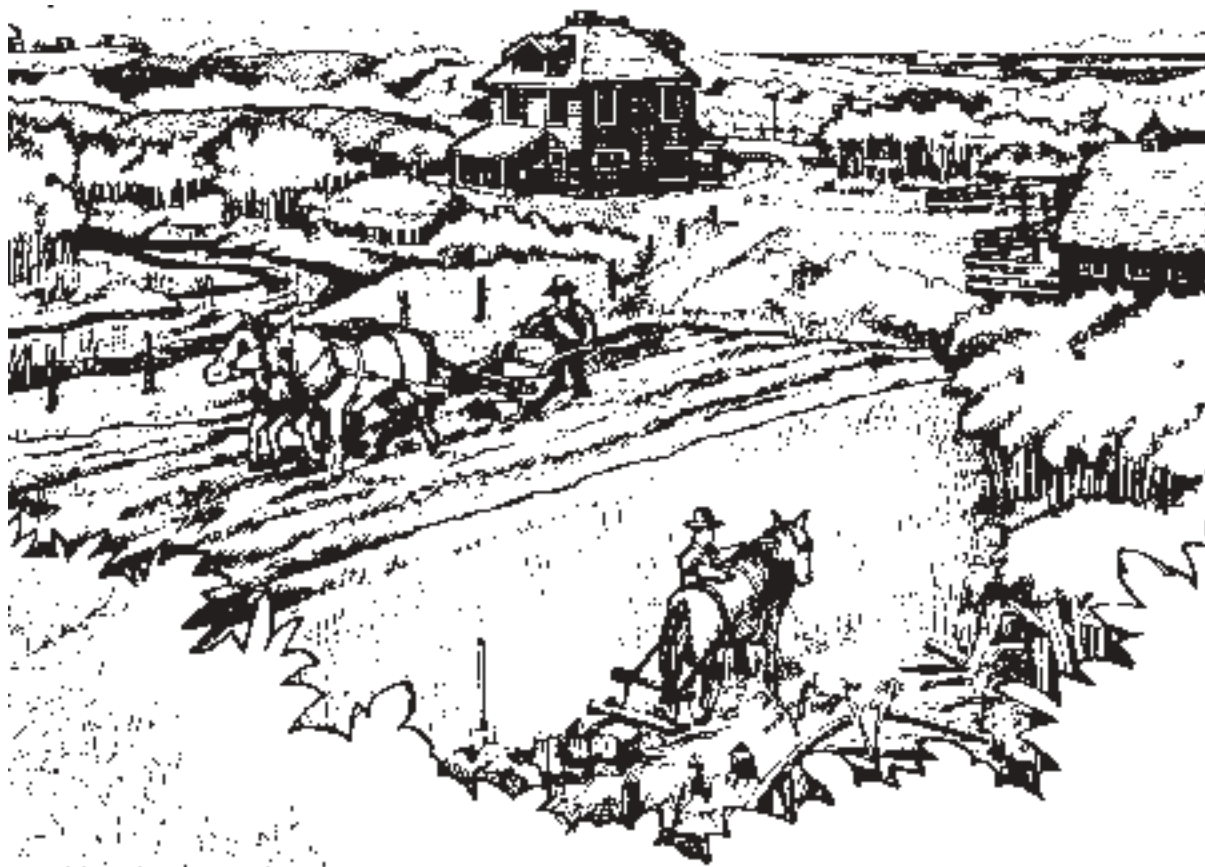


# History



Farm dugouts on the Canadian Prairies have been used as small, water storage reservoirs for many years. In areas where groundwater is either unavailable or of very poor quality, impounding surface runoff is often the only means of ensuring a continuous water supply. For the most part, dugouts capture the temporary surplus of surface water that occurs during snowmelt in the spring. Water may also be collected as runoff from summer rains, but it is typically of very low quality. In order to guarantee reliability of supply, storage capacity must be sufficient to compensate for years of insufficient runoff, summer losses due to evaporation, and winter losses due to ice formation.

During the drought of the 1930's, PFRA helped establish design standards for dugouts to make them a more reliable source of water. They also began offering financial incentives to producers who constructed dugouts according to prescribed design standards. Since the 1930's, PFRA and other government agencies have continued to improve the basic design of the farm dugout. More than 250,000 dugouts have been constructed on the Prairies over the last 100 years.

**Figure 1 Horse-Drawn Excavation**



Today, many farm operations have several choices for obtaining water supplies. Some now even have access to pressurized and treated water through rural water pipelines. Despite these advances, dugouts continue to be an important part of many farm water systems.

Dugouts are an important water source on the Canadian Prairies for a wide range of uses including:

- Irrigation
- Greenhouse production
- Pesticide spray mixing
- Livestock watering
- Aquaculture
- Household water supplies
- Human drinking water
- Fire fighting

Different dugout uses demand different levels of water quantity and quality, and in large part, determine the size, shape, location, and the type of management required.

Over the years, several agencies in all three Prairie Provinces have provided information and management advice to owners of dugouts. This information has been periodically updated as the result of fifty years of ongoing research. The provision of current dugout knowledge and management practices to dugout users helps to ensure that water is not a limiting factor in economic success or quality of rural life.

