

Irrigation Development.—Up to the end of March 1960, 54 irrigation projects had been initiated on which topographic surveys had been conducted on 163,128 acres. In addition, 326 miles of ditch had been constructed and 1,586 water-control structures built. Forty-five Water Users' Districts were organized, comprising some 202,669 acres.

Drainage and Flood Control.—Some work was done on 453 drainage and flood control projects. Topographic surveys were carried out on 191,865 acres, some 659 miles of ditch dug and 921 control structures built.

Land Development and Pasture Construction.—A total of 152 land development and community pasture projects had been worked on up to the end of the 1959-60 fiscal year. Some 68,717 acres of forage had been seeded and 1,113 miles of fence constructed. Approximately 750,000 trees had been planted in the afforestation program.

Community Pastures.—Through the Lands Branch of the provincial Department of Agriculture, the province has transferred title to 1,195,978 acres and leased without charge another 356,374 acres of land to PFRA for community pastures. Outside the PFRA program, the province has another 880,819 acres in 136 community pastures operated by co-operative associations, by municipalities or by the provincial Department of Agriculture; in 1960, 26 pastures operated by the province provided grazing for 25,000 head of cattle owned by 1,621 local farmers.

Development of Land for Cultivation.—Crown lands, either under cultivation or suitable for cultivation, are leased for 33-year periods. The province may reimburse farmers in cash for the cost of clearing and breaking virgin land or the farmers may retain crop shares equivalent in value to costs sustained. To Mar. 31, 1960, the investment of the province for land clearing and breaking amounted to \$7,960,961, and included work done in six settlement projects involving initial clearing and breaking on about 200 farm units before the land was leased.

Alberta.*—The Alberta Water Resources Act gives the Minister of the Department of Agriculture wide powers to investigate the water resources of the province and extensive surveys have been carried out to determine the distribution and extent of the available water supply in the province and the most beneficial use for irrigation, water power and other purposes. The Water Resources Branch of the provincial Department of Agriculture administers the licensing of water power projects and the construction work in several irrigation projects. Irrigation projects are also licensed and water allocated for domestic and irrigation purposes. Other work includes administration of drainage districts, co-operation on the Peace River dug-out project and on river protection projects where flooding occurs. In more recent years much of this work has been carried out by the Federal Government in co-operation with the Government of Alberta.

Stream measurement is being done by the Hydrometric Service of the federal Department of Northern Affairs and National Resources, and irrigation surveys are carried out largely by the water development organization under PFRA (see p. 421).

The figures given in Table 4 of land actually irrigated in Alberta in 1959 are only approximate because, while there are increases resulting from the creation of new pump irrigated areas, there are also decreases caused by soil reclassification and less water use, depending on natural precipitation. Seepage and alkali problems also have an effect on acreage quoted as irrigable. Figures for small private irrigation projects have been omitted because of their uncertain water supply.

Gross cash returns from the irrigable area are estimated at \$30,000,000 though this figure does not take into account the value of stockwater supplied through irrigation works. Nor does it include many other credit items that are difficult to evaluate such as the recreational use of water which, to these one-time semi-arid areas, is particularly important, and the value of fish taken from irrigation reservoirs which is known to be quite significant. Several communities receive their entire domestic water supply via irrigation canals.

*Revised in the Deputy Minister's office, Alberta Department of Agriculture.