

These surveys vary in detail, and to some degree in objectives, depending on such factors as the area being examined, and the availability of staff and time. Some watersheds have been surveyed on a reconnaissance scale with a very generalized survey. Others have been surveyed in detail with intensive field examination.

In all surveys extensive use is made of existing information. The chief source of data is the county soil report, produced jointly by the Soils Department, Ontario Agricultural College, and the Canada Department of Agriculture. These reports or maps have been published for 25 counties; data is available on most of the remaining counties in Southern Ontario for which reports have not yet been published.

Aerial photographs and topographic maps form the basis for recording field survey data. Such information as drainage conditions, erosion, degree of slope and the present use of the land are mapped in aerial photographs. This information forms the basis for maps of land conditions for a watershed and for compiling data on these conditions.

One end result of most of the surveys is the "Land Use Capability Classification" for the area surveyed. This system is based on the one originally developed by the United States' Soil Conservation Service, and adapted to Ontario conditions by the Ontario Agricultural College.

The system divides land into eight possible classes. These range from class 1 to class 8. All factors that contribute to the land's capability or limitations are considered in assigning land to the particular classification. Degree of slope, the presence of stones, drainage conditions, and susceptibility to erosion are factors contributing to the capability of the land. Class 1 land has few limitations and maximum capability. Class 2 land has some limitations; it may, for example, be slightly rolling or slightly stony. As the limitations on the use of land increase the class to which land may be assigned decreases. Class 8 land is the lowest class of land; in other words it has such great limitations that it is suitable only for wildlife or recreational use.

Because of differing areas and problems, agricultural land use surveys have varied both in detail and in purpose. Examination has been made of 31 per cent of the area of watersheds within Conservation Authorities for land use conditions and soil problems. Reconnaissance surveys have been done on 20 per cent of the area while detailed surveys have been carried out on 11 per cent of the area. In reconnaissance surveys as much as possible of solids and land use data is collected from aerial photographs and from soil maps. Field examination is done only in so far as necessary to adequately check the sources of information from the maps and photographs. This provides a satisfactory and usable general picture of land conditions in a watershed and is useful where the watersheds to be surveyed are quite extensive. When an extensive survey does not provide enough information a detailed survey is carried out. Detailed surveys may be done on a sample area of the whole watershed or on the watershed of a tributary of the main stream. Small watersheds selected for intensive land use study are often referred to as "little valleys". Conditions within one small valley of a watershed can often be regarded as representative of the whole watershed.

In detailed or little valley surveys the whole area selected or study is given intensive examination in the field. All information affecting the use and management of the land is recorded.

Studies have been made of several areas which have special land uses. Thedford Marsh in the Ausable River Watershed, several marshes in the South Nation Watershed in Eastern Ontario, and part of Holland Marsh have been