

The National Air Photo Library of Canada offers a complete, rapid reference service to all users of the most comprehensive storehouse of aerial photography in existence.

Canada's Air Photo Library

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INTRODUCTION

MEMBERS of the American Society of Photogrammetry have continued to show throughout the years an active interest in Canada's National Air Photo Library. As early as 1935, and again in 1938, references to this unique organization were made in papers delivered to the Society. In the discussion that followed these papers, it was suggested that members of the Society who were engaged in the aerial photographic industry, and in the Army Air Corps, should consider the organization of Canada's Library, and work together towards the establishment of a similar agency in the United States. In view of the degree of success that the Library has since enjoyed, it would seem timely to review its history, organization, and activities.

HISTORY

Even though the National Air Photo Library was officially established February 7, 1925 only to function as the central reference library for all national air photography, it was actually operating as far back as 1920 when the need for systematic filing and storage became apparent with the accumulation of photographs taken during the first experimental photo flights conducted from 1920 to 1923. At that time, in addition to the filing and storage of the air photos, they were processed and printed within the same organization as the library. Later, as the Canadian Air Force became more involved in the taking of air photography, the storage of negatives, the processing, and the printing became the responsibility of the library and remained so until recently when this function was transferred to the Surveys and Mapping Branch.

ORGANIZATION AND ACTIVITIES

The Library is a unit of the Surveys and Mapping Branch of the Department of Mines and Technical Surveys in Ottawa. It maintains complete records of all survey photography taken by and for the Federal Government, including a copy of each photograph and data relative to the location and altitude of the flight lines, the flying agency, the film, and camera. The flight lines of each project are indexed on the latest published maps and filed according to the national topographic system. The specifications for the photography are prepared by the Interdepartmental Committee on Air Surveys. All photos are annotated to conform to the Library's system of numbering. Consequently, the available federal coverage of any area can be identified quickly, and the pertinent photos can be viewed in a matter of minutes.

The files of the Library contain approximately 3,000,000 oblique, vertical, and trimetron photographs, providing an aerial view of all of Canada. This vast picture collection holds vital information, not only for map makers, but for the many people interested in the development of Canada and its natural resources. The demands on the services of the Library are increasing each year; requests for information and photos have increased by 50 per cent in the past ten years. Since 1953 the average yearly production—including contact prints, enlargements, contact diapositives, multiplex diapositives, mosaics and lantern slides—has totalled more than 400,000 items, and has twice exceeded the half-million mark. The number of orders placed in the first four months of 1964 is 12 per cent higher than that for the corresponding period in the previous year. Requests for information and photo

coverage are received from all parts of Canada and the United States, with ten per cent of the inquiries coming from outside of Canada.

Liaison with the various provincial air photo agencies enables the Library to maintain information regarding provincial survey photography. Likewise, these agencies are furnished with copies of the index maps of federal cover within their respective boundaries, as well as copies of the Library's air photo coverage map, which shows all the available federal air survey cover by date and scale.

USERS OF THE LIBRARY

The policy of having all of the federal air survey photos stored in one central location

action programs, and eventually work programs, in agricultural economics, rehabilitation and development, from the Yukon to Newfoundland. These policy programs can often be expedited by a quick study, at the Library, of changes that can be interpreted by comparing two or more photo coverages taken at intervals of years.

ENGINEERING AND CONSTRUCTION

Access to the Library photos for exploratory interpretation in connection with road location leads to a saving in both time and money to the Engineering and Construction Division of the Department of Public Works. Multiple coverage of areas is also an important factor to this department. For example:

ABSTRACT: The National Air Photo Library of Canada is a central repository for all aerial photographs taken by the various governmental departments, and with complete liaison with the provinces. The Library maintains complete records of all survey photography including a copy of all survey photography including a copy of each photograph and the relevant data. The flight lines of each project are indexed and filed according to the national topographic system. A special numbering system is devised to assure rapid retrieval for any desired area in Canada. User groups include defense, agriculture, engineering, mines, forestry, rescue, and urban planning. The system has operated since 1920.

has proved to be of immeasurable value to all users of air photography, and it has been stated by many that the National Air Photo Library is the most comprehensive such store house that can be found anywhere. The extent to which the information, and the Library photos, are depended on by federal departments is considerable.

NATIONAL DEFENCE

A large number of National Defence requests have been filled with photography held by the Library. For example, during only the past twelve months, 317 orders have required photography indexed in the Library, and this covered a total of some 71,250 items. In addition, a large number of Defence requirements have been cross-checked with the Library to aid in determining the most suitable coverage available.

AGRICULTURE

Recently 72,000 photos covering areas in five provinces, were selected in less than three weeks time at the request of a federal department for use in a land-appraisal program. The Economics Division of the Department of Agriculture is frequently called on to initiate

(1) Rustico Harbour, Prince Edward Island, was photographed seven times between 1935 and 1962, which coverage proved invaluable for studies of the effect of the tides over a period of time on the shore and in the channels; (2) in suburban areas where disputes arise from flooding due to blockage or diversion of streams, the use of air photos taken before and after construction can establish the original course of the stream and identify the responsibility.

MINERAL SURVEYS

In the case of mineral claim disputes, the Resources Division of the Department of Northern Affairs and National Resources has been able, lacking adequate map coverage, to examine thoroughly the Library photos of a disputed area before proceeding to the field to check the posts on the ground. On many occasions, the Library has made it possible to forward the photos to the field officers almost immediately, thereby minimizing the delay in determining ownership of the mineral claims under dispute.

FORESTRY

As soon as a forest field project is planned,

engineers of the Department of Forestry visit the Library to examine all the available photography covering the particular area; the most recent photos to determine the area's suitability for their present requirements, and the old photography to note changes in culture since the area was first photographed. Air photography is the best means for examining both remote and developed areas to ascertain how they appear today.

SEARCH AND RESCUE

The availability of the photos and index maps for immediate reference has been extremely valuable to many rescue operations. Some years ago an RCAF aircraft was believed to have crashed in a region of wooded hills and thick brush, and it was decided to use the air photo coverage to brief the searchers. Within 24 hours of the request for assistance, the Library copies of the photos covering the region were selected and flown to the area for use in the search operation.

URBAN PLANNING

Air Survey photography is practically the only source of information for the planning, construction, and development of settlements and engineering work scattered over an area of approximately 1,800,000 square miles of northern Canada. A tremendous saving in man-hours and money is realized in having access to the Library photos for study purposes. Furthermore, the availability of the

Library collection avoids the necessity for maintaining individual departmental libraries. Although Library prints have been provided in emergencies on a replacement basis, the policy of not supplying groups of photos on loan ensures that the file copies are always available for ready reference. Many representatives of government and commercial organizations take advantage of the facilities offered by the Library, and spend considerable time examining the file copies in order to determine the extent to which the Library can fulfill their exact requirements.

GENERAL USES

Perhaps the greatest source of benefit to users, apart from map makers, consists of our several hundred thousand *old* verticals and obliques which provide pictorial information of historical significance. This old coverage is by far the best contemporary history of any region, and many of the photos constitute the only existing photographic record of the time.

CONCLUSION

Having completed 45 years of extremely satisfactory operation under continually changing circumstances, it can only be concluded that the original concept of establishing a central air photo library on a national basis was the correct action to take, and there is every reason to expect that the originally conceived organization, apart from minor administrative and procedural changes, will enjoy many more years of successful service.