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# Finding Ministry of Natural Resources Aerial Photography

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**232** Research  
Guide

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This research guide has information about Ministry of Natural Resources Aerial Photography at the Archives of Ontario. Use this guide to help search and order aerial photographs.

## THE RECORDS

There are two principal aerial photography collections within the Ministry of Natural Resources (MNR) records at the Archives of Ontario: **Forest Resource Inventory (FRI) aerial photography** (RG 1-429) and **Ontario Base Mapping (OBM) aerial photography** (RG 1-628). These records, along with the many other related records, are described in our Archives Descriptive Database on our website: (<http://www.archives.gov.on.ca>).

## HISTORY AND FUNCTION

The **Forest Resource Inventory (FRI)** was initiated in 1946 to identify and map forest stands in Ontario. These photographs were taken at a relatively large scale and low altitude, throughout the summer when tree foliage is full. The program produced three cycles of FRI mapping, however, areas considered productive forestry land may have anywhere from three to six years of available photography. These records consist of vertical aerial photography, where the photographs were taken directly overhead with the axis of the camera perpendicular or nearly vertical to the ground at the time of exposure.

The **Ontario Base Mapping (OBM)** aerial photography was created for the Ontario base mapping program by the Ministry of Natural Resources. Ontario Base Mapping photography was initiated in 1975 and was concluded in 1995. These photographs were taken at a low scale and high altitude, covering more ground than FRI photographs. Taken in the spring or fall, when tree foliage was at a minimum and snow not present, these photos document some ground features not visible in FRI photographs.

## **ELEMENTS OF AN AERIAL PHOTOGRAPH**

Aerial photography acquired from the Ministry of Natural Resources (MNR) so far consists exclusively of black and white photographs and in most cases the image dimensions are 9 x 9 inches. All prints are termed 'contact' prints, meaning the print is the same size as the original negative.

### **Numbering**

#### Forest Resource Inventory (FRI) Photography

FRI photos are generally numbered according to the **Year, Film Roll Number, Flight Line Number** and **Photo Number**. This information is usually found on the bottom right side of the photo in the following manner:

e.g.:    95 (year)                                    4511 (flight line number)  
          48 (film roll number)                    92 (photo number)

The Year references the last two digits for the year the image was taken. The Film Roll Number represents the number assigned to the film by the Ministry of Natural Resources. The Flight Line Number is usually two or four digits in length. The Photo Number references the image number on the original negative. This number increases from west to east along a flight line.

Exceptions in numbering you may come across in the FRI aerial photograph collection:

#### Note:

- Some project areas in the earliest years of photography were designated by letters representing years: N = 1946, O = 1947, P = 1948, Q = 1949, R = 1949
- "2.71" – Refers to the second photography project undertaken in 1971
- "54R" – Refers to "Revision Photography" undertaken in 1954. Typically, revision photography was taken when previous photography was damaged or otherwise insufficient.

### **Expressing FRI negative numbers:**

Negative roll and image reference numbers have been expressed differently in different applications.

**Example:** Year 1960, roll 42.

### **Index maps**

On Regional Index Maps and Docket Index Maps, which typically only depict one year of photography per map, negative roll numbers appear at the end of flight lines. Roll numbers can sometimes be found identified as **R42** (R used to denote “roll”) or simply **42**.

### **Archives Descriptive Database**

In the Archives Descriptive Database (ADD) FRI negative year and roll numbers are combined together to form a single identifier for each roll. For the example above, this would be expressed as **60-0042** (with zero packing).

### Ontario Base Mapping (OBM) Photography

OBM photos are numbered according to **Year-Scale Identifier**, **Line Number**, **Film Roll Number** and **Photo Number**. This information is usually found on the bottom right side of the photo in the following manner:

e.g.:    **B83-30** (year-scale identifier)    **22** (line number)  
              **162** (film number)                    **127** (photo number)

The Year-Scale identifier references the year in which the photograph was taken (in this case 1983) and the scale of the image. The scale is almost always 30 or 50, indicating the scale of photography as 1:30,000 or 1:50,000. The Line Number is a one or two digit number that increases with movement northwards. Unlike FRI photography which uses the “Docket” grid system to identify latitude and longitude coordinates of photography, the OBM photography was plotted on project area maps. The Photo Number is between one and three digits and references the image number on the original negative. This number typically increases from west to east along a flight line.

### **Stereo Coverage**

Both FRI and OBM aerial photographs are flown with an endlap of approximately 60% (an adjacent overlap of photos along the same flight line). This endlap, or overlapping, allows users to view features on the photograph stereoscopically or in three dimension.

By viewing the given feature or features from two perspectives, using two adjacent or 'stereo' photographs, one can sense depth perception.

Sidelap refers to the adjacent overlap of photos between flight lines of coverage. It is usually around 10% and was taken to ensure complete photo coverage of an area. By using sidelap, it is possible to view the area duplicated on photos between flights lines stereoscopically.

Note: Heights of objects appear to be greater when viewed stereoscopically. This is known as vertical exaggeration and refers to the vertical scale being exaggerated in relation to the horizontal scale.

## RELATED RECORDS

To locate related indexes and finding tools contained within the FRI and OBM series, search our Archives Descriptive Database ([http://ao.minisisinc.com/scripts/mwimain.dll?get&file=\[ARCHON\]search.htm](http://ao.minisisinc.com/scripts/mwimain.dll?get&file=[ARCHON]search.htm)) for more information on the following sub-series:

### Forest resource inventory (FRI) Photography

Reference Code	Title
RG 1-429	Forest resource inventory records
RG 1-429-1	Forest resource inventory forest stand township master maps
RG 1-429-2	Forest resource inventory forest stand map composites
RG 1-429-3	Forest resource inventory forest stand map negatives
RG 1-429-4	Forest resource inventory forest stand basemaps
RG 1-429-5	Forest resource inventory area and volume data
RG 1-429-6	Forest resource inventory files
RG 1-429-7	Forest resource inventory aerial photograph prints
RG 1-429-8	Forest resource inventory aerial photograph negatives*
RG 1-429-9	Forest resource inventory aerial photograph docket index key maps
RG 1-429-10	Forest resource inventory aerial photography docket index maps
RG 1-429-11	Forest resource inventory aerial photography regional flight index maps
RG 1-429-12	Forest resource inventory aerial photography date coverage index maps
RG 1-429-13	Forest resource inventory aerial photograph docket listing

RG 1-429-14	Forest resource inventory aerial photograph negative registers
RG 1-429-15	Forest resource inventory aerial photograph geographic index cards
RG 1-429-16	Forest resource inventory aerial photography flight reports
<p><b>*PLEASE NOTE:</b> Access to the original negatives under RG 1-429-8 is closed for conservation reasons. Please contact a Reference Archivist for further information.</p>	

Ontario Base Map (OBM) Photography

Reference Code	Title
RG 1-628	Ontario base map records
RG 1-628-1	Ontario base map aerial photograph prints
RG 1-628-2	Ontario base map aerial photograph negatives*
RG 1-628-3	Ontario base map aerial photograph project reference maps
RG 1-628-4	Ontario base map aerial photograph project flight index maps
RG 1-628-5	Ontario base map aerial photography flight planning records
RG 1-628-6	Ontario base map aerial photograph negative index
RG 1-628-7	Ontario base map aerial photography flight reports
RG 1-628-9	Municipal aerial photography negatives*
RG 1-628-10	Ontario base maps
<p><b>*PLEASE NOTE:</b> Access to the original negatives under RG 1-628-2 and RG 1-628-9 is closed for conservation reasons. Please contact a Reference Archivist for further information.</p>	

## INDEXING

### Indexing Forest Resource Inventory (FRI) Photography

FRI photography is indexed by two types of index maps which cover all available photography taken between 1946 and 1999.

#### **Docket System**

7.5 minutes of latitude by 15 minutes of longitude (each degree is divided into 60 minutes; each minute is divided into 60 seconds). Each base map is identified by a unique six-digit number that marks the latitude and longitude of the upper left-hand corner of the map sheet or base map. In each 1 degree by 1 degree quadrangle or box, there are 32 FRI base maps arranged in 4 columns (60 minutes/15 minutes = 4) and 8 rows (60 minutes/7.5 minutes = 8).

The **Docket Index Maps** (RG 1-429-10) record the flight lines, negative roll and image numbers superimposed on topographical maps. There is typically one docket index map for each year of photography in a docket area.

The **Docket Key Index Maps** (RG 1-429-9) serve as a high-level index to the individual Docket Index Maps and can be used to help initially locate a docket number.

The **Regional Flight Index Maps** are smaller-scale maps that show all black and white FRI aerial photography taken for a particular project, job or year and generally represent larger areas than the docket index maps. FRI regional indexes are filed by year and typically do not have docket grids marked on them.

### Indexing Ontario Base Map (OBM) Photography

The OBM aerial photography is grouped by project area identified by a project name comprised of one, two or more geographic names (e.g. Ottawa-Cornwall).

The OBM aerial photographic prints are indexed by **OBM project flight index maps** (RG 1-628-4) which record the flight lines, negative roll and image numbers, superimposed on topographical maps.

OMB pilot photography taken in 1975 is indexed on base maps created by the Department of Energy, Mines and Resources (Canada) and bear the geographic area names assigned by that department.

# HOW TO ACCESS THE RECORDS – A PATHFINDER

This section will guide you through the process of locating MNR aerial photography, whether you are starting with a geographic location or already know the number for the image you wish to consult.

When searching for specific images in the FRI photography collection, you need to know the geographic location you are looking for, as well as the year (between 1946 and 1999). From there you can begin to locate the roll number, the flight line number and the image number. Follow the instructions below to help you navigate these records.

Users have a couple of options for searching the geographic location of MNR aerial photography. All FRI and OBM photography (1946-1999) is indexed on paper maps of various kinds described below, however, some of the most recent photography (ca.1978-1999) for any given area is digitally mapped through the Aerial Photo Selection Interface (APSI).

## FINDING THE MOST RECENT PRINTED AERIAL PHOTOGRAPHY AVAILABLE

### Aerial Photo Selection Interface (APSI)

The APSI is located in the Black and White Aerial Forestry Photos, under the Start Your Research section of our website.

The image number for the most recent black and white photo for a given area can be found in the APSI. Users can navigate through the different layers of the map within the APSI, to zoom in on the area of interest. Once at the lowest level you will be able to see individual photo number which includes the year, roll number, flight line and image number, expressed in one line (e.g. **1978-R273-4423-191**).

Below the B&W Photo number, the APSI also provides additional information about the photograph. Some FRI images have the docket number recorded within the data in APSI, while for others this field is blank. Users can search the ADD for the roll number. The roll number for the example provided above would be expressed as **78-0273**.

Note: If the docket number was not recorded, please contact the reference staff at Archives of Ontario or visit one of the reference desks in the Reading Room for assistance.

The APSI serves primarily as an index for FRI photography, however, a relatively small number of OBM photos are mapped within the index.

## **HOW TO FIND ALL AVAILABLE PRINTED AERIAL PHOTOGRAPHY**

While the APSI is a useful index for the most recent photographic coverage (in the Archives' holdings), to access earlier years of photography you will need to consult other indexes which are available through the Archives of Ontario Reading Room.

### **Forest Resource Inventory (FRI) Photography**

#### **STEP 1: Identify the Geographical Location**

##### **1a) Docket Key Index Map (RG 1-429-9)**

The docket key index maps are a series of topographical maps of Ontario overlaid with a grid system which identifies the latitude and longitude coordinates of a particular area. Use the docket key index map for the area of Ontario you wish to consult and find the docket number(s).

You may wish to consult more detailed supplementary maps, such as Google Maps, to help you identify a specific area or region on the docket key index maps of Ontario.

Once you know the location you wish to look for, go to **STEP 2**.

**OR**

##### **1b) Regional Index Maps (RG 1-429-11)**

Regional Index Maps were created for each project area in which aerial photography took place between 1946 and 1997. They are often identified by a project number or geographic area name.

If the Regional Index Map(s) have provided sufficient information to locate a specific photo(s), go to **STEP 3**. Otherwise proceed to **STEP 2** based upon information obtained from **STEP 1a**.

#### **STEP 2: Find the Photograph Number**

When you know the geographic location you are looking for, you have two options to narrow down your search to locate the image number.

##### **Option 1: Docket Index Maps (RG 1-429-10)**

Having obtained the docket number in **STEP 1a** for the geographical location you are looking for, you can use the Docket Index Maps to locate the flight line number, the roll number and the image number.

To locate the container number for the docket index map(s) you wish to consult, view the online listing for RG 1-429-10 (Forest resource inventory aerial photography docket index maps) in the Archives Descriptive Database (ADD) and search by the six digit docket number.

### **STEP 3: Archives Descriptive Database (ADD) online file listing**

Using the Archives Descriptive Database (ADD) on our website (<http://www.archives.gov.on.ca>).

The ADD contains listings for over 88,000 files of FRI photograph prints and over 2,000 files of OBM prints. By using the '**File & Item**' search area of the ADD, users can narrow the area of focus by a specific docket number, roll number, flight line number, etc.

#### **3a) How to locate photography by docket number:**

Keyword search: Six digit docket number (e.g. **436792**)  
Archival Reference Code: **RG 1-429-7**

Be sure to refer to at least one file level description for each year of photos for the docket to find the container for the docket index maps.

#### **3b) How to locate a specific photograph:**

If you have identified a specific image number you wish to view, perform a search by the **roll number** and **flight line**. Individual photograph numbers are only identified by their ranges within each file.

Keyword search: (e.g. roll 253 for the year 1978 on flight line 4168)  
Search = **78-0253 and 4168**  
Archival Reference Code: **RG 1-429-7**

The listing identifies the year(s) of photography available for any given docket, status of prints, container number and barcode. A separation note field for each listing indicates the location of related docket index map(s) under **RG 1-429-10**. Order both the FRI box containing the prints and the box containing the docket index maps when placing your order. Order using the reference code, container number and barcode.

### **STEP 4: Order the Records**

Once you have the box number (barcode) and the record groups number (RG 1-429-7), you can place an order for these items at the Reading Room reference desks or call us to order a retrieval request. FRI photographs are stored onsite and can be retrieved hourly, on the half hour, Monday to Friday, but must be ordered in advance for viewing on evenings and Saturdays.

We will process email, phone and mail requests for reproduction of FRI photography. When ordering, the Archives of Ontario staff requires the following information:

- Year
- Roll Number



Once you have the location of the Project Flight Maps (RG 1-628-4) and the Ontario Base Map aerial photograph prints (RG 1-628-1), go to **Step 3**. Use this information to order in the boxes.

### **STEP 3: Order the Records**

Once you have identified the containers you require, you can place an order for both photograph boxes and index map boxes at the same time for viewing in the Archives of Ontario Reading Room. If you have all the information recorded, you can also call or email your retrieval request to us.

### **Ordering Reproductions**

We will process email, phone and mail requests for reproduction of OBM photography. When ordering, the Archives of Ontario staff requires the following information:

- Year
- Film Roll Number
- Flight Line Number
- Photo Number
- Name of Project
- Container Number and Barcode

Refer to the Archives of Ontario *Customer Services Guide 105: Reproduction Services and Fees* for available options for reproducing these records.

## ADDITIONAL SOURCES FOR AERIAL PHOTOGRAPHY FOR THE PROVINCE OF ONTARIO

For additional sources for aerial photography for the Province of Ontario, see the listing below:

### Archives of Ontario

**RG 14-183 Transportation Engineering and Standards Branch highway aerial survey files (1972-1994, 1996-200):** Series consists of records created and accumulated by the Geomatics Office in the Transportation Engineering and Standards Branch. The records were used to plan and conduct aerial surveys of MTO highways and proposed highway locations throughout Ontario.

**C 30 Northway-Gestalt Corporation fonds (1949-1969):** Fonds consists of low-level oblique aerial photographs. These images include stock shots of various geographical regions throughout Ontario for aerial survey purposes as well as for speculative and publicity purposes.

**C 285 McCarthy Aero Services fonds (1919?-1920):** Fonds consists primarily of 4"x 5" black and white aerial oblique photographs of various cities, towns and locations throughout southern Ontario, Quebec and the United States.

### Government of Canada

**National Air Photo Library:** For information, visit their website at <http://airphotos.nrcan.gc.ca/> or by calling 1-800-230-6275.

## MAKING CONTACT

### Ready and Willing

Although we are unable to do your aerial photograph research for you, our reference archivists are waiting to assist you. You may telephone or write to them by mail or email or — best of all — visit the Archives of Ontario.

### Contact us

**Telephone:** 416-327-1600 Toll free (Ontario): 1-800-688-9933

**Fax:** 416-327-1999

**Email:** [reference@ontario.ca](mailto:reference@ontario.ca)

**Address:** Archives of Ontario, 134 Ian Macdonald Blvd., Toronto, ON M7A 2C5

## **Website**

For information about the Archives' holdings, as well as access to research guides and other customer service materials available through the Archives of Ontario, please visit our website <http://www.ontario.ca/archives>.

## **Customer Service and Research Guides**

The Archives of Ontario has published a series of in-depth research guides on a variety of specific topics. For more information, please see Research Guides and Tools under Start Your Research on the home page of the Archives website.

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