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INVENTORY OF AERIAL PHOTOGRAPHY AND OTHER REMOTELY SENSED IMAGERY OF MINNESOTA

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INVENTORY OF AERIAL PHOTOGRAPHY AND OTHER REMOTELY SENSED IMAGERY OF MINNESOTA

Prepared by:

Minnesota State Planning Agency
Environmental Planning Division
100 Capitol Square Building
550 Cedar Street
St. Paul, Minnesota 55101

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Room B-46 State Capitol

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Documents Section
140 Centennial Building
658 Cedar Street
St. Paul, Minnesota 55101
Phone: (612) 296-2874

June 1977

PREFACE

The Minnesota State Planning Agency will establish a Mapping and Remote Sensing Information Center for Minnesota soon after July 1, 1977. During the first biennium of operation, the Center will:

(1) Compile a complete inventory of all maps and remote sensing products available to the Minnesota public. The Center will not be the depository for all of these products, but it will be able to refer potential users to the location of mapping and remote sensing products. The Center will disseminate information on mapping and remote sensing products located in:

   (a) all public agency depositories and private collections available for public use,

   (b) any national information centers,

   (c) any information centers in other states, and

   (d) other places where maps or remote sensing products may be ordered or purchased.

(2) Publish the finding of various inventories and distribute the findings to a wide audience of existing and potential users of mapping and remote sensing products around the state. Publications should include:

   (a) quarterly reports of new products and services,

   (b) annual status reports of major programs,

   (c) biennial status report to the Legislature, and

   (d) comprehensive catalogs of all major map and air photo holdings every five years.

The staff of the Information Center and a reference room for user research will be located in Room 15 of the Capitol Square Building, 550 Cedar Street, St. Paul, MN 55101. Persons desiring information on various mapping and remote sensing products in Minnesota should direct their inquiries to the Center. In addition, new or revised information should also be sent to the Center.

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INTRODUCTION

Since its creation in 1965, a major function of the Minnesota State Planning Agency (SPA) has been to supply information and data to various potential users. This inventory is another in a series of publications dealing with natural and cultural resources of the state as presented on maps or photographic imagery. This publication is the most comprehensive inventory of remote sensing products ever prepared for the state. Present plans call for publishing updated inventories every five years.

In compiling this inventory, SPA attempted to contact every public agency with photographic coverage of portions of Minnesota. In addition, the agency contacted several private agencies which have imagery of Minnesota and will allow public use.

It is likely that some imagery has been inadvertently omitted from this inventory. Anyone who has information on such imagery and who wishes to include corrections or additional information for future publications should fill out the postcard found at the back of this publication.

Because of the great amount of photographic coverage available in Minnesota and the scale of mapping in this inventory, the coverage information presented here has been generalized to some extent. Therefore, users are advised to call or visit the specific agency that has coverage in their area of interest.

This inventory has been divided into three sections. The first section describes remote sensing coverage by the major contracting agencies. The second section organizes the remote sensing coverage information by counties. The third section, the appendix, includes (A) a general description of remote sensing, (B) a table of common scales on maps and aerial photographs and their equivalents, and (C) examples of order blanks of the major contracting agencies.

Section 1: Contracting Agencies

A wide variety of federal, state, county, local and private agencies contract for aerial photography or other remotely sensed imagery covering various portions of the state of Minnesota. The majority of these agencies have depositories or collections of images available for public use. This inventory contains information from 18 agencies which allow public use of their imagery. The following information collected from these agencies is presented in this section:

- for each agency there is a brief introduction describing the purpose of the agency in purchasing the imagery and how the imagery is used;
- the most common imagery obtained by the agency is described, including identification of the film type, scale of the imagery, lens focal length and the season of coverage;
- the imagery coverage area is identified by both the written description of areas and by a state map;
- directions are given where the images can be viewed by the public (since many agencies have limited facilities for storing and viewing, it is advisable to phone ahead for an appointment);
- directions are given where copies of the images can be purchased by the public (it is advisable to contact the agency before ordering imagery to obtain current prices and to determine exactly how to identify the images desired). In some cases, only one source of photography is listed. By listing these sources, the State of Minnesota is not endorsing products, but merely listing their availability.
- an address and phone number are listed for each agency which can be used to obtain further information on the agency and its imagery.

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Stabilization and Conservation Service (ASCS)

The largest single source of aerial imagery of Minnesota is the Agricultural Stabilization and Conservation Service. Since the 1930's the ASCS (and its predecessor the Agricultural Adjustment Administration) has secured imagery of Minnesota on a county by county basis for use in the determination of crop and farm acreage, and the implementation of agricultural disaster programs.

Most Common Imagery Obtained

Film: Black and white panchromatic

Scale: 1:20,000 (1935-1969, 1971); 1:40,000 (1970, 1972-1974)

Lens focal length: $8\frac{1}{4}$ inches (1:20,000); 6 inches (1:40,000)

Season: Summer (leaf-on)

Coverage Area

All the counties of Minnesota were flown during the first few years of the program (1935-1940). Since that time the ASCS has attempted to fly the counties (especially the agricultural counties) on a five to ten year rotation. However, no images were taken during the years 1975 and 1976, and future coverage is uncertain.

Where can the images be viewed?

The most recent images of each county (see map on facing page) can be viewed at the state ASCS office or at the respective county ASCS offices. Many of the earlier images of the counties are housed in various college and university libraries. The largest collection is at the Map Division, S76 Wilson Library, of the University of Minnesota, Minneapolis (West Bank). All the original negatives and prints of the photographs taken during the years 1935-1940 are stored in the National Archives (see the section on the General Services Administration, page 25).

Where can the images be purchased?

Copies of any ASCS imagery can be ordered from the National ASCS office (order blanks are available by mail or from the state and county ASCS offices, see Appendix C).

Aerial Photography Field Office
ASCS-USDA
2222 West 2300 South, PO Box 30010
Salt Lake City, Utah 84125

For additional information

Agricultural Stabilization and Conservation Service
230 Federal Building
316 North Robert Street
St. Paul, Minnesota 55101
Phone: 725-7663

Section 1: Contracting Agencies

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- the most common imagery obtained by the agency is described, including identification of the film type, scale of the imagery, lens focal length and the season of coverage;
- the imagery coverage area is identified by both the written description of areas and by a state map;
- directions are given where the images can be viewed by the public (since many agencies have limited facilities for storing and viewing, it is advisable to phone ahead for an appointment);
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Season: Summer (leaf-on)

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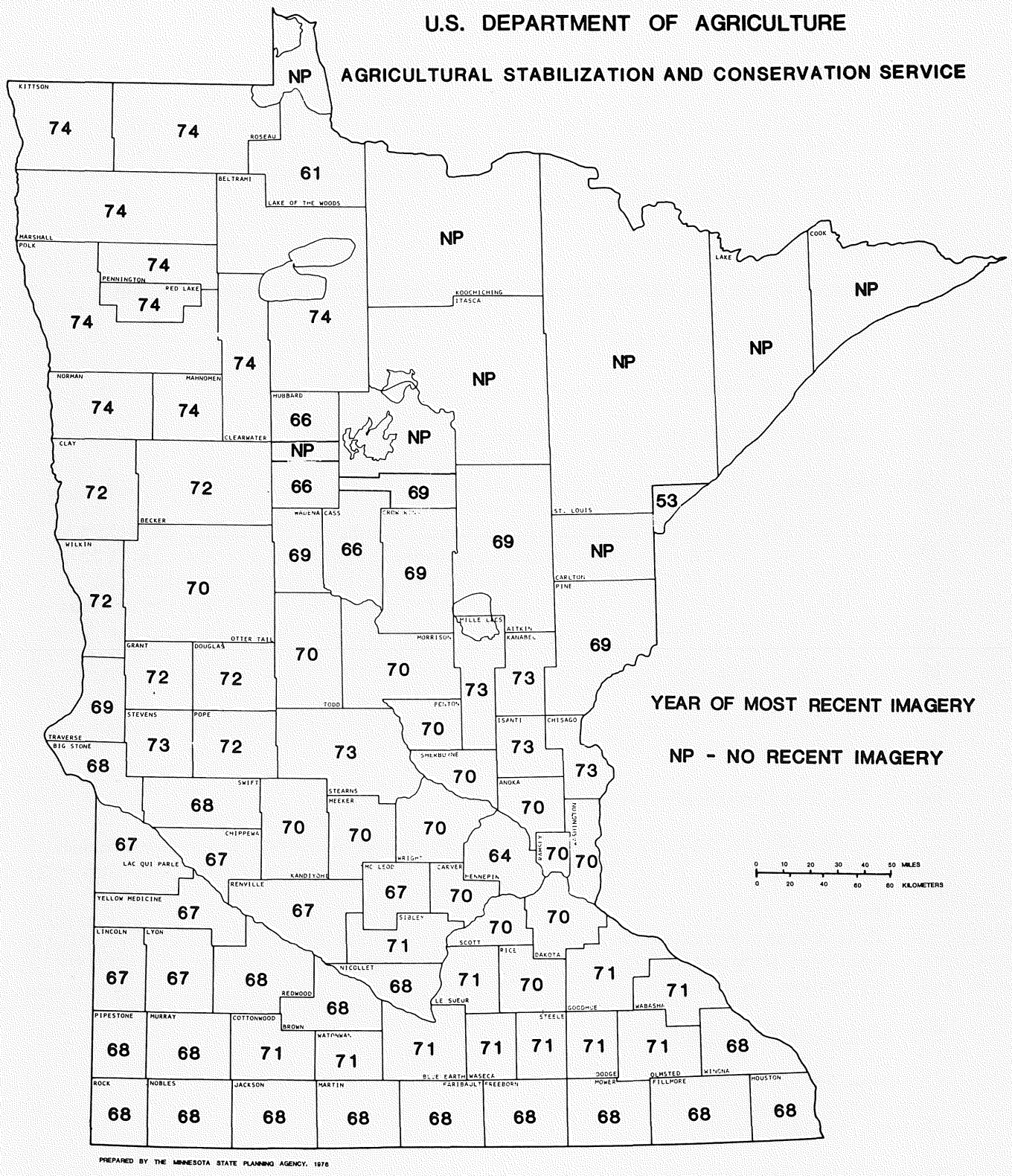
Where can the images be purchased?

Copies of any ASCS imagery can be ordered from the National ASCS office (order blanks are available by mail or from the state and county ASCS offices, see Appendix C).

Aerial Photography Field Office
ASCS-USDA
2222 West 2300 South, PO Box 30010
Salt Lake City, Utah 84125

For additional information

Agricultural Stabilization and Conservation Service
230 Federal Building
316 North Robert Street
St. Paul, Minnesota 55101
Phone: 725-7663


U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE
YEAR OF MOST RECENT IMAGERY
NP - NO RECENT IMAGERY
0 10 20 30 40 50 MILES
0 20 40 60 80 KILOMETERS
PREPARED BY THE MINNESOTA STATE PLANNING AGENCY. 1976

UNITED STATES DEPARTMENT OF AGRICULTURE
Forest Service (FS)

The aerial photographic coverage of Minnesota by the U.S. Forest Service has been limited to the Superior and Chippewa National Forests (see map on facing page). The U.S. Forest Service utilizes this imagery for timber inventory and the management of timber and wildlife resources and recreational areas and facilities.

Most Common Imagery Obtained

Film: Black and white panchromatic and black and white infrared

Scale: 1:15,840

Lens focal length: 6 inches

Season: Spring and summer (leaf-on)

Coverage Area

The entire Superior National Forest was flown in the years 1936-1937, 1948 and 1970. Parts of the Superior National Forest were flown in 1972. The entire Chippewa National Forest was flown in the years 1939-40, 1947, 1959, 1960, 1975 and 1976. The specific characteristics of the individual imagery (film type, scale and lens focal length) may vary from year to year.

Where can the images be viewed?

The images can be viewed in the respective National Forest offices in Cass Lake and Duluth.

Where can the images be purchased?

Copies of the images can be ordered from the Regional Forester (order blanks are available by mail or from the National Forest Offices, see Appendix C).

Regional Forester
U.S. Forest Service
633 West Wisconsin Avenue
Milwaukee, Wisconsin 53203

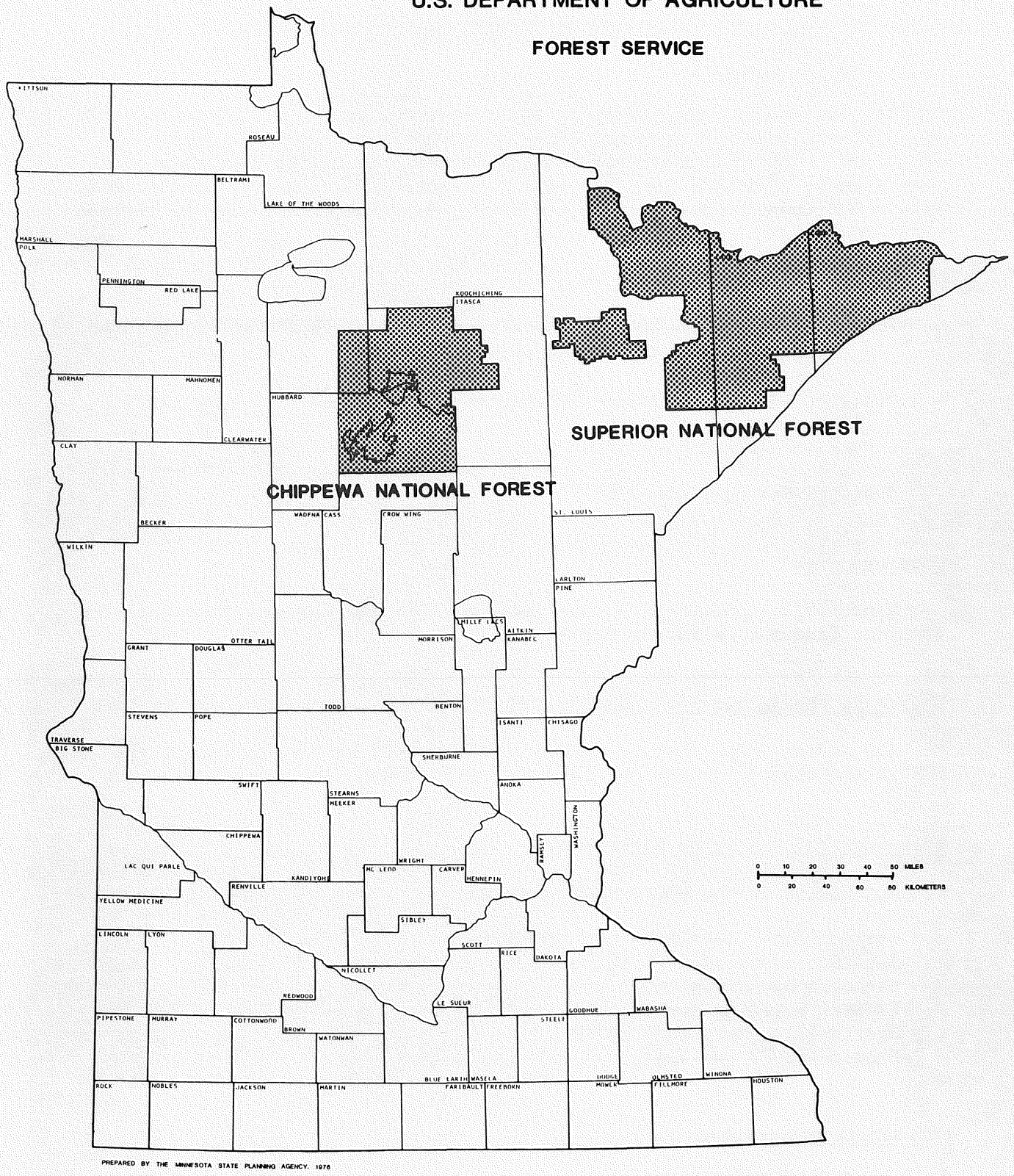
For additional information

Chippewa National Forest
Cass Lake, Minnesota 56633
Phone: (218) 335-2226

Superior National Forest
Post Office Box 338
Duluth, Minnesota 55801
Phone: (218) 727-6692

U.S. DEPARTMENT OF AGRICULTURE

FOREST SERVICE



PREPARED BY THE MINNESOTA STATE PLANNING AGENCY, 1976

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service (SCS)

The Soil Conservation Service began contracting for aerial photography of Minnesota counties in 1968. The photographs are used both in the field and in the SCS offices to assist in the preparation of county soil survey maps. Prior to 1968 the aerial imagery of the Agricultural Stabilization and Conservation Service was utilized in the preparation of the maps.

Most Common Imagery Obtained

Film: Black and white panchromatic and some black and white infrared (from color infrared negatives)

Scale: 1:48,000 negatives (prints at 1:15,840 and 1:20,000)

Lens focal length: 6 inches

Season: Spring (leaf-off)

Coverage Area

Since 1968, when the program began, the SCS has flown 30 Minnesota counties (see map on facing page).

Where can the images be viewed?

The aerial images can be viewed at the county survey offices of the SCS in the counties in which the images were taken.

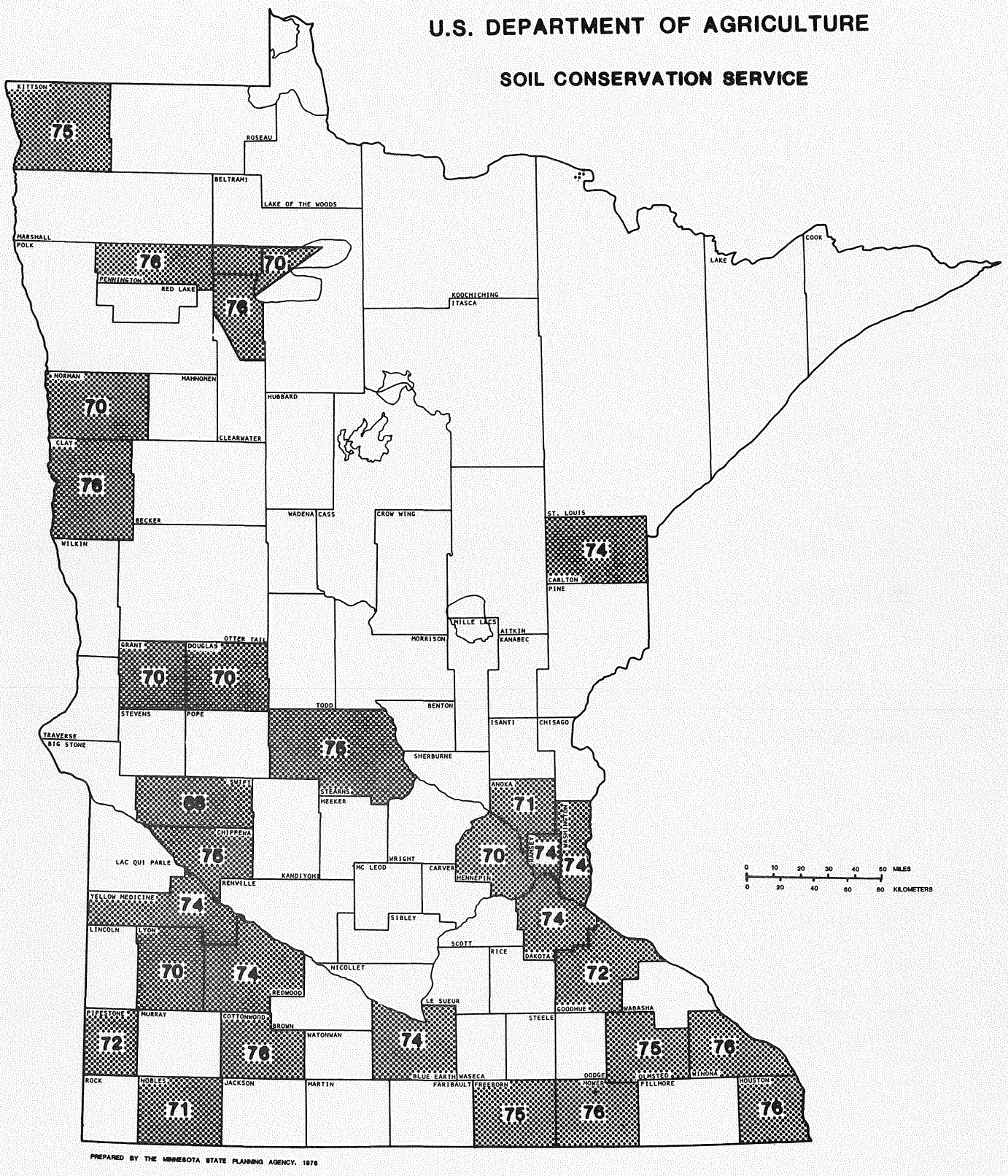
Where can the images be purchased?

For copies of the photographs contact:

United States Department of Agriculture
Soil Conservation Service
Cartographic Division
Federal Building Number 1
Hyattsville, Maryland 20782
Phone: (202) 447-4543

For additional information

Soil Conservation Service
200 Federal Building
316 North Robert Street
St. Paul, Minnesota 55101
Phone: 725-7675


U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
KITTSON
ROSEAU
BELTRAMI
LAKE OF THE WOODS
MARSHALL
POLK
PENNINGTON
RED LAKE
KOOCHICHING
ITASCA
LAKE
COOK
NORMAN
MAHNOMEN
HUBBARD
CLAY
CLEARWATER
BECKER
WILKIN
WADENA
CASS
CROW WING
ST. LOUIS
CARLTON
PINE
GRANT
DOUGLAS
OTTER TAIL
MORRISON
AITKIN
KANABEC
STEVENS
POPE
TODD
BENTON
ISANTI
CHISAGO
TRAVERSE
BIG STONE
SHERBURNE
SWIFT
STEARNS
MEEKER
ANOKA
CHIPPEWA
LAC QUI PARLE
WRIGHT
MC LEOD
CARVER
HENNEPIN
KANDIYOHI
RENVILLE
YELLOW MEDICINE
SIBLEY
LINCOLN
LYON
SCOTT
RICE
DAKOTA
NICOLLET
REDWOOD
LE SUEUR
PIPESTONE
MURRAY
COTTONWOOD
BROWN
WATONWAN
GOODHUE
WABASHA
STEELE
BLUE EARTH
WASECA
FARIBAULT
FREEBORN
DODGE
OLMSTED
WINONA
FILLMORE
HOUSTON
ROCK
NOBLES
JACKSON
MARTIN
HOWER
0 10 20 30 40 50 MILES
0 20 40 60 80 KILOMETERS
PREPARED BY THE MINNESOTA STATE PLANNING AGENCY, 1976

UNITED STATES DEPARTMENT OF THE INTERIOR
Bureau of Indian Affairs (BIA)

The Bureau of Indian Affairs utilizes aerial photography primarily for typing timber, locating road systems, and general administration.

Most Common Imagery Obtained

Film: Black and white infrared

Scale: 1:15,840

Lens focal length: 6 inches

Season: Fall (leaf-on)

Coverage Area

The only aerial photography secured by the BIA in Minnesota has been of the diminished lands of Red Lake Indian Reservation (see map on facing page).

Where can the images be viewed?

Bureau of Indian Affairs
Red Lake Agency
Red Lake, Minnesota 56671

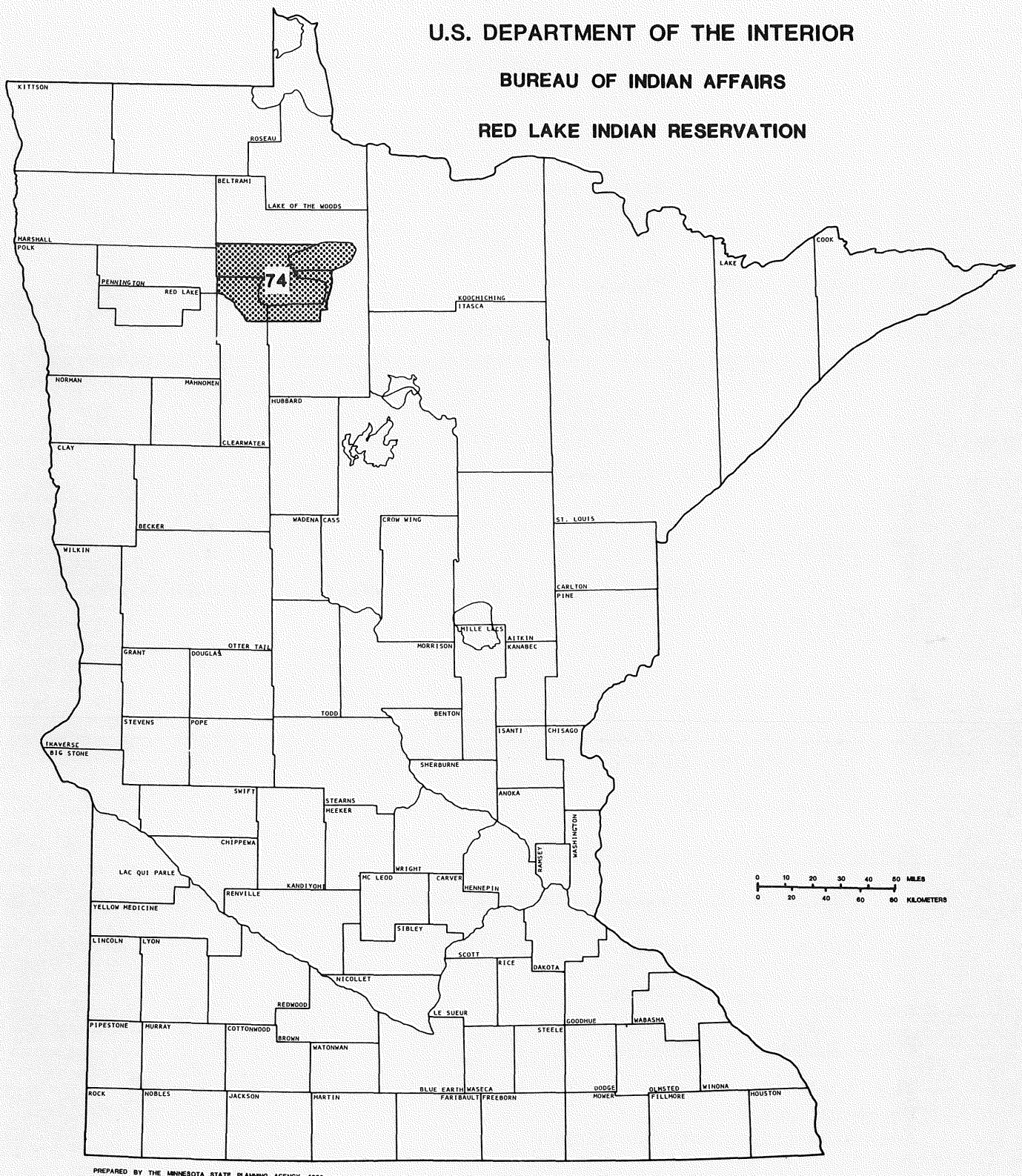
Where can the images be purchased?

Copies of the images can be ordered from:

Mark Hurd Aerial Surveys Inc.
345 Pennsylvania Avenue South
Minneapolis, Minnesota 55426

For additional information

Bureau of Indian Affairs
Red Lake Agency
Red Lake, Minnesota 56671
Phone: (218) 679-3361


U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
RED LAKE INDIAN RESERVATION
74
KITTSON
ROSEAU
BELTRAMI
LAKE OF THE WOODS
MARSHALL
POLK
PENNINGTON
RED LAKE
KOOCHICHING
ITASCA
LAKE
COOK
NORMAN
MAHNOMEN
HUBBARD
CLAY
CLEARWATER
BECKER
WADENA
CASS
CROW WING
ST. LOUIS
WILKIN
CARLTON
PINE
LITTLE FALLS
AITKIN
KANABEC
OTTER TAIL
MORRISON
GRANT
DOUGLAS
TODD
BENTON
STEVENS
POPE
ISANTI
CHISAGO
TRAVERSE
BIG STONE
SHERBURNE
SWIFT
STEARNS
ANOKA
MEEKER
CHIPPEWA
WASHINGTON
RAMSEY
LAC QUI PARLE
WRIGHT
MC LEOD
CARVER
HENNEPIN
KANDIYOHI
RENVILLE
YELLOW MEDICINE
SIBLEY
LINCOLN
LYON
SCOTT
RICE
DAKOTA
NICOLLET
REDWOOD
LE SUEUR
PIPESTONE
MURRAY
COTTONWOOD
BROWN
GOODHUE
WABASHA
STEELE
WATONWAN
BLUE EARTH
WASECA
DODGE
OLMSTED
WINONA
ROCK
NOBLES
JACKSON
MARTIN
FARIBAULT
FREEBORN
MOWER
FILLMORE
HOUSTON
0 10 20 30 40 50 MILES
0 20 40 60 80 KILOMETERS
PREPARED BY THE MINNESOTA STATE PLANNING AGENCY. 1976

UNITED STATES DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service (FWS)

The Fish and Wildlife Service contracted for aerial photography of Sherburne National Wildlife Refuge in Sherburne County in 1967. The photographs were used for making topographic sheets of the refuge.

Most Common Imagery Obtained

Film: Black and white panchromatic

Scale: 1:12,000

Lens focal length: Unknown

Season: Spring (leaf-on)

Coverage Area

The entire Sherburne National Wildlife Refuge in Sherburne County was flown in 1967.

Where can the images be viewed?

Fish & Wildlife Service
Surveying and Mapping
Federal Building Fort Snelling
Twin Cities, MN 55111

Where can the images be purchased?

Copies of the images can be ordered from:

K.B.M. Incorporated
1604 S. Washington St.
Grand Forks, ND 58201

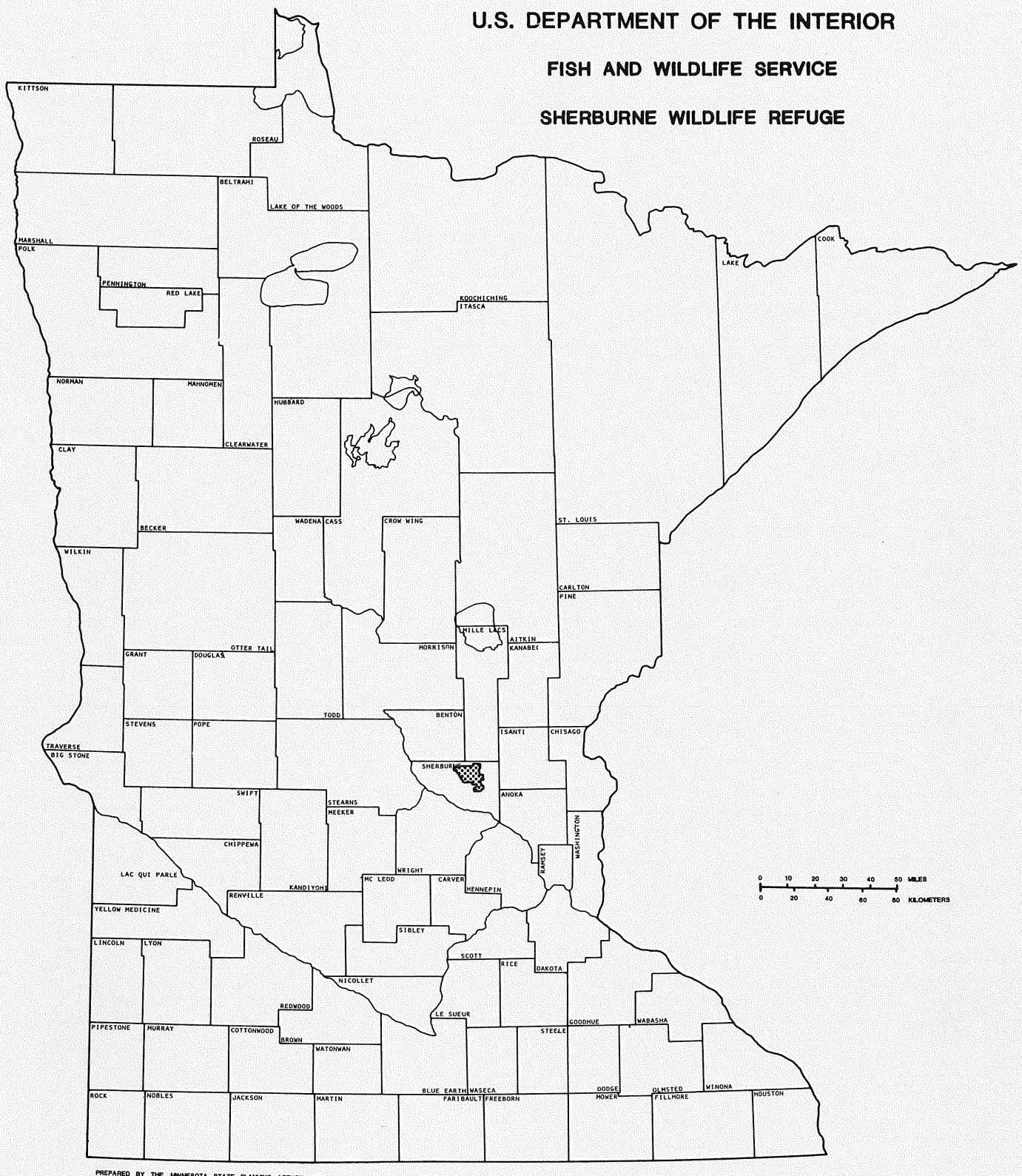
For additional information

Fish & Wildlife Service
Surveying and Mapping
Federal Building Fort Snelling
Twin Cities, MN 55111
Phone: 725-3557

U.S. DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

SHERBURNE WILDLIFE REFUGE



PREPARED BY THE MINNESOTA STATE PLANNING AGENCY, 1976

UNITED STATES DEPARTMENT OF THE INTERIOR
National Park Service (NPS)

The National Park Service obtained aerial photography of the Voyageurs National Park in 1971 and 1972 to assist in the preparation of the park master plan.

Most Common Imagery Obtained

Film: Black and white panchromatic (1971); Black and white infrared (1972)

Scale: 1:15,840

Lens focal length: 6 inches

Season: Summer (leaf-on)

Coverage Area

The Voyageurs National Park was photographed in 1971 and 1972 (see map on facing page).

Where can the images be viewed?

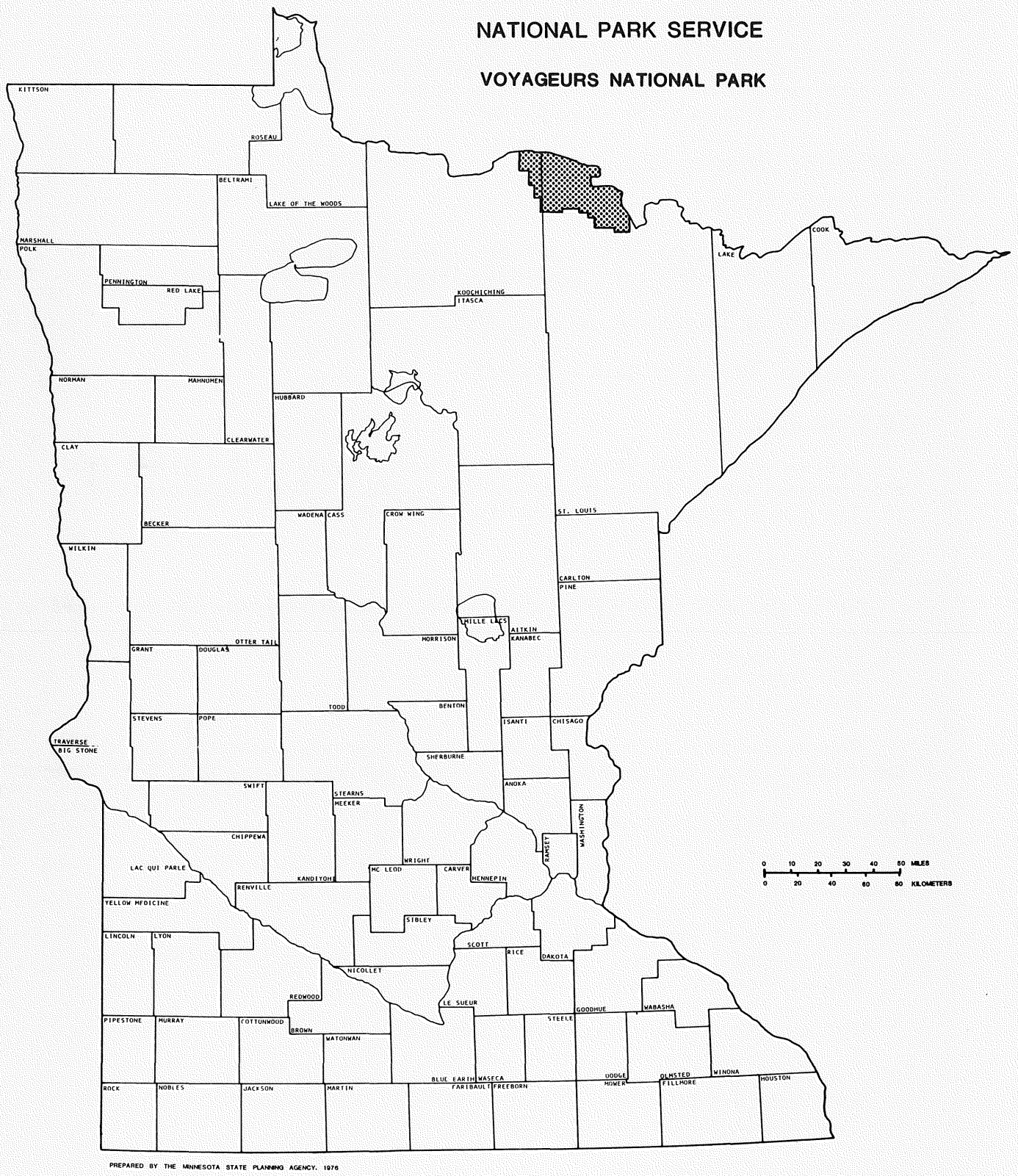
Mark Hurd Aerial Surveys
345 Pennsylvania Avenue South
Minneapolis, Minnesota 55426

Where can the images be purchased?

Mark Hurd Aerial Surveys
345 Pennsylvania Avenue South
Minneapolis, Minnesota 55426

For additional information

Department of the Interior
National Park Service
655 Parset
P.O. Box 25287
Denver, Colorado 80225
Phone: (303) 234-2653


NATIONAL PARK SERVICE
VOYAGEURS NATIONAL PARK
KITTSON
ROSEAU
BELTRAMI
LAKE OF THE WOODS
MARSHALL
POLK
PENNINGTON
RED LAKE
KOOCHICHING
ITASCA
COOK
LAKE
NORMAN
MAHNOMEN
HUBBARD
CLEARWATER
CLAY
BECKER
WADENA
CASS
CROW WING
ST. LOUIS
WILKIN
CARLTON
PINE
LAC QUI PARLE
AITKIN
KANABEC
MORRISON
OTTER TAIL
GRANT
DOUGLAS
TODD
BENTON
STEVENS
POPE
ISANTI
CHISAGO
TRAVERSE
BIG STONE
SHERBURNE
ANOKA
SWIFT
STEARNS
MEEKER
WASHINGTON
RAMSEY
CHIPPEWA
WRIGHT
MC LEOD
CARVER
HENNEPIN
KANDIYOHI
RENVILLE
YELLOW MEDICINE
SIBLEY
LINCOLN
LYON
SCOTT
RICE
DAKOTA
NICOLLET
REDWOOD
LE SUEUR
GOODHUE
WABASHA
PIPESTONE
MURRAY
COTTONWOOD
BROWN
WATONWAN
STEELE
DODGE
OLMSTED
WINONA
BLUE EARTH
WASECA
MOWER
FILLMORE
HOUSTON
ROCK
NOBLES
JACKSON
MARTIN
FARIBAULT
FREEBORN
0 10 20 30 40 50 MILES
0 20 40 60 80 KILOMETERS
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UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey - Topographic Mapping Program

Because Minnesota has had a very active topographic mapping program for the past 15 years, a sizable portion of the state has been flown by the U.S. Geological Survey. The photographs obtained for this program are used to produce two types of topographic maps - standard quadrangle maps and interim revisions to standard maps.

Most Common Imagery Obtained

Film: Black and white panchromatic

Scales: 1:15,000 to 1:24,000 for standard mapping
1:24,000 to 1:30,000 for interim revision mapping

Lens focal length: 6 inches

Season: Spring or fall (leaf-off)

Coverage Area

Approximately 30% of the state has been covered by photographs from this program since 1970 (see map on facing page). Nearly all areas of the state have been covered since the late 1940s.

Where can the images be viewed?

While the USGS is working on a project, the photography can be viewed at:

USGS Mid-Continent Mapping Center
NCIC Regional Office
Rolla, Missouri 65401

When a project is completed, photographic prints remain at the Mid-Continent Mapping Center and the negatives are sent to the EROS Data Center.

Where can the images be purchased?

While the USGS is working on a project, the photographs may be ordered from:

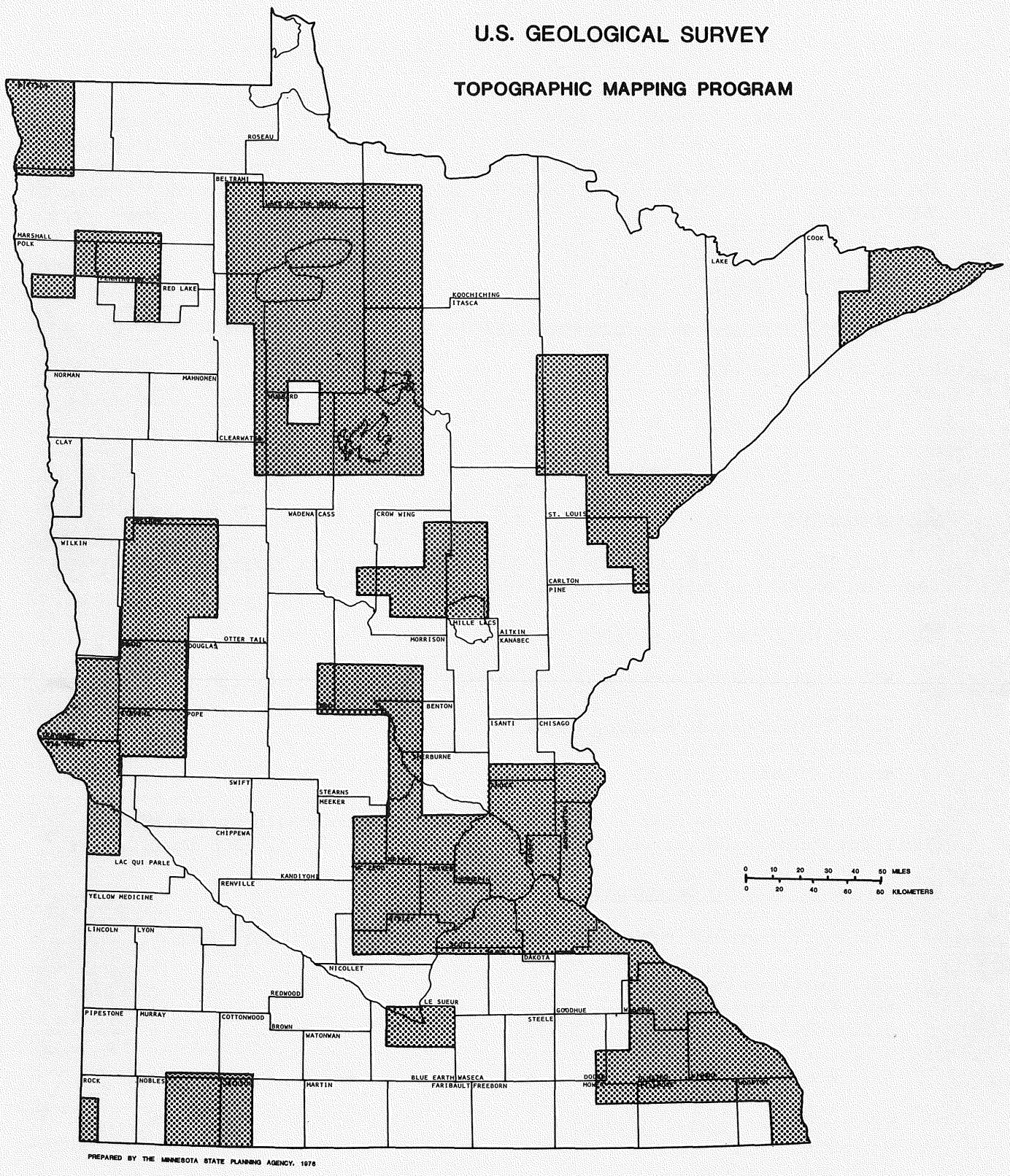
USGS Mid-Continent Mapping Center
NCIC Regional Office
Rolla, Missouri 65401

For any other USGS photography, contact:

User Services Unit
EROS Data Center
Sioux Falls, South Dakota 57198

For additional information

USGS Mid-Continent Mapping Center
NCIC Regional Office
1400 Independence Road
Rolla, Missouri 65401
Phone: (314) 364-3680


U.S. GEOLOGICAL SURVEY
TOPOGRAPHIC MAPPING PROGRAM
ROSEAU
BELTRAMI
HARSHALL
POLK
RED LAKE
KOOCHICHING
ITASCA
LAKE
COOK
NORMAN
MAHNOMEN
HUBBARD
CLAY
CLEARWATER
WADENA
CASS
CROW WING
ST. LOUIS
WILKIN
CARLTON
PINE
OTTER TAIL
DOUGLAS
MORRISON
AITKIN
KANABEC
POPE
BENTON
ISANTI
CHISAGO
SHERBURNE
SWIFT
STEARNS
MEEKER
CHIPPEWA
LAC QUI PARLE
KANDIYOHI
RENVILLE
YELLOW MEDICINE
LINCOLN
LYON
DAKOTA
NICOLLET
REDWOOD
LE SUEUR
GOODHUE
PIPESTONE
MURRAY
COTTONWOOD
BROWN
STEELE
WATONWAN
ROCK
NOBLES
MARTIN
BLUE EARTH
WASECA
FARIBAULT
FREEBORN
0 10 20 30 40 50 MILES
0 20 40 60 80 KILOMETERS
PREPARED BY THE MINNESOTA STATE PLANNING AGENCY, 1976

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey - Orthophotography Program

In 1975, USGS began obtaining high altitude photography over portions of Minnesota for the national orthophotography program. An orthophotograph is a photograph which has been reprocessed to remove distortions. When this reprocessed image is combined with the standard quadrangle grid and name information, it is called an orthophotoquad. The national orthophoto program was designed to produce an orthophotoquad for every place not covered by a standard $7\frac{1}{2}$-minute USGS topographic map. This program has been completed for Minnesota. At this time it is uncertain as to whether the program will be expanded.

Most Common Imagery Obtained

Film: Black and white panchromatic

Scale: 1:80,000

Lens focal length: 6 inches

Season: Spring or fall (leaf-off)

Coverage Area

Approximately 16 % of Minnesota has been covered in this program (see map on facing page). No new photography is planned.

Where can the images be viewed?

While the USGS is working on a project, the photography can be viewed at:

USGS Mid-Continent Mapping Center
NCIC Regional Office
Rolla, Missouri 65401

When a project is completed, photographic prints remain at the Mid-Continent Mapping Center and the negatives are sent to the EROS Data Center.

Where can the images be purchased?

Copies of the USGS orthophotography program are available from:

User Services Unit
EROS Data Center
Sioux Falls, South Dakota 57198

1:24,000 blue line prints of orthophotoquads can be purchased at:

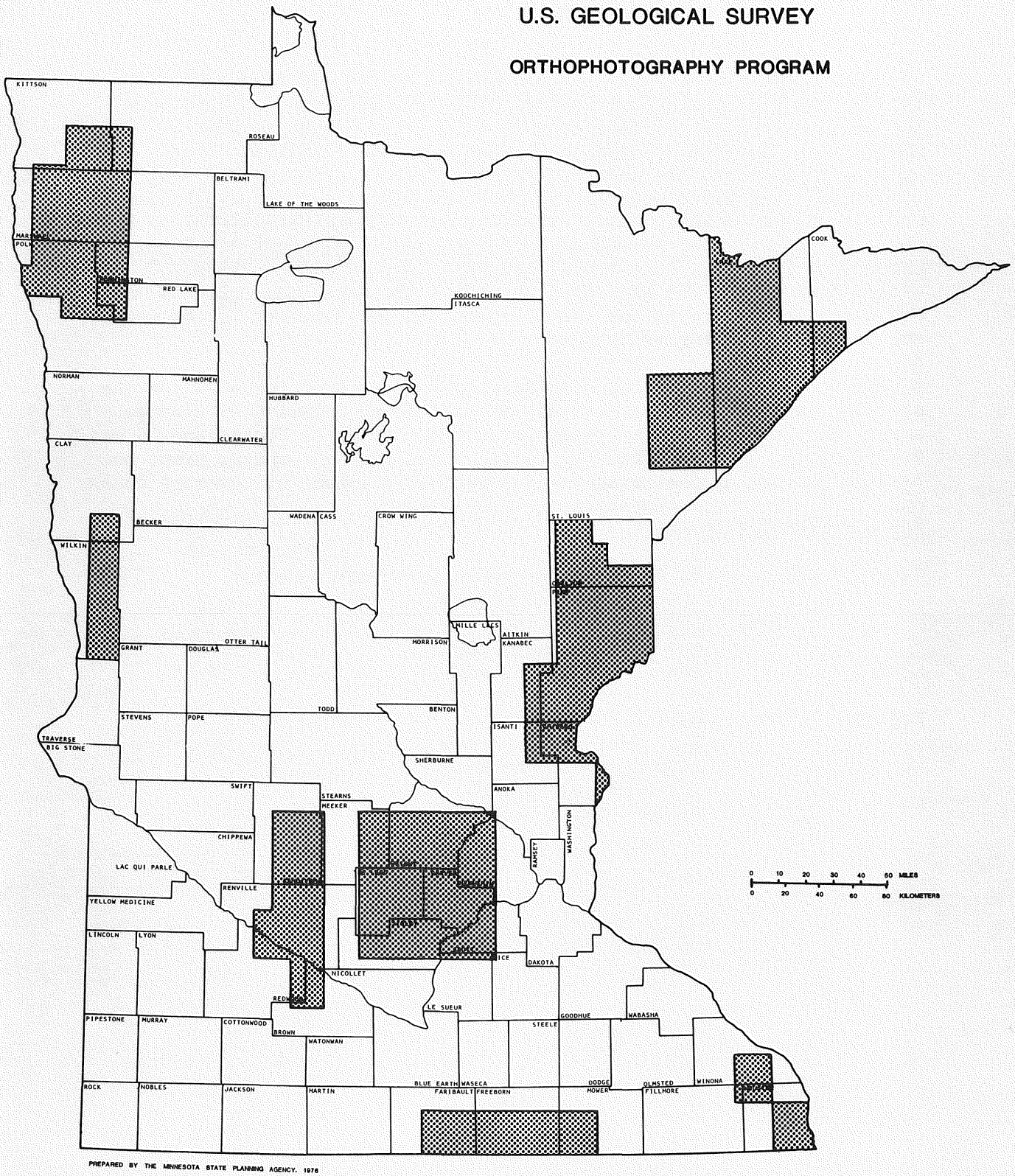
Minnesota Geological Survey
Map Sales Room
1633 Eustis Street
St. Paul, Minnesota 55108

For additional information

USGS Mid-Continent Mapping Center
NCIC Regional Office
1400 Independence Road
Rolla, Missouri 65401
Phone: (314) 364-3680

U.S. GEOLOGICAL SURVEY

ORTHOPHOTOGRAPHY PROGRAM



PREPARED BY THE MINNESOTA STATE PLANNING AGENCY, 1976

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
National Cartographic Information Center (NCIC)

The National Cartographic Information Center was established in 1974 by the U.S. Geological Survey. The NCIC functions as a national information service for cartographic data including maps, charts, aerial photographs, geodetic control data, and map data in digital form. The sources of the data are federal, state and local agencies and some private companies. The major sources are the U.S. Geological Survey, National Oceanic and Atmospheric Administration, Agricultural Stabilization and Conservation Service, Bureau of Land Management, National Archives, Library of Congress, Forest Service, Soil Conservation Service and the Tennessee Valley Authority. The NCIC does not store the data, but collects and organizes information about the location and availability of the data, and provides ordering assistance.

A computer-based system has been developed as part of the NCIC for the storage, research or retrieval of information on existing or planned aerial photography. This system is termed the Aerial Photography Summary Record System (APSRS). This system provides both a computer print out listing the aerial photography and a graphic printout of coverage areas.

For additional information

National Office - National Cartographic Information Center
U.S. Geological Survey
507 National Center
Reston, Virginia 22092
Phone: (703) 860-6045

Regional Office - National Cartographic Information Center
U.S. Geological Survey
1400 Independence Road
Rolla, Missouri 65401
Phone: (314) 364-3680

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
Earth Resources Observation Systems (EROS) Program

The Earth Resources Observation Systems Program was established in 1966 to coordinate the research and applications of remote sensing technology in the inventorying, monitoring and management of the earth's natural resources by the U.S. Department of the Interior. The program provides for research and training in the interpretation and application of remotely sensed data, and facilities for the sale of the data to government agencies and the public.

Permanent facilities, the EROS Data Center, were completed in 1973 at a location 16 miles northeast of Sioux Falls, South Dakota. The center provides archival storage, processing and dissemination of aerial photography by the U.S. Department of the Interior, and photography and imagery by the National Aeronautics and Space Administration from research aircraft, spacecraft (Skylab, Apollo, Gemini) and LANDSAT (formerly Earth Resources Technology Satellite, ERTS).

The EROS Data Center can provide a computerized geographic search for imagery of a specific point or area delineated by longitude and latitude. This search can be initiated by mail, phone or personal visit to the EROS Data Center. The computer print out will list all available imagery and photography for the point or area (see sample order form in Appendix C).

For additional information

User Services Unit
EROS Data Center
Sioux Falls, South Dakota 57198
Phone: (605) 594-6511 Extension 151

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)

The National Aeronautics and Space Administration has secured remotely sensed imagery of Minnesota through three programs: Earth Resources Technology Satellite Program (ERTS/LANDSAT), SKYLAB Program, and the Earth Resources Aircraft Program. Imagery has been secured of the entire state through the LANDSAT Program. Imagery of the state through the other two programs is limited.

ERTS/LANDSAT

On July 23, 1972 NASA launched into orbit the first Earth Resources Technology Satellite, ERTS-1 (now renamed LANDSAT-1). A second satellite, LANDSAT-2, was launched on January 22, 1975. Each satellite flies in a circular orbit 570 miles above the earth's surface with the capability of obtaining coverage of most of the earth. The orbits were planned so that each satellite would pass over the same point on earth at the same time every eighteen days. The satellites pass over Minnesota at approximately 9:30 a.m. and it takes five days to obtain complete coverage of the state (the orbit paths over Minnesota are traced on the map on the next page). The spacecraft contain two scanning systems: a three-camera television system, called the RBV, and a four channel multi-spectral scanner, referred to as the MSS. Because of mechanical problems with the RBV in LANDSAT-1, most of the data available came from the MSS. These systems transmit electronic signals to three receiving stations in the U.S. which forward the signals to the Goddard Space Flight Center in Greenbelt, Maryland, where they are converted into 70mm black and white photographic film positives. Negatives of the imagery are then flown to the EROS Data Center in Sioux Falls, South Dakota, where requests for reproductions of the images can be filled. The original images are at a scale of approximately 1:3,369,000.

SKYLAB

The SKYLAB Program consisted of one unmanned and three manned missions. The manned spacecraft traveled in an orbit 270 miles above the earth's surface and acquired photography, imagery and other data of selected areas between latitudes 50°N and 50°S, from May 22, 1973 through February 8, 1974. The two photographic remote sensing systems used on SKYLAB were a Multi-Spectral Photographic Camera (S190A) and an Earth Terrain Camera (S190B). The type of film used in the cameras varied. The scale of the S190A images is 1:2,800,000 and the scale of the S190B images is 1:950,000.

Earth Resources Aircraft

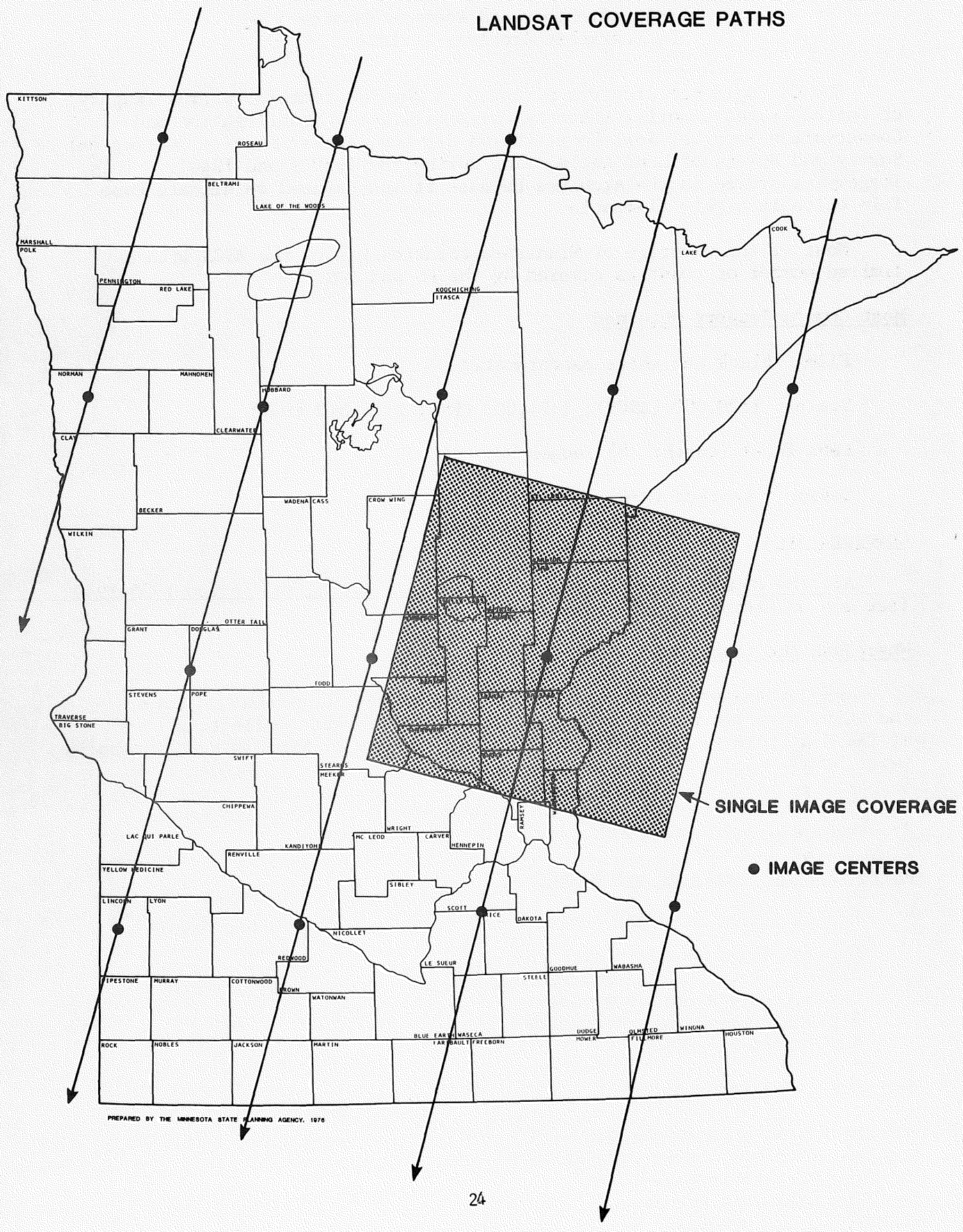
The Earth Resources Aircraft Program is directed at testing a variety of remote sensing instruments in aerial flights over certain pre-selected sites within the continental United States. The photography is available in a wide variety of formats, from flights at altitudes of a few thousand feet up to U-2 and RB 57F flights at altitudes above 60,000 feet. Black and white, color, and false-color infrared film is used for the imagery.

For additional information

Information on all of NASA's remote sensing programs can be obtained from:

EROS Data Center
User Services Unit
Sioux Falls, South Dakota 57198
Phone: (605) 594-6511 Extension 151

LANDSAT COVERAGE PATHS



GENERAL SERVICES ADMINISTRATION (GSA)
National Archives and Records Service
Cartographic Archives Division

The Cartographic Archives Division of the GSA contains aerial imagery of United States counties taken by the Agricultural Stabilization and Conservation Service, Soil Conservation Service, Forest Service, Geological Survey and Bureau of Land Reclamation during the 1930's and 1940's. This imagery is stored in the Archives because it was secured on nitrate base film which is highly flammable.

Most of the coverage of Minnesota counties was by the ASCS with a limited number of counties covered by the FS and SCS.

Most Common Imagery Obtained

Film: Black and white panchromatic

Scale: 1:20,000 (ASCS); 1:24,000 (FS); 1:15,840 (SCS)

Lens focal length: $8\frac{1}{4}$ inches

Season: Leaf-on (ASCS, FS); Leaf-off (SCS)

Coverage Area

All the counties of Minnesota were covered during the period 1935-1940 (see map on facing page).

Where can the images be viewed?

Many of the earlier images have been archived in various college and university libraries around the state. The largest collection is at the Map Library, S76 Wilson Library, University of Minnesota, Minneapolis (West Bank).

The original negatives and prints are stored in the Cartographic Archives, 8th and Pennsylvania Avenue NW, Washington, D.C.

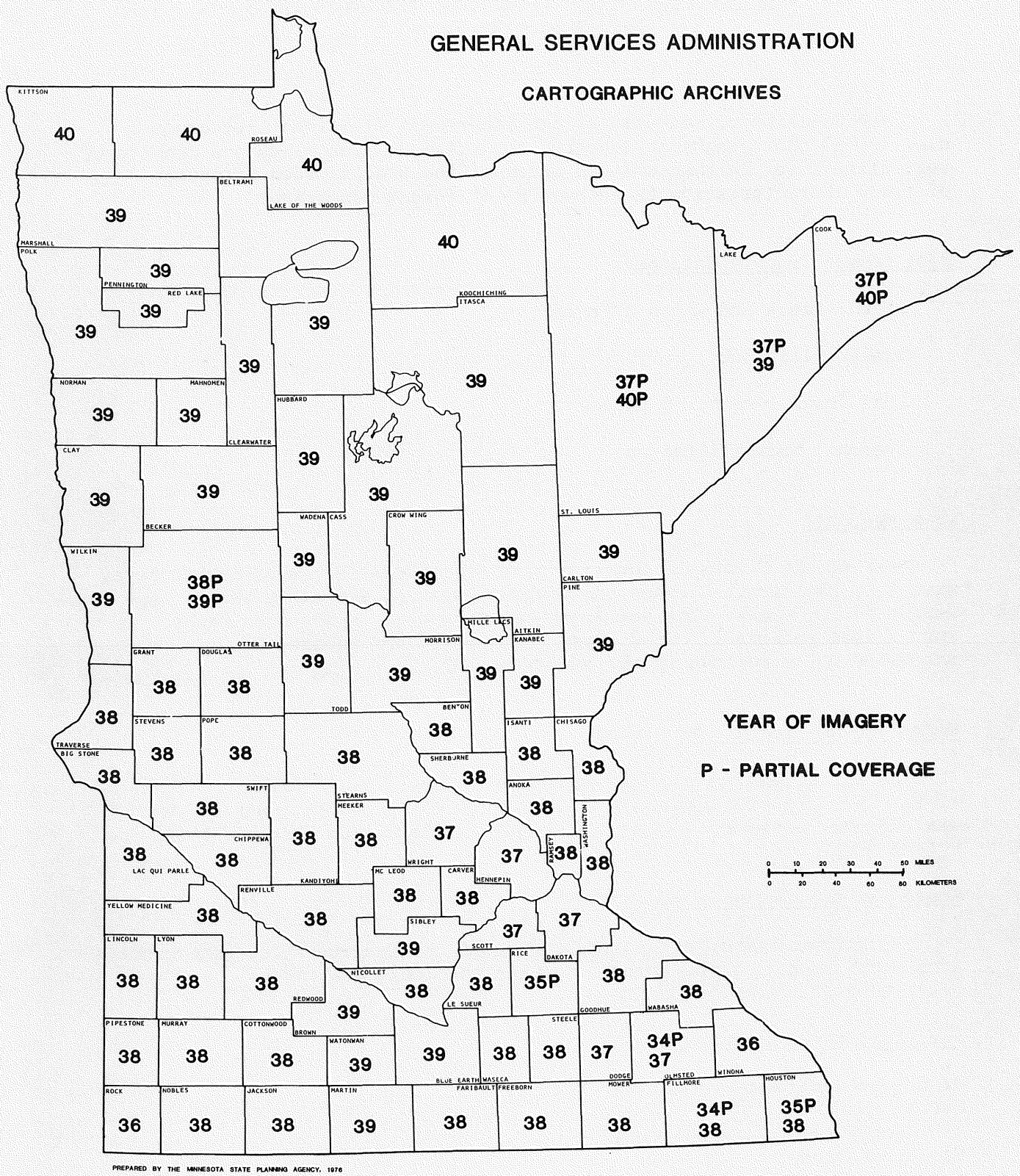
Where can the images be purchased?

Copies of the images can be ordered from the Cartographic Archives:

General Services Administration
National Archives and Records Service
Cartographic Archives Division
8th and Pennsylvania Avenue NW
Washington DC 20408

For additional information

General Services Administration
National Archives and Records Service
Cartographic Archives Division
8th & Pennsylvania Avenue NW
Washington DC 20408
Phone: (202) 523-3062


GENERAL SERVICES ADMINISTRATION
CARTOGRAPHIC ARCHIVES
YEAR OF IMAGERY
P - PARTIAL COVERAGE
0 10 20 30 40 50 MILES
0 20 40 60 80 KILOMETERS
KITTSON
ROSEAU
BELTRAMI
LAKE OF THE WOODS
MARSHALL
POLK
PENNINGTON
RED LAKE
KOOCHICHING
ITASCA
LAKE
COOK
NORMAN
MAHNOMEN
HUBBARD
CLEARWATER
CLAY
BECKER
WADENA
CASS
CROW WING
ST. LOUIS
WILKIN
CARLTON
PINE
OTTER TAIL
GRANT
DOUGLAS
MILLE LACS
AITKIN
KANABEC
MORRISON
TODD
BENTON
STEVENS
POPE
ISANTI
CHISAGO
TRAVERSE
BIG STONE
SHERBURNE
ANOKA
SWIFT
STEARNS
MEEKER
CHIPPEWA
WRIGHT
CARVER
HENNEPIN
WASHINGTON
LAC QUI PARLE
MC LEOD
KANDIYOHI
RENVILLE
YELLOW MEDICINE
SIBLEY
SCOTT
RICE
DAKOTA
LINCOLN
LYON
NICOLLET
LE SUEUR
REDWOOD
GOODHUE
WABASHA
PIPESTONE
MURRAY
COTTONWOOD
BROWN
WATONWAN
STEELE
DODGE
OLMSTED
WINONA
BLUE EARTH
WASECA
FARIBAULT
FREEBORN
MOWER
FILLMORE
HOUSTON
ROCK
NOBLES
JACKSON
MARTIN
PREPARED BY THE MINNESOTA STATE PLANNING AGENCY, 1976

MINNESOTA DEPARTMENT OF NATURAL RESOURCES (DNR)
Division of Forestry

The Division of Forestry of the Department of Natural Resources uses aerial photographs to identify the species, size class and density of vegetative cover in the forested areas of the state. Identification of these characteristics is necessary for forest management.

Most Common Imagery Obtained:

Film: Black and white infrared

Scale: 1:15,840

Lens focal length: 6 inches

Season: Summer (leaf-on)

Coverage Area

Most of the Minnesota counties with significant areas of forest cover have been photographed since the program began in the early 1960's (see map on facing page). The aerial photography plan is based on eight year flight intervals. Cook, Cass, Crow Wing, and Hubbard Counties are scheduled to be reflown in the summer of 1977.

Where can the imagery be viewed?

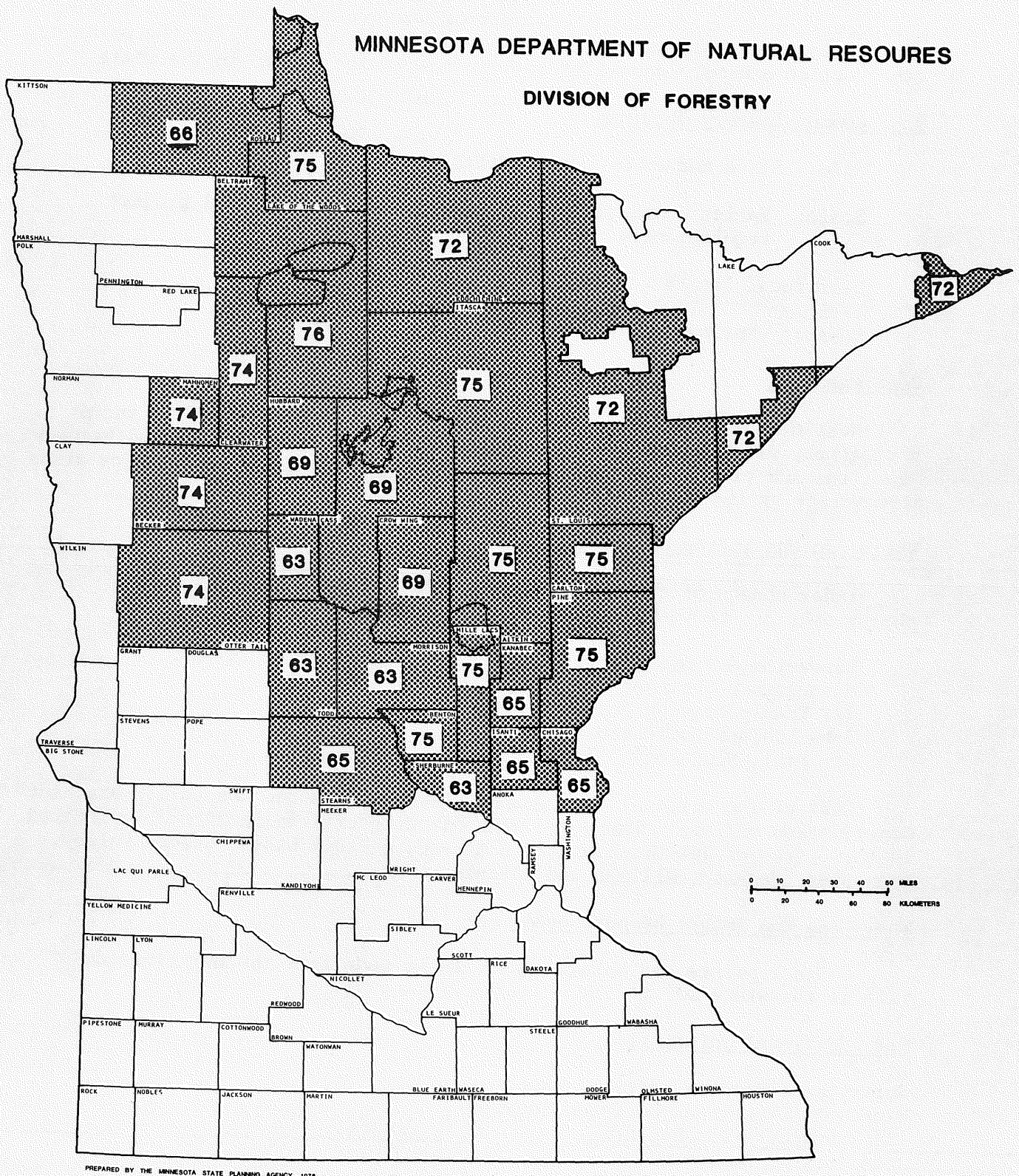
The aerial photographs can be viewed in any area or district office of the DNR. For the address of the nearest office contact any of the six regional centers: Bemidji, Cloquet, Brainerd, New Ulm, Rochester, or Carlos Avery.

Where can the images be purchased?

For information on purchasing copies of the images contact the county land commissioner of the county in which the image was taken.

For additional information

Minnesota Department of Natural Resources
Division of Forestry
330 Centennial Office Building
658 Cedar Street
St. Paul, Minnesota 55155
Phone: 296-6157


MINNESOTA DEPARTMENT OF NATURAL RESOURES
DIVISION OF FORESTRY
KITTSON
MARSHALL
POLK
PENNINGTON
RED LAKE
NORMAN
CLAY
WILKIN
BECKER
MAHNOMEN
CLEARWATER
HUBBARD
BELTRAMI
LAKE OF THE WOODS
ROSEAU
CASS
WADENA
GRANT
DOUGLAS
OTTER TAIL
STEVENS
POPE
TRAVERSE
BIG STONE
TODD
CROW WING
HUBBARD
ITASCA
KOOCHICHING
LAKE
COOK
ST. LOUIS
CARLTON
PINE
AITKIN
KANABEC
MILLE LACS
MORRISON
BENTON
SHERBURNE
SWIFT
STEARNS
MEEKER
CHIPPEWA
LAC QUI PARLE
YELLOW MEDICINE
KANDIYOHI
RENVILLE
WRIGHT
MC LEOD
CARVER
HENNEPIN
SIBLEY
LINCOLN
LYON
NICOLLET
REDWOOD
BROWN
PIPESTONE
MURRAY
COTTONWOOD
WATONWAN
ROCK
NOBLES
JACKSON
MARTIN
BLUE EARTH
FARIBAULT
WASECA
FREEBORN
LE SUEUR
SCOTT
RICE
DAKOTA
ANOKA
RAMSEY
WASHINGTON
GOODHUE
WABASHA
STEELE
DODGE
OLMSTED
WINONA
FILLMORE
HOUSTON
SAINT
CHISAGO
0 10 20 30 40 50 MILES
0 20 40 60 80 KILOMETERS
PREPARED BY THE MINNESOTA STATE PLANNING AGENCY, 1976

MINNESOTA DEPARTMENT OF TRANSPORTATION (DOT)

The Minnesota Department of Transportation has contracted for aerial photography for use in making engineering surveys and maps, and collecting engineering data. These surveys, maps and data are useful for the planning, construction and maintenance of the transportation system in the state.

Most Common Imagery Obtained

Film: Black and white panchromatic

Scale: Varies considerably (according to the individual project requirements)

Lens focal length: 6 inches

Season: Spring and fall (leaf-off)

Coverage Area

Most of the aerial photography taken by the Minnesota DOT is strip photography along the highways. Some larger areas are flown around highway junctions and cities. The map on the facing page indicates the major areas of coverage by the DOT since 1970.

Where can the images be viewed?

Index sheets of the aerial photography and the negatives of the photographs can be viewed at the state DOT office:

Surveying & Mapping Section
Minnesota Department of Transportation
711 Transportation Building
John Ireland Boulevard
St. Paul, Minnesota 55155

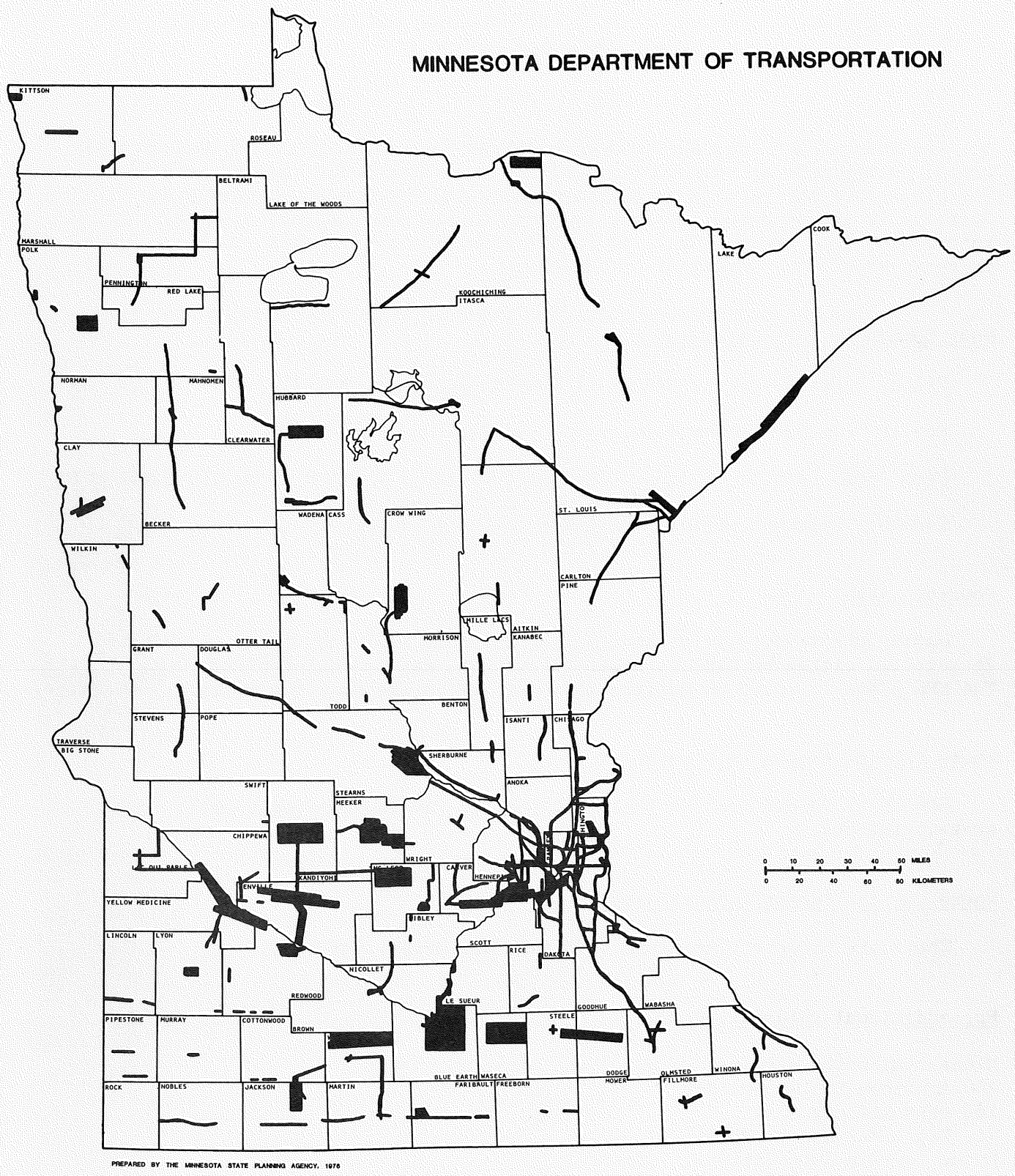
Most of the original photographs are housed in the respective District Construction offices. There are nine of these offices in Minnesota located in the cities of Duluth, Bemidji, Brainerd, Detroit Lakes, Golden Valley, Rochester, Mankato, Willmar, and Oakdale.

Where can the images be purchased?

Contact prints and enlargements can be made from the negatives on file at the state DOT office.

For additional information

Surveying & Mapping Section
Minnesota Department of Transportation
711 Transportation Building
John Ireland Boulevard
St. Paul, Minnesota 55155
Phone: 296-3033


MINNESOTA DEPARTMENT OF TRANSPORTATION
KITTSON
ROSEAU
BELTRAMI
LAKE OF THE WOODS
MARSHALL
POLK
PENNINGTON
RED LAKE
KOOCHICHING
ITASCA
LAKE
COOK
NORMAN
MAHNOMEN
HUBBARD
CLEARWATER
CLAY
BECKER
WADENA
CASS
CROW WING
ST. LOUIS
WILKIN
CARLTON
PINE
HILLE LACS
AITKIN
KANABEC
MORRISON
OTTER TAIL
GRANT
DOUGLAS
TODD
BENTON
STEVENS
POPE
ISANTI
CHISAGO
TRAVERSE
BIG STONE
SHERBURNE
SWIFT
STEARNS
MEEKER
ANOKA
CHIPPEWA
WRIGHT
CARVER
KANDIYOHI
YELLOW MEDICINE
RENVILLE
SIBLEY
LINCOLN
LYON
SCOTT
RICE
DAKOTA
NICOLLET
REDWOOD
LE SUEUR
GOODHUE
WABASHA
STEELE
PIPESTONE
MURRAY
COTTONWOOD
BROWN
BLUE EARTH
WASECA
DODGE
OLMSTED
WINONA
HOUSTON
ROCK
NOBLES
JACKSON
MARTIN
FARIBAULT
FREEBORN
MOWER
FILLMORE
0 10 20 30 40 50 MILES
0 20 40 60 80 KILOMETERS
PREPARED BY THE MINNESOTA STATE PLANNING AGENCY, 1976

MINNESOTA ENERGY AGENCY (MEA)

The Minnesota Energy Agency contracts for thermal imagery and conventional aerial photography as part of its energy conservation information program . The purpose of the program is to disseminate information about energy use directly to the consumer, and the imagery is used, in conjunction with information from the consumer, to locate specific areas of heat loss in residential and commercial buildings.

Most Common Imagery Obtained:

Film: Black and white images of thermal infrared energy; natural color

Scale: 1:6,000 (thermal infrared); 1:12,000 (natural color)

Lens focal length: Scanner (thermal infrared); 6 and 3 inches (natural color)

Season: Fall and winter (leaf-off)

Coverage Area

During the first year of the imagery program, fall and winter of 1976, 26 selected cities in Minnesota were flown (see map on facing page). The MEA plans to cover an additional 20 cities in the next two years.

Where can the images be viewed?

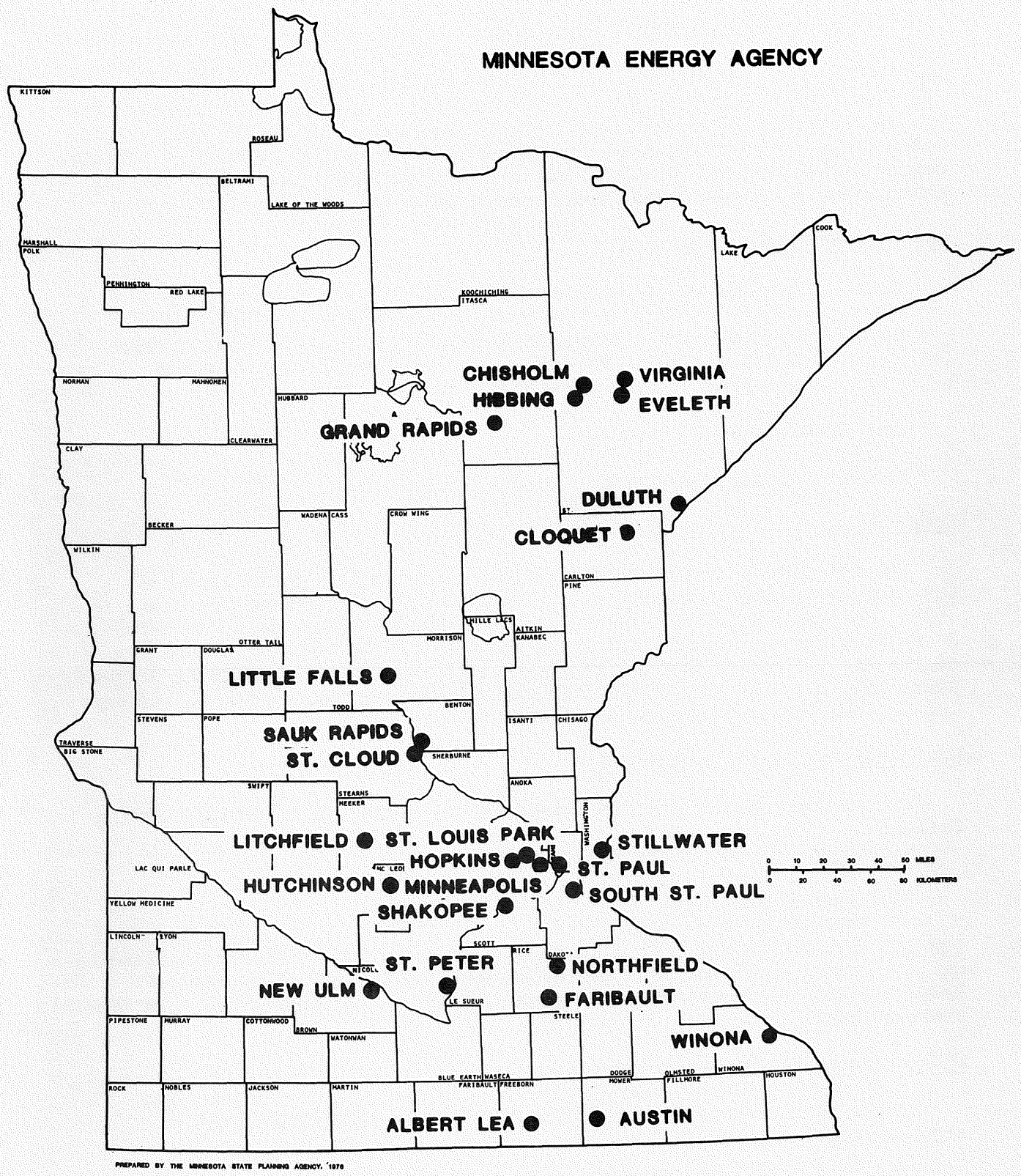
Consumers should contact their city hall. Public agencies should contact the MEA.

Where can the images be purchased?

There are presently no plans to offer the imagery for sale.

For additional information

Minnesota Energy Agency
740 American Center Building
160 East Kellogg
St. Paul, Minnesota 55101
Phone (within Twin Cities): 296-5175
Phone (outside Twin Cities): 800-652-9028 (Toll Free)


MINNESOTA ENERGY AGENCY
KITTSON
ROSEAU
BELTRAMI
LAKE OF THE WOODS
MARSHALL
POLK
PENNINGTON
RED LAKE
KOOCHICHING
ITASCA
LAKE
COOK
NORMAN
MAHNOMEN
HUBBARD
CLEARWATER
CLAY
BECKER
WADENA
CASS
CROW WING
WILKIN
CARLTON
PINE
MILLE LACS
AITKIN
KANABEC
OTTER TAIL
MORRISON
GRANT
DOUGLAS
TODD
BENTON
STEVENS
POPE
ISANTI
CHISAGO
TRAVERSE
BIG STONE
SHERBURNE
SWIFT
STEARNS
MEEKER
ANOKA
WASHINGTON
LAC QUI PARLE
YELLOW MEDICINE
SCOTT
RICE
LINCOLN
LYON
MCLEOD
SIBLEY
LE SUEUR
STEELE
PIPESTONE
MURRAY
COTTONWOOD
BROWN
WATONWAN
WINONA
DODGE
OLMSTED
FILLMORE
HOUSTON
BLUE EARTH
WASECA
FARIBAULT
FREEBORN
ROCK
NOBLES
JACKSON
MARTIN
CHISHOLM
HIBBING
VIRGINIA
EVELETH
GRAND RAPIDS
DULUTH
CLOQUET
LITTLE FALLS
SAUK RAPIDS
ST. CLOUD
LITCHFIELD
ST. LOUIS PARK
HOPKINS
HUTCHINSON
MINNEAPOLIS
STILLWATER
ST. PAUL
SOUTH ST. PAUL
SHAKOPEE
ST. PETER
NEW ULM
NORTHFIELD
FARIBAULT
WINONA
ALBERT LEA
AUSTIN
0 10 20 30 40 50 MILES
0 20 40 60 80 KILOMETERS
PREPARED BY THE MINNESOTA STATE PLANNING AGENCY, 1978

MINNESOTA STATE PLANNING AGENCY (SPA)
Environmental Planning Division

Within the Environmental Planning Division of the SPA there have been two aerial photography programs-the Coastal Zone Management Program (CZM) and the Minnesota Small Scale Photography Program (SSPP). The CZM has contracted for aerial photography in portions of Lake, Cook and St. Louis counties for use in verifying basic data maps such as land use, land cover, slope, soils and geology, and to assist in current and future studies related to potential copper-nickel mining. The SSPP has obtained statewide small scale aerial photography for general land use planning purposes.

Most Common Imagery Obtained

Film: Black and white panchromatic

Scale: 1:24,000 (CZM); 1:90,000 negatives, 1:24,000 rectified reproducibles (SSPP, 1968-1969); 1:80,000 negatives, 1:24,000 rectified reproducibles (SSPP, 1977)

Lens focal length: 6 inches

Season: Spring (leaf-off)

Coverage Area

For the CZM, a band of land 15 miles wide along the North Shore of Lake Superior, plus a portion of Lake and St. Louis counties were flown in 1975. For the SSPP, the entire state of Minnesota was flown in 1968-1969. A contract has been negotiated for a reflight of the southern two-thirds of the state flown in Spring, 1977. It is hoped that the remainder of the state will be flown in late 1977 or early 1978. The map on the facing page locates the CZM coverage and the 1968-1969 SSPP coverage.

Where can the images be viewed?

The photographs for the CZM flight can be viewed at the State Planning Office:

Minnesota State Planning Agency
100 Capitol Square Building
550 Cedar Street Str
St. Paul, Minnesota 55101

The photographs for the SSPP flight can also be viewed in the State Planning Office, and at the Department of Transportation, Department of Natural Resources and the Map Library of Wilson Library at the University of Minnesota, Minneapolis.

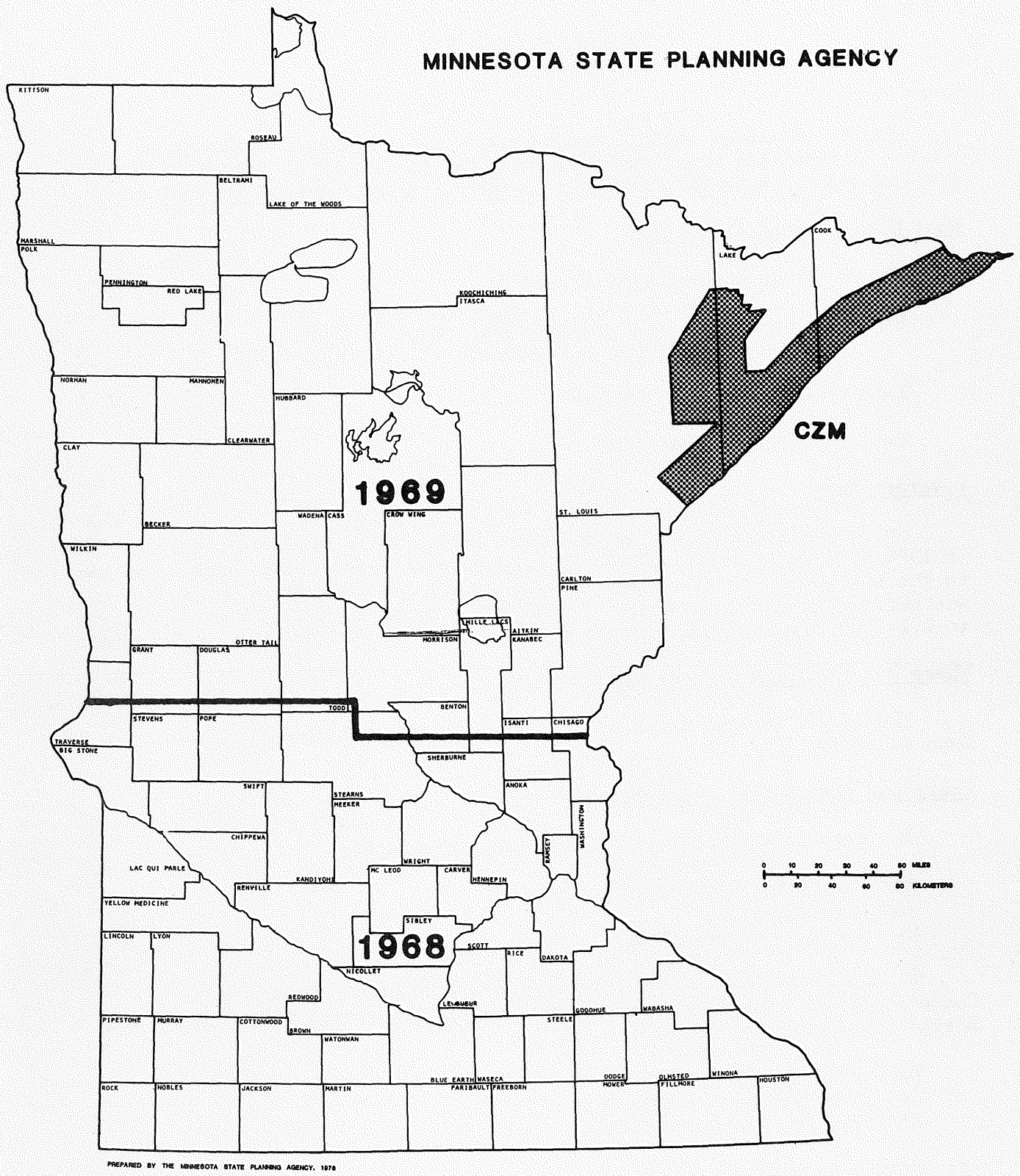
Where can the images be purchased?

Copies of the images for both the CZM and the SSPP flights can be ordered from:

Mark Hurd Aerial Surveys Inc.
345 Pennsylvania Avenue South
Minneapolis, Minnesota 55426
Phone: 545-2583

For additional information

Minnesota State Planning Agency
15 Capitol Square Building
St. Paul, Minnesota 55101


MINNESOTA STATE PLANNING AGENCY
KITTSON
ROSEAU
BELTRAMI
LAKE OF THE WOODS
MARSHALL
POLK
PENNINGTON
RED LAKE
KOOCHICHING
ITASCA
COOK
LAKE
NORMAN
MAHNOMEN
HUBBARD
CLEARWATER
CLAY
1969
CZM
BECKER
WADENA
CASS
CROW WING
ST. LOUIS
WILKIN
CARLTON
PINE
MILLE LACS
AITKIN
KANABEC
MORRISON
OTTER TAIL
GRANT
DOUGLAS
TODD
BENTON
STEVENS
POPE
ISANTI
CHISAGO
TRAVERSE
BIG STONE
SHERBURNE
SWIFT
STEARNS
ANOKA
MEEKER
CHIPPEWA
RAMSEY
WASHINGTON
WRIGHT
LAC QUI PARLE
MC LEOD
CARVER
KANDIYOHI
HENNEPIN
RENVILLE
YELLOW MEDICINE
SIBLEY
LINCOLN
LYON
1968
SCOTT
RICE
DAKOTA
NICOLLET
REDWOOD
LE SUEUR
GOODHUE
WABASHA
PIPESTONE
MURRAY
COTTONWOOD
BROWN
STEELE
WATONWAN
BLUE EARTH
WASECA
DODGE
OLMSTED
WINONA
ROCK
NOBLES
JACKSON
MARTIN
FARIBAULT
FREEBORN
MOWER
FILLMORE
HOUSTON
0 10 20 30 40 50 MILES
0 20 40 60 80 KILOMETERS
PREPARED BY THE MINNESOTA STATE PLANNING AGENCY, 1976

METROPOLITAN COUNCIL (MC)

The Metropolitan Council utilizes air photo coverage of the seven county metropolitan area (Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties) primarily for planning and land use determination.

Most Common Imagery Obtained

Film: Black and white panchromatic

Scale: Negatives - 1:38,000 (1974); 1:80,000 (1975)
Prints - 1:9,000, 1:24,000 (1974); 1:24,000 (1975)

Lens focal length: 6 inches

Season: Spring (Leaf-off)

Coverage Area

Stereo coverage of the seven county metropolitan area was completed in 1974 at a scale of 1:38,000. Enlargements were made from these negatives to the scales of 1:9,000 (image coverage only) and 1:24,000. The same area was reflown in 1975 at a scale of 1:80,000. These photographs were enlarged to 1:24,000 reproducible, rectified images on the USGS $7\frac{1}{2}$' quadrangle format.

Where can the images be viewed?

The images can be viewed in the map library at the Metropolitan Council office.

Where can the images be purchased?

The negatives for the 1974 images are located at:

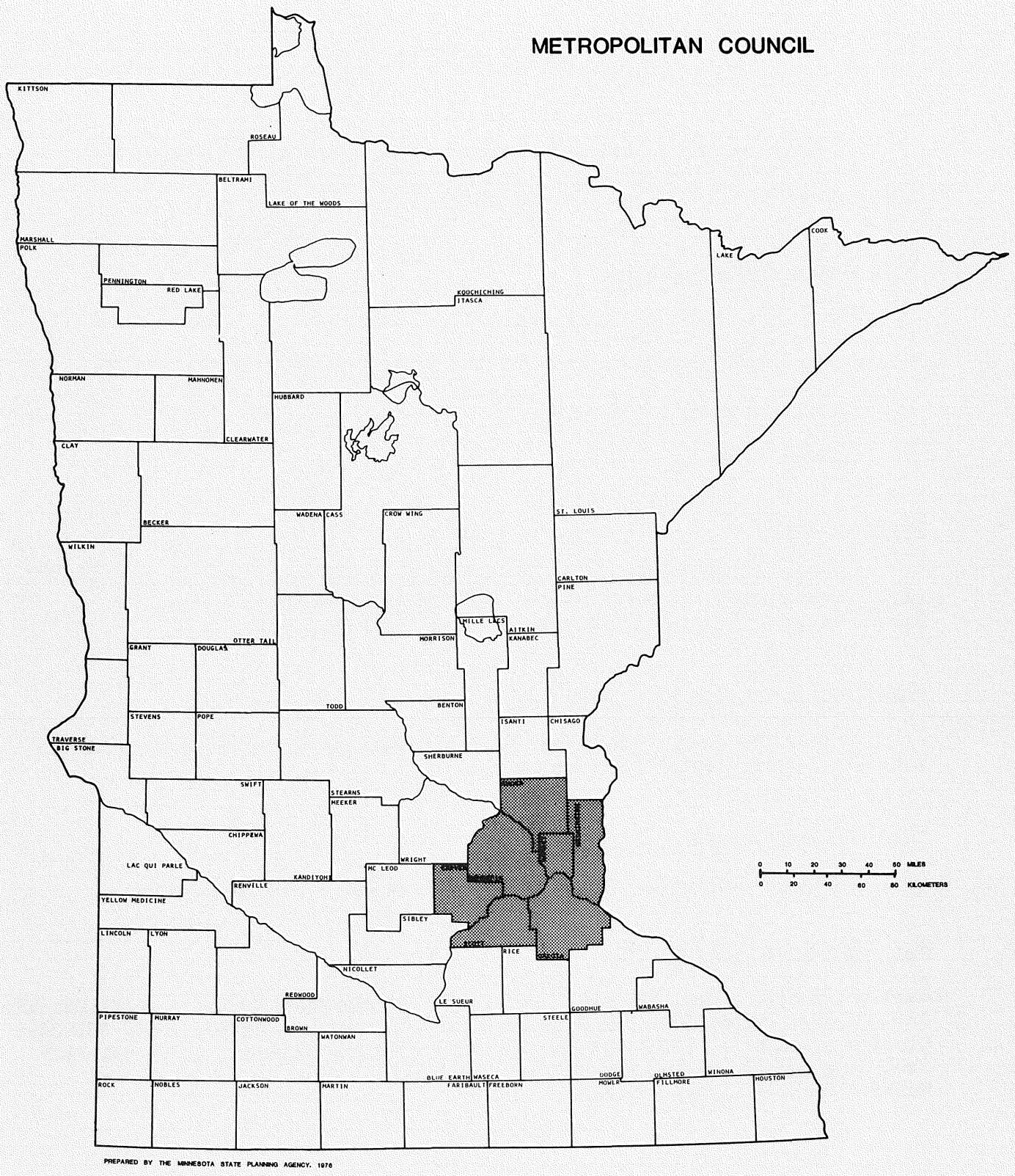
Martinez Ortho-Mapping Corporation
240 Chester St.
St. Paul, Minnesota 55107

Bluelines can be ordered for the 1975 images from the Metropolitan Council office. The negatives of these images are stored in the Mark Hurd Aerial Survey office:

Mark Hurd Aerial Surveys
345 Pennsylvania Avenue S.
Minneapolis, Minnesota 55426

For additional information

Metropolitan Council
300 Metro Square Building
7th and Robert Streets
St. Paul, Minnesota 55101
Phone: 291-6464


METROPOLITAN COUNCIL
KITTSON
ROSEAU
BELTRAMI
LAKE OF THE WOODS
MARSHALL
POLK
PENNINGTON
RED LAKE
KOOCHICHING
ITASCA
LAKE
COOK
NORMAN
MAHNOMEN
HUBBARD
CLEARWATER
CLAY
BECKER
WILKIN
WADENA
CASS
CROW WING
ST. LOUIS
CARLTON
PINE
MILLE LACS
AITKIN
KANABEC
MORRISON
OTTER TAIL
GRANT
DOUGLAS
TODD
BENTON
ISANTI
CHISAGO
STEVENS
POPE
TRAVERSE
BIG STONE
SHERBURNE
SWIFT
STEARNS
MEEKER
CHIPPEWA
WRIGHT
LAC QUI PARLE
MC LEOD
KANDIYOHI
RENVILLE
YELLOW MEDICINE
SIBLEY
LINCOLN
LYON
RICE
NICOLLET
REDWOOD
LE SUEUR
GOODHUE
WABASHA
PIPESTONE
MURRAY
COTTONWOOD
BROWN
STEELE
WATONWAN
BLUE EARTH
WASECA
DODGE
OLMSTED
WINONA
ROCK
NOBLES
JACKSON
MARTIN
FARIBAULT
FREEBORN
MOWER
FILLMORE
HOUSTON
0 10 20 30 40 50 MILES
0 20 40 60 80 KILOMETERS
PREPARED BY THE MINNESOTA STATE PLANNING AGENCY. 1976

COUNTY AGENCIES

A number of the county governments in Minnesota have contracted for aerial photography of their counties. This photography is used for administration of the lands of the counties.

Most Common Imagery Obtained

Film: Black and white panchromatic

Scale: 1:15,840

Lens focal length: $8\frac{1}{4}$ inches

Season: Leaf-on

Coverage Area

A number of the counties in northern Minnesota have contracted for aerial photography: Cass, Carlton, Clearwater, Crow Wing, Hubbard, Koochiching, St. Louis, and Wadena (see map on facing page).

Where can the images be viewed?

Contact the county courthouse in the county in which the imagery was taken to obtain viewing information.

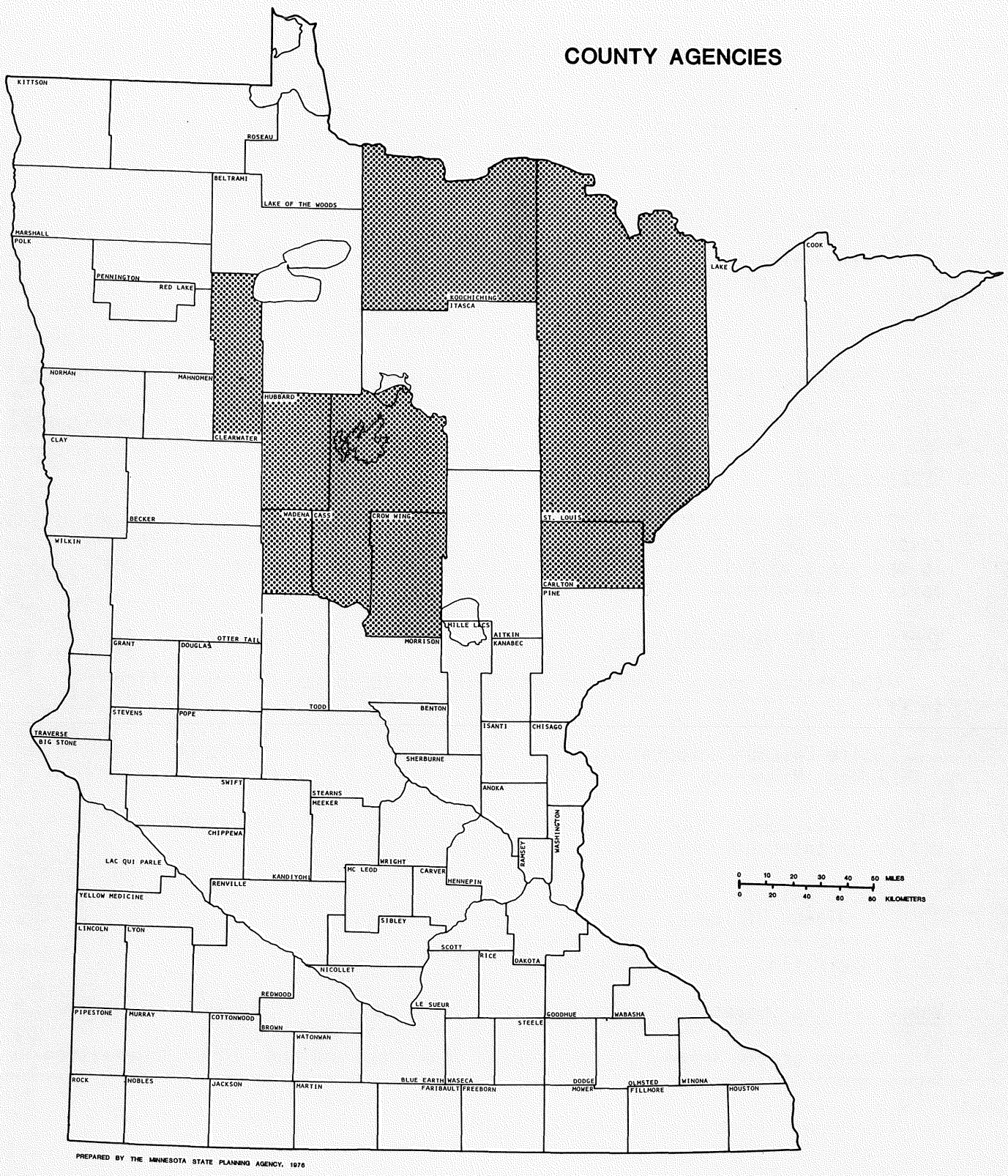
Where can the images be purchased?

Ordering information can be obtained from the county courthouse.

For additional information

Carlton County: (218) 384-4281
Cass County: (218) 547-3300 Ext. 226
Clearwater County: (218) 694-6520
Crow Wing County: (218) 829-0470
Hubbard County: (218) 732-4270
Koochiching County: (218) 283-8824
St. Louis County: (218) 723-3592
Wadena County: (218) 631-2425

COUNTY AGENCIES



PREPARED BY THE MINNESOTA STATE PLANNING AGENCY, 1976

BOISE CASCADE

The Boise Cascade Corporation has purchased limited aerial photographic coverage of northern Minnesota. The photographs are used for timber inventory and land management and planning.

Most Common Imagery Obtained

Film: Black and white panchromatic (Itasca County); Black and white infrared (St. Louis County)

Scale: 1:20,000 (Itasca County); 1:15,840 (St. Louis County)

Lens focal length: 6 inches (Itasca County); 8¼ inches (St. Louis County)

Season: Fall, leaf-off (Itasca County); Summer, leaf-on (St. Louis County)

Coverage Area

The Boise Cascade Corporation contracted for aerial photographic coverage of parts of Itasca and St. Louis Counties which was completed in the years 1971-1973 (see map on facing page). This coverage includes parts of the Kabetogama, Big Fork and George Washington State Forests.

Where can the images be viewed?

The Itasca County images can be viewed in the Boise Cascade Office in Effie:

Boise Cascade Corporation
Effie, Minnesota 56639

The St. Louis County images can be viewed in the Boise Cascade Office in International Falls:

Boise Cascade Corporation
Woodlands Office
Second Avenue and Second Street
International Falls, Minnesota 56649

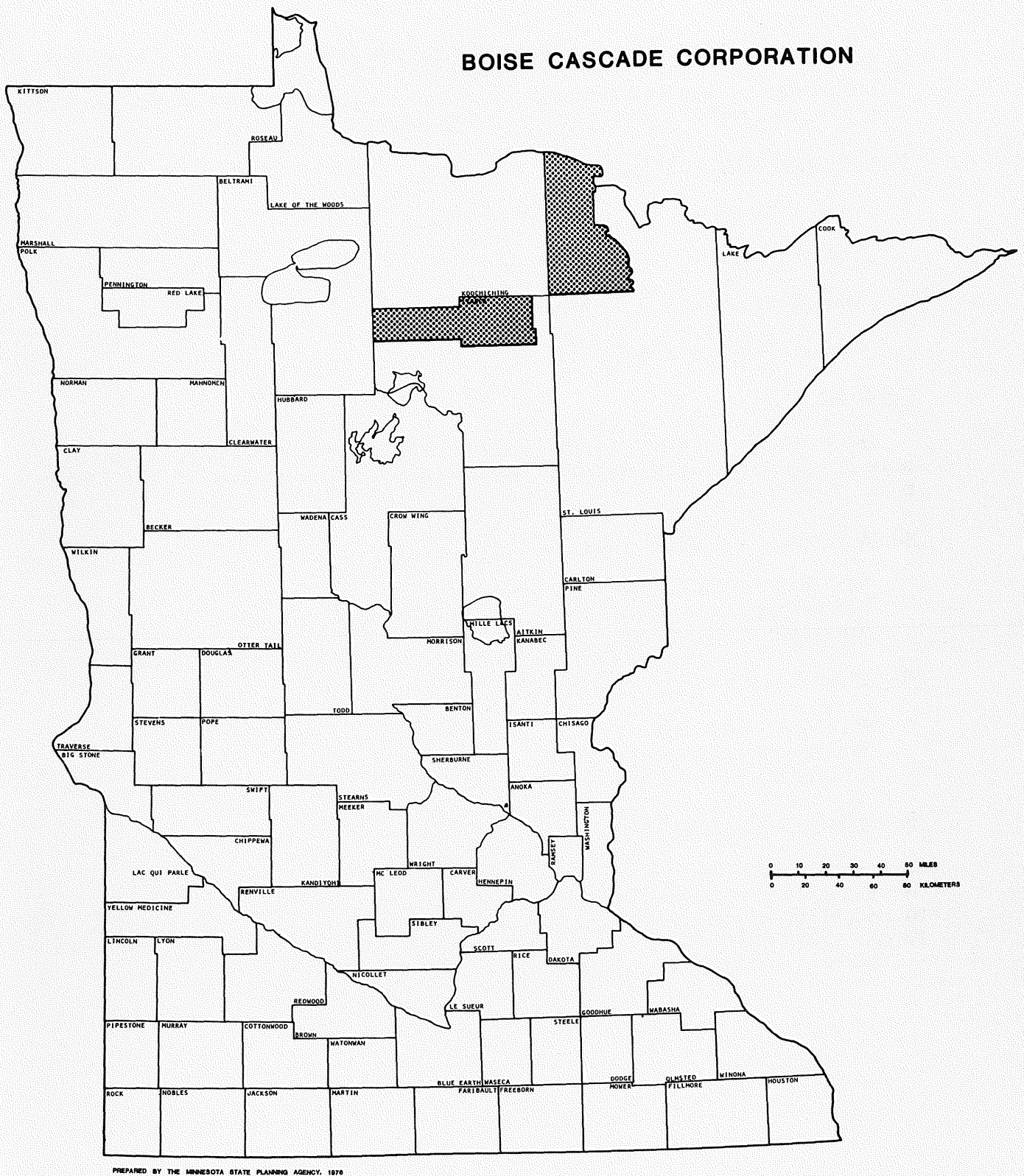
Where can the images be purchased?

Copies of the images can be ordered from the Land and Timber Acquisition Supervisor:

Land and Timber Acquisition Supervisor
Boise Cascade Corporation
P.O. Box 713
International Falls, Minnesota 56649

For additional information

Boise Cascade Corporation
Woodlands Office
Second Avenue and Second Street
International Falls, Minnesota 56649
Phone: (218) 283-3411


BOISE CASCADE CORPORATION
KITTSON
ROSEAU
BELTRAMI
LAKE OF THE WOODS
MARSHALL
POLK
PENNINGTON
RED LAKE
KOOCHICHING
COOK
LAKE
NORMAN
MAHNOMEN
HUBBARD
CLEARWATER
CLAY
BECKER
WADENA
CASS
CROW WING
ST. LOUIS
WILKIN
CARLTON
PINE
OTTER TAIL
MILLE LACS
AITKIN
KANABEC
MORRISON
GRANT
DOUGLAS
TODD
BENTON
STEVENS
POPE
ISANTI
CHISAGO
TRAVERSE
BIG STONE
SHERBURNE
SWIFT
ANOKA
STEARNS
MEEKER
WASHINGTON
CHIPPEWA
RAMSEY
WRIGHT
LAC QUI PARLE
MC LEOD
CARVER
HENNEPIN
KANDIYOHI
RENVILLE
YELLOW MEDICINE
SIBLEY
LINCOLN
LYON
SCOTT
RICE
DAKOTA
NICOLLET
REDWOOD
LE SUEUR
GOODHUE
WABASHA
PIPESTONE
MURRAY
COTTONWOOD
BROWN
STEELE
WATONWAN
BLUE EARTH
WASECA
DODGE
OLMSTED
WINONA
FARIBAULT
FREEBORN
MOWER
FILLMORE
HOUSTON
ROCK
NOBLES
JACKSON
MARTIN
0 10 20 30 40 50 MILES
0 20 40 60 80 KILOMETERS
PREPARED BY THE MINNESOTA STATE PLANNING AGENCY. 1978

MARK HURD AERIAL SURVEYS

Mark Hurd Aerial Surveys is a contracting firm for aerial photography and other related photogrammetric services. They have flown a number of counties and cities in Minnesota for various clients. Most of the photography is flown to provide coverage for contour mapping.

Most Common Imagery Obtained

Film: Black and white panchromatic

Scale: Varies

Lens focal length: 6 inches

Season: Spring (leaf-off)

Coverage Area

The coverage obtained by the Mark Hurd Aerial Surveys which is available for public viewing and purchase is indicated on the map on the facing page.

Where can the images be viewed?

Mark Hurd Aerial Surveys
345 Pennsylvania Avenue South
Minneapolis, Minnesota 55426

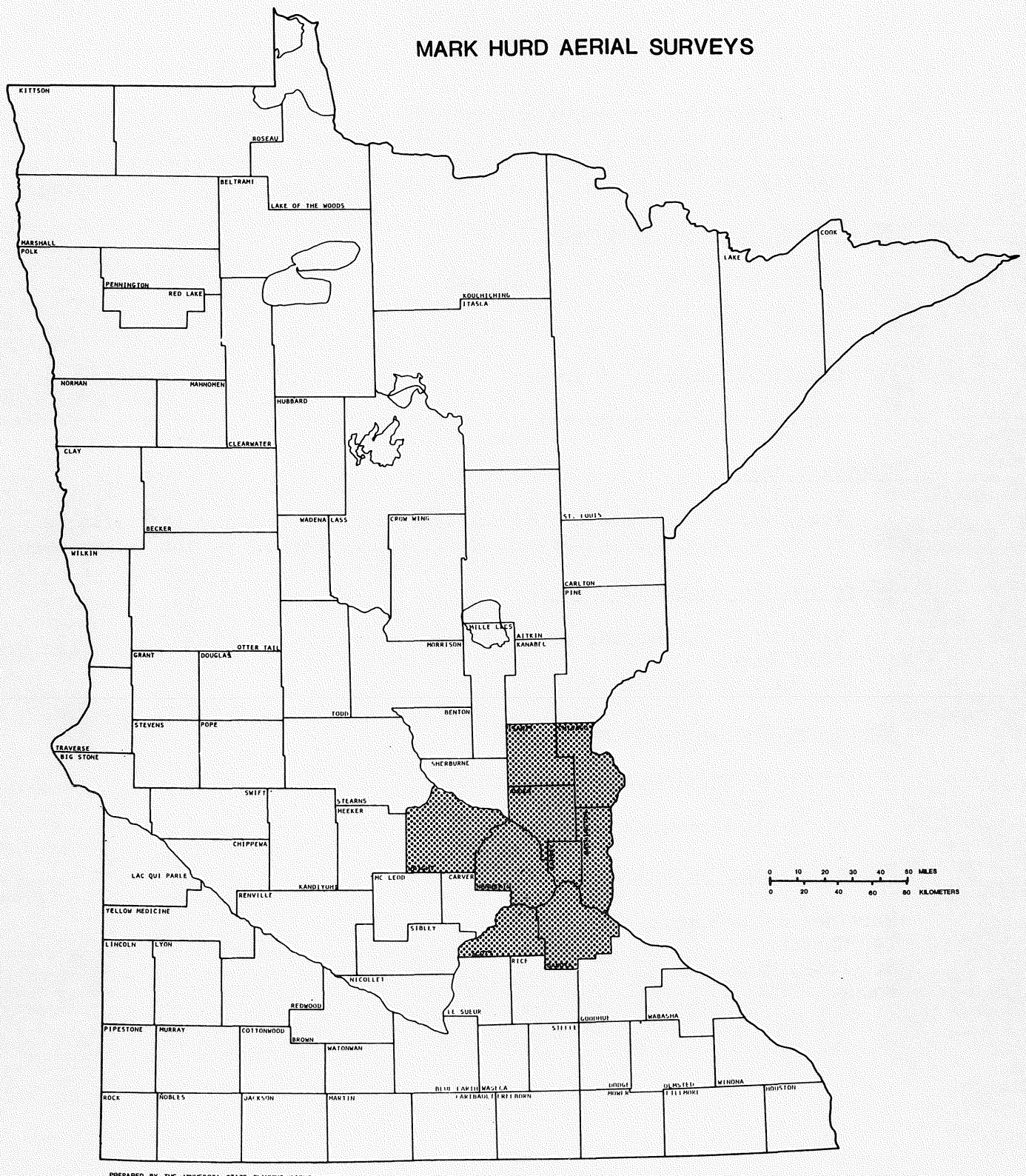
Where can the images be purchased?

Mark Hurd Aerial Surveys
345 Pennsylvania Avenue South
Minneapolis, Minnesota 55426

For additional information

Mark Hurd Aerial Surveys
345 Pennsylvania Avenue South
Minneapolis, Minnesota 55426
Phone: 545-2583

MARK HURD AERIAL SURVEYS



PREPARED BY THE MINNESOTA STATE PLANNING AGENCY, 1978

MARTINEZ-ORTHO-MAPPING CORPORATION

The Martinez Ortho-Mapping Corporation is a contracting firm for aerial photography and other related photogrammetric services. They have flown a number of counties and cities in Minnesota for various clients. Most of the photography is flown to provide coverage for contour mapping.

Most Common Imagery Obtained

Film: Black and white panchromatic

Scale: Varies

Lens focal length: 6 inches

Season: Spring (leaf-off)

Coverage Area

The coverage obtained by the Martinez Corporation which is available for public viewing and purchase is indicated on the map on the facing page.

Where can the images be viewed?

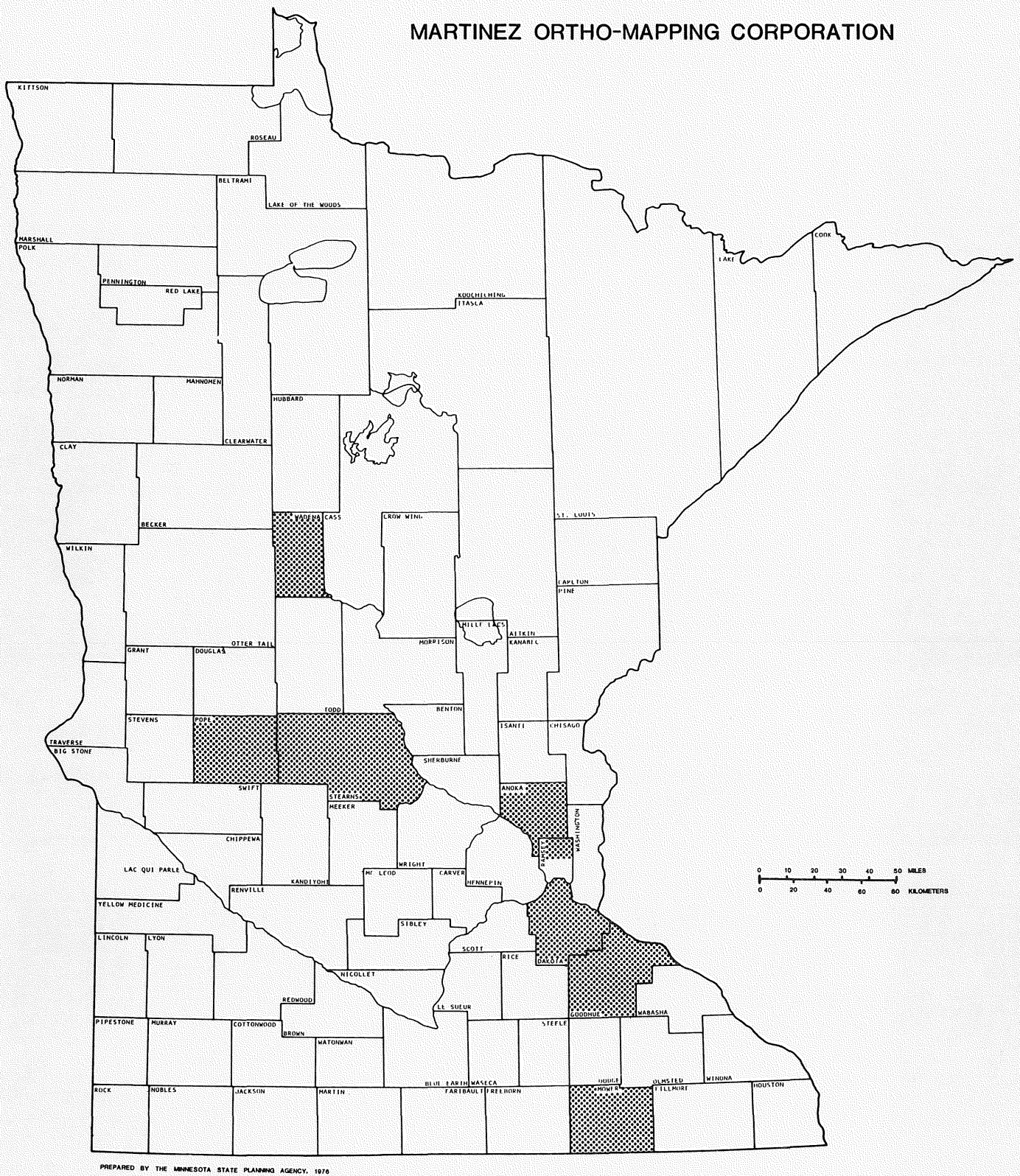
Martinez Ortho-Mapping Corporation
240 Chester
St. Paul, Minnesota 55107

Where can the images be purchased?

Martinez Ortho-Mapping Corporation
240 Chester
St. Paul, Minnesota 55107

For additional information

Martinez Ortho-Mapping Corporation
240 Chester
St. Paul, Minnesota 55107
Phone: 291-1127


MARTINEZ ORTHO-MAPPING CORPORATION
KITTSON
ROSEAU
BELTRAMI
LAKE OF THE WOODS
MARSHALL
POLK
PENNINGTON
RED LAKE
KOOCHICHING
ITASCA
COOK
LAKE
NORMAN
MAHNOMEN
HUBBARD
CLEARWATER
CLAY
BECKER
WADENA
CASS
CROW WING
ST. LOUIS
WILKIN
CARLTON
PINE
MILLE LACS
AITKIN
KANABEC
MORRISON
OTTER TAIL
GRANT
DOUGLAS
TODD
BENTON
STEVENS
POPE
ISANTI
CHISAGO
TRAVERSE
BIG STONE
SHERBURNE
SWIFT
STEARNS
ANOKA
MEEKER
CHIPPEWA
RAMSEY
WASHINGTON
LAC QUI PARLE
WRIGHT
MC LEOD
CARVER
HENNEPIN
KANDIYOHI
RENVILLE
YELLOW MEDICINE
SIBLEY
LINCOLN
LYON
SCOTT
RICE
DAKOTA
NICOLLET
REDWOOD
LE SUEUR
GOODHUE
WABASHA
PIPESTONE
MURRAY
COTTONWOOD
BROWN
WATONWAN
STEELE
DODGE
OLMSTED
WINONA
BLUE EARTH
WASECA
ROCK
NOBLES
JACKSON
MARTIN
FARIBAULT
FREEBORN
MOWER
FILLMORE
HOUSTON
0 10 20 30 40 50 MILES
0 20 40 60 80 KILOMETERS
PREPARED BY THE MINNESOTA STATE PLANNING AGENCY. 1976

Section 2: Coverage by Counties

In this section the specific information on aerial photography and other imagery is organized by the Minnesota counties, listed chronologically. All the major imagery described in the first section of this inventory is listed under the respective county in this section. The information in this section is more detailed than the information in Section 1, however, users are advised to contact the contracting agency before ordering any imagery.

Information in this section includes:

- year of the photography,
- contracting agency (for additional information, see Section 1),
- scale of the photograph (for additional information, see Appendix B, page 94),
- focal length of the camera used,
- film type used (for additional information, see Appendix A, pages 85-87),
- season when photography was obtained (see Appendix A, pages 88-89),
- coverage area within the county - may be complete or partial,
- a reference to viewing and ordering information in Section 1.

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
				AITKIN COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1969	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1973	USGS	1:22,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1975	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
	DOT						Page 29
	NASA						Page 23
				ANOKA COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1953	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1957	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1964	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1971	Mark Hurd	1:9,600	6"	B&W Pan.	Leaf-off	Partial County	Page 41
1971	SCS	1:31,680-1:44,000	6"	B&W Pan.	Leaf-off	County	Page 9
1972	USGS	1:32,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1973	Martinez	1:9,600	6"	B&W Pan.	Leaf-off	County	Page 43
1973	USGS	1:20,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1974	MC	1:38,000	6"	B&W Pan.	Leaf-off	County	Page 35
1975	Mark Hurd	1:9,600	6"	B&W Pan.	Leaf-off	County	Page 41
1975	MC	1:80,000	6"	B&W Pan.	Leaf-off	County	Page 35
	DOT						Page 29
	NASA						Page 23
				BECKER COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1953	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1965	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1965	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1972	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1972	USGS	1:21,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1974	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
	DOT						Page 29
	NASA						Page 23
				BELTRAMI COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1939-40	FS	1:20,000	?	B&W Pan.	Leaf-on	Chippewa Nat. Forest	Page 7
1947	FS	1:15,840	?	B&W IR	Leaf-on	Chippewa Nat. Forest	Page 7
1959	FS	1:15,840	?	B&W IR	Leaf-on	Chippewa Nat. Forest	Page 7
9							
1960	FS	1:34,000	?	B&W Pan.	Leaf-on	Chippewa Nat. Forest	Page 7

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info
1969	FS	1:15,840	8¼"	B&W IR	Leaf-on	Chippewa Nat. Forest	Page 7
1969	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	SCS	1:31,680-1:44,000	3.4-4"	B&W Pan.	Leaf-off	Partial County	Page 9
1970	USGS	1:21,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1971	USGS	1:21,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1972	USGS	1:21,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1972	USGS	1:15,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1972	USGS		3"	B&W Pan.	Leaf-off	Partial County	Page 17
1973	USGS		4"	B&W Pan.	Leaf-off	Partial County	Page 17
1974	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1974	BIA	1:15,840	6"	B&W IR	Leaf-on	Red Lake Indian Reservation	Page 11
1975-1976	FS	1:15,840	6"	B&W Pan.	Leaf-on	Chippewa Nat. Forest	Page 7
1976	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1976	FS	1:63,360	3½"	B&W IR	Leaf-on	Chippewa Nat. Forest	Page 7
1976	SCS	1:45,000-1:55,000	6"	B&W Pan.	Leaf-off	Partial County	Page 9
	DOT						Page 29
	NASA						Page 23
				BENTON COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1953	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1957	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1963	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1963	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	S. part of County	Page 33
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	N. part of County	Page 33
1970	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1973	USGS	1:22,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1974	USGS	1:22,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1975	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1975	USGS	1:18,000	6"	B&W Pan.	Leaf-on	Partial County	Page 17
1977	MEA	1:12,000	3"	Color	Leaf-off	Sauk Rapids	Page 31
1977	MEA	1:6,000		Thermal	Leaf-off	Sauk Rapids	Page 31
	DOT						Page 29
	NASA						Page 23
				BIG STONE COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1950	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1955	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1971	USGS	1:48,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1973	USGS	1:25,700	6"	B&W Pan.	Leaf-off	Partial County	Page 17
	NASA						Page 23
				BLUE EARTH COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1950	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1964	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1971	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1973	USGS	1:20,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1974	SCS	1:31,680	6"	B&W Pan.	Leaf-off	County	Page 9
	DOT						Page 29
	NASA						Page 23
				BROWN COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1950	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1955	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1961	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1975	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
1977	MEA	1:6,000		Thermal	Leaf-off	New Ulm	Page 31
	DOT						Page 29
	NASA						Page 23
				CARLTON COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1962	Carlton County	1:15,840	?	B&W Pan.	Leaf-on	County	Page 37
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1974	SCS	1:45,000-1:55,000	6"	B&W Pan.	Leaf-off	County	Page 9
1975	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1975	Carlton County	1:15,840	?	B&W Pan.	Leaf-on	County	Page 37
1975	USGS	1:36,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1976	MEA	1:12,000	6"	Color	Leaf-off	Cloquet	Page 31
1976	MEA	1:6,000			Leaf-off	Cloquet	Page 31
1976	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
	DOT						Page 29
	NASA						Page 23

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering a Viewing In
				CARVER COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1940	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1951	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1957	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1963	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1972	USGS	1:32,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1974	MC	1:38,000	6"	B&W Pan.	Leaf-off	County	Page 35
1975	MC	1:80,000	6"	B&W Pan.	Leaf-off	County	Page 35
1975	USGS	1:23,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1975	USGS	1:80,000	6"	B&W Pan.	Leaf-off	County	Page 19
	DOT						Page 29
	NASA						Page 23
				CASS COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1939-40	FS	1:20,000	?	B&W Pan.	Leaf-on	Chippewa Nat. Forest	Page 7
1947	FS	1:15,840	?	B&W IR	Leaf-on	Chippewa Nat. Forest	Page 7
1959	FS	1:15,840	?	B&W IR	Leaf-on	Chippewa Nat. Forest	Page 7
1959-60	Cass Co.	1:15,840	8¼"	B&W Pan.	Leaf-on	County	Page 37
1960	FS	1:34,000	?	B&W Pan.	Leaf-on	Chippewa Nat. Forest	Page 7
1966	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	Partial County	Page 5
1969	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	Partial County	Page 5
1969	Cass Co.	1:15,840	8¼"	B&W Pan.	Leaf-on	County	Page 37
1969	DNR	1:15,840	6"	B&W IR	Leaf-on	Partial County	Page 27
1969	FS	1:15,840	8¼"	B&W IR	Leaf-on	Chippewa Nat. Forest	Page 7
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	USGS	1:21,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1971	USGS	1:21,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1972	USGS	1:21,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1973	USGS	1:22,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1975-76	FS	1:15,840	6"	B&W Pan.	Leaf-off	Chippewa Nat. Forest	Page 7
1976	FS	1:63,360	3½"	B&W IR	Leaf-off	Chippewa Nat. Forest	Page 7
	DOT						Page 29
	NASA						Page 23
				CHIPPEWA COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1950	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1955	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1961	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
1967	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1975	SCS	1:31,680-1:44,000	6"	B&W Pan.	Leaf-off	County	Page 9
	DOT						Page 29
	NASA						Page 23
			CHISAGO COUNTY				
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1953	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1957	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1965	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1965	DNR	1:15,840	6"	B&W Pan.	Leaf-on	County	Page 27
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	S. part of County	Page 33
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	N. part of County	Page 33
1971	Mark Hurd	1:9,600	6"	B&W Pan.	Leaf-off	Partial County	Page 41
1973	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1973	USGS	1:20,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1974	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
1975	USGS	1:23,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
	DOT						Page 29
	NASA						Page 23
			CLAY COUNTY				
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1948	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1954	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1965	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	USGS	1:40,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1972	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1972	USGS	1:20,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1976	SCS	1:45,000-1:55,000	6"	B&W Pan.	Leaf-off	County	Page 9
1976	USGS	1:24,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1976	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
	DOT						Page 29
	NASA						Page 23
			CLEARWATER COUNTY				
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1959	Clear-water County	1:15,840	6"	B&W IR	Leaf-on	County	Page 37
1960	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
1971	USGS	1:21,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1972	USGS	1:21,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1972	USGS		3"	B&W Pan.	Leaf-off	Partial County	Page 17
1973	USGS		4"	B&W Pan.	Leaf-off	Partial County	Page 17
1974	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1974	BIA	1:15,840	6"	B&W IR	Leaf-on	Red Lake Indian Reservation	Page 11
1974	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1976	SCS	1:45,000-1:55,000	6"	B&W IR	Leaf-off	Partial County	Page 9
	DOT						Page 29
	NASA						Page 23
				COOK COUNTY			
1937-1938	FS	1:24,000	6"	B&W Pan.	Leaf-on	Superior Nat. Forest	Page 7
1940	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	Partial County	Page 5
1948	FS	1:15,840	6"	B&W Pan.	Leaf-on	Superior Nat. Forest	Page 7
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	FS	1:15,840	6"	B&W Pan.	Leaf-on	Superior Nat. Forest	Page 7
1972	DNR	1:15,840	6"	B&W IR	Leaf-on	Partial County	Page 27
1975	CZM	1:24,000	6"	B&W Pan.	Leaf-off	Partial County	Page 33
1976	USGS	1:32,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1976	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
	NASA						Page 23
				COTTONWOOD COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1950	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1964	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1971	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1976	SCS	1:45,000-1:55,000	6"	B&W Pan.	Leaf-off	County	Page 9
	DOT						Page 29
	NASA						Page 23
				CROW WING COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1960	Crow Wing Co.	1:15,840	8¼"	B&W IR	Leaf-on	County	Page 37
1969	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1969	Crow Wing Co.	1:15,840	8¼"	B&W IR	Leaf-on	County	Page 37

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
1969	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1973	USGS	1:22,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
	DOT						Page 29
	NASA						Page 23
				DAKOTA COUNTY			
1937	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1940	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1951	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1957	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1964	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1970	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1971	Mark Hurd	1:9,600	6"	B&W Pan.	Leaf-off	County	Page 41
1972	USGS	1:32,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1973	USGS	1:24,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1974	MC	1:38,000	6"	B&W Pan.	Leaf-off	County	Page 35
1974	SCS	1:31,680-1:44,000	6"	B&W Pan.	Leaf-off	County	Page 9
1974	USGS	1:38,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1974-75	Martinez	1:9,600	6"	B&W Pan.	Leaf-off	County	Page 43
1975	MC	1:80,000	6"	B&W Pan.	Leaf-off	County	Page 35
1976	MEA	1:6,000		Thermal	Leaf-off	South St. Paul	Page 31
1976-77	Mark Hurd	1:9,600	6"	B&W Pan.	Leaf-off	County	Page 41
	DOT						Page 29
	NASA						Page 23
				DODGE COUNTY			
1937	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1951	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1956	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1964	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1971	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1974	USGS	1:24,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
	DOT						Page 29
	NASA						Page 23
				DOUGLAS COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1951	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1965	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	S. Part of County	Page 33
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	N. Part of County	Page 33

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
1970	SCS	1:45,000-1:55,000	6"	B&W Pan.	Leaf-off	County	Page 9
1972	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
	DOT						Page 29
	NASA						Page 23
				FARIBAULT COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1949	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1954	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1962	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1976	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
	DOT						Page 29
	NASA						Page 23
				FILLMORE COUNTY			
1934	SCS	1:20,000	8¼"	B&W Pan.	Leaf-off	Deer & Bear Creeks	Page 25
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1940	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1947	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1954	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1962	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1974	USGS	1:24,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
	DOT						Page 29
	NASA						Page 23
				FREEBORN COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1949	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1954	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1962	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1975	SCS	1:31,680-1:44,000	6"	B&W Pan.	Leaf-off	County	Page 9
1976	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
1977	MEA	1:12,000	3"	Color	Leaf-off	Albert Lea	Page 31
1977	MEA	1:6,000		Thermal	Leaf-off	Albert Lea	Page 31
	DOT						Page 29
	NASA						Page 23

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
			GOODHUE COUNTY				
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1951	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1964	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1971	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1972	SCS	1:31,680-1:44,000	6"	B&W Pan.	Leaf-off	County	Page 9
1973-74	Martinez	1:26,400	6"	B&W Pan.	Leaf-off	County	Page 43
1974	USGS	1:24,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
	DOT						Page 29
	NASA						Page 23
			GRANT COUNTY				
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1951	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1965	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	S. part of County	Page 33
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	N. part of County	Page 33
1970	SCS	1:45,000-1:55,000	6"	B&W Pan.	Leaf-off	County	Page 9
1972	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1972	USGS	1:21,000	6"	B&W Pan.	Leaf-off	County	Page 17
	DOT						Page 29
	NASA						Page 23
			HENNEPIN COUNTY				
1937	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1940	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1953	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1957	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1964	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	SCS	1:31,680-1:44,000	6"	B&W Pan.	Leaf-off	County	Page 9
1972	USGS	1:32,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1974	MC	1:38,000	6"	B&W Pan.	Leaf-off	County	Page 35
1975	Mark Hurd	1:9,600	6"	B&W Pan.	Leaf-off	County	Page 41
1975	MC	1:80,000	6"	B&W Pan.	Leaf-off	County	Page 35
1975	USGS	1:23,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1975	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
1976	MEA	1:12,000	6"	Color	Leaf-off	Minneapolis, Hopkins, St. Louis Park	Page 31

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
1976	MEA	1:6,000		Thermal	Leaf-off	Minneapolis, Hopkins, St. Louis Park	Page 31
	DOT						Page 29
	NASA						Page 23
			HOUSTON COUNTY				
1935	SCS	1:20,000	8¼"	B&W Pan.	Leaf-off	Beaver Creek	Page 25
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1947	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1954	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1962	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1975	USGS	1:24,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1975	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
1976	SCS	1:45,000-1:55,000	6"	B&W Pan.	Leaf-off	County	Page 9
	DOT						Page 29
	NASA						23
			HUBBARD COUNTY				
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1939-40	FS	1:20,000	?	B&W Pan.	Leaf-on	Chippewa Nat. Forest	Page 7
1947	FS	1:15,840	?	B&W IR	Leaf-on	Chippewa Nat. Forest	Page 7
1959	FS	1:15,840	?	B&W IR	Leaf-on	Chippewa Nat. Forest	Page 7
1959	Hubbard County	1:15,840	6"	B&W IR	Leaf-on	County	Page 37
1960	FS	1:34,000	?	B&W Pan.	Leaf-on	Chippewa Nat. Forest	Page 7
1966	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1969	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1969	FS	1:15,840	8¼"	B&W IR	Leaf-on	Chippewa Nat. Forest	Page 7
1969	Hubbard County	1:15,840	6"	B&W IR	Leaf-on	County	Page 37
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1971	USGS	1:21,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1975-76	FS	1:15,840	6"	B&W Pan.	Leaf-on	Chippewa Nat. Forest	Page 7
1976	FS	1:63,360	3½"	B&W IR	Leaf-on	Chippewa Nat. Forest	Page 7
	DOT						Page 29
	NASA						Page 23

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
				ISANTI COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1953	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1957	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1965	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1965	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	S. part of County	Page 33
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	N. part of County	Page 33
1971	Mark Hurd	1:9,600	6"	B&W Pan.	Leaf-off	Partial County	Page 41
1973	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1973	USGS	1:20,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1974	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
	DOT						Page 29
	NASA						Page 23
				ITASCA COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1939-40	FS	1:20,000	?	B&W Pan.	Leaf-on	Chippewa Nat. Forest	Page 7
1947	FS	1:15,840	?	B&W IR	Leaf-on	Chippewa Nat. Forest	Page 7
1959	FS	1:15,840	?	B&W IR	Leaf-on	Chippewa Nat. Forest	Page 7
1960	FS	1:34,000	?	B&W Pan.	Leaf-on	Chippewa Nat. Forest	Page 7
1966	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1969	FS	1:15,840	8¼"	B&W IR	Leaf-on	Chippewa Nat. Forest	Page 7
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	USGS	1:21,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1972	Boise Cascade	1:20,000	6"	B&W Pan.	Leaf-off	County	Page 39
1975	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1975-76	FS	1:15,840	6"	B&W Pan.	Leaf-on	Chippewa Nat. Forest	Page 7
1976	FS	1:63,360	3½"	B&W IR	Leaf-on	Chippewa Nat. Forest	Page 7
1976	MEA	1:12,000	6"	Color	Leaf-off	Grand Rapids	Page 31
1976	MEA	1:6,000		Thermal	Leaf-off	Grand Rapids	Page 31
	DOT						Page 29
	NASA						Page 23

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
				JACKSON COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1949	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1954	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1962	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
	DOT						Page 29
	NASA						Page 23
				KANABEC COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1965	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1965	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1973	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1974	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
1975	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
	DOT						Page 29
	NASA						Page 23
				KANDIYOHI COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1950	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1955	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1963	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1975	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
	DOT						Page 29
	NASA						Page 23
				KITTSON COUNTY			
1940	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1948	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1954	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1966	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1974	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1975	SCS	1:45,000-1:55,000	6"	B&W Pan.	Leaf-off	County	Page 9
1975	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
	DOT						Page 29
	NASA						Page 23

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
				KOOCHICHING COUNTY			
1940	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1952	Koochi-ching Co.	1:20,000	6"	B&W Pan.	Leaf-on	County	Page 37
1962	Koochi-ching Co.	1:20,000	6"	B&W Pan.	Leaf-on	County	Page 37
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1972	DNR	1:15,840	6"	B&W IR	Leaf-on	Partial County	Page 27
1972-3	Koochi-ching Co.	1:15,840	8¼"	B&W IR	Leaf-on	County	Page 37
	DOT						Page 29
	NASA						Page 23
				LAC QUI PARLE COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1950	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1955	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1961	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1967	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
	DOT						Page 29
	NASA						Page 23
				LAKE COUNTY			
1937	FS	1:24,000	6"	B&W Pan.	Leaf-on	Superior Nat. Forest	Page 25
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1948	FS	1:15,840	6"	B&W Pan.	Leaf-on	Superior Nat. Forest	Page 7
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	FS	1:15,840	6"	B&W Pan.	Leaf-on	Superior Nat. Forest	Page 7
1972	DNR	1:15,840	6"	B&W IR	Leaf-on	County excluding Superior Nat. Forest	Page 27
1975	CZM	1:24,000	6"	B&W Pan.	Leaf-off	Partial County	Page 33
1976	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
	DOT						Page 29
	NASA						Page 23
				LAKE OF THE WOODS COUNTY			
1940	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1961	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	Partial County	Page 5
1961	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1975	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
	NASA						Page 23

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
				LE SUEUR COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1940	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1951	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1959	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1964	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1971	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1975	USGS	1:80,000	6"	B&W Pan.	Leaf-off	County	Page 19
	DOT						Page 29
	NASA						Page 23
				LINCOLN COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1950	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1955	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1961	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1967	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
	DOT						Page 29
	NASA						Page 23
				LYON COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1950	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1955	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1961	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1967	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	SCS	1:45,000-1:55,000	6"	B&W Pan.	Leaf-off	County	Page 9
	DOT						Page 29
	NASA						Page 23
				MAHNOMEN COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1953	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1966	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1966	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1974	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1974	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
	DOT						Page 29
	NASA						Page 23

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
				MARSHALL COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1948	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1954	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1966	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	Partial County	Page 5
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1974	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1975	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
	DOT						Page 29
	NASA						Page 23
				MARTIN COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1949	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1954	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1962	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
	DOT						Page 29
	NASA						Page 23
				MCLEOD COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1940	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1950	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1955	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1961	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1967	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1975	USGS	1:22,000	6"	B&W Pan.	Leaf-off	County	Page 17
1975	USGS	1:80,000	6"	B&W Pan.	Leaf-off	County	Page 19
1977	MEA	1:12,000	3"	Color	Leaf-off	Hutchinson	Page 31
1977	MEA	1:6,000		Thermal	Leaf-off	Hutchinson	Page 31
	DOT						Page 29
	NASA						Page 23
				MEEKER COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan	Leaf-on	County	Page 25
1950	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1955	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1963	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
1970	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1975	USGS	1:22,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1975	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
1977	MEA	1:12,000	3"	Color	Leaf-off	Litchfield	Page 31
1977	MEA	1:6,000		Thermal	Leaf-off	Litchfield	Page 31
	DOT						Page 29
	NASA						Page 23
				MILLE LACS COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1957	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1965	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1965	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1973	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1975	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
	DOT						Page 29
	NASA						Page 23
				MORRISON COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1955	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1963	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1963	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 17
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1975	USGS	1:18,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1977	MEA	1:12,000	3"	Color	Leaf-off	Little Falls	Page 31
1977	MEA	1:6,000		Thermal	Leaf-off	Little Falls	Page 31
	DOT						Page 29
	NASA						Page 23
				MOWER COUNTY			
1934	SCS	1:20,000	8¼"	B&W Pan.	Leaf-off	Deer & Bear Creeks	Page 25
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1949	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1954	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1962	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1973	Martinez	1:26,400	6"	B&W Pan.	Leaf-on	County	Page
1974	USGS	1:24,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1976	SCS	1:31,680-1:44,000	6"	B&W Pan.	Leaf-off	County	Page 9
1976	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
1977	MEA	1:12,000	3"	Color	Leaf-off	Austin	Page 31
1977	MEA	1:6,000		Thermal	Leaf-off	Austin	Page 31
	NASA						Page 23

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
				MURRAY COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1950	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1955	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1962	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
	DOT						Page 29
	NASA						Page 23
				NICOLLET COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1950	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1955	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1961	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1973	USGS	1:20,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1976	MEA	1:6,000		Thermal	Leaf-off	St. Peter	Page 31
	DOT						Page 29
	NASA						Page 23
				NOBLES COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1949	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1954	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1962	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1971	SCS	1:45,000-1:55,000	6"	B&W Pan.	Leaf-off	County	Page 9
1976	USGS	1:36,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
	DOT						Page 29
	NASA						Page 23
				NORMAN COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1948	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1954	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1966	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1974	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1970	SCS	1:45,000-1:55,000	6"	B&W Pan.	Leaf-off	County	Page 9
	DOT						Page 29
	NASA						Page 23

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
				OLMSTEAD COUNTY			
1934	SCS	1:20,000	8¼"	B&W Pan.	Leaf-off	Deer & Bear Creeks	Page 25
1937	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1940	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1951	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1964	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1971	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1974	USGS	1:24,000	6"	BYW Pan.	Leaf-off	Partial County	Page 17
1975	SCS	1:31,680-1:44,000	6"	B&W Pan.	Leaf-off	County	Page 9
	DOT						Page 29
	NASA						Page 23
				OTTER TAIL COUNTY			
1938	SCS	1:20,000	8¼"	B&W Pan.	Leaf-off	Partial County	Page 25
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	Partial County	Page 25
1953	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1957	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1963	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1963	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1972	USGS	1:20,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1974	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
	DOT						Page 29
	NASA						Page 23
				PENNINGTON COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1953	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1966	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1974	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1975	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
1976	SCS	1:45,000-1:55,000	6"	B&W Pan.	Leaf-off	County	Page 9
1976	USGS	1:24,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
	DOT						Page 29
	NASA						Page 23

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
				PINE COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1965	DNR	1:51,840	6"	B&W IR	Leaf-on	County	Page 27
1969	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1974	USGS	1:80,000	6"	B&W Pan.	Leaf-off	County	Page 19
1975	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
	DOT						Page 29
	NASA						Page 23
				PIPESTONE COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1950	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1955	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1962	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1972	SCS	1:45,000-1:55,000	6"	B&W Pan.	Leaf-off	County	Page 9
	DOT						Page 29
	NASA						Page 23
				POLK COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1948	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1954	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1966	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1974	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1975	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
1976	USGS	1:24,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
	DOT						Page 29
	NASA						Page 23
				POPE COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1951	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1965	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1972	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1974	Martinez	1:12,000	6"	B&W Pan.	Leaf-off	County	Page 43
	NASA						Page 23

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
				RAMSEY COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1940	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1953	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1957	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1971	Mark Hurd	1:9,600	6"	B&W Pan.	Leaf-off	County	Page 41
1972	USGS	1:32,000	6"	B&W Pan.	Leaf-off	County	Page 17
1974	MC	1:38,000	6"	B&W Pan.	Leaf-off	County	Page 35
1974	SCS	1:31,680-1:44,000	6"	B&W Pan.	Leaf-off	County	Page 9
1975	Martinez	1:9,600	6"	B&W Pan.	Leaf-off	Partial County	Page 43
1975	MC	1:80,000	6"	B&W Pan.	Leaf-off	County	Page 35
1976	MEA	1:12,000	6"	Color	Leaf-off	St. Paul	Page 31
1976	MEA	1:6,000		Thermal	Leaf-off	St. Paul	Page 31
1977	MEA	1:6,000		Thermal	Leaf-off	St. Paul	Page 31
	DOT						Page 29
	NASA						Page 23
				RED LAKE COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1953	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1966	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1974	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1975	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
1976	USGS	1:24,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
	DOT						Page 29
	NASA						Page 23
				REDWOOD COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1950	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1955	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1961	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1974	SCS	1:45,000-1:55,000	6"	B&W Pan.	Leaf-off	County	Page 9
1975	USGS	1:80,000	6"	B&W Pan.	Leaf-off	County	Page 19
	DOT						Page 29
	NASA						Page 23

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
				RENVILLE COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1950	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1955	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1961	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1967	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1975	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
	DOT						Page 29
	NASA						Page 23
				RICE COUNTY			
1935	SCS	1:15,840	6"	B&W Pan.	Leaf-off	Prairie Creek	Page 25
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1940	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1951	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1964	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	ASCS	1:80,000	6"	B&W Pan.	Leaf-on	County	Page 5
1976	MEA	1:6,000		Thermal	Leaf-off	Northfield	Page 31
1977	MEA	1:12,000	3"	Color	Leaf-off	Faribault	Page 31
1977	MEA	1:6,000		Thermal	Leaf-off	Faribault	Page 31
	DOT						Page 29
	NASA						Page 23
				ROCK COUNTY			
1936	SCS	1:20,000	8¼"	B&W Pan.	Leaf-off	County	Page 25
1940	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1949	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1954	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1962	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1976	USGS	1:36,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
	NASA						Page 23
				ROSEAU COUNTY			
1940	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1953	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1966	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1966	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1974	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
	DOT						Page 29
	NASA						Page 23

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
				ST. LOUIS COUNTY			
1937	FS	1:24,000	6"	B&W Pan.	Leaf-on	Superior Nat. Forest	Page 7, 25
1940	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	Partial County	Page 25
1948	FS	1:15,840	6"	B&W Pan.	Leaf-on	Superior Nat. Forest	Page 7
1953	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	Duluth Area	Page 5
1964	St.Louis County		8¼"	B&W IR	Leaf-on	County	Page 37
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	FS	1:15,840	6"	B&W Pan.	Leaf-on	Superior Nat. Forest	Page 7
1971-3	Boise Cascade	1:15,840	8¼"	B&W IR	Leaf-on	Partial County	Page 39
1971	NPS	1:36,000	6"	B&W Pan.	Leaf-on	Voyageurs Nat. Park	Page 15
1972	DNR	1:15,840	6"	B&W IR	Leaf-on	County excluding Superior Nat. Forest	Page 27
1972	NPS	1:15,840	8¼"	B&W IR	Leaf-on	Voyageurs Nat. Park	Page 15
1972	St.Louis County	1:15,840	8¼"	B&W IR	Leaf-on	County	Page 37
1975	CZM	1:24,000	6"	B&W Pan.	Leaf-off	Partial County	Page 33
1975	USGS	1:36,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1976	MEA	1:12,000	6"	Color	Leaf-off	Chisholm,Hibbing Virginia,Eveleth, and Duluth	Page 31
1976	MEA	1:6,000		Thermal	Leaf-off	Chisholm,Hibbing Virginia,Eveleth, and Duluth	Page 31
1976	USGS	1:24,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1976	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
				SCOTT COUNTY			
1937	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1940	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1951	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1957	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1964	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1971	Mark Hurd	1:9,600	6"	B&W Pan.	Leaf-off	County	Page 41
1974	MC	1:38,000	6"	B&W Pan.	Leaf-off	County	Page 35
1974	USGS	1:24,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1975	MC	1:80,000	6"	B&W Pan.	Leaf-off	County	Page 35
1975	USGS	1:23,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1977	MEA	1:12,000	3"	Color	Leaf-off	Shakopee	Page 31
1977	MEA	1:6,000		Thermal	Leaf-off	Shakopee	Page 31
	DOT						Page 29
	NASA						Page 23

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
				SHERBURNE COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1953	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1957	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1963	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1967	FWS	1:12,000	?	B&W Pan.	Leaf-on	Sherburne Nat. Wildlife Refuge	Page 13
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1974	USGS	1:22,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
	DOT						Page 29
	NASA						Page 23
				SIBLEY COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1950	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1957	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1964	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1971	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1975	USGS	1:22,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1975	USGS	1:23,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1975	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
	DOT						Page 29
	NASA						Page 23
				STEARNS COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1951	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1965	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1965	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1973	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1973	Martinez	1:12,000	6"	B&W Pan.	Leaf-off	County	Page 43
1974	USGS	1:22,000	6"	B&W Pan.	Leaf-off	Partial County	Page 12
1975	SCS	1:31,680-1:44,000	6"	B&W Pan.	Leaf-off	County	Page 9
1977	MEA	1:12,000	3"	Color	Leaf-off	County	Page 31
1977	MEA	1:6,000		Thermal	Leaf-off	County	Page 31
	DOT						Page 29
	NASA						Page 23
				STEELE COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1951	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1964	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1971	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
	DOT						Page 29
	NASA						Page 23

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
				ST. LOUIS COUNTY			
1937	FS	1:24,000	6"	B&W Pan.	Leaf-on	Superior Nat. Forest	Page 7, 25
1940	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	Partial County	Page 25
1948	FS	1:15,840	6"	B&W Pan.	Leaf-on	Superior Nat. Forest	Page 7
1953	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	Duluth Area	Page 5
1964	St.Louis County		8¼"	B&W IR	Leaf-on	County	Page 37
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	FS	1:15,840	6"	B&W Pan.	Leaf-on	Superior Nat. Forest	Page 7
1971-3	Boise Cascade	1:15,840	8¼"	B&W IR	Leaf-on	Partial County	Page 39
1971	NPS	1:36,000	6"	B&W Pan.	Leaf-on	Voyageurs Nat. Park	Page 15
1972	DNR	1:15,840	6"	B&W IR	Leaf-on	County excluding Superior Nat. Forest	Page 27
1972	NPS	1:15,840	8¼"	B&W IR	Leaf-on	Voyageurs Nat. Park	Page 15
1972	St.Louis County	1:15,840	8¼"	B&W IR	Leaf-on	County	Page 37
1975	CZM	1:24,000	6"	B&W Pan.	Leaf-off	Partial County	Page 33
1975	USGS	1:36,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1976	MEA	1:12,000	6"	Color	Leaf-off	Chisholm,Hibbing Virginia,Eveleth, and Duluth	Page 31
1976	MEA	1:6,000		Thermal	Leaf-off	Chisholm,Hibbing Virginia,Eveleth, and Duluth	Page 31
1976	USGS	1:24,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1976	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
				SCOTT COUNTY			
1937	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1940	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1951	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1957	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1964	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1971	Mark Hurd	1:9,600	6"	B&W Pan.	Leaf-off	County	Page 41
1974	MC	1:38,000	6"	B&W Pan.	Leaf-off	County	Page 35
1974	USGS	1:24,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1975	MC	1:80,000	6"	B&W Pan.	Leaf-off	County	Page 35
1975	USGS	1:23,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1977	MEA	1:12,000	3"	Color	Leaf-off	Shakopee	Page 31
1977	MEA	1:6,000		Thermal	Leaf-off	Shakopee	Page 31
	DOT						Page 29
	NASA						Page 23

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
				SHERBURNE COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1953	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1957	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1963	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1967	FWS	1:12,000	?	B&W Pan.	Leaf-on	Sherburne Nat. Wildlife Refuge	Page 13
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1974	USGS	1:22,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
	DOT						Page 29
	NASA						Page 23
				SIBLEY COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1950	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1957	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1964	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1971	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1975	USGS	1:22,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1975	USGS	1:23,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1975	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
	DOT						Page 29
	NASA						Page 23
				STEARNS COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1951	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1965	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1965	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1973	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1973	Martinez	1:12,000	6"	B&W Pan.	Leaf-off	County	Page 43
1974	USGS	1:22,000	6"	B&W Pan.	Leaf-off	Partial County	Page 12
1975	SCS	1:31,680-1:44,000	6"	B&W Pan.	Leaf-off	County	Page 9
1977	MEA	1:12,000	3"	Color	Leaf-off	County	Page 31
1977	MEA	1:6,000		Thermal	Leaf-off	County	Page 31
	DOT						Page 29
	NASA						Page 23
				STEELE COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1951	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1964	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1971	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
	DOT						Page 29
	NASA						Page 23

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
				STEVENS COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1951	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1965	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1972	USGS	1:21,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1973	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
	DOT						Page 29
	NASA						Page 23
				SWIFT COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1950	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1955	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1961	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SCS	1:56,000-1:65,000	6"	B&W Pan.	Leaf-off	County	Page 9
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
	DOT						Page 29
	NASA						Page 23
				TODD COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1953	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1957	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1963	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1963	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1975	USGS	1:18,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
	DOT						Page 29
	NASA						Page 23
				TRAVERSE COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1951	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1956	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1963	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	S. part of County	Page 33
1969	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	N. part of County	Page 33
1973	USGS	1:25,700	6"	B&W Pan.	Leaf-off	Partial County	Page 7
	NASA						Page 23

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
				WABASHA COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1951	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1964	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1971	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1974	USGS	1:24,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
	NASA						Page 23
				WADENA COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1962	Wadena County	1:15,840	8¼"	B&W Pan.	Leaf-on	County	Page 37
1963	DNR	1:15,840	6"	B&W IR	Leaf-on	County	Page 27
1963	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1969	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1975	Wadena County	1:9,600	6"	B&W Pan.	Leaf-on	County	Page 37
	DOT						Page 29
	NASA						Page 23
				WASECA COUNTY			
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1951	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1956	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1964	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1971	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
	DOT						Page 29
	NASA						Page 23
				WASHINGTON COUNTY			
1938	SCS	1:20,000	8¼"	B&W Pan.	Leaf-off	County	Page 25
1953	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1957	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1964	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1972	USGS	1:32,000	6"	B&W Pan.	Leaf-off	County	Page 17
1974	MC	1:38,000	6"	B&W Pan.	Leaf-off	County	Page 35
1974	SCS	1:31-680-1:44,000	6"	B&W Pan.	Leaf-off	County	Page 9
1975	MC	1:80,000	6"	B&W Pan.	Leaf-off	County	Page 35
1976	Mark Hurd	1:9,600	6"	B&W Pan.	Leaf-off	County	Page 41
1977	MEA	1:12,000	3"	Color	Leaf-off	Stillwater	Page 31
1977	MEA	1:6,000		Thermal	Leaf-off	Stillwater	Page 31
	DOT						Page 29
	NASA						Page 23

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of Coverage	Ordering and Viewing Info.
				WATONWAN COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1950	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1964	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1971	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
	DOT						Page 29
	NASA						Page 23
				WILKIN COUNTY			
1939	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1951	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1958	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1965	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1969	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1972	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1976	USGS	1:80,000	6"	B&W Pan.	Leaf-off	County	Page 19
	DOT						Page 29
	NASA						Page 23
				WINONA COUNTY			
1936	SCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1940	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1947	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1954	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1962	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1975	USGS	1:24,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1975	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
1976	MEA	1:6,000		Thermal	Leaf-off	Winona	Page 31
1976	SCS	1:31,680-1:44,000	6"	B&W Pan.	Leaf-off	County	Page 9
1977	MEA	1:12,000	3"	Color	Leaf-off	Winona	Page 31
	DOT						Page 29
	NASA						Page 23
				WRIGHT COUNTY			
1937	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1940	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1953	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1957	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1963	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1970	ASCS	1:40,000	6"	B&W Pan.	Leaf-on	County	Page 5
1975	Mark Hurd	1:9,600	6"	B&W Pan.	Leaf-off	County	Page 41
1975	USGS	1:22,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17
1975	USGS	1:23,000	6"	B&W Pan.	Leaf-off	Partial County	Page 17

Date	Agency	Scale	Lens Focal Length	Film Type	Season	Area of	Ordering and Viewing Info.
1975	USGS	1:80,000	6"	B&W Pan.	Leaf-off	Partial County	Page 19
	DOT						Page 29
	NASA						Page 23
			YELLOW MEDICINE COUNTY				
1938	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 25
1950	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1955	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1961	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1967	ASCS	1:20,000	8¼"	B&W Pan.	Leaf-on	County	Page 5
1968	SPA	1:90,000	6"	B&W Pan.	Leaf-off	County	Page 33
1974	SCS	1:45,000-1:55,000	6"	B&W Pan.	Leaf-off	County	Page 9
	DOT						Page 29
	NASA						Page 23

APPENDIX: A

INTRODUCTION TO REMOTE SENSING

Remote sensing is defined as detecting the nature of an object without touching it. Generally, remote sensing refers to methods of collecting data from aircraft or spacecraft. Many different techniques can be used in remote sensing to produce a variety of products. It is this variation of products that makes remote sensing such a valuable tool. It also makes it necessary to train those who use remote sensing products so that they can get the most information from them. The remainder of this section is a general introduction to remote sensing terminology.

Remote sensing is technically complex. Much of this technical information is beyond the scope of this Appendix. For more detailed information any of several remote sensing textbooks can be consulted, such as the Manual of Remote Sensing published by the American Society of Photogrammetry.

Remote sensing, in the form of taking photographs from balloons, began in the mid-1800s. Most of the early development was related to military observation. However, by the early 1900s, air photos were being used by city planners, foresters, and people interested in land use patterns. By the late 1930s, major portions of the United States were flown for mapping and agricultural land use studies. In World War II, major new technologies were developed which were later extended to non-military uses. Since the

late 1950s the use of air photos has been greatly increased by nearly every discipline interested in the distribution of features on the earth's surface. The coming of the space age has brought a new level of technology. Even today work continues on improving nearly all facets of remote sensing technology.

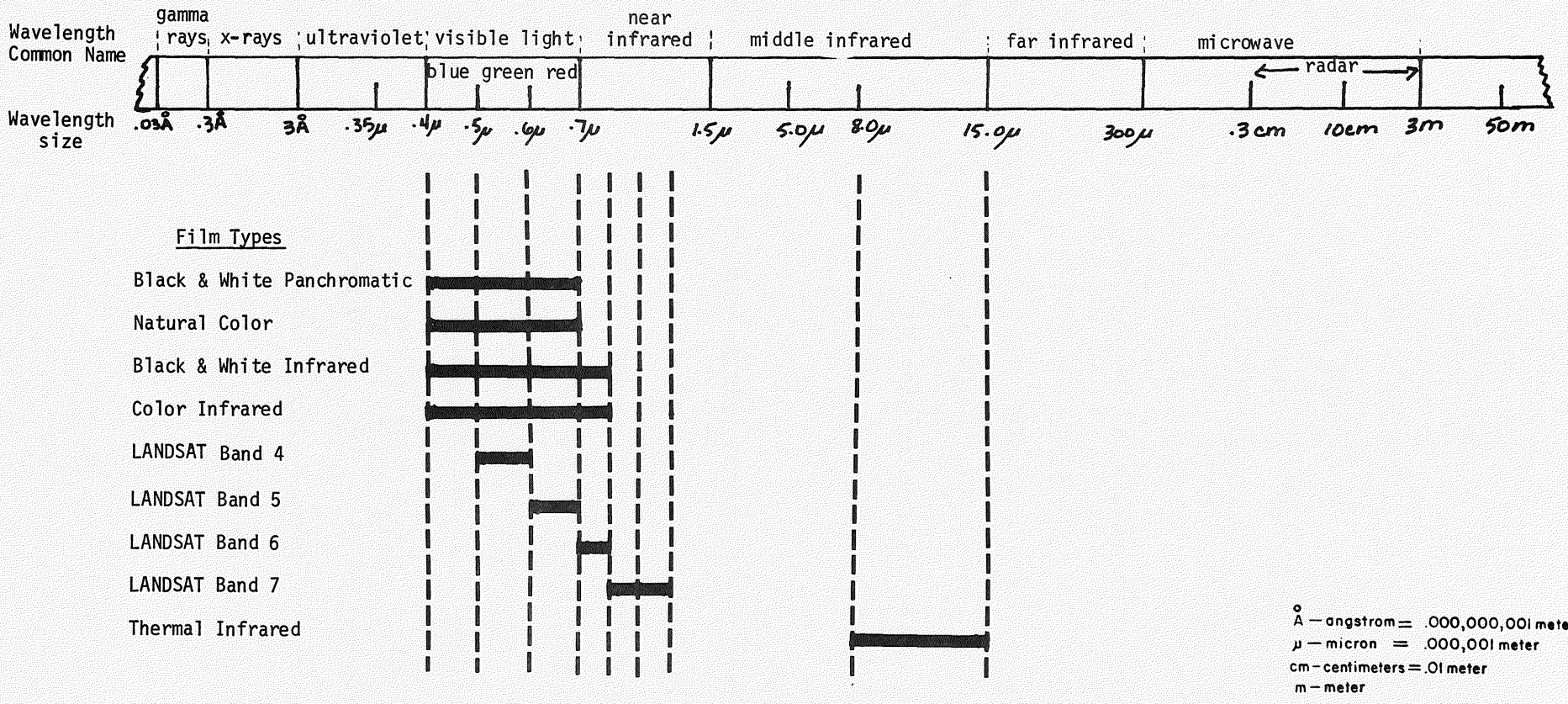
A user of remote sensing products must have at least a basic understanding of the technologies used to obtain the products. These technologies, used in various combinations, result in vastly different products. Only by understanding these technologies can a user interpret what is on the image. The three elements of a remote sensing image one must know about are: the electromagnetic spectrum, electromagnetic sensors, and characteristics of imagery.

I. Electromagnetic Spectrum

The sun emits many different kinds of energy, only a small portion of which are visible to the human eye. This entire range of energy, from beyond the high frequency gamma waves to the lowest frequency radio waves, is called electromagnetic energy. Electromagnetic energy (x-rays, ultraviolet, heat, visible light, microwave, radar, or radio waves) is classified according to wavelength (the distance between wave crests) or frequency (the number of wave crests passing a point per unit of time). A classification of electromagnetic energy is shown on the top portion of Figure 1 on the next page.

FIGURE 1

ELECTROMAGNETIC SPECTRUM



II. Electromagnetic Sensors

Different types of remote sensors observe and record in different portions of the electromagnetic spectrum. The human eye, which is one type of remote sensing device, observes only a small portion of the Spectrum, called "visible light". Other sensors can observe different portions of the Spectrum, thus providing a source of additional information. Many different types of equipment can remotely collect information. Remote sensors may be passive - recording reflected or emitted energy, or active - sending out energy and recording its return. The most common types of remote sensing products available to the public come from cameras, scanners and radar.

Cameras

By far, the most common remote sensing system is the camera. Energy reflected from an object is collected by a lens and recorded on film which yields a photographic image. Cameras can observe a wider portion of the spectrum than does the human eye - from ultraviolet to near-infrared. Different film types can record selected portions in this range.

Scanners

While most camera systems record an entire frame of film at one instant in time, scanner systems view a scene much as your eye reads a page in a book - line-by-line.

The result is a series of strips of electronically recorded data which can be processed into photograph-like images. While scanner systems can operate in a much wider portion of the Spectrum than camera systems, any given scanner may be designed to record a fairly narrow portion.

The scanner systems that provide the most imagery for public use are on the LANDSAT 1 and 2 satellites (formerly ERTS-A and ERTS-B). LANDSAT satellites which have been placed in a nearly 600 mile altitude orbit have a particularly unique vantage point. The primary advantage of LANDSAT is the satellite orbits are such that it is possible to view approximately the same area on the earth's surface every nine days, given clear skies. By late 1977, such imagery should be available every six days, if LANDSAT 3 goes into orbit as scheduled.

As these satellites orbit the earth, the on-board multi-spectral scanners (MSS) are activated from the earth's surface. These on-board sensors collect energy reflected from the earth's surface in the form of an electronic signal. This signal is then transmitted to a receiving station and stored on magnetic tape. To produce a satellite image, the magnetic tape is processed through a computer and the signal is recorded on photographic film. This product resembles a typical aerial photograph and can be interpreted in much the same way.

A second scanning system that may be used in the area of land cover analysis is the thermal infrared scanner. This sensor determines the relative heat value of an object and records the heat image of the object on computer tape. This sensor system, although somewhat exotic, has proven useful in the location of hot water effluents and thermal pollutants, tracking forest fires and identifying crop species and soil types. It is also being used to detect heat loss in poorly insulated buildings.

Radar

Radar is an active sensor in that it creates energy and sends the energy to an object which reflects part of it back to an antenna. The return or "echo" signals may be recorded in a variety of ways - on computer tape, on a television screen, or on photographic film. Perhaps the most important value of a radar system is its ability to penetrate clouds and haze. Radar systems have been used to record terrain features for resource inventories in several foreign countries, but little imagery is available for Minnesota.

III. Characteristics of Imagery

To make effective use of remote sensing products, one must know the conditions existing when the image was recorded and the type of sensor used. Remote sensing products can be classified

by the angle between the sensor and the earth's surface, the the scale of the imagery, the portion of the spectrum recorded, the time of year of the imagery, the image format, and the the type of platform used.

Angle

There are two categories of angles which are important in aerial photography. The first, and most common is the vertical photograph. This type of photograph occurs when the camera lens is at a 90^{o} angle to the earth surface, that is when the lens is directly over an object. Photographs taken from other angles are called oblique photographs. In recent years, increased use of oblique photography has been made using 35-millimeter cameras from aircraft. Such a system offers a fairly low-cost way to record the earth's features for selected areas. For the purposes of this report, all further discussion of aerial photographs will assume that they are vertical photographs.

Scale

As applied to mapping and remote sensing, scale is simply the ratio between the size of an object on an image and the size of that object on the ground. For example, if a section of road was one inch long on an aerial photograph and was one mile long in reality, then the scale of the photograph would be 1:63,360 (1 mile = 63,360 inches). The scale of an aerial

photograph is most frequently written in the form of a ratio (e.g., 1:63,360), but can also be written as a fraction (e.g., 1/63,360) or verbally ("one inch equals one mile").

For this report, the various scales of photography have been grouped into three general categories - large scale, medium scale, and small scale. It is important to note that the terms "large," "medium," and "small" refer to the size of the fraction. The bigger the number in the denominator of the fraction, the smaller the fraction is. Figure 2, on the next page illustrates differences in scales by giving examples of scales frequently referred to in this report. Appendix B of this inventory also lists common scales.

Portion of the Spectrum Recorded

As previously stated, the human eye observes only one portion of the Electromagnetic Spectrum. Other remote sensing devices can record in a wider range of electromagnetic energy. The energy recorded by camera systems depends on the type of film used. While scanner systems can operate in a much wider portion of the Spectrum, any given scanner may be designed to record in a fairly narrow portion. Examples are shown on the bottom portion of Figure 1, page 80 .

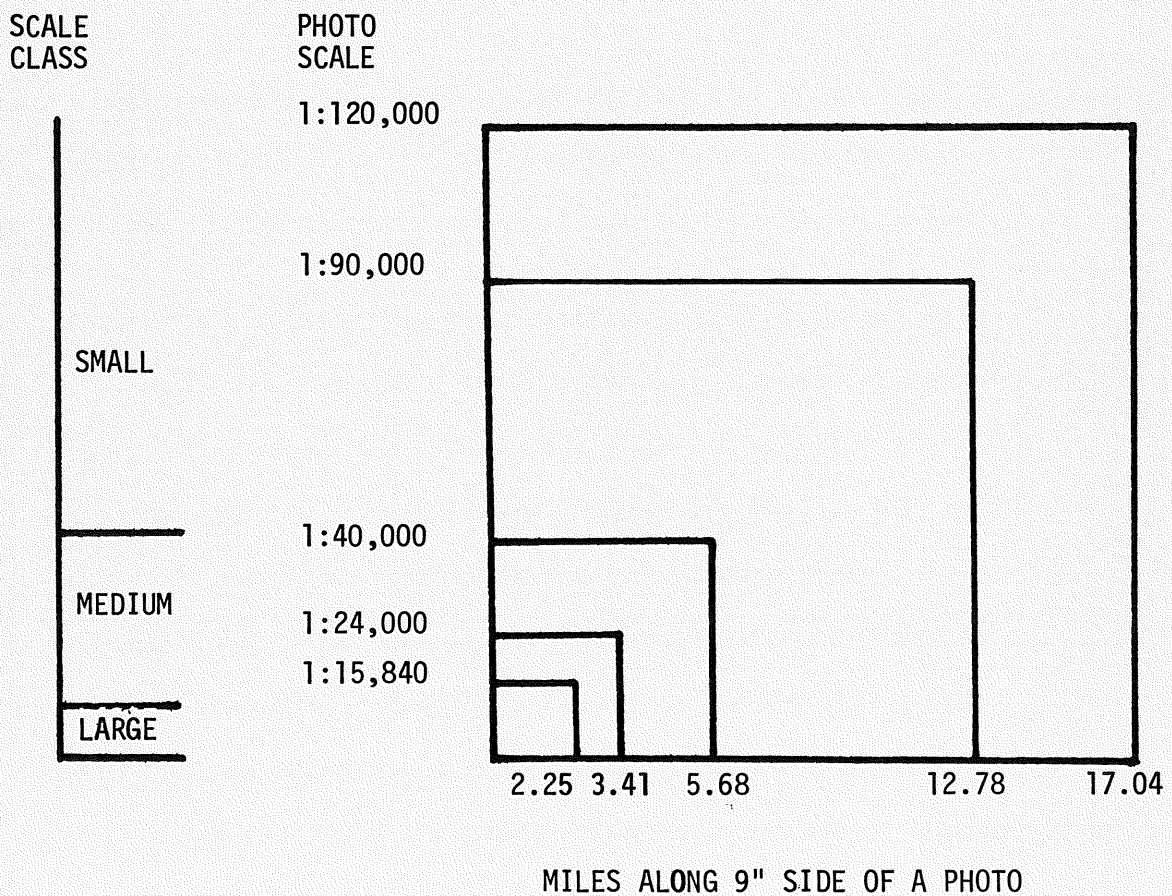
Film Types

Normal, or panchromatic, black and white film records the "visible" portion of the Spectrum in gray tones.

FIGURE 2

SCALE CLASSES

The area of land covered by a 9" x 9" aerial photograph depends on the scale of the photography.



This type of photography is available for most of Minnesota. It is widely used by many federal agencies , including the Department of Agriculture and the Geological Survey , as well as private industry. Many inventories of agricultural and urban land use have been heavily dependent on this type of imagery.

Natural color film also records in the visible portion of the Spectrum. Use of natural color imagery has been more limited than normal black and white, because of higher cost and loss of detail at higher flight altitudes.

Black and white infrared film records in gray tones portions of the visible and near infrared. They are valuable for forestry and surface water studies. The forested northern portions of Minnesota have been or will be photographed with this film.

Color infrared film also records in portions of the visible and near-infrared. Color infrared products have an unusual appearance because green wavelengths are recorded in blue colors, red wavelengths are recorded in green, and the near-infrared wavelengths are recorded in the red. Because various natural resource features appear in very distinct colors, this type of film is valuable in forest studies, wetland inventories and many other inventories of land cover. While only limited coverage is available in

Minnesota, it appears that increased use will be made of color infrared photography.

Scanner Systems

Scanner systems can be designed to record a much wider portion of the Spectrum than camera films. As one example, the scanner system on the LANDSAT satellite records in four portions of the Spectrum, called bands. Two bands record visible light, two record the near infrared (see the bottom portion of Figure 1, page 80). Other scanner systems have been designed to operate in a wider portion of the infrared, including the thermal portion of the middle infrared. Because we are able to record energy in a much wider range than our eyes can see, our knowledge of features on the earth's surface is greatly expanded.

Time of Year

A fourth method of classifying aerial photography is by the season of photography. In Minnesota, the season in which photographs are taken greatly affects the number of uses of the photographs.

Photographs taken during the summer months, or the growing season, is leaf-on photography. It is particularly useful to foresters in determining the types of trees and to agriculturalists in determining crop types and vigor.

Photographs taken during the spring or fall is leaf-off photography. It is preferred in instances where the ground has to be seen, such as for soil geologic or ground surface studies. Occasionally, photographs are taken during the winter months when snow is on the ground.

Imagery Formats

Most aerial imagery that is available to the public is produced by aerial cameras that produce 9 x 9 inch negatives. The negatives are contact printed to produce 9 x 9 inch images. For example, if we assume a scale of 1:20,000 the area covered by a 9 x 9 inch image would be about 8 square miles. An image at the scale of 1:6,000 covers about 3/4 square mile, whereas an image at the scale of 1:90,000 covers about 160 square miles.

Satellite imagery is often in different formats. LANDSAT (formerly ERTS) imagery is produced at 70 mm x 70 mm and 7.3 inches x 7.3 inches formats. Skylab imagery is available both as $4\frac{1}{2}$ x $4\frac{1}{2}$ inch and 70 mm x 70 mm formats. Enlargements of both formats are available.

Remote Sensing Platforms

Sensors can be held above the earth's surface by many devices. These devices are called platforms and may include satellites, airplanes, balloons, kites, tripods, or even ladders.

Aircraft

A wide variety of aircraft now exist for purposes of aerial photography. Most local aerial photography contractors acquire photography with light aircraft limited to altitudes of 15,000 feet. Some contractors fly twin-engined aircraft capable of reaching altitudes of 25,000 feet. A few large contractors own jets, capable of flying up to 45,000 feet. No commercial aerial contractors have the capability of flying over 45,000 feet.

For research purposes, the National Aeronautics and Space Administration (NASA) flies aircraft that reach altitudes of 70,000 feet. The U.S. Air Force flies a strategic reconnaissance aircraft, the SR-71, which has a reported maximum ceiling of 120,000 feet and a top speed of over 2,300 miles per hour. Data from this vehicle are not available to the general public.

Spacecraft and Satellite

A series of manned spacecraft or unmanned satellites are planned or are in operation over the United States which provide or will provide photographic data of Minnesota. Space observations range in altitude from a few hundred miles to thousands of miles above the earth's surface.

SUMMARY

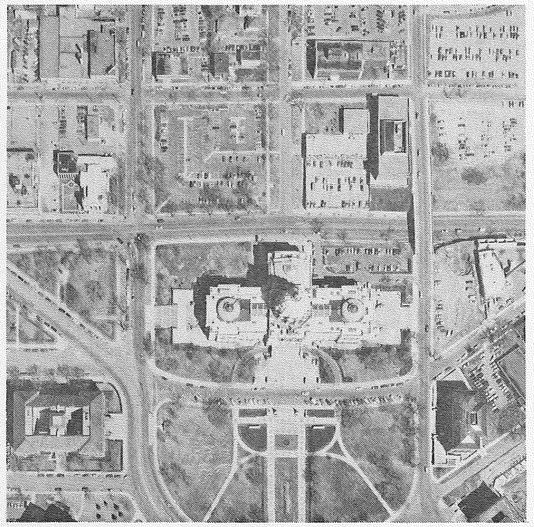
Many different types of remote sensing images are available. Figure 3 on the next page is a general summary of the four major classes of remote sensing products. Whenever images are to be used, the user must know the attributes of the images; that is, the type of sensor, the portion of the Spectrum recorded, the platform used, the type of film, the scale, the season and the altitude.

No state program can supply all of the possible combinations from this list. Fortunately, a few specific combinations of image attributes can satisfy a majority of user needs. The main body of this report contains information on the remote sensing imagery available to the public in Minnesota.

APPENDIX D

THE MINNESOTA STATE CAPITOL AT FOUR TYPICAL IMAGE SCALES

LARGE SCALE

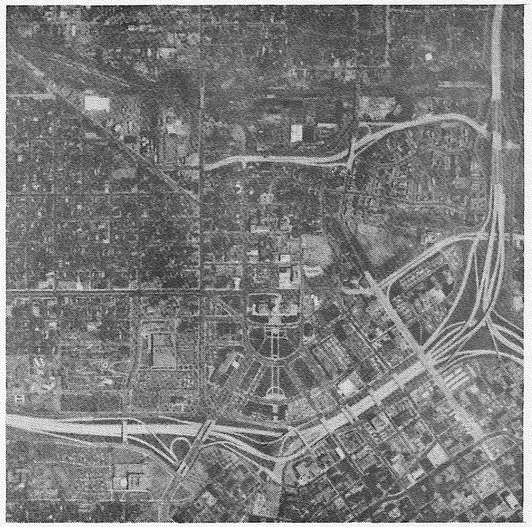


THIS PHOTOGRAPH
SCALE: 1:4,800
1 inch equals 400 feet

THIS TYPE OF PHOTOGRAPH

SCALE RANGE: Up to 1:20,000
VEHICLE: Low altitude aircraft flights between 1,000' and 15,000'
USES: Crop, soil, vegetation identification. Engineering and measurement surveys. Site specific studies. Thermal (e.g. heat loss) studies.
USERS: MN Highway Dept.
MN Pollution Control Agency
MN Dept. of Natural Resources
Local units of government
Developers

MEDIUM SCALE



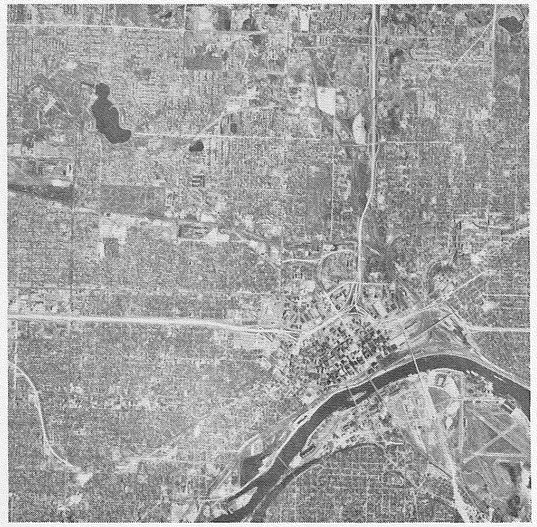
THIS PHOTOGRAPH
SCALE: 1:24,000
1 inch equals 0.38 miles

THIS TYPE OF PHOTOGRAPH

SCALE RANGE: 1:20,000 to 1:50,000
VEHICLE: Aircraft flights between 20,000' and 40,000'
USES: Topical studies on land use, land cover (vegetation), forest types, soil surveys, geology and hydrology.

USERS: US Geological Survey, US Forest Service, US Dept. of Agriculture, Soil Conservation Service, MN Highway Dept., MN Dept. of Natural Resources, MN State Planning Agency, MN Geological Survey, MN Agricultural Dept., Regional Development Commissions, county agencies, educational institutions, sportsmen

SMALL SCALE

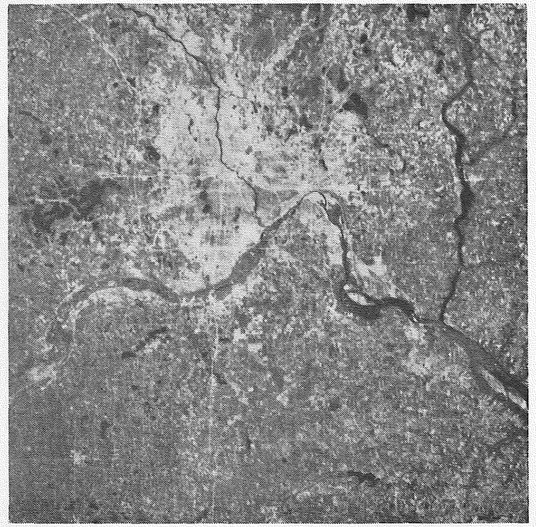


THIS PHOTOGRAPH
SCALE: 1:90,000
1 inch equals 1.4 miles

THIS TYPE OF PHOTOGRAPH

SCALE RANGE: 1:50,000 to 1:120,000
VEHICLE: Aircraft flights between 40,000 and 60,000'
USES: Generalized land use, land cover (vegetation), soils, geology, and hydrology. Ground truth for satellite images.
USERS: US Geological Survey, US Forest Service, US Dept. of Agriculture, Soil Conservation Service, US Dept. of Defense, MN Highway Dept., MN Dept. of Natural Resources, MN State Planning Agency, MN Geological Survey, Regional Development Commissions, MN Dept. of Agriculture, county agencies, educational institutions

SATELLITE



THIS IMAGE
SCALE: 1:1,000,000
1 inch equals 16 miles

THIS TYPE OF IMAGERY

SCALE RANGE: 1:500,000 to 1:20,000,000
VEHICLE: Manned spacecrafts and manned orbiting satellites
USES: Identification of general weather features; oceanographic, atmospheric and geologic and land use features.

USERS: National Aeronautics and Space Administration (NASA)
US Geological Survey
Foreign countries
Universities (experimental)
State agencies (experimental)

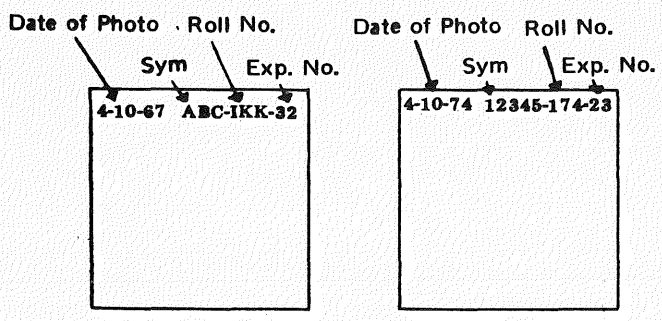
COMMON SCALES ON MAPS AND AERIAL PHOTOGRAPHS

Scale	Feet per Inch	Inches to one mile	Acres per Square inch	Square miles in a 9" x 9" photograph
1: 1,200	1" = 100'	52.800	.2296	.029
1: 4,800	1" = 400'	13.200	3.673	.465
1: 6,000	1" = 500'	10.560	5.739	.726
1: 7,920	1" = 660'	8.000	10.00	1.266
1: 9,000	1" = 750'	7.040	12.913	1.636
1: 9,600	1" = 800'	6.600	14.69	1.859
1: 10,000	1" = 833.33'	6.336	15.94	2.018
1: 12,000	1" = 1,000'	5.280	22.96	2.905
1: 15,840	1" = 1,320'	4.000	40.00	5.063
1: 20,000	1" = 1,666.67'	3.168	63.77	8.071
1: 24,000	1" = 2,000'	2.640	91.83	11.621
1: 31,680	1" = 2,640'	2.000	160.00	20.250
1: 38,000	1" = 3,166.67'	1.667	206.6	26.149
1: 40,000	1" = 3,333.33'	1.584	255.1	32.283
1: 48,000	1" = 4,000'	1.320	367.3	46.687
1: 50,000	1" = 4,166.67'	1.267	398.5	50.44
1: 60,000	1" = 5,000'	1.056	573.9	72.64
1: 62,500	1" = 5,208.33'	1.014	622.7	78.82
1: 63,360	1" = 5,280' (or 1 mile)	1.000	640.0	81.00
1: 80,000	1" = 6,666.67'	.7920	1,020.0	129.14
1: 90,000	1" = 7,500'	.7040	1,291.0	163.43
1:250,000	1" = 20,833.33' (or approx. 4 miles)	.2530	9,963.0	1,261.0
1:500,000	1" = 41,666.67' (or approx. 8 miles)	.1267	39,853.0	5,044.0

Agricultural Stabilization and Conservation Service

GENERAL

ASCS aerial photography is generally available for about 80% of the nation, mainly in the agricultural areas. Exposures available are identified in either of the following ways:



If the photo identification is not known, you may make the coverage selection necessary to meet your requirements in any of the following ways:

a. Furnish a map outlining your exact area of interest. We will then make the selection for you.

b. Send a legal description of your area of interest for us to use in making the selection.

c. Visit the local County ASCS Office serving your area of interest, for assistance.

d. Purchase the photo index sheets covering your area and then select the individual prints best suited for your needs.

PRINT SIZES & TYPES OF REPRODUCTIONS

Contact Prints are the same size as aerial negatives, approximately 9 x 9 inches. ASCS aerial photography is flown at two different negative scales:

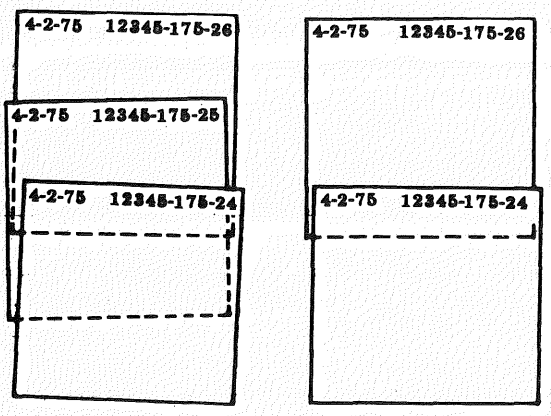
1:20,000 (1"=1667'), the area covered by a contact print is about 8 square miles.

1:40,000 (1"=3334'), the area covered by a contact print is about 32 square miles.

Prints are available with either stereoscopic or pictorial overlap.

Stereoscopic coverage requires each consecutively numbered print in the line of flight which gives an endlap of about 65% between adjacent prints.

Pictorial coverage requires alternate numbered prints in the line of flight resulting in an endlap between prints of about 30%.



Stereoscopic coverage (every photograph within line of flight).

Pictorial coverage (every other photograph within line of flight).

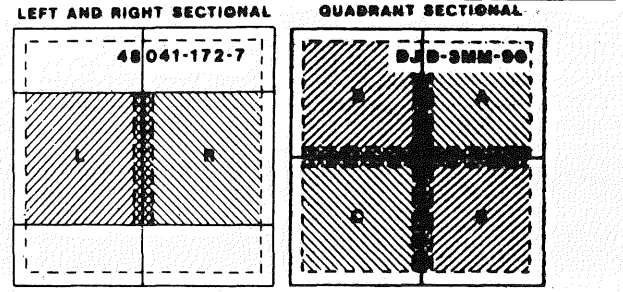
Contact prints are not available as sectionals or with scale accuracy

Enlargements from the aerial negative are available in the sizes and at the approximate scales shown in the following table:

SIZE	APPROX SCALE FROM 1:20,000 PHOTOGRAPHY	APPROX SCALE FROM 1:40,000 PHOTOGRAPHY
12" x 12"	1" = 1320'	1" = 2640'
12" x 12"	-----	1" = 1320' Sectional
17" x 17"	1" = 1000'	1" = 2000'
17" x 17"	-----	1" = 1000' Sectional
24" x 24"	1" = 660'	1" = 1320'
24" x 24"	1" = 330' Sectional	1" = 660' Sectional
38" x 38"	1" = 400'	1" = 800"
38" x 38"	1" = 200' Sectional	1" = 400' Sectional

Scales requiring "sectional" enlargements are made from approximately ¼ of the negative. Standard sectional enlargements are available at no extra cost for the following portion of the negative.

APPROXIMATE AREAS OF NEGATIVE AVAILABLE AS SECTIONAL ENLARGEMENTS



The enlarged areas are indicated with crosshatch marks. There is some loss of image on the outer edge of the print due to overlap between SECTIONALS.
If you do not know your area of interest as related to the negative, we suggest a visit to the County ASCS Office in your area for assistance.

Photo Indexes are available for all ASCS aerial photography. They show the assembly of prints covering each project area, generally a county or portion thereof. They are copied at a reduced scale, usually about 1" to the mile on 20 x 24 inch paper. If you are selecting a large quantity of prints or have a continuing need for this type of information, you may want to purchase the photo indexes which cover your area of interest.

Other Reproductions are available, transparencies, duplicate negatives, etc. Remittance is required before prints will be made. Make check or money order, payable to ASCS. Official purchase orders are accepted from tax supported Agencies.

IMPORTANT - On LABEL on face of order print or type items 1 thru 4 only

IDENTIFICATION OF PHOTOGRAPHY (EXAMPLE ONLY)

SIZE & TYPE OF REPRODUCTION	QUANTITY	CODE OR SYMBOL	ROLL NO	EXPOSURE NO
1	2	3	4	5
24" x 24" Enlargement	1	D J D	3 A	96
24" x 24" Transparency	1	48041	173	89

Column 1. Enter size 9½"x9½",24"x24" etc., 2nd Type of Reproduction. When ordering indexes enter "Photo Index" and list sheet numbers and year of photography.

Column 2. Enter number of prints wanted from each exposure number.

Column 3,4, and 5. Enter the code or symbol, roll number, and the exposure number of the negative. Exposure numbers may be listed in inclusive sequences. This information is in the upper right corner of each photograph and may be obtained from photo—index sheets or from the Agricultural Stabilization and Conservation Office in the county where the farm or area photographed is located.

ADDRESS ORDERS FOR PHOTOGRAPHS TO: Aerial Photography Field Office, ASCS-USDA,
2222 West 2300 South, P.O. Box 30010, Salt Lake City, Utah 84125

USDA - FOREST SERVICE

ORDER FOR PHOTOGRAPHIC REPRODUCTIONS

Instructions for ordering on reverse side

SHIP TO (NAME AND ADDRESS)

TOTAL REPRODUCTIONS	AMOUNT REMITTED	PURCHASER'S ORDER NO.
DATE	SIGNATURE OF PURCHASER	

Kind of Reproduction, paper, size & Remarks (1)	QUANTITY (2)	YEAR FLOWN (3)	SYMBOL (If assigned) (4)	STATE & COUNTY CODES (5)	ROLL NUMBER (6)	EXPOSURE NUMBER (7)

REVISED PRICE SCHEDULE — EFFECTIVE DATE 10/75

TRIMMING .10 ADDITIONAL EACH PRINT
LAMINATING .25 ADDITIONAL EACH PRINT

	CONTACTS														ENLARGEMENTS							
	BLACK AND WHITE PRINTS				COLOR PRINTS		DUPLICATE FILM POSITIVE AND INTERNEGS						PHOTO INDEXES		LAB STANDARD PRINT MATERIAL							
	LAB STANDARD PRINT MATERIAL		NON STANDARD AS QUOTED				16MM 100' ROLL	35mm 100' ROLL	70 MM	5X5	9X9	GLASS DIAPOSITIVES SPECIFY THICKNESS .090" .130" .250"	10X12	20X24	9X9 FROM 70 MM		UP TO 1.5X		UP TO 2.0X		UP TO 3.0X		UP TO 4.0X
	PRICE PER FRAME		9X9 ONLY		PRICE PER FRAME										FILM							
	5X5 & 9X9																					
	$	2.00	$			7.00	N.A.	40.00	5.00	6.00	12.00	N.A.	N.A.	N.A.	7.00	12.00	12.00		15.00		20.00		40.00
FULL ROLL	N.A.					N.A.	35.00	40.00	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.		N.A.		N.A.

Advance payment is required before photographic reproductions will be made . Shipments will not be made C.O.D. Payment should be made by check, money order, or draft payable to the Forest Service, U.S.D.A. Stamps will not be accepted. Sales tax and mailing fees are not applicable to Government orders.

NOTICE: Forest Service will make reproductions from aerial photographic materials to the approximate size or scale requested and, because of shrinkage or expansion of paper caused by atmospheric or other conditions, will not be responsible for variations in scale. Prices for those materials not normally stocked in a laboratory may be adjusted upward to cover cost of minimum allowable base material order. Since regular Departmental activities must be given precedence, there may be some delay in making reproductions. Usually, reproductions will be made and shipped within 30 days after receipt of order.

7100-42 (10/75)

INQUIRY FORM
GEOGRAPHIC COMPUTER SEARCH
U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DATE _____

NAME MR / MS _____ (FIRST) (INITIAL) (LAST)

ACCOUNT NO. _____ (IF KNOWN)

COMPANY _____ (IF BUSINESS ASSOCIATED)

PHONE (Bus.) _____

ADDRESS _____

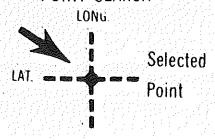
PHONE (Home) _____

CITY _____

Your Ref. No. _____ (P.O., GOV'T ACCT. OR OTHER)

TO INITIATE AN INQUIRY, AND COMPUTER GEOSEARCH, COMPLETE THE FOLLOWING

POINT SEARCH



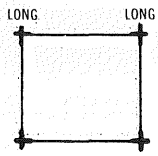
Imagery with any coverage over the selected point will be included.

POINT #1	POINT #2	POINT #3
Latitude ___ ° ___ ' N or S	___ ° ___ ' N or S	___ ° ___ ' N or S
Longitude ___ ° ___ ' E or W	___ ° ___ ' E or W	___ ° ___ ' E or W

Landsat Only: (Worldwide Reference System)

Path ___	Path ___	Path ___	Path ___	Path ___
Row ___	Row ___	Row ___	Row ___	Row ___

AREA RECTANGLE



Imagery with any coverage over the selected area will be included.

AREA #1	AREA #2	AREA #3
Lat. ___ ° ___ ' N or S to	Lat. ___ ° ___ ' N or S to	Lat. ___ ° ___ ' N or S to
Lat. ___ ° ___ ' N or S	Lat. ___ ° ___ ' N or S	Lat. ___ ° ___ ' N or S
Long. ___ ° ___ ' E or W to	Long. ___ ° ___ ' E or W to	Long. ___ ° ___ ' E or W to
Long. ___ ° ___ ' E or W	Long. ___ ° ___ ' E or W	Long. ___ ° ___ ' E or W

If the above geographic coordinates cannot be supplied, please specify area by GEOGRAPHIC NAME AND LOCATION (include a map if possible.)

PREFERRED TYPE OF COVERAGE

	Black & White	Color or Color Infrared
☐ Landsat	☐	☐
☐ Skylab	☐	☐
☐ Nasa-Aircraft	☐	☐

☐ Aerial Mapping Photography (Minimum color available)

PREFERRED TIME OF YEAR

Check maximum of three

☐ JAN-MAR
☐ APR-JUNE
☐ JULY-SEPT
☐ OCT-DEC

☐ All coverage
☐ Latest coverage
☐ SPECIFIC DATES _____

NOTE: Seasonal coverage normally applies only to Landsat coverage.

MINIMUM QUALITY RATING ACCEPTABLE

☐ 0-2 (VERY POOR) ☐ 3-4 (POOR) ☐ 5-6 (FAIR) ☐ 7-9 (GOOD)

MAXIMUM CLOUD COVER ACCEPTABLE

☐ 10% ☐ 30% ☐ 50% ☐ 80% ☐ 100%

NOTE: Classification of percent of cloud cover is subjective and is relative to the amount of clouds appearing on the imagery and not to their location.

APPLICATION AND INTENDED USE _____

FORM: 9-1936
(Jan. 1977)

Return completed form to the facility nearest you.

NCIC HEADQUARTERS
U.S. Geological Survey
507 National Center
Reston, VA 22092
FTS: 928-6045
COMM: 703-860-6045

EROS APPLICATIONS FACILITY
NSTL
U.S. Geological Survey
Bay St. Louis, MS 39520
FTS: 494-3541
COMM: 688-3472

NCIC MID-CONTINENT
U.S. Geological Survey
1400 Independence Rd.
Rolla, MO 65401
FTS: 276-9107
COMM: 314-364-3680

EROS DATA CENTER
U.S. Geological Survey
Sioux Falls, SD 57198
FTS: 784-7151
COMM: 605-594-6511

NCIC ROCKY MOUNTAIN
U.S. Geological Survey
Stop 510, Box 25046
Denver Federal Ctr.
Denver, CO 80225
FTS: 234-2326
COMM: 303-234-2326

NCIC WESTERN
U.S. Geological Survey
345 Middlefield Rd.
Menlo Park, CA 94025
FTS: 467-2427
COMM: 415-323-8111

ORDER FORM
LANDSAT STANDARD PRODUCTS
U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DATE _____

NAME MR. MS. _____ (FIRST) _____ (INITIAL) _____ (LAST) ACCOUNT NO. _____ (IF KNOWN)

COMPANY _____ (IF BUSINESS ASSOCIATED) PHONE (Bus.) _____

ADDRESS _____ PHONE (Home) _____

CITY _____ STATE _____ ZIP _____ Your Ref. No. _____ (P.O., GOV'T ACCT. OR OTHER)

PLEASE TYPE OR PRINT PLAINLY

SCENE IDENTIFICATION NO.	PRODUCT CODE	BAND 4	BAND 5	BAND 6	BAND 7	TOTAL BANDS	QTY.	UNIT PRICE	TOTAL PRICE

STANDARD PRODUCTS

BLACK AND WHITE

IMAGE SIZE	SCALE	FORMAT	PRODUCT CODE
55.8mm (2.2 in.)	1:3,369,000	FILM POSITIVE	11
55.8mm (2.2 in.)	1:3,369,000	FILM NEGATIVE	01
18.5cm (7.3 in.)	1:1,000,000	PAPER	23
18.5cm (7.3 in.)	1:1,000,000	FILM POSITIVE	13
18.5cm (7.3 in.)	1:1,000,000	FILM NEGATIVE	03
37.1cm (14.6 in.)	1:500,000	PAPER	24
74.2cm (29.2 in.)	1:250,000	PAPER	26

COLOR COMPOSITE GENERATION

18.5cm (7.3 in.)	1:1,000,000	PRINTING MASTER	59

FALSE COLOR COMPOSITES

IMAGE SIZE	SCALE	FORMAT	PRODUCT CODE
18.5cm (7.3 in.)	1:1,000,000	PAPER	63
18.5cm (7.3 in.)	1:1,000,000	FILM POSITIVE	53
37.1cm (14.6 in.)	1:500,000	PAPER	64
74.2cm (29.2 in.)	1:250,000	PAPER	66

COMPUTER COMPATIBLE TAPES (CCT)

TRACKS	BPI	FORMAT	PRODUCT CODE
7	800	TAPE SET	82
9	800	TAPE SET	83
9	1600	TAPE SET	84

NOTE: PRINTING MASTER IS RETAINED BY EDC COST OF PRODUCTS FROM THIS COMPOSITE MUST BE ADDED TO TOTAL COSTS.

TOTAL ABOVE	A	
TOTAL FROM PREVIOUS SHEETS	B	
TOTAL COST	C	

PAYMENT MADE BY:

CHECK, MONEY ORDER ☐

PURCHASE ORDER ☐

GOVT. ACCOUNT ☐

Please refer to current price list for cost determination.

COMMENTS: _____

FORM: 9-1938 (Jan. 1977)

Return completed form to the facility nearest you.

NCIC HEADQUARTERS
U.S. Geological Survey
507 National Center
Reston, VA 22092
FTS: 928-6045
COMM: 703-860-6045

EROS APPLICATIONS FACILITY
NSTL
U.S. Geological Survey
Bay St. Louis, MS 39520
FTS: 494-3541
COMM: 688-3472

NCIC MID-CONTINENT
U.S. Geological Survey
1400 Independence Rd.
Rolla, MO 65401
FTS: 276-9107
COMM: 314-364-3680

EROS DATA CENTER
U.S. Geological Survey
Sioux Falls, SD 57198
FTS: 784-7151
COMM: 605-594-6511

NCIC ROCKY MOUNTAIN
U.S. Geological Survey
Stop 510, Box 25046
Denver Federal Ctr.
Denver, CO 80225
FTS: 234-2326
COMM: 303-234-2326

NCIC WESTERN
U.S. Geological Survey
345 Middlefield Rd.
Menlo Park, CA 94025
FTS: 467-2427
COMM: 415-323-8111

ORDER FORM

NASA AIRCRAFT PHOTOGRAPHY

EROS DATA CENTER

Sioux Falls, S.D. 57198
Phone: 605/594-6511 Ext. 151
FTS: 605/594-6151

Date _____

NAME MR. MS. _____ Previous Contact No. _____
(LAST) (FIRST) (INITIAL) (IF KNOWN)

COMPANY _____ Phone: (BUSINESS) _____

ADDRESS _____ Phone: (HOME) _____

CITY _____ STATE _____ ZIP _____ Your Reference No. _____
(P.O., GOVT. ACCT. OR OTHER)

PLEASE TYPE OR PRINT PLAINLY

PHOTO IDENTIFICATION NO.	PRODUCT CODE	FRAMES FIRST	FRAMES LAST	No. of Frames	No. of Copies	REMARKS	QTY.	UNIT PRICE	TOTAL PRICE

STANDARD PRODUCTS

BLACK & WHITE PRODUCTS

	FILM SOURCE: B & W 70MM.	B & W 5IN.	B & W 9IN.	B & W 9 X 18 IN.	UNIT PRICE
2.2 IN. FILM POSITIVE	11				3.00
2.2 IN. FILM NEGATIVE	01				4.00
2.2 IN. PAPER					
4.5 IN. FILM POSITIVE		12			4.00
4.5 IN. FILM NEGATIVE		02			5.00
4.5 IN. PAPER		22			3.00
9 IN. FILM POSITIVE			13		5.00
9 IN. FILM NEGATIVE			3		6.00
9 IN. PAPER	23	23	23		3.00
9 X 18 IN. FILM POSITIVE				14	10.00
9 X 18 IN. FILM NEGATIVE				04	12.00
9 X 18 IN. PAPER				31	6.00
18 IN. PAPER	24	24	24		8.00
27 IN. PAPER		25	25		9.00
36 IN. PAPER		26	26		15.00

COLOR PRODUCTS

	FILM SOURCE: COL 70MM.	COL 5IN.	COL 9IN.	COL 9 X 18 IN.	UNIT PRICE
2.2 IN. FILM POSITIVE	51				6.00
2.2 IN. PAPER					
4.5 IN. FILM POSITIVE		52			7.00
4.5 IN. PAPER		62			7.00
9 IN. FILM POSITIVE			53		12.00
9 IN. PAPER	63		63		7.00
9 X 18 IN. FILM POSITIVE				56	24.00
9 X 18 IN. PAPER				69	14.00
18 IN. PAPER	64	64	64		20.00
27 IN. PAPER		65	65		25.00
36 IN. PAPER		66	66		40.00

NOTE: NUMBERS IN OPEN BLOCKS REFLECT PRODUCT CODES

TOTAL ABOVE	A	
TOTAL FROM PREVIOUS SHEETS	B	
TOTAL COST	C	

PAYMENT MADE BY:

CHECK, MONEY ORDER ☐

PURCHASE ORDER ☐

GOVT. ACCOUNT ☐

COMMENTS: _____

Postage

Minnesota State Planning Agency

MARSIC

15 Capitol Square Building

St. Paul, MN. 55101

Postage

Minnesota State Planning Agency

MARSIC

15 Capitol Square Building

St. Paul, MN. 55101

Report of Aerial Photography or
Other Remotely Sensed Imagery

Agency that contracted for the imagery:

_____

Firm that secured the imagery:

_____

Area of imagery: _____

_____

Date of the imagery: _____

Film type: _____

Scale of the imagery: _____

Lens focal length: _____

Thank you for completing this form. Please include your name, address and phone number.

Name: _____

Address: _____

_____ Phone: _____

Report of Aerial Photography or
Other Remotely Sensed Imagery

Agency that contracted for the imagery:

_____

Firm that secured the imagery:

_____

Area of imagery: _____

_____

Date of the imagery: _____

Film type: _____

Scale of the imagery: _____

Lens focal length: _____

Thank you for completing this form. Please include your name, address and phone number.

Name: _____

Address: _____

_____ Phone: _____

RELATED PUBLICATIONS

Several publications on mapping and remote sensing are available for Minnesota.

Available from the Minnesota State Planning Agency
100 Capitol Square Building
St. Paul, MN. 55101

"Environmental Planning Information Series" - informational brochures on:

"Topographic Mapping", 12 pages, 1975.

"Soils Mapping", 8 pages, 1975.

"Geologic Mapping" 8 pages, 1975.

"Topographic Mapping in Minnesota, 1976", 4 pages.

Available from the Documents Section
140 Centennial Office Building
St. Paul, MN. 55155

"State of Minnesota - Interim Remote Sensing Plan", 58 pages, 1977.

"Catalog of Aerial Photography in the Map Division, Wilson Library, University of Minnesota", 50 pages, 1977.