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Handbook of Remote Sensing Imagery of Connecticut

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HANDBOOK OF REMOTE SENSING IMAGERY OF CONNECTICUT

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STORRS AGRICULTURAL EXPERIMENT STATION
COLLEGE OF AGRICULTURE AND NATURAL RESOURCES
THE UNIVERSITY OF CONNECTICUT, STORRS, CONNECTICUT 06268

Cover photograph: Black-and-white aerial photograph of the University of Connecticut Storrs Campus taken on September 24, 1974.

Scale = 1:12,000 or 1" = 1,000'

PRICE: $2.00

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July 1978

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FOREWORD

While conducting research on the applications of remote sensing to wetlands assessment, highway corridor planning, land use, and other aspects of the natural environment, it was discovered that there existed a large volume of remote sensing imagery of the state of Connecticut, but that there was no single source of information documenting the coverage, characteristics, and availability of this imagery. We concluded that, if remote sensing activities are to develop and continue in Connecticut, an inventory of aerial photography and satellite imagery would be desirable - and should be prepared in a fashion such that it could be used by agencies, groups, and individuals throughout the State. The Handbook of Remote Sensing Imagery of Connecticut represents such an inventory.

Preparation of this Handbook was made possible as part of a research effort funded by the Connecticut Department of Transportation. We would like to extend special thanks to Dr. Charles E. Dougan, Director of Research for ConnDOT, for his interest and support. Publication and distribution of the report was supported by the Storrs Agricultural Experiment Station of the University of Connecticut. We would like to thank Mr. Steve Thurston for his assistance in the preparation of the figures and Ms. Wendy Fall for typing the successive drafts and final version of the manuscript.

Users of the Handbook are invited to contribute any additional information they might have concerning remote sensing imagery of Connecticut. Such information will be used in preparing updates of the Handbook.

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HANDBOOK OF REMOTE SENSING IMAGERY OF CONNECTICUT

INTRODUCTION

Remote Sensing: An Overview

In the broadest sense, remote sensing has been defined as "the measurement or acquisition of information of some property of an object or phenomenon by a recording device that is not in physical or intimate contact with the object or phenomenon under study."[1/] More recently, remote sensing has been associated with the detection, identification, delineation, and analysis of earth surface features and phenomena using airborne or satellite-borne imagery-acquisition devices and interpretation techniques. Remote sensing products, including aerial photographs and satellite imagery, have a wide range of application in disciplines such as environmental impact assessment, engineering, topographic mapping, land use and urban planning, tax mapping, and many others. In order to apply this technology to a particular problem, an analyst must be aware of the characteristics of both the system being studied and the remote sensor required.

Scale, the ratio of measurements on imagery to real-world distances, is an important consideration in determining the usefulness of remote sensing products. For instance, if the smallest unit capable of being detected on an aerial photograph is 0.01 inch (0.25 mm), then its real-world measurement would have the following relationships at various scales:

large scale	1:2,000	1.7 feet	0.5 meters
	1:4,000	3.3 feet	1.0 meters
	1:8,000	6.7 feet	2.0 meters
	1:12,000	10.0 feet	3.0 meters
	1:16,000	13.3 feet	4.0 meters
medium scale	1:20,000	16.7 feet	5.0 meters
	1:40,000	33.3 feet	10.2 meters
	1:60,000	50.0 feet	15.2 meters
small scale	1:80,000	66.7 feet	20.3 meters
	1:100,000	83.3 feet	25.4 meters
	1:150,000	125.0 feet	38.1 meters

Remote sensing imagery acquired from spaceborne platforms, such as that from LANDSAT, is ultra-small scale. The minimum ground resolution unit size of LANDSAT multispectral scanner imagery is

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1/ American Society of Photogrammetry. 1975. Manual of Remote Sensing. Robert G. Reeves, Ed., Falls Church, VA. 2 vol. 2144 p.

about 197 feet by 262 feet (60 meters by 80 meters). Therefore, the smallest feature capable of being detected with LANDSAT data must be at least 1.2 acres (0.4 hectares) in area.

Scale is not the only factor affecting the minimum ground resolution detectable on remote sensing imagery. Others include the camera and film type, the quality of the photographic product, and the level of sophistication of the image analysis equipment.

The time of season in which the remote sensing was conducted should also be considered. Ideally, the imagery should optimally characterize the features of interest. For example, for activities such as topographic or tax mapping, aerial photography conducted in the late fall or early spring when deciduous trees are leafless and the ground surface is not obscured by snowcover, should be used. Conversely, vegetation analyses will require imagery from the summer when trees are in leaf, since Connecticut's vegetative cover consists primarily of deciduous species. In addition, there are many types of remote sensing imagery, four of which -- black-and-white, color, and color infrared aerial photography, and multispectral scanner imagery -- are briefly described in the following sections.

Black-and-White Panchromatic Photography

Black-and-white panchromatic film is a single-layer emulsion film which is sensitive to the visible portion of the electromagnetic spectrum (0.4 to 0.7 micrometers or μm). It records the intensity of light reflected by objects as shades of gray. Traditionally, black-and-white films have been the most widely used in remote sensing, finding application in tax mapping, engineering design, soils surveys, and topographic mapping. Black-and-white photographs taken with aerial mapping cameras typically have excellent resolution and high geometric quality.

Color Photography

Black-and-white photography is not color representative; the human eye can distinguish some 4500 to 5000 natural colors (hue, chroma, value) but only about 200 tones of gray. Color film uses a three-layer emulsion with the same sensitivity range as black-and-white, but objects are shown in their true colors. It provides additional information for the photointerpreter, enabling quicker and more reliable aerial photographic analyses. The slow development of the use of color aerial photography can be principally attributed to its being more expensive than black-and-white. Recent technological advances in camera system design and film processing, however, have made the acquisition and use of color aerial photography more economical than formerly.

Color Infrared Photography

Color infrared, also known as false-color infrared (FCIR), film also uses a three-layer emulsion. However, when exposed through a yellow filter, it is sensitive to the green, red, and near-infrared (reflected) portions of the spectrum (0.5 to 0.9 μm). It has the advantage over conventional film in enhancing certain features. Because healthy green vegetation exhibits a high near-infrared reflectivity, it appears as shades of red or magenta on an FCIR photograph. Conversely, water with its low near-infrared reflectivity appears black. Because of this "false-color" rendition, the aerial photointerpreter must be familiar with the image/feature relationship. Color infrared aerial photography is used in special applications such as land use/cover type mapping, vegetation pathology studies, and water resources assessment.

Multispectral Scanner Imagery

Multispectral scanners are optical-mechanical devices that record energy reflectance or emittance in one or more discrete regions of the electromagnetic spectrum. These devices use a magnetic tape on which are recorded electronic impulses that are generated in proportion to the amounts of energy that are either reflected or emitted by objects. These impulses can be analyzed in their raw numerical format or processed to create black-and-white, color, or false-color images on conventional films. The only multispectral scanner imagery available for Connecticut is from LANDSAT, an earth orbital satellite. Because of its rather small scale, LANDSAT imagery is useful primarily for studies in land use and cover type mapping, geology, regional planning, and in other broad-scale applications.

The Handbook

Various agencies at the federal, state, regional, and local levels were contacted by the authors for information about their aerial photograph and satellite imagery acquisitions of the state. This report describes the types, coverage and availability of such remote sensing imagery.

The Handbook is organized into eleven sections by remote sensing imagery sources. The text describes the nature and coverage of the imagery and figures and tables are provided to supplement the explanations. Where possible, duplicate copies of order forms are presented.[1/] Addresses for further information on each

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1/ Prices quoted at time of this publication and subject to change.

imagery type are also given.

A glossary of technical terms and acronyms used in the Handbook is given in Appendix I, and a selected list of references on aerial photography and remote sensing is given in Appendix II.

GUIDE TO CONNECTICUT REMOTE SENSING IMAGERY

Section 1: STATE OF CONNECTICUT STATEWIDE AERIAL PHOTOGRAPHIC COVERAGE

1975 Keystone Aerial Surveys, Inc. Aerial Photography

In recent years the State of Connecticut has made a practice of regularly updating its statewide aerial photographic coverage (See Figure 1-A for state map). The most recent mission was flown in February-April 1975 by Keystone Aerial Surveys, Inc. under contract with the Connecticut State Department of Transportation (ConnDOT).

The entire state is covered in black-and-white aerial photographs at a 1:12,000 nominal scale on 9" x 9" double-weight semi-matte paper prints. Enlargements are available up to a scale of 1:2,400 (40" x 45"). Enlargements at 1:1,200 can be produced on demand. Screened CRONAFLEX positive-image films suitable for diazo-process reproduction are also available. Refer to Figure 1-B for prices and ordering information.

The statewide coverage consists of more than 8,000 individual frames. Photomosaic indexes and photoindex maps are available for number selection of appropriate frames for any given area. There are 20 regional photomosaics for the state on file at the Natural Resources Center (NRC) of the Connecticut State Department of Environmental Protection (DEP) and at the Map Room at the University of Connecticut Library. Photoindex maps organized by county are on file at the Connecticut State Department of Transportation (ConnDOT) and the Department of Natural Resources Conservation at the University of Connecticut.

In addition, ConnDOT has a set of 18" square prints (1:6,000) from this flight (every other frame), and DEP has a complete set of 9" square prints (1:12,000 in stereo coverage). The Natural Resources Center of DEP has reference sets of Keystone aerial photographs, and these are available for use in the Center library and on limited loan by contacting:

Director
The Natural Resources Center
Department of Environmental Protection
Room 553, State Office Bldg.
Hartford, CT 06115
Telephone: (203) 566-3540

All other inquiries concerning 1975 Keystone Aerial Surveys, Inc. aerial photography should be addressed to Keystone's Connecticut representative:

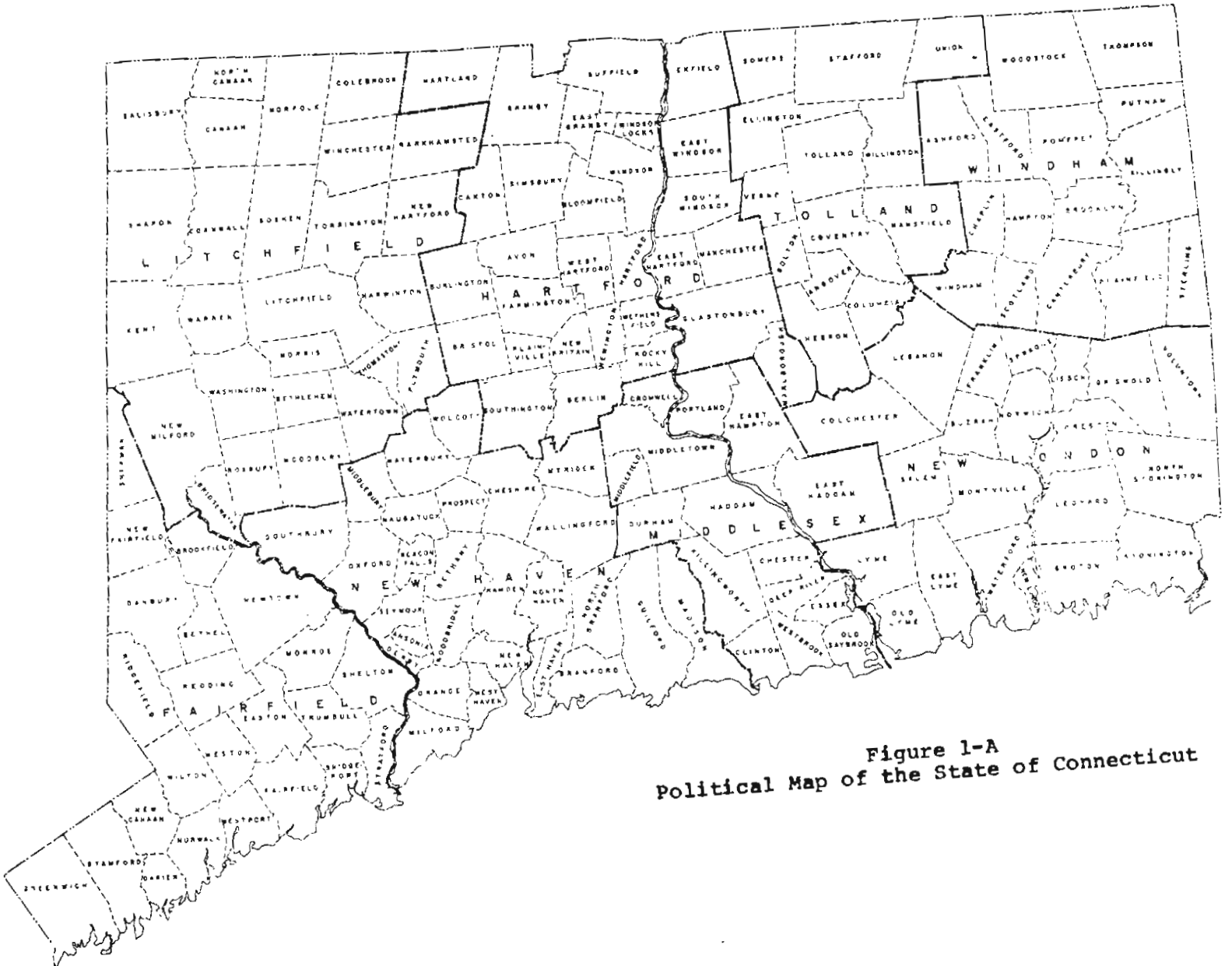

Figure 1-A
Political Map of the State of Connecticut

KEYSTONE AERIAL SURVEYS, Inc. · Glenside, Pa.

POST OFFICE BOX 217 GLENSIDE, PA. 19038
Office: (215) OR 7-3119
Residence: (215) TU 7-8588

POST OFFICE BOX 353 GLASTONBURY, CT. 06033
Phone anytime (203) 633-4934

STANDARD REPRODUCTION PRICE LIST

STATE OF CONNECTICUT - CONTRACT AWARD #745-A-3730
VERTICAL AERIAL PHOTOGRAPHY

Effective June 1, 1975

Qty.	9"x9" 1:1 1:1000	18"x18" 2 X 1:500	23"x23" 2.5 X 1:440	27"x27" 3 X 1:333	36"x36" 4 X 1:250	40"x45" 5 X 1:200	40"x45" 8/10 X 1:100
1 to 10	$ 4.15	$ 9.20	$ 13.10	$ 16.00	$ 27.50	$ 34.50	$ 42.50
Additional Charges (Per Photo)							
Over 10	$ 2.30	$ 6.90	$ 9.75	$ 12.65	$ 24.15	$ 31.00	$ 39.00
Screened Cronaflex	$ 3.00	$ 5.20	$ 7.50	$ 9.75	$ 16.10	$ 21.85	$ 21.85

Shipping Charges in addition to cost of order - Minimum Charge $3.00
Any additional shipping charges above the minimum will appear as amount due on Shipping Invoice.

PHOTO INDEX PRINTS 20" x 24" Total of 20 needed to cover entire state. First sheet $12.50 - additional sheets $7.50 each + handling and shipping charges.

.250 Glass diapositives available. Prices on request.

All prints on double-weight, semi-matte paper unless otherwise specified.

Material shipped UPS or best way available unless specific orders to the contrary.

Products available from this photography include

1. Individual photo enlargements at scales up to and including 1"=100' can be made on conventional photographic paper or mylar, positive image, reproducible cronaflex film. Enlargement scales and paper sizes are shown on the attached price list.

2. Photo mosaics (an assembly of two or more photographs forming a composite picture) can be compiled at scales up to and including 1"=200' on conventional photographic paper or mylar, positive image, reproducible film.

3. The 1"=1000' Spring 1975 flight is suitable for the preparation of 1"=200', 5' contour interval topographic maps by stereo-photogrammetric methods. Maps of this type are a valuable tool for surveyors, engineers and planners in the completion of preliminary engineering word for new roads, sanitary sewers, flood plain studies, school site location studies and industrial development projects.

4. Complete state surveys for 1965 and 1970 also available - same prices.

Requests for quotations on aerial photography are invited.

THIS LIST SUPERCEDES ALL PREVIOUS PRICE LISTS

Figure 1-B
1975 Keystone Aerial Surveys, Inc.
Price List and Ordering Information for
Statewide Aerial Photography

Mr. Harry Carter
P.O. Box 353
18 Bantle Road
Glastonbury, CT 06033
Telephone: (203) 633-4934

1970 Keystone Aerial Surveys, Inc. Aerial Photography

The 1970 statewide aerial photographic survey was conducted by Keystone under a contract with the Connecticut State Department of Public Works (DPW).

The photographs from this mission are black-and-white and at 1:12,000 nominal scale (9" x 9"). Price and ordering information are the same as for the 1975 flight as described in Figure 1-B.

Photomosaic indexes and complete sets of the 1970 aerial photographs are on file at the Connecticut State Departments of Environmental Protection and Transportation, and the map rooms at both the University of Connecticut Library at Storrs and the Connecticut State Library in Hartford. Each of the regional headquarters of DEP has coverage of the respective region on file in 18" print (1:6,000) format (every other frame). Inquiries should be addressed to Keystone's Connecticut representative, Mr. Harry Carter.

1965 Keystone Aerial Surveys, Inc. Aerial Photography

The 1965 statewide aerial photography was conducted by Keystone. Black-and-white aerial photographs are at 1:18,000 nominal scale, and complete sets of these 9" x 9" prints and the photomosaic indexes are on file at DEP and the Connecticut State Library. Price and ordering information should be obtained from Keystone Aerial Surveys, Inc.

1951 Robinson Aerial Surveys, Inc. Aerial Photography

Aerial photographs of the entire State of Connecticut were taken by Robinson Aerial Surveys, Inc. for the Agricultural Stabilization and Conservation Service (ASCS) of the United States Department of Agriculture (USDA) in late-1951 to mid-1952 (November-June). (See Section 8).

The mission included black-and-white aerial photography at 1:20,000 nominal scale in 9" x 9" paper print format. A photomosaic index of this coverage is on file at the Connecticut State Library Map Room together with an entire set of the 9" photographs. The Department of Civil Engineering at the University of Connecticut has a complete set of 24" square prints at 1:7,920. Also on file there are sets of 9" (1:20,000) prints for Tolland, Windham, and New London counties. (See Section 11).

Inquiries concerning reproductions of the 1951 aerial photographs should be addressed to:

Robinson Aerial Surveys, Inc.
43 Sparta Avenue
Newton, NJ 07860

or

U.S. Department of Agriculture
Agricultural Stabilization and
Conservation Service
2222 West, 2300 South
P.O. Box 30010
Salt Lake City, UT 84125

1934 Fairchild Aerial Surveys, Inc.[1/] Aerial Photography

Aerial photographs of the entire state were obtained in the spring (April-May) of 1934 by Fairchild. Black-and-white aerial photographs are at 1:14,000 nominal scale in 9" x 9" paper print format.

Photoindex maps organized by USGS topographic quadrangle, along with a complete set of these photographs, are on file at the State Library Map Room. The negatives have been destroyed, and copies can only be made by special arrangement with the State Library in Hartford.

1/ Now Fairchild Camera and Instrument Corp., 300 Robbins Lane, Syosset, L. I., NY 11791, but no longer engaged in aerial photography.

Section 2: CONNECTICUT STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION, COASTAL AREA MANAGEMENT PROGRAM AERIAL PHOTOGRAPHY

The Coastal Area Management (CAM) Program of the Connecticut State Department of Environmental Protection (DEP) is an agency in Connecticut responsible for the definition of coastal zone boundaries, development of a strategy for land and water use in the coastal zone, organization of citizen participation projects, and other coastal resource-related tasks. Many of these efforts require the use of high-quality aerial photographs as a source of information.

In the summer of 1974 (July-August), Lockwood, Kessler, and Bartlett, Inc. (LKB) conducted an aerial photographic mission under a contract award from CAM. The overflight consisted of low altitude false-color infrared (FCIR) aerial photographs at 1:12,000 nominal scale (9" x 9" format film positives). The general coverage of this photography is shown in Figure 2-A.

A complete set of the FCIR 1:12,000 film positives (transparencies and complete sets of duplicate black-and-white contact prints at 1:12,000 (9" x 9") and CRONAFLEX positive-image film transparencies at 1:2,400 (36" x 36") are on file at the CAM office. Photomosaic indexes and photoindex maps are also on file at CAM. A complete set of photoindex maps is on file at the Department of Natural Resources Conservation at the University of Connecticut.

In addition to the vertical FCIR aerial photographs, approximately 150 color and FCIR low oblique 35 mm slides were simultaneously acquired of the Connecticut coastline. These are on file at the CAM office and their vantage points are noted on the photoindex maps.

Inquiries concerning any of the imagery described above should be addressed to:

Director
Coastal Area Management Program
Department of Environmental Protection
71 Capitol Avenue
Hartford, CT 06115
Telephone: (203) 566-7404

Contact black-and-white prints, false-color infrared prints, and mylars are available directly from LKB. Information on the price and ordering of such products for a particular area can be obtained from:

Director of Photography
Lockwood, Kessler, and Bartlett, Inc.
1 Aerial Way
Syosset, Long Island, NY 11791
Telephone: (516) 938-0600

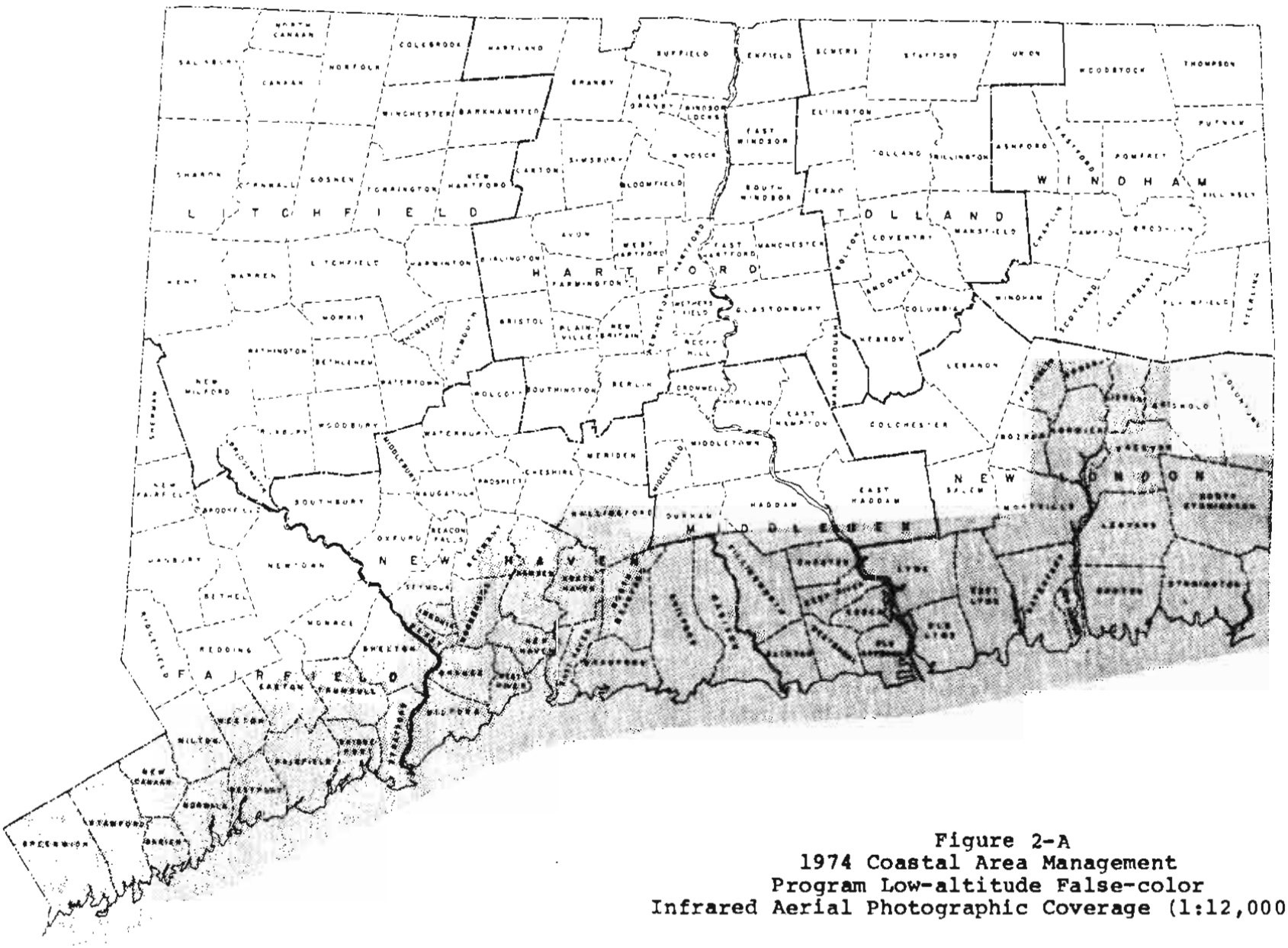

Figure 2-A
1974 Coastal Area Management
Program Low-altitude False-color
Infrared Aerial Photographic Coverage (1:12,000)

Section 3: CONNECTICUT STATE DEPARTMENT OF TRANSPORTATION AERIAL PHOTOGRAPHY

The Connecticut Department of Transportation (ConnDOT) is responsible for highway-related planning and engineering activities in the state. ConnDOT is involved in both resource analyses and aerial photography for photogrammetric mapping. Acquisition of such imagery is accomplished on a contractual basis and usually in strip coverage for a particular corridor under investigation.

Black-and-white aerial photographs related to highway projects exist of select areas of the state for as early as 1944 and as recently as late 1977. This information, however, has been cataloged only up to 1967. Figure 3-A shows collective black-and-white aerial photographic coverage from 1944 to 1967. Much of this photography is large scale. Table 3-A lists the dates and approximate locations of the missions.

The Connecticut Department of Transportation maintains ownership rights to all negatives. Information on the photography described above and that more recent than 1967 can be obtained from:

Chief Cartographer
Connecticut State Department
of Transportation
24 Wolcott Hill Road
Wethersfield, CT 06109
Telephone: (203) 566-2784

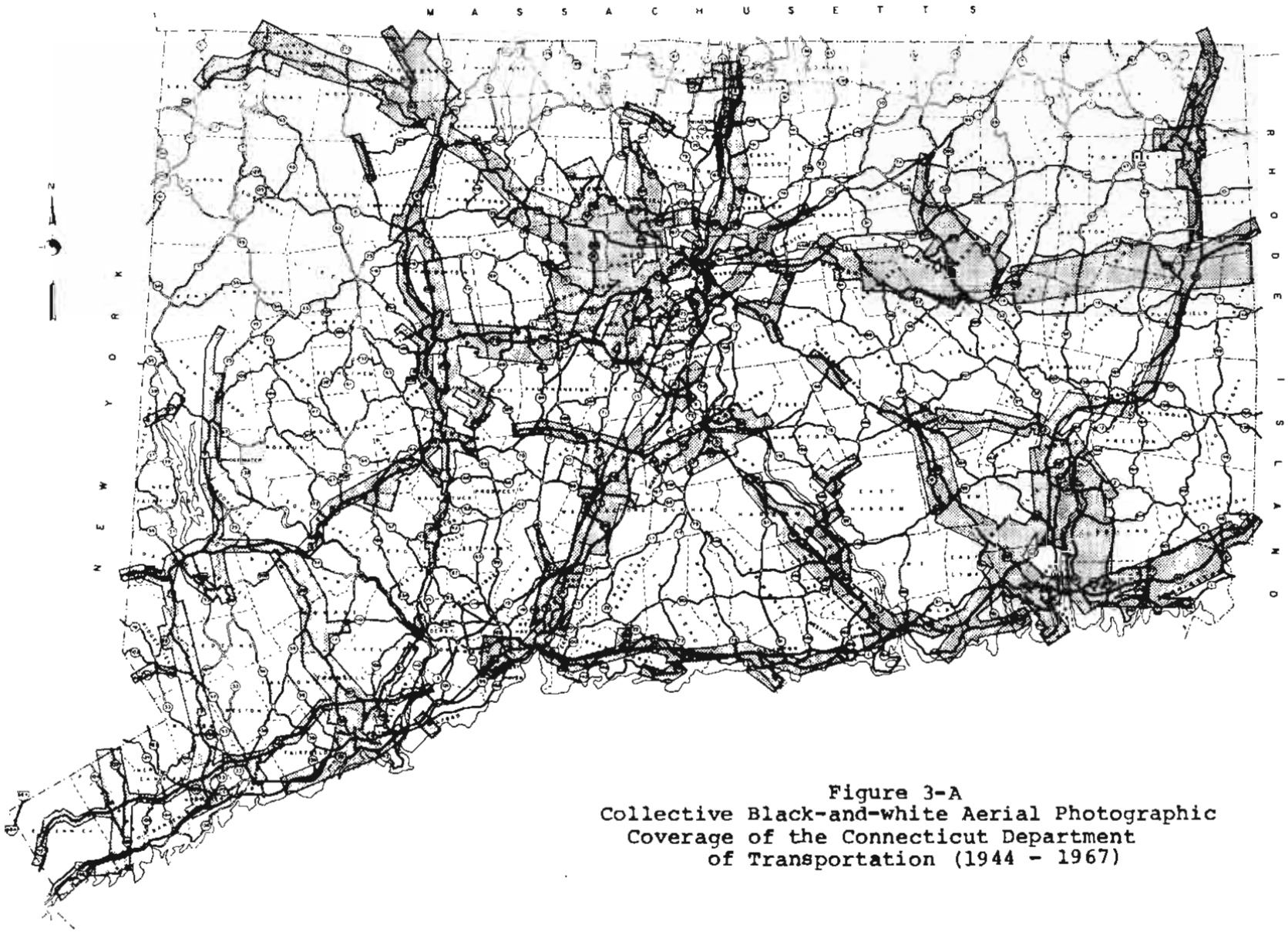

Figure 3-A
Collective Black-and-white Aerial Photographic
Coverage of the Connecticut Department
of Transportation (1944 - 1967)

Table 3-A

Tabulation of ConnDOT Aerial
Photographic Strip Coverage, 1944-1967

Date	Location	Date	Location
1944	Hartford-New Britain	1955	Groton-Stonington
			Berlin-East Hartford
1946	New Haven		Mansfield-Willington
	Fairfield-Stratford		Waterbury-Winchester
			Waterbury
1948	Guilford-Westbrook		Merritt Parkway, Conn.
	Old Saybrook-Chester		Rte. 8
	Plainville-New Britain		
	Norwalk-Georgetown	1956	Westport
			New Haven-Meriden
1949	Newington-Wethersfield		Berlin-Cromwell
	East Haven-Guilford		Hartford-Bloomfield
	Meriden-Rocky Hill		Suffield-Enfield
	Seymour		Colchester-Lebanon
			Norwich-Preston
1950	Port Chester-Greenwich		Southington-Middletown
	Mansfield-North Windham		Hamden-North Haven
	Glastonbury		Bridgeport-Trumbull
	Tariffville		Middlebury
	Norwalk		Waterbury-Naugatuck
	Cromwell		Wethersfield to East
	Litchfield		Hartford
			Hartford to East Hartford
1953	New Haven-North Haven		Windsor to Manchester
	Manchester-Bolton		
	East Lyme-Killingly	1957	Stamford
	Berlin		Norwalk-Danbury
			Bridgeport-Newtown
1954	Colchester		Torrington
	Danbury-Newtown		Manchester-Vernon
	Haddam-Old Saybrook		Glastonbury-Manchester
	Ridgefield		Pomfret-Putnam
	Farmington-Plainville		Killingly
			Colchester-New London
1955	Danbury		
	Salisbury-North Canaan	1958	Avon-Windsor
	Norfolk		Winchester
	New Hartford-Canton		East Granby-Windsor
	Marlborough		Plainville-Simsbury
	Killingly		Newtown-Middlebury
	Lebanon-Norwich		Beacon Falls
	Groton-North Stonington		Bethel

Date	Location
1958	Ridgefield
	Monroe
	Groton-Stonington
	East Haddam
	Winchester-Colebrook
	Haddam-Deep River
	Norfolk to Winchester
1959	Plymouth-Plainville
1960	Ridgefield
	Winchester-Colebrook
	Waterford-Groton
	Sherman-New Milford
	North Haven-Wallingford
	Milford
	New Britain
	New Britain-Hartford
	Hartford-East Hartford
	East Hartford
	Montville-Preston
	Norwich-Preston
	Waterford
	Seymour-Beacon Falls
1961	Bridgeport Rte. 25
	Manchester-Windham
	Thomaston Rte. 8
1962	New Britain
	Branford-Guilford
	Brandord
	Essex-Chester
	Norwalk Rte. 7
1963	Groton
	Montville-Ledyard
	Bolton-Columbia
	Plymouth-Plainville
	Farmington
	New Britain Rte. 72
1964	Old Lyme-Waterford
	Waterbury
	Waterbury
1965	Manchester-Vernon
	Manchester
1965	East Lyme-Waterford
	Danbury-New Milford
1966	Waterford-New London, I-95
	Madison
	West Haven
	Bridgeport
1967	Chester-Haddam Rte. 82
	Old Saybrook-Old Lyme
	Norwich
	Middlefield-Portland
	Stonington Rte. 2
	Haddam-East Haddam
	Vernon to Mass. line, I-84
	Rest Areas (12 locations)
	New Milford U.S. 7
	Plainville-Farmington Rte. 72

Section 4: STATE OF CONNECTICUT ORTHOPHOTOQUAD COVERAGE

Orthophotographs are photographic copies prepared from perspective aerial photographs in which distortions due to tilt, relief, and image displacement have been removed. These rectified aerial photographs depict terrain features in their true positions like conventional line-and-symbol maps, but unlike maps they possess the informational content of an aerial photograph (except stereo viewing).

Preparation of orthophotographs of Connecticut began under the Connecticut Valley Urban Area Project (CVUAP), which covered about 5000 square miles in New England. In Connecticut, this area extended from Long Island Sound to the Connecticut-Massachusetts State line bordered on the west by the longitude of 73° 00' W, and on the east by 72° 07' 30" W. The objective of CVUAP was to provide geologic and hydrologic information to aid in planning and resource management in this development-pressured "corridor". Resource factor maps were a product of this project.

The United States Geological Survey (USGS) participated in the preparation of orthophotoquads for those quadrangles in the CVUAP area. These orthophotoquads, prepared from USGS aerial mapping photography (See Section 10), are 1:24,000 distortion-corrected, black-and-white photoimage maps that correspond to the USGS topographic map quadrangles (7 1/2 minute series).

Coverage of these orthophotoquads prepared by CVUAP is shown in Figure 4-A. A complete set of these 1:24,000 orthophotographs on screened CRONAFLEX is on file with:

Water Resources Division
United States Geological Survey
135 High Street
Hartford, CT 06101
Telephone: (203) 244-2528

Since the time of the original CVUAP which ended in 1976, orthophotographs have been acquired for the entire State of Connecticut in a cooperative program with USGS. These orthophotoquads are based upon aerial photography conducted between 1972 and 1974. A complete set of these black-and-white 1:24,000 orthophotoquads is on file with:

Director
Natural Resources Center
Room 553, State Office Bldg.
Hartford, CT 06115
Telephone: (203) 566-3540

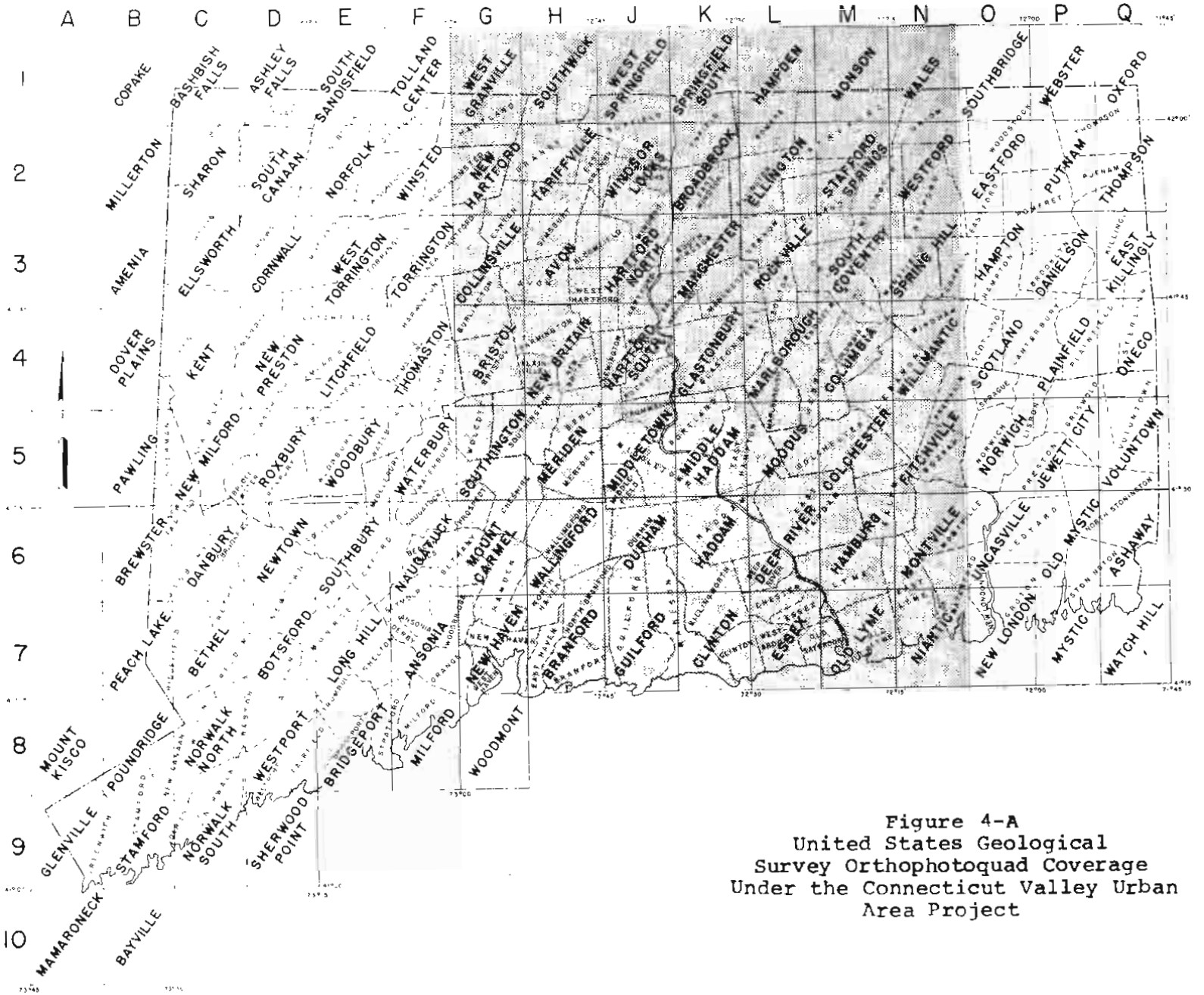

Figure 4-A
United States Geological
Survey Orthophotoquad Coverage
Under the Connecticut Valley Urban
Area Project

Diazo prints of orthophotoquads for any quadrangle in Connecticut are available at $1.25 per print as are black-and-white photographic prints at $8.00 per print from:

Eastern Mapping Center
U.S. Geological Survey
12201 Sunrise Valley Drive
Reston, VA 22092

Order by quadrangle name.

Section 5: METROPOLITAN DISTRICT COMMISSION AERIAL PHOTOGRAPHY

The Metropolitan District (MD) consists of the following seven towns in the Greater Hartford area: Bloomfield, East Hartford, Hartford, Newington, Rocky Hill, Wethersfield, and Windsor. Since 1951, the Metropolitan District Commission (MDC) has been preparing street, topographic, sewage, and other special purpose maps. Before 1973, aerial photography consisted of only spot coverage for specific projects. Since then, however, one town per year has been covered entirely. To date, aerial photography has been conducted for all but one town, Hartford, which is scheduled for Spring 1979. (West Hartford Reservoir, a responsibility of the MDC, is also planned for 1979).

Aero Service Corp. flew the missions for Rocky Hill (1973), Wethersfield (1974), and Newington (1975) using black-and-white film at 1:7,920 nominal scale. Black-and-white enlargements (13 1/2" x 13 1/2" format) at 1:5,280 are on file at the MDC office.

Aero Service also conducted the mission for Windsor (1977) using black-and-white film at the nominal scale of 1:8,580. Enlargements (13 1/2" x 13 1/2") at 1:5,720 are at the MDC office.

Inquiries concerning the availability of aerial photographic products from any of the above four missions should be addressed to:

Aero Service Corp.
4219 Van Kirk Street
Philadelphia, PA 19135
Telephone: (215) 533-3900

Aerial Data Reduction (ADR) Associates, Inc. conducted the aerial photographic mission over East Hartford (1976) with black-and-white film at 1:8,580 nominal scale. Enlargements (13 1/2" x 13 1/2") at 1:5,720 are at the MDC office. Inquiries concerning the availability of aerial photographic products from the East Hartford overflight should be sent to:

Aerial Data Reduction Associates, Inc.
9285 Commerce Highway
Box 557
Pennsauken, NJ 08110
Telephone: (609) 663-7200

Bloomfield was flown in 1978 by Lockwood, Kessler, and Bartlett, Inc. with black-and-white film at 1:8,580. Enlargements (13 1/2" x 13 1/2") at 1:5,720 are at the MDC office. Information on the availability of aerial photographic products for Bloomfield should be obtained from:

Director of Photography
Lockwood, Kessler, and Bartlett, Inc.
1 Aerial Way
Syosett, Long Island, NY 11791
Telephone: (516) 938-0600

All aerial photographs on file at the MDC office have been made available to the public. Arrangements for using these products should be made through:

Assistant Division Engineer
Survey and Mapping Division
Metropolitan District
555 Main Street
Hartford, CT 06106
Telephone: (203) 278-7850

Section 6: 1976 TRI-STATE REGIONAL PLANNING COMMISSION AERIAL PHOTOGRAPHY

The Tri-State Regional Planning Commission (TSRPC) headquartered at 1 World Trade Center, New York City, is responsible for planning decisions in the greater New York Metropolitan area which includes portions of Connecticut and New Jersey. In March 1976, Keystone Aerial Surveys, Inc., conducted a high-altitude aerial photographic mission under a contract award from TSRPC.

The coverage consists of black-and-white photographs at 1:80,000 nominal scale and is outlined in Figure 6-A. A significant portion of western Connecticut is covered as is the entire coastal area. Products available from Keystone include 9" x 9" contact prints and various enlargements up to 40" x 55" (1:7,200). Screened CRONAFLEX positive-image films suitable for diazo-process reproduction are available for all photograph format sizes. Refer to Figure 6-B for price and ordering information for these products.

Photomosaics of this aerial photographic coverage can be prepared by Keystone. Information on actual photographs of a particular area can be obtained from Keystone's Connecticut representative:

Mr. Harry Carter
P.O. Box 353
15 Bantle Road
Glastonbury, CT 06033
Telephone: (203) 633-4934

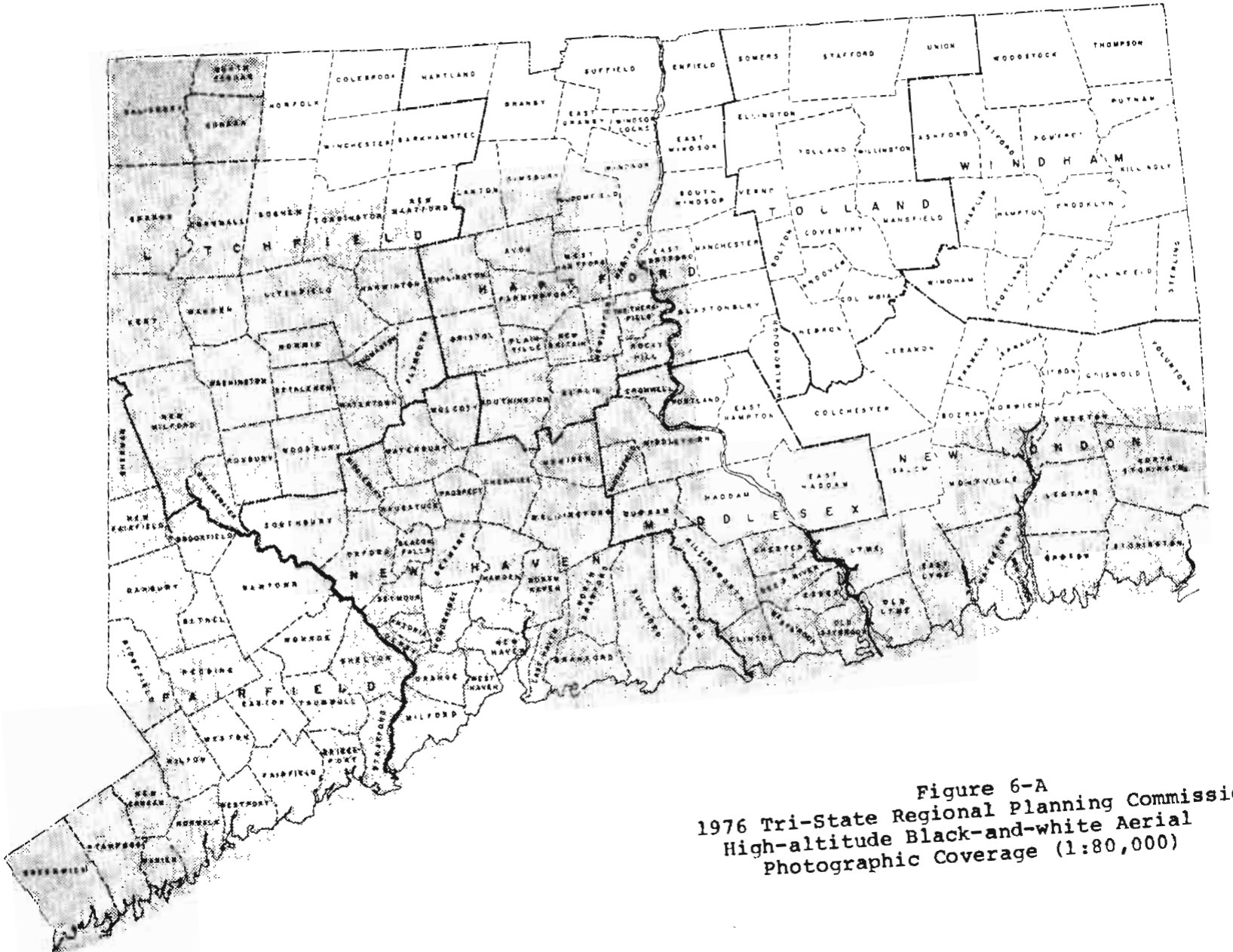

Figure 6-A
1976 Tri-State Regional Planning Commission
High-altitude Black-and-white Aerial
Photographic Coverage (1:80,000)

AVERAGE SCALE	1:80,000 1"=6666 Ft	1:24,000 1"=2000 Ft	1:18,000 1"=1500 Ft	1:12,000 1"=1000 Ft	1:7,200 1"=600 Ft
ENLARGEMENT FACTOR	Contact	3.33x	4.44x	6.67x	11.11x
MATERIAL SIZE	9"x9"	22"x28"	40"x40"	40"x45"	40"x55"
QUANTITY	PAPER	PAPER	PAPER	PAPER	PAPER
1	$15.00	$30.00	$41.00	$47.00	$54.00
2	25.00	50.00	72.00	74.00	98.00
3	30.00	68.00	98.00	102.00	133.00
4	33.00	84.00	118.00	124.00	166.00
5	35.00	99.00	134.00	144.00	191.00
6	36.00	113.00	149.00	161.00	214.00
7	37.00	125.00	162.00	176.00	234.00
8	38.00	136.00	174.00	189.00	249.00
9-20	$ 4.00 ea.	BULK ORDERS			
21-40	$ 3.50 ea.	QUOTED ON REQUEST			
OVER 60	$1.90 ea.				
CRONAFLEX ADDITIONAL CHARGE	2.00 ea	10.00	15.00	17.00	21.00

Shipping charges will be added to the cost of the order. All materials will be shipped UPS

Figure 6-B
1976 Keystone Aerial Survey Surveys, Inc.
Price List for Tri-State Regional Planning
Commission Black-and-white Aerial Photographs

Section 7: MUNICIPALLY-ACQUIRED AERIAL PHOTOGRAPHY

Quite often local communities acquire aerial photographs for their towns (or portions thereof) on a contractual basis. Usually this is done to generate an aerial photograph map base for tax mapping. More recent applications involve engineering systems planning and environmental studies. Some towns rely upon existing aerial photographs for these purposes while others have no aerial photographs at all.

Of the 169 towns in Connecticut, 145 have contracted for aerial photographic overflights; this coverage is shown in Figure 7-A. A total of 222 missions have been flown, the earliest dating back to 1928. Of these 222 flights, 162 (73%) were made before 1970, and 53 (24%) during or since 1970 (the dates of seven flights are unknown). Of the flights, 218 involved the use of conventional black-and-white films, two used color films, and two used false-color infrared films (this latter in cooperation with a research activity at the University of Connecticut).

There are certain aerial photography firms that have been awarded contracts more than others by Connecticut towns. The top three firms are J. W. Sewall Co., Fairchild Camera and Instrument Corp., and Avis Airmap, Inc.. It should be noted that Fairchild conducted most of its work prior to 1960 and is no longer actively engaged in flying aerial photographic missions. A list of aerial photographic firms that have been contracted by municipalities is given in Table 7-A.

List of Municipally-Acquired Aerial Photography

Table 7-B gives the status of aerial photograph acquisitions and holdings of each of Connecticut's 169 towns. Information is given on: (1) date, (2) film type, (3) scale(s), (4) product format(s), (5) performing aerial photography firm, and (6) contact within the town's government. Refer to Table 7-C for an explanation of the codes given under each heading.

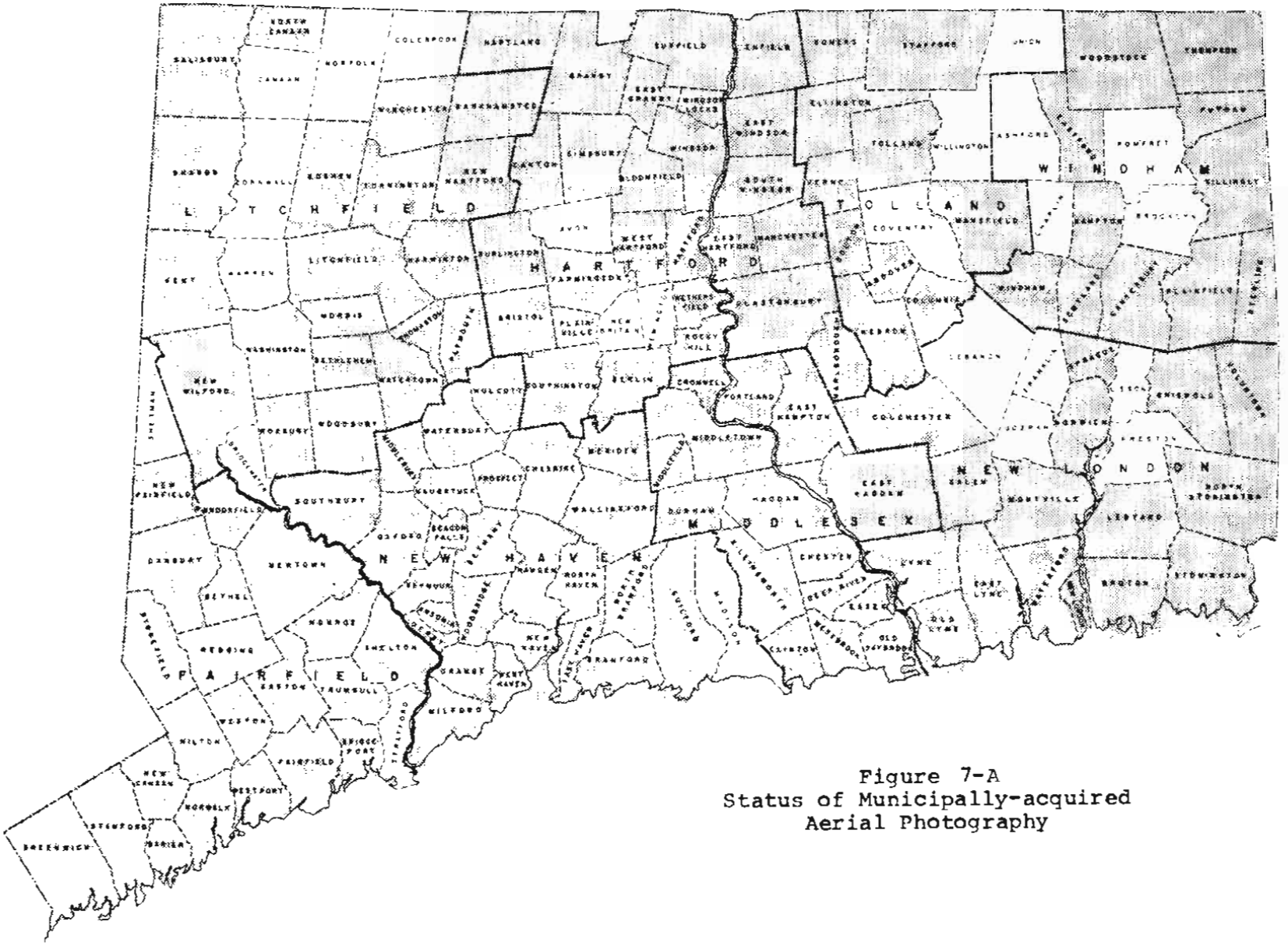

Figure 7-A
Status of Municipally-acquired
Aerial Photography

Table 7-A
Firms Which Have Conducted Aerial Photographic Missions for Connecticut Municipalities

1. Abrams Aerial Supply Corp.
P.O. Box 508
Lansing, MI 48905

2. ADR Associates, Inc.
9285 Commerce Highway
P.O. Box 557
Pennsauken, PA 08110

*3. Aerial Flight
Newark, NJ 07101

4. Aero Service Corp.
4219 Van Kirk St.
Philadelphia, PA 19135

5. Air Survey Corp.
Newtown Square South
Reston, VA 22090

6. American Air Surveys, Inc.
629 Fifth Ave.
Pelham, NY 10803

7. Arthur H. Howland, Engr.
63 Bridge St.
New Milford, CT 06776

8. Avis Airmap, Inc.
Avis Park
454 Washington St.
Braintree, MA 02184

9. Bernard Stone Associates
Gardner Lake
Salem, CT 06415

10. Cahn Engineers, Inc.
Alexander Drive
Wallingford, CT 06492

11. C. E. McGuire Associates
1 Court St.
New Britain, CT 06051

12. Chicago Aerial Survey
2150 S. Wolf Road
Des Plaines, IL 60018

13. Col-East, Inc.
P.O. Box 347
Harriman Airport
N. Adams, MA 01247

*14. Dickson Co.
New Haven, CT 06502

15. Fairchild Camera and Instrument Corp.
300 Robbins Lane
Syosset, L.I., NY 11791

*16. Fred Pokorny
Mineala, NY 11501

*17. General Mapping, Inc.
Youngswood, PA 15697

*18. Gordon E. Ainsworth & Associates
S. Deerfield, MA 01373

*19. International Resources
White Plains, NY 10602

20. J. W. Sewall Co.
Box 433
Old Town, ME 04468

21. James B. Purcell Assoc., Inc.
90 National Drive
Hartford, CT 06101

22. Keystone Aerial Surveys, Inc.
N. Philadelphia Airport
Philadelphia, PA 19135

23. L. Robert Kimball and Associates
615 W. Highland Ave.
Ebensburg, PA 15931

24. Lockwood Mapping, Inc.
580 Jefferson Road
Rochester, NY 14623

25. Metcalf and Eddy, Inc.
50 Staniford Ave.
Boston, MA 02114

26. New England Survey Service, Inc.
3315 Berlin Turnpike
Newington, CT 06111

27. Pennsylvania Aerial Survey, Inc.
P.O. Box 104
New Cumberland, PA 17070

28. Potomac Aerial Survey
2291 Lewis Ave.
Rockville, MD 20851

29. Quinn & Associates
460 Caradean Drive
Horsham, PA 19044

30. Raynor Aerial Survey
New Fairfield, CT 06810

31. Robinson Aerial Survey, Inc.
43 Sparta Ave.
Newton, NJ 07860

32. Teledyne Geotronics
725 E. Third St.
Long Beach, CA 90812

*33. Veniss and Smith
Clinton, CT 06413

34. Vernon Graphics, Inc.
400 Executive Boulevard
Elmsford, NY 10523

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* No current business listing available.

Table 7-B

Status of Aerial Photograph Acquisitions

and Holdings for Each of

Connecticut's 169 Towns

Table 7-B

TOWN	DATE	TYPE	SCALE	FORMAT	PROD.	FIRM	CONTACT	COMMENTS
Andover	1954	BW	1:1200 1:2400	42" x 42"	PP		Frederick A. Chmura, Assessor, Town Office Bldg., School Road 06232 (742-7306)	
Ansonia	1963	BW	1:600	24" x 24"	M	6	Sam DiStasi, Assessor 253 Main St., 06401 (735-6620)	
Ashford							C. Roger Ferguson, Town Engr. (429-7265)	Purchased from Keystone State flight
Avon							Clifton R. Clark, Assessor, 60 W. Main St. 06001 (677-2654)	Purchased from Keystone State flight
Barkhamstead	1967	BW	1:2400		PP M		Florence E. Halnon, Assessor, Rt. 318, Pleasant Valley 06063 (379-7245)	
Beacon Falls	Nov. 1949	BW	1:1200	42" x 42"	L		Eva Mis, Assessor's Clerk, 10 Maple Ave. 06403 (729-4340)	
Berlin	Mar. 1970	BW	1:1200		PP	23	Richard Howard, Engr. Town Hall, 240 Kensington Rd. 06037 (828-3501)	Ortho projection
	1950	BW	1:1200 1:2400	36" x 36"	PP L			
	1926	BW	1:1200		PP			
Bethany	1957	BW	1:2400	36" x 36"	PP	34	Alice Bunton, Asst. Clerk, Town Hall, 512 Amity Road 06525	
Bethel	Apr. 1974	BW	1:1200		C		Thaddeus Carzasty, Assessor, Town Hall, P.O. Box 3 06801 (743-9231)	

Table 7-B (Cont'd)

TOWN	DATE	TYPE	SCALE	FORMAT	PROD.	FIRM	CONTACT	COMMENTS
Bethel	1947	BW	1:1200 1:2400		L	15		Large scale photographs for center of town only
Bethlehem	Sept. 1971	BW	1:2400		PP M	7	L. Palangio, Town Clerk, Main St., P.O. Box 53 06751 (266-7510)	
Bloomfield	1956	BW	1:1200 1:2400	36" x 36"	PP	14	Mary Palmer, Asst. Assessor, 800 Bloomfield Ave. 06002 (242-6241)	
	1955	BW	1:1200 1:2400	36" x 36"	PP	14		
Bolton	1953	BW	1:2400	44" x 32"	PP		Elna Dimock, Asst. Assessor, 222 Bolton Center Rd. 06040 (649-0784)	
Bozrah							A. Mair, Town Clerk Town Hall, Fitchville 06334 (889-8174)	Purchased from Keystone State flight
Branford	1952	BW	1:1200 1:2400	36" x 36" 24" x 24"	PP	20	Asst. Assessor, Town Hall, 1019 Main St., P.O. Box 150 06405 (488-2039)	
Bridgeport	1974	BW	1:1200		PP	2	Mr. Kalm, City Engr. City Hall, 45 Lyon Terrace (576-7211)	
Bridgewater							M. Spodnick, Town Clerk, Town Hall, 06752 (354-5102)	
Bristol	1962	BW	1:4800	45" x 45"	M	4	Alyn Conrad, City Engr., 111 N. Main St 06010 (583-1811)	
	1955	BW	1:2400	9" x 9"	PP			

Table 7-B (Cont'd)

TOWN	DATE	TYPE	SCALE	FORMAT	PROD.	FIRM	CONTACT	COMMENTS
Brookfield	1969	BW	1:1200	20" x 36"	PP	30	Mrs. Palmet, Asst. Assessor, Town Hall, Rt. 25 06805 (775-3119)	
	1953	BW	1:1200 1:2400		PP	30		
Brooklyn							Town Clerk, Town Hall, P.O. Box 356 (774-9543)	
Burlington	1959	BW	1:2400	36" x 48"	PP	3	C. Hamernich, Town Clerk, RFD 1, Rt. 4, 06013 (673-2108)	Company out of business
Canaan							Ms. Monroe, Asst. Town Clerk, Town Hall, Main St. 06031 (824-7931)	
Canterbury	1969	BW	1:1200	48" x 54"	M	8	Charles Savarese, Assessor, Rt. 14, P.O. Box 27 06331 (546-9377)	
	1969	BW	1:1200	8" x 8"	PP	8		
Canton	Feb. 1959	BW	1:1200 1:2400	36" x 36"	M PP	31	Ms. Miller, Secy. to Assessor, 4 Market St. 06022 (693-4112)	
Chaplin							Bernard M. Church, Town Clerk, Town Hall, Rt. 198 (445-9455)	Purchased from Keystone State flight
Cheshire	Apr. 1975	BW	1:2400	32" x 34"	M	2	Robert Heilman, Assessor, Town Hall, 84 S. Main St. 06410 (272-8317)	
	Feb. 1957	BW	1:2400	36" x 36"	PP M L	34		

Table 7-B (Cont'd)

TOWN	DATE	TYPE	SCALE	FORMAT	PROD.	FIRM	CONTACT	COMMENTS
Chester	1947	BW	1:1200 1:2400	32" x 32"	L M		E. Schneider, Assessor, Town Office Bldg. 65 Main St. 06412 (524-9468)	
Clinton	Apr. 1965	BW	1:1200	36" x 36"	PP FT-		Edith Mckinley, Assessor, Town Hall, P.O. Box 174 06413 (669-9268)	
	May 1948	BW	1:1200 1:2400	36" x 36"	PP			
Colchester	1978	BW	1:2400	30" x 30" 36" x 24"	PP	20	Mrs. Bauchmann, Asst. Town Clerk, Town Hall P.O. Box 167 06415 (537-3461)	
Colebrook							Mrs. S. Coleman, Town Clerk, Town Hall, Colebrook Center 06021 (379-2922)	
Columbia	1967	BW	1:1200 1:2400 1:4800	24" x 30"	M	20	Mrs. Bender, Assessor's Clerk, Yeomans Hall, Rt. 87, Box 165 06237 (228-9555)	
Cornwall							Delphine Fenn, Town Clerk, Town Hall, Pine Street 06753 (672-6487)	Purchased from USDA photographs
Coventry							Jack Weiss, Draftsman, Town Hall, 1712 Main St. 06238 (742-7371)	Purchased from Keystone State flight
Cromwell	Apr. 1975	C		12" x 12"	PP	8	Mr. Morton, Public Works, 5 West St. 06416 (635-3380)	
	Fall 1968	BW	1:1200		L			
	Fall 1959	BW	1:1200		L			

Table 7-B (Cont'd)

TOWN	DATE	TYPE	SCALE	FORMAT	PROD.	FIRM	CONTACT	COMMENTS
Danbury	May 1965	BW	1:1200	24" x 30"	M	1	Ms. M. Mannion, Secy. to Engr., City Hall, 115 Deer Hill Rd. 06810 (744-7160)	
Darien	1948	BW	1:1200		PP	15	Joseph A. Cullen, Assessor, Town Hall, 710 Boston Post Rd. 06820 (655-0661)	
Deep River	1962	BW	1:1200	36" x 36"	PP		Kenneth Mollander, Assessor, Town Hall, Main St. 06417 (526-5783)	
Derby	1963	BW	1:1200	30" x 30"	M	20	Paul Dinice, Assessor City Hall, 35 Fifth St. 06418 (734-9207)	
Durham	1957	BW			L	5	Ms. B. Ruggerio, Assessor's Clerk, Town Hall, P.O. Box 246 06422 (349-3452)	
Eastford	Apr. 1961	BW	1:1200 1:2400	36" x 36"	PP	12	Louise Caya, Assessor Town Office Bldg., Westford Rd.,06242 (974-1885)	
East Granby	1969	BW	1:2400	24" x 36"	PP	13	Mrs. R. Falk, Assessor Town Hall, Center St. 06026 (633-2852)	
East Haddam	Mar. 1970	BW	1:1200	36" x 36"	PP	20	Ms. E. Narducci, Assessor's Clerk, Town Office Bldg., 06423 (873-8279)	
	1961	BW	1:1200	36" x 36"	PP			
East Hampton	1937	BW	1:2400 1:4800	17" x 24"	M		Ms. M. Nichols, Assessor's Clerk, Town Hall, 20 E. Hight St. 06424 (267-2519)	
East Hartford	Mar. 1976	BW	1:2400	9" x 9"	PP	2	Chuck Shain, Town Engr., Town Hall, 740 Main St. 06108 (289-2781)	

Table 7-B (Cont'd)

TOWN	DATE	TYPE	SCALE	FORMAT	PROD.	FIRM	CONTACT	COMMENTS
East Hartford	1970	BW	1:1200	24" x 36"	PP M	8		
East Haven	Win-ter 1973	BW	1:1200	40" x 40"	PP	29	Frank Anrice, Engr. Aid, 250 Main St. 06512 (469-5311)	
	ca. 1952	BW	1:1200	36" x 48"	PP	34		
		BW		48" x 60"	PP			Not sure of date or scale
East Lyme	Jan. 1961	BW	1:1200 1:2400	36" x 36"	PP		Vernon Smith, Assessor, 108 Penn. Ave., P.O. Box 519, Niantic 06357 (739-6913)	
Easton	Apr. 1974	BW	1:2400	36" x 40" 8" x 10"	BP PP	16	Mrs. M. Kerr, Conservation Comm., Town Hall, 225 Center Rd. 06612 (268-6291)	
East Windsor	Mar. 1975	BW	1:1200 1:2400	36" x 36"	M	31	Ms. F. Wifinski, Asst. Assessor, Town Hall, 11 Rye St., Broadbrook 06016 (623-3348)	
	Nov. 1953	BW	1:2400	36" x 36"	PP	15		
Ellington	Dec. 1949	BW	1:1200 1:2400	36" x 36"	L		Ms. M. Hoffman, Assessor, 55 Main St., P.O. Box 236 06029 (875-3190)	
Enfield	ca. 1970	BW	1:480	Roll Strip	M PP	2	Mr. Barrett, Sanitary Engr., Town Hall, 820 Enfield St. 06082 (745-0371)	Photographs of Sewer District
	ca. 1970	BW	1:480		M			Photographs of Industrial Area

Table 7-B (Cont'd)

TOWN	DATE	TYPE	SCALE	FORMAT	PROD.	FIRM	CONTACT	COMMENTS
Enfield	ca. 1970	BW	1:480		M			Photographs of Urban Area
	ca. 1960	BW	1:2400	48" x 48"	PP			
Essex	May 1968	BW	1:1200	36" x 48"	M	6	Walter Birch, Assessor, Town Hall, West Ave. 06426 (767-8201)	Flown approximately every 5 years since 1931
Fairfield	1975	BW	1:7200	8" x 10"	PP	29	Ms. Mecki, Assessor's Clerk, Town Hall, 611 Old Post Rd. 06430 (259-8361)	
	ca. 1959	BW	1:1200	36" x 42"	PP			
Farmington	Mar. 1965	BW	1:1200		M	1	Mr. G. Connel, Asst. Town Engr. Town Hall, 1 Monteith Dr. 06032 (673-3271)	
Franklin							Assessor, Meeting House Rd., Town Office Bldg., N. Franklin 06254 (642-7352)	
Glastonbury	1971	BW	1:1200	42" x 48"	PP M	11	David MacArthur, Assessor, 2108 Main St. 06033 (633-5231)	Entire town was flown in 6 stages starting in 1965
Goshen	1958	BW	1:2400	36" x 60"	PP		Mrs. Vaill, Town Clerk, Town Office Bldg., P.O. Box 175 06756 (491-3647)	
Granby	May 1956	BW	1:2400	48" x 48"	PP		Mrs. Berslin, Secy. Town Hall, P.O. Box 13 06035 (653-2538)	
Greenwich	1957	BW	1:1200	24" x 36"	M PP		Frank Fiorito, Engr. Town Hall, Greenwich Ave., P.O. Box 455 06830 (622-7700)	

Table 7-B (Cont'd)

TOWN	DATE	TYPE	SCALE	FORMAT	PROD.	FIRM	CONTACT	COMMENTS
Griswold	1955	BW	1:1200 1:2400	42" x 42"	PP	15	Robert Kasinski, Assessor, Town Hall, School St., Jewett City 06351 (376-0641)	
Groton	Apr. 1969	BW	1:1200	36" x 36"	M		Jack Killeen, Assessor, Town Hall, 45 Fort Hill Rd. 06340 (455-8551)	
	Mar. 1959	BW	1:1200	36" x 36"	PP			
	1951	BW	1:1200 1:2400	36" x 36"	PP			
Guilford	Nov. 1964	BW	1:1200 1:2400	9" x 9"	PP	20	Stoddard Smith, Tax Collector, Town Hall, Park St. 06437 (453-2763)	
	ca. 1950	BW	1:1200 1:2400	9" x 9"	PP			
Haddam	Apr. 1960	BW	1:2400	29" x 31"	PP M	6	Vergelia Billings, Asst. Assessor, Town Office Bldg., P.O. Box 87 06438 (345-4555)	
Hamden	ca. 1967	BW	1:2400	24" x 36"	PP	1	Ms. Vaiette, Secy. to Engr., Town Hall, 2372 Whitney Ave., 06 06518 (288-5641)	
Hartford	1966	BW	1:2400	22" x 28"	M	1	Mr. Scenti, Div. Eng. for Maps & Records, Municipal Bldg, 550 Main St 06103 (566-6400)	
	1949	BW	1:2400	22" x 28"	M	27		

Table 7-B (Cont'd)

TOWN	DATE	TYPE	SCALE	FORMAT	PROD	FIRM	CONTACT	COMMENTS
Hartland	Spring 1972	BW	1:2400 1:4800	42" x 42"	PP	8	Harold Groth, Assessor, Town Office Bldg. South Rd. E. Hartford 06027 (653-3542)	
Hawinton	1961	BW	1:2400	36" x 36"	PP		Ann Kovall, Assessor Town Office, Hutchings Rd., 06709 (489-9212)	
	1958	BW	1:2400	36" x 36"	PP			
Hebron	1969	BW	1:1200 1:2400	30" x 30"	PP	20	Mrs. Berglund, Assessors Clerk, Town Office Bldg., Rt. 85 06248 (228-9406)	
Kent	1970	BW	1:2400 1:4800	30" x 30"	PP	5	Eugene Omeara, 1st Selectmen, Town Hall RFD Box M5, S. Main St. 06757 (927-3433)	All of Dutches County, NY also done on this flight
Killingly	May 1946	BW	1:1200 1:2400	9" x 9"	PP	15	John J. Gill, Assessor, 127 Main St., Danielson 06239 (774-2333)	
Killingworth	Nov. 1962	BW	1:2400	36" x 36"	PP		Walter G. AlBrech, Assessor, Town Office Bldg. Rt. 81, RFD#2 06417 (663-2002)	
Lebanon							R.B. Smith, Assessor Town Hall, Rt. 207 (642-6141)	Purchased from Keystone State flight
Ledyard	Dec. 1970	BW	1:1200	36" x 36"	M	11	George Coderre, Assessor, Town Hall, 741 Ledyard Hwy., Ledyard Ctr. 06339 (464-8090)	
	1950	BW	1:2400		L			
Lisbon							R. Herrman, Assessor Town Office Bldg. RFD#2, Rt.138 06351 (376-3900)	

Table 7-B (Cont'd)

TOWN	DATE	TYPE	SCALE	FORMAT	PROD.	FIRM	CONTACT	COMMENTS
Litchfield	1969	BW	1:1200 1:2400	36" x 36"	M	26	Allen Pepper, Bldg. Inspector, Town Office Bldg., West St. 06759 (567-9329)	
	Mar. 1948	BW	1:1200 1:2400		PP	15		
		BW	1:2400 1:4800	9" x 9"	PP			
Lyme	1963	BW	1:2400	38" x 40"	L	30	Barbara C. Sisk, Assessor, Town Hall, Rt. 156, RFD#2 06371 (434-8092)	
Madison							Town Clerks Office (245-2465)	
Manchester	May 1967	BW	1:1200	40" x 40"	M	29	Peter Vitols, Engr. Dept., Town Hall, 41 Center St. 06040 (649-5281)	
Mansfield	1950	BW	1:2400	36" x 24"	PP	30	Mrs. Hall, Assessors Clerk, 954 Storrs Rd. Storrs, 06268 (429-9163)	
	Sept. 1974	FCIR	1:12000	9" x 9"	PP	8		Film diapositives, BW prints (1:4800) and mylars (1:2400)
	Apr. 1975	FCIR	1:12000	9" x 9"	PP	8		on file at UConn Film diapositives at UConn
Marlborough	Apr. 1963	BW	1:1200 1:2400	36" x 36"	L	31	Addison Pick, Assessor, N. Main, Rt. 66, Box 29 06447 (295-9547)	
Meriden	Apr. 1965	BW	1:1200	30" x 36"	M	5	Herman Holznagel, Asst. City Engr., City Hall, 142 E. Main St. 06450 (634-0003)	

Table 7-B (Cont'd)

TOWN	DATE	TYPE	SCALE	FORMAT	PROD.	FIRM	CONTACT	COMMENTS
Middlebury	May 1950	BW	1:2400	36" x 36"	PP	30	Kim Ahearn, Assessor's Clerk, Town Hall, 1212 Whitemore Rd. 06762 (758-2557)	
Middlefield	Mar. 1975	BW	1:2400	24" x 32"	M	32	Donald Lee, Jr., 1st Selectman, Town Admin. Bldg., Jackson Hill Rd. Box 179 (349-3446)	
	1952	BW	1:1200	36" x 36"	PP			
Middletown	May 1968	BW	1:960	36" x 36"	ST	10	James Clohosey, Draftsman-Public Works Dept. Municipal Bldg. Box 1141 06457 (347-4671)	Photographs of Westfield section with 2' contours
	May 1968	BW	1:7200	42" x 48"	ST	4		Photographs of NW & city sections with 2' contours
	Sept. 1967	BW	1:2400	42" x 48"	ST			Photographs along Rt. 66 with 5' contours
	Mar. 1965	BW	1:3600	36" x 48"	PP	22		
Milford	Mar. 1976	BW	1:480	24" x 36"	M	25	Mr. Bontya, City Engr City Hall, River St. 06460 (878-1731)	Photographs of NE section only
Monroe	Dec. 1959	BW	1:1200	36" x 36"	PP	18	Mrs. Kamas, Assessors Aid, Town Hall, 7 Fan Hill Rd. 06468 (261-3651)	
Montville	Apr. 1968	BW	1:1200 1:2400	24" x 36"	M	20	Mrs. Martin, Assessor Town Hall, Norwich-N. London Tpk. Uncasville 06320 (848-1349)	
Morris	Dec. 1968	BW	1:1200	48" x 72"	PP	1	Mr. Dougherty, Assessor, Morris Community Hall (567-5387)	

Table 7-B (Cont'd)

TOWN	DATE	TYPE	SCALE	FORMAT	PROD.	FIRM	CONTACT	COMMENTS
Naugatuck	Apr. 1963	BW	1:2400	42" x 48"	PP	6	Ms. D. Anderson, Engr. Secy., Town Hall, 1229 Church St. 06770 (729-4571)	
	Dec. 1955	BW	1:12000	5" x 5"	PP	15		Portions of town
	Nov. 1945	BW	1:12000	5" x 5"	PP	15		Portions of town
New Britain							City Eng. (224-2491)	Purchased from Keystone State flight
New Canaan	Dec. 1965	BW	1:1200 1:2400		M	1	Charles Morton, Assessor, Main St., Box 447 06840 (966-9800)	
New Fairfield		BW	1:1200	30" x 36"	PP		Norma Fearn, Assessors Aid, Town Hall, Rt. 39 Box 8896 06810 (746-1234)	
New Hartford	Apr. 1957	BW	1:1200 1:2400	48" x 48"	L	14	Joseph McManus, Assessor, Town Hall, Main St. 06057 (379-5037)	
New Haven	Apr. 1964	BW	1:480	36" x 48"	M	4	H. Goetz, Chief Records Engr., 200 Orange St. 06510 (562-0151)	
Newington							Town Engr. Office 131 Cedar St. 06111 (666-4661)	
New London	1966	BW	1:2400	10" x 10"	PP		Mr. Sullivan, Records Engr., Municipal Bldg. 181 State St. 06320 (443-2861)	

Table 7-B (Cont'd)

TOWN	DATE	TYPE	SCALE	FORMAT	PROD.	FIRM	CONTACT	COMMENTS
New Milford	Nov. 1960	BW	1:1200 1:2400	36" x 36"	M	34	Carol Tanner, Asst. Assessor, Town Hall, Box 360 06776 (354-3112)	
Newtown	Dec. 1971	BW	1:1200 1:2400	48" x 48"	M	8	Ruth Hirst, Asst. Assessor, Edmond Town Hall, 45 Main St. 06470 (426-8131)	
	Dec. 1948	BW	1:2400 1:1200	48" x 48" 9" x 9"	L PP	15		
Norfolk							Town Clerk's Office Greenwoods Rd. Box 552 06058 (542-5679)	
North Branford	Fall 1965	BW	1:1200 1:2400	30" x 36" 8" x 12"	M PP	20	Mary Hindinger, Asst. Assessor, Admin. Bldg. Rt. 80 06471 (488-8353)	
North Canaan	1974	BW	1:2400	36" x 36"	PP	20	Margaret Davidson, Assessor, Town Hall Pease St., Box 338 06018 (824-7246)	
North Haven	May 1975	BW	1:2400	9" x 9"	PP		Salvatore Fazzino, Town Engr., Town Hall 18 Church St. 06473 (239-5321)	Photographs of SW Sewer District
	Apr. 1974	BW	1:480		PP	13		Photographs of NW area: about 50 acres
	1964	BW	1:1200	30" x 30"	PP	20		Relocation of U.S. 5,
	Jan. 1957	BW	1:2400		PP	24		I-91, Rte. 110 and
	Dec. 1956	BW	1:2400		PP	24		Rte. 22

Table 7-B (Cont'd)

TOWN	DATE	TYPE	SCALE	FORMAT	PROD.	FIRM	CONTACT	COMMENTS
North Haven	Nov. 1953	BW	1:2400		PP			
		BW	1:480		ST	11		Photographs of Muddy River interceptor
North Stonington	1960	BW	1:1200 1:2400	9" x 9"	PP		William Morgan, Assessor, Town Hall, Main St., Box 91 06359 (535-2877)	
Norwalk	May 1956	BW	1:2400	30" x 42"	L		Everett Stow, Survey Chief, City Hall, N. Main St., S. Norwalk 06859 (838-7531)	
	Apr. 1955	BW	1:480	30" x 42"	PP	30		
Norwich	Fall 1964	BW	1:1200	36" x 36"	M	6	Ms. Sakowski, Assessor's Aid, City Hall 06360 (889-9868)	
	1949	BW	1:600 1:1200	36" x 36"	PP			
	1928	BW	1:1200	36" x 36"	L			
Old Lyme	1960	BW	1:1200 1:2400	24" x 36"	PP	20	Francis McTigue, Assessor, Memorial Town Hall, Lyme St. Box 338 06371 (434-1655)	
	1950	BW	1:1200 1:2400	24" x 36"	PP			
Old Saybrook	1967	BW	1:1200 1:2400	30" x 30"	PP	20	Ms. Anne Addis, Asst. Assessor, Town Hall 302 Main St. 06475 (338-4713)	

Table 7-B (Cont'd)

TOWN	DATE	TYPE	SCALE	FORMAT	PROD.	FIRM	CONTACT	COMMENTS
Old Saybrook	1950	BW	1:1200	34" x 34"	PP	30		
	1926	BW	1:480 1:1200	7" x 9" 32" x 40"	PP	15		
Orange	Apr. 1966	BW	1:1200	27" x 27"	M	20	William Converse, Assessor, Town Hall, 617 Orange Center Rd. 06477 (795-0751)	
	May 1950	BW	1:2400	24" x 30"	PP	30		
Oxford	1966	BW	1:2400	31" x 42"	M	33	Anne Posick, Tax Collector, 486 Oxford Rd. 06483 (888-2543)	
Plainfield	Apr. 1975	BW	1:1200	36" x 36"	M	24	Assessor's Aid, Town Hall, 8 Community Ave. 06374 (564-8655)	
Plainville	Mar. 1976	BW	1:1200	24" x 36"	M	2	M. Schaefer, Town Planner, Municipal Center, Box 250 06062 (747-5711)	With 2' contour -flat areas: 5' contour-slopes
	Apr. 1969	BW	1:1200	36" x 36"	M	17		
Plymouth	Apr. 1965	BW	1:1200	36" x 36"	PP	31	Vincent Malley, Assessor, 19 E. Main St. Terryville 06786 (589-7187)	
Pomfret							Carl Harriman, Assessor, Rt. 44, Pomfret Ctr. 06259 (974-0343)	
Portland	Dec. 1953	BW	1:1200 1:2400	36" x 36"	BP		Ruth Olson, Assessors Clerk, Town Hall, 265 Main St., Box 71 06480 (342-2880)	

Table 7-B (Cont'd)

TOWN	DATE	TYPE	SCALE	FORMAT	PROD.	FIRM	CONTACT	COMMENTS
Preston							Janet Perkins, Asst. Assessor, Town Hall, RFD, RT. 2, Norwich 06360 (889-2529)	Purchased from State Keystone flight
Prospect	Nov. 1958	BW	1:2400	30" x 30"	PP	34	George Baltrush, Assessor, Town Office Bldg., Center St. 06712 (758-4461)	
Putnum	Apr. 1975	BW	1:1200 1:2400	36" x 48"	M	24	Ms. M. Brafford, Assessor's Clerk, Town Hall, 126 Church St. 06260 (928-2779)	
Redding	Nov. 1967	BW	1:2400	36" x 36"	BP	33	William Werfelman, Assessor, Town Office Bldg., Rt. 107 06137 (938-2626)	
	1957	BW	1:1200 1:2400	36" x 36"	BP	30		
Ridgefield	1975	BW	1:1200	30" x 36"	BP	1	Ms. K. Wettingfield, Assessor's Aid, 400 Main St. 06877 (438-7301)	
	1951	BW	1:1200	48" x 60"	PP			
	ca. 1935	BW	1:1200	48" x 60"	PP	15		
Rocky Hill	Apr. 1967	BW	1:1200	30" x 45"	BP	17	Ms. Morellor, Assessor's Aid, Town Hall, 699 Old Main St. 06067 (563-1451)	
Roxbury	Sept. 1971	BW	1:2400	30" x 36"	PP	*	M.E. Hurbult, Town Clerk, South St. 06783 (354-3328)	
Salem	Fall 1972	BW	1:4800	24" x 30"	M	20	Ms. Litticks, Assessor Town Office Bldg., Rt. 85, RFD #3, Colchester 06415 (859-0593)	

Table 7-B (Cont'd)

TOWN	DATE	TYPE	SCALE	FORMAT	PROD.	FIRM	CONTACT	COMMENTS
Salisbury	1958	BW	1:1200	37" x 37"	PP	22	Mr. W. Silta, Assessor, Town Hall, Main St. 06068 (435-9511)	Preparing for Spring flight
Scotland		BW	1:2400	36" x 40"	M	9	Ms. R. Lasch, Tax Collector, Town Hall, Rt. 97, Box 122 06264 (429-9634)	
Seymour	1964	BW	1:1200 1:2400	36" x 36"	PP	20	Simon Arovas, Assessor, Town Hall, 1 First St. 06483 (888-9508)	
Sharon	Apr. 1977	BW	1:4800		PP	20	Ms. Helen Humeston, Assessor, Town Hall, Main St., Box 229 06069 (364-5224)	
Shelton	Apr. 1973	BW	1:1200	36" x 24"	M	8	Edmound Monaski, Engr. Office, 45 Hill St., Box 364 06484 (736-9231)	
Sherman							Ellen Myslow, Tax Collector, Town Hall, Rt. 39, 06784 (354-5281)	
Simsbury	Apr. 1962	BW	1:5100	33" x 33"	PP		George Phillips, Engr. Box 495, 760 Hopmeadow St. 06070 (658-4455)	
	1935	BW	1:1200	36" x 48"	L		Ms. Manley, Assessor's Aid	
Somers	1966	BW	1:1200 1:4800	24" x 24" 16" x 16"	PP	20	Steve Kominski, Assessor, Town Hall, 600 Main St., Box 203 06071 (749-8351)	
Southbury	1970	BW	1:2400	36" x 36"	PP		Ms. Forst, Assessor's Aid, Town Hall, Main St. (264-0606)	

Table 7-B (Cont'd)

TOWN	DATE	TYPE	SCALE	FORMAT	PROD.	FIRM	CONTACT	COMMENTS
Southbury	1959	BW	1:2400	36" x 36"	PP			
Southington	1969	BW	1:1200	48" x 48"	PP	20	Ms. Badgley, Assessors Clerk, Town Office Bldg., 75 Main, Box 152 06489 (628-5523)	
	1948	BW	1:1200	48" x 48"	PP			
South Windsor	Apr. 1973	BW	1:1200	28" x 28"	BP	20	Ms. Petrie, Assessors Clerk, 1540 Sullivan Ave. 06074 (644-2511)	
	1945	BW	1:1200	34" x 34"	L			
Sprague	Dec. 1974	BW	1:2400	24" x 30"	BP	8	Ms. Fortin, Assessors Clerk, 1 Main St., Box 162, Baltic 06330 (822-6223)	
	1940	BW	1:1200 1:2400	24" x 30"	PP			
Stafford	Nov. 1960	BW	1:1200 1:2400	36" x 36"	BP	34	Ms. Dobson, Admin. Asst., Town Hall, Box 11 06076 (684-2532)	
Stamford	Dec. 1959	BW	1:1200	36" x 36"	PP		Ms. Smith, Admin. Asst. Old Town Hall, 179 Atlantic St. 06904 (358-4056)	
Sterling	Mar. 1971	BW	1:2400	36" x 48"	M	8	Doris Tyler, Town Clerk, Rt. 14A, Oneco 06373 (564-2657)	
Stonington	May 1971	BW	1:1200	36" x 36"	M BP	8	Ms. Purtill, Assessors Clerk, Town Hall, Elm St. Box 191 06378 (535-1316)	

Table 7-B (Cont'd)

TOWN	DATE	TYPE	SCALE	FORMAT	PROD	FIRM	CONTACT	COMMENTS
Stonington	1950	BW	1:1200 1:2400	30" x 36"	L	31		
	ca. 1930	BW		30" x 36"	L	15		
Stratford							Mr. C. Buynovsyk Asst. Engr., Town Hall 2725 Main St. 06497 (375-5621)	
Suffield	1949	BW	1:1200	36" x 36"	L		Ms. Judy Remington, Asst. Town Clerk, Town Hall, Mt. Rd. 06078 (668-7391)	
Thomaston	1949	BW	1:1200	36" x 36"	PP		Mrs. Norton, Assessors Clerk, Town Hall, Main St. 06787 (283-4141)	
Thompson	Apr. 1975	BW	1:1200 1:2400	42" x 42"	BP	24	Ms. Prince, Assessors Aid, Town Office, Rt. 12, N. Grosvenordale 06255 (923-9900)	
	Nov. 1956	BW	1:2400	36" x 36"	BP	15		
Tolland	Apr. 1965	BW	1:2400	42" x 56"	BP	22	Mrs. Lewis, Assessors Aide, Town Hall, 22 Tolland Green 06084 (872-9074)	
Torrington	Mar. 1976	BW	1:1200 1:2400	24" x 36"	BP	8	C. Barton Smith, Assessor, Municipal Bldg. 140 Main St. 06790 (482-8521)	
Trumbull	1964	BW	1:200	30" x 42"	BP	1	Mr. Bonazzo, Design Engr., 5866 Main St. 06611 (261-3631)	
	1930	BW			L			

Table 7-B (Cont'd)

TOWN	DATE	TYPE	SCALE	FORMAT	PROD.	FIRM	CONTACT	COMMENTS
Union							Mr. Ferguson, Town Engr., 606 Buckley Hwy Stafford Springs 06076 (684-3770)	Purchased from Keystone State flight
Vernon	Apr. 1956	BW	1:1200	36" x 42"	BP	15	Mr. J. VanOudenhove Asst. Assessor, 14 Park Place, Box 245 06066 (872-8591)	
Voluntown	1949	BW	1:2400	36" x 42"	BP		Richard Osga, Town Clerk, Town Hall, Main St. 06364 (376-4089)	
Wallingford	Mar. 1973	BW	1:1200	36" x 48"	PP	20	Mrs. Zemke, Assessors Aide, Munic. Bldg., 350 Center St. Box 427 06492 (269-8736)	
	Apr. 1965	BW	1:1200	36" x 36"	M	20		
Warren							Ms. P. Coords, Town Clerk, Town Hall, Box 25 06759 (868-0090)	
Washington	Apr. 1963	BW	1:1200 1:2400	36" x 36"	PP	31	Walter Johnson, Assessor, Town Hall, Washington Depot 06794 (868-2786)	
Waterbury	1963	BW	1:2400		PP	6	Mr. Ayotte, Asst. Engr. City Hall, 235 Grand St. 06702 (756-9494)	
	1940	BW	1:2400		PP			
Waterford	1965	BW	1:1200 1:2400	27" x 30"	M	20	Ms. Hobbs, Assessors Aid, Town Hall, 200 Boston Post Rd. 06385 (442-5075)	
Watertown	1940	BW	1:1200 1:2400	36" x 36"	PP	19	Hurbert Lukowski, Assessor, Town Hall, 37 Deforest St., 06795 (274-5411)	

Table 7-B (Cont'd)

TOWN	DATE	TYPE	SCALE	FORMAT	PROD.	FIRM	CONTACT	COMMENTS
Watertown	1970	BW	1:2400	36" x 36"	M			
Westbrook	1938	BW	1:7200	15" x 20"	PP		Joan Holbrook, Assessor, Town Hall, Boston Post Rd. 06498 (399-9610)	
West Hartford	1971	BW	1:2400	40" x 40"	PP	22	Mr. Cameron, Asst. Planner, Town Hall, 28 S. Main St. 06107 (236-3231)	
West Haven	Apr. 1956	BW	1:1200	36" x 36"	BP	34	Ms. C. Lucivello, Assessors Aid, City Hall 35 Main St. 06516 (934-3421)	
Weston		BW	1:2400	30" x 36"	HT		Ms. L. Roig, Asst. Assessor, 56 Northfield Rd., Box 1007 06883 (227-2589)	
Westport	Dec. 1976	C	1:1200	8 1/2" x 11"	PP	8	Jim Bartkovich, Engr. Aid, Town Hall, 90 Post Rd., E., Box 549 06880 (226-4049)	
	Mar. 1958	BW	1:2400	36" x 30"	PP			
Wethersfield	Dec. 1970	BW	1:1200	36" x 36"	M	17	Mr. Murphy, Engr. Aid 505 Silas Deane Hwy. 06109 (529-8611)	
Willington							(429-9965)	In process
Wilton	Apr. 1974	BW	1:1200	32" x 32"	PP	20	Steve Schoppmann Asst. Town Planner (762-7970)	
Winchester	Apr. 1963	BW	1:1200 1:2400	36" x 36"	M		David Battistoni, Assessor, Town Hall, 338 Main St. (379-5461)	

Table 7-B (Cont'd)

TOWN	DATE	TYPE	SCALE	FORMAT	PROD.	FIRM	CONTACT	COMMENTS
Windham	Apr. 1954	BW	1:1200 1:2400	36" x 36"	PP	15	Mr. Ferguson, Town Engr., Town Bldg., Box 94, Willimantic 06226 (423-6125)	
Windsor	Apr. 1973	BW	1:1200	42" x 42"	M	17	Ernest Phillips, Town Engr., Town Hall, Box 472 06095 (688-3675)	
	1963	BW	1:1200	30" x 30"	M			
	1953	BW	1:1200	30" x 30"	BP			
Windsor Locks	Mar. 1968	BW	1:1200	30" x 30"	M		Ms. Gale, Assessors Clerk, Town Office Bldg., Church St. 06096 (623-5672)	
	Before 1958	BW	1:1200	36" x 36"	L			
Wolcott	Apr. 1958	BW	1:1200 1:2400	36" x 36"	PP	34	Ms. Donna Luth, Assessors Aid, 10 Kenna Ave. 06716 (879-1441)	
Woodbridge	1970	BW	1:2400	48" x 60"	BP		Mrs. Bowles, Asst. Assessor, Town Hall, 11 Meetinghouse La. 06525 (387-6639)	
Woodbury	Apr. 1962	BW	1:1200 1:2400	36" x 50"	BP		Ms. Wylie, Asst. Assessor, 281 Main St., S., Box 369 06798 (263-2144)	
Woodstock	Apr. 1970	BW	1:2400	36" x 36"	BP		Mr. J.C. Woehrman, Assessor, Town Office Bldg., Box 123, Rt.169 06218 (985-6595)	
	Apr. 1951	BW	1:2400	32" x 32"	PP			

Table 7-C
Key to Town Aerial Photography Listings

Town: Recognized name of municipality

Date: Month (or season) and year of aerial photography (if known)

Type: Type of aerial photograph film

- BW - black-and-white
- C - color
- FCIR - false-color infrared

Scale: Scale (representative fraction) of aerial photographic products on file

Example: for 1:12,000 - 1" = 1000'
for 1:2,400 - 1" = 200'

Format: Format (X and Y dimensions) of aerial photographic products on file (in inches)

Product (Prod.): Types of aerial photographic products on file

- PP - paper print
- M - mylar
- C - CRONAFLEX
- L - linen
- BP - blue print
- FT - film transparency
- ST - sepia transparency
- HT - half-tone prints

Firm: Code for aerial photography firm conducting the mission (if known). Refer to Table 7-A for names and addresses for these firms.

Contact: Name, title, address, and telephone number of person within town government who can be contacted concerning that town's aerial photography.

Section 8: UNITED STATES DEPARTMENT OF AGRICULTURE

Agricultural Stabilization and Conservation Service Aerial Photography

The major contractor and quality control unit for aerial photography in the United States Department of Agriculture (USDA) is the Agricultural Stabilization and Conservation Service (ASCS). Actual photography is done by private companies on a contractual basis.

Figure 8-A shows the current status of ASCS aerial photographic coverage of the state of Connecticut. The figure shows the latest existing coverage secured by ASCS; however, earlier aerial photographic coverage for all eight counties is available beginning in 1951. Information for these latter flights is summarized in Table 8-A.

ASCS aerial photographs for Connecticut are at 1:20,000 or 1:40,000 nominal scale and are 9 1/2" x 9 1/2" black-and-white prints. Enlargements are available up to 38" x 38". Five photoindex maps cover the state and are available at $5.00 each. Figure 8-B summarizes product and price information effective April 1, 1978. An order form, such as Figure 8-C, should be used accompanied by payment.

Each of the eight ASCS county offices in Connecticut has on file 14" x 14" black-and-white enlargements for that particular county. These aerial photographs can be inspected in order to determine the photo frame numbers of desired coverage.

All inquiries concerning ASCS aerial photography should be addressed to:

U.S. Department of Agriculture
Agricultural Stabilization and
Conservation Service
2222 West, 2300 South
P.O. Box 30010
Salt Lake City, UT 84125
Telephone: (801) 524-5856

Soil Conservation Service Aerial Photography

The Soil Conservation Service (SCS) of the U.S. Department of Agriculture (USDA) is responsible for mapping soils under the National Cooperative Soils Survey programs. While soils are mapped in the field, aerial photographs provide a convenient base for both

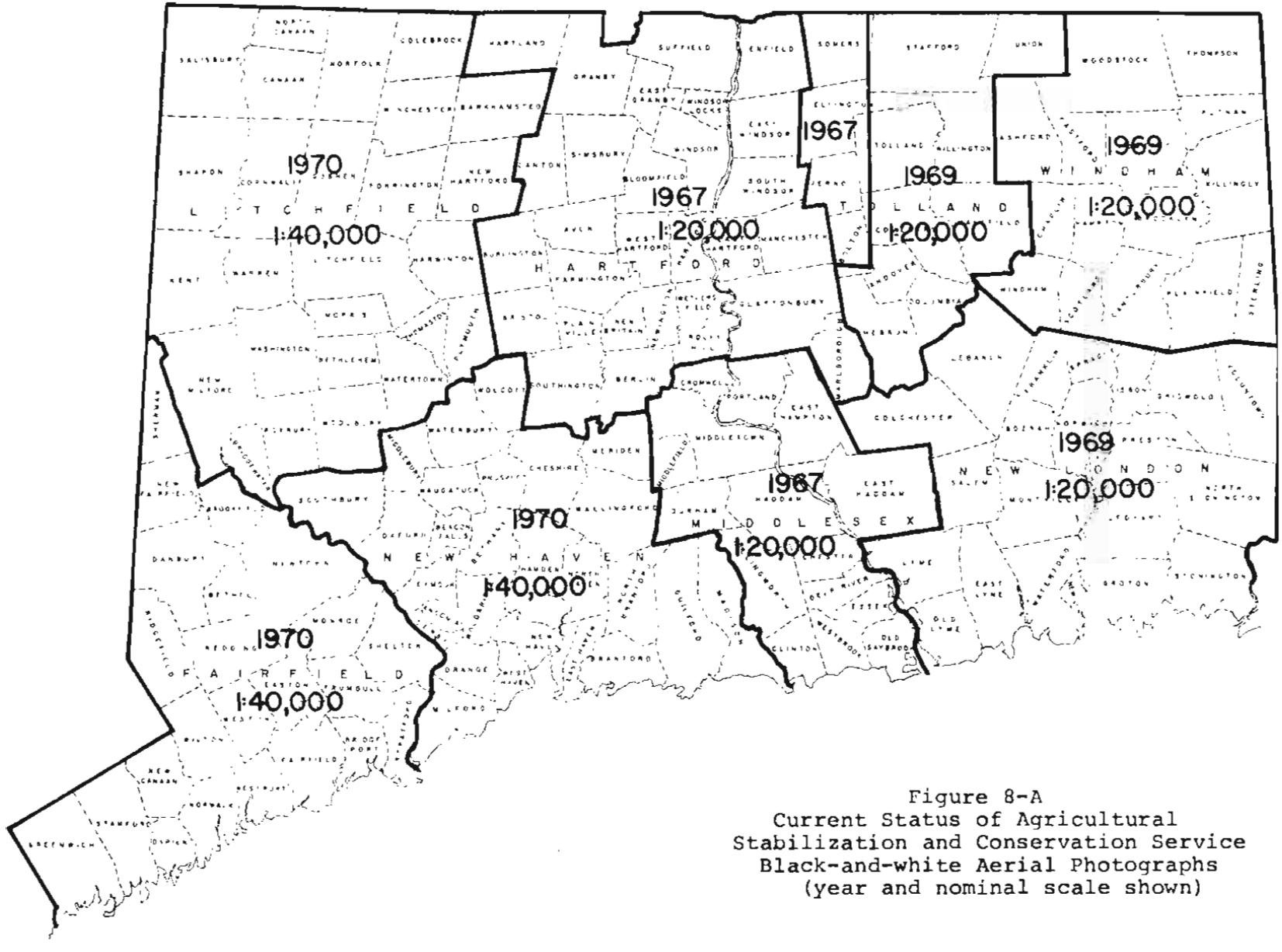


Figure 8-A
Current Status of Agricultural
Stabilization and Conservation Service
Black-and-white Aerial Photographs
(year and nominal scale shown)

Table 8-A

Summary of Early ASCS Aerial Photographic Missions

County	Year(s)	Scale(s)	Coverage
Fairfield	1951	1:20,000	Complete
	1963	1:20,000	Complete
Hartford	1951	1:20,000	Complete
	1957	1:20,000	Complete
Litchfield	1951	1:20,000	Complete
	1963	1:20,000	Complete
Middlesex	1951	1:20,000	Complete
	1957	1:20,000	Complete
New Haven	1951	1:20,000	Complete
	1963	1:20,000	Complete
New London	1951	1:20,000	Complete
	1963	1:20,000	Complete
Tolland	1951	1:20,000	Complete
	1957	1:20,000	Partial
	1963	1:20,000	Partial
Windham	1951	1:20,000	Complete
	1963	1:20,000	Complete

U. S. DEPARTMENT OF AGRICULTURE
Agricultural Stabilization and Conservation Service

BLACK AND WHITE AERIAL PHOTOGRAPHY
Prices Effective **April 1, 1978**

INSTRUCTIONS

IMPORTANT - On LABEL on face of order, print or type Price Code only.

IDENTIFICATION OF PHOTOGRAPHY (EXAMPLE ONLY):

PAPER SIZE	QUANTITY	CODE OR SYMBOL	ROLL NO.	EXPOSURE NO.
1	2	3	4	5
24" x 24"	1	D J D	3 A	98
24" x 24"	1	48041	173	89

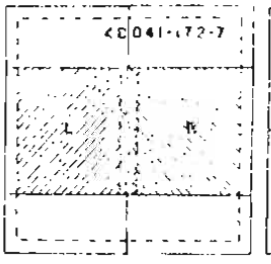
Column 1. Enter paper size "9" x 9", 24" x 24", etc. When ordering indexes enter "Photo Index" and list sheet numbers and year of photography.

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

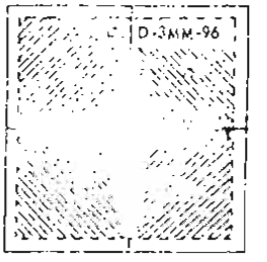
Columns 3, 4, and 5. Enter the code or symbol, roll number, and the exposure number of the negative. Exposure numbers may be listed in inclusive sequences. This information is on the upper right corner of each photograph and may be obtained from photo-index sheets or from the Agricultural Stabilization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

APPROXIMATE AREAS OF NEGATIVE AVAILABLE AS SECTIONAL ENLARGEMENTS

LEFT AND RIGHT SECTIONAL



QUADRANT SECTIONAL



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 ASCS office for assistance.

PRICES (No Quantity Discount)

Remittance is required before prints will be made, and must be by check, money order, or draft payable to ASCS. Stamps will not be accepted.

TYPE OF REPRODUCTION	SIZE	APPROX SCALE FROM 1:20,000 PHOTOGRAPHY	APPROX SCALE FROM 1:40,000 PHOTOGRAPHY	COST PER PAPER PRINT	1/ POLYESTER BASE POSITIVE TRANSPARENCIES
Contact Print *	9⅛" x 9⅛"	1" = 1667'	1" = 3334'	$ 2.00	$ 3.00
Contact Print * *	9⅛" x 9⅛"	1" = 1667'	1" = 3334'	3.00	
Enlargement	12" x 12"	1" = 1320'	1" = 2640'	5.00	7.00
Enlargement	12" x 12"	.....	1" = 1320' Sectional	5.00	7.00
Enlargement	17" x 17"	1" = 1000'	1" = 2000'	6.00	8.00
Enlargement	17" x 17"	.....	1" = 1000' Sectional	6.00	8.00
Enlargement	24" x 24"	1" = 660'	1" = 1320'	7.00	10.00
Enlargement	24" x 24"	1" = 330' Sectional	1" = 660' Sectional	7.00	10.00
Enlargement	38" x 38"	1" = 400'	1" = 800'	15.00	17.00
Enlargement	38" x 38"	1" = 200' Sectional	1" = 400' Sectional	15.00	17.00
Photo Index (No. of sheets per co. depends on size of co.)	20" x 24"	.....	.....	5.00	6.00

* Contact prints are not available as sectional, or with special coverage.

* * Cronapaque or equal

1/ For screened transparencies, add $1.00 per print. When ordering this product, specify "Transparency" on the order.

ADDRESS ORDERS FOR PHOTOGRAPHS TO:

Aerial Photography Field Office
USDA-ASCS
2222 West 2300 South
P.O. Box 30010
Salt Lake City, UT 84125

Orders for photography not held by Agricultural Stabilization and Conservation Service should be forwarded to the holding agency; if address is not known, forward to the Chief, Aerial Photography Field Office.

GPO 914-684

Figure 8-B
Agricultural Stabilization and Conservation Service Aerial Photography Products and Prices

ASCS-441
(3-17-77)

U. S. DEPARTMENT OF AGRICULTURE
Agricultural Stabilization and Conservation Service

ORDER FOR AERIAL PHOTOGRAPHS

(1) PURCHASE ORDER NUMBER

(2) PRINT OR TYPE - (SHIP TO)

(3) (STREET ADDRESS)

(4) (CITY, STATE AND ZIP CODE)

TOTAL REPRODUCTIONS	AMOUNT REMITTED	PHONE NUMBER
	$	

IDENTIFICATION OF PHOTOGRAPHY	
STATE	COUNTY

IMPORTANT: List roll and exposure numbers consecutively.

FOR LABORATORY USE ONLY

ORDER NO.	DATE
AMOUNT OF ORDER	REFUND
$	$

	SIZE AND TYPE REPRODUCTIONS (1)	QUANTITY EACH (2)	CODE OR SYMBOL (3)	ROLL NO. (4)	EXPOSURE NO. (5)	PROJECTION SETTING (6)	E-W OR SWING (7)	N-S OR TILT (8)	CAN NO. (9)
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									

NOTICE: Normally orders will be made and shipped within 30 days after receipt.	PRINTED BY	INSPECTED BY	PAGE OF

Figure 8-C
Agricultural Stabilization and Conservation
Service Aerial Photography Order Form

-56-

ASCS-441
(3-17-77)

U. S. DEPARTMENT OF AGRICULTURE
Agricultural Stabilization and Conservation Service

ORDER FOR AERIAL PHOTOGRAPHS

soil type delineation and note-taking.

SCS has secured black-and-white aerial photographs for five of the eight counties in Connecticut: Fairfield, Middlesex, New Haven, New London, and Windham. The current status of aerial photographic coverage secured by SCS (including scale and year) is shown in Figure 8-D. Keystone Aerial Surveys, Inc. has performed all of the photography.

Prints (9" x 9") at 1:15,840 and photomosaics for Fairchild, Middlesex, and New Haven Counties are on file at the SCS office in Storrs, CT. Negatives at 1:38,000 for these three counties are on file at the United States Geological Survey (USGS) in Hyattsville, MD.

For New London and Windham Counties, 1:15,840 prints (but not the photomosaic indices) are on file at state SCS headquarters in Storrs. Negatives at 1:30,000 are on file at the Agricultural Stabilization and Conservation Service, Salt Lake City, UT.

Inquiries concerning the SCS aerial photographs for the five counties should be addressed to:

Conservationist
Soil Conservation Service
Mansfield Professional Park
Storrs, CT 06268
Telephone: (203) 429-9361

Black-and-white reproductions as contact prints and enlargements are available to the public. For Fairfield, Middlesex, and New Haven Counties, inquiries concerning sizes, scales, and costs should be addressed to:

Cartographic Division
Soil Conservation Service
Federal Building
Hyattsville, MD 20782
Telephone: (301) 436-8187

All SCS photography prior to 1974 is being transferred to the ASCS. Therefore, information on aerial photographic products for New London and Windham Counties should be obtained from:

Aerial Photography Field Office
United States Department of Agriculture
Agricultural Stabilization and
Conservation Service
2222 West, 2300 South
P.O. Box 30010
Salt Lake City, UT 84125
Telephone: (801) 524-5856

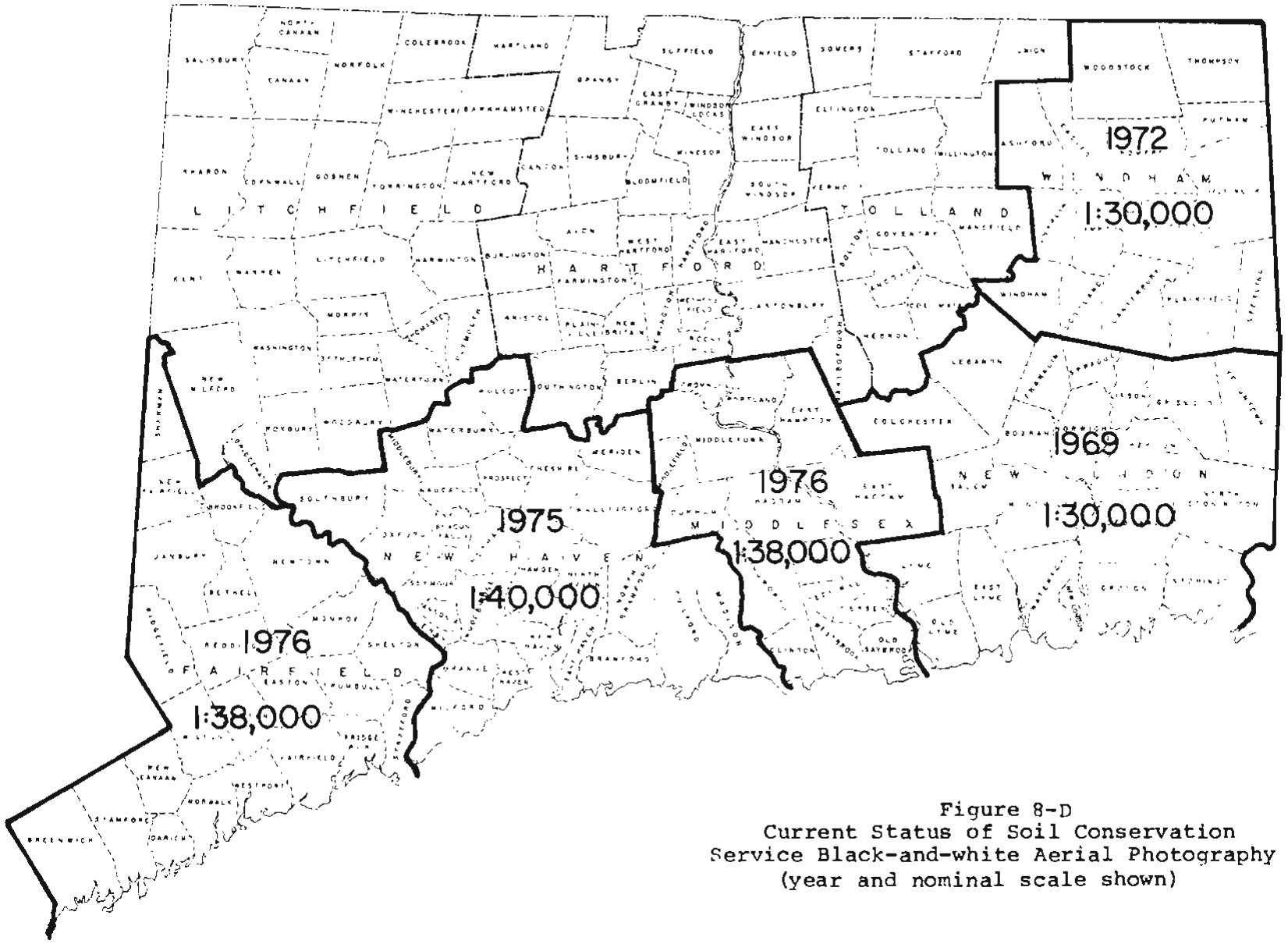


Figure 8-D
Current Status of Soil Conservation Service Black-and-white Aerial Photography (year and nominal scale shown)

Section 9: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, NATIONAL OCEAN SURVEY AERIAL PHOTOGRAPHY

The National Ocean Survey (NOS) of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), uses aerial photographs in connection with nautical and aeronautic charting programs. This photography is primarily of coastal areas, but it also includes most civil airfields.

For Connecticut, NOS aerial photographs are available for as early as 1961. In all, 20 NOS aerial missions have been flown over Connecticut; some consist of more than 100 frames while others have as few as 12. Coverage includes both black-and-white and color aerial photographs (not coincident). The approximate aggregate coverage for color photography is shown in Figure 9-A and that for black-and-white in Figure 9-B. Dates of individual missions flown over Connecticut are listed in Table 9-A. More specific information about individual photographs must be derived from photoindex maps available from NOS at $0.50 per sheet; these indexes are commonly at 1:250,000 scale and provide dates and exposure numbers for individual photographs of black-and-white and color aerial missions. A complete set of Ozalid prints of these indexes is on file at the Department of Natural Resources Conservation at the University of Connecticut.

Photographic products available from NOS include black-and-white contact prints (9" x 9") and enlargements and color contact prints, enlargements, and film positives. A price list for these products is given in Table 9-B.

Inquiries concerning NOS aerial photography should be addressed to:

Coastal Mapping Division, C3415
National Ocean Survey, NOAA
Rockville, MD 20852

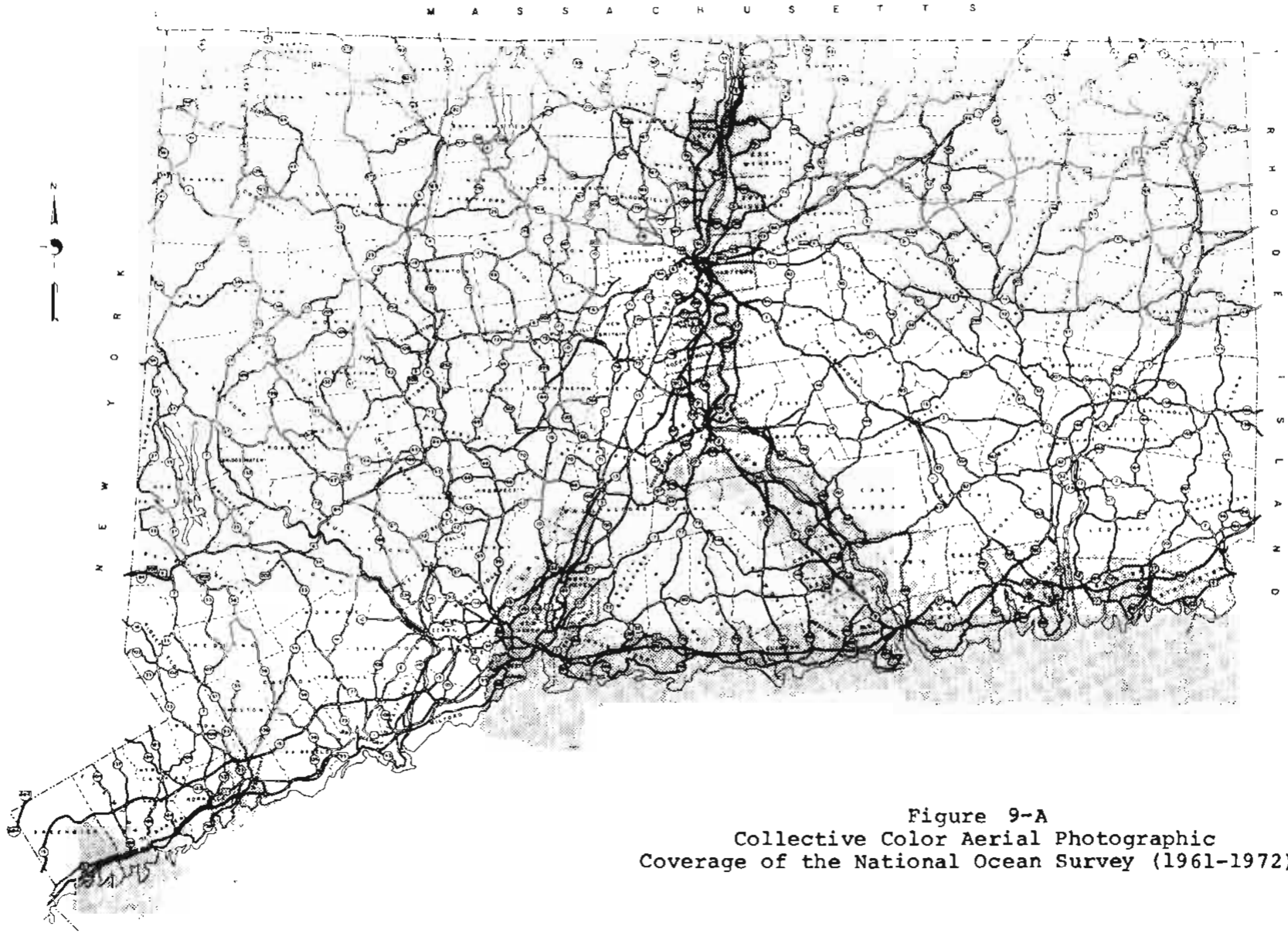


Figure 9-A
Collective Color Aerial Photographic
Coverage of the National Ocean Survey (1961-1972)

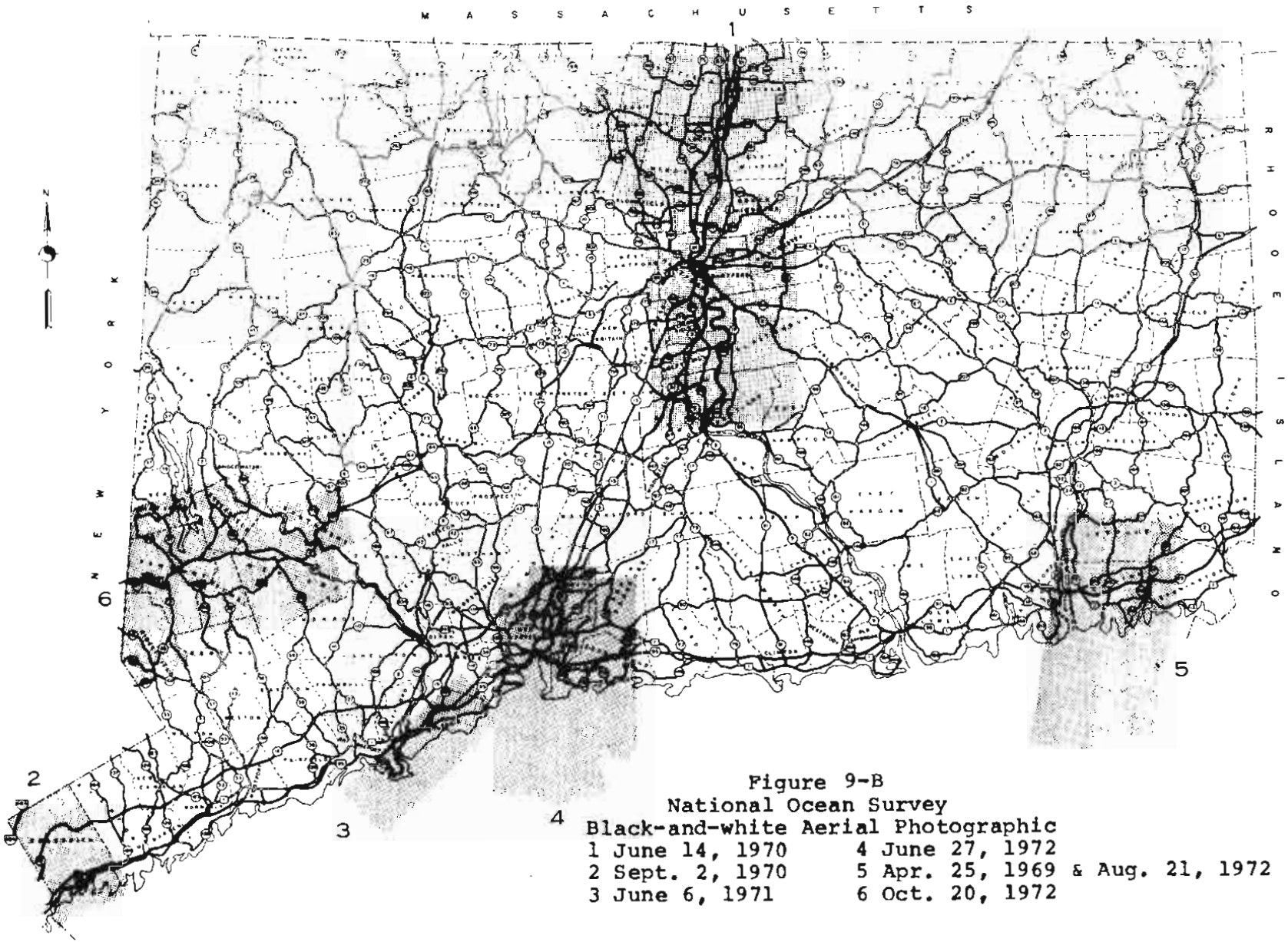


Figure 9-B
National Ocean Survey
Black-and-white Aerial Photographic

1 June 14, 1970	4 June 27, 1972
2 Sept. 2, 1970	5 Apr. 25, 1969 & Aug. 21, 1972
3 June 6, 1971	6 Oct. 20, 1972

Table 9-A
Information on National Ocean Survey
Aerial Photographic Missions Over Connecticut

Date	Nominal Scale	Air Photo Index*
Color		
8-14-61	1:15,000	132 F (66)
10-12-64	1:20,000	
9-25-65	1:20,000	
10- 2-65	1:30,000	
4-23-66	1:24,000	132 F (67)
6- 4-66	1:24,000	
9-16-66	1:80,000	
4-25-67	1:40,000	
4-29-67	1:20,000	
7-29-68	1:20,000	132 F (69)
7-29-68	1:20,000	
9-28-68	1:30,000	
10- 1-68	1:20,000	
10- 1-68	1:40,000	
4-12-70	1:20,000	132 E-F (76)
4-15-71	1:20,000	
6- 6-71	1:10,000	
Black-and-White		
6-27-72		
8-21-72	1:30,000	132 E-F (74)

* NOS photograph index designation. Number in parentheses indicates year index was published.

Table 9-B
National Ocean Survey Aerial Photography
Products and Prices

Black-and-White

Contact Print	(9" square)	$3.00	
Enlargement	(18" square)	$8.00	
Enlargement	(27" square)	$9.00	
Enlargement	(36" square)	$15.00	
Film Positive	(9" square)	$5.00	
Copy Negative	(9" square)	$6.00	
Contact Diapositive	(9" square)	$12.00	

Color

Contact Print	(9" square)	$9.00	
Enlargement	(18" square)	$20.00	
Enlargement	(27" square)	$25.00	Print or film positive
Enlargement	(36" square)	$40.00	

Section 10: UNITED STATES DEPARTMENT OF THE INTERIOR

Earth Resources Observation System Program[1/]

The Earth Resources Observation Systems Program (EROS) of the United States Department of the Interior (USDI), administered by the United States Geological Survey (USGS), was created in 1966 to apply remote sensing techniques to the inventory, monitoring, and management of resources. Services of the EROS Program include research and training in remote sensing data interpretation and application, and the provision of imagery products from various agencies engaged in remote sensing at a nominal cost to scientists, planners, and the general public.

The EROS Data Center, which is located near Sioux Falls, SD, serves also as the remote sensing data storage and reproduction facility for the National Aeronautics and Space Administration (NASA) and USGS.

NASA Earth Resources Aircraft Program Aerial Photography

The NASA Earth Resources Aircraft Program (ERAP) involves the testing of a variety of remote sensing instruments and techniques in high-altitude aerial missions over selected sites within the continental United States and a few foreign areas. Several missions dating from October 8, 1971 have been flown over portions of Connecticut. Figures 10-A through 10-F illustrate the general coverage of most of these missions.

The mission with the greatest area covered in Connecticut to date was flown on July 17, 1974 (Figures 10-E, 10-F). The entire Connecticut River Valley in Connecticut and a significant portion of the eastern highlands were photographed from a NASA U-2 aircraft with both false-color infrared and black-and-white films. The nominal scale for 9" x 9" products is about 1:64,000; for the 2.2" x 2.2" format it is about 1:450,000.

A form, as shown in Figure 10-G, should be used in ordering NASA aerial photographs. Products (and their prices) available for this mission, as well as all other NASA Aircraft aerial photography, are given in Figure 10-H.

Flight logs of the missions are available at the Department of Natural Resources Conservation at the University of Connecticut, as are computer listings of each mission (giving specifics

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1/ This section contains excerpts from United States Geological Survey publication INF-74-43, "The EROS Data Center".

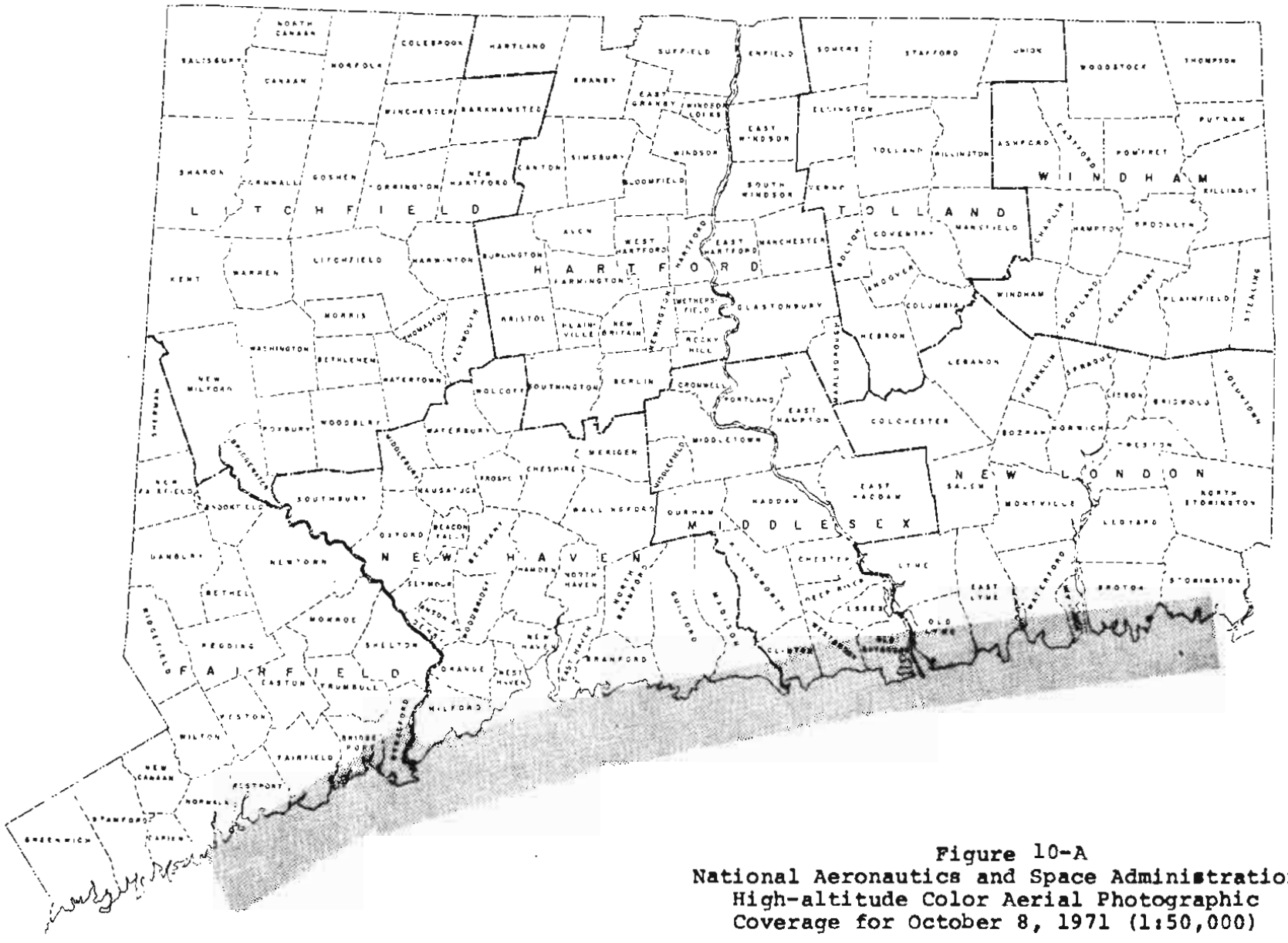


Figure 10-A
National Aeronautics and Space Administration
High-altitude Color Aerial Photographic
Coverage for October 8, 1971 (1:50,000)

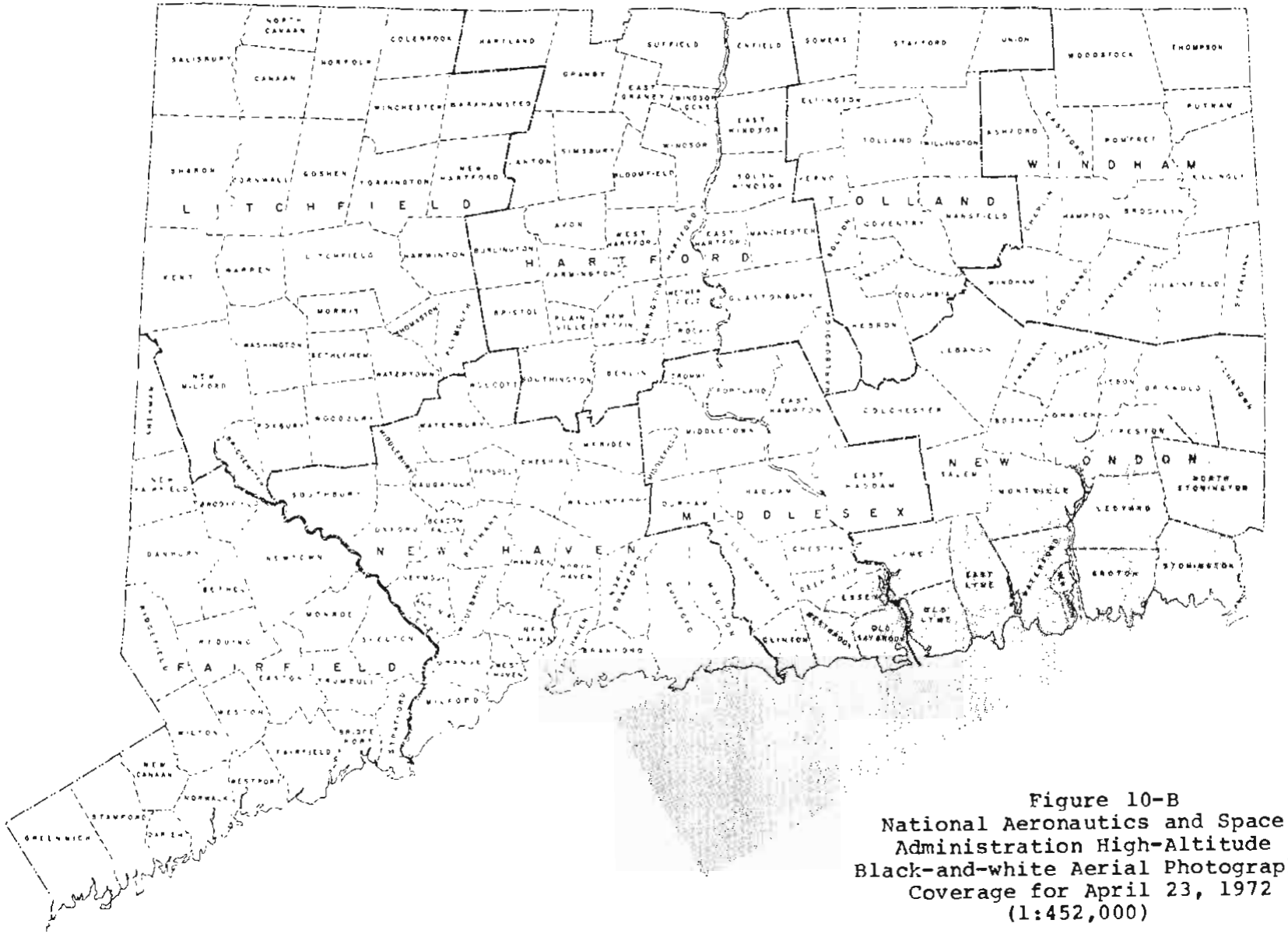


Figure 10-B
National Aeronautics and Space Administration High-Altitude Black-and-white Aerial Photographic Coverage for April 23, 1972
(1:452,000)

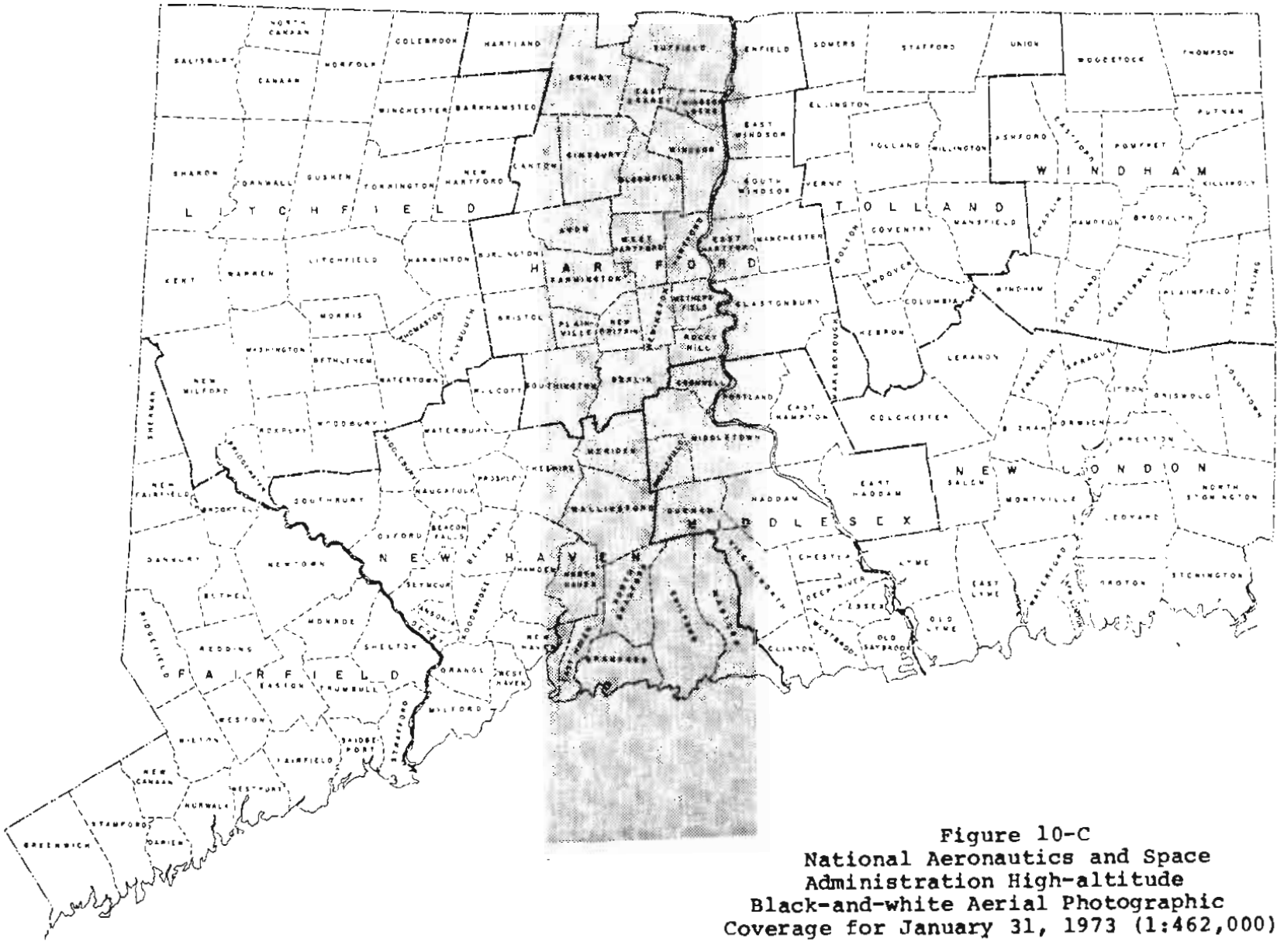


Figure 10-C
National Aeronautics and Space Administration High-altitude Black-and-white Aerial Photographic Coverage for January 31, 1973 (1:462,000)

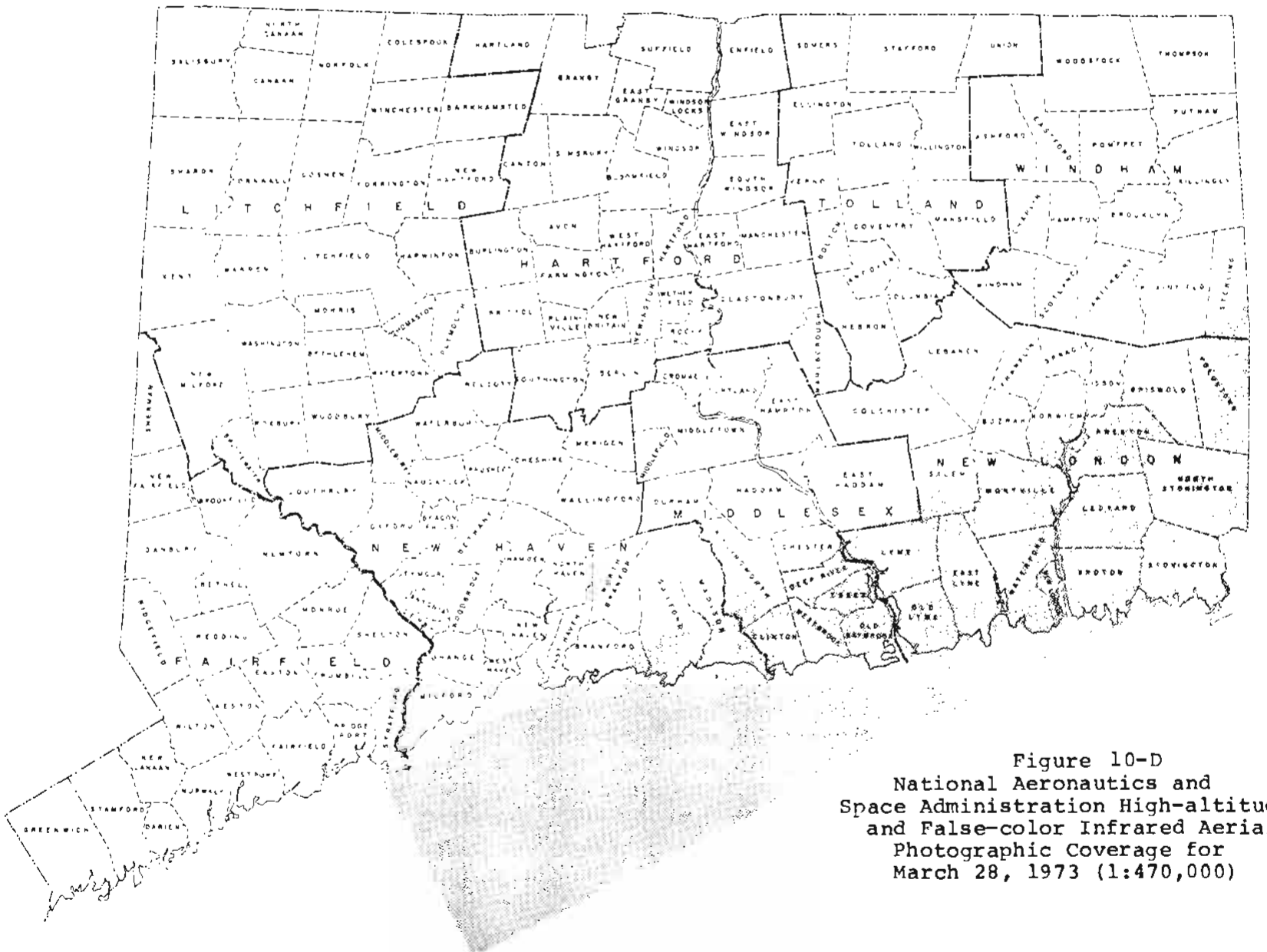


Figure 10-D
National Aeronautics and
Space Administration High-altitude
and False-color Infrared Aerial
Photographic Coverage for
March 28, 1973 (1:470,000)

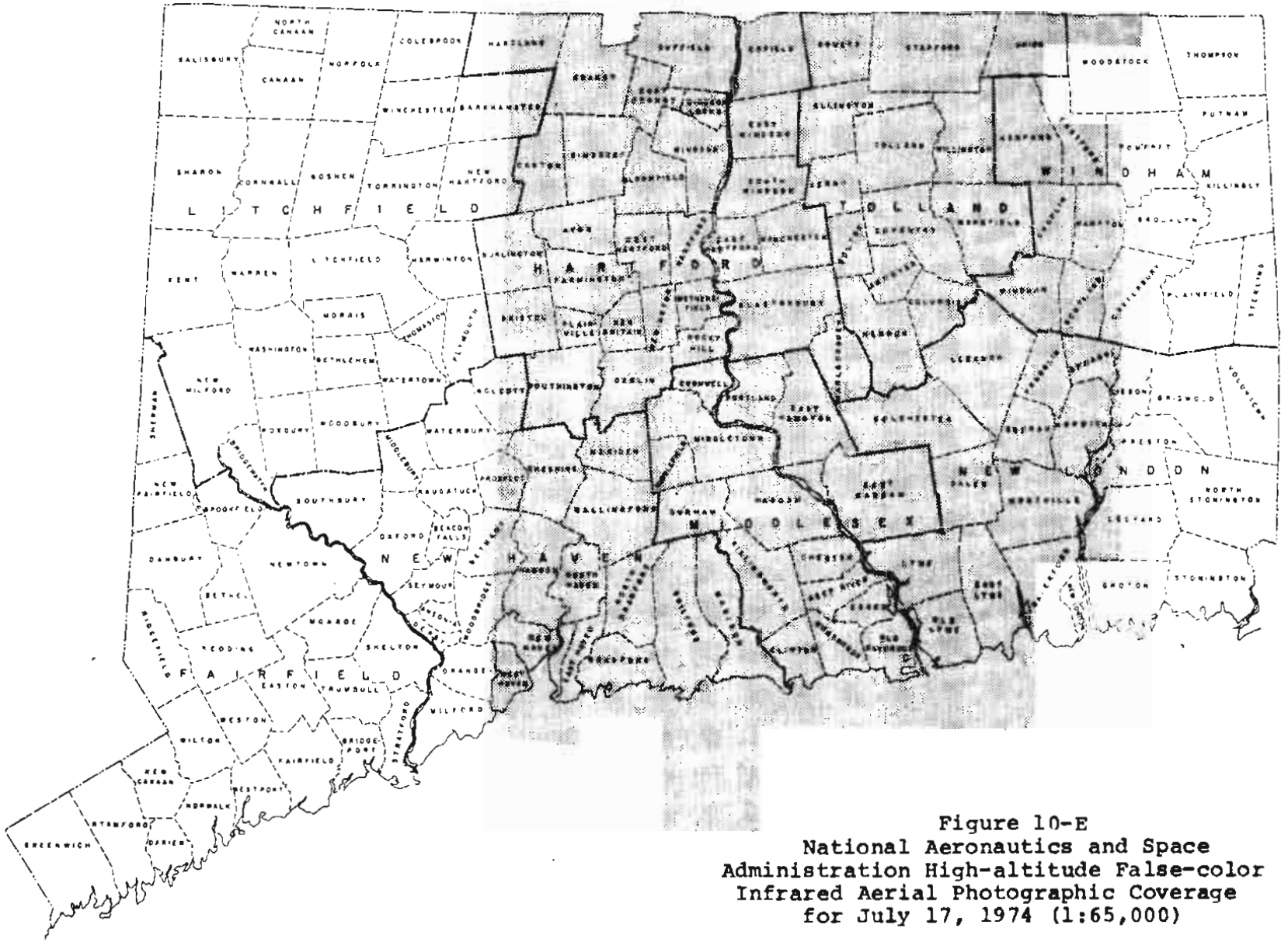


Figure 10-E
National Aeronautics and Space Administration High-altitude False-color Infrared Aerial Photographic Coverage for July 17, 1974 (1:65,000)

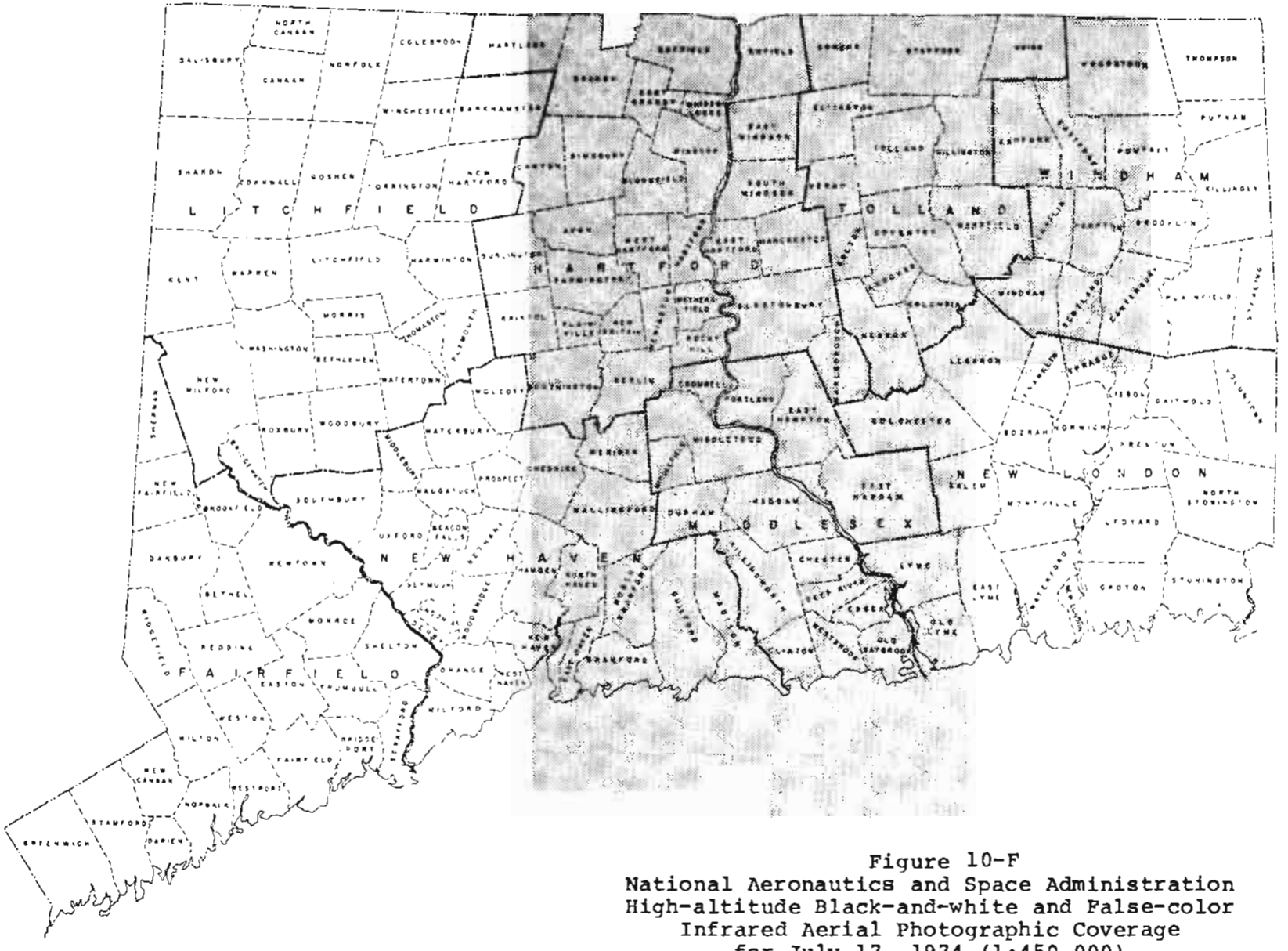


Figure 10-F
National Aeronautics and Space Administration
High-altitude Black-and-white and False-color
Infrared Aerial Photographic Coverage
for July 17, 1974 (1:450,000)

ORDER FORM
NASA AIRCRAFT PHOTOGRAPHY
U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DATE _____

NAME MR / MS _____ ACCOUNT NO _____
(FIRST) (INITIAL) (LAST) (if known)

COMPANY _____ PHONE (Bus.) _____
(or BUSINESS ASSOCIATE)

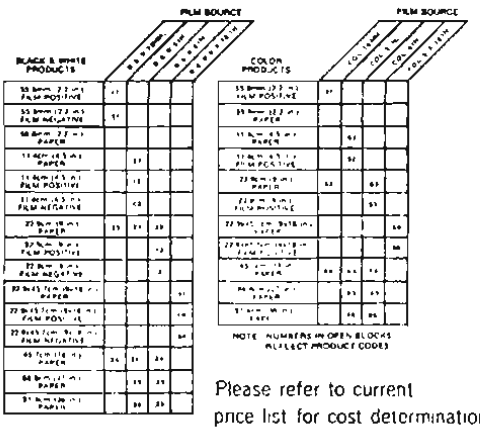
ADDRESS _____ PHONE (Home) _____

CITY _____ STATE _____ ZIP _____ Your Ref. 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	QTY.	UNIT PRICE	TOTAL PRICE

STANDARD PRODUCTS



NOTE: NUMBERS IN OPEN BLOCKS REFLECT PRODUCT CODES

Please refer to current price list for cost determination.

TOTAL ABOVE	A
TOTAL FROM PREVIOUS SHEETS	B
TOTAL COST	C

PAYMENT MADE BY:

CHECK, MONEY ORDER ☐

PURCHASE ORDER ☐

GOVT. ACCOUNT ☐

COMMENTS. _____

FORM 9-1940 (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

Figure 10-G

NASA RESEARCH		BLACK and WHITE		COLOR	
IMAGE SIZE	PRODUCT FORMAT	UNIT PRICE	PRODUCT CODE	UNIT PRICE	PRODUCT CODE
55.8mm (2.2 in.)	Film Positive	$ 3.00	11	$10.00	51
55.8mm (2.2 in.)	Film Negative	4.00	01		
11.4cm (4.5 in.)	Paper	3.00	22	7.00	62
11.4cm (4.5 in.)	Film Positive	4.00	12	12.00	52
11.4cm (4.5 in.)	Film Negative	5.00	02		
22.9cm (9.0 in.)	Paper	3.00	23	7.00	63
22.9cm (9.0 in.)	Film Positive	5.00	13	15.00	53
22.9cm (9.0 in.)	Film Negative	6.00	03		
22.9x45.7cm (9x18 in.)	Paper	6.00	31	20.00	69
22.9x45.7cm (9x18 in.)	Film Positive	10.00	14	30.00	56
22.9x45.7cm (9x18 in.)	Film Negative	12.00	04		
45.7cm (18.0 in.)	Paper	10.00	24	25.00	64
68.6cm (27.0 in.)	Paper	15.00	25	30.00	65
91.4cm (36.0 in.)	Paper	20.00	26	50.00	66

Figure 10-H
National Aeronautics and Space Administration
High-altitude Aerial Photography Products
and Prices

AERIAL MAPPING		BLACK and WHITE		COLOR	
IMAGE SIZE	PRODUCT FORMAT	UNIT PRICE	PRODUCT CODE	UNIT PRICE	PRODUCT CODE
22.9cm (9.0 in.)	Paper	$ 3.00	23	$ 7.00	63
22.9cm (9.0 in.)	Film Positive	6.00	13	15.00	53
22.9cm (9.0 in.)	Film Negative	6.00	03		
45.7cm (18.0 in.)	Paper	10.00	24	25.00	64
68.6cm (27.0 in.)	Paper	15.00	25	30.00	65
91.4cm (36.0 in.)	Paper	20.00	26	50.00	66

PHOTO INDEXES		BLACK and WHITE		
IMAGE SIZE	PRODUCT FORMAT	UNIT PRICE	PRODUCT CODE	FILM SOURCE
25.4x30.5cm (10x12 in.)	Paper	$ 5.00	36	B & W – Size A
OTHER	Paper	5.00	37	B & W – Size B

Figure 10-I
United States Geological Survey Aerial
Mapping Photography Products and Prices

on geographic coverage by latitude and longitude, scale, date, film type, etc.). To order aerial photographs from any of these missions it is necessary to know the photo identification and frame numbers. These can be obtained from the flight logs or from a tailored Geographic Computer Search as described below.

Geographic Computer Search

Information about available remote sensing imagery of a particular area can be obtained through a computer search at the EROS Data Center. Requests can be made on a point or area basis (area must not exceed 200 one-degree squares) for imagery from NASA Aircraft, LANDSAT, Skylab, and/or Aerial Mapping Photography Programs. Using a form such as shown in Figure 10-J, the requestor can specify: (1) preferred type of coverage, (2) preferred time of year, (3) minimum quality rating, and (4) maximum cloud cover. Point or area searches should be referenced by latitude and longtitude; a map of the specified area may be enclosed.

The computerized geographic search is made free of charge and requires about two weeks to process. A computer printout is returned with the following information: (1) type of coverage, (2) scene identification, (3) film source, (4) quality, (5) cloud cover, (6) date acquired, (7) image center point, (8) band availability (for multispectral scanners only), (9) corner point coordinates, and (10) first frame-last frame numbers. A computer printout decoding sheet is enclosed with each search return to assist in reading the listings, as are instructions describing how to plot the geographic data on a map to determine extent of coverage.

Search requests should be forwarded to the Eastern Regional Facility:

National Cartographic Information Center
U.S. Geological Survey
507 National Center
Reston, VA 22092
Telephone: (703) 868-6045

United States Geological Survey Aerial Mapping Photography

Aerial photographs have been acquired by the U.S. Geological Survey (USGS) for topographic map preparation. This photography is usually black-and-white and is relatively cloud free.

USGS aerial photographs are available for portions of Connecticut for as early as 1944 at the scale of 1:13,600 and flight-controlled by 15-minute quadrangles. Some of the more recent coverage is organized by 7 1/2-minute quadranges and at 1:24,000 (the scale of the published topographic maps). Other scales are available for portions of the state; these include 1:19,000, 1:38,000 and 1:79,000.

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

DATE _____

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

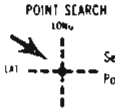
COMPANY _____ PHONE (Bus.) _____
(IF BUSINESS ASSOCIATED)

ADDRESS _____ PHONE (Home) _____

CITY _____ Your Ref. No. _____
(P.O. CONTRACT OR OTHER)

TO INITIATE AN INQUIRY AND COMPUTER GEOSEARCH COMPLETE THE FOLLOWING

POINT SEARCH



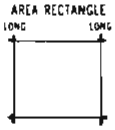
Imagery with any coverage over the selected point will be included

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

Figure 10-J

Coverage for USGS aerial mapping photography since 1970 is condensed in Table 10-A. Shown in the checklist are the date, scale, and topographic quadrangles covered by the missions. Figure 10-K, Index Map of Topographic Sheets in Connecticut, should be referred to for determining the extent of quadrangle coverage.

Products and their prices for the USGS Aerial Mapping Photography are shown in Figure 10-I. Note that indexes are also available allowing rapid identification of photographic coverage of a specific area. Also a Computer Geographic Search can be initiated to determine photograph and frame numbers. A form such as shown in Figure 10-L should be used to order Aerial Mapping Photography products.

LANDSAT (ERTS) Satellite Coverage

LANDSAT, formerly Earth Resources Technology Satellite (ERTS), refers to two satellites orbiting at approximately 570 miles (920 km) above the Earth's surface. LANDSAT-2 was launched in January 1975 and LANDSAT-3 launched in March 1978. An earlier satellite, LANDSAT-1, launched in July 1972, is no longer operational. The primary sensor system of LANDSAT-2 is a multispectral scanner (MSS), a device which permits imaging in four discrete spectral bands (Band 4, green band, 0.5 to 0.6 μm; Band 5, red band, 0.6 to 0.7 μm; Band 6, near infrared band, 0.7 to 0.8 μm; and Band 7, near infrared, 0.8 to 1.1 μm). The MSS on LANDSAT-3 has an additional sensor which is sensitive to thermal infrared radiation (10.4 to 12.6 μm). The data derived from the MSS are actually measurements of surface reflectivity or emissivity in each of the bands; these measurements are in the form of electronic signals which can later be transformed into images. The information provided by the combination of images from the various bands permits the detection, classification, and delineation of terrestrial phenomena based upon their respective spectral signatures. Further, the repetitive coverage of the LANDSATs permits continuous environmental monitoring.

Standard products of LANDSAT imagery include black-and-white prints (negatives or film positives) of each of the individual bands. In ordering a single black-and-white image for general purposes, it is best to order Band 5. Also, false-color composites (FCC), created by combining the images from three bands on a color film (which results in a false-color rendition) are available in print or film positive products. Computer-compatible tapes (CCT's), which contain the digital video image of the scene (in all bands) are available but are recommended only for those with the computer technology and facilities necessary for processing the MSS data. A LANDSAT product order form is shown in Figure 10-M. The product and pricing information for LANDSAT imagery is shown in Figure 10-N.

LANDSAT imagery is available for Connecticut for as early as July 28, 1972. These frames, at scale 1:1,000,000 in a 7.3" x 7.3" format, depict an area of about 115 miles (185 km) on a side; much

Table 10-A

Checklist of Quadrangle Coverage of
USGS Aerial Photography Since 1970

Table 10-A

Quadrangle	11-2-76 1:78000	10-28-75 1:78000	5-5-74 1:19000	4-27-74 1:76000	10-18-72 1:24000	5-13-72 1:76000	12-3-71 1:24000	4-5-71 1:24000	5-30-70 1:24000	3-1-70 1:24000
Amenia				X						
Ansonia				X	X					
Ashaway				X					X	
Ashley Falls		X		X						
Avon						X				
Bashbish Falls		X		X						
Bayville				X						
Bethel				X						
Botsford				X	X					
Branford						X				
Brewster				X					X	
Bridgeport				X						
Bristol						X				
Broadbrook						X				
Clinton						X				X
Colchester						X			X	
Collinsville						X				
Columbia						X			X	
Copake				X						
Cornwall				X						
Danbury				X	X					
Danielson				X					X	
Deep River						X		X		
Dover Plains				X						
Durham						X		X		
East Killingly				X					X	
Eastford			X	X					X	
Ellington						X				
Ellsworth				X		X				
Essex						X				X
Fitchville			X			X			X	
Glastonbury						X				
Glenville				X			X			
Guilford						X				
Haddam						X		X		
Hamburg						X		X		
Hampden		X				X			X	
Hampton			X	X					X	

Table 10-A (Cont'd)

Quadrangle	11-2-76 1:78000	10-28-75 1:78000	5-5-74 1:19000	4-27-74 1:76000	10-18-72 1:24000	5-13-72 1:76000	12-3-71 1:24000	4-5-71 1:24000	5-30-70 1:24000	3-1-70 1:24000
Hartford, North						X				
Hartford, South						X				
Jewett City				X						X
Kent				X				X		
Litchfield				X				X		
Long Hill				X	X					
Mamaroneck				X						
Manchester						X				
Marlborough						X				
Meriden						X				
Middle Haddam						X		X		
Middletown						X				
Milford				X			X			
Millerton				X						
Monson		X				X				
Montville			X			X			X	
Moodus						X				
Mount Carmel						X				
Mount Kisco				X			X			
Mystic				X						X
Naugatuck				X	X					
New Britain						X				
New Hartford						X		X		
New Haven						X				
New London			X	X						X
New Milford				X					X	
New Preston				X	X			X		
Newtown				X						
Niantic			X			X				X
Norfolk				X						
Norwalk, North				X			X			
Norwalk, South				X			X			
Norwich			X	X						X
Old Lyme						X				X
Old Mystic				X						X
Oneco				X					X	
Oxford		X		X					X	
Pawling				X				X		

Quadrangle	11-2-76 1:78000	10-28-75 1:78000	5-5-74 1:19000	4-27-74 1:76000	10-18-72 1:24000	5-13-72 1:76000	12-3-71 1:24000	4-5-71 1:24000	5-30-70 1:24000	3-1-70 1:24000
Peach Lake				X					X	
Plainfield				X					X	
Poundridge				X			X			
Putnam				X					X	
Rockville						X				
Roxbury				X					X	
Scotland			X	X					X	
Sharon				X						
Sherwood Point				X			X			
South Canaan				X						
South Coventry			X			X			X	
South Sandisfield		X		X						
Southbridge		X		X						
Southbury				X	X					
Southington						X				
Southwick	X					X		X	X	
Spring Hill			X			X			X	
Springfield, South		X				X			X	
Stafford Springs			X			X			X	
Stamford				X			X			
Tariffville						X			X	
Tolland Center		X		X						
Thomaston				X						
Thompson				X					X	
Torrington				X						
Uncasville			X	X						X
Voluntown				X					X	
Wales		X				X				
Wallingford						X				
Watch Hill				X					X	
Waterbury				X	X					
Webster		X		X						
West Granville	X								X	
West Springfield		X				X			X	
West Torrington				X						
Westford			X			X			X	
Westport				X			X			
Willimantic			X			X				
Windsor Locks						X				
Winsted				X						
Woodbury				X					X	
Woodmont							X			

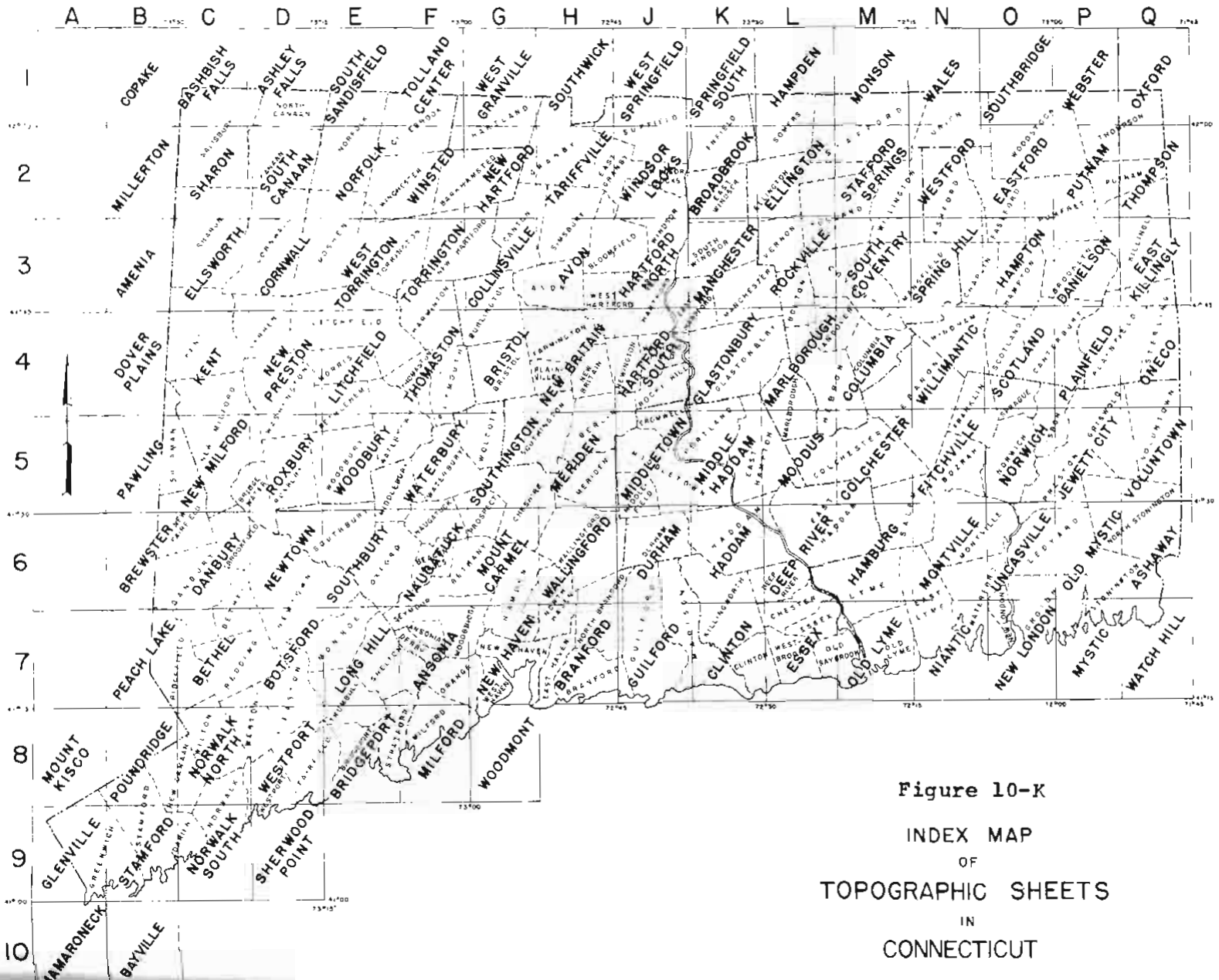


Figure 10-K

INDEX MAP

OF

TOPOGRAPHIC SHEETS

IN

CONNECTICUT

ORDER FORM
AERIAL MAPPING PHOTOGRAPHY

U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DATE _____

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

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

ADDRESS _____ PHONE (Home) _____

CITY _____ STATE _____ ZIP _____ Your Ref. No _____
(P.O. CONTRACT OR OTHER)

PLEASE TYPE OR PRINT PLAINLY

PHOTO INDEXES

PHOTO INDEX NO.	PRODUCT CODE	QTY.	UNIT PRICE		TOTAL PRICE	

AERIAL MAPPING PHOTOGRAPHY

PHOTO IDENTIFICATION				PRODUCT CODE	NO. OF FRAMES	NO. OF COPIES	QTY.	UNIT PRICE		TOTAL PRICE	
PROJECT	ROLL	FIRST FRAME	LAST FRAME								

STANDARD PRODUCTS

BLACK AND WHITE

IMAGE SIZE	FORMAT	PRODUCT CODE
22.9cm (9 in.)	FILM POSITIVE	12
22.9cm (9 in.)	FILM NEGATIVE	13
22.9cm (9 in.)	PAPER	22
45.7cm (18 in.)	PAPER	24
68.6cm (27 in.)	PAPER	26
91.4cm (36 in.)	PAPER	28

COLOR/INFRARED

IMAGE SIZE	FORMAT	PRODUCT CODE
22.9cm (9 in.)	FILM POSITIVE	62
22.9cm (9 in.)	PAPER	63
45.7cm (18 in.)	PAPER	64
68.6cm (27 in.)	PAPER	66
91.4cm (36 in.)	PAPER	68

BLACK AND WHITE PHOTO INDEXES

FILM SOURCE	FORMAT	PRODUCT CODE
B & W SIZE A	25.4x25.4cm (10x10 in.)	84
B & W SIZE B*	OTHER	87

* SEE ITEM 9 REVERSE SIDE

TOTAL ABOVE	A	
TOTAL FROM PREVIOUS SHEETS	B	
TOTAL COST	C	

NOTE: Please refer to current price list for cost determination.

PAYMENT MADE BY:

CHECK, MONEY ORDER ☐
PURCHASE ORDER ☐
GOVT. ACCOUNT ☐

COMMENTS: _____

FORM 9-1939
(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: 278-9107
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

Figure 10-L

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	[illegible]
55.8mm (2.2 in)	1:3,369,000	FILM NEGATIVE	[illegible]
185mm (7.3 in)	1:1,000,000	PAPER	[illegible]
185mm (7.3 in)	1:1,000,000	FILM POSITIVE	[illegible]
185mm (7.3 in)	1:1,000,000	FILM NEGATIVE	[illegible]
[illegible]	1:500,000	PAPER	[illegible]
[illegible]	1:250,000	PAPER	[illegible]

COLOR COMPOSITE GENERATION

185mm (7.3 in)	[illegible]	PRINTING MASTER	[illegible]

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

FALSE COLOR COMPOSITES

IMAGE SIZE	SCALE	FORMAT	PRODUCT CODE
[illegible]	[illegible]	PAPER	[illegible]
[illegible]	[illegible]	FILM POSITIVE	[illegible]
[illegible]	1:500,000	PAPER	[illegible]
[illegible]	1:250,000	PAPER	[illegible]

COMPUTER COMPATIBLE TAPES (CCT)

TRACKS	BPI	FORMAT	PRODUCT CODE
7	800	TAPE SET	[illegible]
9	800	TAPE SET	[illegible]
9	1600	TAPE SET	[illegible]

Please refer to current price list for cost determination

TOTAL ABOVE	A	
TOTAL FROM PREVIOUS SHEETS	B	
TOTAL COST	C	

PAYMENT MADE BY.

- CHECK, MONEY ORDER ☐
- PURCHASE ORDER ☐
- GOVT. ACCOUNT ☐

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 415-323-2427

Figure 10-3

of Rhode Island and Massachusetts, and part of eastern New York are shown on the two frames necessary to cover Connecticut. Since these images are rather small scale (only 1:250,000 in the 29.2" x 29.2" format) they should be used only for broad or regional application for which decisions or management based upon detail are not desired.

Specifics on scene identification for a select area at a particular time should be obtained via a Geographic Computer Search.

Skylab Satellite Coverage

The NASA Skylab Program consisted of one unmanned and three manned missions involving a station orbiting the Earth at an altitude of about 270 miles (430 km). The Skylab Earth Resources Experiment Package (EREP) consisted of six remote sensing systems, two of which, the Multispectral Photographic Camera and the Earth Terrain Camera, were used over Connecticut and the rest of the Northeast on Skylab-3. Imagery was collected between September 12, 1973 and September 21, 1973.

The Multispectral Photographic Camera, also known as S190-A, consisted of a six-camera array using a variety of filtered black-and-white, color, and false-color infrared films. The six images are registered (i.e., represent the exact same coverage) and show reflectance in a particular spectral band.

The nominal scale of an S190-A image (in 2.2" x 2.2" format) is about 1:2,800,000 and covers an area of about 90 miles (144 km) square.

The Earth Terrain Camera, also known as S190-B, was a single high-resolution camera which used color and false-color infrared films over Connecticut. The nominal scale of S190-B photographs (in 4.5" x 4.5" format) is about 1:950,000 and covers an area 60 miles (96 km) square.

Figure 10-O lists the standard Skylab products and prices for S190-A and S190-B. A form such as Figure 10-P should be used to order these photographs.

National Cartographic Information Center Aerial Photography Summary Record System

The Aerial Photography Summary Record System (APSRS) is a program established within the National Cartographic Information Center (NCIC) to provide data on existing, in-progress, and scheduled U.S. aerial photography. Two products made available through APSRS are map catalogs and microfiche of computer listings of aerial photographic coverage.

STANDARD LANDSAT

IMAGE SIZE	NOMINAL SCALE	PRODUCT FORMAT	BLACK and WHITE UNIT PRICE	BLACK and WHITE PRODUCT CODE	COLOR UNIT PRICE	COLOR PRODUCT CODE
55.8mm (2.2 in.)	1:3369000	Film Positive	$ 8.00	11		
55.8mm (2.2 in.)	1:3369000	Film Negative	10.00	01		
18.5cm (7.3 in.)	1:1000000	Paper	8.00	23	$12.00	63
18.5cm (7.3 in.)	1:1000000	Film Positive	10.00	13	15.00	53
18.5cm (7.3 in.)	1:1000000	Film Negative	10.00	03		
37.1cm (14.6 in.)	1:500000	Paper	12.00	24	25.00	64
74.2cm (29.2 in.)	1:250000	Paper	20.00	26	50.00	66
COLOR COMPOSITE GENERATION					$50.00	59

NOTE 1) Portrayed in false color (infrared) and not true color
2) Cost of product from this composite must be added to total cost

COMPUTER COMPATIBLE TAPES (CCT)

TRACKS	b.p.i.	FORMAT	SET PRICE	PRODUCT CODE
7	800	Tape Set	$ 200.00	82
9	800	Tape Set	200.00	83
9	1600	Tape Set	200.00	84

SELECTED COVERAGE

IMAGE SIZE	FORMAT	BLACK and WHITE BAND(S)	BLACK and WHITE UNIT PRICE	BLACK and WHITE PRODUCT CODE	COLOR UNIT PRICE	COLOR PRODUCT CODE
18.5cm (7.3 in.)	Paper	5	$ 8.00	41	$12.00	46
18.5cm (7.3 in.)	Paper	4, 5, 6, 7	32.00	45		
37.1cm (14.6 in.)	Paper	5	12.00	42	25.00	47
74.2cm (29.2 in.)	Paper	5	20.00	43	50.00	48

Figure 10-N
LANDSAT Products and Prices

SKYLAB S190A

IMAGE SIZE	NOMINAL SCALE	PRODUCT FORMAT	BLACK and WHITE UNIT PRICE	BLACK and WHITE PRODUCT CODE	COLOR UNIT PRICE	COLOR PRODUCT CODE
55.8mm (2.2 in.)	1:2850000	Film Positive	$ 8.00	11	$10.00	51
55.8mm (2.2 in.)	1:2850000	Film Negative	10.00	01		
18.3cm (8.4 in.)	1:1000000	Paper	8.00	23	12.00	63
32.5cm (12.8 in.)	1:500000	Paper	12.00	24	25.00	64
65.0cm (25.6 in.)	1:250000	Paper	20.00	26	50.00	66

SKYLAB S190B

IMAGE SIZE	NOMINAL SCALE	PRODUCT FORMAT	BLACK and WHITE UNIT PRICE	BLACK and WHITE PRODUCT CODE	COLOR UNIT PRICE	COLOR PRODUCT CODE
11.4cm (4.5 in.)	1:950000	Paper	$ 6.00	22	$ 8.00	62
11.4cm (4.5 in.)	1:950000	Film Positive	8.00	12	12.00	52
11.4cm (4.5 in.)	1:950000	Film Negative	10.00	02		
21.8cm (8.6 in.)	1:500000	Paper	8.00	23	12.00	63
43.4cm (17.1 in.)	1:250000	Paper	12.00	24	25.00	64
86.9cm (34.2 in.)	1:125000	Paper	20.00	26	50.00	66

Figure 10-O
Skylab Products and Prices

ORDER FORM
MANNED SPACECRAFT PHOTOGRAPHY
U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DATE _____

NAME _____ ACCOUNT NO _____

COMPANY _____ PHONE (Bus.) _____

ADDRESS _____ PHONE (Home) _____

CITY _____ STATE _____ ZIP _____ Your Ref. No. _____

PLEASE TYPE OR PRINT PLAINLY

PHOTO IDENTIFICATION NO	PRODUCT CODE	QTY	UNIT PRICE	TOTAL PRICE
			A	
			B	
			C	

STANDARD PRODUCTS

SKYLAB S190A-BLACK AND WHITE

SKYLAB S190A COLOR/INFRARED

SKYLAB S190B-BLACK AND WHITE

SKYLAB S190B COLOR INFRARED

APOLLO/GEMINI COLOR

APOLLO/GEMINI BLACK AND WHITE

NOTE. Please refer to current price list for cost determination.

PAYMENT MADE BY:

CHECK, MONEY ORDER ☐

PURCHASE ORDER ☐

GOVT. ACCOUNT ☐

COMMENTS: _____

FORM 9-1927
(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 415-323-2427

Figure 10-P

APSRS Catalogs

Aerial photography for Connecticut is illustrated in APSRS Catalog Number 5, which covers much of the eastern United States. Indexed in a graphic format by 7.5 minute cells on a small scale base map is the approximate aerial photographic coverage of various agencies. The aerial photography is categorized by scale (larger than 1:40,000; 1:40,000 to 1:75,000; and smaller than 1:75,000) and by date (before and after 1973). Because of the small scale of the APSRS base map, only general indications of aerial photographic coverage can be given.

The agency mentioned in this Catalog as having acquired aerial photographs but not discussed previously in this Handbook is the United States Air Force (USAF) which conducted a mission over the entire State of Connecticut in 1959-1960. The photography was black-and-white and was at 1:60,000 nominal scale (9" x 9" format). Information on the availability of USAF aerial photographs can be obtained from NCIC.

APSRS Microfiche

The microfiche serve as a supplement to the APSRS Catalog. Each fiche contains up to 269 full pages of computer listings that describe the existing aerial photographic coverage for Connecticut and other states in the region served by Catalog 5. Specifics are given for agency, film type, date, scale, southeast corner coordinates, and image quality. The individual entries are organized by 7.5 minute quadrangles. A complete set of microfiche for this region is on file at the Department of Natural Resources Conservation at the University of Connecticut. Copies of the APSRS Catalogs and sets of microfiche (which are regularly updated) can be obtained from NCIC. Prices are subject to change and inquiries should be directed to:

National Cartographic Information Center
United States Geological Survey
507 National Center
Reston, VA 22092
Telephone: (703) 860-6045

Section 11: MISCELLANEOUS REMOTE SENSING IMAGERY HOLDINGS AT THE UNIVERSITY OF CONNECTICUT, STORRS

Several departments at the University of Connecticut are engaged in photogrammetry and remote sensing for both teaching and research. These programs necessitate that the departments acquire remote sensing imagery from aircraft and/or satellite programs. Over the years, some small collections of such imagery have been established. The following is a list of this imagery, with descriptions:

Department of Natural Resources Conservation, U-87, (203) 486-2840

1. Source: Agricultural Stabilization and Conservation Service
   Date: Spring 1963
   Type: Black-and-white
   Products: Aerial photomosaic for Tolland County at 1:63,360
   : 24" square black-and-white enlargements at 1:7,920
   : 9" square black-and-white contacts for N.L. County at 1:20,000
   Coverage: Selected portions of Tolland and Windham Counties: New London County

2. Source: Avis Airmap, Inc.
   Date: September 23, 1974
   Type: False-color infrared
   Products: 9" square prints and film positives at 1:12,000
   : 22" square black-and-white enlargements at 1:4,800
   : 44" square CRONAFLEX (Mylar) at 1:2,400
   Coverage: Entire Town of Mansfield

3. Source: Avis Airmap, Inc.
   Date: April 22, 1975
   Type: False-color infrared
   Products: 9" square prints and film positives at 1:12,000
   Coverage: Entire Town of Mansfield

4. Source: Fairchild Aerial Surveys, Inc.
   Date: Spring 1934
   Type: Black-and-white
   Products: 28" square black-and-white enlargements at 1:4,800
   Coverage: Selected portions of Tolland County

5. Source: James W. Sewall Co.
   Date: April 23, 1978
   Type: False-color infrared
   Products: 9" square prints and film positives at 1:12,000
   Coverage: Strip coverage between Towns of Mansfield and Coventry

6. Source: Keystone Aerial Surveys, Inc.
   Date: April 10, 1975
   Type: Black-and-white
   Products: 9" square contact prints
   Coverage: Select portions of Town of Mansfield

7. Source: National Aeronautics and Space Administration (U-2)
   Date: July 17, 1974
   Type: False-color infrared
   Products: 9" square contact prints and film positives at 1:64,000
   : 2.2" square black-and-white film negatives and positives
   : 36" square color infrared enlargements at 1:16,000
   Coverage: Entire Town of Mansfield, much of Willington, Coventry, and Windham, and portions of Ashford, Columbia, Chaplin, and Andover

8. Source: National Aeronautics and Space Administration (LANDSAT)
   Date: July 28, 1972
   Type: Multispectral scanner
   Products: 7.3" square false-color composite film positive at 1:1,000,000
   Coverage: Central and eastern Connecticut, Rhode Island, southern Massachusetts

   Date: April 6, 1973
   Type: Multispectral scanner
   Products: 7.3" square false-color composite film positive at 1:1,000,000
   : 14.6" square false-color composite print at 1:500,000
   Coverage: Central and eastern Connecticut, Rhode Island, southern Massachusetts

   Date: September 10, 1974
   Type: Multispectral scanner
   Products: 2.2" black-and-white negatives of each of four bands at 1:3,369,000
   : 9-track, 1600 bpi computer compatible tape of multispectral scene
   Coverage: Central and eastern Connecticut, Rhode Island, southern Massachusetts

   Date: February 28, 1975
   Type: Multispectral scanner
   Products: 2.2" square format black-and-white negatives of each of four bands at 1:3,369,000
   : 9-track, 1600 bpi computer compatible tape of multispectral scanner scene
   Coverage: Central and eastern Connecticut, Rhode Island, southern Massachusetts

9. Source: National Aeronautics and Space Administration (Skylab)
   Date: September 1973
   Type: Multispectral photography and false-color infrared (S190-A and S190-B)
   Products: Set of six multispectral (S190-A) 2.2" square film positives at 1:2,850,000
   : 2.2" square false-color infrared (S190-B) film positives at 1:2,850,000
   : 17.1" square false-color infrared (S190-B) print at 1:250,000
   Coverage: Northeastern and central Connecticut, southern Massachusetts

Department of Civil Engineering, U-37, (203) 486-4018

1. Source: Agricultural Stabilization and Conservation Service
   Date: 1951-52
   Type: Black-and-white
   Products: 9" square contact prints at 1:20,000
   : 24" square enlargements at 1:7,920
   Coverage: Entire State of Connecticut (Tolland, Windham, and New London Counties only on 9" square prints)

2. Source: Agricultural Stabilization and Conservation Service
   Date: Spring 1957
   Type: Black-and-white
   Products: 24" square enlargements at 1:7,920
   Coverage: New London County

Department of Geography, U-148, (203) 486-3656

1. Source: Keystone Aerial Surveys, Inc.
   Date: March 1965
   Type: Black-and-white
   Products: 18" square prints at 1:5,000 (approx.)
   Coverage: 40 photographs covering strip between Norwich, CT and Bradley Air Field

2. Source: National Aeronautics and Space Administration (LANDSAT)
   Date: 1972
   Type: Multispectral scanner
   Products: Black-and-white enlargements at 1:1,000,000 of band 5
   Coverage: Entire State of Connecticut (Note: the Department of Geography has complete coverage of the continental United States, or 54 composite frames)

3. Source: National Aeronautics and Space Administration (LANDSAT)
   Date: 1972-1976 (variable)
   Type: Multispectral scanner
   Products: False-color composite 35 mm slides
   Coverage: Entire State of Connecticut (Note: the Department of Geography has complete coverage of the continental United States, or approx. 450 slides)

University of Connecticut Library, Map Room, U-5, (203) 486-2523

1. Source: Agricultural Stabilization and Conservation Service
   Date: September 1951
   Type: Black-and-white
   Products: 23" square enlargements at approx. 1:7,800
   Coverage: Selected portions of Litchfield County (See Section 6 and Civil Engineering Sub-section of this Section)

2. Source: Agricultural Stabilization and Conservation Service
   Date: May-November 1957
   Type: Black-and-white
   Products: 23" square enlargements at approx. 1:7,800
   Coverage: Selected portions of Hartford County (See Section

3. Source: Connecticut State Department of Environmental Protection
   Date: August-September 1968
   Type: Black-and-white
   Products: 41" by 45" blueprint enlargements at 1:3,600 (original 9" square photos at 1:12,000)
   : Photoindex map at approx. 1:500,000
   Coverage: 101 frames used in Tidal Wetlands Mapping Program: select areas from coastline, lower Connecticut, Thames, and Housatonic Rivers

4. Source: Keystone Aerial Surveys, Inc.
   Date: Spring 1970
   Type: Black-and-white
   Products: 9" square prints at 1:12,000
   : Aerial photomosaic indexes (20)
   Coverage: Entire State of Connecticut

5. Source: Keystone Aerial Surveys, Inc.
   Date: Spring 1975
   Type: Black-and-white
   Products: Aerial photomosaic indexes
   Coverage: 20 index sheets covering entire State of Connecticut

6. Source: National Aeronautics and Space Administration (LANDSAT)
   Date: October 27, 1972
   Type: Multispectral scanner
   Products: 14.6" square false-color composite print at 1:500,000
   : 7.3" square black-and-white prints of each of 4 bands at 1:1,000,000
   Coverage: Central and eastern Connecticut, Rhode Island, and southern Massachusetts

7. Source: National Aeronautics and Space Administration (LANDSAT)
   Date: April 6, 1973
   Type: Multispectral scanner
   Products: 14.6" square false-color composite print at 1:500,000
   : 7.3" square black-and-white prints of each of 4 bands at 1:1,000,000
   Coverage: Central and eastern Connecticut, Rhode Island, and southern Massachusetts

8. Source: National Aeronautics and Space Administration (Skylab)
   Date: September 1973
   Type: S190-B false-color infrared
   Products: 34" 1:250,000 enlargement
   Coverage: 41° to 42° N by 72° to 74° W (Most of Connecticut and portions of New York and Massachusetts)

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1. Source: Connecticut State Department of Environmental Protection
   Date: August-September 1968; January-April 1970
   Type: Black-and-white
   Products: 41" x 45" blueprint enlargements at 1:3,600 (original 9" x 9" photos at 1:12,000) showing original field delineations of tidal wetlands for state wetlands preservation program
   Coverage: 101 frames used in Tidal Wetlands Mapping Program: select areas from coastline, lower Connecticut, Thames, and Housatonic Rivers

APPENDIX I

GLOSSARY OF TERMS AND ACRONYMS[1/]

aerial photography - the process of conducting photography with airborne cameras.

APSRS - Aerial Photography Summary Record System (an aerial photography indexing system of the National Cartographic Information Center).

ASCS - Agricultural Stabilization and Conservation Service (a unit within the United States Department of Agriculture).

band - a portion of the electromagnectic spectrum in which the wavelengths of energy exhibit similar characteristics or properties.

black-and-white film - a photographic film sensitive to the visible portion of the spectrum (0.4 to 0.7 μm) and depicting the intensity of objects' reflections as shades of gray.

CAM - Coastal Area Management (a program within the State of Connecticut Department of Environmental Protection).

CCT - Computer Compatible Tape (magnetic tapes containing the digital remote sensing data derived from LANDSAT multispectral scanners).

coincident - in remote sensing, sets of imagery taken at the same time and showing the same coverage.

color film - a photographic film sensitive to the visible portion of the spectrum (0.4 to 0.7 μm). Consisting of three emulsion layers, color films are capable of recording the true color of objects.

color infrared film - a photographic film sensitive to the green, red, and near-infrared portions of the electromagnetic spectrum (0.5 to 0.9 μm) when exposed through a yellow filter. Because this film is sensitive to near-infrared radiation, a false-color rendition of objects results. Sometimes called false-color infrared.

1/ Further information can be found in:

Avery, Thomas E. 1977. Interpretation of Aerial Photographs. 3rd Edition. Burgess Publishing Co., Minneapolis, MN. 392 p.

Estes, John E. and Leslie W. Senger. (eds.). 1974. Remote Sensing: Techniques for Environmental Analysis. Hamilton Publishing Co., Santa Barbara, CA. 340 p.

ConnDOT - State of Connecticut Department of Transportation.

CRONAFLEX - tradename for a type of mylar.

CVUAP - Connecticut Valley Urban Area Project (a pilot program initiated by the United States Geological Survey).

DEP - State of Connecticut Department of Environmental Protection.

diapositive - a positive photographic print on a transparent (translucent) medium such as glass or polyester.

DOT - Department of Transportation (see ConnDOT).

electromagnetic spectrum - the ordered array of all wavelengths of radiation.

EROS - Earth Resources Observation System (a program within the United States Department of the Interior and serving as the national clearinghouse for remote sensing information).

ERTS - Earth Resources Technology Satellite (see LANDSAT).

false-color infrared film - see color infrared film.

ground resolution - the real-world size of the smallest detectable unit on remote sensing imagery.

imagery - the visual representation of energy as recorded by remote sensing instruments such as cameras, scanners, radar, etc..

LANDSAT - an earth resources observation satellite orbiting at an altitude of about 570 miles (920 km) carrying a multispectral scanner as its primary remote sensor (see Section 10 for a more detailed discussion).

low altitude - in remote sensing, generally accepted as platform altitudes less than 10,000 feet (3,100 m).

MDC - Metropolitan District Commission.

medium altitude - in remote sensing, generally accepted as platforms altitudes between 10,000 and 40,000 feet (3,100 and 12,400 m).

MSS - multispectral scanner (a remote sensing instrument capable of detecting and recording reflected or emitted energy in several discrete bands).

mylar - in remote sensing, a photographic-sensitive polyester based film suitable for making diazo process (blueprint) reproductions.

NASA - National Aeronautics and Space Administration.

NCIC - National Cartographic Information Center (a unit within the United States Department of the Interior).

negative - a reversed image on an exposed film used in making positive image photographs.

NOAA - National Oceanic and Atmospheric Administration (a unit within the United States Department of Commerce).

nominal scale - the average scale at which the original photograph was taken (see scale).

NOS - National Ocean Survey (a unit within NOAA).

NRC - Natural Resources Center (a unit within the State of Connecticut Department of Environmental Protection).

orthophotograph - a photographic copy prepared from an aerial photograph stereo-model in which geometric distortions have been corrected.

photoindex map - a line and symbol map showing the relative positions of aerial photographs.

photomosaic - an assemblage of aerial photographs that have been matched so as to represent a continuous image of the earth's surface (in the range of the airphoto mission coverage).

positive - see diapositive.

print - a paper copy of a photographic negative or diapositive. Contact prints are made via direct contact with the sensitized paper and are at the same scale of the original image.

quadrangle - in Connecticut, generally referred to as 7 1/2 x 7 1/2 minute United States Geological Survey topographic maps.

rectification - the process of removing the effects of tilt, relief displacement, and other distortions present in remote sensing imagery.

remote sensing - the measurement or acquisition of information of some property of an object or phenomenon by a recording device that is not in physical or intimate contact with the object or phenomenon under study. More recently, remote sensing has been associated with the detection, identification, delineation, and analysis of earth surface features and phenomena using airborne or satellite-borne imagery acquisition devices and interpretation techniques.

scale - the ratio of distances on remote sensing imagery to their real-world distances. Unitless scales are expressed as a representative fraction (i.e., 1:12,000), whereas unit scales use an equation to express this relationship (i.e., 1" on the photo = 1000' on the ground).

SCS - Soil Conservation Service (a unit within the United States Department of Agriculture).

Skylab - an earth-orbital space station equipped with several remote sensors. The satellite was operational at an altitude of 270 miles (430 km) during three manned missions in 1973-4. (see Section 10 for a more detailed discussion).

thermal infrared - that portion of the electromagnetic spectrum from 3 to 1000 μm. The intensity of energy emitted in this range is dependent on the temperature and thermal emissivity of the object. In remote sensing, two thermal bands are used: 2 to 5 μm and 8 to 14 μm (or portions thereof).

TSRPC - Tri-State Regional Planning Commission.

μm - micrometer or one-millionth of a meter (10^{-6}m).

USDA - United States Department of Agriculture.

USDI - United States Department of the Interior.

USGS - United States Geological Survey (within the USDI).

visible spectrum - that portion of the electromagnetic spectrum from 0.4 to 0.7 μm which is visible to the unaided eye.

APPENDIX II

SOURCES OF REMOTE SENSING INFORMATION

Books

American Society of Photogrammetry. 1975. Manual of Remote Sensing. Robert G. Reeves, Ed. Falls Church, VA. 2 vol. 2144 p.

_____. 1968. Manual of Color Aerial Photography. John T. Smith, Ed. Falls Church, VA. 550 p.

Avery, Thomas Eugene. 1977. Interpretation of Aerial Photographs. 3rd Edition. Burgess Publishing Co., Minneapolis, MN. 392 p.

Barrett, Eric C. and Leonard F. Curtis. 1976. Introduction to Environmental Remote Sensing. John Wiley and Sons, Inc. New York, NY. 336 p.

Eastman Kodak Company. 1976. Kodak Data for Aerial Photography. Kodak Publication M-29. Rochester, NY. 92 p.

_____. 1975. Photointerpretation and Its Uses. Kodak Publication M-42. Rochester, NY. 12 p.

Estes, John E. and Leslie W. Senger. 1974. Remote Sensing: Techniques for Environmental Analysis. Hamilton Publishing Co., Santa Barbara, CA. 340 p.

Holz, Robert K. (Ed.). 1973. The Surveillant Science: Remote Sensing of the Environment. Houghton Mifflin Co., Boston, MA. 390 p.

Lintz, Joseph and David S. Simonett, (Eds.). 1976. Remote Sensing of Environment. Addison-Wesley Publishing Co., Reading, MA. 694 p.

Paine, David P. 1975. An Introduction to Aerial Photography for Natural Resource Management. Oregon State University, Corvallis, OR. 314 p.

Scherz, J. P. and A. R. Stevens. 1970. An Introduction to Remote Sensing for Environmental Monitoring. The University of Wisconsin, Madison, WI. 80 p.

Way, Douglas, S. 1973. Terrain Analysis: A Guide to Site Selection Using Aerial Photographic Interpretation. Dowden, Hutchinson, and Ross, Inc., Stroudsburg, PA. 393 p.

Journals

Photogrammetria. Journal of the International Society for Photogrammetry. Elsevier Scientific Publications Co., P.O. Box 1345, Amsterdam, Netherlands. (bi-monthly)

Photogrammetric Engineering and Remote Sensing. Journal of the American Society of Photogrammetry. 105 N. Virginia Ave., Falls Church, VA. (monthly)

Photogrammetric Record. Journal of the Photogrammetric Society, London. Gower St., London, England. (semi-annually)

Remote Sensing of Environment. American Elsevier Publishing Co., 52 Vanderbilt Ave., New York, NY. (quarterly)

Proceedings

American Society of Photogrammetry Symposia. 105 N. Virginia Ave., Falls Church, VA. (annual, semi-annual, and special).

International Symposia on Remote Sensing of Environment. Environmental Research Institute of Michigan, Ann Arbor, MI. (held every 18 months since 1962)

Machine Processing of Remotely Sensed Data. Laboratory for the Applications of Remote Sensing, Purdue University, West Lafayette, IN. (annual since 1973)

Remote Sensing of Earth Resources. University of Tennessee Space Institute, Tullahoma, TN. (annual since 1972)

Bibliographies

Carberry, Michael E. 1976. Remote Sensing Applications to Water Quality: An Annotated Bibliography of Selected Literature, 1970-1975. Council of Planning Librarians Exchange No. 1121. Monticello, IL. 35 p.

_____. 1976. Remote Sensing Applications Related to Urban and Regional Planning: A Bibliography of Literature, 1970-1975. Council of Planning Librarians Exchange No. 1090. Monticello, IL. 43 p.

Krumpe, Paul F. 1976. The World Remote Sensing Bibliographic Index. Tensor Industries, Fairfax, VA. 619 p.

Thompson, W. I. 1970. Earth Resources Survey Program Bibliography: A KWIC Index of Remote Sensing Information. Transportation Systems Center, Cambridge, MA. 269 p.

Wolfe, Jack S. 1973. Remote Sensing Applied to Urban Planning: A Bibliography with Abstracts. Texas A&M Remote Sensing Center. Technical Report RSC-51. College Station, TX. 117 p.