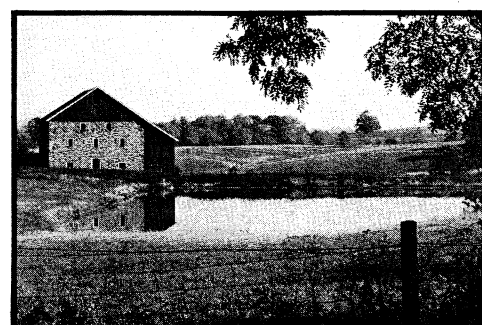
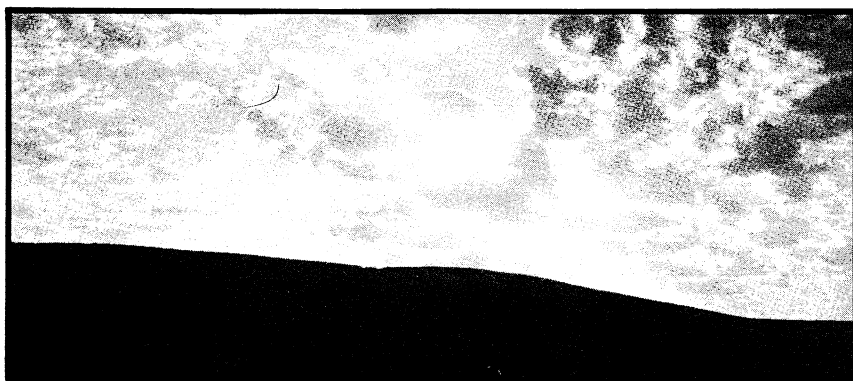
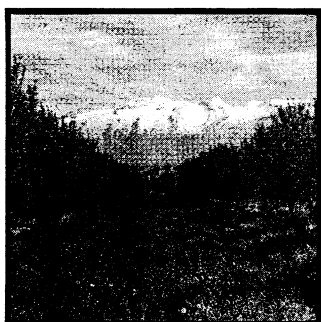
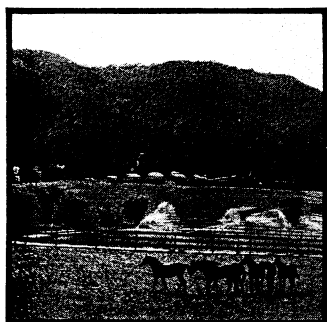
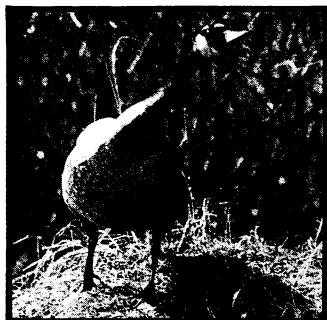
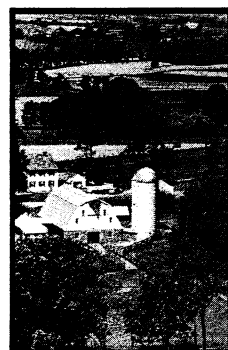
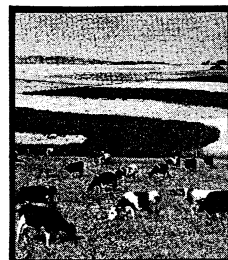
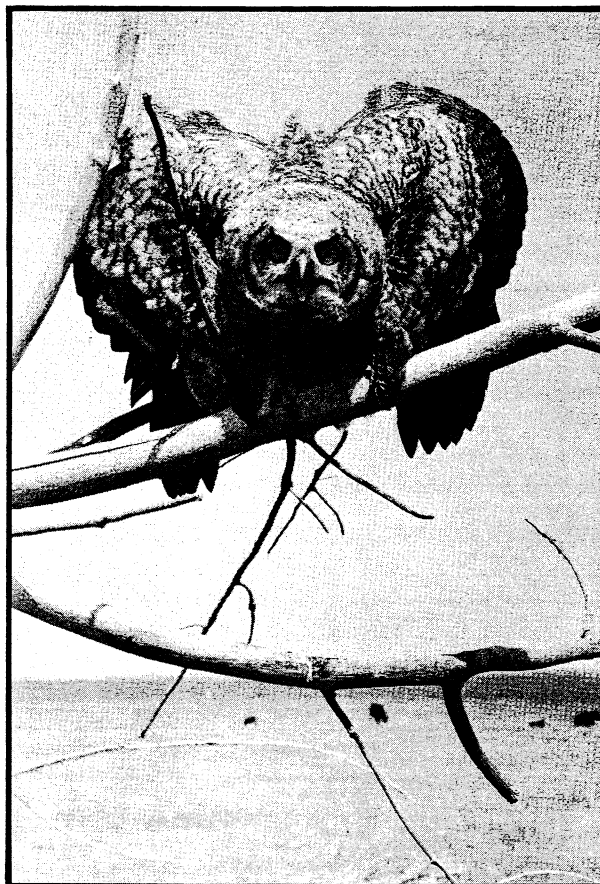
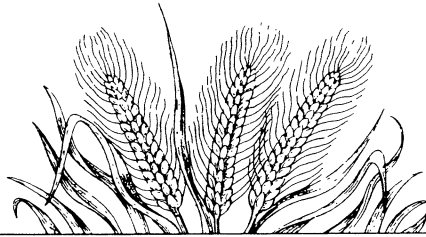




National Agricultural Lands Study

Interim Report Number Five
America's Agricultural Land Base in 1977





National Agricultural Lands Study

PREFACE

We have come to realize the passing of the American concept of an undiminished frontier, and we accept, instead, the reality of a finite land base. In particular, we know that as agricultural land is paved over or built upon, it is becoming increasingly difficult and more costly to find replacement lands of equal quality. The well is drying up.

America has only about 125 million acres left of quality agricultural land that has high or medium potential for conversion to cropland. *Even though these so called "potential croplands" are technically convertible for crop production, they are already currently producing red meat, dairy products and wood products. Therefore it is unrealistic to assume that all 125 million acres will be available for*

conversion to crop production.

The overriding fact regarding the convertible land base is that there is no free land bank from which to withdraw croplands to replace those being lost to other uses. These acres are only available at various costs to other segments of our national economy.

The costs may include: red meat production, dairy products and wood products; the expense of converting from current use to cropland; significant changes in environmental and wildlife values; and shifting the land shortage problem from the cropland sector to other sectors. Land conversion from a dwindling convertible land base should be made in full recognition of these tradeoffs and in concert with them.



The National Agricultural Lands Study has now been in operation for more than a year. In January, 1981, NALS will submit its final report to the President.

During the 18-month study, NALS has released interim reports covering a variety of subjects that relate to the availability of U.S. agricultural land. The purpose of these reports is to illuminate issues that affect the status of our agricultural land, and our ability to produce food, fiber and wood for the future. These interim publications are not parts of the final report, nor do they contain recommendations for legislative or executive actions.

Interim Report Number One outlines the study's program of research.

Report Number Two presents basic information about the American agricultural land base in concise wall chart form. The agricultural land data sheet focuses upon non-federal lands only. On an individual state-by-state basis, it shows the total acreage of crop, pasture, range and forest lands; total prime farm land, and the number of agricultural acres converted to non-agricultural use

in each state between 1967 and 1977.

Interim Report Number Three, describes the possible future effects of energy development on our agricultural lands. It addresses some of the conflicts that may arise as the nation's energy program evolves in the months ahead.

Interim Report Number Four describes the various forms of soil degradation and their effects on the nation's soil resource and its productive potential.

Interim Report Number Five, contained within this publication, presents information on the nation's prime farm lands. It also presents information on the potential for new cropland.

This report was compiled by NALS senior staff members Allen Hidlebaugh and Tom Schenarts.



December, 1980

Robert J. Gray
Executive Director

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*O*ne: INTRODUCTION

A clear understanding of the physical characteristics of America's agricultural land base, its present use and ownership patterns are prerequisites for assessing the lands' availability. Therefore, the National Agricultural Lands Study (NALS) had as one of its first responsibilities the documentation of the nation's agricultural land base.

Time and budget constraints have precluded the development of new data for this study. However, a thorough evaluation has been made of resource inventories and studies. This in-depth analysis of existing facts brings a new perspective to the question of agricultural land availability.

The following definition of agricultural lands, developed by NALS, is the basis for evaluating the available resource inventories.

NALS defines "agricultural lands" as lands currently used to produce agricultural commodities, or lands that have the potential for such production. These lands have a favorable combination of soil quality, growing season, moisture supply, size and accessibility.

As used in the study, agricultural commodities included food, feed, fiber, forage, oilseed, and ornamental plant materials; wood for all purposes, including seed production and planting stock; and

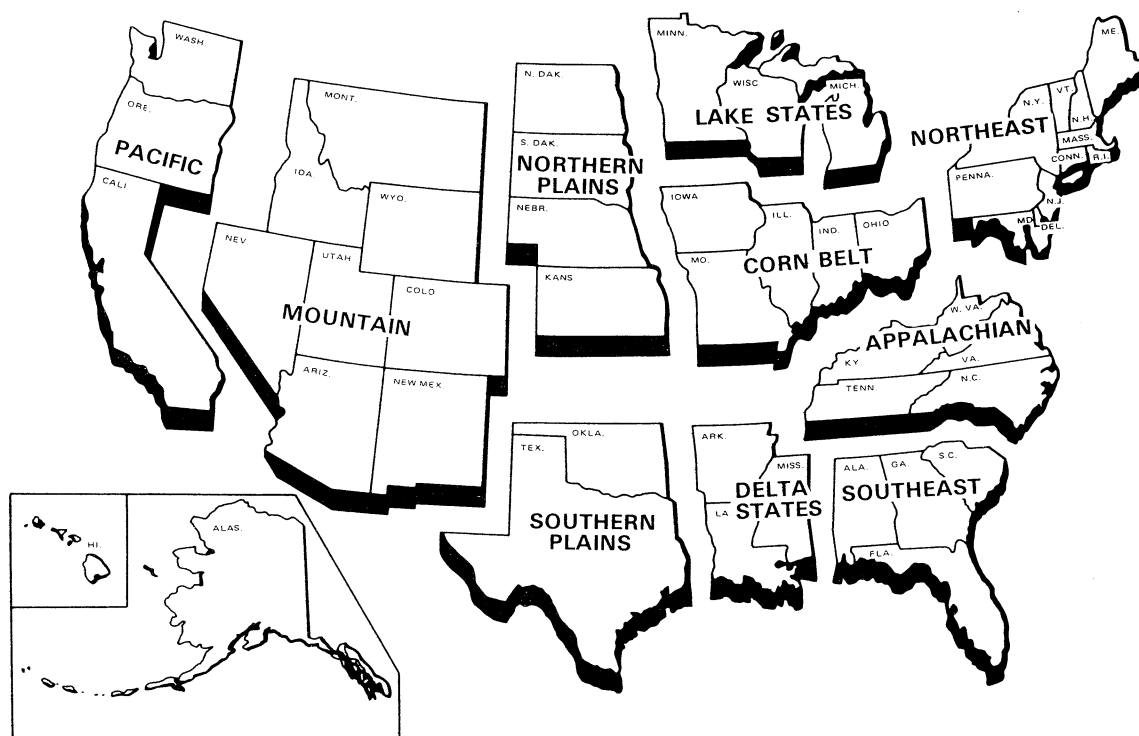
potentially, biomass for energy production.

No single data base met all of the data requirements of this study. The USDA Soil Conservation Service's 1977 National Resource Inventories were selected as the principal data source for NALS. These inventories are the nation's most current comprehensive multi-resource inventories. They provide state-by-state resource data on acreage of agricultural land, soil information, cropping patterns, and conservation practices. Analyzing these inventories has enabled NALS to make conclusions and projections about capabilities and potentials for future agricultural production.

The NALS data provided information on land available for agriculture in the nation's ten farm production regions and the fifty states. The farm production regions are shown in Figure 1. Alaska and Hawaii have not been assigned to a farm production region.

We also present a detailed description of current and past land use patterns. The National Resource Inventories definition of land use categories will be used in this study. These definitions appear on the following pages.

Figure 1.
Farm Production Regions



Two: PRIME FARM LAND

P *prime farm land* is the best land for farming. Prime acres are flat or gently rolling, and susceptible to little or no soil erosion. They are our most energy-efficient acres, producing the most food, feed, fiber, forage and oilseed crops with the least amount of fuel, fertilizer, and labor.

Prime farm land combines favorable soil quality, growing season and moisture supply, and under careful management can be farmed continuously, at a high level of productivity without degrading either the

environment or the resource base.

Prime farm land includes land that is currently used as cropland, pastureland, rangeland, forestlands and other uses. It does not include land converted to urban, built-up, transportation or water.

Figure 2 presents state-by-state data on prime farm land. Figures 3 through 7 present the 1977 data on the nation's prime farm land that is presently in cropland, pastureland, rangeland, forestland and other land uses.

Figure 2.
Prime Farm Land in 1977—Nonfederal Land (million acres)

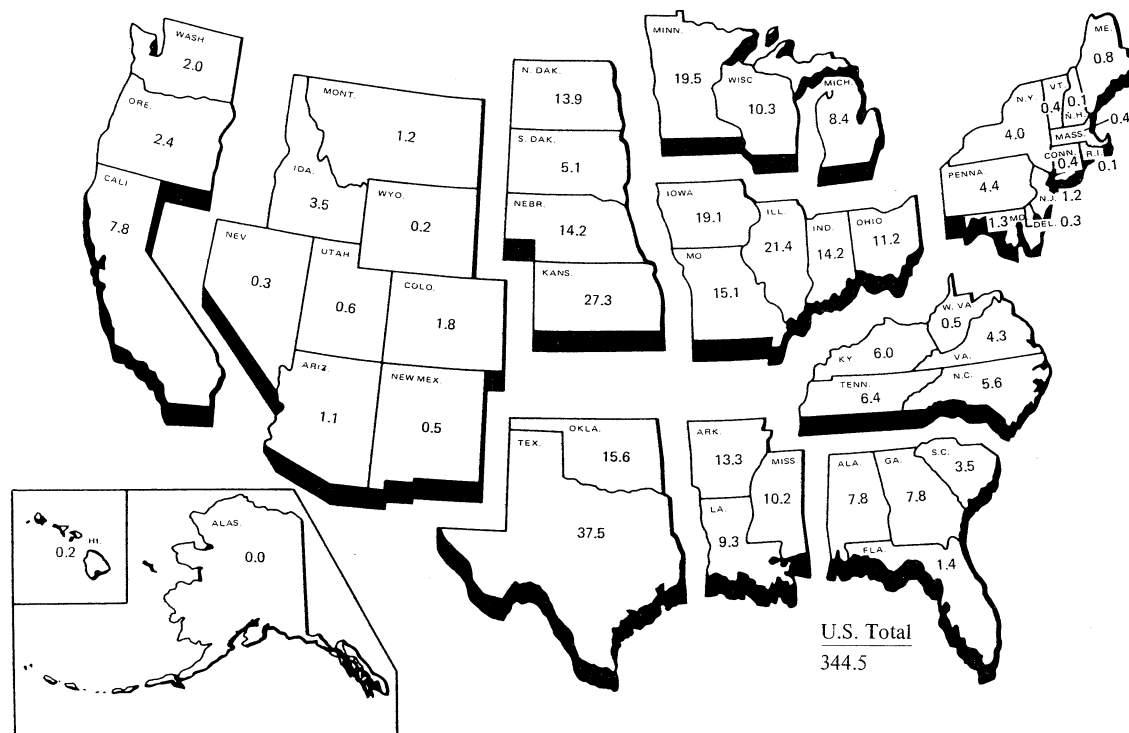


Figure 3.
Prime Farmland in Cropland in 1977–Nonfederal Land (million acres)

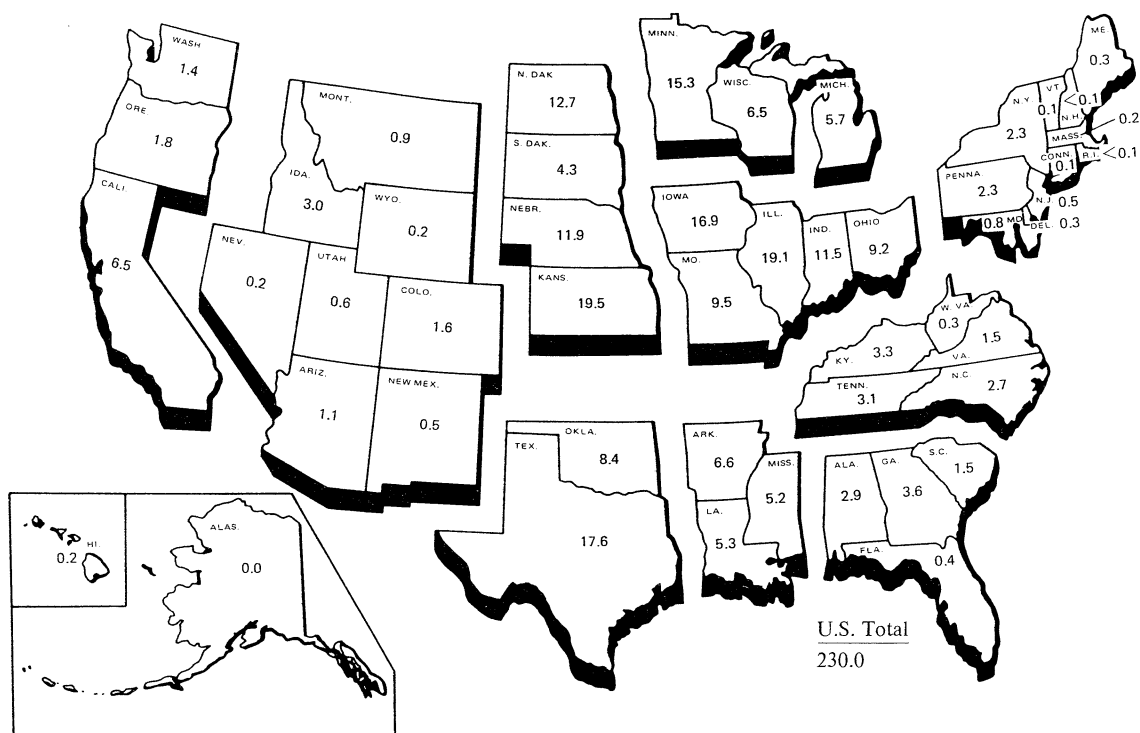


Figure 4.
Prime Farmland in Pastureland in 1977–Nonfederal Land (million acres)

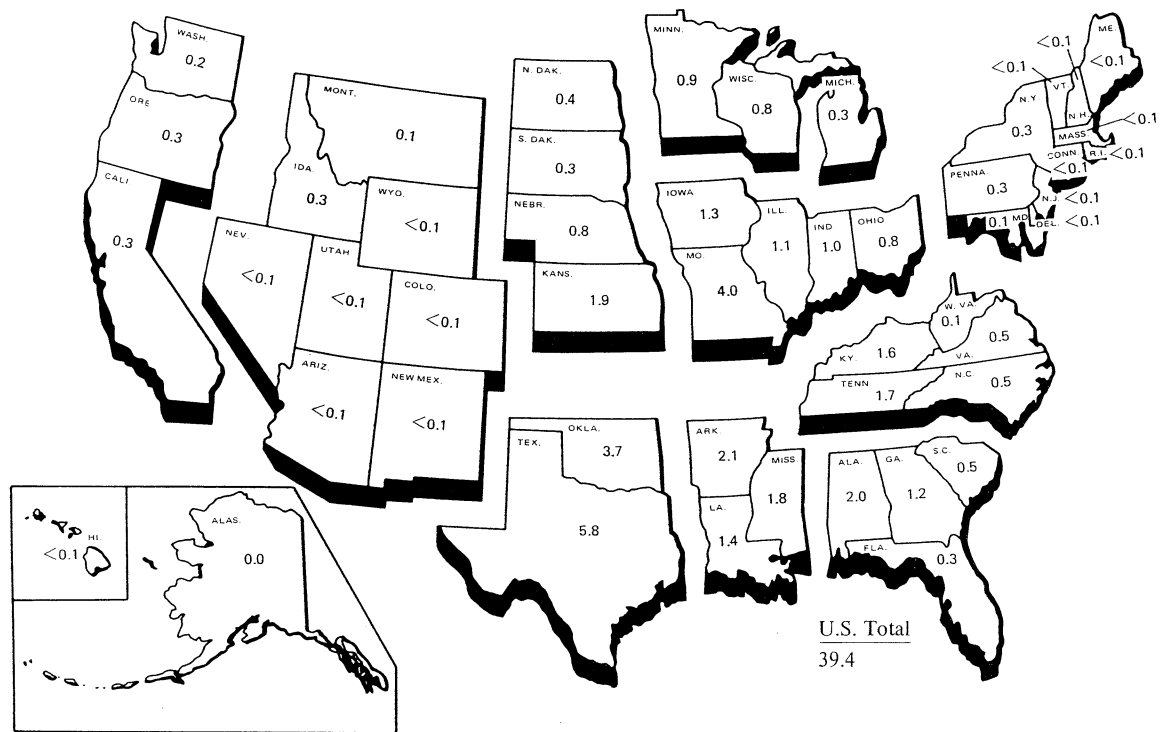


Figure 5.
Prime Farmland in Rangeland in 1977—Nonfederal Land (million acres)

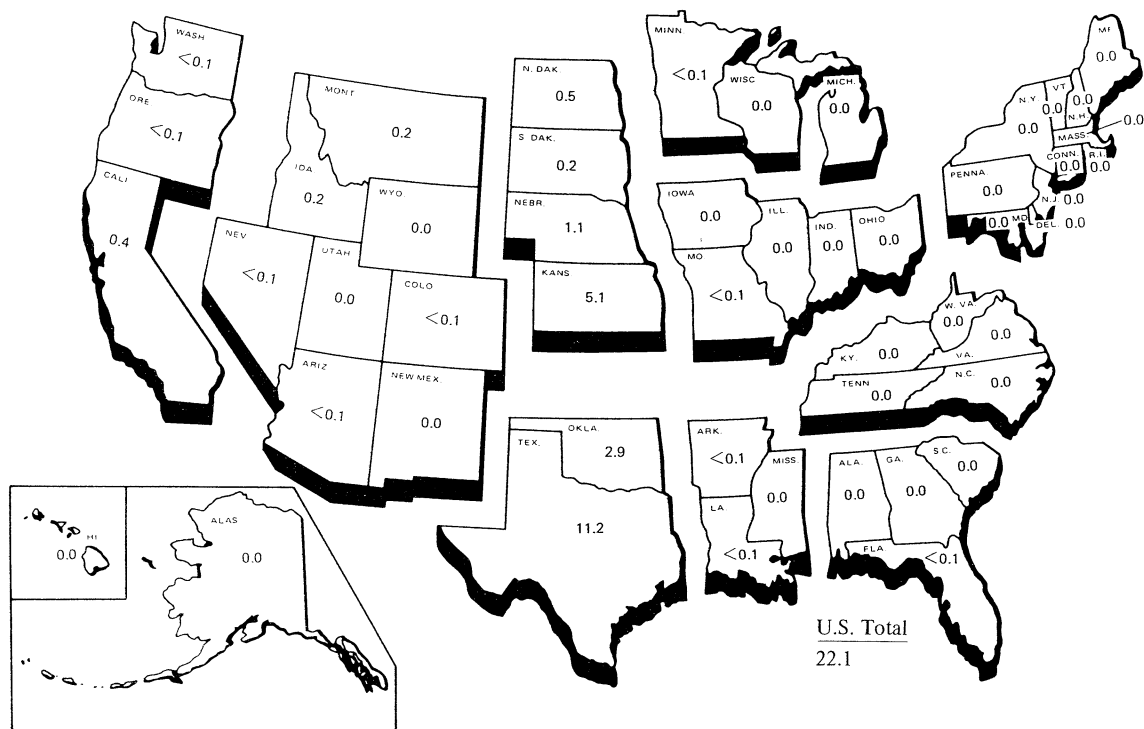


Figure 6.
Prime Farm Land in Forest Land in 1977—Nonfederal Land (million acres)

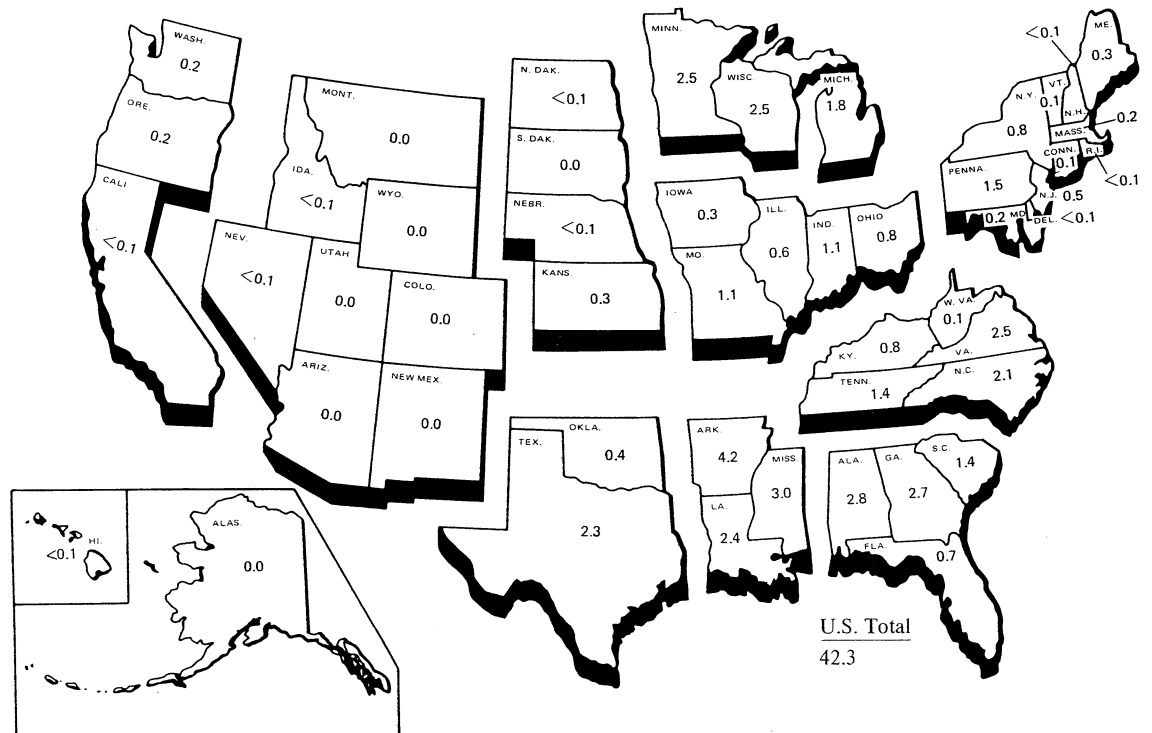
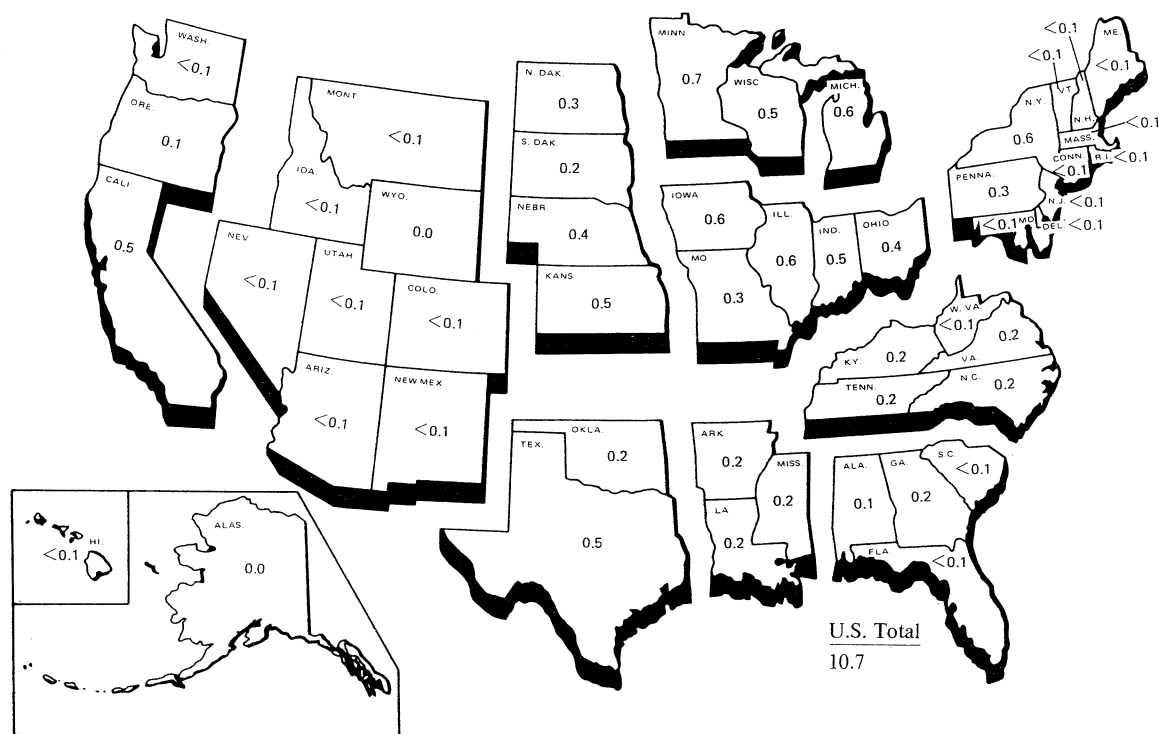


Figure 7.
Prime Farm Land in Other Land in 1977–Nonfederal Land (million acres)



Three: POTENTIAL FOR CONVERTING LANDS IN OTHER USES TO CROPLAND

*T*he USDA Soil Conservation Service (SCS) in 1977 inventoried all nonfederal lands in the U.S. not then in cropland, both prime farm land and nonprime farm land, for their potential to be converted to cropland. Only 124.7¹ million acres, or 12.1 percent of the total nonfederal land area of the country, showed high or medium potential for conversion to cropland.

Data showing the extent of high and medium potential cropland as a percent of land base by state are presented in Figure 8.

The greatest potential for conversion is pasture and native pasture (51.4 million acres), followed by rangeland (38.9 million acres), forestland (30.9 million acres) and other lands which include farmsteads, windbreaks, etc. (3.4 million acres).

Figure 9 presents state-by-state data on the 1977 acreage of cropland, high and medium potential for conversion to cropland, and the total cropland base. Definitions of terms used in Figure 9 follow:

Cropland includes row crops, close-grown field crops, hay crops, rotation hay and pasture, nursery crops, orchard crops, and other similar specialty crops; summer fallow, and other cropland not harvested or pastured.

Cropland Potential of 1977 Pastureland, Rangeland, Forest Land and Other Land In Farms—Determinations of cropland potential for each data point were made by a group representing a

variety of USDA agencies. They were made on the basis of 1976 commodity prices, as well as development and production costs. A “high potential” rating required favorable physical characteristics and also evidence of similar land being converted to cropland during the last three years. A “medium potential” rating required favorable physical characteristics, but conversion costs generally were expected to be higher than those for soils with a high potential rating.

The total cropland base of 540 million acres represents forty percent of the nation’s nonfederal land available to agriculture in 1977.

*T*he states having the most land for conversion to cropland are those in the South and Midwest (Figure 8). *Pasture* and *native pasture* available for conversion is dispersed throughout the U.S. except for New England and the arid West (Figure 10).

Rangeland having potential for conversion is located west of the 100th meridian except for Florida (Figure 11). Most of the convertible *forestland* is east of the 100th meridian with the exception of the state of Washington (Figure 12).

Each year about three million acres of rural land are lost from the agricultural land base to nonagricultural uses.² By land use, this loss is composed of 675,000 acres of cropland, 537,000 acres of range/pasture, 825,000 acres of forestland and 875,000 acres

¹There is an additional 2.2 million acres of land with high and medium cropland potential in the “other nonfarm” category of the NALS data sheet for a total of 126.9 million acres in the 50 states.

of other lands.

The Soil Conservation Service estimates that there are now about 125 million acres of rural land with a high or medium potential³ for conversion to cropland. However, this figure is constantly changing as some of this potential cropland acreage is itself converted to nonagricultural uses. Likewise, rising profitability in farming will ex-

pand the acreage qualifying as having high and medium potential for conversion to cropland.

The ebb and flow of land into the cropland base will continue. The key point is that movement of land into cropland implies movement *out* of other uses.

²Dideriksen, Raymond I., Allen R. Hidlebaugh and Keith O. Schmude. Potential cropland study. Soil Conservation Service, U.S. Department of Agriculture. Statistical Bulletin No. 578. Washington, D.C. 1977, page 1.

³There are an additional 268 million acres in pastureland, rangeland, forestland and other uses that have development problems that appear to make conversion to cropland unlikely in the foreseeable future (assuming 1976 cost/price relationships). "Conversion unlikely" has been called "low potential" by some USDA personnel.

Figure 8.

Percent of Land Area with High and Medium Potential for Conversion to Cropland

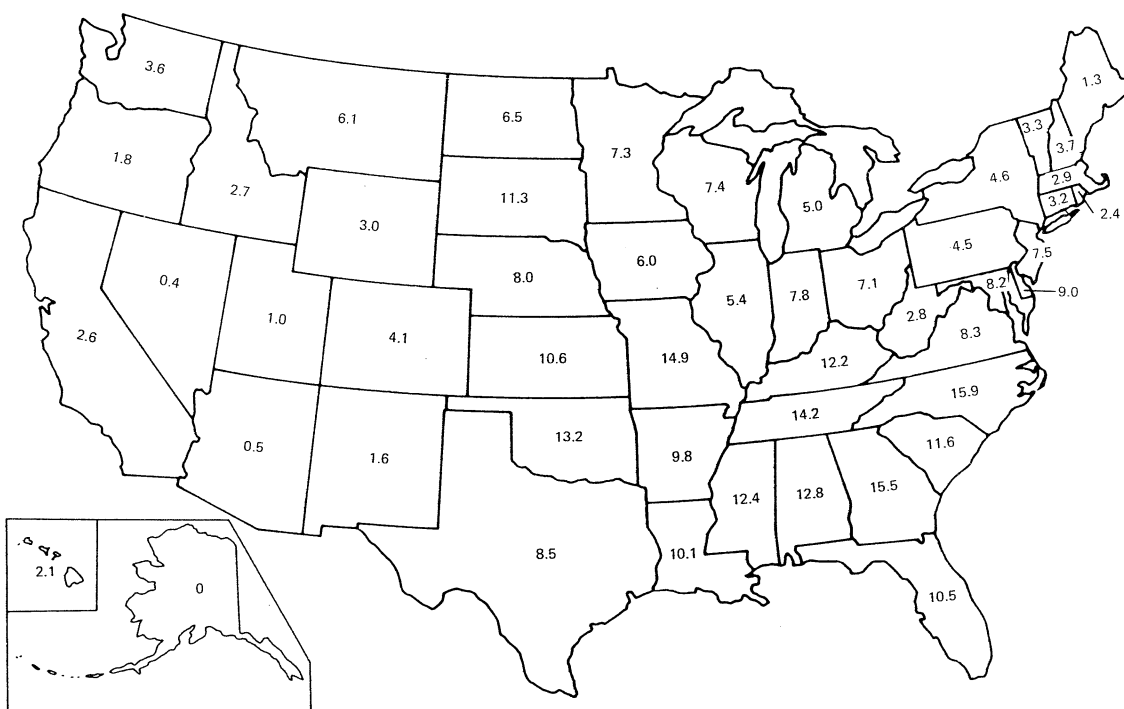


Figure 9.

Cropland

- High & Medium Potential for Conversion to Cropland
- Total Cropland Base For Nonfederal Land in 1977, by State (million acres)

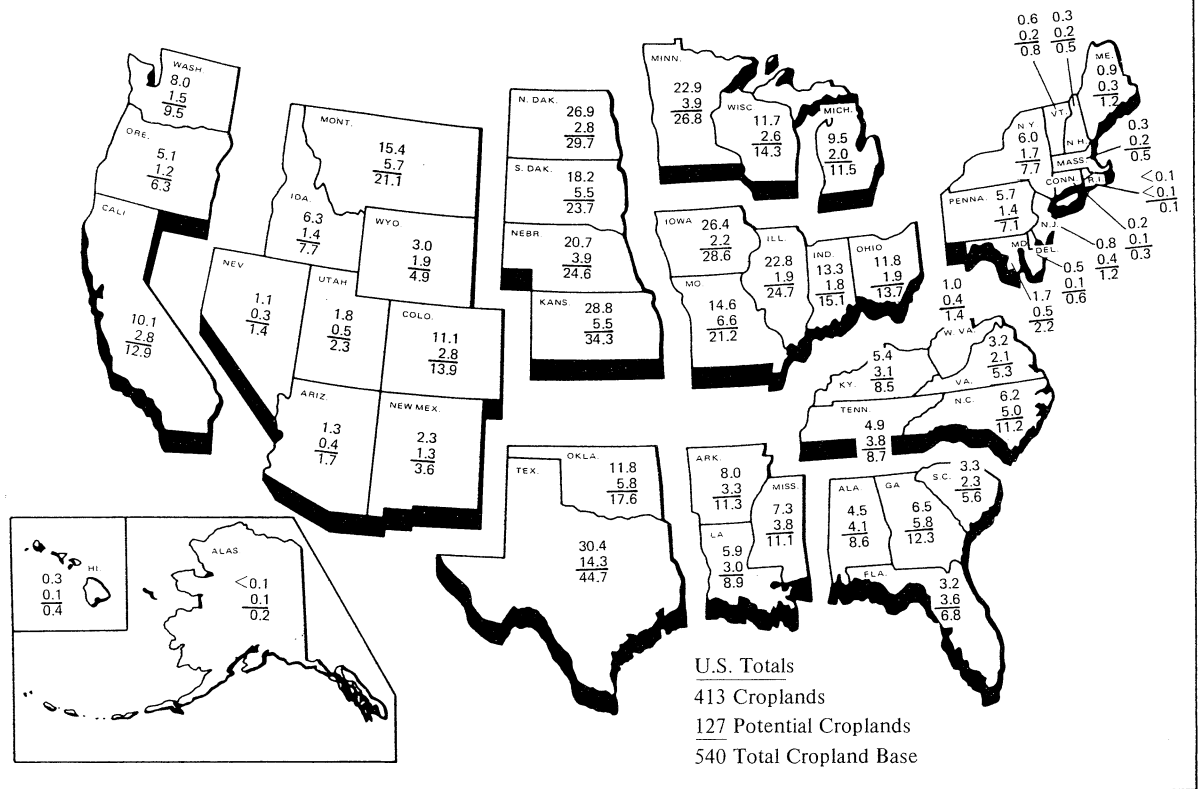
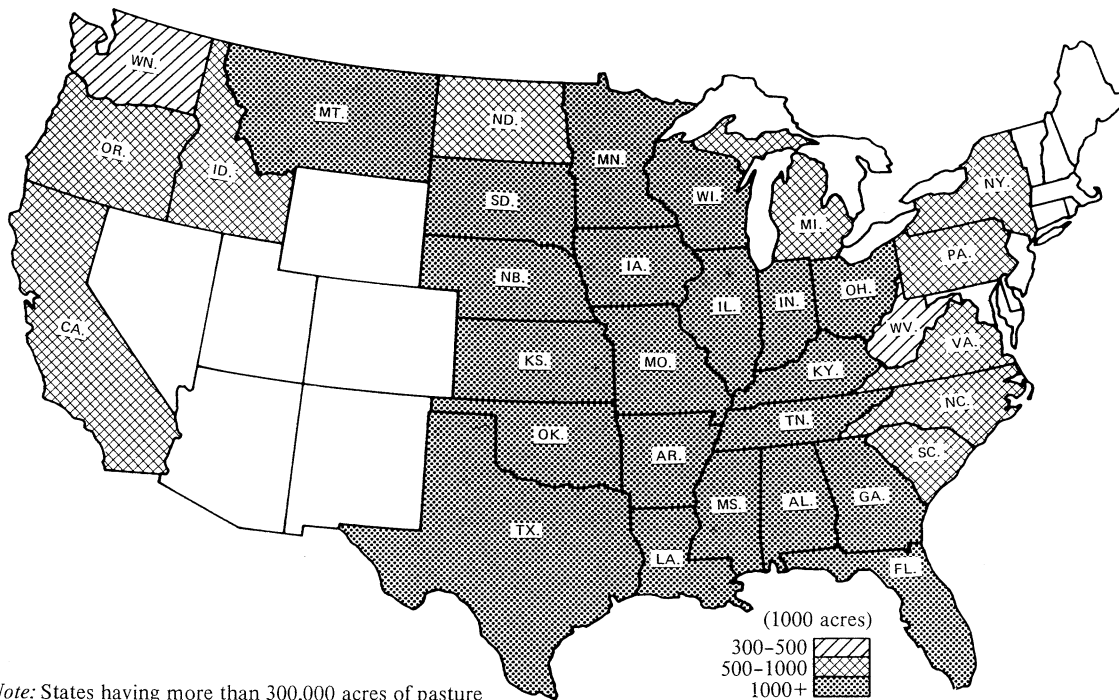
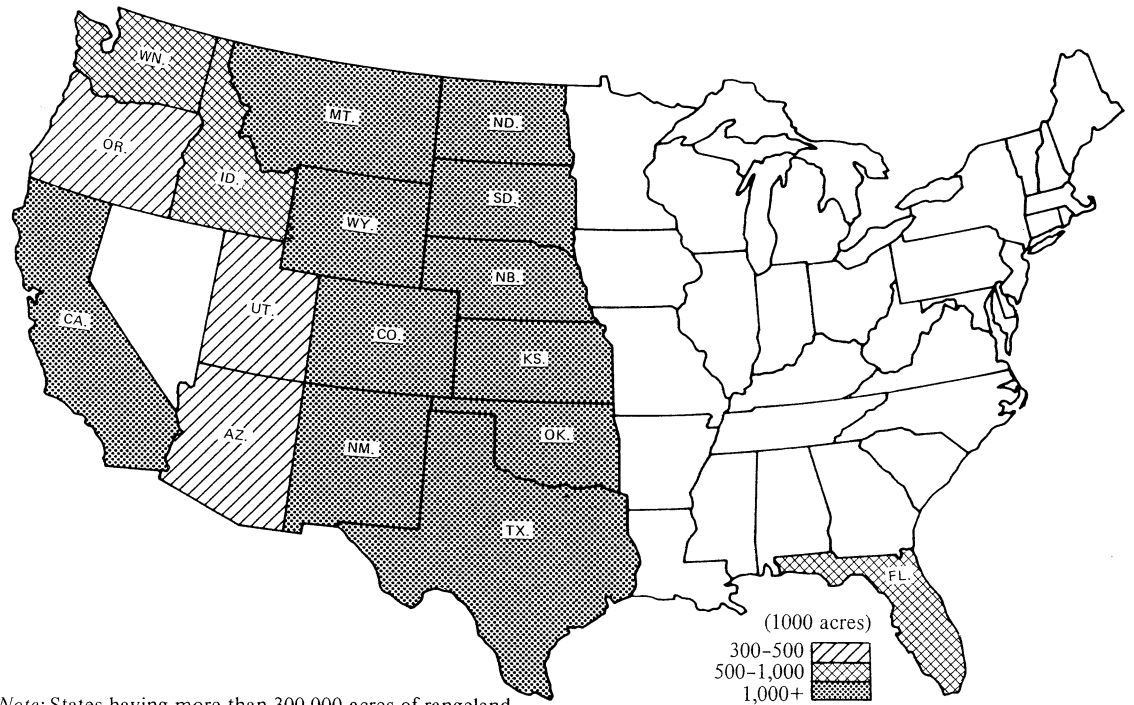


Figure 10.
Pasture and Native Pasture.



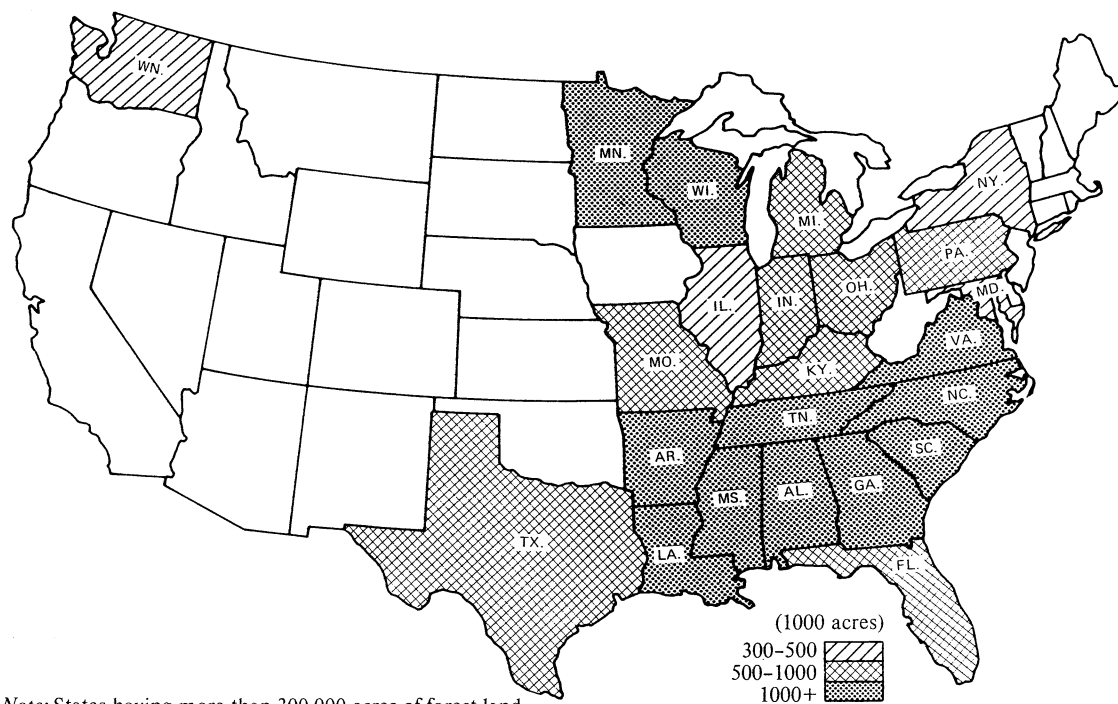
Note: States having more than 300,000 acres of pasture and native pasture suitable for conversion to cropland.
RCA Data

Figure 11.
Rangeland



Note: States having more than 300,000 acres of rangeland
suitable for conversion to cropland.
RCA Data

Figure 12.
Forest Land

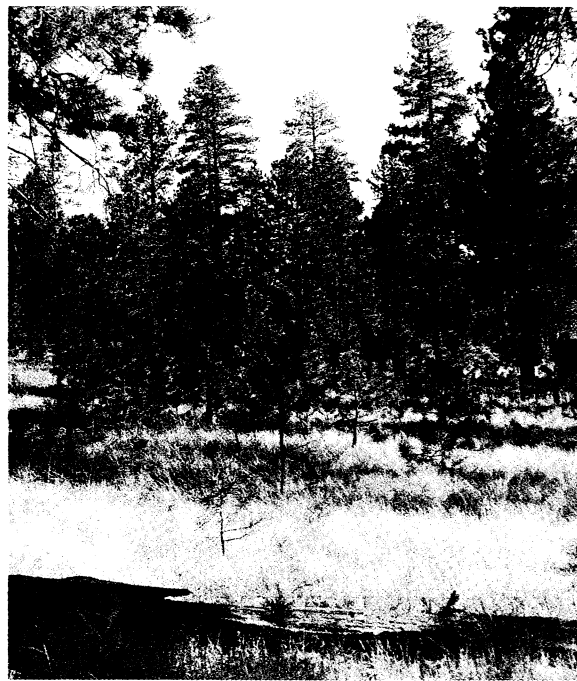




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7

Photos One and Two—Highly productive prime farm land.

Photos Three and Four—Forest land with potential for conversion to cropland.

Photos Five, Six and Seven—Pasture and rangeland with high potentials for conversion to cropland.



6

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NATIONAL AGRICULTURAL LANDS STUDY STAFF

Robert J. Gray
Executive Director

Michael F. Brewer
Research Director

Warren A. Lytton
Administrative Officer
(USDA-SCS)

Shirley Foster Fields
Information Director
(USDA-SCS)

Research Staff

Richard Barrows, *Extension Public Policy Specialist, University of Wisconsin*

Charles M. Benbrook, *Agricultural Economist (CEQ)*

Frank H. Bollman, *Water Economist (Water Resources Council)*

Robert Boxley, *Economist (USDA-ESCS)*

David Brown, *Sociologist-Demographer (USDA-ESCS)*

Nancy Bushwick, *Public Involvement Specialist (CEQ)*

George Campbell, *Extension Public Policy Specialist, University of Arizona*

Michael Caughlin, *Economist (FmHA)*

Tony DeVito, *Urban Planner (HUD)*

Allen Hidlebaugh, *Resource Inventory and Monitoring (USDA-SCS)*

Hal Hiemstra, *Environmental Planner*

Benjamin Huffman, *Planner (CEQ)*

Barbara Mackenzie, *Legislative Consultant (CEQ)*

David William McClintock, *International Relations (Department of State)*

Thomas Mierzwa, *Government Affairs Specialist*

John B. Noble, *Attorney*

Jack Peckham, *Writer-Editor (CEQ)*

Tom Schenarts, *Forrest and Range Conservationist (USDA-FS)*

Joe Yovino, *Fish and Wildlife Specialist (USDI-F&WS)*

Support Staff

Dallas Fields, *Editor*

Bernard Ferguson, *Office Assistant*

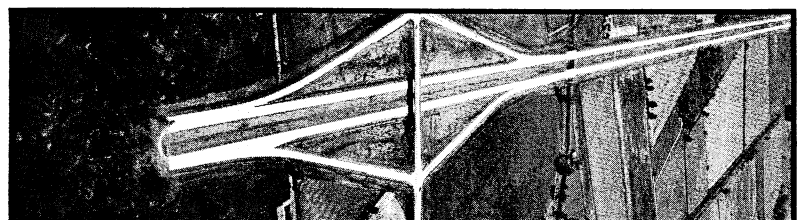
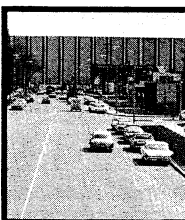
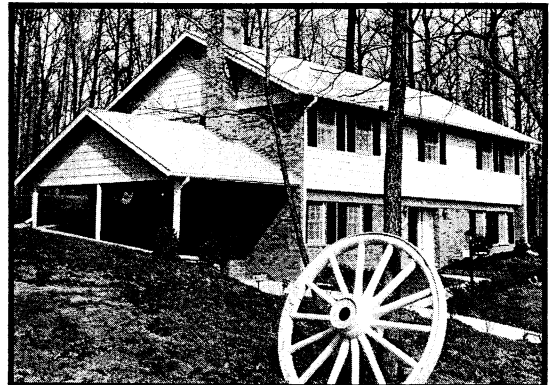
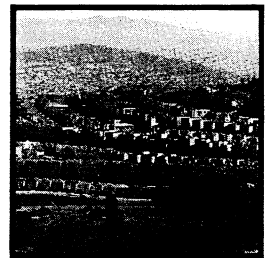
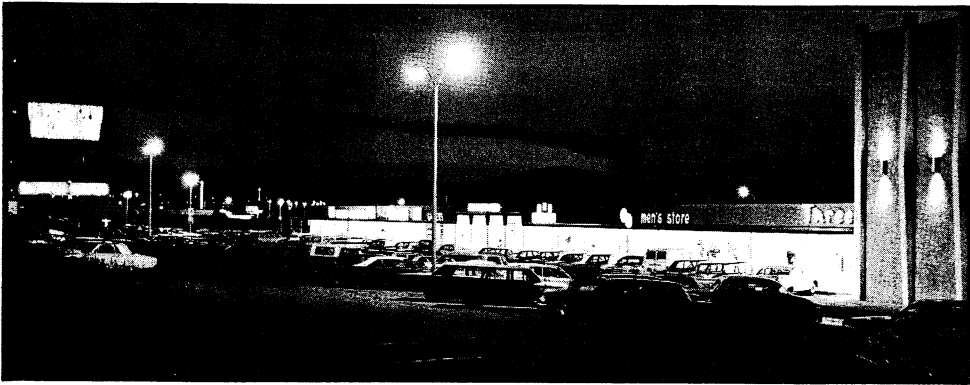
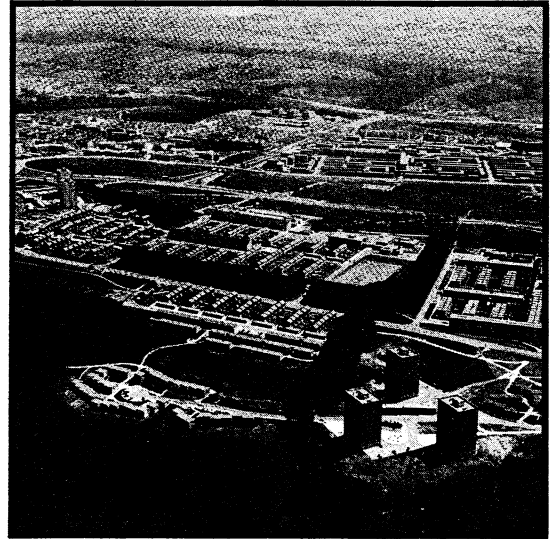
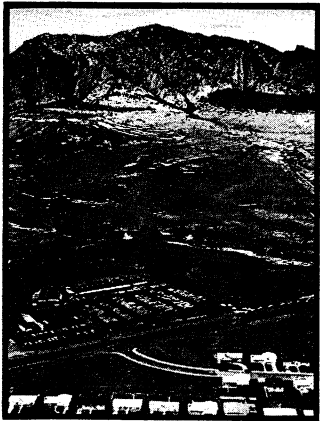
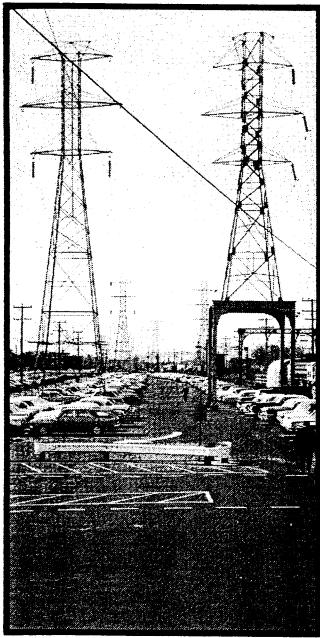
Eliza Mabry, *Assistant to the Executive Director*

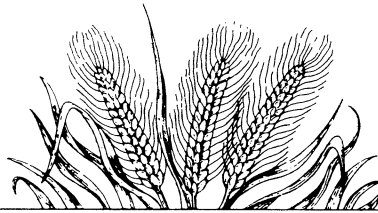
Denise B. Medley, *Secretary (USDA-ASCS)*

Doris A. Nolte, *Program Analyst (USDA-REA)*

Yvonne S. Van Blake, *Secretary (USDA-SEA)*







National Agricultural Lands Study

New Executive Office Building
722 Jackson Place, N.W.
Washington, D.C. 20006
(202) 395-5832

Robert Gray
Executive Director

Michael Brewer
Research Director

Shirley Foster Fields
Information Director

Participating Agencies

Council on Environmental Quality
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