



Economic significance of federal ownership of Bureau of Land Management administered lands on selected Montana county incomes
by Carlton A Infanger

A thesis submitted to the Graduate Faculty in partial fulfillment of the requirements for the degree of DOCTOR OF PHILOSOPHY in Agricultural Economics
Montana State University
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Abstract:

In a nation where basic ideologies and institutions are rooted in private ownership, complaints are often voiced that the maintenance of large blocs of publicly owned land within local government boundaries has a detrimental effect upon the magnitude and growth of incomes and production in these local areas. In order to attempt to answer the questions implied in these complaints, expository efforts were directed toward reviewing the background of when and how federal ownership, particularly of rangeland, developed; what effects the public ownership of this land has on firms utilizing it; how socio-economic progress is affected in counties with large amounts of their land in public ownership; what effects transferring these lands into private ownership might have; and how a change in utilization policy directed toward greater public recreation use of these multiple-use lands would affect the counties' output or income.

From the study of the background of federal range ownership it was determined that ranchers using the land have been successful in keeping the fees at or near administrative cost levels. Through the use of the theory of the capitalization of economic rent into fixed assets it was determined that most of the difference between the level of fee and the value productivity of the land had been capitalized into the ranchers private property. Hence, the inference was made that a minimal effect on the local economies had occurred because the return to the public land had accrued to the local ranchers. This inference was generally substantiated when comparisons of socio-economic phenomena for two groups of counties with different percentage amounts of their land publicly owned showed negligible differences in magnitude and change.

If a program to transfer ownership of the public rangeland at prices based on its capitalized value productivity should develop, severe damage to the ranch firms' capital structure could occur. The amount of damage would be sensitively related to the price paid for the capitalized value of the public land in the private holdings and the firm's debt position. Also, to the extent that the capitalized value of the public land had been included in assessments, shifting these lands into private ownership would not increase the local property tax base.

A framework within which physical and economic data could be used to determine the relative value of increased recreational use of the public land on local economies was developed. Its use will have to await the development of the data it suggests.

The analysis of the data and information used led to the general conclusions that the low fee leasing of the publicly owned rangeland has permitted the public to retain title to these multiple-use lands for the development of their full potential while allowing its value for domestic animal grazing to accrue to its private users.

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ON SELECTED MONTANA COUNTY INCOMES

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CARLTON A. INFANGER

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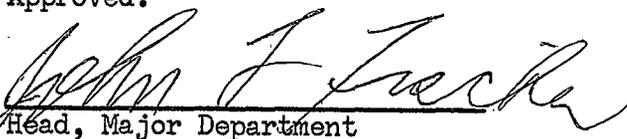
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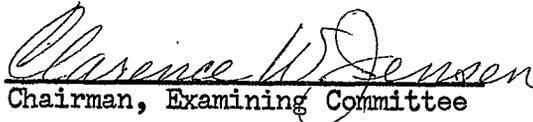
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Any errors of omission or commission are the responsibility of the author.

TABLE OF CONTENTS

	<u>Page</u>
VITA	ii
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	viii
LIST OF FIGURES	x
ABSTRACT	xi
 <u>Chapter</u>	
I. INTRODUCTION	1
Problem Setting	1
Problem Delineation	2
Ownership	2
Distribution	3
Conservation Levels	4
Control	5
Problems and Hypotheses	5
Procedures and Methodology	6
II. OUTLINE OF THE HISTORY AND DEVELOPMENT OF FEDERAL LAND OWNERSHIP AND ADMINISTRATION	9
Historical Setting	9
"Acquisition"	10
"Disposal"	12
"Reservation"	18
"Management"	22
Likelihood of Continued Federal Ownership	27
Extent and Distribution of Land Administered by the BLM	30
BLM Administered Land in Montana	35
Distribution of Grazing Among Ranches	42
Administrative Control and Grazing Fees	47
Fee Setting	50
III. INTEGRATION OF FEDERAL LANDS INTO LOCAL ECONOMIC AREAS	54
The Concept of Economic Units	54
Methods of Measuring Output of Economic Units	56
Regional Accounts	59
Low Fees and Their Implications	66

TABLE OF CONTENTS (Cont.)

<u>Chapter</u>	<u>Page</u>
Subsidization Possibilities	67
Capitalization Principle	71
Implications for Property Taxation	73
Effects of Subsidies on County Input-Output	75
IV. THE EFFECTS OF USING LOW FEE PUBLIC RANGE LAND ON RANCH COSTS, RETURNS, AND VALUATION	81
Review of Literature	81
Fee Level Studies	81
Ranch Value Studies	84
Phillips County Ranch Data	89
General Assumptions	90
Sampling Procedure	90
Environmental and Operating Conditions for Ranching	93
Land-base	96
Digression on Variation	101
Dependency Expectation	102
Ranch Returns and Expected Values	103
Implications for Property Taxation	111
V. AGGREGATE SOCIO-ECONOMIC ACTIVITY IN SELECTED EASTERN MONTANA COUNTIES	113
Methodology of Comparison	113
Selection of Counties for Comparison	114
Population Trends	118
Changes in Numbers	118
Percentage Changes	119
Density of Population	120
Distribution of Population by Urban and Rural Categories	121
Farm Operations	123
Number of Farms	123
Size of Farms	125
Investment Per Farm	126
Farm Tenancy	127
Irrigation	128
Value of Farm Products	130

TABLE OF CONTENTS (Cont.)

<u>Chapter</u>	<u>Page</u>
Farm Indebtedness	131
Farm Family Level-of-Living	131
Income	140
Trades and Services	148
Number of Retail Establishments	148
Wholesale Firms	149
Manufacturing	150
Bank Deposits	150
Employment	151
Agricultural Employment	151
Employment by Various Industries	152
Taxation	153
Payments in Lieu of Taxes	153
Summary	156
 IV. ECONOMIC AND ADMINISTRATIVE PROBLEMS ASSOCIATED WITH TRANSFER OF FEDERAL LANDS UNDER BLM ADMINISTRATION TO PRIVATE OWNERSHIP	158
Efforts to Effect Transfer	158
Adjustments in Ranch Values	161
Tax Implications	163
Effects on County Income and Capital	164
 VII. CONSIDERATIONS IN EXPANDING MULTIPLE USE FOR RECREATION PURPOSES ON PUBLIC GRAZING LANDS	166
Recreational Use of BLM Administered Lands	166
Physical Data Requirements for Allocating and Using Range Forage	167
Valuation and Policy Considerations for Wildlife	174
Application to County Income Generation	180
Enhancing Utilization of Recreation Pursuits on BLM Administered Lands	182
 VIII. SUMMARY, CONCLUSIONS, AND SUGGESTIONS FOR FURTHER RESEARCH	184
Problems and Procedure	184
Background of Federal Land Ownership	184

TABLE OF CONTENTS (Cont.)

<u>Chapter</u>	<u>Page</u>
Need for the Taylor Grazing Act and its Administration	187
Development of Hypothesis and Corollaries	188
Data Sources and Analysis	190
Ranch Firm Valuation	190
Aggregate County Data	192
Transfer of BLM Administered Lands to Private Ownership	196
Expansion of Recreation Use by Promotion	196
Policy Implications	196
APPENDIX	201
LITERATURE CITED	250

LIST OF TABLES

<u>Table</u>	<u>Page</u>
I. SUMMARY OF THE DISPOSAL OF PUBLIC DOMAIN LANDS TO 1950.	17
II. RELATIVE DISTRIBUTION OF LAND OWNERSHIP IN THE CONTI- NENTAL UNITED STATES.	18
III. FEDERALLY-OWNED LAND IN THE 48 CONTIGUOUS UNITED STATES BY PRINCIPAL MANAGING AGENCIES AND BY METHOD OF ACQUISITION, JUNE 30, 1961.	21
IV. DISTRIBUTION OF LANDS ADMINISTERED BY THE BLM BY STATES..	31
V. TOTAL LAND AREA OF SELECTED WESTERN STATES COMPARED WITH AMOUNT OF THEIR AREA ADMINISTERED BY BLM, 1960.	34
VI. AREA OF LAND ADMINISTERED BY BLM AND PERCENT OF TOTAL LAND AREA BY COUNTY, MONTANA, 1948-1949.	36
VII. SIZE-CLASS DISTRIBUTION OF GRAZING PERMITS AND LICENSES ISSUED ON ALL BLM GRAZING DISTRICTS, 1950 and 1960	46
VIII. SCHEMATIC REPRESENTATION OF INPUT-OUTPUT ANALYSIS.	64
IX. COMPARISON OF FEES ON PUBLIC AND PRIVATE RANGE LEASES PER AUM, 1952-1958.	83
X. DISTRIBUTIONS OF CARRYING CAPACITIES OWNED AND LEASED FROM NON-BLM SOURCES PER ANIMAL UNIT, BY PERCENT DEPENDENCY ON BLM ADMINISTERED LANDS AND RANCH SIZE.	98
XI. RELATIONSHIP OF DERIVATION OF RANCH VALUE TO PERCENT DEPENDENCY ON BLM ADMINISTERED LANDS AT VARIOUS FEE LEVELS FOR A 100 ANIMAL UNIT RANCH, AT \$359.20 PER ANIMAL UNIT.	110
XII. COMPARISON OF SELECTED POPULATION CHARACTERISTICS FOR THE STUDY AND CONTROL GROUPS OF COUNTIES, 1930-1960.	119
XIII. COMPARISON OF SELECTED FARM CHARACTERISTICS FOR THE STUDY AND CONTROL GROUPS OF COUNTIES, 1930-1960.	124
XIV. PROPORTION OF FARMS MORTGAGED IN SELECTED MONTANA COUNTIES, 1930 and 1940.	132

LIST OF TABLES (Cont.)

<u>Table</u>	<u>Page</u>
XV. FARM-OPERATOR FAMILY LEVEL AND RURAL LEVEL-OF-LIVING INDEXES FOR SELECTED MONTANA COUNTIES, 1930-1959. . . .	135
XVI. EFFECTS OF CHANGES OF USDA INDEX ON COMPARATIVE FAMILY LEVEL-OF-LIVING INDEX FOR SELECTED MONTANA COUNTIES, 1950-1959.	138
XVII. MEASURES AND RANKING OF INCOME FOR SELECTED MONTANA COUNTIES, 1939-1959.	141
XVIII. PERCENT OF FAMILIES WITH INCOMES UNDER \$3,000 OR OVER \$10,000 IN SELECTED MONTANA COUNTIES, 1960.	146
XIX. IN-LIEU PAYMENTS MADE TO SELECTED MONTANA COUNTIES IN VARIOUS FISCAL YEARS 1946 to 1961.	155

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
1.	Approximate area of federal land in the continental United States 1781-1950.	19
2.	Relative distribution of BLM administered land in Montana, 1960.	40
3.	Distribution of averages and ranges of carrying capacity per cattle unit from non-BLM sources in relation to percent dependency on BLM administered land.	100
4.	Location of control and study group counties with their percentages of Bureau of Land Management administered land.	116
5.	Possible competitive or complementary production relationships of domestic and wild animals on common range.	181

ABSTRACT

In a nation where basic ideologies and institutions are rooted in private ownership, complaints are often voiced that the maintenance of large blocs of publicly owned land within local government boundaries has a detrimental effect upon the magnitude and growth of incomes and production in these local areas. In order to attempt to answer the questions implied in these complaints, expository efforts were directed toward reviewing the background of when and how federal ownership, particularly of rangeland, developed; what effects the public ownership of this land has on firms utilizing it; how socio-economic progress is affected in counties with large amounts of their land in public ownership; what effects transferring these lands into private ownership might have; and how a change in utilization policy directed toward greater public recreation use of these multiple-use lands would affect the counties' output or income.

From the study of the background of federal range ownership it was determined that ranchers using the land have been successful in keeping the fees at or near administrative cost levels. Through the use of the theory of the capitalization of economic rent into fixed assets it was determined that most of the difference between the level of fee and the value productivity of the land had been capitalized into the ranchers private property. Hence, the inference was made that a minimal effect on the local economies had occurred because the return to the public land had accrued to the local ranchers. This inference was generally substantiated when comparisons of socio-economic phenomena for two groups of counties with different percentage amounts of their land publicly owned showed negligible differences in magnitude and change.

If a program to transfer ownership of the public rangeland at prices based on its capitalized value productivity should develop, severe damage to the ranch firms' capital structure could occur. The amount of damage would be sensitively related to the price paid for the capitalized value of the public land in the private holdings and the firm's debt position. Also, to the extent that the capitalized value of the public land had been included in assessments, shifting these lands into private ownership would not increase the local property tax base.

A framework within which physical and economic data could be used to determine the relative value of increased recreational use of the public land on local economies was developed. Its use will have to await the development of the data it suggests.

The analysis of the data and information used led to the general conclusions that the low fee leasing of the publicly owned rangeland has permitted the public to retain title to these multiple-use lands for the development of their full potential while allowing its value for domestic animal grazing to accrue to its private users.

CHAPTER I

INTRODUCTION

Since its inception, the federal government has been the largest single landowner in the United States. This ownership, in a nation where the basic ideologies and institutions are oriented toward private ownership, is often hotly debated, particularly with respect to range and forest resources where the federal ownership is concentrated. 1/ Although institutions and values are at the roots of these debates, the inevitable questions of economic efficiency and results may be raised to support one's views or policies. Policy makers may turn to economic arguments when others fail.

Problem Setting

In addition to the opposition to federal ownership of large blocs of land on the basis of a supposed contradiction of the "traditional" institution of private ownership of property, the complaint is often voiced that the existence of this publicly administered land within the boundaries of local government units has a detrimental effect upon these local economies. The general opposition to any federal land ownership implies that such ownership is a newly developed policy for the nation. The complaint implies that: (1) this federal ownership is a causal

1/ S. V. Ciriacy-Wantrup, "Criteria and Conditions for Public and Private Ownership of Range Resources," Giannini Foundation Paper No. 164, Proceedings of the 11th Annual Meeting of the American Society of Range Management, Great Falls, Montana, January 29 to February 1, 1957.

factor in keeping the incomes emanating from this land at a lower level than would be the case if it were in private ownership; (2) federal ownership is creating an undesirable distribution of the cost of operating these local governments; (3) capital returns from these lands are undesirably different from what they would be if they were in private ownership; and (4) changes in present public administration could improve income levels and distribution. Whether these ideas are valid or relationships of this nature exist should be testable within the frameworks of the history of federal land ownership and known economic theories.

Since federal land is devoted to a variety of uses under various administrative agencies, it should be understood clearly that this work will be concerned primarily with land under the administration of the Bureau of Land Management (BLM) devoted largely to the grazing of animals--either domestic or wild.

Problem Delineation

Ownership

The historical information which is traced in Chapter II illustrates that federal land ownership has been part of the national heritage of the United States since the nation's beginning. It also illustrates that policy toward this federally owned land has developed through a series of stages. One of these stages attempted to transfer much of the land into other than federal ownership. When the policies

and programs for making these transfers failed to achieve their purpose, or lands were determined to be in the best interests of "promoting the general welfare" of the nation if retained in federal ownership, they have been retained or reserved in public ownership. It shall generally be assumed that lands currently in federal ownership will remain there with some small deletions or additions.

Distribution

The development in Chapter II also shows that distribution of federal land ownership is concentrated in the 11 western states. BLM administered lands tend to be concentrated in range lands.

While the present distribution appears to concentrate the use of the BLM administered land in larger ranches, we shall assume that the productivity of the land is not seriously impaired in terms of output of product. This does not mean necessarily that it is being used by firms where the land has its highest marginal value productivity. For example, Gardner has argued that some of the explanation for the difference in the price permits on BLM lands were selling for and what they might be worth was due to restrictions on transfer which kept them from moving into use by ranches where they would have the "greater economic value." ^{1/} Although this distribution may have been detrimental

^{1/} B. Delworth Gardner, "Transfer Restrictions and Misallocation in Grazing Public Range," Journal of Farm Economics, XLIV (February, 1962)pp. 50-63.

to the original settlement pattern and development of local businesses (i.e., whether more or less service, retail, or other businesses would have developed under a wider distribution is unknown), it shall be assumed that such a distribution is not detrimental under present economic conditions.

Conservation Levels

While there are questions as to whether it is possible to determine some optimum allowable limit of grazing on a particular range area with the techniques available, it shall be assumed that this level of use is being approached. 1/ The level of use might be greatly improved for either type of ownership, but it is assumed to be comparable whether the land is in public or private ownership. Indeed, much of the controversy over the use of these lands has revolved around the attempts to readjust the destructively depleting levels of use which prevailed at the time of the passage of the Taylor Grazing Act. Concerning levels of conservation Wantrup says:

Range conservation by itself has no clear meaning in terms of a certain level of range productivity that should be preserved indefinitely. Range productivity is increasingly man-made. This raises the question what productivity level should be aimed at and to what extent productivity variations over time should be tolerated--for example, in periods of drought or economic

1/ See N. K. Roberts, "Economic Foundations for Grazing Use Fees on Public Lands," Journal of Farm Economics, Vol. 45, No. 4, (November, 1963)pp. 721-731.

depression. Furthermore, in an attempt to connect range conservation with public interest, the question arises which level of productivity is regarded as the social "optimum." 1/

Although the question as to what the level of conservation is will not be answered, the above assumption will be used.

Control

The historical information contained in Chapter II illustrates the effective manner in which ranchers using this public land were able to retain control of its administration, although title remained with the nation. This control resulted in the establishment of fees, for the use of this public land, below the land's value productivity. From the theory developed in Chapter III it is expected that the difference between the fee and the value productivity will be capitalized into the private holdings which utilize the low fee public land. The effectiveness of this control and its possibility for keeping the value of the public land in private users' hands leads to the hypotheses.

Problems and Hypotheses

Using the above background and assumptions and those developed in Chapters II and III--along with other specific assumptions developed in the analysis of empirical data--an attempt will be made to determine whether there are differences in the value of firms utilizing

1/ S. V. Ciriacy-Wantrup, op. cit.

large as compared to those using smaller amounts of these public grazing lands. Since it is expected from economic theory and cited references that low factor costs tend to be capitalized into fixed assets, the hypothesis that there is a non-significant difference in their value is made.

As corollaries, it is hypothesized: (1) that the nearer the factor cost (grazing fees) approaches zero, the more nearly will the capital return to that factor stay with the ranch firm operator; (2) that in-lieu payments, under unit assessment, should approach zero as the factor costs approach zero and vice versa; and (3) that under Montana's current assessment practices a windfall in decreased taxes may accrue to the users of the land in accordance with the amount of the public lands used. In short, it is a test of the model which "can serve as a hypothesis to be tested by empirical procedures" proposed by Roberts. 1/

If the above hypothesis is verified, the further hypothesis is made that there are non-significant effects from federal land ownership on the counties' output (income), or where payments to capital go.

Procedures and Methodology

Given the frameworks referred to and the data they require, an attempt will be made: (1) to trace the role of federal land ownership in the land policies which the nation has pursued since its birth to

1/ Roberts, op. cit., p. 721.

the present; (2) to determine and isolate the effect federal land ownership and its administration has on the magnitude and distribution of the income of firms utilizing such land; (3) to trace selected socio-economic changes which have occurred through time in a group of those Montana counties having larger amounts of BLM administered land as compared to a group with lesser amounts; (4) to make some prediction as to the changes in economic activity which might occur if these lands were to be transferred to private ownership; and (5) to illustrate the possible effects of a given change in public administrative policy. The analysis and interpretation of the above steps should provide information upon which valid conclusions as to the effects large amounts of federally owned land, under given administrative practices, has on the economies of local areas in which it is located.

In addition to the information previously cited as contained in Chapter II, it develops the historical framework of national land policies through which the present federal ownership and control of BLM administered land came to be.

In Chapter III the theoretical input-output framework is developed within which possible effects from federal ownership could be tested. In addition it includes the expected directions in which present federal ownership and administration might have changed the incomes of these local areas.

In Chapter IV the first hypothesis and its corollaries are tested by using data obtained from secondary sources and a survey of ranches with varying dependency upon the BLM administered lands. An attempt will be

made to determine whether there are differences in the amount of carrying capacity controlled from other than BLM sources in equal-sized firms utilizing greater or lesser percentages of BLM administered land. If there are differences, it can be expected that they will be in the form of a linear regression in the mathematical form of $Y=f(x)$, where Y is the non-BLM administered land carrying capacity and x is the percent dependency on BLM administered land. No attempt will be made to measure this regression in a formal sense, but an attempt will be made to measure whether there are differences between groups of ranches having varying amounts of dependency.

In Chapter V the hypothesis that there are non-significant differences in counties' outputs (or incomes) with and without large amounts of BLM administered lands is tested in a second manner. This is done by comparing selected economic and sociological data, from secondary sources, for the two groups of counties. The procedure will generally follow one used by Goldschmidt in his study of the cities of Arvin and Dinuba and their surrounding trade areas, the details of which are found in Chapter V. 1/

Chapter VI uses the analysis of Chapter IV and secondary data sources to develop the expectations from moving the lands under consideration into private ownership.

Chapter VII develops the background of and information which would be required to make a determination of what effects the suggested changes in use of this land would have on the local areas' incomes.

1/ Walter R. Goldschmidt, "Small Business and the Community," U.S. Congressional Record, 79th Congress, 2nd Session, 1946, Senate Committee Print, No. 13.

CHAPTER II

OUTLINE OF THE HISTORY AND DEVELOPMENT OF FEDERAL LAND OWNERSHIP AND ADMINISTRATION

An essential part of the framework necessary for understanding the effects of publicly owned lands is the history and background of how federal ownership of land developed. Equally important is a knowledge of the group interests that shaped the policies under which these lands are administered. This chapter is developed as an aid to reviewing the information available on policy development, and to illustrate the possible effects of these policies.

Historical Setting

Federal land ownership has gone through or is in one of four non-mutually exclusive phases or eras in terms of either time or purpose. These four major eras have been identified as: "acquisition," "disposal," "reservation," and "management." ^{1/} The "acquisition" period is concerned with how, when, and from whom the federal government acquired lands. the "disposal" era covers when, to whom, and how the federal government transferred title of its land to other public or private interests. The "reservation" phase was, or is, carried on in an effort to reserve certain lands in public ownership for a greater "social-benefit." The "management era includes the time in which programs for achieving the purposes for which the reserved lands were set aside are developed and

^{1/} Marion Clawson and Burnell Held, The Federal Lands: Their Use and Management, Baltimore: The Johns Hopkins Press, 1957; p. 16.

carried out. The complete details of the first three of these eras are beyond the scope or need of this work. Only a brief summary of some of the major points of the "acquisition," "disposal," and "reservation" phases are covered herein to establish the historic-political setting of the "management" period.

"Acquisition"

The federal government of the United States literally became a landowner at its birth. Of the original 13 newly independent states in 1776, seven claimed lands west of the Appalachian Mountains while six made no such claims. The six have-nots fearing unequal economic or political advantage placed national ownership of these western lands as a prerequisite to ratification of the Articles of Confederation. Yielding to their pressure, New York ceded its claim on March 1, 1781. 1/ On promises that the other six western land claimant states would also relinquish their claims-- which they did between 1781 and 1802--Maryland signed the Articles of Confederation on the same day. 2/ Although these Articles of Confederation were to be replaced by the Constitution in 1789, they served as the basis of a federal government in a new nation. With this cession of lands by these seven states, the United States became a landowner. Also with the

1/ Benjamin Horace Hibbard, A History of the Public Land Policies, New York: Peter Smith, 1939, p. 9.

2/ Ibid.

acceptance of these cessions, she began a long period of acquisition and disposal of land.

Following the completion of the cession of lands by the states in 1802, the federal government acquired 827,987 square miles from France by the Louisiana Purchase of 1803. 1/ Although this purchase was not primarily for land as such, but rather for control of shipping on the Mississippi River, it added a significant amount of land. The purchase of Florida in 1819 from Spain was next in the series of acquisitions. 2/ The annexation of Texas in 1845 was next; however, of the 389,166 square miles contained in the Republic of Texas less than one-third (123,270 square miles) came into federal ownership by purchase in 1850. 3/ A settlement with England on the Oregon Territory in 1846 added an additional 286,541 square miles. 4/ The Treaty of Guadalupe Hidalgo of 1848 added 529,189 square miles--most of the Southwestern area of the 48 contiguous United States. 5/ The Gadsden Purchase of 29,670 square miles along the United States-Mexico boundary in present day Southern Arizona and New Mexico completed acquisition of the territory currently within

1/ Ibid., p. 4.

2/ Ibid., p. 17.

3/ Ibid., p. 19. Unoccupied lands within the boundaries of the State of Texas became state lands.

4/ Ibid.

5/ Ibid., p. 21.

the boundaries of continental United States. 1/ Other acquisitions of island possessions and Alaska, although important, were not additions to the contiguous continental land area.

"Disposal"

While the federal government was actively pursuing the acquisition of land, it was nearly as active in a program of distribution. The prevailing policy appeared to be one of moving it into private hands, at least initially. With the acquisition of the lands ceded by the states in the 1781-1802 period, the nation began with the Land Ordinances of 1785 and 1787 attempting to transfer this land ceded by the states in the 1781-1802 period to settlers or other interests. These ordinances laid the basis for the rectangular survey with its square townships, six miles on a side, and 36 sections each. 2/ They also served as a basis from which new states could be formed, later land laws could be developed, land prices established, and a democratic land distribution could be achieved. These two ordinances, which required minimum purchases of 640 acres at \$1 an acre in cash, were followed by later laws which reduced minimum sizes of purchases, changed prices, and made land credit available. 3/

1/ Ibid., p. 22.

2/ Wayne D. Rasmussen, Readings in the History of American Agriculture, Urbana: University of Illinois Press, 1960, pp. 36-41.

3/ Harold Underwood Faulkner, American Economic History, New York: 8th Edition, Harper and Brothers, 1960, pp. 173-4.

Notable provisions were found in the laws of 1800, 1820, 1832, 1841, and 1862. 1/ The law of 1800 reduced the minimum tract to 320 acres, raised the price to \$2 per acre, and established installment buying. The 1820 law further reduced the minimum tract to 80 acres and lowered the price to \$1.25 per acre. The minimum tract was reduced to 40 acres at \$1.25 per acre by the law of 1832. Settlement before survey was legalized by the Pre-emption Law of 1841 and payment was delayed until after survey. The frontiersmen had achieved, through these laws, many of their desires. Land was available in quantities they considered useful and the legalizing of pre-emption allowed them to settle where and when they wanted. While it would still be over 20 years until a free land law would be passed in 1862, settlement was now largely at their discretion.

Homestead Acts. The Homestead Act of 1862 allowed free land up to 160 acres, provided it was lived on and improved upon over a period of five years. This and the series of laws up to 1841 illustrate the steps in reshaping the nation's land policy from the carry-over idea of the large estates and feudalistic systems of Europe to the more democratic individual ownership demanded by those living on and developing the American frontier. Unfortunately, by the time the Homestead Act was passed, the humid lands east of the 98th Meridian to which it would have been most applicable were

1/ Robert Dunbar, "Creation of Public Domain," unpublished lecture, Montana State College, October 1962. The provisions cited are adapted from notes on this lecture.

largely taken up. Of the lands west of the 98th Meridian, Kraenzel says, "The 160 acre acre homestead was totally inadequate for providing the income necessary to support a family and the institutions necessary on the land." 1/ While Kraenzel was writing nearly a century later and had access to considerable "hind-sight," there were those of the mid-18th century who were visionary or prophetic in the light of later developments. 2/

The Congresses elected after 1862 rapidly began to realize the inadequacies of the Homestead Act for transferring western land to private ownership. These Congresses made a number of changes in earlier land laws and passed new ones in an effort to move the remaining land into private hands. Only 11 years after the passage of the Homestead Act they passed the Timber Culture Act which permitted 160 acres in addition to the homesteaded 160 acres if 10 acres of trees were planted and raised for eight years. 3/ This they followed with the Desert Land Act of 1877 which allowed a settler in selected western states and territories to "purchase one section (640 acres) of land if he agreed to irrigate it within three years of filing." 4/ This was in addition to the 160 acre homestead, but

1/ Carl Frederick Kraenzel, The Great Plains In Transition, Norman: University of Oklahoma Press, 1955, p. 179.

2/ See Chapter IV of Joseph Kinsey Howard's Montana High, Wide, and Handsome, New Haven: Yale University Press, 1943.

3/ Hibbard, op. cit., pp. 414-415.

4/ Roy E. Huffman, Irrigation Development and Public Water Policy, New York: Ronald Press Company, 1953, p. 19.

the wording of the act was so vague that numerous abuses developed which were only partially stopped by a modified law of 1891 which reduced the allowable acres to 320. (The Desert Land Act specifically recognized the close tie between land and water in western United States.)

Other modifications were to be made later in the Homestead Act, but by 1879 Congress had become sufficiently concerned to appoint a Public Lands Commission. 1/ In the employ of this Commission was one John Wesley Powell. He was chief among those able to see and voice the difficulties in transferring the land west of the 98th Meridian to private ownership by the then existing laws. 2/ Among the major points of his report are the recommendations that:

1. Homesteads in the arid area be 2560 acres.
2. Homesteads be 40 or 80 acres if they could be irrigated.
3. The rectangular survey be abandoned and surveys according to watersheds to allow as many homesteads along streams and water sources as possible.
4. Settlements be of a village type to prevent isolation that might otherwise occur.
5. Pasturage districts be set up to allow grazing in common by the homesteaders.
6. Water and land rights be inseparable.

That these recommendations were much beyond the thinking of the Congresses of that day is emphasized by the inadequate legislation passed even after

1/ E. Louise Peffer, The Closing of the Public Domain, Stanford: Stanford University Press, 1951, p. 12.

2/ See his Report on the Lands of the Arid Region of the United States, Cambridge: Harvard University Press, Third Edition, 1962.

they were forcibly reminded of the need for a more suitable policy for this region by the report.

In 1909 Congress passed the enlarged Homestead Act which permitted 320 instead of 160 acres. It was followed in 1912 with a Three-year Homestead Act--of which Webb says, "This act seemed to grow out of the realization that on the remaining land the average family could not hold out for five years. The point of starvation was reached short of that; and, consequently, it would be humane to shorten the required time of residence to three years." 1/ In 1916 Congress passed the Grazing Homestead Act which permitted 640 acres, if the land was primarily suited only to grazing. This Act also created a size which was too small, and as the awareness grew that federal ownership of these lands might become permanent, it became the last of the inadequate acts designed to move the available western lands into the ownership of settlers. All were far short of recognizing the problems that existed in developing adequately sized ranch units; none approached the recommendations of Powell.

"Generally speaking, the Homestead Act of 1862 and its succeeding modifications came too late to fit the area remaining open to homesteading. The result was unnecessary human hardship and failure, deterioration of the range, and accelerated erosion. 'Too little and too late' best

1/ Walter Prescott Webb, The Great Plains, New York: Grossett and Dunlap, 1931, p. 423.

