

**Willamette River: River Lands and
River Boundaries**

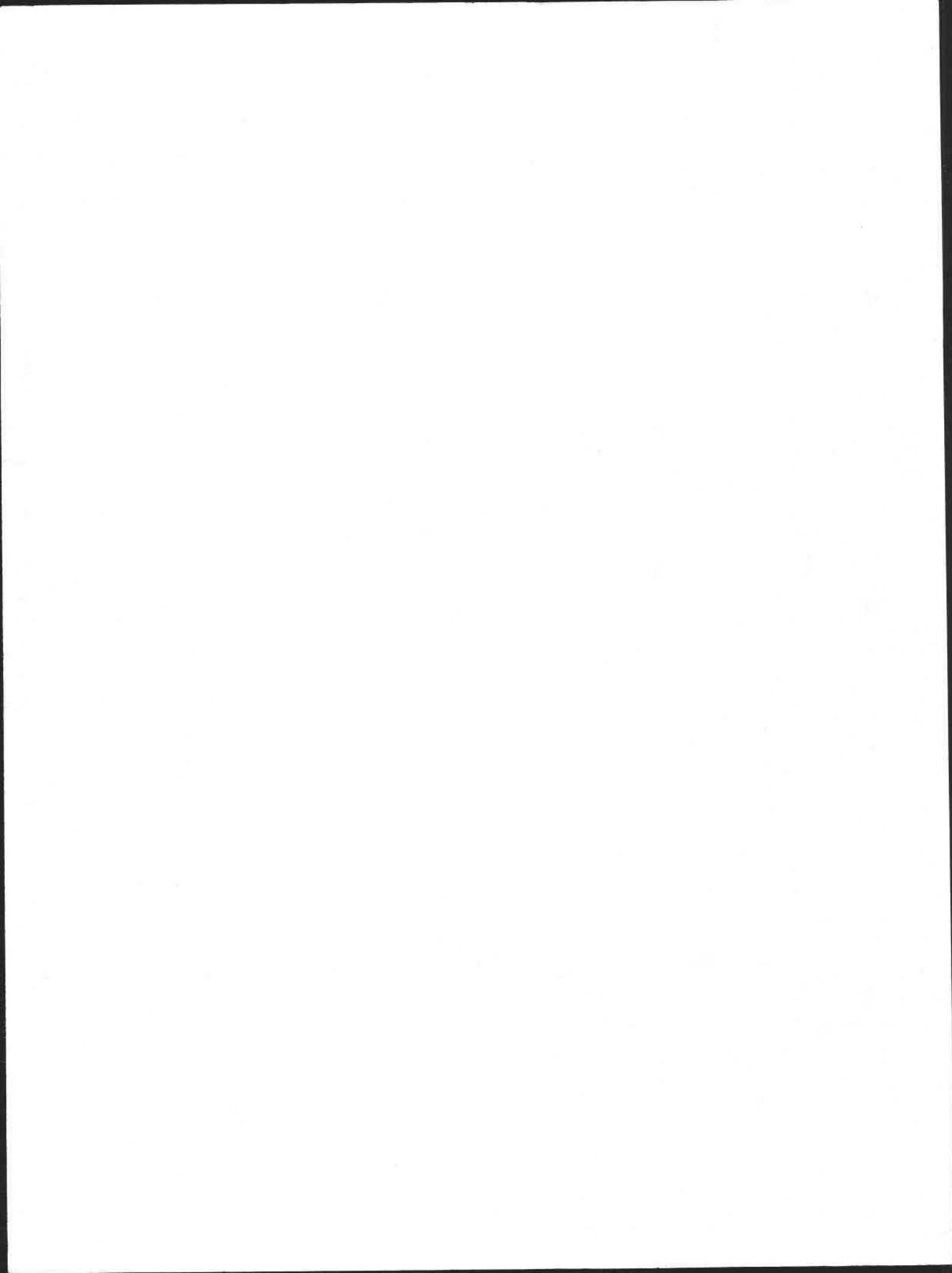
by
Eugene A. Hoerauf

Water Resources Research Institute

**Oregon State University
Corvallis, Oregon**

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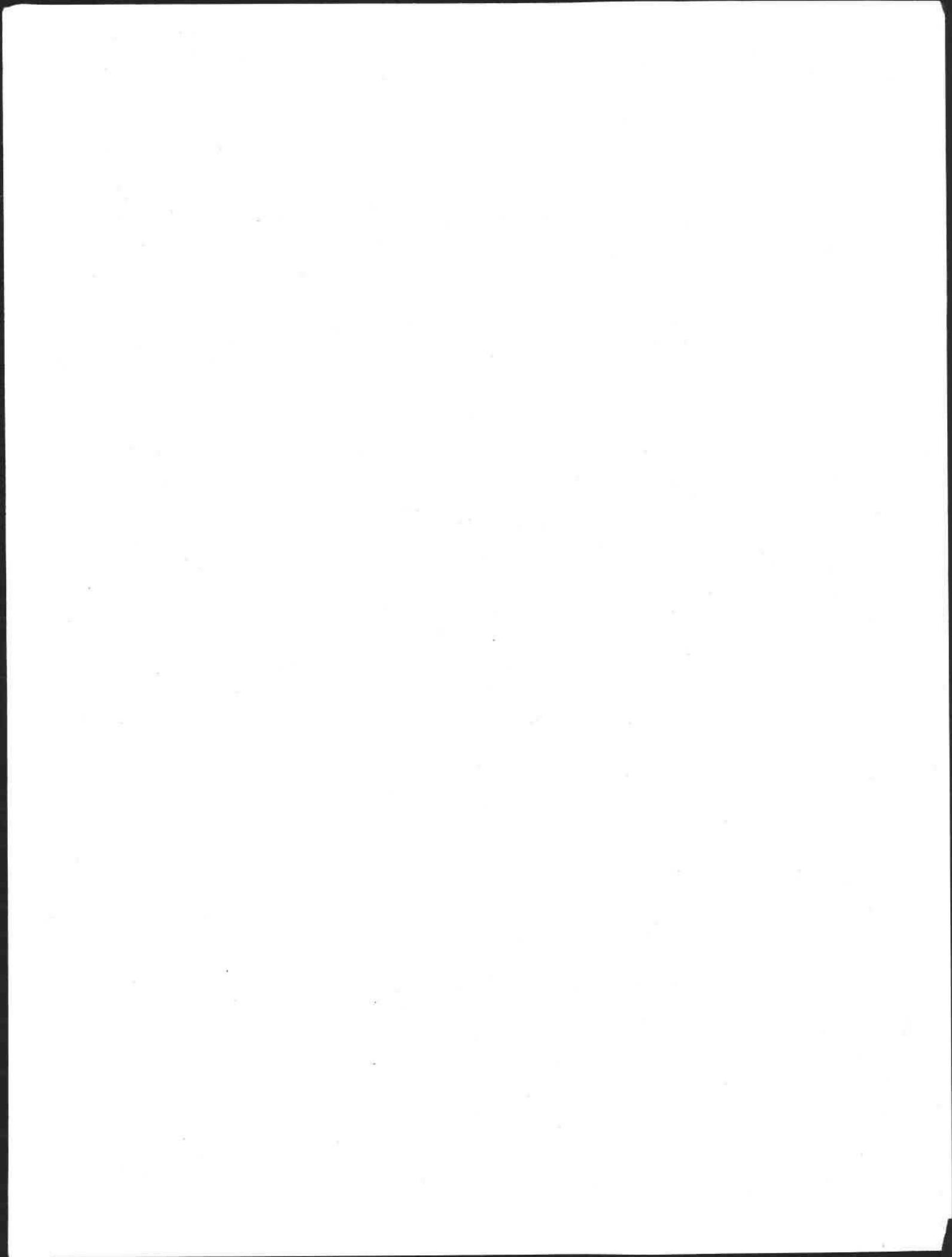
WILLAMETTE RIVER: RIVER LANDS AND RIVER
BOUNDARIES

Thesis prepared by

Eugene Arthur Hoerauf
Department of Geography
University of Oregon
Eugene, Oregon

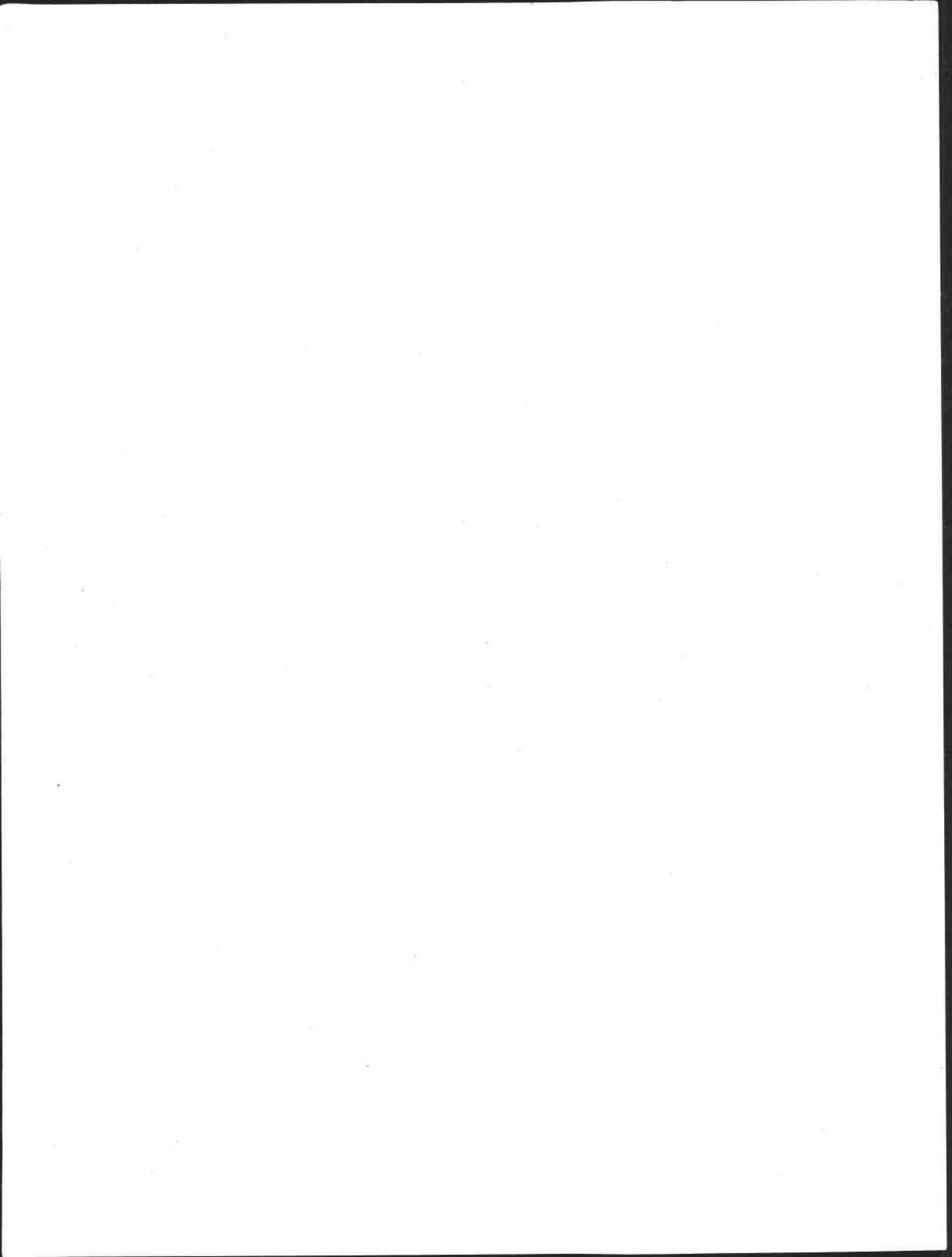
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FOREWORD

The Water Resources Research Institute has arranged for publication of this thesis with funds received under the Water Resources Research Act of 1964, PL 88-379, administered by the Office of Water Resources Research, U.S. Department of the Interior. It is Institute policy to make available the results of significant research conducted in Oregon's universities and colleges. The Institute neither endorses nor rejects the findings of the author. It does recommend careful consideration of the accumulated facts by those officials charged with solving recognized problems. (Photo on cover provided by the Oregon State Highway Commission).



An Abstract of the Thesis of

Eugene Arthur Hoerauf for the degree of Master of Arts

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Title: WILLAMETTE RIVER: RIVER LANDS AND RIVER BOUNDARIES

Approved:

William G. Loy

The thesis examines certain administrative problems that Oregon county and state government can have as a result of changes in the channel location of the Willamette River. The study covers the Willamette from Eugene to Oregon City and includes seven counties: Lane, Linn, Benton, Marion, Polk, Yamhill, and Clakamas. The administrative problems included are: 1) ownership of the riverbed, 2) ownership of abandoned river channels, and 3) effects of river changes on county boundaries where the river serves as the boundary.

The existence of these problems depends on the "navigability" of the river, how channel changes have occurred, and how public officials and the courts interpret the laws dealing with river lands and boundaries. These questions are answered through a study of the legal literature, U.S. Army Corps of Engineers' maps and records, and interviews with state and county officials. To aid in determining where significant river changes have occurred, a set of maps were drawn showing the channel locations of 1852 and 1961.

A chapter is devoted to the legal aspects of river change and its effects on riparian property boundaries. The law recognizes two types of river change: accretion-reliction (the gradual shifting of a channel) and avulsion (the sudden change of a river into a new channel). When a river changes through accretion-reliction, property boundaries move with the river. When an avulsion occurs, property boundaries remain at the location of the channel prior to the change. When these laws are applied to navigable rivers, where the state owns the riverbed, avulsive river changes can result in the state becoming the owner of the dry lands of abandoned channels and the riverbed belonging to the owner of the property through which the river cut its new channel. Ownership of the bed and of abandoned channels are discussed in separate chapters, each with examples.

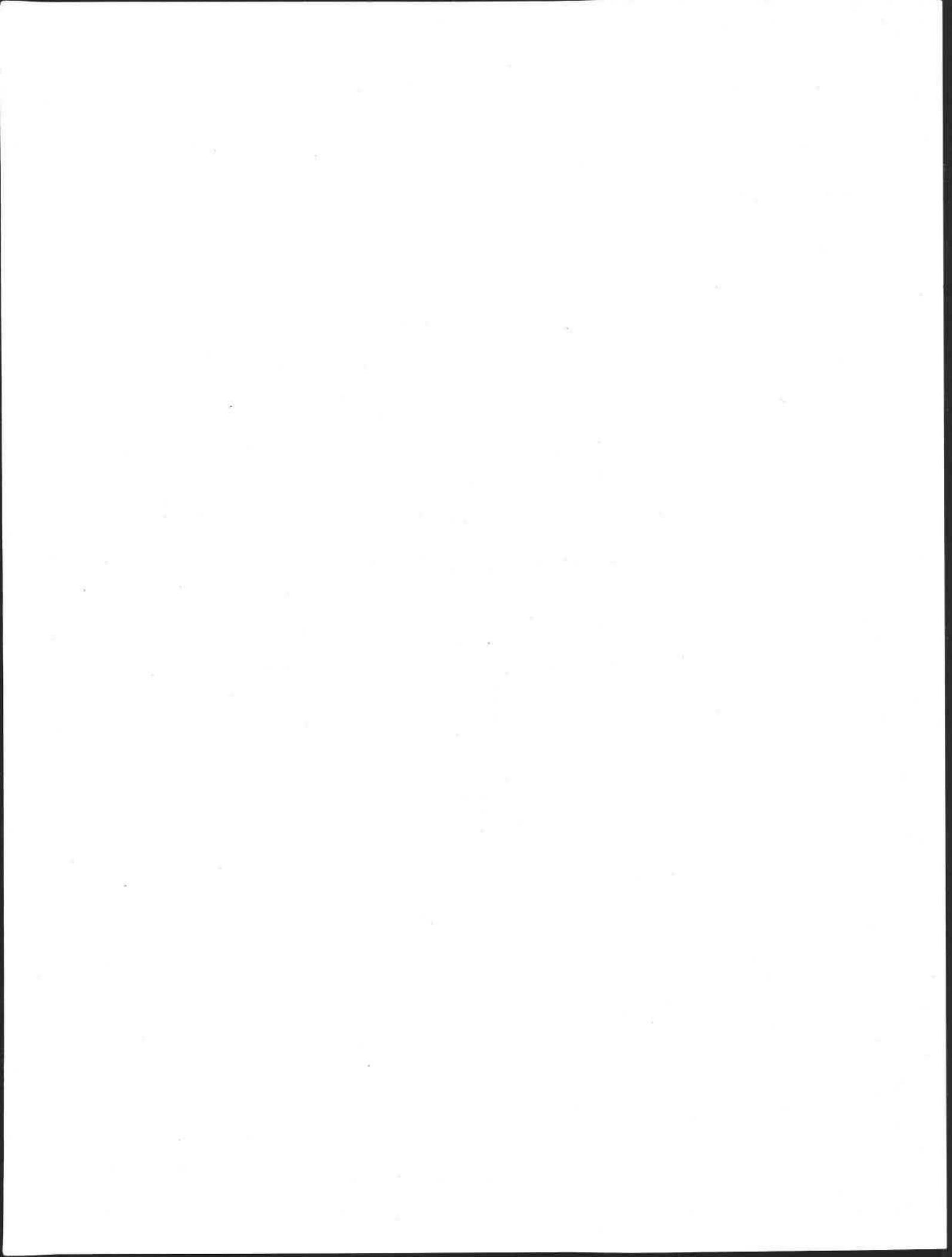
Due to a lack of adequate periodic mapping to document river changes, particularly between the time of statehood in 1859 and 1900, the state has considered its ownership interests to lie in the channel location as shown on the 1852 General Land Office Survey maps. As a result, the state has sold lands in which its ownership interests are doubtful, and has ignored lands to which it may have a legitimate claim. At the same time that it exerts an interest in much of the land within the 1852 channel location, the state does not concede the loss of ownership of portions of the current riverbed.

The various counties have differing attitudes regarding ownership of abandoned channels and varying policies concerning the effects of river changes on county boundaries. These policies and attitudes are discussed with examples.

The counties have arrived at pragmatic, though unofficial, solutions to some of the administrative problems. The state is attempting to untangle the ownership problems, but much work remains.

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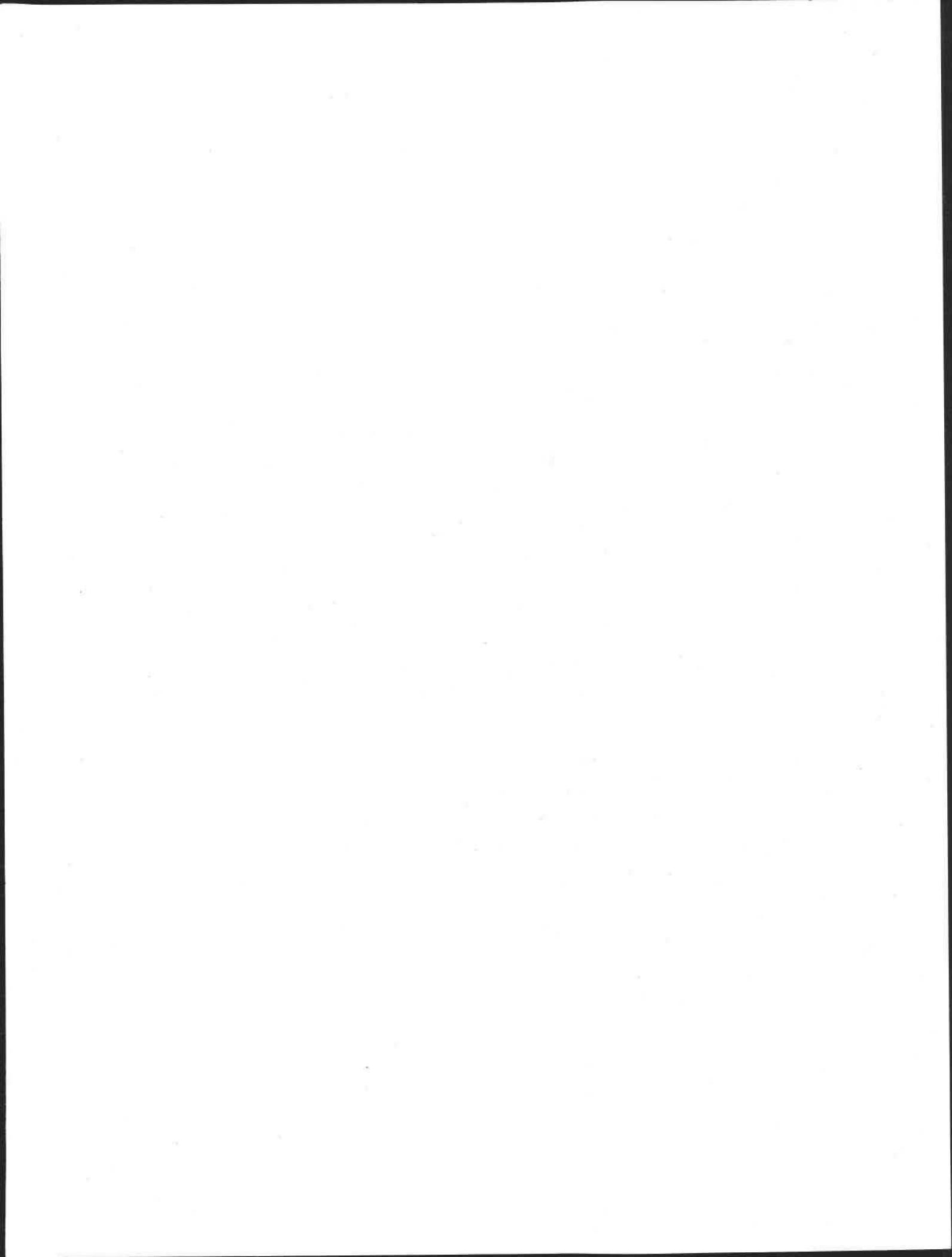
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CHAPTER 1: INTRODUCTION

The shifting of a river channel across the area of the river's flood plain is a physical process having a definite effect upon certain cultural phenomena. One such cultural phenomenon is the use of a river as the boundary line between areas of differing property ownership and political units. The object of this study is to indicate the nature and the scope of certain administrative problems that county and state governments may have as a result of the shifting of a river channel. The thesis is concerned with the Willamette River of western Oregon, and with the laws, attitudes, and policies of the counties of the Willamette Valley and the state of Oregon. The administrative problems to be examined are: 1) ownership of the bed of the river, 2) ownership of the land in former or abandoned river channels, and 3) the effect of river changes on county functions where the river serves as a boundary between two counties.

The existence of one or more of the above problems depends on several factors: 1) is the river officially considered "navigable" by state and federal agencies; 2) has the channel shifting occurred at a gradual, imperceptible rate, or as a relatively sudden, observable change; 3) have particular shifts in the channel location come about through natural processes, or has man been a direct cause of the

changes; and 4) how do public officials and the courts perceive and interpret the various laws regarding river lands and river boundaries.

The question of whether the Willamette River is considered to be "navigable" is critical to the existence of two of the types of administrative problems to be discussed--ownership of the river bed, and ownership of abandoned channels. This question is answered through a study of the legal literature and in the official policies of the Oregon State Land Board and the U.S. Army Corps of Engineers. To aid in determining where channel shifting has occurred, a set of maps has been produced showing the channel locations of 1852 and 1961. Determining when and how particular changes have taken place has required searches of Corps of Engineers reports and maps, and written historical accounts, and interviews with Land Board and Corps officials. The attitudes and policies of state and county governing agencies were obtained through examination of official maps and records, and interviews with various officials.

The thesis is organized around the three types of problems: bed ownership, abandoned channel ownership, and county boundaries. Following a chapter discussing the legal aspects of river changes, a chapter is devoted to each topic, including a general view of the policies, attitudes, legislation, and judicial actions involving river lands and boundaries. Each chapter also includes a detailed examination of one or more areas to illustrate these particular results of river changes. The area included in this study is that part of the Willamette River above the

falls at Oregon City. Multnomah County and the Portland metropolitan area provide sufficient material and problems on the thesis topic for an additional study.

Description of Study Area

The Willamette River and its tributaries drain the Willamette Valley and the encircling slopes of the Coast Range to the west and the Cascade Range to the east (see Fig. 1, following main text). The valley is about 140 miles long south to north and varies in width to more than 30 miles. The river takes a sinuous course down the valley floor, requiring 170 river miles to cover the 110 mile straight-line distance between Eugene, near the head of the valley, and Portland, close to where the river empties into the Columbia.

"The valley is a structural depression with hills of moderate relief in places separating broad alluvial flats.¹ It has had a rather complicated geomorphological history involving periods of alluviation, stream incision, and lacustrine deposition. ". . .the surface of the valley reveals a variety of forms and materials . . . the Eugene-Albany section . . . is remarkably smooth with almost imperceptible slope . . . near

¹Ewart M. Baldwin, Geology of Oregon (2nd ed.; Ann Arbor: Edwards Brothers, Inc., 1964), p. 43.

Salem and Portland, the valley floor is hilly."² The very flat character of the upper valley and the more uneven nature of the lower section have had a definite effect on the degree of meandering the river has undergone in the two areas. Between Eugene and Corvallis, and to a lesser extent on downstream to Salem, the flat valley floor and low river banks have resulted in considerable flooding and meandering. Downstream from Salem the valley has a more uneven floor with the river flowing in an incised channel; thus there has been relatively little shifting of the river.³

² Samuel N. Dicken, Oregon Geography: the People, the Place, and the Time (4th ed.; Ann Arbor: Edwards Brothers, Inc., 1965), p. 136.

³ Baldwin, Geology of Oregon, pp. 50 and 58.

CHAPTER 2: LEGAL ASPECTS OF RIVER CHANGE

In Oregon, as in the rest of the United States, two sources of laws co-exist. One is the constitutional and statute law as determined by direct votes of the people or their elected representatives, the legislative assemblies. The other source is American common law, developed from English common law by the courts at various levels in this country. Most of the laws dealing with river lands and river boundaries are found in the common law.

A property which has a river as a part of its boundary is called a riparian property. The effect of river changes on boundaries of riparian properties depends upon the definition of the boundary and the type of change the river has undergone. A riparian property may have its boundaries defined in one of two ways, along the river bank, or along a surveyed meander line of the river. When the river bank is used, the property description will commonly read as being along a given bearing a given distance to the river, thence along the bank of the river to some specified point where the property line leaves the river. The boundary along the river may be indicated by a series of bearings and distances but the property is clearly meant to be bounded by the river. Meander lines are survey lines intended to indicate the sinuous nature of a river but are not valid as property lines when a property is defined as bounding on the stream. In some cases, property descriptions will specify

meander lines, indicating the requisite bearings and distances, rather than defining the property as bounded by the stream. If there is a wide and significant separation between the meander line and the actual shore line, the meander line will usually be considered the property boundary, thus the property may not be riparian.¹

Where the actual boundary line of a riparian property lies depends upon whether the stream is considered navigable, and in certain areas of Oregon, upon when the property was withdrawn from the federal public domain. If a river is considered navigable, property boundaries for riparian properties stop at the water's edge. The bed of a navigable river is owned by the state. Under the commerce clause and the supremacy clause of the constitution of the United States, the federal government controls the navigational use of the river for transportation and commerce, as it is considered a public highway. Thus proprietary ownership of the bed of a navigable river, which is in the state, is distinguished from control of the running water for commerce purposes, which is in the federal government.² The question of whether a particular river or stretch of river is navigable may be determined by the federal and state agencies concerned

¹Problems in Oregon Riparian Titles and in Their Legal Descriptions, Involving Ocean, River, Stream and Lake Boundaries Unpublished manuscript. Northwestern School of Law Student; Obtained from Dr. Chapin Clark, University of Oregon Law School.

²Frank Emerson Clark, A Treatise on the Laws of Surveying and Boundaries 3rd ed. by John S. Grimes (3rd ed.; Indianapolis: The Bobbs-Merrill Company, 1959), pp. 605-617.

with river navigation and use, or ultimately by the courts if the question enters into litigation.

The U.S. Army Corps of Engineers has responsibility for maintaining an open channel in navigable rivers, and thus has to make a decision regarding what portion of a river is navigable. The State Land Board is the state governmental agency responsible for river lands and river beds of navigable rivers in Oregon. When called upon to render a decision regarding the existence and extent of navigability of a river, the courts generally rule according to the following test: in its normal and ordinary condition, the river must be used or be susceptible for use as a channel for commerce or transportation. In ruling on navigability for determining ownership of the bed, Oregon courts follow this test. For navigability with respect to establishing the public's right of way, the test is whether or not the stream will float logs.³

The Willamette River is considered to be navigable by both the Corps of Engineers (for navigational control) and the State Land Board (for ownership of the bed). The head of navigation has been set as the Ferry Street bridge in Eugene, i. e. ownership of the bed rests with the state from that point to the river's mouth below Portland. In the mid

³R. Johnson, "Navigable Rivers and Streams of Oregon - Tests of Navigability- Title to Beds- Rights of Public to Use," Oregon Law Review, XXVIII (1949), p. 267.

1800's when river transport was of greater importance than now in the Willamette Valley, the effective head of navigation was at Eugene, though boats generally reached that far upstream only during periods of high water. Although the river above Harrisburg has not had river traffic since the turn of the century, and has not been maintained by the Corps of Engineers for navigation by river boats, the head of navigability is still officially considered to be at Eugene. The Oregon courts have not yet had occasion to rule on the extent of navigability on the Willamette River.

Whereas the state owns the beds of navigable rivers, the boundaries of riparian properties along non-navigable rivers and non-navigable portions of navigable ones extend to the center of the river. In most courts the center of the river ("thread" or "thalweg") is a line midway between the shores at ordinary water stage. The Oregon Courts have altered this to a line equidistant from all points on the opposite banks at right angles to the thread at the lowest stage of water.⁴ Although along navigable rivers riparian property extends to the water's edge with the state owning the river bed, along the Willamette the location of the water's edge is somewhat complicated by Oregon legislation of the 1870's.

⁴Problems in Oregon Riparian Titles.

In American common law, riparian properties extend to the water's edge as determined at times of high water level. In Oregon the high water level is defined by the courts as that to which the stream rises with sufficient frequency and sustains for sufficient time to mark the constraining banks and discourage encroaching vegetation along a distinct upper line. The low water mark of a river is that point to which the waters normally recede when the volume of water is at its low level, not determined by the extraordinary year.⁵

In 1874 the Oregon legislature, in amending an 1872 act dealing with tidelands, granted to riparian owners along the Willamette River the land lying between the low water level and the high water level. In 1876 the 1872 act was again amended, this time to extend it to several other Oregon rivers. These acts were passed to legitimize the occupation and use of the area between high and low water levels that many riparian owners were already making in the assumption that it was rightfully theirs. In 1878 the state legislature reversed itself, repealing the act of 1872 and the amendments of 1874 and 1876.⁶ However, the owners of riparian property along the Willamette during the four year period that the act was in force automatically gained ownership to the low water line. This is a factor that has been of importance in several court cases

⁵Problems in Oregon Riparian Titles.

⁶Edward C. Harms, Jr., "Power to Convey Titles to the Beds of Fresh-water Navigable Streams," Oregon Law Review, XXVIII (1949), p. 388.

to date, and may be of importance in future problems of riparian ownership.

The law recognizes only two basic types of river changes, accretion-reliction, and avulsion. Accretion is the gradual process of deposition of sediments on or along a river bank, thereby extending the shoreline further into the stream. Reliction is a process creating new land through the permanent withdrawal of water, thereby uncovering land along the former shoreline. Both processes are often accompanied by the erosion of the opposite river bank, i. e. while one bank is being reduced through erosion, the other is extended through accretion and/or reliction.

The process of avulsion involves the relatively sudden shifting of a river into a new channel. Determining whether a particular channel change occurred as a result of accretion-reliction or an avulsion is often difficult. The courts have adopted a rule for differentiating the two: when the change occurs at such a rate that it is perceptible to an observer while he is present, it is considered an avulsion. If the change is so gradual as to be imperceptible to the observer it is a case of accretion-reliction.

Both accretion-reliction and avulsion are natural geomorphic processes involving the same basic force, the kinetic energy of moving water. The ability of moving water to erode and transport material is a function of the velocity of flow; increasing velocities enable a stream to erode and transport more material, decreasing velocities, depending on

the load being carried, generally cause some of the material to be deposited along the stream bed or bank. Flow velocities are not uniform in all parts of a river; the water moves fastest in a narrow band that moves sinuously back and forth across the channel. In curving meandering channels, the fastest flow is against the outside of the curve and the slowest along the inside. Thus, in meanders most erosion occurs along the outside bank and deposition on the inside of the bend.⁷ During normal flows the geomorphic work done is the slow but persistent progression of the meander bends down the valley.

During periods of high water and flooding, large quantities of high velocity water results in strong scouring action on the channel bed, banks, and overflowed areas. As the water level drops, the stream deposits some of the eroded material it is no longer able to transport. The scouring and filling associated with floods can cause great changes in stream courses by cutting new channels and filling old ones. Avulsive changes, usually in the form of meander cut-offs, most often occur when flood waters flow over the bank and across the neck of the meander. Scouring can quickly cut a new channel which, if cut to a depth sufficient to pass water at normal levels of flow, may replace the old meander as the main channel.

⁷Luna B. Leopold, M. Gordon Wolman, and John P. Miller, Fluvial Processes in Geomorphology (San Francisco: W. H. Freeman and Company, 1964), pp. 83-85.

When the river shifts gradually through the process of accretion-reliction, riparian property boundaries, including state ownership of the bed, move with the river. Thus the property owner on one side of the river will gain new land through accretion-reliction, while the owner on the opposite bank will be losing part of his property through erosion by the river. If the river changes through an avulsion, the property boundaries formerly determined by the river's location remain where they were at the time of the avulsion, they do not move with the river.⁸ It is through avulsive changes that the state can retain ownership of the dry land of former channel beds, and that problems of ownership of the bed arise. Although there are rules for determining what happens to property boundaries when a river change occurs, factual problems arise upon trying to determine when the change occurred, where the river was located prior to and following the change, and whether it was a result of accretion-reliction or avulsion. Additional problems arise as a result of varying interpretations of the laws by public agencies and officials concerned. The two problems, ownership of the bed and ownership of former channels will be handled in separate chapters.

The question of the effect of river changes on political boundaries at the state and national level is easily answered in the statutory and

⁸F. Clark, Surveying and Boundaries, pp. 646-655.

common law. However, the effect of river changes on county boundaries is not mentioned in the Oregon statutes and is only briefly mentioned in the legal literature. The attitudes and interpretations of the county officials in the several counties along the Willamette towards this problem will be examined in the following chapter.

CHAPTER 3: THE WILLAMETTE RIVER AND COUNTY BOUNDARIES

The Willamette River has served as a boundary line between political subdivisions since 1843 when the provisional government first divided the Oregon Country into four "districts" (the term "county" was substituted for district in 1845). The entire length of the river from its mouth to its source was used as a part of these initial county boundaries. Through the next several years, additional counties were created by subdividing the original four. In 1851 Lane County was created from the southern portions of Benton and Linn counties, leaving those two counties with their present boundaries. This was the last created of the eight western Oregon counties having the Willamette River as a part of its boundary.¹

The legal descriptions that designate the Willamette River as a portion of the boundaries of Lane, Linn, Benton, Polk, Yamhill, Marion, Clackamas and Multnomah counties have, except for one small section along the Linn-Lane boundary, remained essentially unchanged since that date. These legal descriptions generally use similar terminology when describing that part of a county boundary which follows the river---
"The line dividing Marion county from that of Yamhill shall be a line drawn along the middle of the main channel of the Willamette River."²

¹Frederick V. Holman, "Oregon Counties: Their Creations and the Origins of Their Names," Oregon Historical Quarterly, XI (March, 1910), p. 7-12.

²Matthew P. Deady and Lafayette Lane, comps., General Laws of Oregon 1843-1872 (Salem: Eugene Semple, State Printer, 1874) p. 542.

Despite the nearly uniform wording designating the river as a portion of a county boundary and the nearly equal lengths of time that these boundaries have been established, there is quite a disparity among the various counties with regard to how river changes have affected their boundaries. Three points of view exist: 1) the county boundary follows the river wherever it goes; 2) the boundary follows the river except when changes in the river's location are a result of man's actions; and 3) the boundary of the county is permanently located where the river was located at the time the county was established and can be changed only through legislation. All three of these attitudes towards the effect of river changes on county boundaries exist among the counties along the Willamette River. In several counties no single viewpoint is observed, one viewpoint is used along one part of the river while another is used downstream. This lack of uniformity among the counties and even within some counties is a result of differing attitudes of the county officials, not of the laws establishing the county boundaries.

The question of the effect of river changes on county boundaries is not clearly answered in legislative and common law. Farnham, a legal authority on waters, makes the statement that county boundaries are set by the legislature and can be changed only through additional legislation. Two paragraphs later he states that the boundary moves

with river changes if the changes are gradual.³ Although Farnham does not state what happens in the case of avulsive changes, he implies that it is similar to the effect of avulsive changes on property boundaries, i. e. the boundary remains at the old channel location. The Oregon law does not deal with this question, and the Oregon courts have not had occasion to examine it thus far. A.R. Panissidi, State Land Board appraiser and expert on river lands and boundaries, says that the county boundaries along rivers remain in their original location, regardless of river changes.⁴ In the Oregon statutes there is only one case of the legislative change of a county boundary to adjust it to a change in the location of the Willamette River. This case will be discussed later in this chapter.

Figures two through five (following main text) show the location of the river channels in the years 1852 and 1961 for the Willamette from Eugene to Oregon City. Because of the lack of uniformity among and within the counties on how river changes affect boundaries, the county boundaries are shown only for those portions of the boundaries not originally defined as the river. How the counties view their boundaries in areas of river change will be discussed below on a county-by-county basis. The Santiam River, a tributary of the Willamette, is designated

³ Henry Philip Farnham, The Law of Waters and Water Rights: International, National State, Municipal, and Individual, Including Irrigation, Drainage, and Municipal Water Supply (Rochester: Lawyers' Co-operative Publishing Company, 1904), pp. 1482-83.

⁴ Interview of A.R. Panissidi, Appraiser, State Land Board, March, 1969.

as a portion of the boundary between Linn and Marion counties. Boundary problems as a result of river changes along the Santiam are similar to those along the Willamette, thus the exact boundary between Linn and Marion is not demarcated on the maps.

There are several problems that arise as a result of this non-uniform interpretation among the counties of the effects of river changes on county boundaries. Counties, as administrative subdivisions of the state, have certain administrative functions delegated to them by the state legislature. These include the recording of deeds; assessment and collection of property taxes to finance county operating expenses and for distribution to public schools, municipal governments, and special taxing districts; the registering of voters and supervising of elections; construction and maintenance of county roads; law enforcement in rural areas; and administering health and sanitation laws. Regardless of where the official boundary is considered to lie in areas of river change, the dividing line for the provision of most of the above services and functions is effectively the Willamette River. Only in the assessment and collection of taxes and in the recording of deeds is the official boundary location of particular importance.

The most official maps delineating a county's boundaries are the plat maps drawn and used in the assessor's office to indicate property boundaries. An examination of the assessor's maps was made in each of the county courthouses to determine what policies have been

in effect in the various counties. In addition, various county officials and employees were interviewed to determine to what extent a definite policy exists for dealing with lands along the changing river. Below is a summary of the apparent and stated policies in each of the counties along the Willamette River, discussed by sections of common boundaries (e.g. Lane-Linn, Linn-Benton, etc). Following the summaries will be a set of examples to illustrate the types of problems counties may have with river boundaries.

Lane-Linn

The Willamette forms a part of the boundary between Lane and Linn counties for about eight miles (see Fig. 2). Along this portion of the common boundary the assessors' maps show the official boundary to be along the center line of the 1852 location of the channel. The only exception to this is in sec. 16 of T15s, R4w where the state legislature has made an official change in the boundary. This is the only location along the Willamette where a section of county boundary has been officially changed to conform with a river change, and will be more fully discussed below as Example 1: Legislated Boundary Change. The assessors' maps also give an indication as to how the counties have been able to reconcile the preservation of the (nearly) original boundaries and yet be justified in using the present river location as a dividing line for providing county services. The plat maps show numerous locations

along the Lane-Linn river boundary where a property lies between the county boundary (i. e. the center of the 1852 channel) and the present location of the river. In effect, these are properties cut-off from their county by the river and physically attached to another county. Since 1960-61 the two counties have examined many of these areas on an individual property basis and in most cases have decided to allow the present Willamette River to serve as the dividing line for assessment and collection of taxes; it had already been functioning as the dividing line in the provision of other county services. The term "cross-assessing" will be used to denote this practice of one county's assessing and collecting of taxes on properties located on its side of the river but officially considered to lie within the boundaries of the county across the river. One such area will be examined in more detail below as Example 2:

Cross-assessing.

Most of the definite decisions to cross-assess these properties along the Lane-Linn boundary came as a result of an extensive remapping of all properties in Lane County, and a subsequent agreement between the two counties. This remapping project was undertaken by the county assessor's office and the State Tax Commission in the early 1950's and completed about 1960. A similar remapping project for Linn county was begun in 1957 and completed by 1961. Prior to this remapping of properties, it is possible that some areas along the river may not have had property taxes assessed by either county, or, less likely, have been

taxed by both counties simultaneously.

The boundary situation between Lane and Linn counties may be summarized as: the official boundary, with one minor exception, is considered by both counties to lie along the center line of the 1852 channel location; the de facto boundary, in terms of county services and taxation, for the most part follows the present river location.

Linn-Benton

The Linn-Benton boundary lies along the Willamette River for about forty-nine miles, the entire eastern boundary of Benton County (see Figs. 2 and 3). The boundary situation along this part of the river is quite similar to that described above for Lane-Linn. In both the Lane-Linn and Linn-Benton boundary areas, the river has undergone a great amount of change; the 1961 channel deviates a considerable amount from the 1852 location. The remapping program in Linn County, completed in 1961, brought to light the problems of riparian properties and boundaries. A decision was made to add natural accretions to existing property boundaries. Discussions with Lane and Benton counties led to the general agreements to adjust the assessment boundaries as nearly as possible to match the present river location.⁵ Although Benton County is only now in the process of remapping its property boundaries, the Linn County remapping had covered both sides of the river sufficiently

⁵ Interview of Albert Brown, former Linn County Assessor, February, 1969.

well to allow the two counties to begin making these adjustments.

Both counties consider the official boundary to remain in the 1852 channel location but, except for one location in sec. 1 of T12s, R5w, use the current location of the river as the de facto boundary. At the time that decisions were being made to cross-assess, individual property owners were notified by letter indicating what was being done and why. The letter further stated that this action had no effect on the deed, title, or description of their property, nor was it an attempt to alter the county boundaries, but was being done only as an administrative action.

In the opinion of the Benton County Assessor, Charles Anderson, the only county function where this boundary arrangement could lead to difficulty is in the recording of deeds. He says that many property owners in the area affected have their deeds recorded with both county recorders to insure that future difficulties do not arise. Anderson also mentioned that rates of tax assessment on these properties are similar in the two counties. If there were to develop a marked disparity between the two counties on taxing rates, property owners could probably go to court and challenge the legality of this inter-county arrangement.⁶

⁶ Interview of Charles Anderson, Benton County Assessor, December, 1968.

Linn-Polk

For a distance of about three miles, the Willamette forms the boundary between Linn and Polk counties, the only area where the two share a common boundary (see Fig. 3). This short stretch of river has undergone only minor changes; both counties use its current location as the boundary.

Polk-Marion

Downstream from the entrance of the Santiam River (the boundary between Linn and Marion counties) the Willamette has undergone much less change since 1852 than has occurred in the upper portions. Marion County has a common boundary along the Willamette with three counties; Polk, Yamhill, and Clackamas, as well as along the Santiam with Linn (see Figs. 2, 3, and 4). The assessor's office in Marion has not developed a general policy for dealing with river boundaries; each area of river change is treated as a separate problem.⁷ Nevertheless, from examining the plat maps and talking with the personnel there, the conclusion may be reached that the current river serves as the official boundary line in areas of gradual change. In areas of avulsive changes, the boundary location will depend, in part, on whether the change was man-caused or natural.

⁷Interview of Harold Richter, Chief Draftsman, Marion County Assessor's Office, March, 1969.

Marion County is currently remapping all properties in the county; Polk has yet to begin such a project. Ralph Howe, Polk County Surveyor, stated that the official boundary follows the river wherever it moves, so long as the changes are due to natural processes. River changes that result from man's intervention leave the boundary in its pre-change location.⁸

In the thirty-eight miles where the river forms the boundary between Polk and Marion counties (see Figs. 3 and 4), only four or five stretches of a mile or two each have had significant changes of a possible avulsive nature. All but one of these areas along the Polk-Marion boundary have been natural, and in the views of the two counties, the river is still the official boundary. The one case of man-caused change is located in secs. 9, 16, and 21 of T6s, R3w, near the northeast corner of Polk County. This area will be discussed below as Example 3: Man-caused Changes.

Marion-Yamhill

A thirty-six mile stretch of the Willamette forms the entire eastern boundary of Yamhill County, separating it from Marion (see Figs. 4 and 5). Of the thirty-six miles of border, the upper sixteen have had significant changes since 1852, the lower twenty very little.

⁸Interview of Ralph Howe, Polk County Surveyor, December, 1968.

In general, Yamhill County considers the county boundary to follow the current location of the river. However, there are at least three areas where this does not hold and problems or potential problems along the Marion-Yamhill border may exist. In the Mission Lake area (sec's 3, 4, of T6s, R3w and sec 34 of T5s, R3w)(see Fig. 4) the official boundary according to both counties follows the 1852 channel location. The channel change here occurred as an avulsion in the 1861 flood, the largest flood known to white man in the Willamette Valley.

At Jackson Bend (secs 2, 11, 12 of T5s, R3w) (see Fig. 4) a change in the channel was effected through Corps of Engineers construction during the early 1930's. The land lying between the original channel and the new one is platted on Marion County assessor's maps though Yamhill County does not necessarily yield jurisdiction.⁹ Some agreement will have to be reached by the two counties for this area.

Finally, in secs. 26, 27, 34, 35 of T5s, R3w (see Fig. 4) there exists a large island in an area where a considerable amount of change has occurred since 1852. As a result of differing interpretations of where the boundary line separating the two counties lies, one small part of the island is assessed by Yamhill County, another small part by Marion, and the greater portion of the island is apparently of unknown ownership and untaxed in either county. This case is discussed below as

⁹Interview of Kim Worrel, Appraiser, Yamhill County Assessor's Office, March, 1969.

Example 4: Non-assessment.

Marion-Clackamas

The Willamette serves as the boundary between Marion and Clackamas counties for less than three miles (see Fig. 5). In this short stretch of river, there has been essentially no change in the channel location and the boundary remains with the center of the river.

Example 1: Legislated Boundary Change

In 1915 the Oregon legislature made a change in the official boundary separating Lane and Linn counties. This was an attempt to alter a portion of the boundary to conform to the changes that had occurred in the location of the river since 1852.¹⁰ Figure 6 shows the area, giving both the boundary before 1915 (i.e. the 1852 channel location) and the present boundary, established at the 1915 location of the river. The river has continued shifting so that where previously at this location there had existed a parcel of land legally within Linn County boundaries but on the Lane County side of the Willamette, now there is a part of Lane County on the Linn County side. In this case, the property is still recorded and taxed by Lane County.

¹⁰Oregon Legislature, House, "A Bill Fixing County Boundaries," H. B. 315, 28th Regular Sess., 1915, p. 76.

Example 2: Cross-assessing

The practice of cross-assessing has developed along the Lane-Linn and Linn-Benton boundaries as a pragmatic solution to the problems of one county providing services and the other collecting the taxes.

Figure 7 shows an area of river change along the Lane-Linn boundary in the area between Harrisburg and Junction City. Settlement began in the area in the early 1850's and by 1855 a river town, now called Lancaster, began to grow, and soon served as a river port for receiving and shipping of goods on the several river boats then plying the Willamette. The big flood of 1861 began cutting a new main channel to the east, across the neck of the meander. By the 1870's the old channel was no longer usable by the river boats,¹¹ and by 1895 it was no longer connected to the river during normal water stage.¹² For more than 100 years after the river separated the property within the 1852 meander (tax lots 800 and 1000 on Fig. 7) from the rest of Linn County, the deeds were recorded in Linn County and property taxes assessed and collected by that county. In 1963 the assessors' offices of Lane and Linn counties agreed to transfer the property in tax lot 800 to Lane County for purposes of deed recording and property taxation; the official boundary is shown

¹¹ Howard McKinley Corning, Willamette Landings: Ghost Towns of the River (Portland: Binford & Mort, 1947) pp. 166-168.

¹² U.S. Army Corps of Engineers, Map of the Upper Willamette, Sheet 2: Brown's Island to Harrisburg (Portland: Corps of Engineers, 1894).

on the plat maps in both counties as remaining with the 1852 channel location. Tax lot 1000 was not transferred to Lane County until 1968.

Example 3: Man-caused Change

The U.S. Army Corps of Engineers is charged with the responsibility of maintaining the ability of boats to use navigable rivers for transport and commerce. They sometimes find it necessary to construct dikes and wing dams to force the greater amount of water flow to go through what they consider to be the better of two existing channels.

Figure 8 is of an area along the Marion-Polk boundary where activities of the Corps of Engineers has complicated the boundary situation. As shown, in 1852 the main channel was along the east side of Windsor Island. Although the area of the island has undergone considerable change, the east channel remained the main one until after the turn of the century. By the 1930's, the east and west channels had become quite similar, neither having the depth of flow considered desirable by the Corps of Engineers. To provide one good channel for navigation, the east channel was blocked off so that most of the flow was forced into the west channel.

Because this change was man-caused Polk County considers the county boundary to have remained more or less along the east side of Windsor Island. An examination of the map, showing only the upstream portion of Windsor Island, shows how the two counties resolved

this problem. The fact that the boundary is in part along the 1852 meander line, and in part along the east channel location at the time of the Corps of Engineers actions, indicates that the solution was a pragmatic one rather than following any set principle. The county boundary line in this particular case was dictated by existing property ownership lines as much as by the river location at any one point in time.

Example 4: Non-assessing

The main reason for cooperation between the assessors' offices in adjoining counties is to insure that all properties are taxed, and none is taxed by both counties. The recently completed remapping projects in Lane and Linn counties and those currently underway in Benton and Marion counties were undertaken (in cooperation with the State Tax Commission) to attain this goal. Despite the inter-county cooperation and the remapping programs, at least one area exists where the adjoining counties do not agree on the location of the common boundary and, as a result, there is an area apparently untaxed by either. A fairly large island in secs 26, 27, 34, 35 of T5s, R3w is shown on Figure 9, an area along the Marion-Yamhill boundary. This is an area that has undergone a great amount of change since 1852. During the 1930's the island did not exist, the only channel was that along the north side of the present island. By 1947 the channel along the south side of the island had been formed, and by 1956, through intervention by the Corps of Engineers, the south channel had become dominant.

In the vicinity of the island, Marion County considers the south channel to be the county boundary, except for a narrow strip of land extending north across the island. This land is bounded by the 1852 meander lines which are apparently serving as the Marion County boundary at this particular point. Although Yamhill County uses the north channel as the boundary location around the island, one small plot of property on the island is platted, recorded, and taxed in Yamhill. The remainder of the island is apparently of unknown ownership, and not taxed by either county.

CHAPTER 4: ABANDONED CHANNEL OWNERSHIP

The effects of river changes upon property boundaries was discussed previously in the chapter on legal aspects of river changes. To review: in areas where river changes are gradual (i. e. through processes of accretion-reliction) property boundaries move with the river; in areas of avulsive changes, property boundaries remain fixed at the old channel location. When this rule is applied along navigable rivers, such as the Willamette below Eugene, the state, as a consequence of its having gained ownership of the bed at statehood (1859 for Oregon, may retain ownership of the dry land of filled-in former channels). This acquisition of dry land along the river occurs only when a river change is avulsive, and, in theory, at the same time the bed of the river in its new location is the property of the owner of the land on which the river forms its new channel. Problems of ownership of the bed are discussed in the following chapter.

Although the rule given above is a simple one, its application to any particular area of river change is often complicated by a lack of knowledge regarding whether the change was an avulsion or a case of accretion-reliction, and where the river was located immediately prior to and following the change. For the Willamette River, the determination of these facts for any area of river change has been very difficult due to a lack of detailed mapping and river surveys at frequent intervals. The

state agency responsible for administering the state-owned river beds, the State Land Board, has developed a simple approach that avoids the problem of determining how, when, and where river changes have occurred. Rather than determine what lands along the river in which the state may have an ownership interest as a result of avulsive changes, the State Land Board has considered all of the land lying within the meander lines of the 1852 General Land Office survey as potentially state land.¹

In relation to the 1852 meander lines, river changes can be one of three types: in some areas the 1852 channel meander lines do outline areas where the state gained ownership of land as a result of avulsive changes, i.e. the river location at the time of avulsion was the same as it had been in 1852. One such area will be examined in more detail in Example 1.

In other areas, the river moved away from the 1852 channel location prior to the time of avulsion and thus the 1852 meander lines do not encompass land of which the state gained ownership as a result of avulsive river change. Nevertheless, for want of accurate pertinent data, the state has considered the area within the 1852 meander lines as possible state land. Nearby areas containing the location of the channel

¹ Although the state did not gain ownership of the bed until statehood in 1859, the 1852 maps are used in lieu of any adequate maps closer to the 1859 date; the possibility that changes may have occurred between 1852 and 1859 has to be ignored because of a lack of sufficient data to establish the facts.

at the time of avulsion (as determined by later maps and other data) are ignored by the State Land Board; Example 2 illustrates such an area.

The third type of situation can and no doubt does exist: the river has shifted away from the 1852 meander lines through the gradual processes of accretion-reliction rather than suddenly through avulsion. In this case, state ownership should remain with the river bed as the river moved, and the state would gain no land outside the current river location. Because the State Land Board lacks sufficient data and the personnel needed to do the detailed studies necessary to determine the where, when, and how of river changes along the Willamette, all three types of situations are dealt with in a similar manner: the 1852 meander lines enclose the lands to be administered as potentially state-owned river lands. In the years since statehood the state has sold numerous tracts of lands within the 1852 meander lines to adjoining property owners. In many cases the transaction has been for a quitclaim deed, i. e. the state's ownership of the property was doubtful and the deed was sold to enable a property owner to obtain a clear title. This decision to consider land within the 1852 meander lines as state property was apparently made at an early date as some of these lands were sold as early as the 1870's.

The various counties along the Willamette River do not all concur with the view taken by the state regarding the lands within the 1852 meander lines. The counties can be divided into two groups, the

upper (southern) three (Lane, Linn, and Benton) and the lower four (Marion, Polk, Yamhill, and Clackamas) (see Figs. 2-5). In the upper three there is a great disparity between the 1852 meander lines and the current river location, especially in the area above Corvallis. In the lower four counties the 1852 meander lines and current river channel more nearly coincide. In the lower four counties, except for a few locations where cut-off channels still contain water, the state has sold the lands within the 1852 meander lines that it had gained as a result of avulsive changes. The upper three counties contain the areas where the greatest changes have occurred and the potential for future problems is most likely.

When Linn County completed its remapping project in 1961 it was decided that, except for one location (to be discussed in the following chapter), the lands within the 1852 meander lines not already sold by the state were a result of accretion-reliction.² Thus, nearly all the Linn County lands within the 1852 channel have been assigned to private ownership, either as a result of this decision or as earlier purchases from the state. Benton County has done the same for river lands within that county.

²Interview of Albert Brown, former Linn County Assessor, February, 1969.

After its remapping program was completed in 1960 Lane County made a decision on how to treat the lands lying within the 1852 meander lines;³ lands of then unknown ownership were assigned to the state. An examination of the assessor's maps indicates that these 1852 channel lands in Lane County may be considered to be in one of three categories: 1) lands sold by the state, 2) lands not sold by the state but shown on the assessor's maps as being in private ownership, and 3) lands assigned by the assessor's office, with the advice and cooperation of the State Tax Commission, to the State Land Board. All three categories of land ownership will be discussed in examples 1 and 2 below.

Although land of the third category is generally labeled "State Land Board" on the assessor's maps, differentiating lands of the first and second categories (i. e. now in private ownership) requires examination of ownership records, often through a succession of deed recordings, to determine how the land originally came into private ownership. As mentioned above, the State Land Board has parted with various tracts of land lying within the 1852 meander lines either through land sales to adjoining property owners, or as sales of quitclaim deeds in order to clear titles. These lands constitute the first category above.

The second category has developed through the following less definite process: the county assessor does not determine the location of

³ Interview of Tom Croney, Head Cartographer, Lane County Assessor's Office, March, 1969.

property boundaries; he merely takes the boundaries as described in recorded deeds and plots them on the property assessment plats. The correctness of a property description is the responsibility of the owner, not the assessor. Thus if a riparian owner considers land adjoining his to be a result of natural accretions to his property, he can rewrite his property description to include these accretions. If he sells the property, the deed includes the accretions and when the deed is recorded the new property description becomes plotted on the assessor's maps. The property is then assessed property taxes and for all intents and purposes it is the legal property of the deed holder unless and until the new deed description is successfully challenged by another property owner or the state.

The third category of land within the 1852 meander lines in Lane County is that which previous to 1960 was considered by the county to be of unknown ownership, and is now shown on the assessor's maps as state-owned. When the extensive remapping program was completed in 1960, it was decided to consider these lands as potentially state-owned, at least for property taxing purposes. As such the lands would not have taxes assessed against them. It was felt that by following this policy instead of assigning parts of the 1852 lands to the adjoining property owners as probable accretions, a refunding of property taxes would not be needed if the state later proved ownership. Figure 10 shows the locations in part of Lane County of dry lands within the 1852

meander lines and indicates into which of the above three categories the lands are classified by the county assessor's office.

In examining this map it should be remembered that the lands within the 1852 meander lines are in areas of three types of river change, and the question of which type of change occurred is critical to the establishment of a state interest in the 1852 lands. In review, the three types are: 1) the river location at the time of avulsion coincided with the 1852 meander lines and the state retained ownership of the abandoned channel, 2) the river had moved away from the 1852 location prior to an avulsion, in which case the state's interests would be in the land at the location of the channel at the time of avulsion, not the 1852 channel location, and 3) the river has moved away from the 1852 location gradually through accretion-reliction processes with the state retaining ownership of the bed, and having no ownership interest in the land within the 1852 meander lines.

The fact that the state has sold 1852 channel lands of the second and third types is a result of a lack of accurate information on river changes, and the desire of property owners to obtain clear titles. Title insurance companies are unwilling to insure titles where there is any possibility of state interests in the property, and a quitclaim deed from the state is the only way to clear the title.⁴

⁴Interview of Joe Maher, Pioneer Title and Trust Co., Corvallis, Spring, 1967.

Example 1

At the time of the General Land Office survey the Willamette River flowed through a large meander immediately upstream from the present town of Harrisburg (see Fig. 7). In the great flood of 1861, the highest known to white men, the river began cutting a new main channel to the east, across the neck of the meander.⁵ Although water continued to flow through the 1852 channel, it gradually filled-in through the deposition of sediments. By 1895 the old channel no longer passed water at normal stages of river flow.⁶ Because the river change occurred as the result of an avulsion, the state retained ownership of the land in the old channel location.

As indicated on Figure 7, the land lying within the 1852 meander lines is now of mixed ownership. The Lane County assessor's maps have this land divided into eight parcels, some of which are a part of a larger adjoining property. Four of these areas, tax lots 900, 299, 2100, and 1100 are designated as State Land Board property. On the ownership records kept by the assessor, the designation "FTLPO" is added. This stands for "For Tax Lot Purposes Only" and indicates that only for pur-

⁵ Corning, Willamette Landings, p. 166.

⁶ Corps of Engineers, Upper Willamette, Sheet 2.

poses of taxation has the county recognized the state's property interest, i.e. the determination of legal ownership is not to be inferred from the assessor's maps. No deed references are given for these lands which were first entered on the assessor's rolls in 1963 as a result of the county-wide property remapping program completed in 1960.

Those portions of tax lots 100 and 800 which lie within the 1852 meander lines were purchased from the State Land Board. The 1852 channel lands now in T.L. 100 (14.57 acres) were purchased for \$400 in 1951, the same year that the 55.16 acres of the 1852 channel lands in T.L. 800 were purchased for \$1300.

The remaining two parcels of land, T.L. 300 and that part of T.L. 500 within the 1852 meander lines, have entered into private ownership through means other than sale by the state. In 1964 the channel area with T.L. 500 was added to the property description kept by the assessor but the property description given on the recorded deed does not include this area. The area of T.L. 300 has been in private ownership since before 1941. The only effect of the remapping program on this parcel was a 1964 increase in its acreage from 4.00 to 9.80 acres. There is no deed recorded for this area of 1852 channel land.

Example 2

Whereas example 1 discussed an area where the channel location at the time of avulsion coincided with the 1852 meander lines, the area shown on Figure 11 is quite different. The location of the 1852 channel, the west bank location in 1860, and the approximate channel location at the time of avulsion in 1895 show that the river has undergone considerable change in this area. At this site of river change the state chose to recognize the meander line of 1860, surveyed for the establishment of the bounds of the Donation Land Claim of John Vallerly (DLC 45), as the west line and presumably part or all of the south line of former channel land in which the state feels that it has a property interest.

As may be surmised from an examination of Figure 11, which is a somewhat simplified and modified version of the Lane County assessor's map of the area, this area of river change has not only undergone considerable river movement, but also has a complicated history of property ownership. Only that part of the ownership history dealing with lands within the 1852 and 1860 meander lines will be detailed here.⁷

Tax lots 1700 and 900 have been assigned to the state FTLPO (for tax lot purposes only) by the assessor's office after the recent re-mapping program. Tax lot 300 contains two parcels of land purchased

⁷ From deed records in Lane County Record Office and State Land Board.

from the state. One parcel of land is bounded on the west by the 1860 meander line and on the east by the 1852 channel centerline as established by a Lane County survey in 1893. Although this land (36.69 acres) was purchased from the state in 1918 for \$275.18, it had earlier been added to the deed description for the property lying immediately to the west. In 1908 this property to the west had been purchased with the description of the east boundary being the 1860 meander line. When it was resold in 1911 the description had been changed to include the land to the centerline of the 1852 channel as established by the county survey of 1893. In 1918, apparently as a result of the purchase from the state of the channel land, the recorded certificate containing the altered description of 1911 had the following note added: "The description as given in this certificate describes accretions east of the John Vallerly D.L.C. #45 and lot 8 . . . but as said accretions are not a part of the tract described in First Certificate of Title #20 this certificate is surrendered and cancelled" ⁸ Thus an apparent attempt to add land to an existing property through a change in the property description was not allowed. Included in the purchase of this parcel from the state was a small area attached to the northwest portion and lying completely outside both the 1852 and 1860 channel locations.

⁸ Lane County Records Office, "Certificate of Title No. 2333," Certificates of Title Book 4, p. 574.

The second parcel of land in T.L. 300 purchased from the state is bounded on the west by this same 1852 channel centerline and on the east by the 1852 east bank meander line. This land (21.10 acres) was purchased from the state in 1934 for \$184.30. The remaining area within both T.L. 300 and the 1852 and 1860 meander lines lies immediately to the south of the two parcels noted above. This land was not sold by the state and not included in the property description of the tax lot until 1964 when it was added, apparently as a result of the remapping program.

To the north of tax lot 300 lies a portion of the 1852 channel area now included in tax lot 1500. When the property containing the area of T.L. 1500 was purchased in 1905 the description included land only to the meander line. In 1908, when the area was sold, the property description read: ". . . east to east boundary of lot 8 . . . and to the east boundary of accretion to lot 8 on the east; being at the center of the old meandered channel of the Willamette River . . ." ⁹ Thus, by changing the property description, a portion of the 1852 channel land passed into private ownership.

This same process was responsible for the addition of 1852 channel lands to T.L. 600, along the south portion of this meander.

⁹ Lane County Records Office, "Certificate of Title No. 541," Certificates of Title.

The property description when purchased in 1884 gave the 1860 meander line for the northern boundary of T.L. 600. When it was sold in 1893, the description had been changed to follow the course of the 1893 channel, thus adding portions of the 1852 and 1860 channel land to the deed.

Tax lot 700 now includes the area lying between the 1852 and 1860 meander lines. Prior to 1964, when this area was added, T.L. 700 was bounded on the north by the 1860 meander line. The addition was apparently made as a result of the remapping program and thus with the consent of the state.

As can be noted from the above partial ownership history of the land lying within the 1852 and 1860 meander lines, property ownership problems in this particular area have been rather complicated. The potential for additional difficulties in the future would seem to be enhanced by the state's attitude towards ownership of river lands. The state has concerned itself with ownership of the land within the 1852 meander lines (in this particular case, also the 1860 meander line) and thus, not necessarily the channel location at the time of avulsion.

In the area of Figure 11 the river moved away from the 1852 channel location, shifting further to the west. By 1860 its location had moved westerly to the line marked as the DLC 45 boundary. By 1895 it had moved a much greater distance to the west. At this time an

avulsion occurred to the east, cutting off this large meander of the river.¹⁰ According to the rule regarding effects on ownership boundaries in areas of river change, the land in which the state property interests should lie is that within the meander lines of the 1895 location of the river, not the 1852 or 1860 locations.

¹⁰U.S. Congress, House, Report of the Chief of Engineers, U.S. Army, H. Doc. 2, 54th Cong. 2nd Sess., 1896, p. 3318.

CHAPTER 5: OWNERSHIP OF THE RIVERBED

At the time Oregon achieved statehood in 1859 the state automatically acquired ownership of the beds of all navigable streams within its boundaries. The acquisition of the riverbed by a state upon being admitted to the union is a result of the royal sovereignty over tidelands in England having been attached to the thirteen colonies upon independence, and then having been expanded to include the beds of navigable rivers. The extension of this to Oregon is a result of the constitutional provision that upon the admission of a state to the union, it receives all of the rights and prerogatives of the existing states.¹ Along with ownership of the bed, the state became responsible for preserving the public's right to use the river for transport and commerce. Although the state may lose ownership of portions of the riverbed through sale, grant, or avulsion, the public right of way cannot be alienated.

In 1872 the Oregon legislature passed an act granting the privilege to purchase tidelands along the coast to the owners of property fronting on these tidelands. In 1874 the 1872 act was amended to include the lands along the Willamette River that lie between high and low water levels. An important difference between the 1872 act and its 1874

¹Robert Emmet Clark, Waters and Water Rights (Indianapolis: Allen Smith Co., 1967), pp. 206-07.

amendment is that whereas the 1872 act had granted a right to purchase the lands, the later amendment was an outright grant of these lands to the existing riparian property owners. In 1876 the 1872 act was amended once more, this time to extend the grant of these river lands to the riparian property owners along the Coos, Coquille, and Umpqua rivers in southwest Oregon. In 1878 the legislature repealed the 1872 act and its later amendments.² Only those riparian properties along the Willamette which were in private ownership during the period from 1874 to 1878 had their boundaries extended to the low water mark. Although a major portion of the river banks was in private ownership during the 1874 to 1878 period it would be difficult to determine exactly which sections of the riverbed between high and low water levels are now not state-owned. As with other problems of river lands and river boundaries, many of the difficulties arise as a result of a lack of sufficient maps and other data to determine where, when, and how particular river changes have occurred. The state has plotted the locations of riparian properties along the Willamette that were in private ownership during the 1874-1878 period. Unfortunately, again due to a lack of adequate maps close to the date needed, these properties are plotted on the 1852 survey maps, thus adding potential difficulties due to changes in the river location between 1852 and 1878.

²Harms, "Power to Convey Titles," p. 388.

It is possible for the state to sell portions of the riverbeds,³ although thus far they have chosen not to do so. Since the public right-of-way along the river is not lost when the state loses ownership of the river bed, the main value to the state in retaining ownership of the bed is in the revenue received as royalties on sand and gravel removed. At the present time the State Land Board receives a royalty of twelve and one-half cents per yard of gravel removed from the beds of navigable streams; this royalty is expected to be increased to fifteen cents per yard in the near future.

If the rule regarding the effects of avulsive river changes upon property ownership is followed, the loss of portions of the bed of the Willamette through avulsive river change is potentially possible. In theory, every time an avulsion occurs and the river cuts a new channel across some private property, the owner of that property becomes the owner of the new riverbed. Although there are several areas along the river where avulsions have occurred, in most cases the possible private ownership is not recognized by either the potential owner or the state. One area exists where non-state ownership of the bed is claimed by a private property owner, and the state has in the past recognized this claim.

³Harms, "Power to Convey Titles," p. 389

In sec. 1 of T12s, R5w (see Figs. 3 and 12) is an area where a large river meander was cut off by an apparent avulsion. Benton County Assessor Charles Anderson has stated that a property owner whose property has been affected by the river changes has dated this particular change as having occurred in about 1911.⁴ Corvallis Sand & Gravel has dated it to 1909.⁵ Comparison of a Corps of Engineers' map of 1895 and the 1916 edition of the USGS topographic map for this area, for which the surveying took place between 1911 and 1913, indicates that either date is reasonable; certainly this particular river change occurred between 1895 and 1913. Since that time water has continued to flow in the old channel and the Benton-Linn boundary is considered by both counties to follow the old location, essentially the same as the 1852 channel location. The land within the old channel is considered to be state property and as such is untaxed.

The bed in its new location has been, until recently, considered by all concerned to be owned by the Corvallis Sand and Gravel Co., current owner of the property across which the river cut its new channel. The question of whether or not this stretch of riverbed is actually owned by the Corvallis company may be raised in a currently pending court

⁴ Interview of Charles Anderson, December, 1968.

⁵ Oregon Supreme Court, "Corvallis Sand and Gravel Co. v. State Land Board," Advance Sheets, LXXXVI (1968), p. 470.

case involving ownership of certain river lands immediately upstream.⁶

In recent years the Corvallis Sand and Gravel Co. has been removing gravel from submerged lands along the west side of the river upstream from the 1909-1911 meander cut-off. They claim that a portion of the bed along the west bank is a part of the company's property which was inundated as a result of a Corps of Engineers river project in the late 1940's. As this river change was not a result of natural processes, the company claims its property boundaries were unaffected by the subsequent submergence of the land. The State Land Board has brought suit in the courts to recover the loss of revenues from sand and gravel royalties not paid by the company, with the case possibly to be decided in the summer of 1969.

At the present time, the state is considering the inclusion in this suit of a challenge of the private ownership, also by Corvallis Sand and Gravel, of the riverbed at the downstream meander cutoff. To be successful, this challenge would require the state to show that this particular change occurred as a result of the gradual cutting of a new channel over a period of time, rather than the sudden erosion of a new channel.

⁶Interview of A. R. Panissidi, March, 1969.

The Oregon courts have made several decisions regarding ownership of portions of the bed of the Willamette.⁷ In most of these the ruling has been in favor of the state, but this has been due, at least in part, to the lack of accurate information for the particular location and time of the contested river changes. At least one other portion of the riverbed involves the removal of gravel without payment of royalties and may require litigation to determine ownership of the bed. The decision in the Corvallis case should have a definite effect on future problems involving ownership of portions of the bed of the Willamette.

⁷e.g.: Freytag v. Vitus, 213 Or 462
Dahl v. Clackamas County and State, 82 Or adv.
sh. 397
State v. Imlah et al, 135 Or 66.

CHAPTER 6: SUMMARY AND CONCLUSIONS

As a result of changes in the location of the Willamette River, three types of problems affect public administration at the county and state levels: county boundaries, ownership of former channels, and ownership of the riverbed. There are several reasons why these problems exist and why, perhaps in the near future, they will have to be more widely recognized and dealt with than they have been in the past.

The general lack of accurate maps and other data needed to determine the requisite facts of particular river changes is the most important of these reasons. The period between statehood in 1859 and the turn of the century is particularly lacking in this necessary information. The 1852 General Land Office surveys, which established the section line network for the valley, are the most important source of information for this period because they give the river location at a time soon after the county boundaries were established. The 1852 section corners have proven to be the most important reference points for establishing locations and determining changes. In terms of the state's ownership interests in the riverbed and river lands, it is unfortunate that the G. L. O. maps were not surveyed closer to the statehood date.

The only other maps covering major portions of the Willamette before 1900 are Corps of Engineers survey sets of 1875, covering the

river below Independence, and 1895, covering the Eugene to Oregon City stretch. After 1900, maps become more frequent, and since 1935 the introduction of aerial photography has resulted in accurate knowledge of channel locations and changes.

A second major reason for the existence of these problems is a lack of knowledge about the effects of change on river lands and river boundaries on the part of various public officials and private property owners. This lack of knowledge might, in part, be due to the fact that most of the laws dealing with the subject are to be found in the common law which is somewhat less accessible to the legal layman than is statute law. Coupled with this are the differing interpretations of the legal statutes by the several counties, especially of those dealing with establishment of county boundaries.

A third factor that could be of considerable importance to future problems along the river is the continued use by the State Land Board of the 1852 channel meanders to enclose the lands in which the state has an interest. Although this policy has been defensible on the grounds that it is made necessary by the lack of detailed maps and data on river changes, and the lack of personnel and funds needed to determine the where, when, and how or particular changes, its continued use results in the sale of lands in which the state may have had no ownership interest, and the ignoring of lands that the state may own as a result of river changes away from the 1852 river location.

The State Land Board recently undertook a project in a part of Lane County to establish both the present location of the Willamette and its 1852 location. With up-to-date, large-scale maps to begin its investigations, it hopes to clear up some of the river lands' problems along the Willamette. Thus far, funds have allowed only an experimental mapping program for a relatively small portion of the river. The extension of this mapping to the rest of the river, and then the considerably more difficult task of determining the where, when, and how of river changes between 1852 and the present, will depend upon the allocation of funds from the state legislature.

Of the three types of problems discussed in this thesis, the question of the effects of river changes on county boundaries is of the least importance, as the counties are not political entities but merely administrative sub-divisions of the state. In terms of taxation and services, the location of the official boundary is of less significance than is the location of the actual river. The present unofficial agreements among several of the counties to cross-assess is a pragmatic solution to the problem of one county collecting property taxes and another county providing the services. The problems of cross-assessment and differing interpretations of county boundaries among the counties exist but are of an administrative nature and not likely to lead to serious difficulties.

Bed ownership and old channel ownership are problems of greater significance, both in the past and potentially for the future. At the present time, most of the former channel areas are either used for farming or not used at all. Thus their market value and the taxing levels are relatively low. As commercial and residential development expand into these areas their value will increase, and the ownership problems will take on greater significance. The recent progress made in flood control on the Willamette will allow these changes in land use and value to occur by reducing the frequency and severity of flooding. Several county officials have acknowledged the potential for land ownership problems resulting from river changes, but do not give this much significance at the present time because of the low value of the lands involved. Someday someone will have to untangle the complicated history of property ownership and river change to solve these problems.

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Persons Interviewed:

Anderson, Charles. Benton County Assessor.

Brown, Albert. Former Linn County Assessor.

Crony, Tom. Head Cartographer, Lane County Assessor's Office.

Crosby, Bud. Linn County Assistant Assessor.

Howe, Ralph. Polk County Surveyor.

Hurst, N. V. Supervisor of Mapping Unit, State Tax Commission.

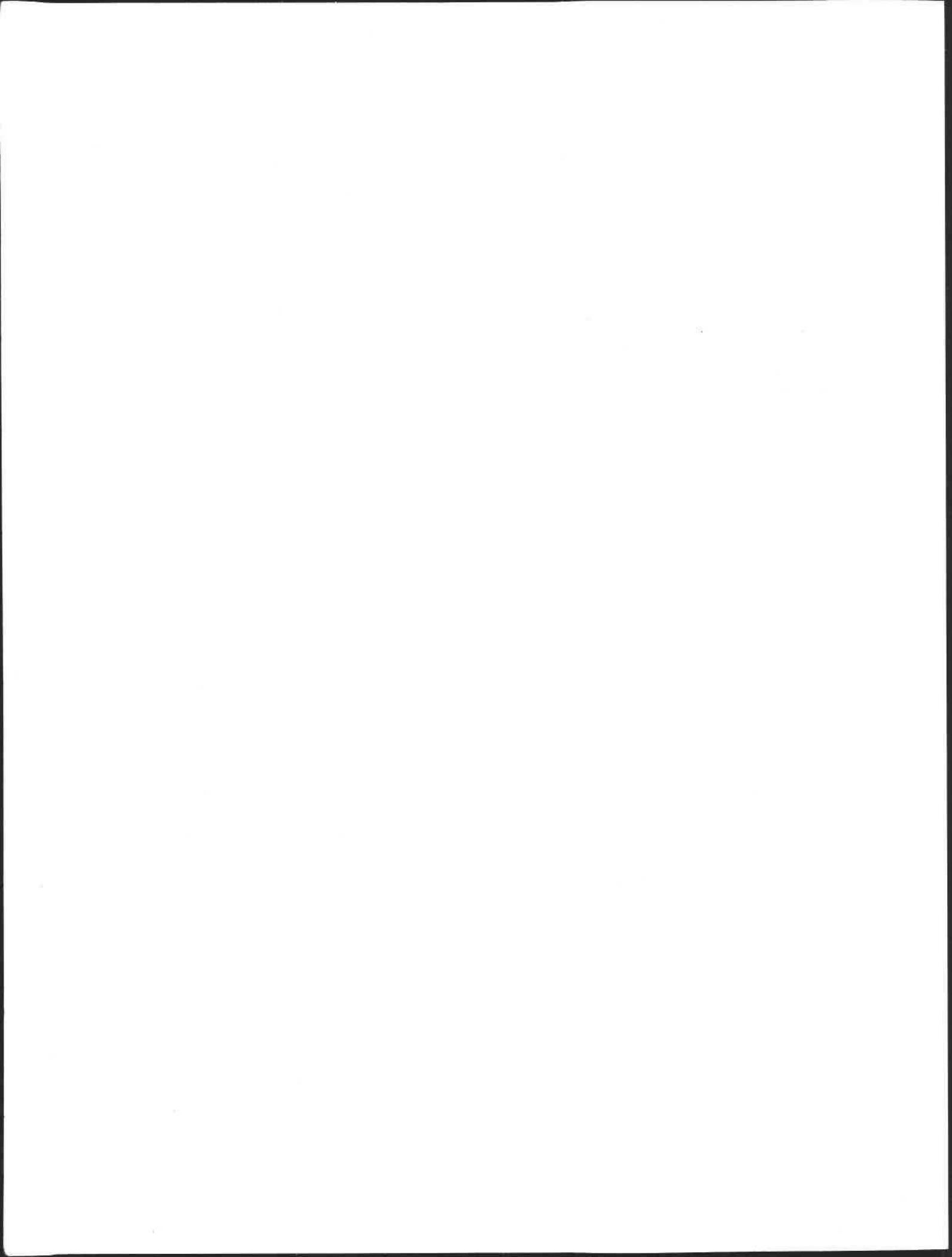
Maher, Joe. Pioneer Title and Trust Co., Corvallis.

Omlid, Kenneth. Lane County Commissioner and former Lane County Assessor.

Panissidi, A.R. Appraiser, State Land Board.

Richter, Harold. Chief Draftsman, Marion County Assessor's Office.

Worrel, Kim. Appraiser, Yamhill County Assessor's Office.



WILLAMETTE VALLEY

Fig. 1



SOURCE: RELIEF MAP BY OREGON BUREAU OF MINES AND GEOLOGY

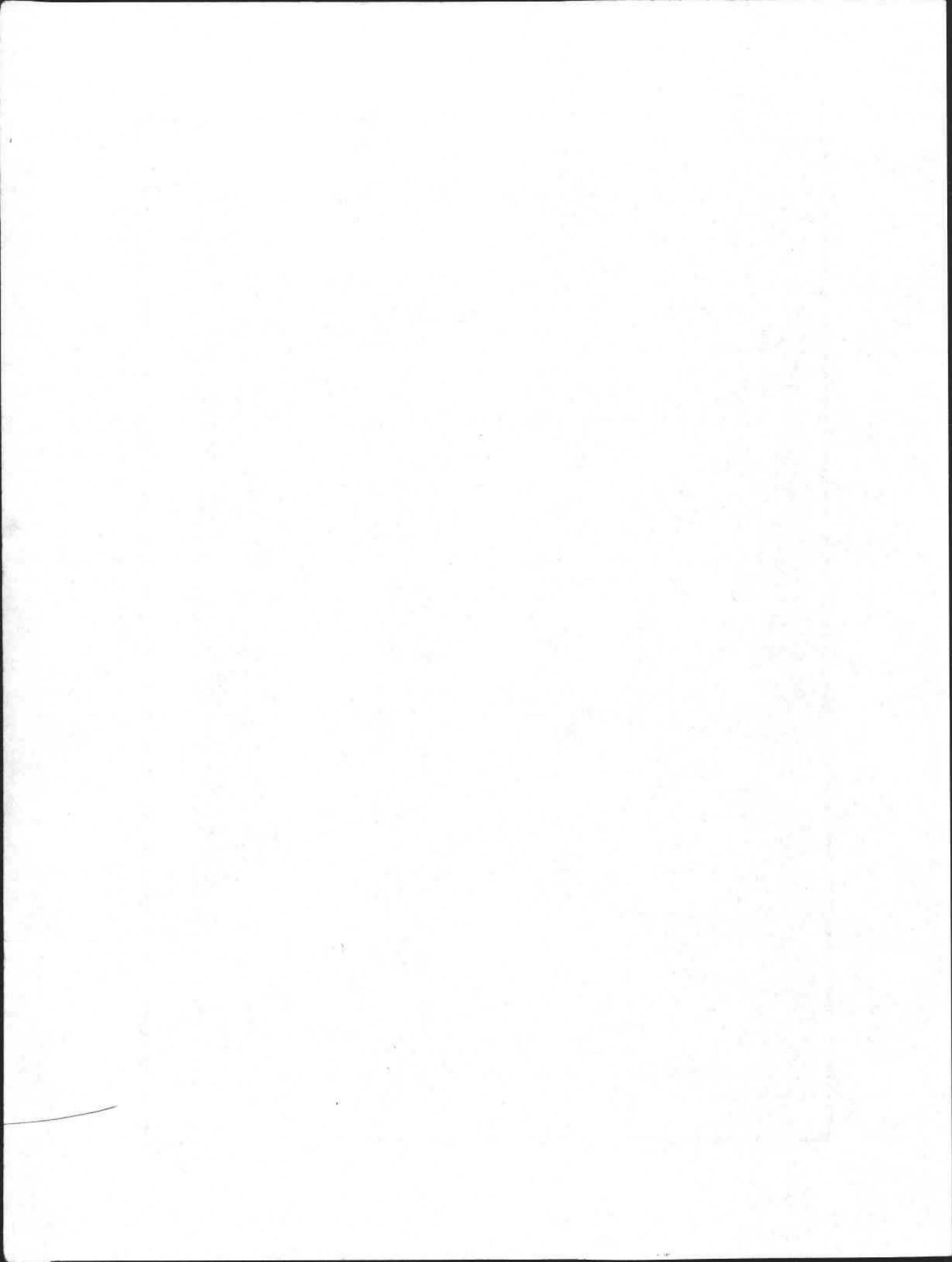
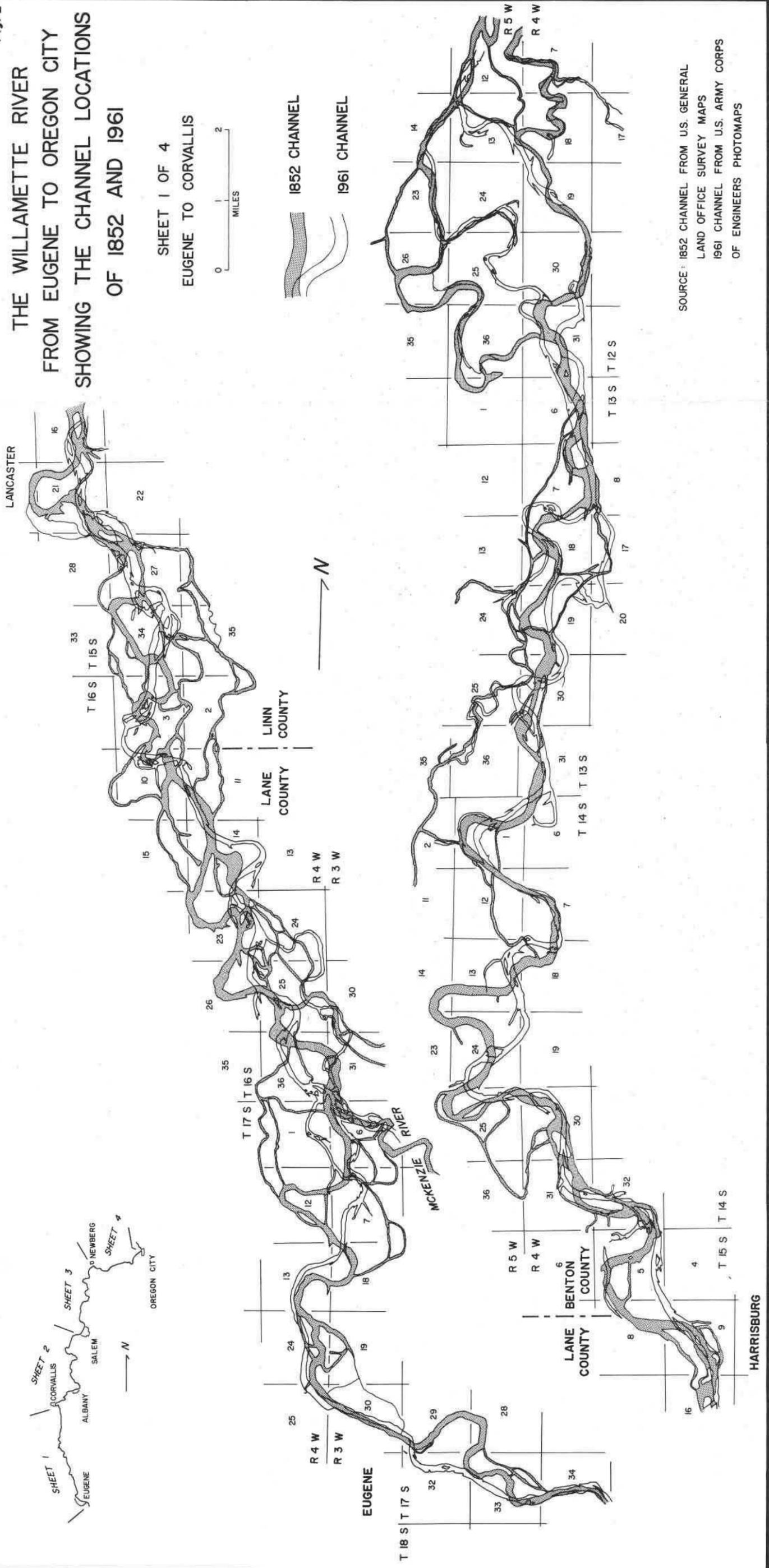
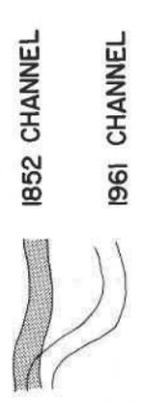
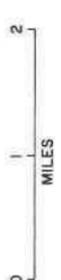


Fig. 2

THE WILLAMETTE RIVER FROM EUGENE TO OREGON CITY SHOWING THE CHANNEL LOCATIONS OF 1852 AND 1961



SHEET 1 OF 4
EUGENE TO CORVALLIS



SOURCE: 1852 CHANNEL FROM U.S. GENERAL
LAND OFFICE SURVEY MAPS
1961 CHANNEL FROM U.S. ARMY CORPS
OF ENGINEERS PHOTOMAPS

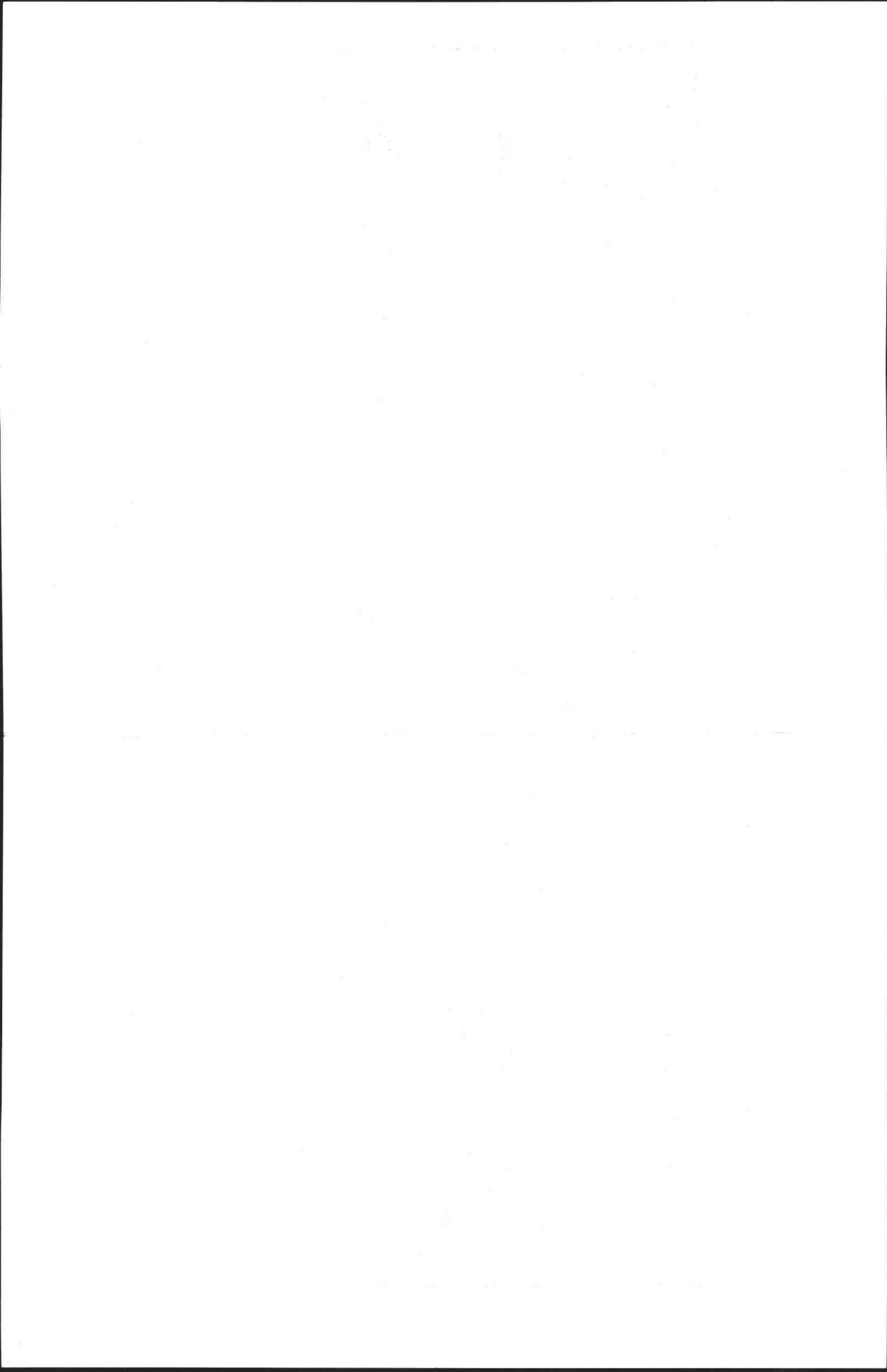
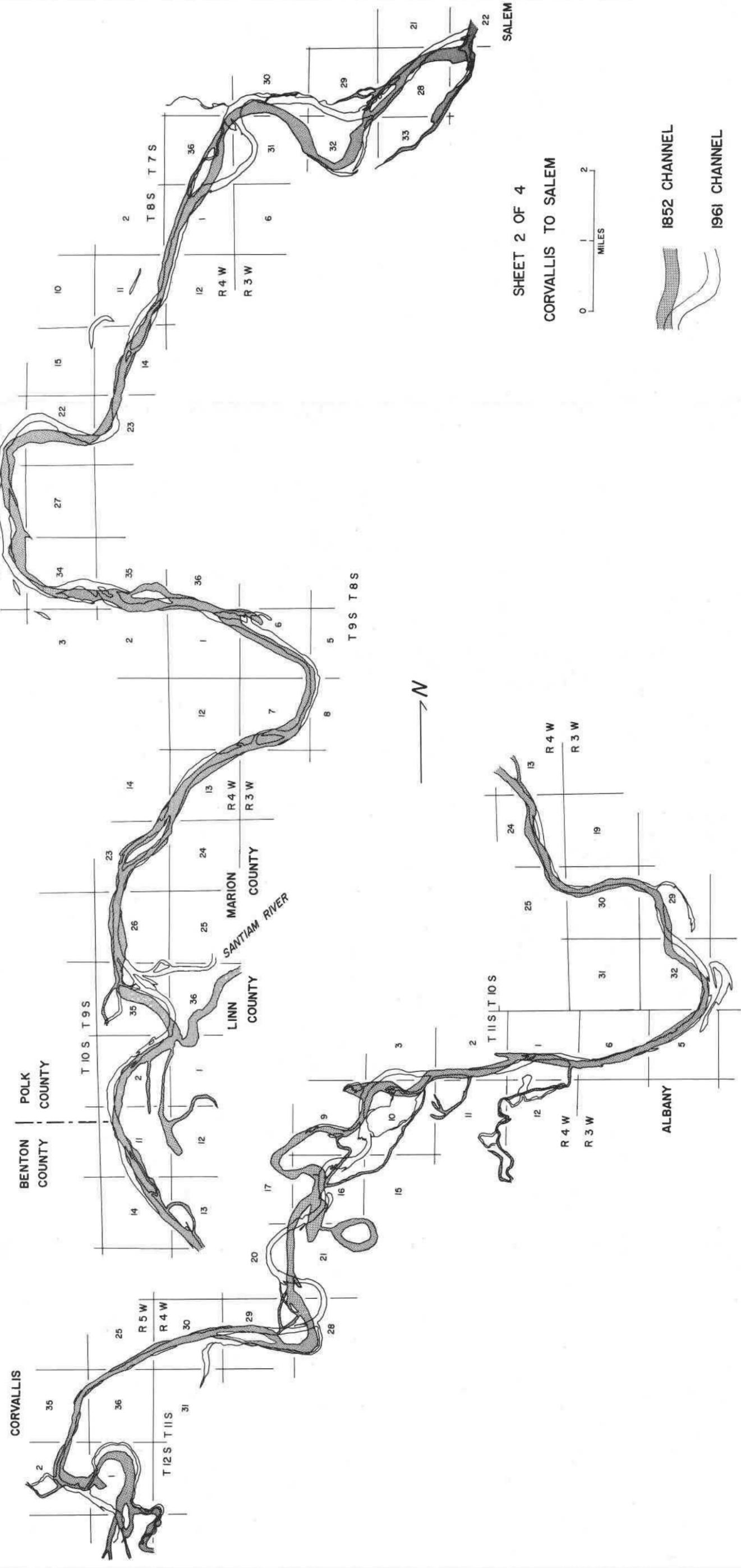
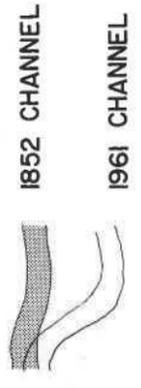


Fig. 3



SHEET 2 OF 4
CORVALLIS TO SALEM



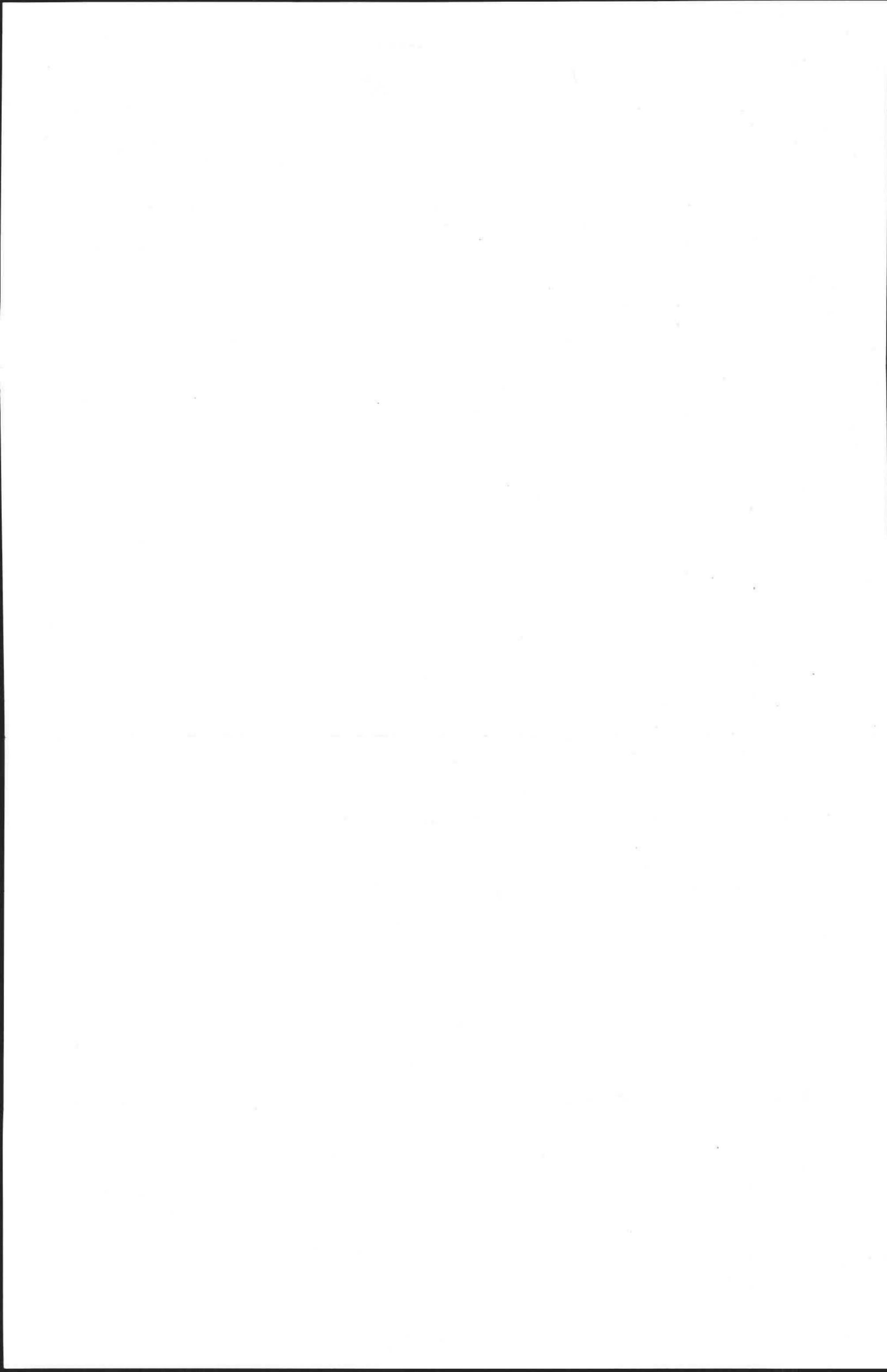
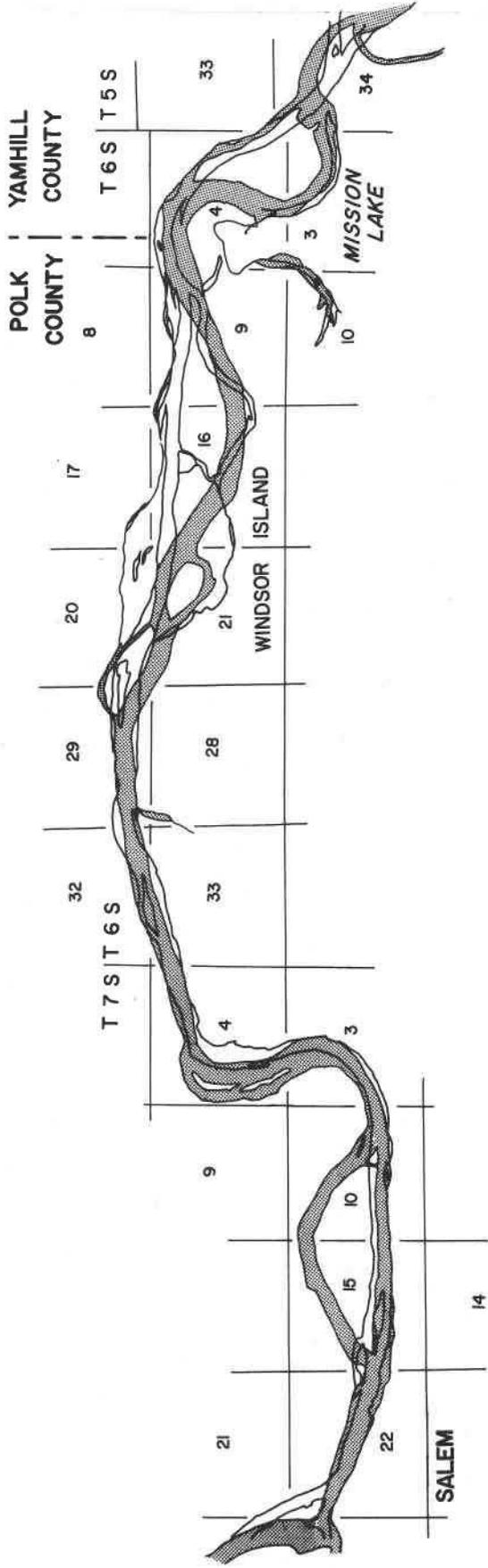
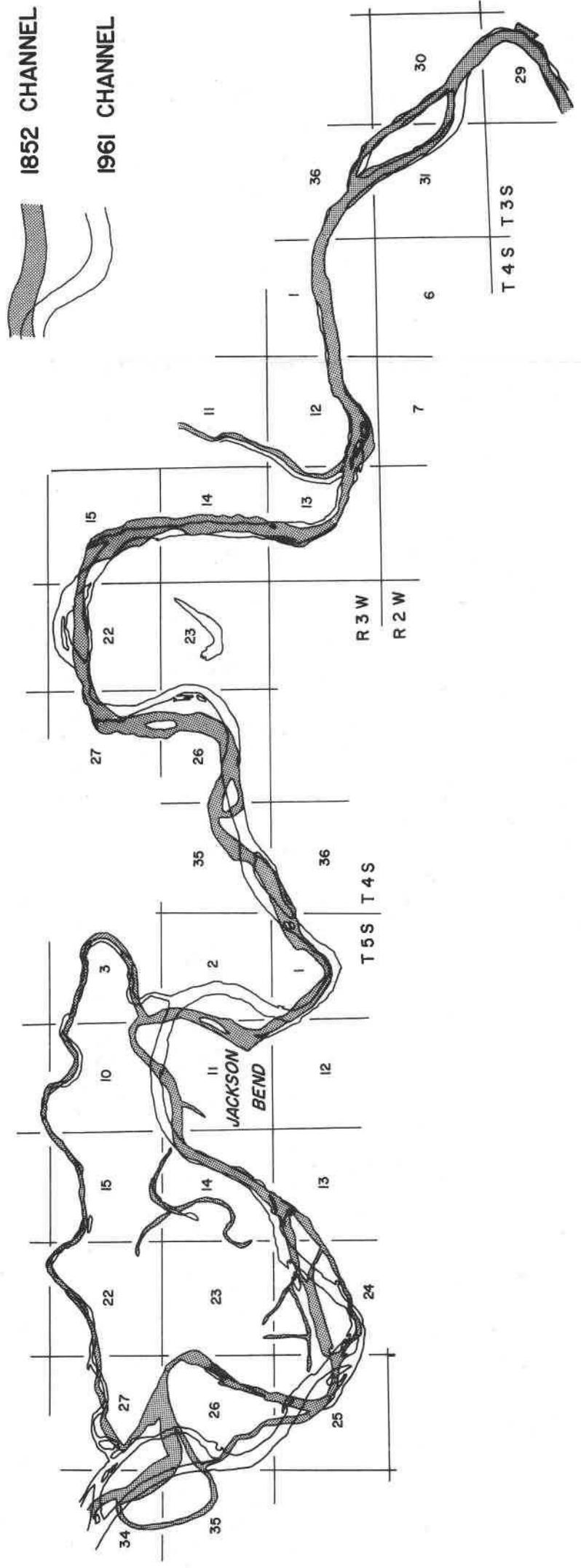


Fig. 4



SHEET 3 OF 4
SALEM TO NEWBERG



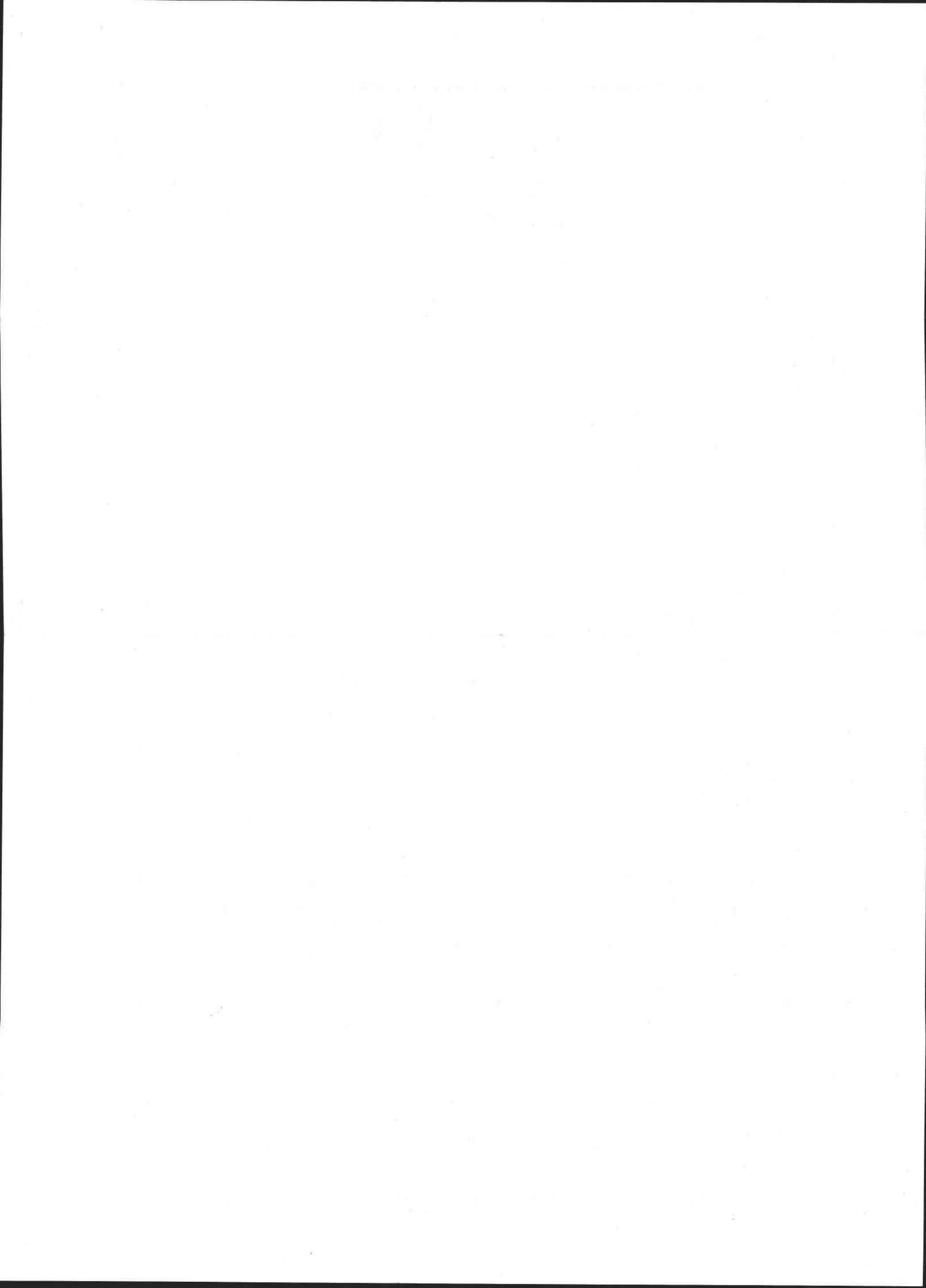
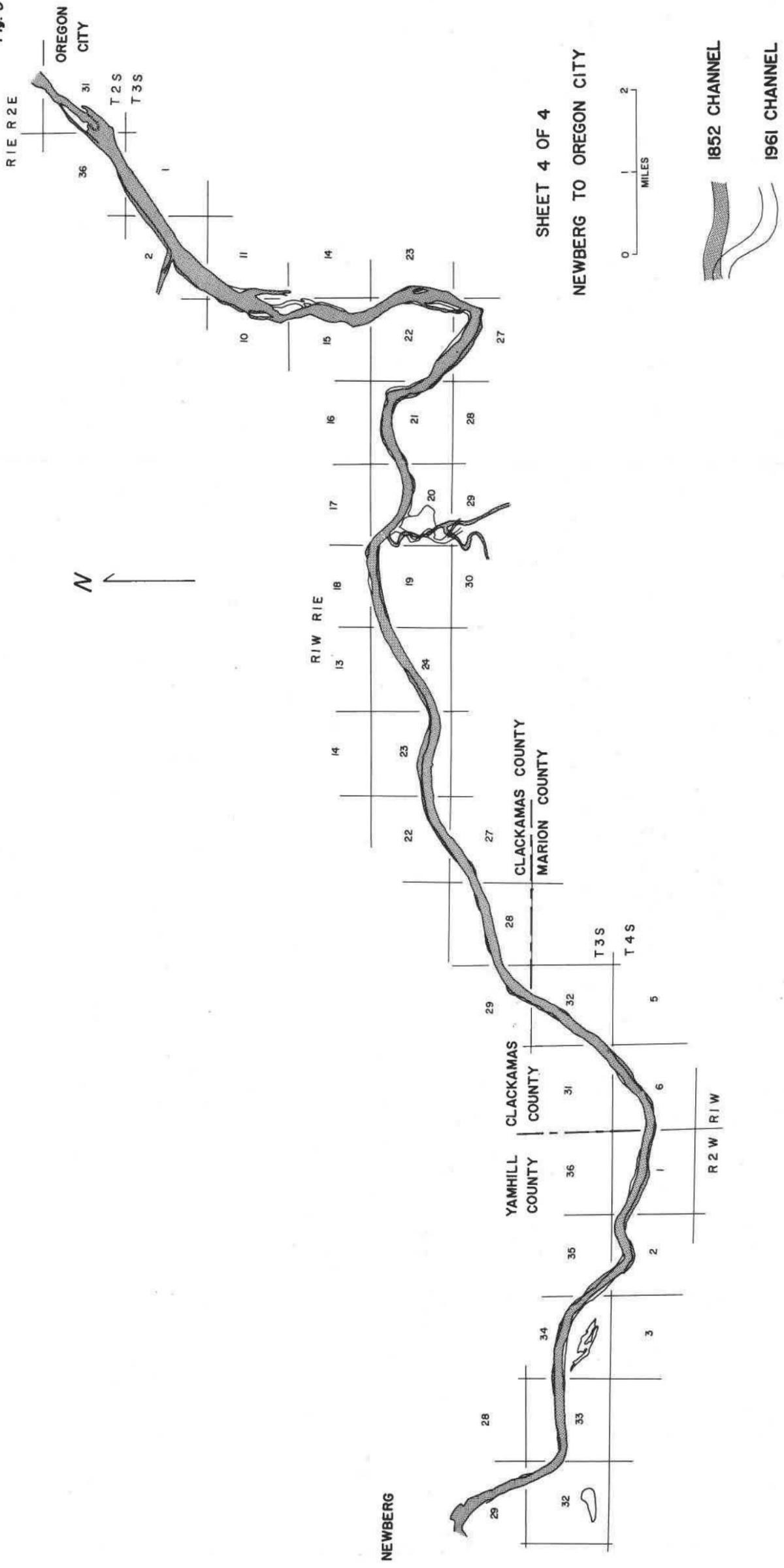


Fig. 5



SHEET 4 OF 4
NEWBERG TO OREGON CITY

0 1 2
MILES

1852 CHANNEL
1961 CHANNEL

NEWBERG

OREGON CITY

N

R 1 E R 2 E

36

31

T 2 S

T 3 S

2

10

11

14

23

R 1 W R 1 E

13

14

16

17

18

19

20

21

22

23

24

27

28

29

30

CLACKAMAS COUNTY
MARION COUNTY

22

23

27

28

29

32

5

CLACKAMAS COUNTY
YAMHILL COUNTY

31

36

6

2

1

2

R 2 W R 1 W

28

29

32

33

34

3

T 3 S

T 4 S

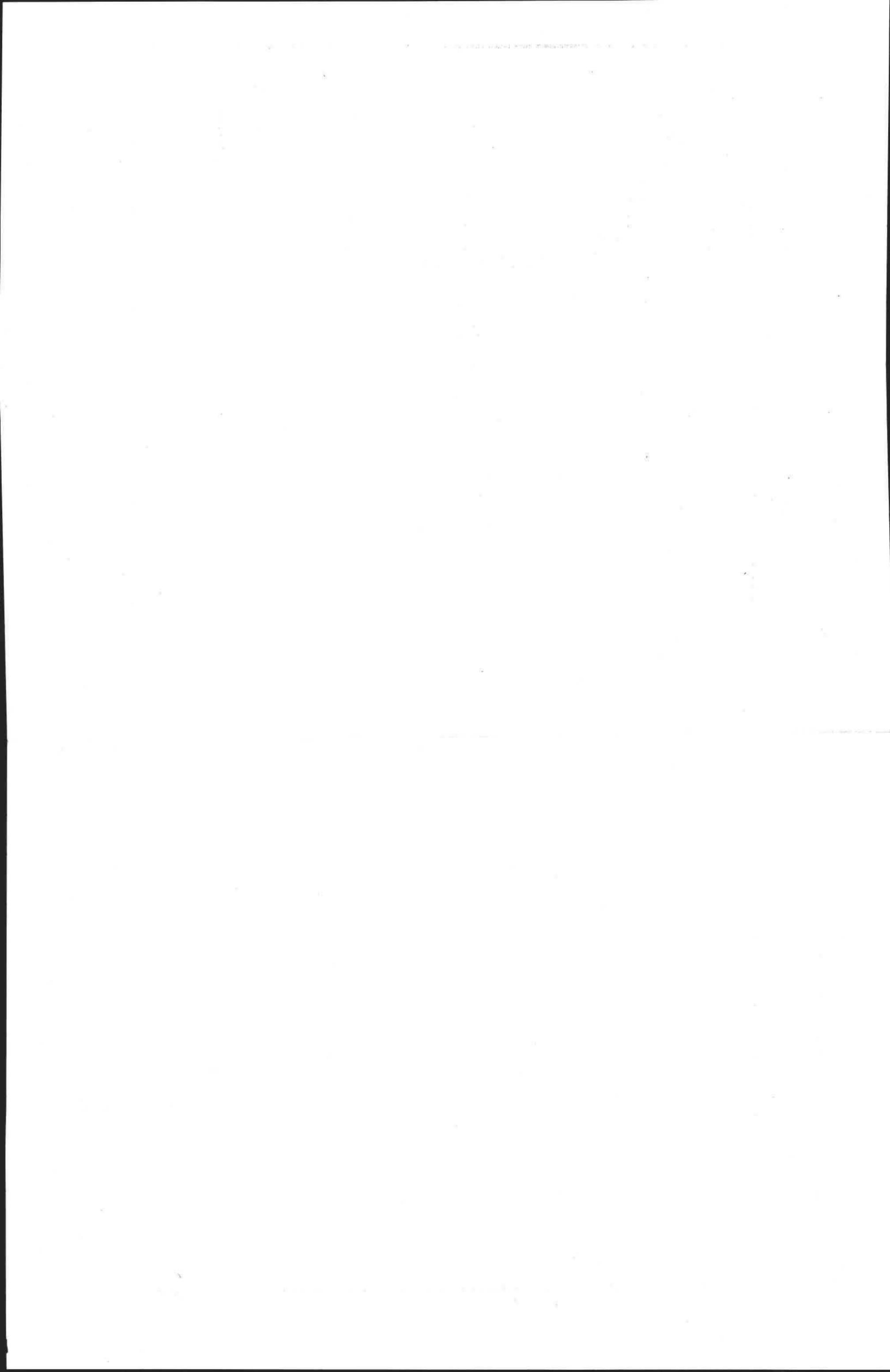


Fig. 11

LAND OWNERSHIP WITHIN THE 1852, 1860 MEANDER LINES IN SECS. 23 & 26, T 16 S, R 4 W

- 1852 OR 1852 1852 MEANDER LINE
- 1860 1860 MEANDER LINE
- 1852 C.L. 1852 CHANNEL CENTER LINE
AS ESTABLISHED BY 1893 SURVEY
- 1895 - - - - - APPROXIMATE LOCATION OF
CHANNEL IN 1895

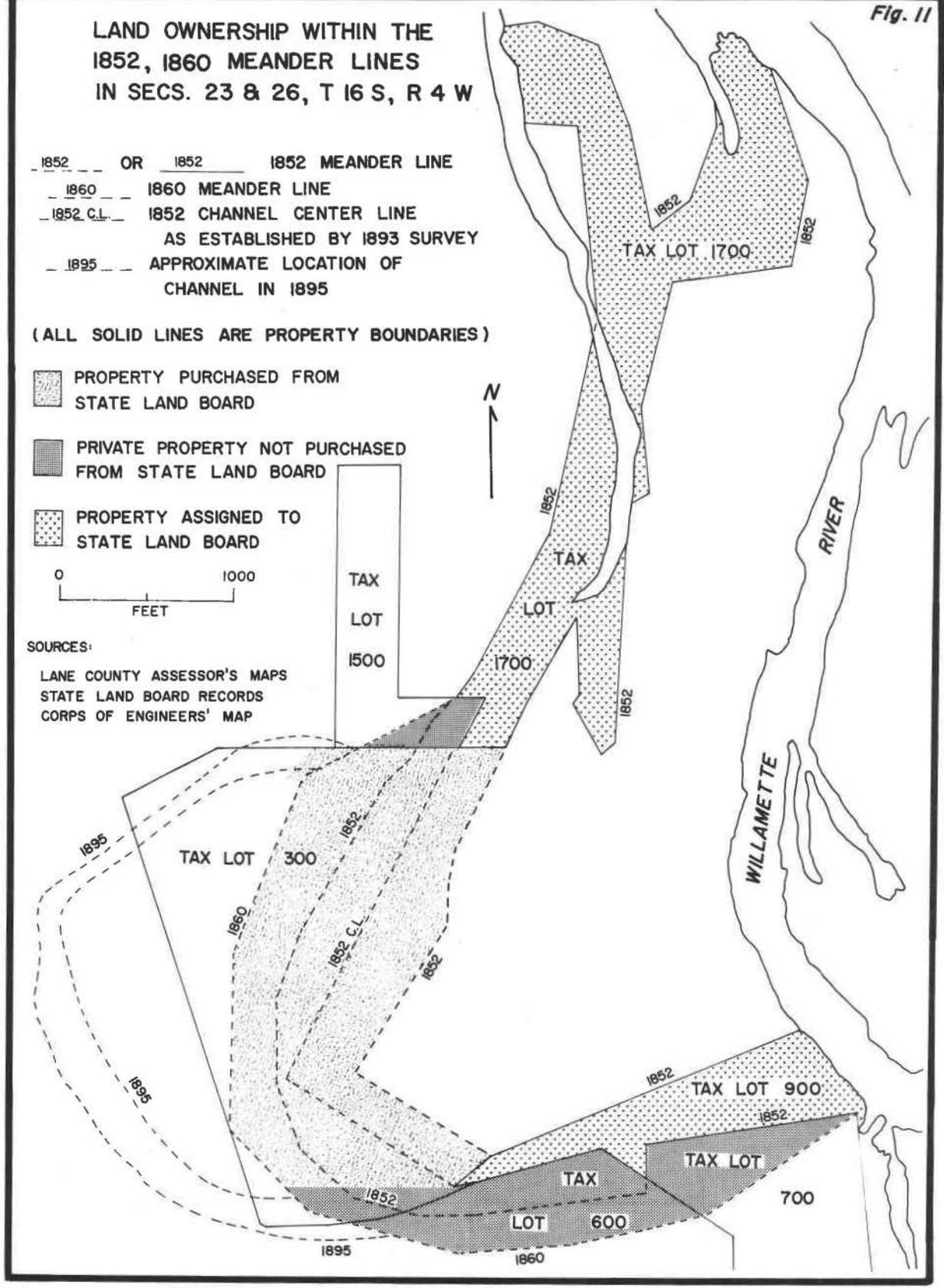
(ALL SOLID LINES ARE PROPERTY BOUNDARIES)

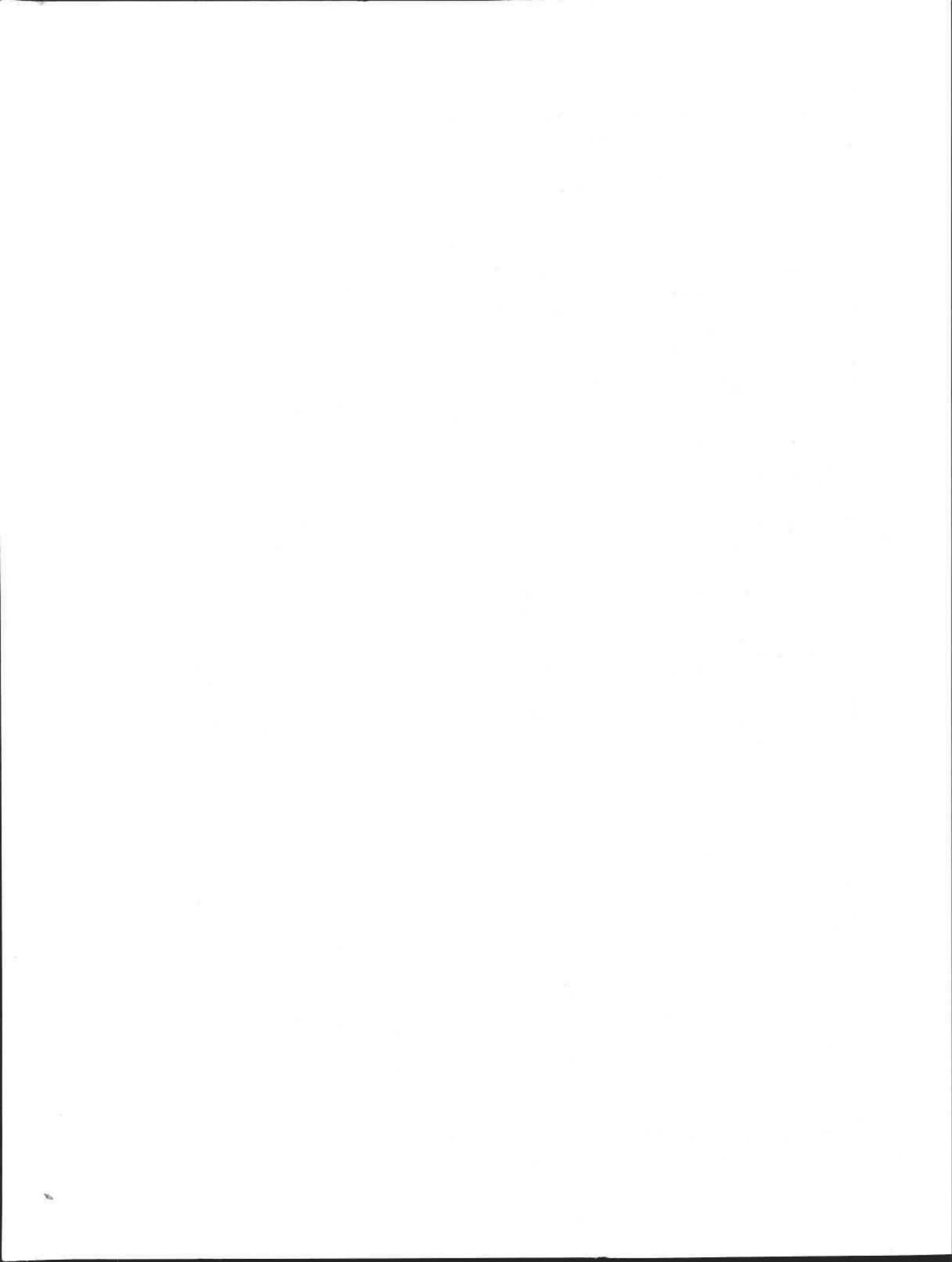
-  PROPERTY PURCHASED FROM STATE LAND BOARD
-  PRIVATE PROPERTY NOT PURCHASED FROM STATE LAND BOARD
-  PROPERTY ASSIGNED TO STATE LAND BOARD



SOURCES:

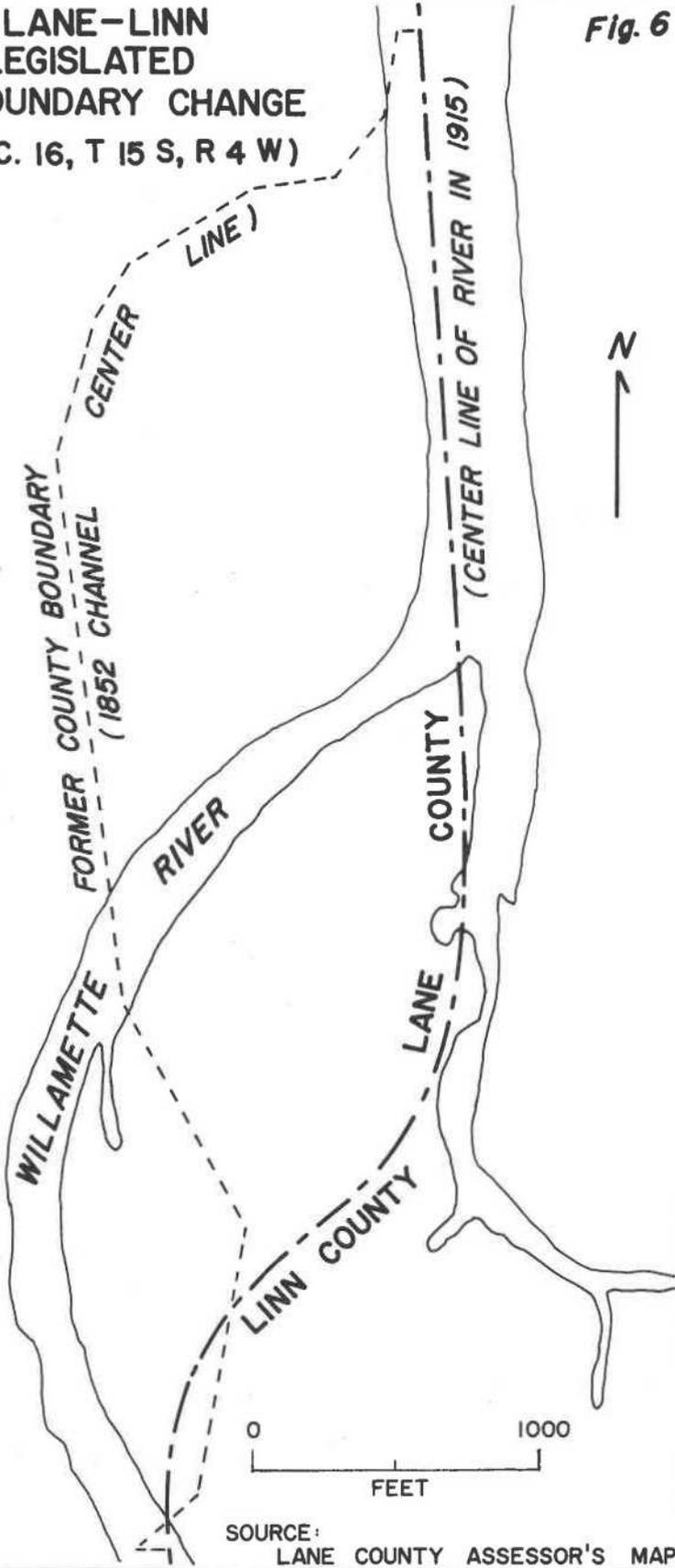
- LANE COUNTY ASSESSOR'S MAPS
- STATE LAND BOARD RECORDS
- CORPS OF ENGINEERS' MAP





LANE-LINN
LEGISLATED
BOUNDARY CHANGE
(SEC. 16, T 15 S, R 4 W)

Fig. 6



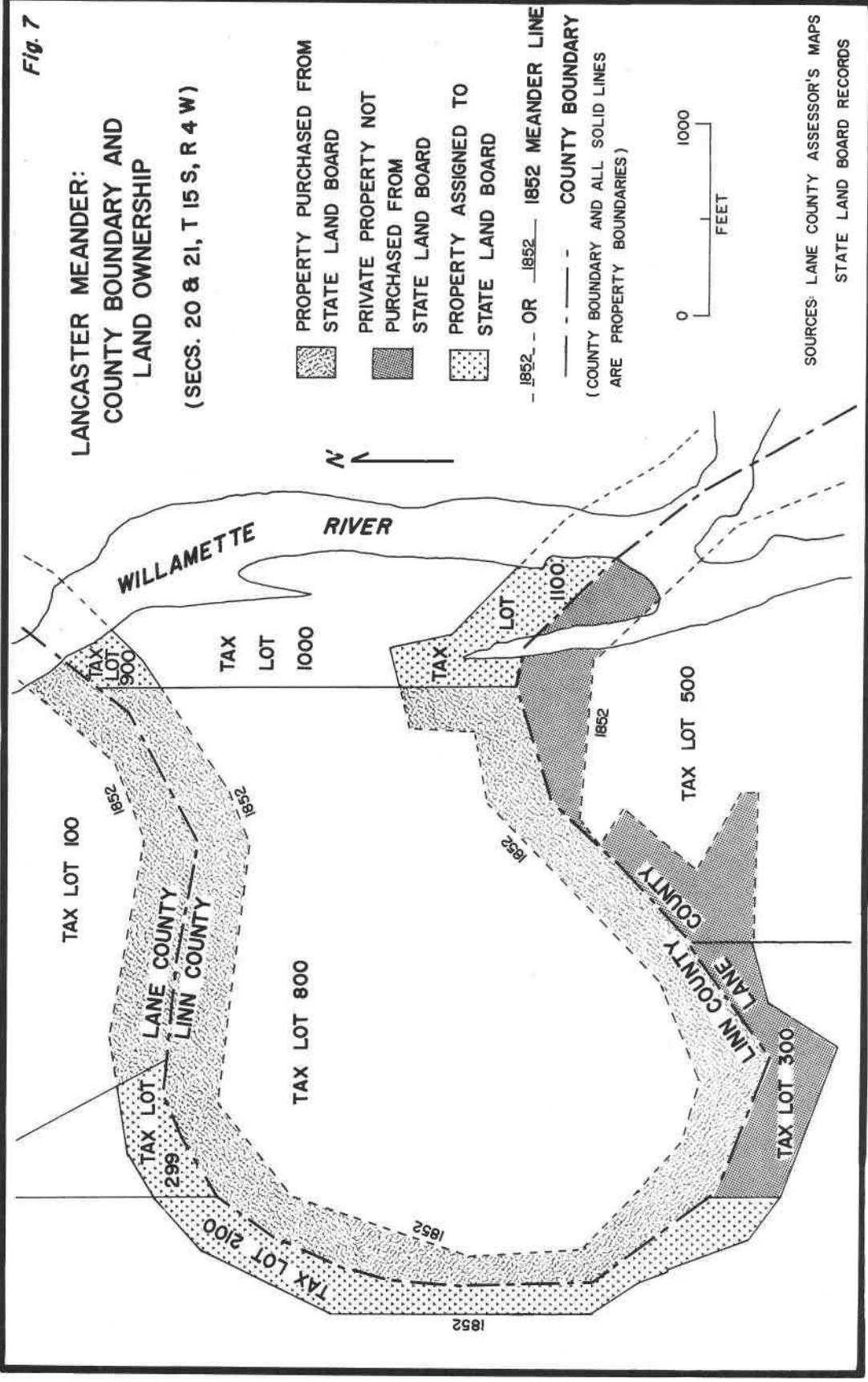
SOURCE:
LANE COUNTY ASSESSOR'S MAP



Fig. 7

**LANCASTER MEANDER:
COUNTY BOUNDARY AND
LAND OWNERSHIP**

(SECS. 20 & 21, T 15 S, R 4 W)



- PROPERTY PURCHASED FROM STATE LAND BOARD
 - PRIVATE PROPERTY NOT PURCHASED FROM STATE LAND BOARD
 - PROPERTY ASSIGNED TO STATE LAND BOARD
- 1852 - OR - 1852 - 1852 MEANDER LINE
 - - - - - COUNTY BOUNDARY
 (COUNTY BOUNDARY AND ALL SOLID LINES ARE PROPERTY BOUNDARIES)



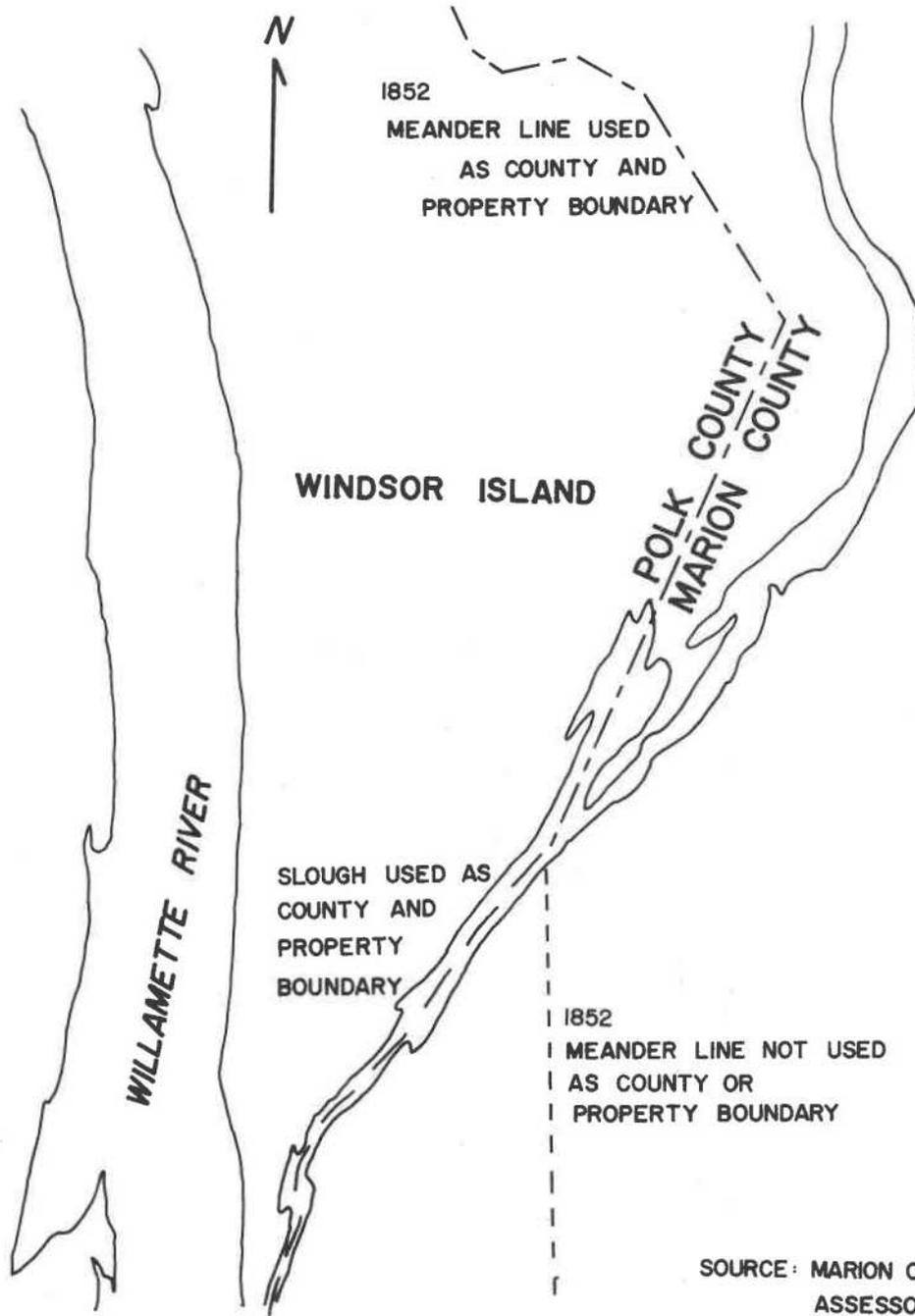
SOURCES: LANE COUNTY ASSESSOR'S MAPS
STATE LAND BOARD RECORDS



Fig. 8

WINDSOR ISLAND: POLK - MARION BOUNDARY

(SEC. 21, T 6 S, R 3 W)



SOURCE: MARION COUNTY ASSESSOR'S MAP

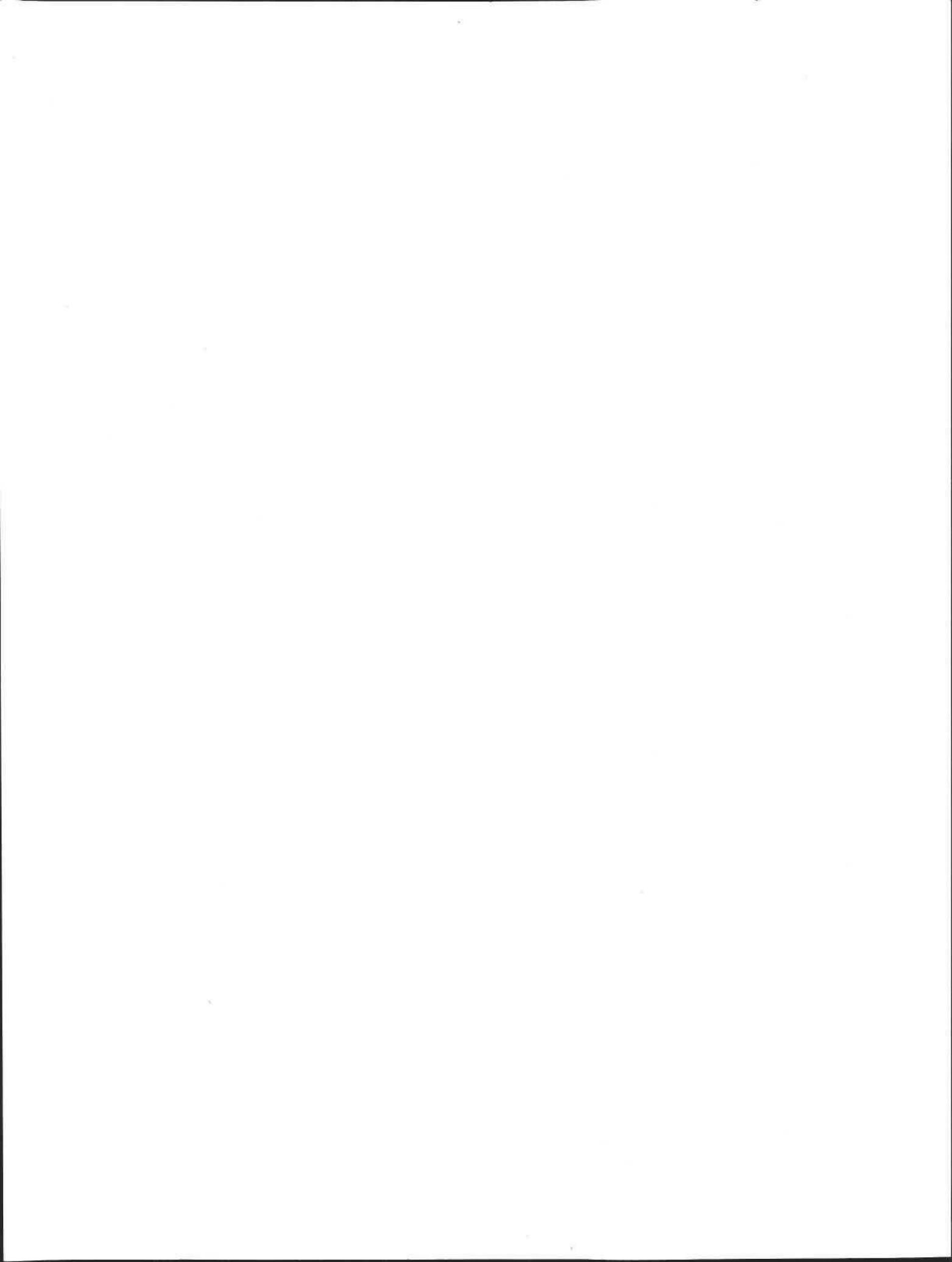
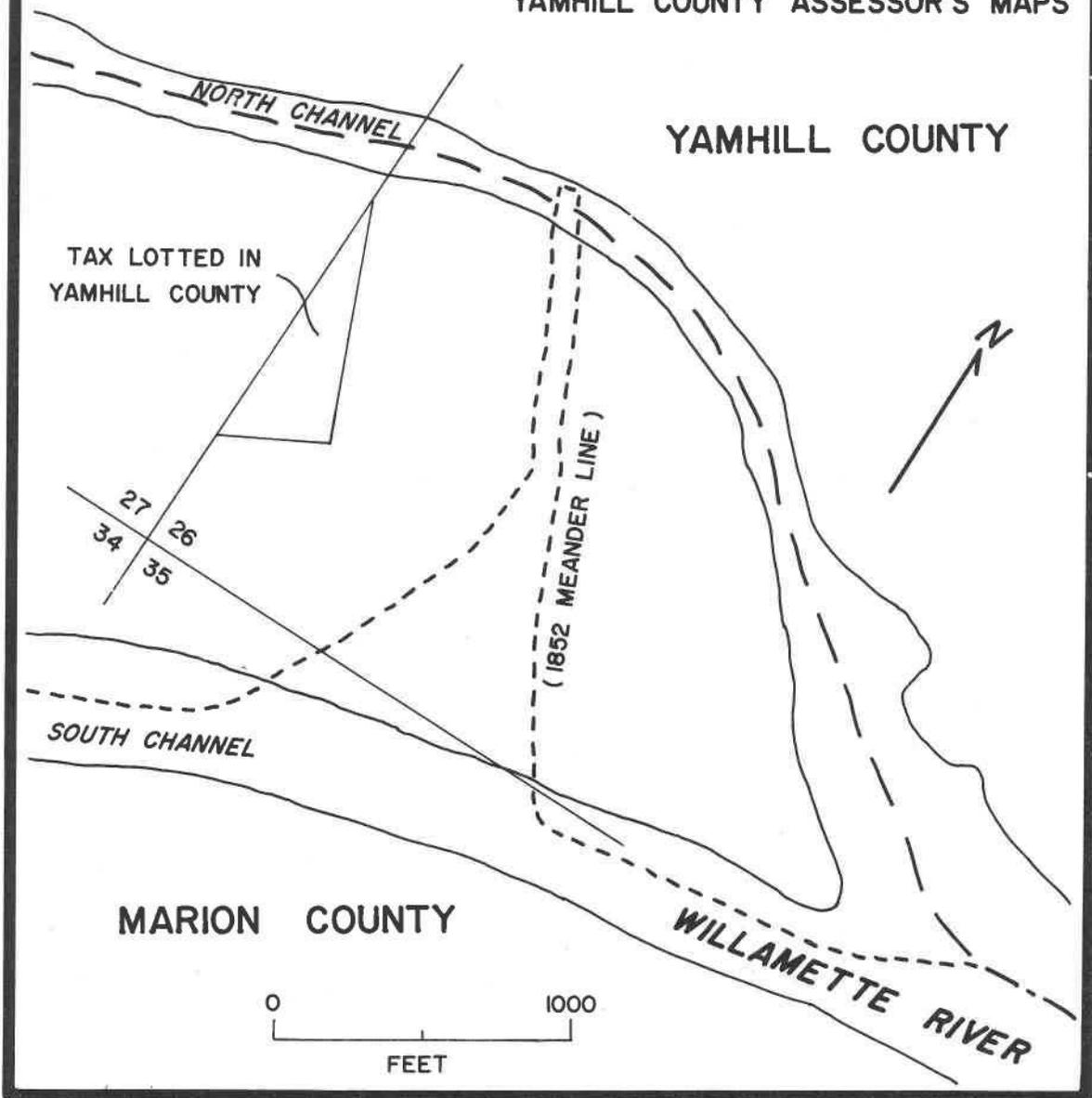


Fig. 9

MARION—YAMHILL
NON-ASSESSED AREA
(T 5 S, R 3 W)

----- COUNTY BOUNDARY ACCORDING TO
MARION COUNTY ASSESSOR'S MAPS
----- COUNTY BOUNDARY ACCORDING TO
YAMHILL COUNTY ASSESSOR'S MAPS



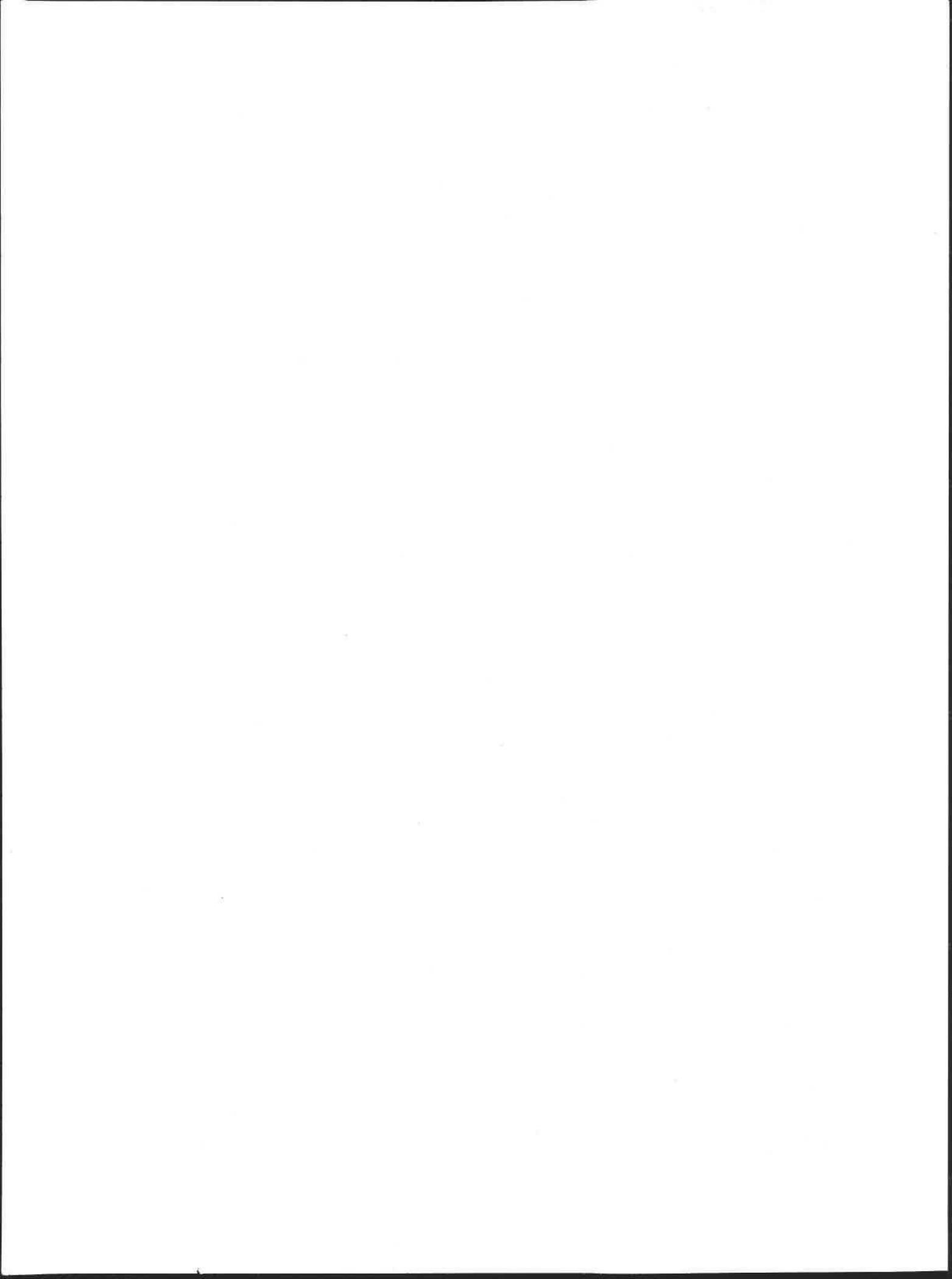


Fig. 10

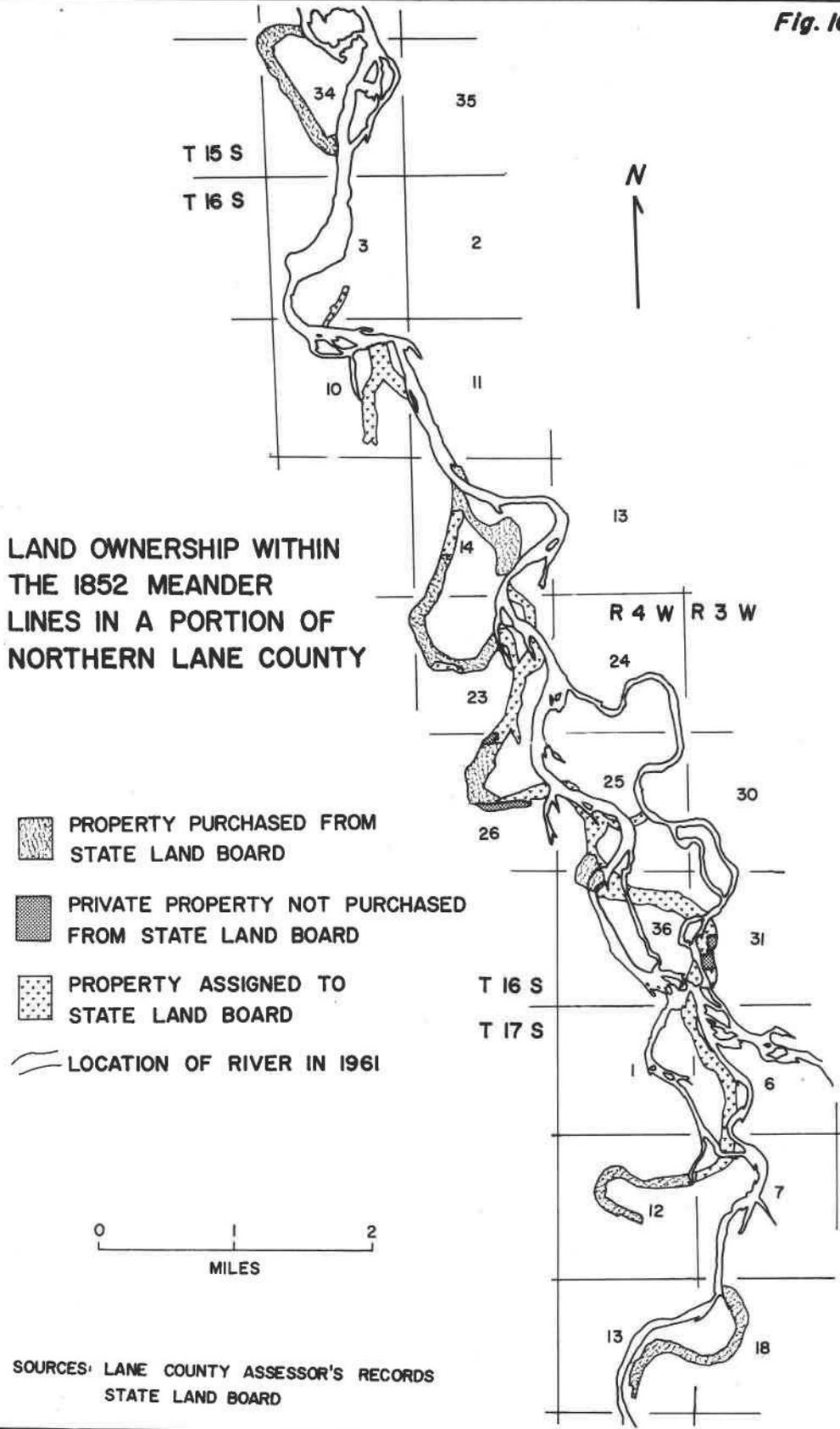
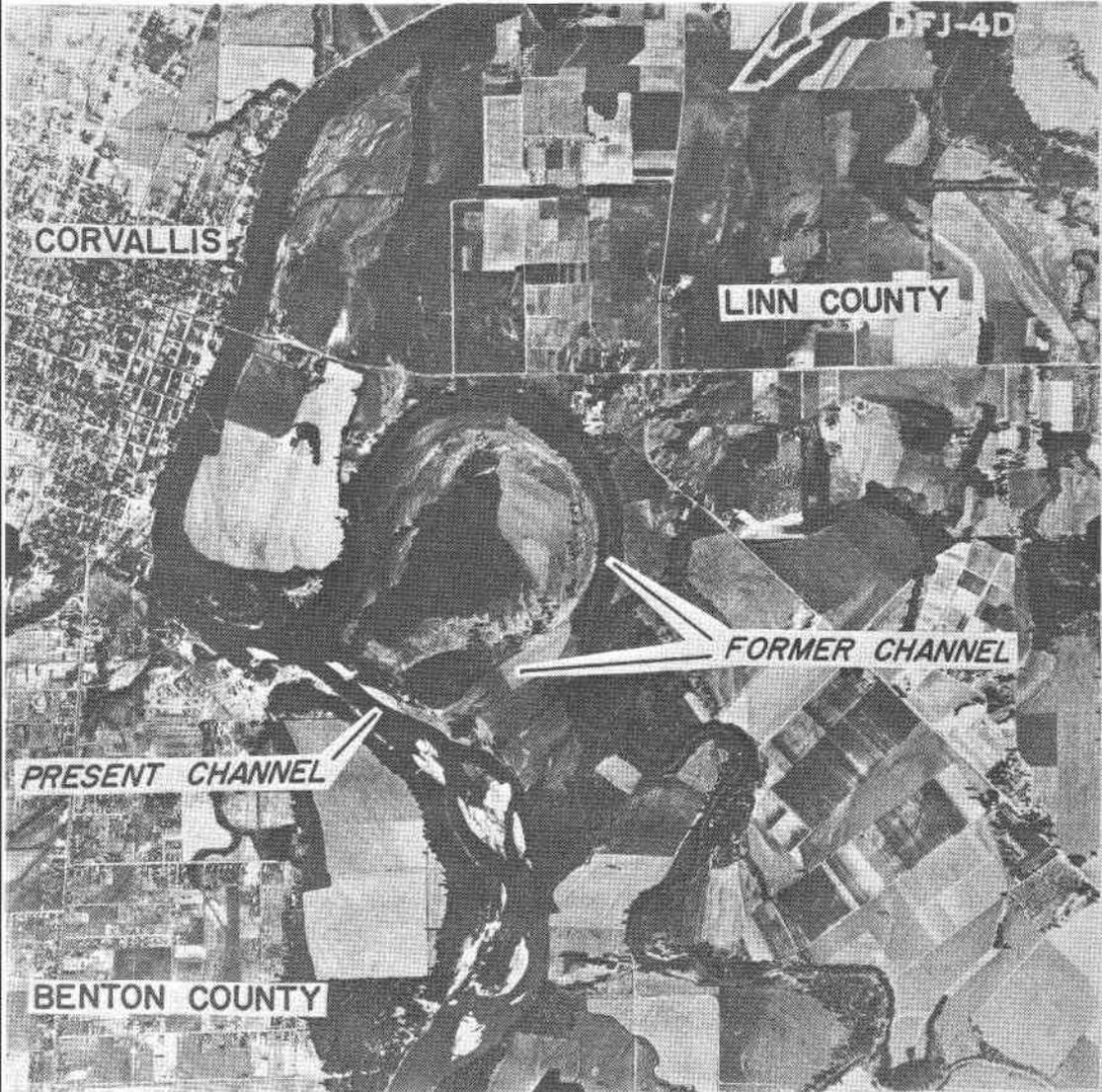




Fig. 12

CORVALLIS SAND AND GRAVEL AREA

(SEC. 1, T 12 S, R 5 W)



SOURCE: U.S. DEPARTMENT OF AGRICULTURE PHOTO

