

**OBSTRUCTING PUBLIC ACCESS TO
THE BACKWATERS OF THE WILLAMETTE RIVER:
A CASE STUDY OF "BERMS" NEAR PEORIA, OREGON**

by

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A RESEARCH PAPER

submitted to

THE GEOSCIENCES DEPARTMENT

in partial fulfillment of the
requirements for the degree of

**MASTER OF SCIENCE
GEOGRAPHY PROGRAM**

JANUARY 1992

Directed by
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ACKNOWLEDGEMENTS

I express my gratitude to Dr. Gordon E. Matzke for his patient guidance of this research and his overall encouragement in the course of my graduate studies. Without his assistance this research wouldn't have been possible. My sincere thanks also goes to my professors, staff members and colleagues in the geography department. They all have been understanding and helpful.

Table of Contents

	Pages
I. Introduction	1
A. Purpose of the Study	2
B. Methods of the Study	3
II. Historical River Course and Landform Changes in the Study Area	5
III. Changing Water and Land Ownership Rights in the Study Area	14
IV. Illegal Berm and Fence Obstructions on the Willamette River in the Study Area	18
V. State and Local Agency Response to the Manmade Structures in the Study Area	27
VI. Conclusion	30
VII. References	32

List of Figures

	Pages
1. Location of study area in Oregon	6
2. Location of study area on the Willamette River system	7
3. Aerial photograph of the study area from 1948	9
4. Aerial photograph of the study area from 1956	10
5. Air photo of the study area from 1961	11
6. Air photo the study site from 1970	13
7. A 1991 aerial photo of the study area	14
8. Location of the illegal berms in the backwaters of the Willamette River system near Peoria	15
9. (A,B,C) A cross section of the "berm" constructions in the study area	16
10. Channel location of the Willamette River in the study area in 1852 and 1961.	20
11. A. Official record showing ownership of property number 205 in the site	23
B. Partial map showing property ownership in the study area.	24
12. Illegal wire fencing with "no trespassing" signs on the berm structures in the study area	25
13. A water fowl hunting blind in the vicinity of the site	28

Obstructing Public Access to the Backwaters of the Willamette River:

A Case Study of "Berms" near Peoria, Oregon

Abstract: This case study highlights the misappropriation of a public natural resource. Public access to the backwaters of the Willamette River near Peoria, Oregon has been obstructed by the construction of berms along the river for private benefits. Based on field measurements, existing studies, state laws and regulations; this paper analyzes the historical river course and land form changes, water and land ownership rights to ascertain the legality of the berm obstructions in the study area. This study concludes that the berm constructions are illegal. It outlines a checklist for concerned citizens to follow in cases of resource misappropriation. It urges public awareness and participation against violations impairing the use of a public natural resource.

I. Introduction

Increased public awareness of the need to rationally use and preserve existing natural resources is resulting in profound changes governing the rules and regulations of resource use. Present societies desire and indeed require restrictions of land use and insist that land use should be determined by the long-term interests of communities as a whole (Moore, 1976, 85). It is evident that attitudes and perceptions of resource use are changing. In the allocation of natural resources, the distribution of information is vital for reactions from the general public and interest groups (Mitchell 1989, 122). Public

awareness and participation in resource use issues enhances reasonable policy formulations by all levels of government and especially resource managers. Lowenthal (1971, 133) believes that public participation is a potential method for making effective and reasonable resource allocations. On the other hand, White (1971, 126) warns that "public decisions on resource management should not be based on natural disasters or anticipation of serious human deprivation," but on future considerations of changes in the environment as a whole.

The formulation of the Willamette River Greenway, by the Oregon legislative assembly, for the preservation and protection of the natural, scenic, and recreational qualities of lands along the Willamette River (ORS Chapter 558, 1(2)(6), 1973), although controversial, (Bauer 1980, 7) was a step in development towards the allocation of a natural resource for the public good.

A. Purpose of the Study

This study investigates the construction of several berms along the backwaters of the Willamette River near Peoria, Oregon in order to determine if they represent a lawful use of public resources within the Willamette River Greenway. These berms obstruct public access to certain waters of the Willamette River, considered a public waterway, and it appears that they are being used for private purposes. A preliminary study of this case was compiled as a Ph.D. field problem by Wilson (1988). However, his study was inconclusive concerning the legality of

the berm constructions and additional information was needed. The present research was designed to provide this information. The specific objectives of the study are as follows:

1. To identify the historical river and landform changes within the study area which gave rise to the present river channel location;
 2. To develop the history of berm construction which blocked access to portions of the former channel location including the time of construction, the responsible parties, and the volume of material used in construction;
 3. To identify water and land ownership rights in connection with the use of natural resources;
 4. To identify regulations which apply to cases of this type;
 5. To investigate the legality of the berm constructions in the study area;
 6. To prepare a checklist useful to citizens seeking to investigate similar public resource use problems;
- Overall, the study seeks to determine whether or not a public resource has been illegally appropriated for private use in this case.

B. Methods of Study

The case study method was used to conduct this research. A case study in the resource context examines a phenomenon in real life (Yin, 1981, 58). It is based on evidence gathered from field work, existing records, publications, reports, and observations. In recent years, case studies have been used in

resource research analysis. According to Mitchell (1989, 32), a case study is an experimental design that combines qualitative and quantitative evidence to reach a conclusion. He believes that there exists a misconception about case studies as being "the result of participant observations." He argues that case studies are "analytical units that should be regarded on par with whole experiments," a realization that provides an important insight for cross-case analysis. Salter (1987, 71) states:

"In so far as the interactions and sequential gaps among the facts of the unit of actions experience are closed in a case study, and as far as these facts are relevant to the experienced problem under study, to that extent a case study has the quality of testing relations in the only place where they have meaning. In this form, the case method can prepare evidence that carries exceedingly great weight as a test."

The purpose of a case analysis as a scientific inquiry is to reach a conclusion regarding an existing problem in resource appropriation. To conduct this particular research, several means have been employed. The core of the investigation was based on field reconnaissance. The berms under investigation were measured and photographed for relevant quantitative data. Information was gathered from federal, state, and county agencies to ascertain the legality of the berms in question. An examination of the natural resource appropriation laws of Oregon was made to assess whether the berm structures were against the rules and regulations of the state. Vertical aerial photos of the study area from different time periods were consulted to

examine natural feature changes in the course of the river and changes in land use due to human activities. A review of available studies, documents, and information acquired from responsible personnel has also been of extreme benefit to this study.

II. Historical River Course and Landform Changes in the Study Area.

The Willamette River flows in a trench meandering along its course and forming abandoned channels, oxbow lakes, islands, sloughs, and other floodplain topographic features. The study area lies in Linn County, at about river miles 143, near Peoria (Figures 1-2). It is situated in the back waters of the Willamette River where Lake Creek empties its water. Access to the site is facilitated by the Peoria boat ramp, located about 1.5 miles north of the site. In the study area, the main channel of the Willamette River is divided by a small, low island bounded to the east by the Peoria Road and to the north by Hoacum Island, which is approximately 50 acres (Wilson, 1980, 5).

A preliminary search of river feature changes in the study area from parcel maps and other records at the Linn County Planning and Building Department, U.S. Corps of Engineers, Division of State Lands, and other sources indicates that the study area is an old river bed meandered by the Willamette River. This fact is substantiated by examining aerial photographs from

1948, 1956, 1967, 1970, and the present time. These air photos (Figures 3-7) illustrate intense river course and other physical feature changes in the Willamette system. From the air photos, the flow of the Willamette in the 1940'S, 1950'S and early 1960'S is characterized by a smooth flow, while in later years, especially in the study area, the river branched out to form secondary channels, sloughs, islands, and oxbow lakes.

Figure 1
Location of the study area in Oregon.

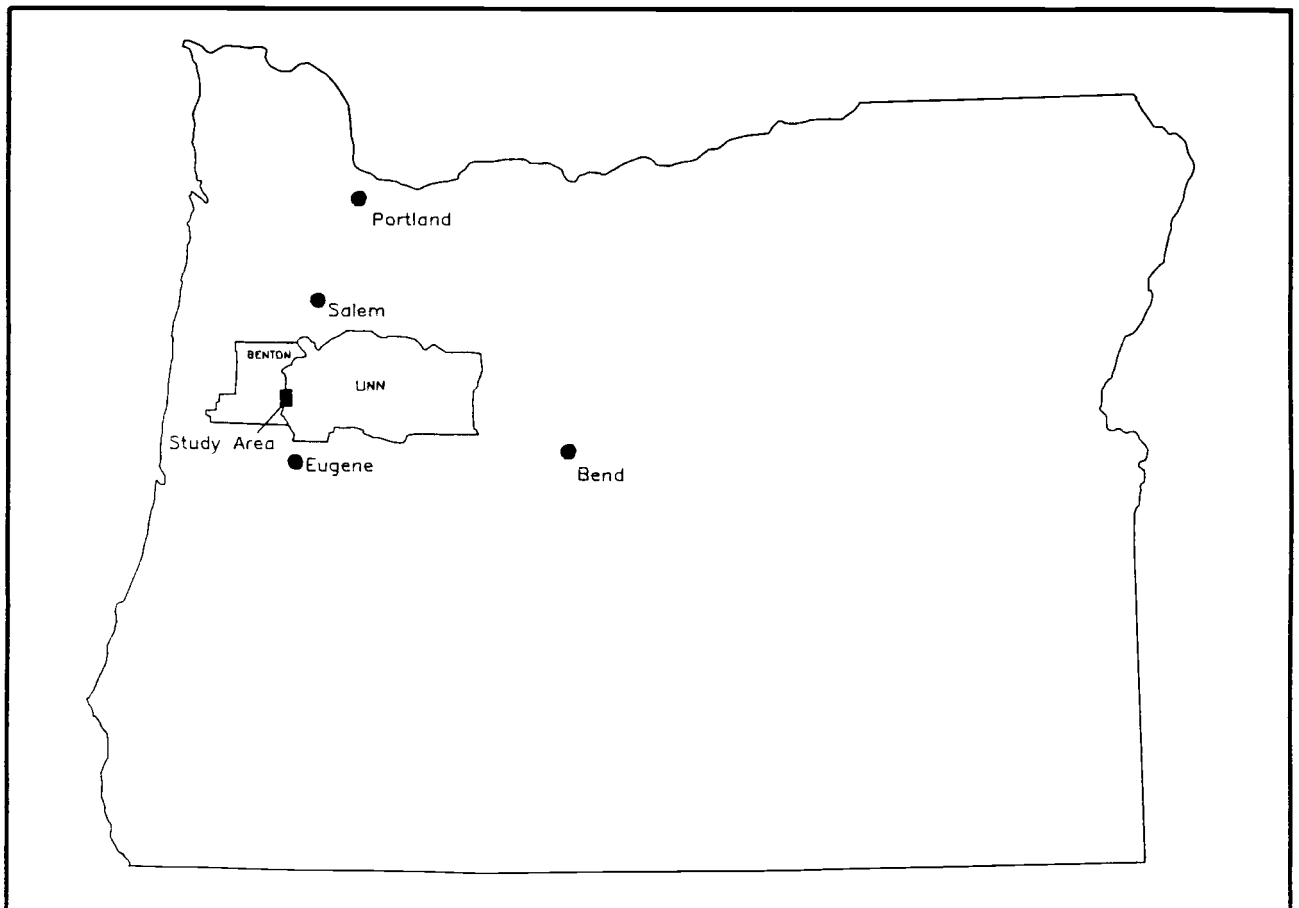
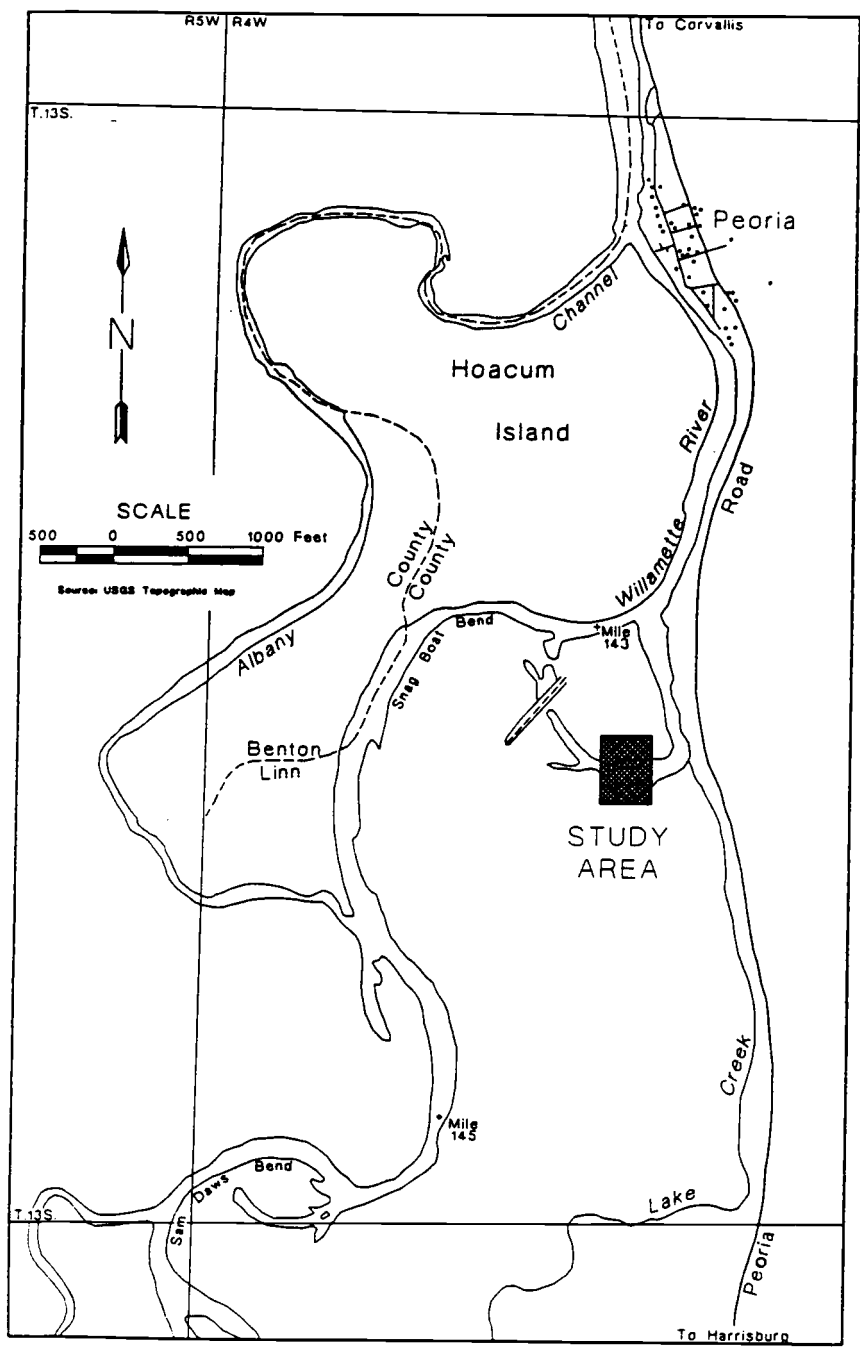


Figure 2
Location of study area on the Willamette River system.



Source: USGS topographic map (1969).

The floods of the early 1960'S inundated the study area and had a tremendous impact on river course and landform changes in the area. They stimulated the construction of a water diversion structure (a 1200-feet long dike) by the Corps of Engineers (1964) near the study area to divert the river flow and prevent flooding. This has allowed the study area to remain in the backwaters of the Willamette River.

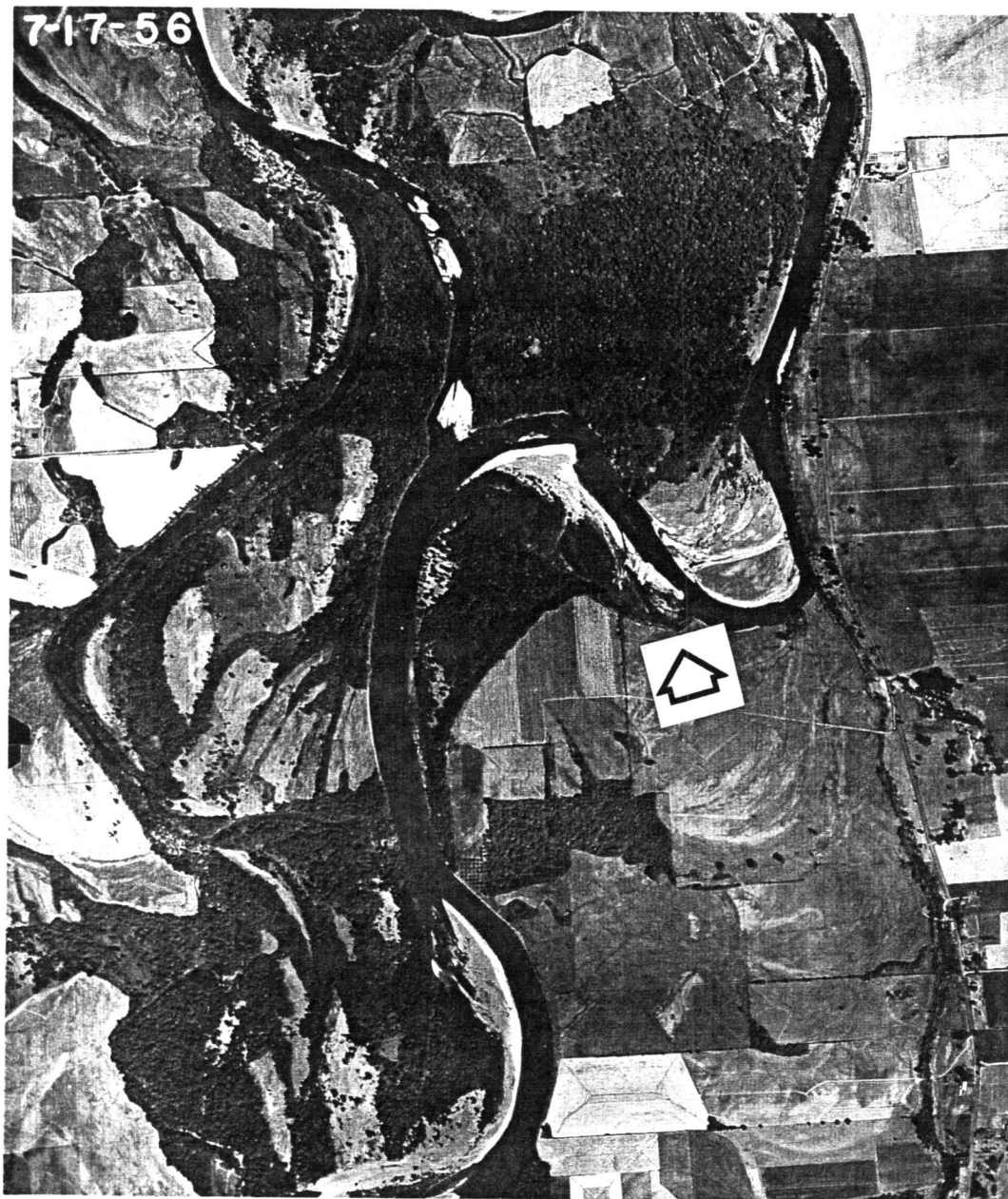
A comparison of individual aerial photographs of earlier (Figure 3-5) and more recent years (Figure 6-7) provides detailed information about channel shifting and landform and vegetation changes in the study area. The 1948 aerial photograph (Figure 3) indicates the study area as a major channel of the Willamette River. Agricultural activity seems limited due to the extensive forest cover evident on the south, southeast, and east side of the study area. The 1956 aerial photo (Figure 4) shows a limited physical feature change from 1948. However, the 1961 aerial photograph (Figure 5) shows inconsistency in the flow of the river and reveals the branching of the main channel with the formation of an island due to the flooding that occurred during the early 60'S. An examination of the 1970 aerial photograph indicates a new phenomenon in the area. It shows a diversion structure running across the river from the southwest in a northeast direction (Figure 6). Inquiries about the structure at the Corps office in Portland revealed that a 1200 feet long dike was constructed and completed by the Corps in 1964 for flood protection purposes in the area. A further examination of

Figure 3
Aerial photograph of the study area from 1948.



Source: US Department of Agricultural Production and Marketing Administration (1948).

Figure 4
Aerial photograph of the study area from 1956.



Source: US Department of Agricultural Commodity and Stabilization Services (1956).

Figure 5
Air photo of the study area from 1961.



Source: US Department of Agricultural Stabilization and Conservation Services (1961).

recent aerial photographs (1976, 1980 and 1985) at the US Corps of Engineers and Linn County Planning offices is consistent with river course and other landform changes in the backwaters of the Willamette River in the study area. An aerial photograph taken in 1991 (Figure 7) shows additional manmade landform changes present in the study area. These manmade structures marked A,B,and C in the air photo and the corresponding map (Figure 8) are the focus of this study. A cross section of these manmade obstructions is represented in (Figure 9, A,B,C).

III. Changing Water and Land Ownership Rights in the Study Area.

Examination of aerial photographs of the study area at different periods of time revealed a gradual shifting of the course of the Willamette River channel system due to manmade and natural geomorphic processes. Over the years, these phenomena have resulted in changes of riparian land and water ownership rights affecting both private owners and the state. Frequent flooding also prompted the US Corps of Engineers to construct a diversion structure above the study area. This diversion structure (dike) figure 6, altered the river course and decreased the volume of the study area channel with a direct bearing on water and property rights in the study area.

Identifying riparian property boundaries is difficult. However, the law recognizes only two types of river course

Figure 6
Aerial photograph of the study site from 1970.



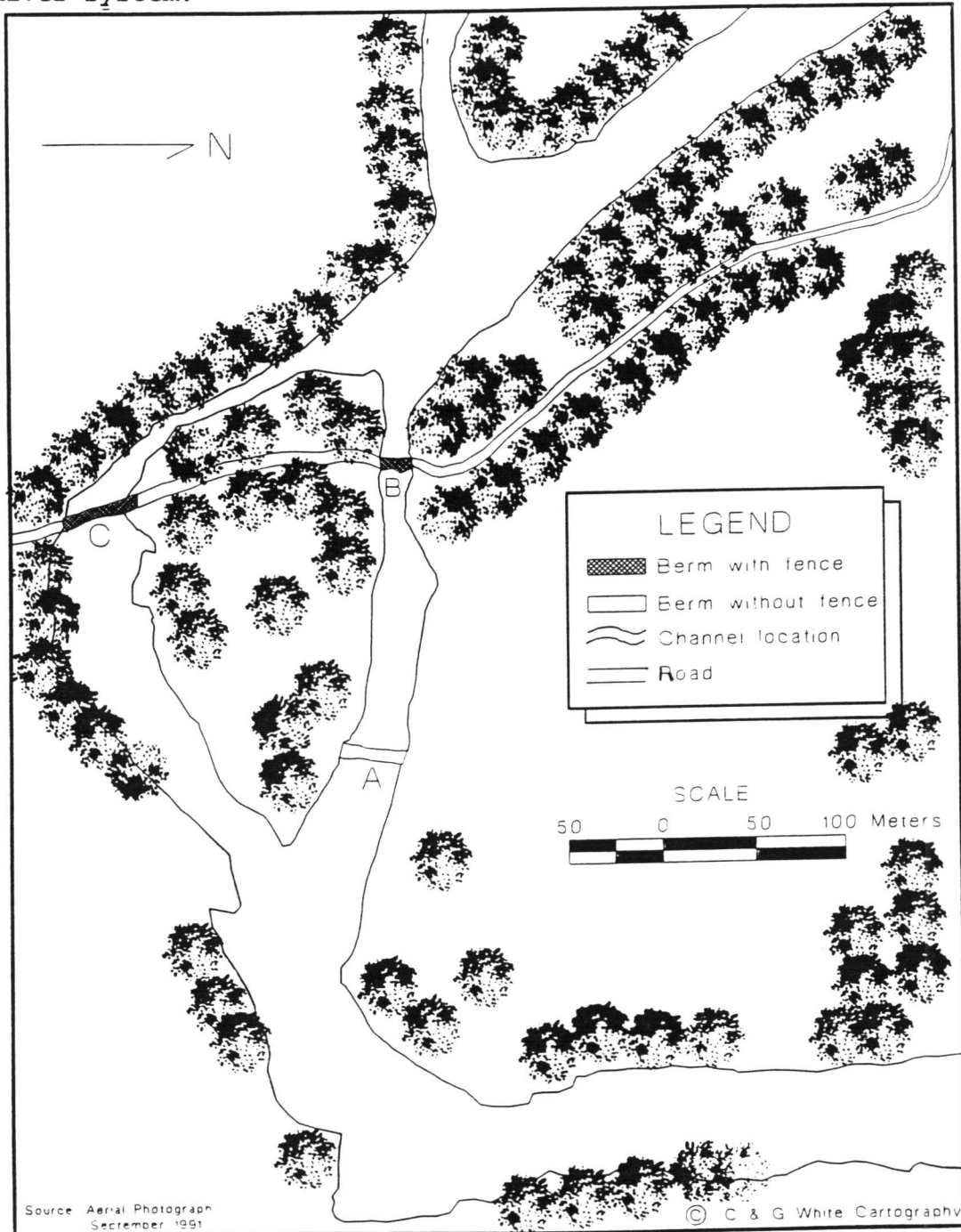
Source: US Department of Agricultural Stabilization and
conservation Services (1948).

Figure 7
A 1991 Aerial photograph of the study area.



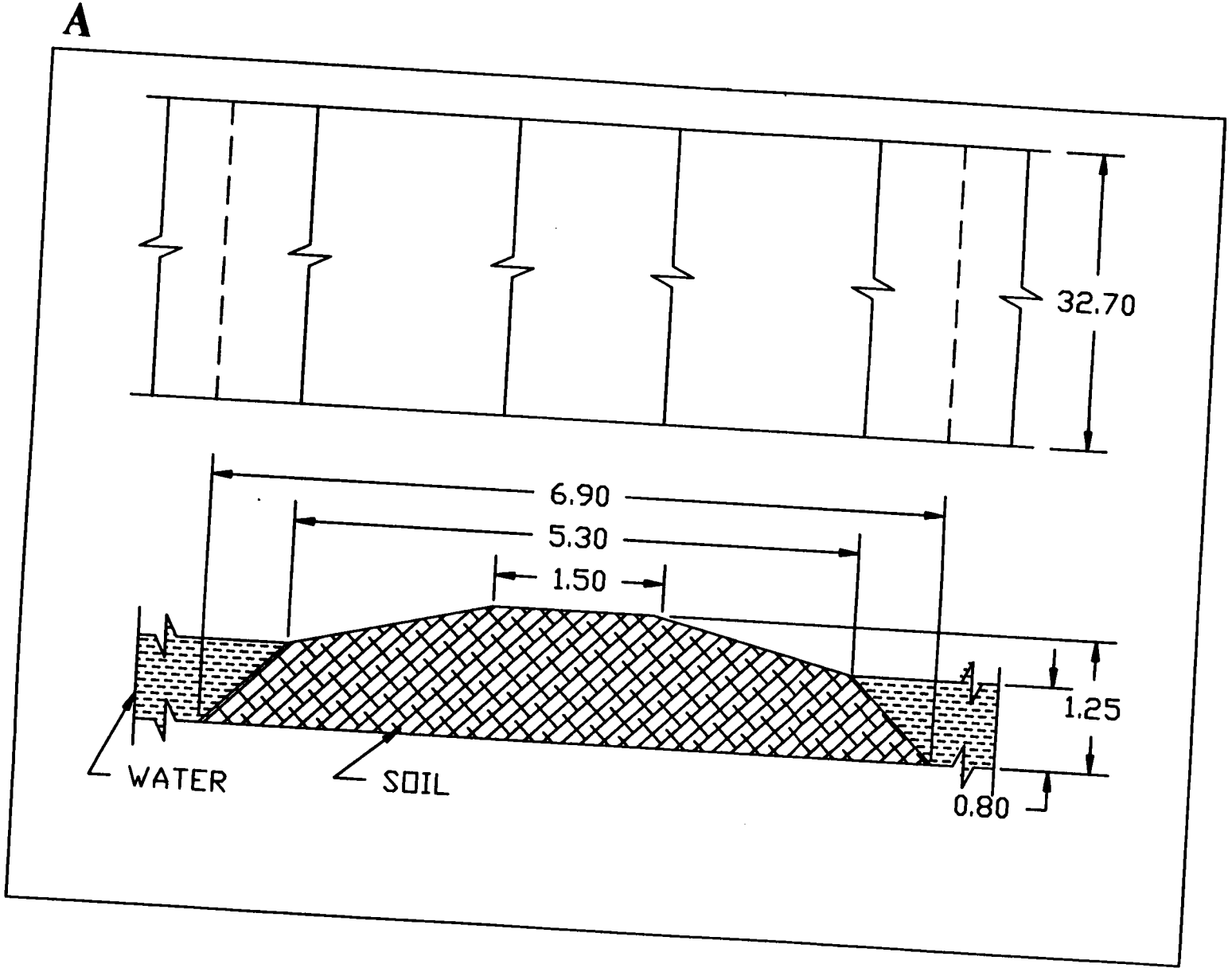
Source: Department of Geography, OSU.

Figure 8
Location of the illegal berms in the backwaters of the Willamette River system.

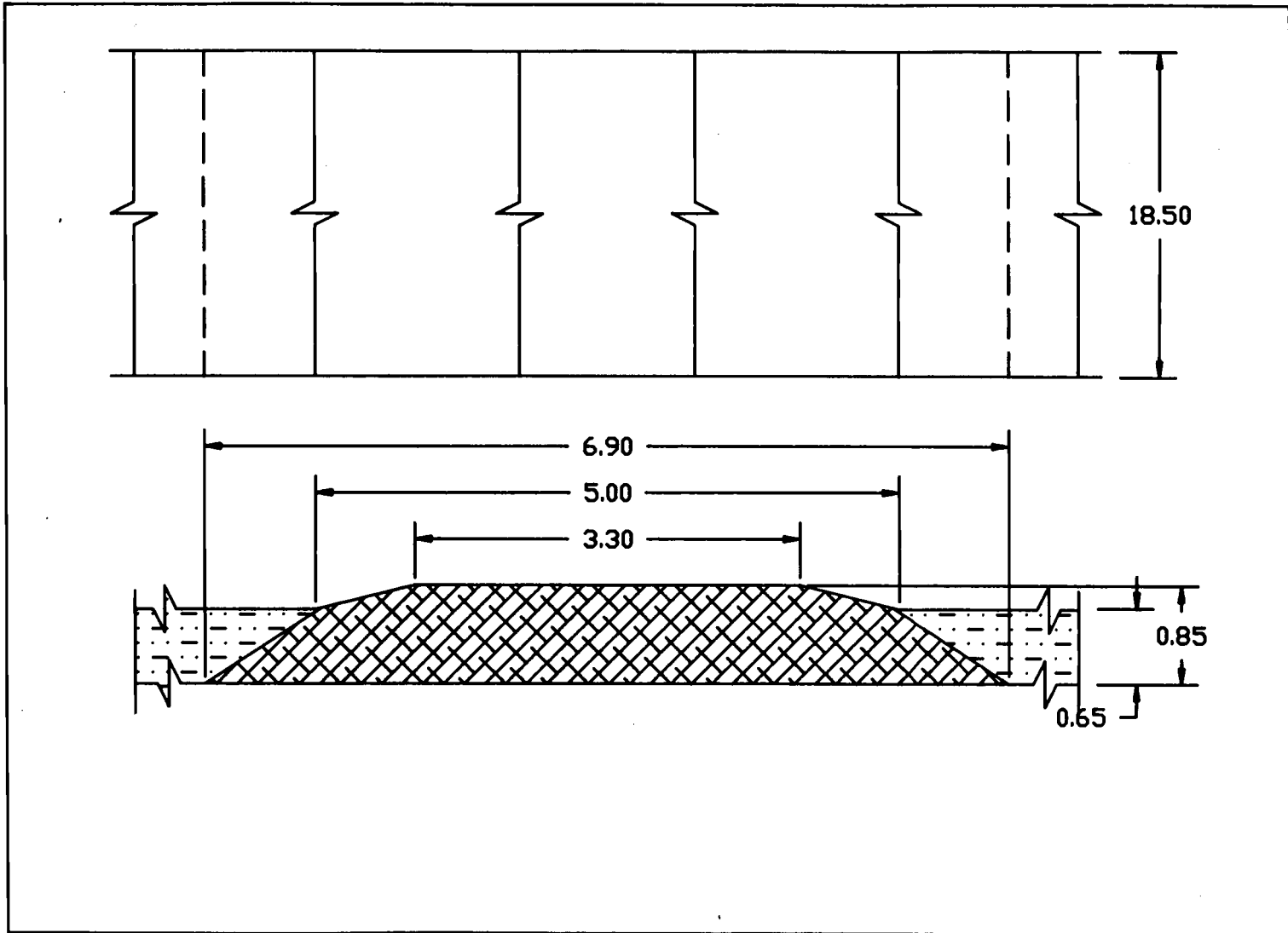


Source: 1991 aerial photo, Department of Geography, OSU.
Map by C & G White Cartography.

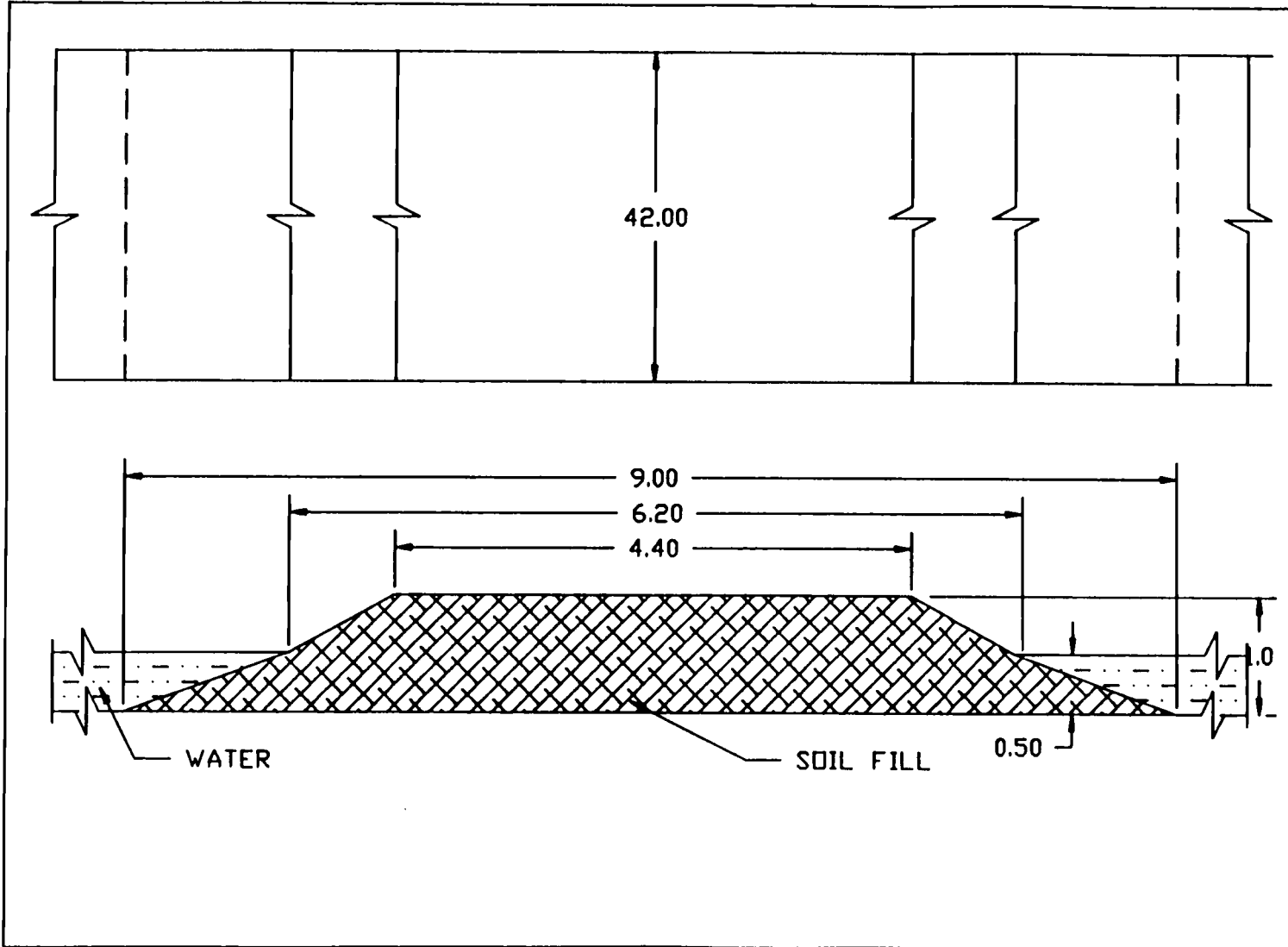
Figure 9
(A,B,C) A cross section of the berm constructions in the study area.



B



C

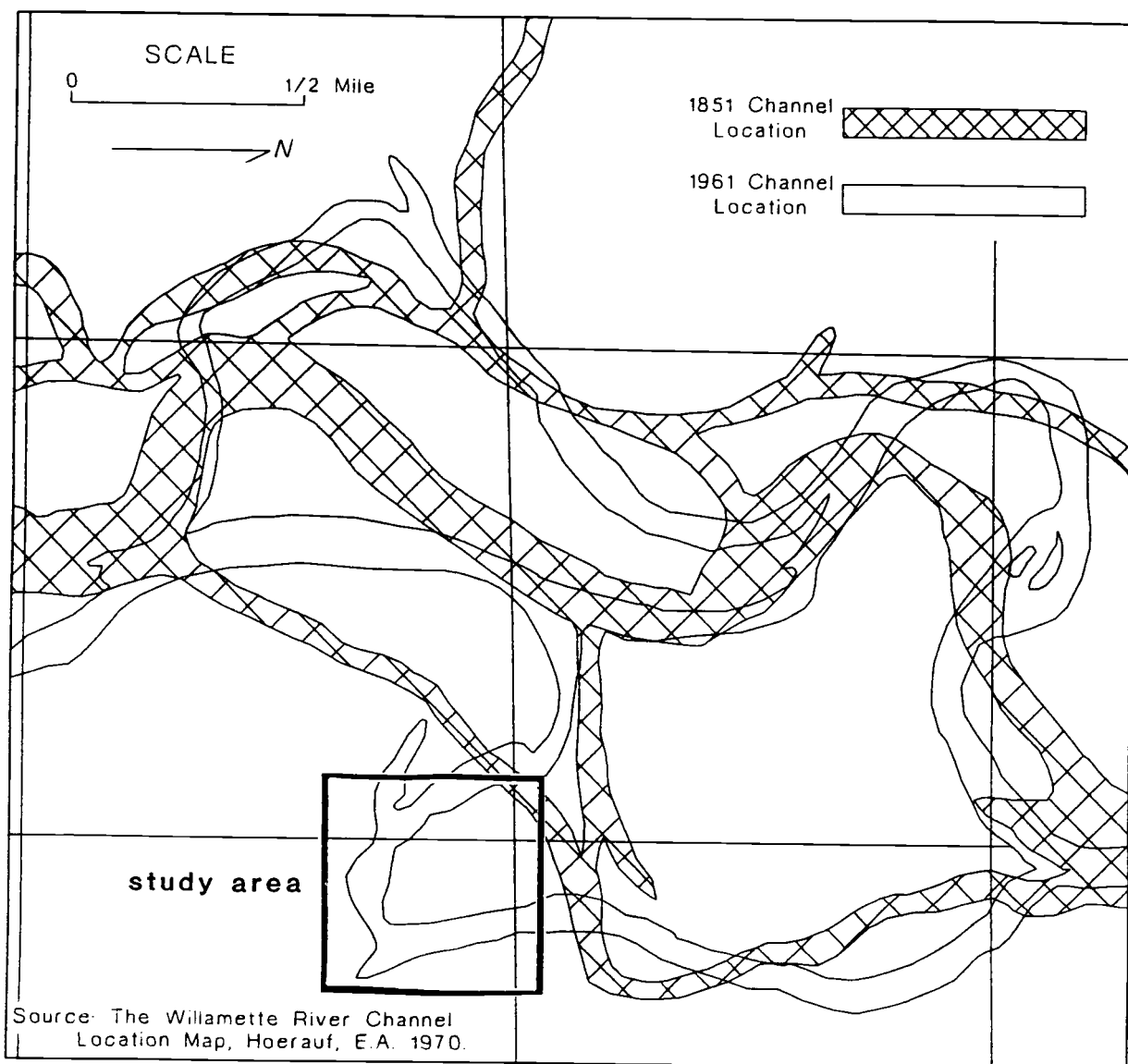


changes, accretion-reliction and avulsion (Hoerauf, 1970, 9-10). According to the author, accretion is the gradual deposition of sediments on or along a river bank, while reliction is the process of creating new land through permanent withdrawal of water. When the river shifts gradually through the process of accretion-reliction, riparian property boundaries, including state ownership of the bed, move with the river.

The Division of State Lands determines state owned land along the meander of the Willamette River based on the 1852 General Land Office survey channel location maps (Figure 10). The state has considered the area within the 1852 meander lines as possible state lands (Hoerauf, 1970, 31). There is a great disparity between the 1852 meander lines and the current river location due to accretion-reliction and avulsion processes in the study area. By law, a riparian owner is entitled to all accretions to his land. Land above the high water mark is owned by the riparian owners, while land below that is owned by the state (Chapin, 1974, 30-31). However, there exists conflicting evidence whether a river change is sudden or gradual and this complicates the issue of riparian land ownerships, making it difficult to apply the accretion-reliction and avulsion laws.

As stated in the Water Laws of Oregon, ORS 537.110 (1988, 75), "All water within the state from all sources of water supply belongs to the public." A valuable and carefully protected provision in the law allows a riparian owner the right of access to the water. On the other hand, ORS 537.130 (1988, 76)

Figure 10
Channel location of the Willamette River in the study area in 1852 and 1961.



Source: Hoerauf 1971 Water Research Resource Institute, OSU.

clearly states that for the beneficial use of any of the surface waters of the state that require construction, enlargement, or extension of any ditch, canal, or controlling works (as is the case in the study area), a permit for appropriation of water is needed. There is no evidence to substantiate that a permit had been acquired for the construction of the berms under investigation in the study area.

IV. Illegal Berm and Fence Obstructions on the Willamette River in the Study Area

Approximately two miles south of the Peoria boat ramp, in backwaters of the Willamette River, (River mile 143) are berm obstructions that prevent public access to the waters of the Willamette River.

Linn County Planning documents indicated the legal location of the structures in Township 13 South, Range 4 West, northwest 1/4 of Section 20, Willamette Meridian (Figure 1-2). The study area encompasses Tax Lot 205. At present, the owners of this property are David and Katherine Rogers. Originally, the land was claimed by James S. Dill in 1867 (Linn County Planning and Development Department documents) and in later years was sold to A.R. and H.M. Hilbert. Until December 1985 the property was under the name of Hilbert-Sim Farms, before being sold to the current owners (the Rogerses) (Figure 11-A). Figure 11-B shows property ownership around the study area. The three obstructions in the backwaters of the Willamette River at about 143 river

miles, which are the focus of this investigation, lie within the boundary of the above mentioned property. The three berms were located at the backwater slough into which Lake Creek emptied. Here the presence of a small island divides the main channel into two. It was on both sides of the island that the berms were constructed. One was at the start of the channel and the other two about 45 meters on the opposite side of the channel to the south. Figure 9 represents a cross-section of the three berms in the study area. The berms are marked A, B, and C. Field measurements show the length of the berms as 32.7, 18.5, and 42 meters, respectively. The total length of the berms is calculated to be approximately 93.2 meters. It is believed that the berms were constructed with river gravel using a bulldozer (Wilson, 1988, 1). The total volume of fill, calculated from field measurements, is 562.23 cubic meters (725.27 cubic yards). The volume of berms A, B, and C is 266.1, 111.6, and 347.6 cubic yards respectively. Berms B and C were wire fenced and posted with "no hunting" and "no trapping" signs (Figure 12). In addition, the "no trespassing" sign stated that the site was a "wildlife management area." Investigation revealed that the signs do not belong to the State of Oregon Fish and Wildlife Department which is responsible for the management of such areas. It seems that this is an attempt by the land owners to deny access to the property and/or to conceal their activities, (Wilson, 1988, 4).

To determine the legality of the berm constructions,

Figure 11-A

Official record showing ownership of property number 205 in the study area.

ACCT. NO. <u>761904</u>									
LINN COUNTY	552-4	13	4W	20				205	
OFFICIAL RECORDS OF DESCRIPTIONS OF REAL PROPERTIES	CODE AREA NUMBER	TWP	RGE	SEC	1/4	1/16	PARCEL NUMBER		
		MAP NUMBER							
OLD ACCT. NO. <u>292157</u>		LOCATION: 26366 1/2 Sec 20, Twp 4N, Rge 13W, Linn Co, OR							
OLD TAX LOT NO. <u>200</u>		DATE OF ENTRY	DATE OF	DEED RECORD		ACRES			
		JV NUMBER	SALE	VOL	PAGE	REMAINING			
<u>ROGERS, DAVID A & KATHRYN J</u>		<u>1-15-86</u>	<u>12-24-85</u>				(#)		
		<u>JUL 22 9 86</u>	<u>WD</u>	<u>MF 400</u>	<u>672</u>	<u>68.41(R)</u>			
<u>Change in Riv/Land ACRES</u>		<u>2-26-86</u>							
		<u>JUL 23 1986</u>							

Source: Linn County Planning Department, Albany.

Source: Linn County Planning Department, Albany.

inquiries were made at offices of The Division of State Lands in Salem, the US Corps of Engineers in Portland, and Linn County Planning Department in Albany. Staff in the first two offices referred to Oregon Water Laws rules ORS 541-685 (renumbered to 196-900), "the removal of material filling," which indicates that a permit is required for filling more than 50 cubic yards of material from the bed or bank of a navigable river. Their files showed that no request for a permit was filed at either office to construct the berms under investigation, which required approximately 725.27 cubic yards of fill. This is more than 14 times the maximum amount which requires a permit!

Figure 12
Illegal wire fencing with "no trespassing" signs on the berm structures in the study area.



Examination of the surrounding area does not reveal much as to when the berms were constructed. However, staff of the Natural Resources Planning and Enforcement Section at the US Corps of Engineers believe that they were built in 1978. This seems to be consistent with the aerial photographs from before 1970, which do not show any sort of construction activity in the study area. It is in the 1980 aerial photographs that the berms become evident.

Further study of the area also indicates the purpose of the berm structures. Hunting blinds and nesting boxes on the river banks confirm water fowl hunting activities in the closed "management area" and vicinity as a whole. It seems that the berm structures are being used to impound water and attract water fowl for hunting (Figure 13). The Water Laws of Oregon, ORS 274.430, (1988, 10) defines state ownership of meandered lakes and navigable waters and declares that they are public waters. The intention of the land owners, i.e., appropriating a public resource for private recreational purposes is not compatible with the Water Laws of Oregon.

VI. State and Local Agency Response to the Manmade Structures in the Study Area.

An examination of the Water Laws of Oregon indicated that power is vested in the Division of State Lands and the US Corps of Engineers to issue permits for structures on navigable public waters and to authorize the removal or filling of materials in

river beds. As stated previously, no documentation of any sort exists in the Corps or State Lands offices to substantiate the issuance of a permit to authorize the berm constructions in the study area. Staff of the Resource Planning Division and particularly the Enforcement Section at the Corps confirmed that the constructions were illegal. So did staff at the Division of State Lands. In fact, any public complaint filed could lead to legal actions by the public agencies. Inquiries at the Linn County Planning office also led to the same results--no permit has been issued for any kind of construction project on the properties under investigation.

This research confirmed that a public resource has been appropriated for private benefit. It is evident that so far no action has been taken on the part of the federal or state agencies responsible for safe guarding the water resources of the state. No public outcry has been heard from this illegal activity. Part of the reason could be limited public knowledge of this illegal construction and appropriation of water resources. As stated by Wilson (1988, 26), river features like secondary channels, tributary streams, oxbows, and cutoffs are sources of potential violations especially in the middle and lower Willamette River regions. Publicizing the violations of water resource enclosure laws will enhance the transfer of adequate information for public awareness and participation in the allocation of public natural resources.

Interested citizens should intervene when a navigable river

Figure 13
A water fowl hunting blind in the vicinity of the site.



(including secondary channel, oxbow, old meander, tributary stream, etc.) is obstructed by a structure and public access is denied. They can:

1. Determine the exact location of the violation on the river system.
2. Inquire at the County planning, Corps of Engineers, and the Division of State Lands offices as to whether or not a permit has been issued for such a construction.
3. If a permit has not been issued, file a complaint with The Division of State Lands, which is mainly responsible for authorizing permits.

As stated in the Water Laws of Oregon, ORS 196-805, "The protection, conservation, and best use of the water resources of this state are matters of the utmost public concern." Consistent with such laws, and the growing awareness of protecting and preserving the environment, public participation in the struggle against misappropriation and other related violations of public resources will encourage its protection and enhance public access rights.

VII. Conclusion

A review of the Oregon Revised Statutes in effect in 1987, ORS, 537.110, allows the public ownership of all waters within the state from all sources of water supply without impairing the vested right of any person to the use of any water. However, as stated in ORS 537.142, a permit from the Water Resources Commission is required "before beginning the construction, enlargement, or extension of any ditch, canal, or other distributing or controlling works, or performing any work in connection with the construction or proposed appropriation" of water resources.

Under the removal-fill law, ORS 541.685, (now 196.682), "all in stream removals of 50 cubic yards per year" or "the filling of a waterway with 50 cubic yards or more of material is prohibited by law." A removal-fill permit from the Division of State Lands is required for any project "lying below bank full stage or river ward of the line of nonaquatic vegetation of any natural water body in the state."

The structures (berms) in the backwaters of the Willamette River in Township 12 South, Range 4 West, northwest 1/4 of Section 20, Willamette Meridian, near Peoria which prohibit access and public use of the water of the Willamette River, are not compatible with state laws and are illegal. This study has confirmed that no petition for a permit has been filed nor a permit issued by the Division of State Lands or any other

institution with jurisdiction for issuing such a permit. The evidence gathered in this study confirms that a public natural resource has been appropriated for exclusive use by private parties. No attempt has been made to confront the land owners for their actions. Overall, there is provision in the law for concerned agencies, private citizens, or the public as a whole to take action against violations that impair public use of the backwaters of the Willamette River in the study area.

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