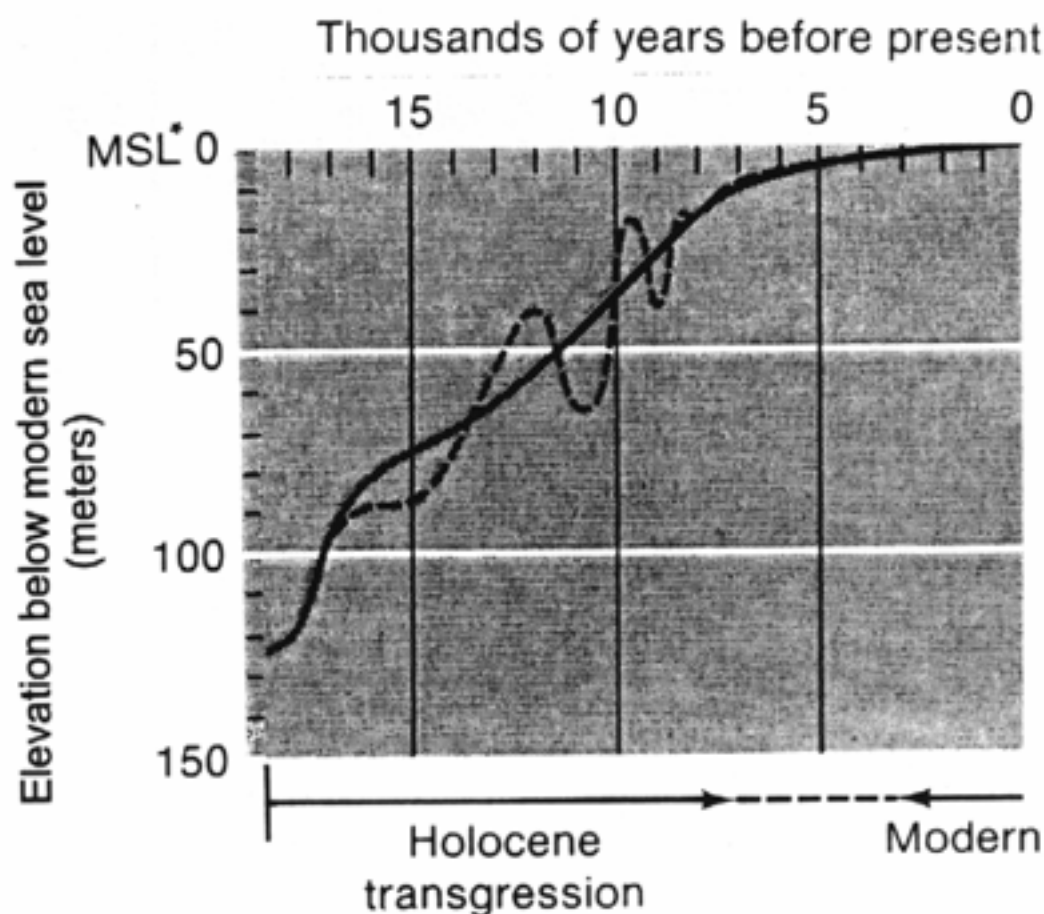


FIGURES



Late-Quaternary fluctuations of sea level, from compilation of published and unpublished radiocarbon dates and other geologic evidence. Dotted curve estimated from minimal data. Solid curve shows approximate mean of dates compiled. Dotted curve slightly modified from Curran (1960, 1961). Probable fluctuations since 5000 B.P. not shown here.

* MSL = Mean Sea Level

figure 1

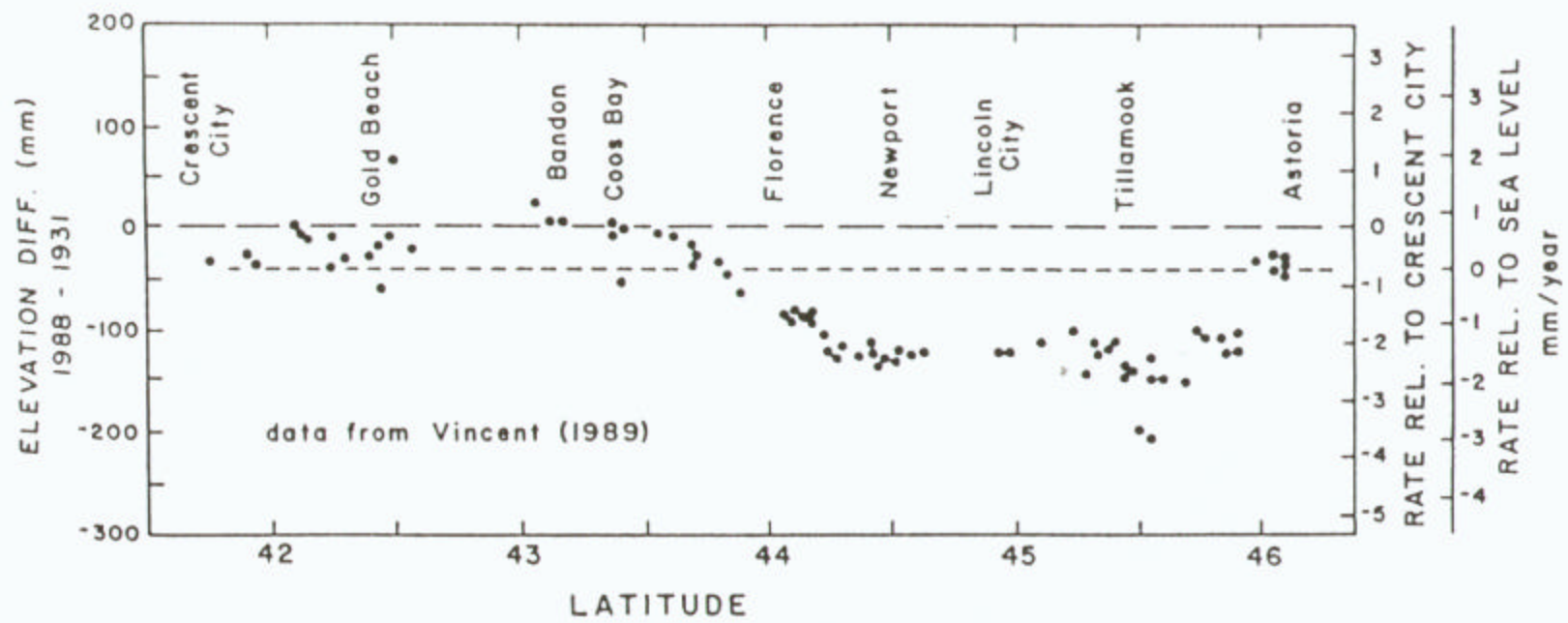
Sea Level Changes During Holocene Times

Source: Ritter, 1986

#1069



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Elevation changes and their relationship to sea-level rise along the length of the Oregon coast from Crescent City in California north to Astoria on the Columbia River, based on repeated geodetic surveys along the coast. (After Vincent [1989])

figure 2

Historic Rates of Relative Sea-Level Rise along the Oregon Coast

Source: Vincent, 1989

#1069



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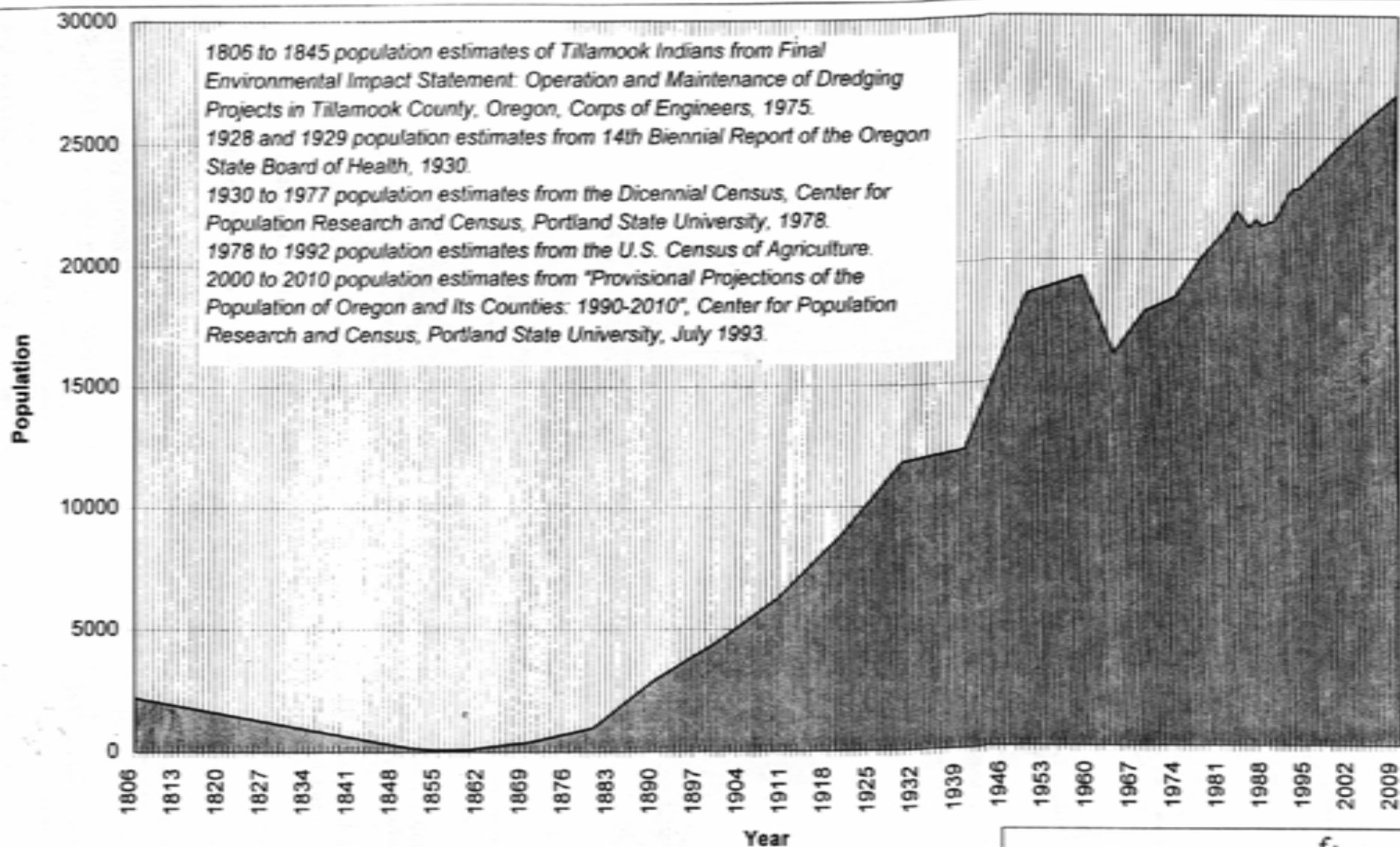
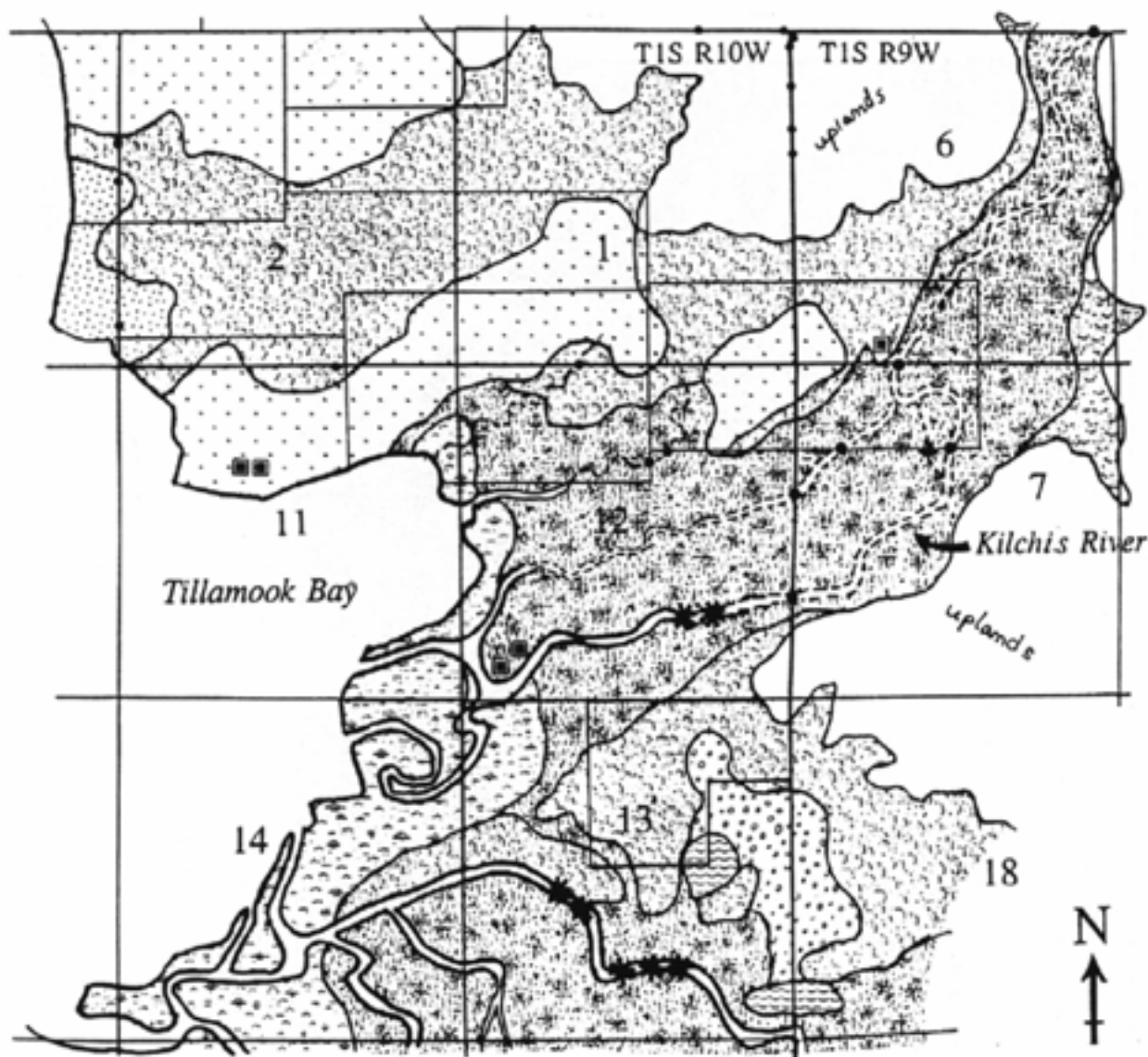


figure 3

Population Trends of Tillamook County

#1069



Legend

- | | | | |
|--|---|--|----------------------------------|
| | "tideland bottom" or "river bottom,"
"timber 1st rate" | | "dry prairie" |
| | "timbered lands, nearly level,
timber 1st rate" | | "land broken, timbered" |
| | "tideland level, cut up with fissures,
occasionally overflowed by the tides" | | meandered (surveyed) channel |
| | "swamp" | | estimated channel location |
| | "lake" | | Native American village or lodge |
| | "tide prairie" | | channel "obstructed by drift" |

1 mile

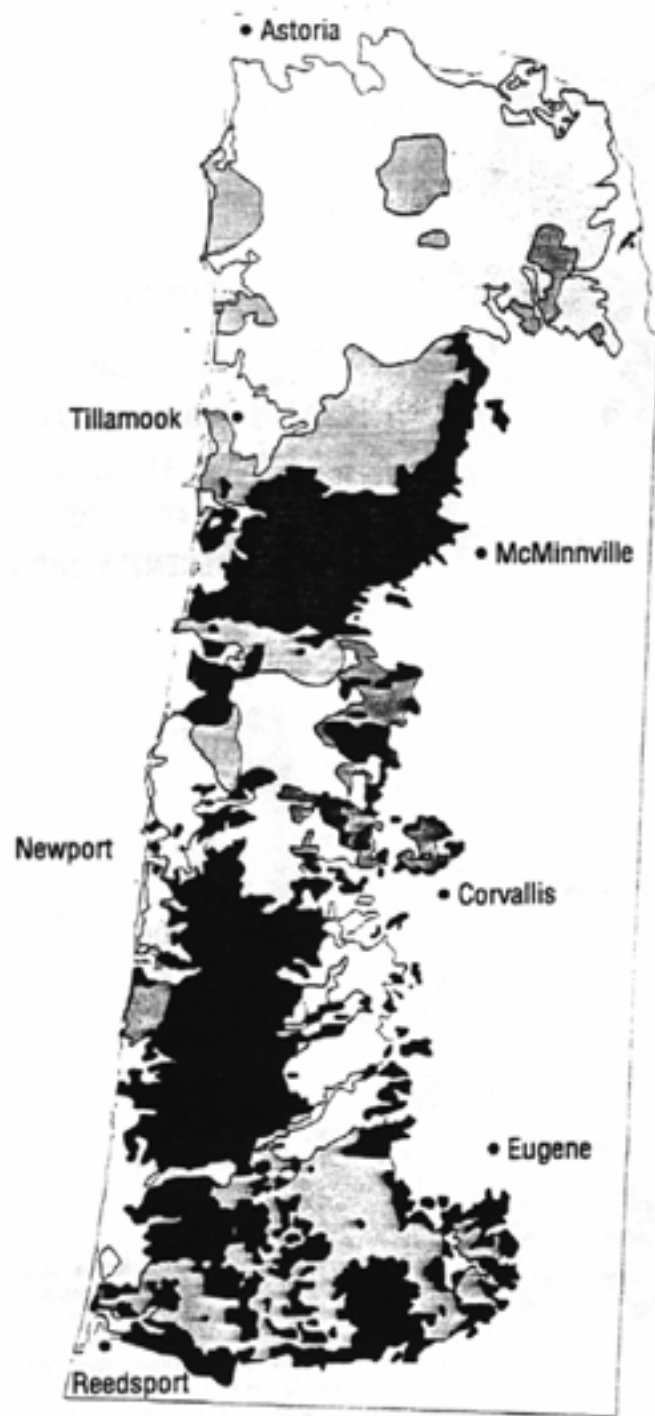
figure 4

Kilchis River Valley Historic Landscape, 1856-57

Source: P. Benner, 1995

#1069

Philip Williams & Associates, Ltd.



LEGEND

- 200 + YEARS
- 100 - 199 YEARS
- 50 - 99 YEARS
- 0 - 49 YEARS
- RECENTLY BURNED



OREGON



1 : 583400

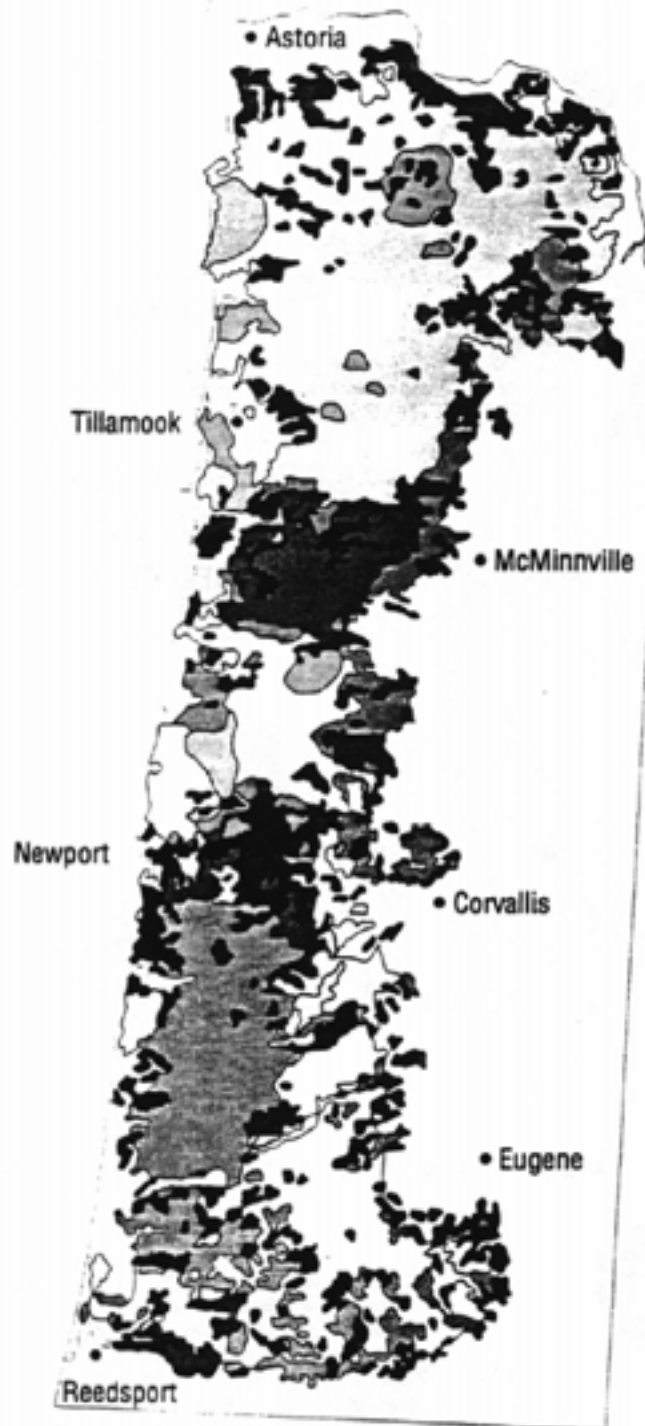
NOTE: This map was compiled from reconnaissance field notes. It was digitized from hand interpolated source materials and may differ spatially from digital mapping compiled from other source data. Prepared by Salem District and Oregon State Office, Bureau of Land Management, Sept., 1991 from United States Geological Survey data collected in 1850.

figure 5a

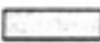
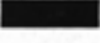
Forest Stand Age Classes for the Oregon Coast Range in 1850

Source: Salem District & Oregon, BLM, 1991 #1069

Philip Williams & Associates, Ltd.



LEGEND

-  200 + YEARS
-  100 - 199 YEARS
-  50 - 99 YEARS
-  0 - 49 YEARS
-  RECENTLY BURNED



OREGON



1 : 583400

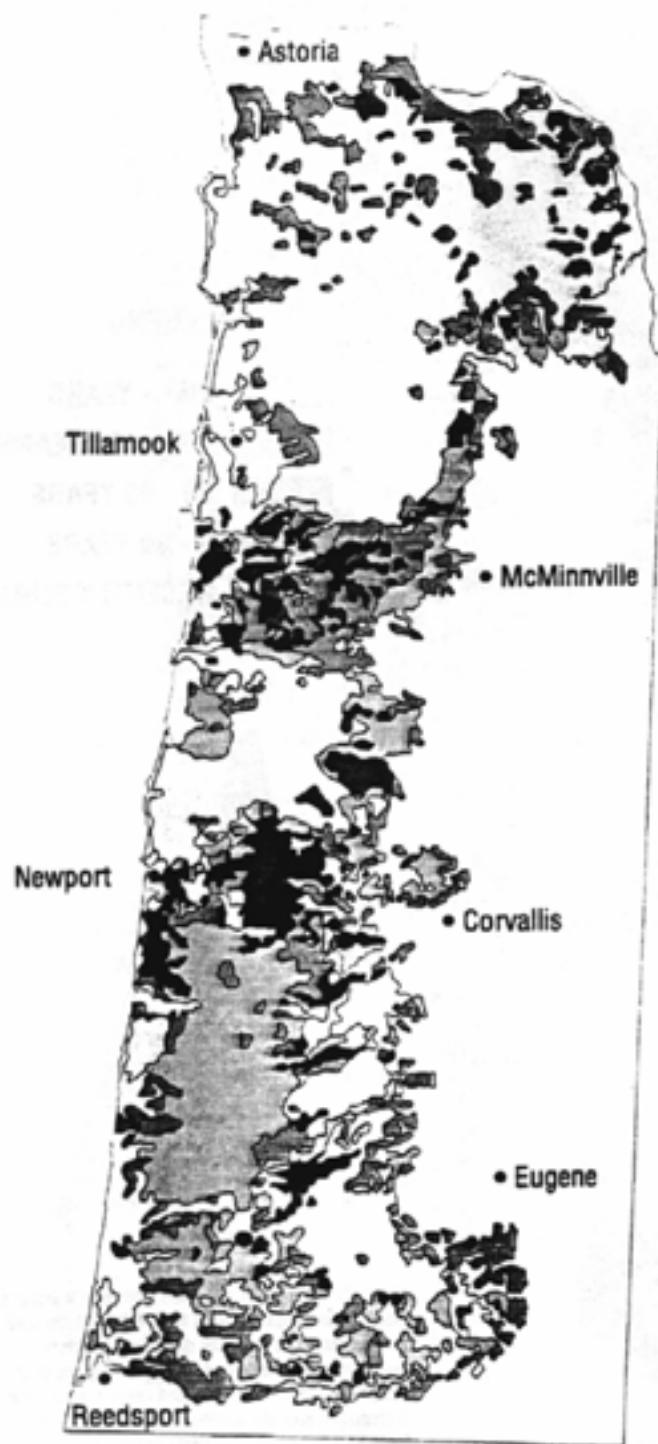
NOTE: This map was compiled from reconnaissance field notes. It was digitized from hand interpolated source materials and may differ spatially from digital mapping compiled from other source data. Prepared by Salem District and Oregon State Office, Bureau of Land Management, Sept., 1991 from United States Geological Survey data collected in 1890.

figure 5b

Forest Stand Age Classes for the Oregon Coast Range in 1890

Source: Salem District & Oregon, BLM, 1991 #1069

 Philip Williams & Associates, Ltd.



LEGEND



OREGON



1 : 583400

NOTE: This map was compiled from reconnaissance field notes. It was digitized from hand interpolated source materials and may differ spatially from digital mapping compiled from other source data. Prepared by Salem District and Oregon State Office, Bureau of Land Management, Sept., 1991 from United States Geological Survey data collected in 1920.

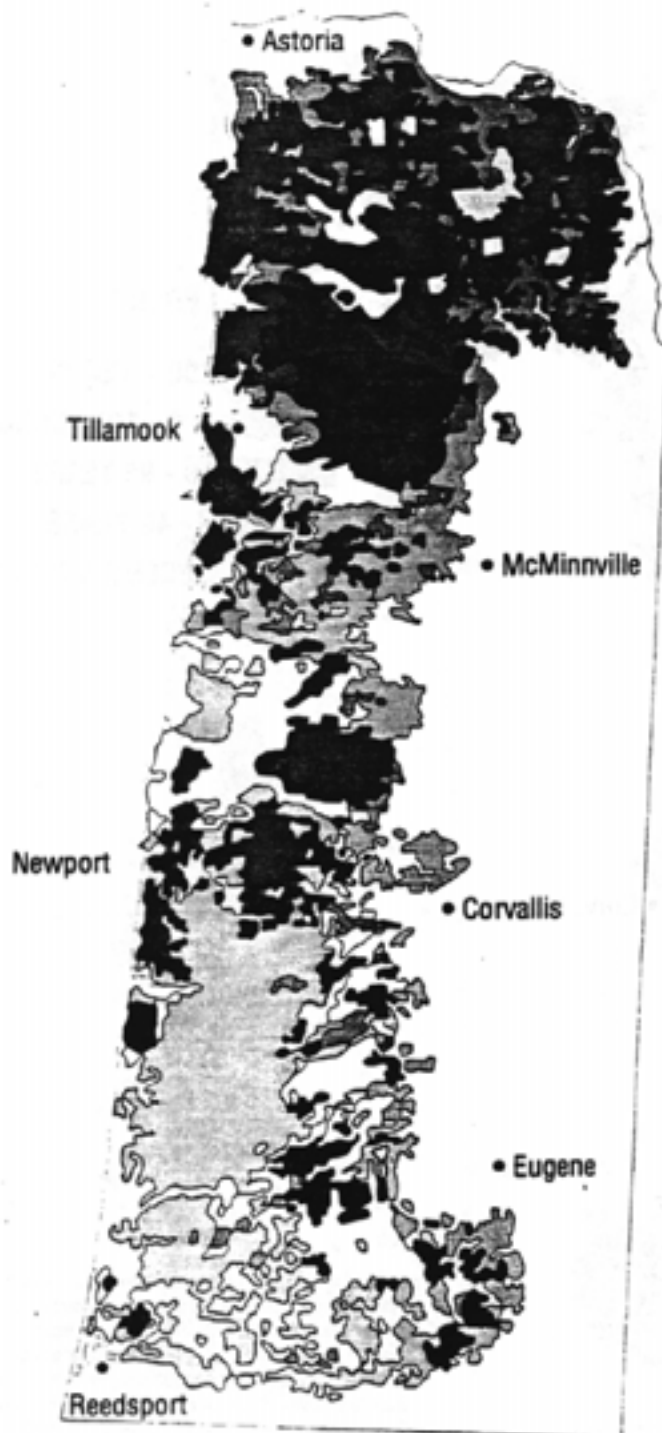
figure 5c

Forest Stand Age Classes for the Oregon Coast Range in 1920

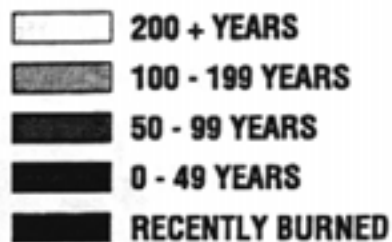
Source: Salem District & Oregon, BLM, 1991 #1069



Philip Williams & Associates, Ltd.



LEGEND



OREGON



1 : 583400

NOTE: This map was compiled from reconnaissance field notes. It was digitized from hand interpolated source materials and may differ spatially from digital mapping compiled from other source data. Prepared by Salem District and Oregon State Office, Bureau of Land Management, Sept., 1991 from United States Geological Survey data collected in 1940.

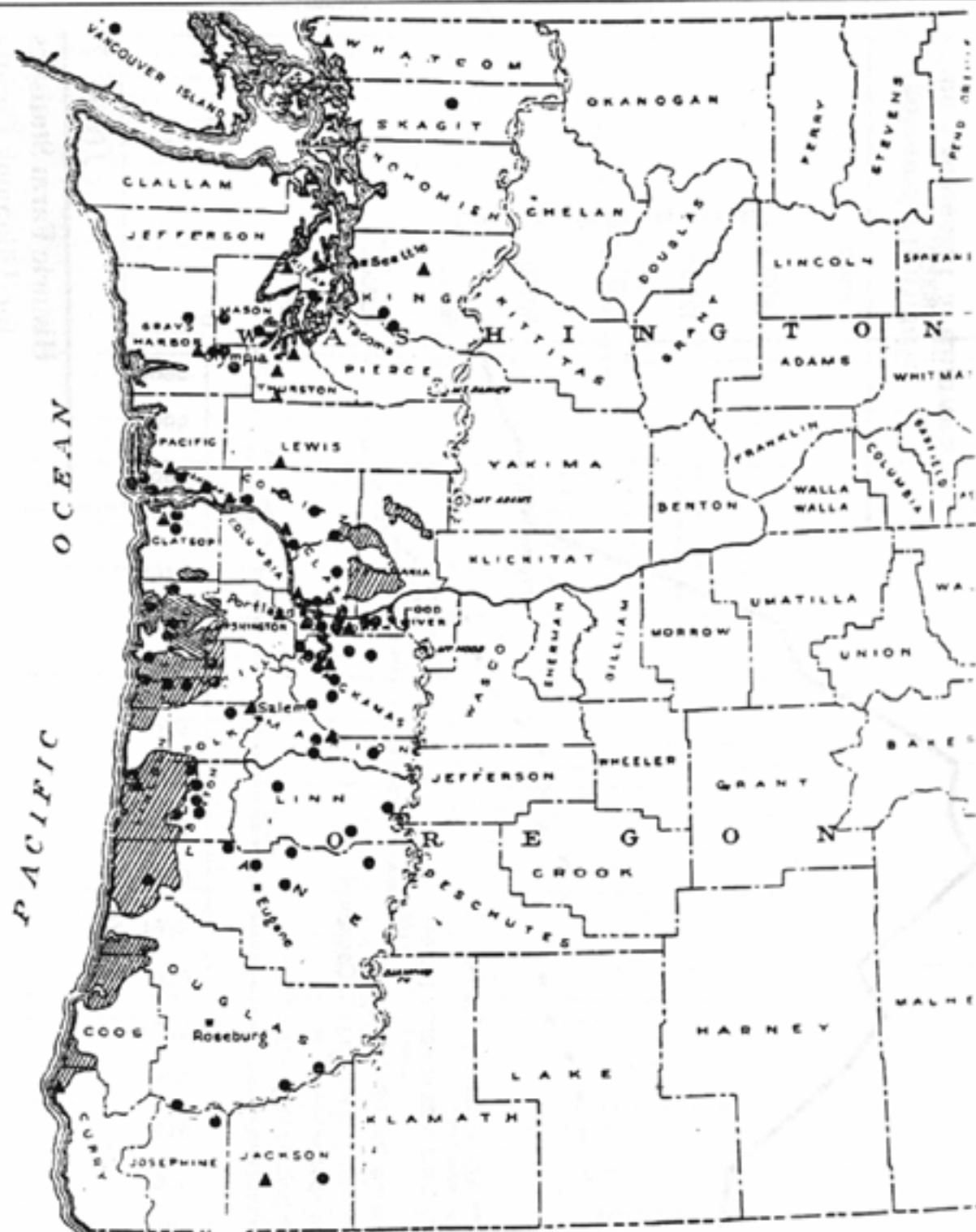
figure 5d

Forest Stand Age Classes for the Oregon Coast Range in 1940

Source: Salem District & Oregon, BLM, 1991 #1069



Philip Williams & Associates, Ltd.



LEGEND

- A LOCALITIES FROM WHICH FIRES WERE REPORTED IN 1868
AREAS BURNED BY GREAT FOREST FIRES FROM ABOUT 1849
TO 1902 AS DETERMINED FROM FOREST COVER SURVEYS
AREA BURNED BY TILLAMOOK AND WOLF CREEK FIRES IN 1933

figure 6

Nineteenth and Early Twentieth Century Forest Fire Locations

Source: Morris, 1934

#1069

 Philip Williams & Associates, Ltd.

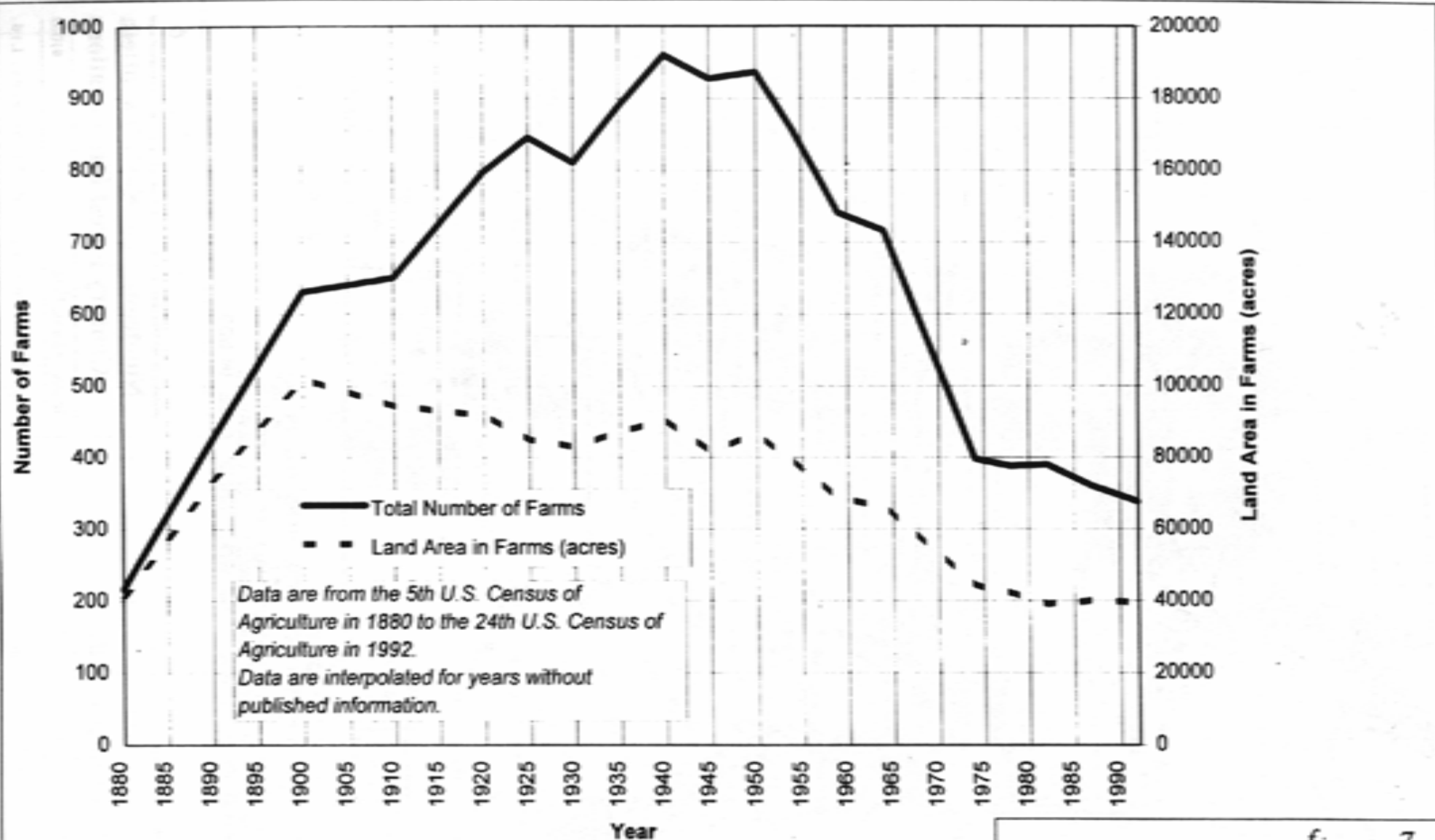


figure 7

Historic Farm Statistics for Tillamook County

Source: US Census of Agriculture

#1069



Philip Williams & Associates, Ltd.

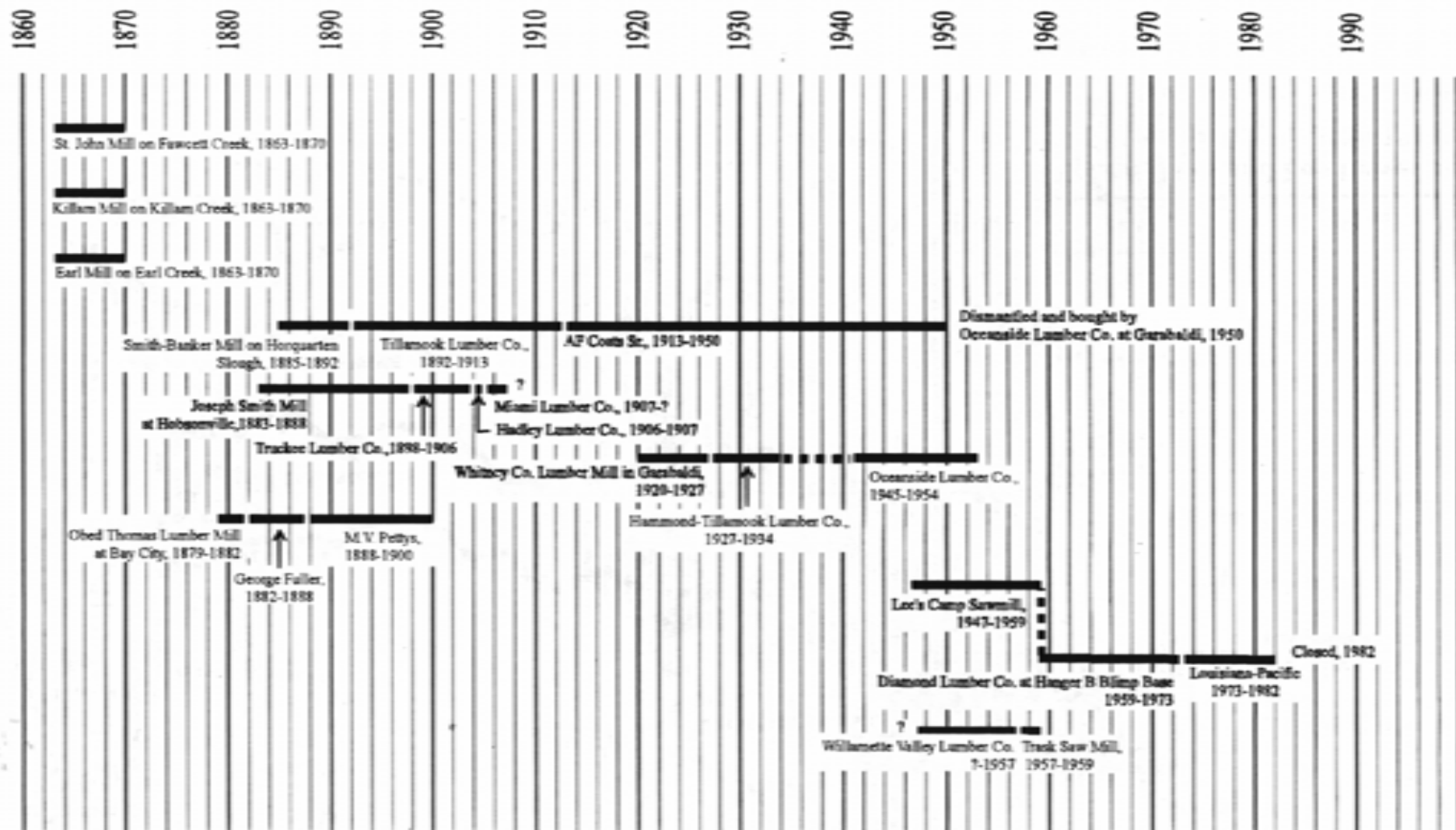


figure 8

Historical Chronology of Sawmills in Tillamook County

Source: Tillamook Pioneer Museum

#1069

Philip Williams & Associates, Ltd.

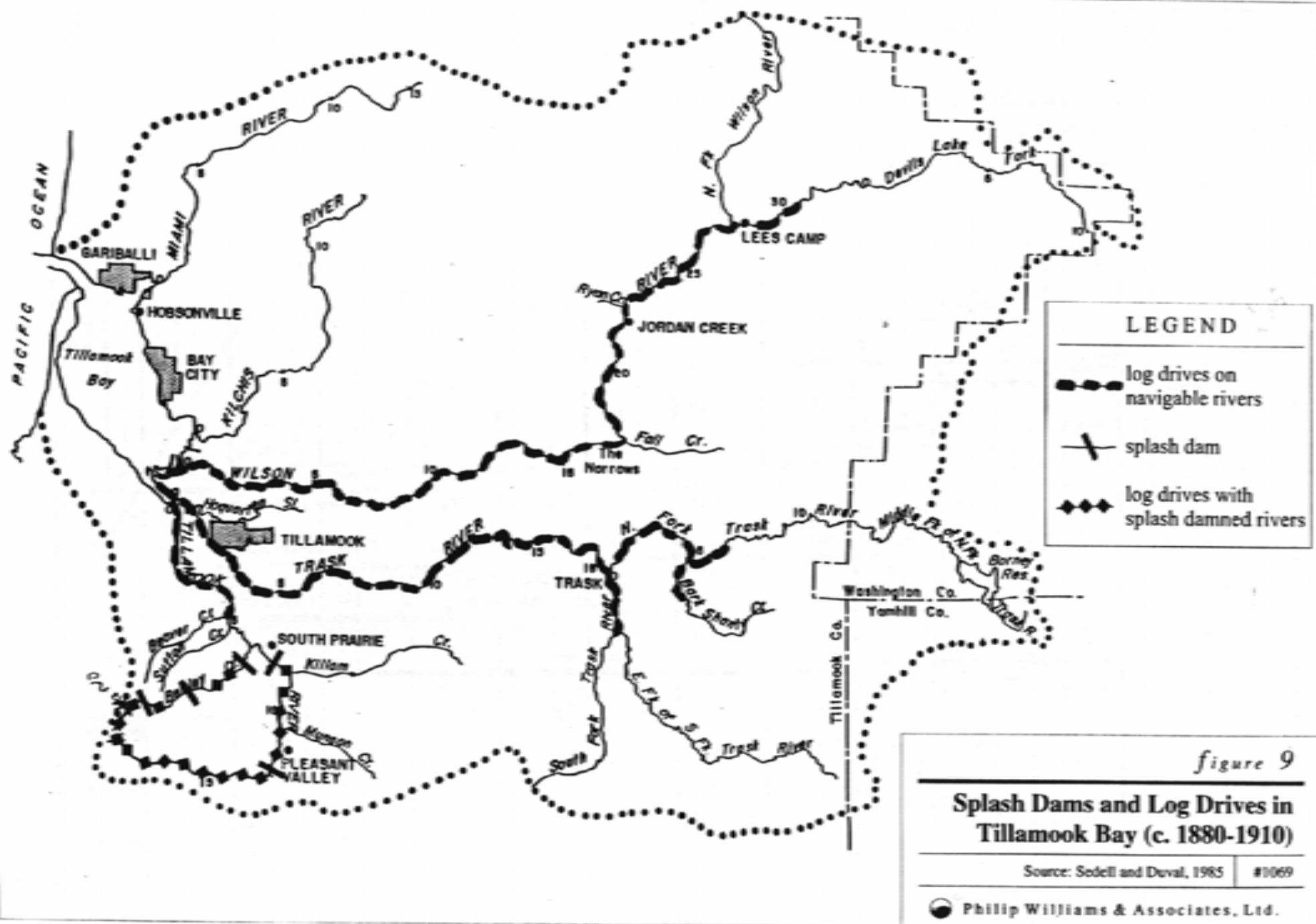




figure 10

**Historic Photograph of a Log Drive
on the Wilson River, circa 1900**

Source: Tillamook Co. Pioneer Museum

#1069



Philip Williams & Associates, Ltd.



Dredging in Tillamook Bay, circa 1900



Dredging in Hoquarten Slough, circa 1905

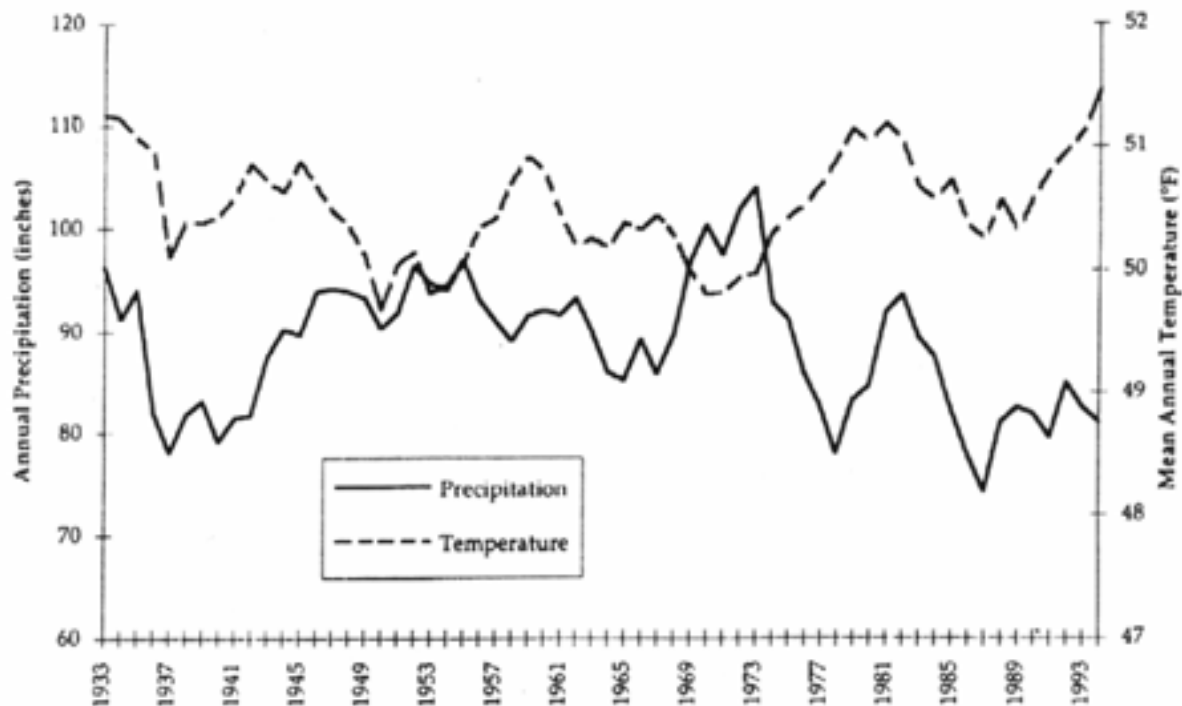
figure 11

Historic Photographs of Dredging in Tillamook Bay

Source: Tillamook Pioneer Museum #1069

Philip Williams & Associates, Ltd.

Mean Annual Temperature and Precipitation, Tillamook, OR
1933-1994 (5-Year Smoothing)



Precipitation Estimated for Tillamook County, Oregon 1891 - 1920

Water Year	Annual Precipitation (inches)	Water Year	Annual Precipitation (inches)	Water Year	Annual Precipitation (inches)
1891	90.36	1901	113.98	1911	8.66
1892	77.44	1902	130.98	1912	107.46
1893	118.77	1903	111.97	1913	103.13
1894	97.60	1904	87.07	1914	77.18
1895	113.30	1905	89.49	1915	125.30
1896	95.98	1906	102.71	1916	79.27
1897	155.39	1907	80.64	1917	96.59
1898	119.93	1908	76.59	1918	107.92
1899	108.86	1909	85.13	1919	96.86
1900	119.34	1910	72.63	1920	130.75

Data obtained from the record at Newport, Oregon
From: Jones, 1924

figure 12

Historic Rainfall and Air Temperature Trends for Tillamook, Oregon

Source: Oregon Climate Service, 1995

#1069



Philip Williams & Associates, Ltd.



figure 13

Levees and Dikes in the Southern Portion of Tillamook Bay

Source: USGS Quad Map

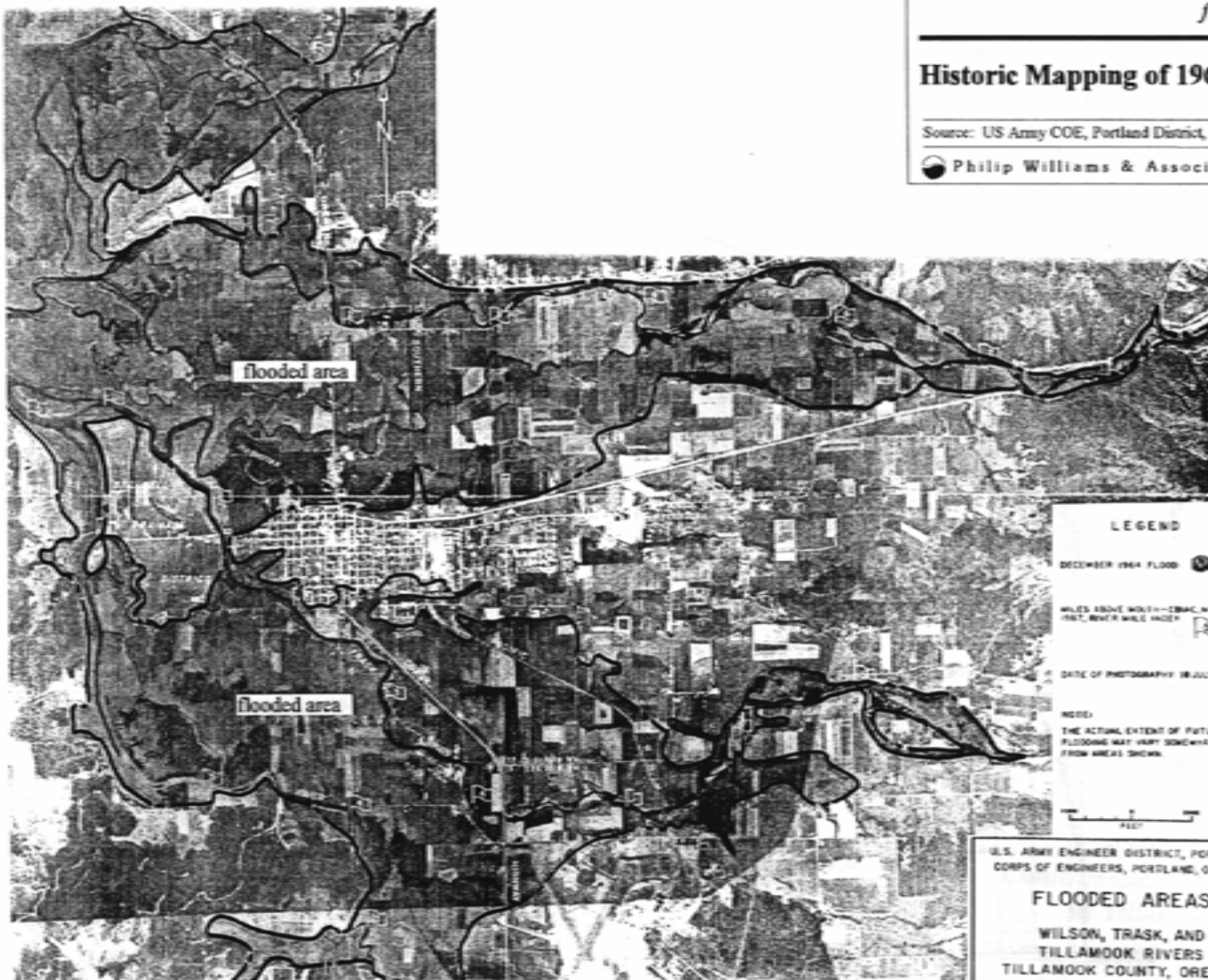
#1069

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Historic Mapping of 1964 Flood

Source: US Army COE, Portland District, 1972 #1069

Philip Williams & Associates, Ltd.



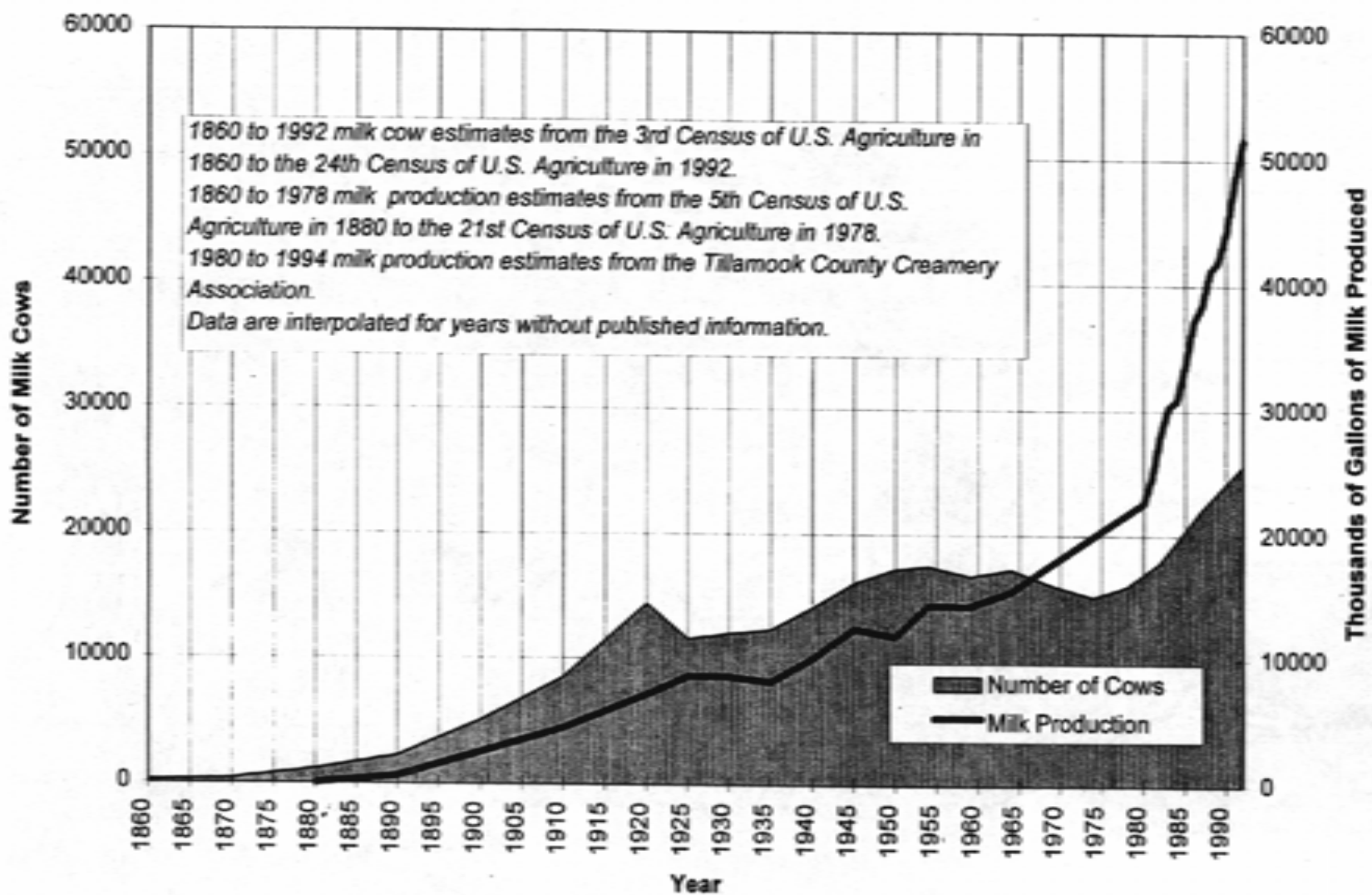


figure 15

Cows and Milk Production in Tillamook County

Source: US Census of Agriculture

#1069

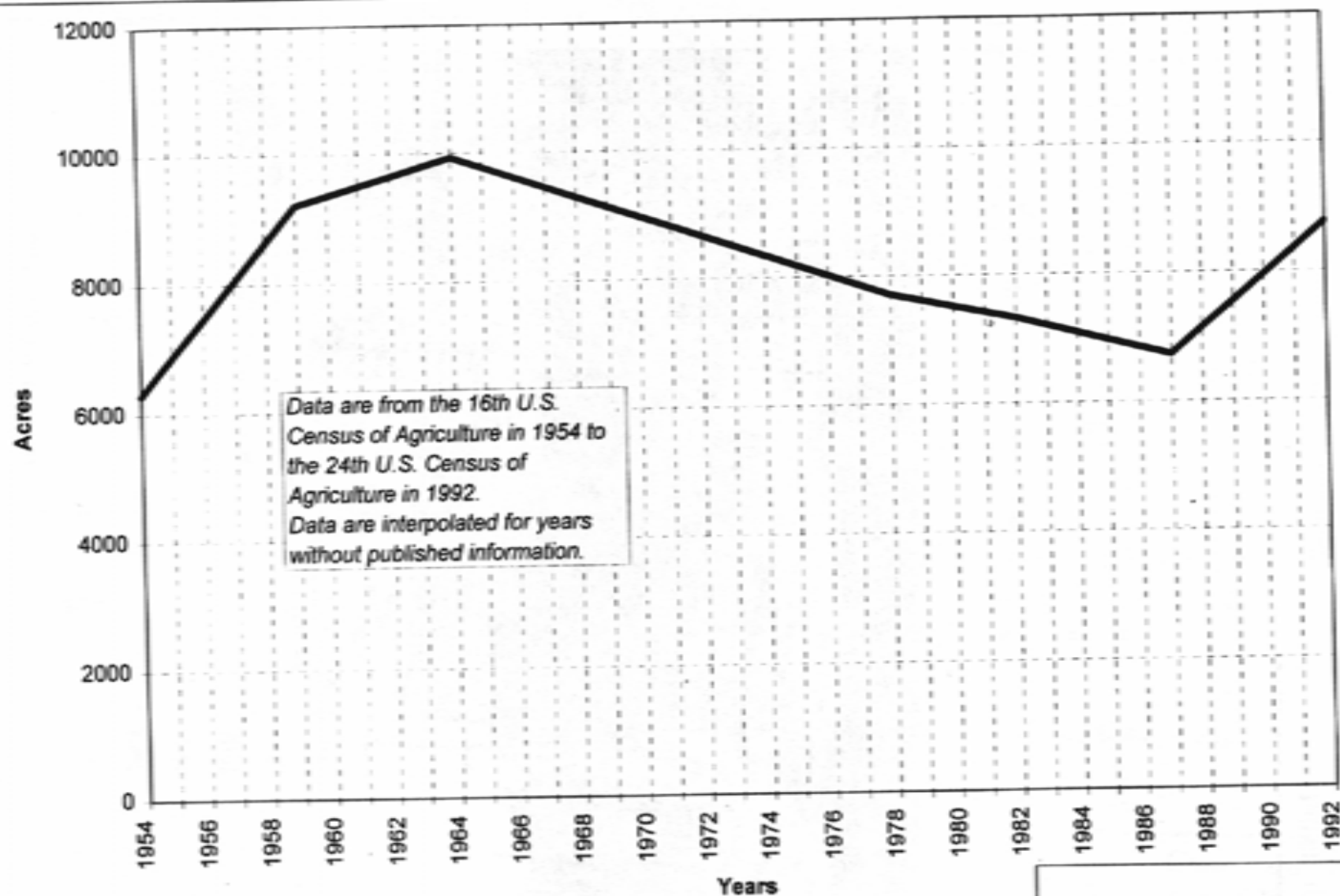


figure 16

Commercial Fertilizer Use in Tillamook County

Source: US Census of Agriculture

#1069



Philip Williams & Associates, Ltd.



figure 17

Hall Slough, October 1912

100 fish/2000 lbs.

A.E. Williams & G.H. Foland

Source: Oregon Historical Society, Neg. # 26391 #1069



Philip Williams & Associates, Ltd.

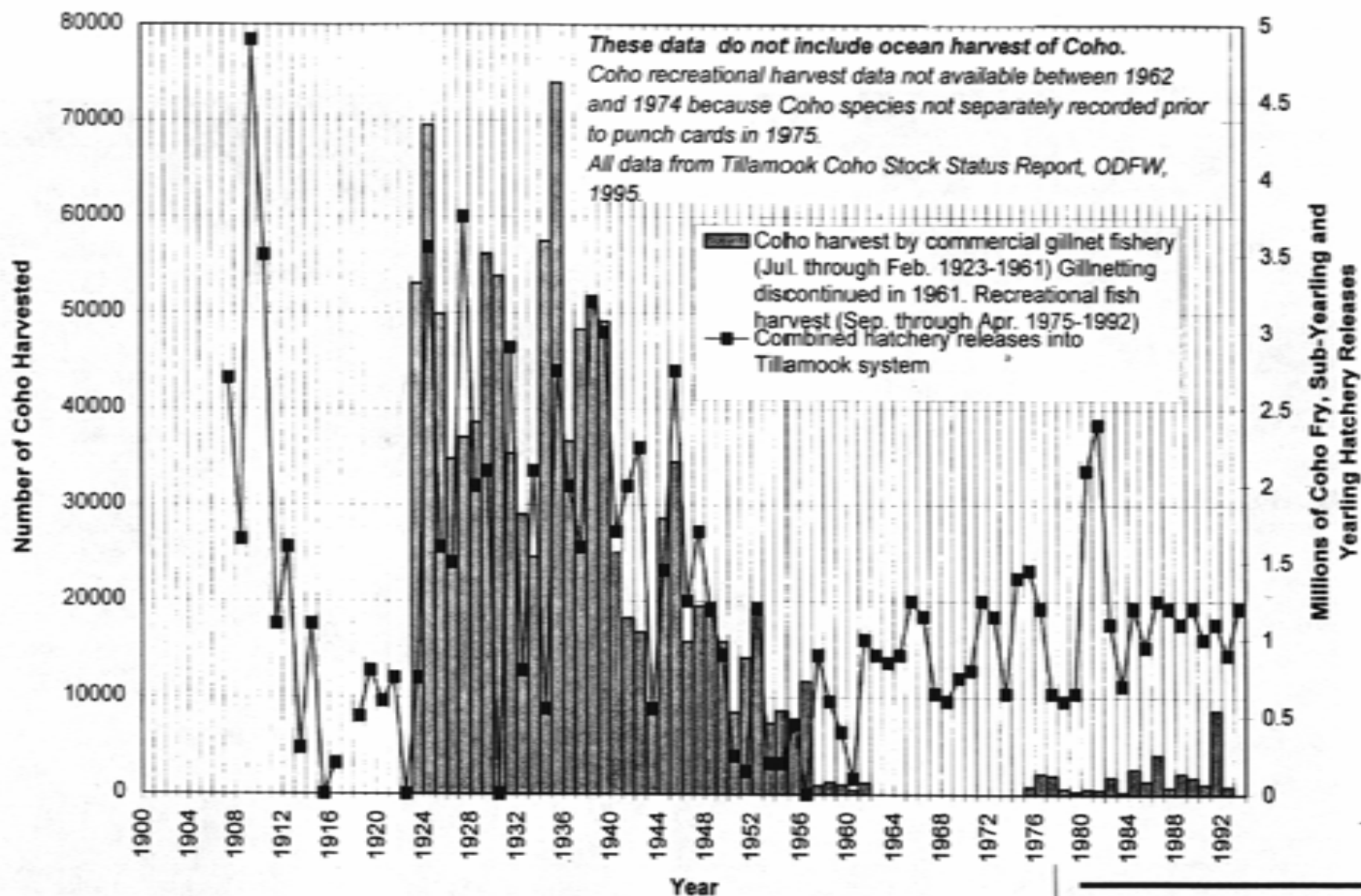


figure 18

Coho Salmon Freshwater Harvest and Hatchery Releases in the Tillamook Bay System

Source: ODFW, 1995

#1069



Philip Williams & Associates, Ltd.



figure 19

Fish Catching Cage and Racks at the Trask River Fish Hatchery

Source: Oregon Historical Center, negative numbers CN002634 & CN002633



Philip Williams & Associates, Ltd. #1069

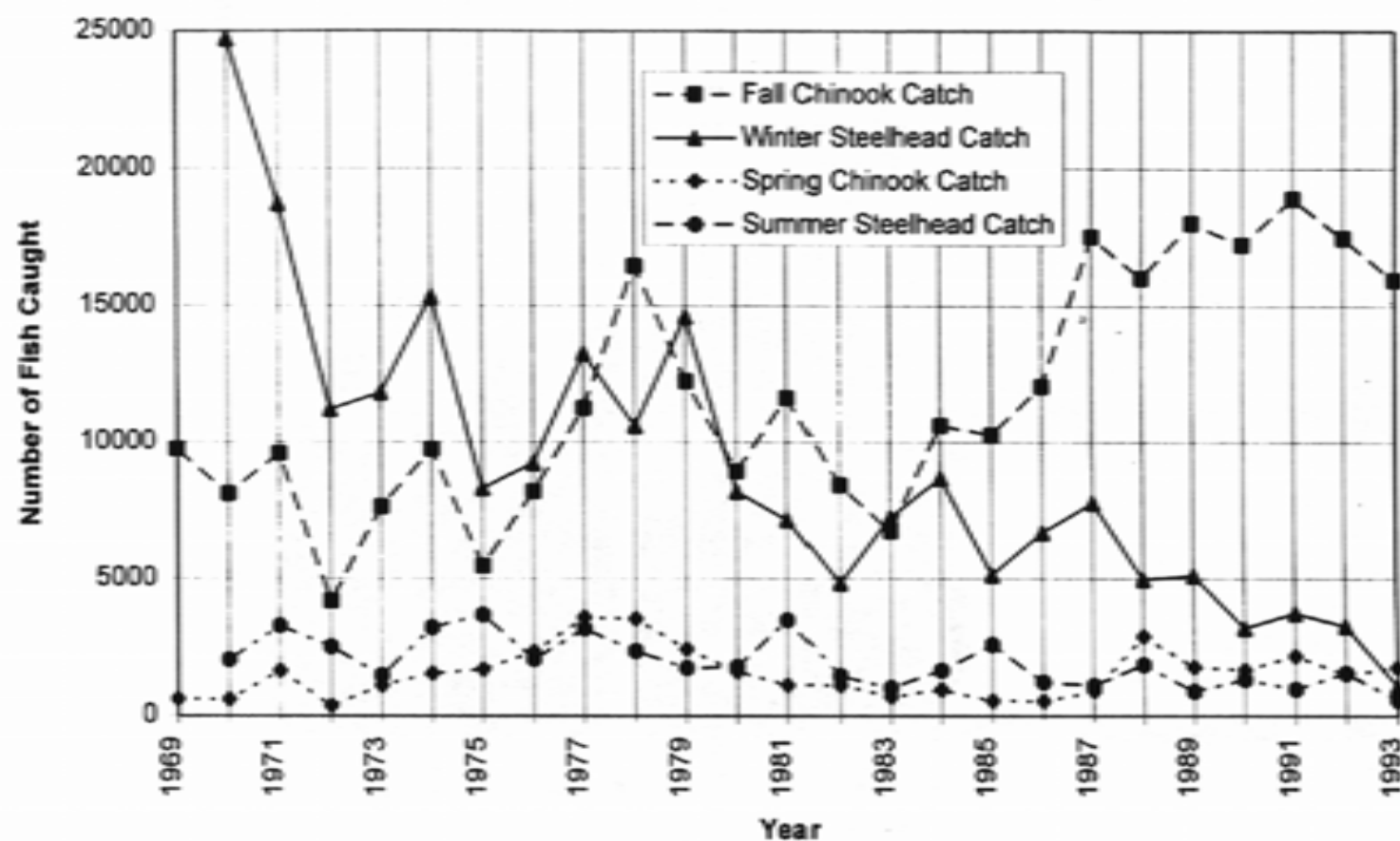


figure 20

Tillamook Bay Basin Fisheries Catch Statistics

Source: Status of Naturally Producing Stocks, ODFW,
Tillamook Fishery District, April 12, 1995

#1069



Philip Williams & Associates, Ltd.

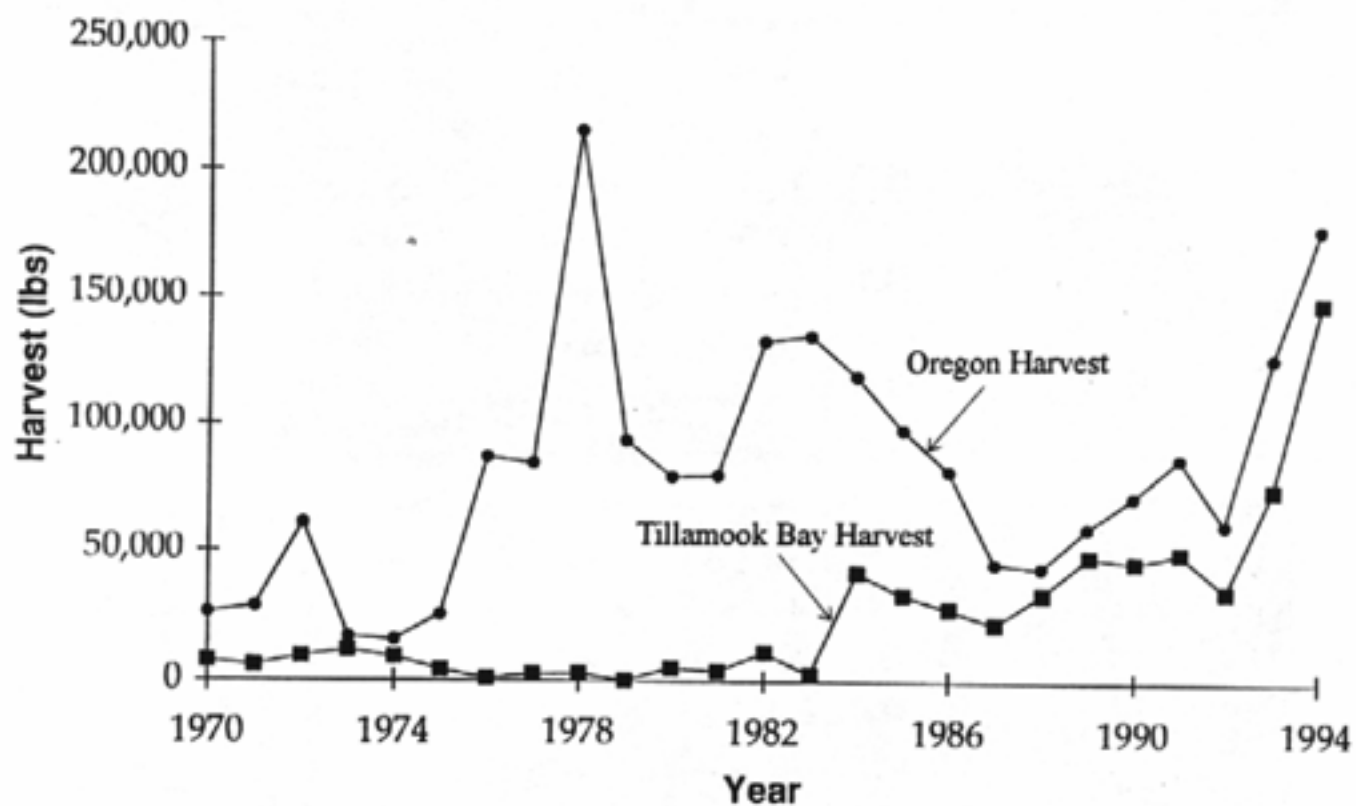


figure 21

**Commerical Clam Harvest
in Oregon**

Source: ODSW 1995

#1069



Philip Williams & Associates, Ltd.

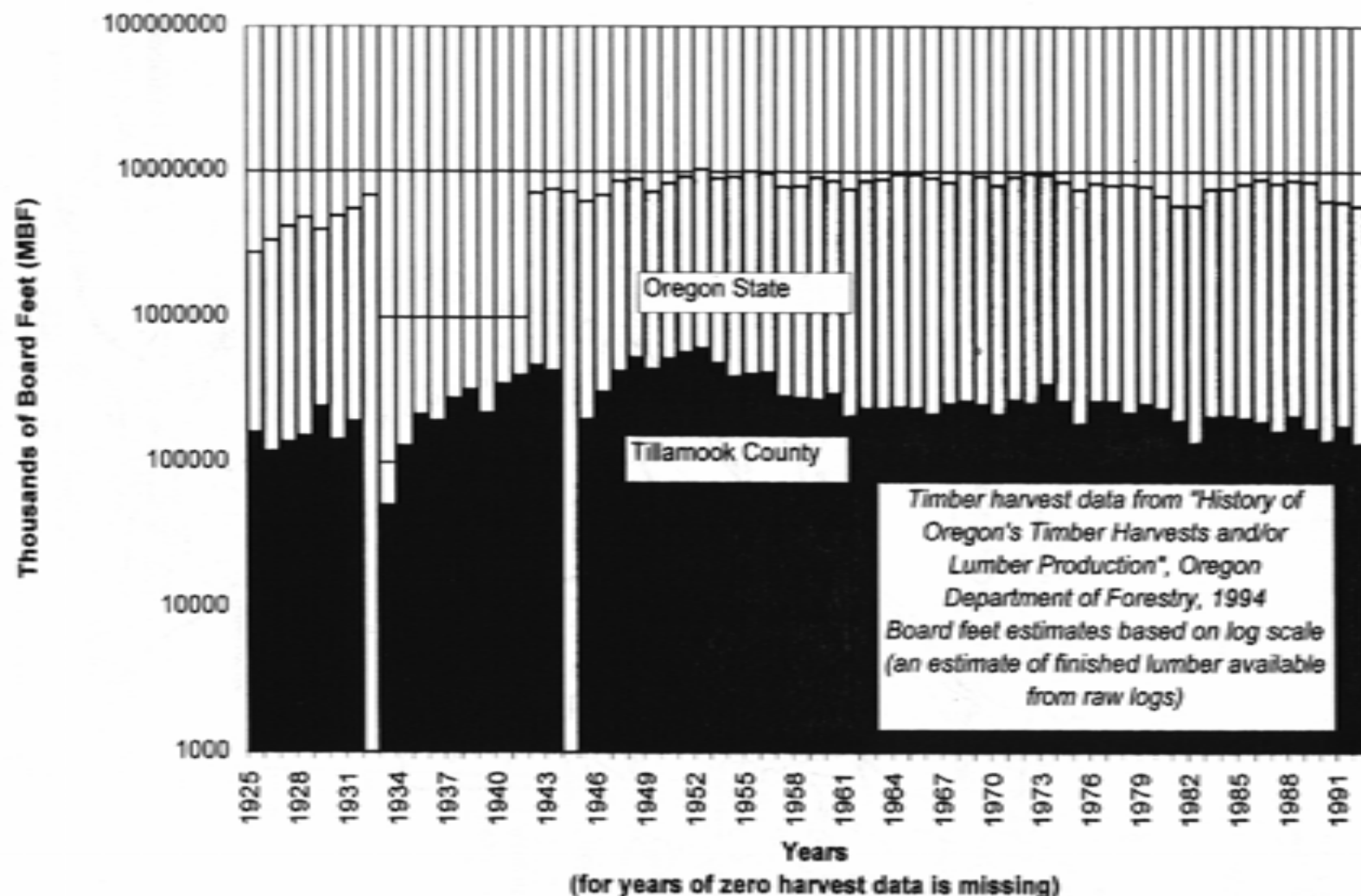


figure 22

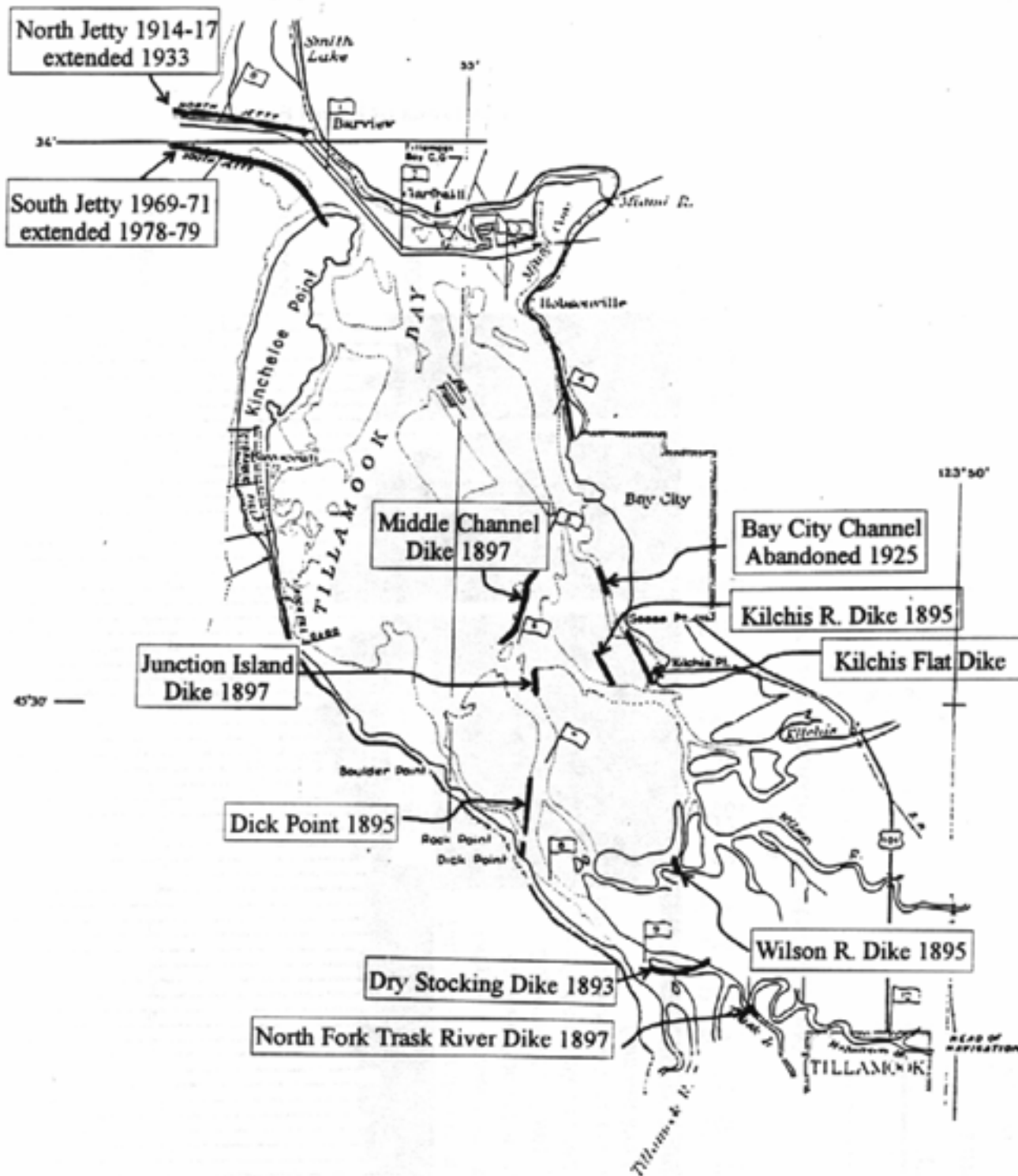
Timber Harvest Data for Tillamook County, Oregon

Source: ODF, 1994

#1069



Philip Williams & Associates, Ltd.



TILLAMOOK BAY AND BAR, OREGON

2000 0 SCALE IN FEET 1000 0000
U.S. ARMY ENGINEER DISTRICT, PORTLAND

figure 23

**Map of Estuary Pile Dikes
and River Levees and
Channel Modifications**

Source: US Army COE, Portland District #1069

Philip Williams & Associates, Ltd.

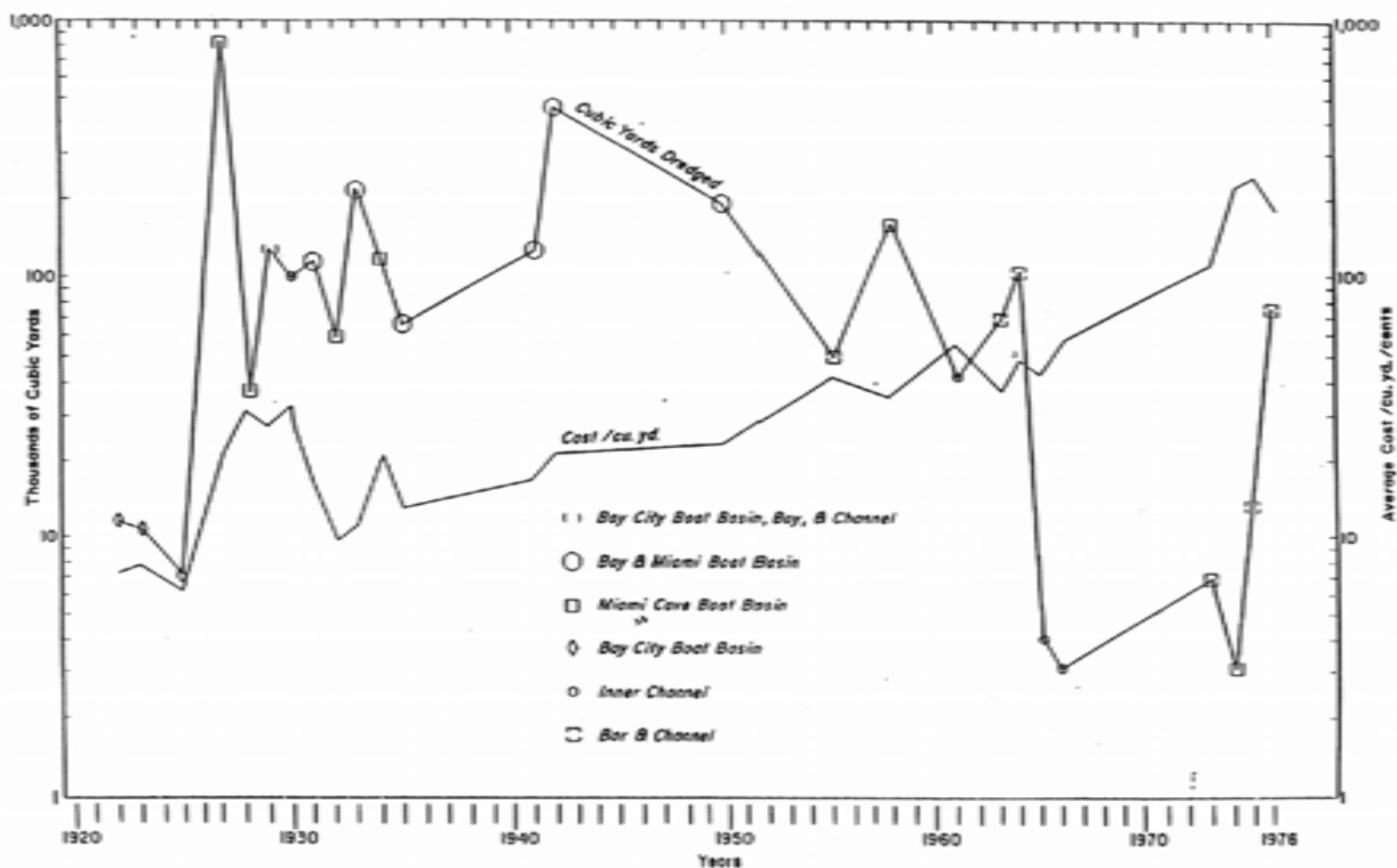


figure 24

Tillamook Bay Dredged Material Volume

Source: US Army COE, 1922-1976

#1069



Philip Williams & Associates, Ltd.

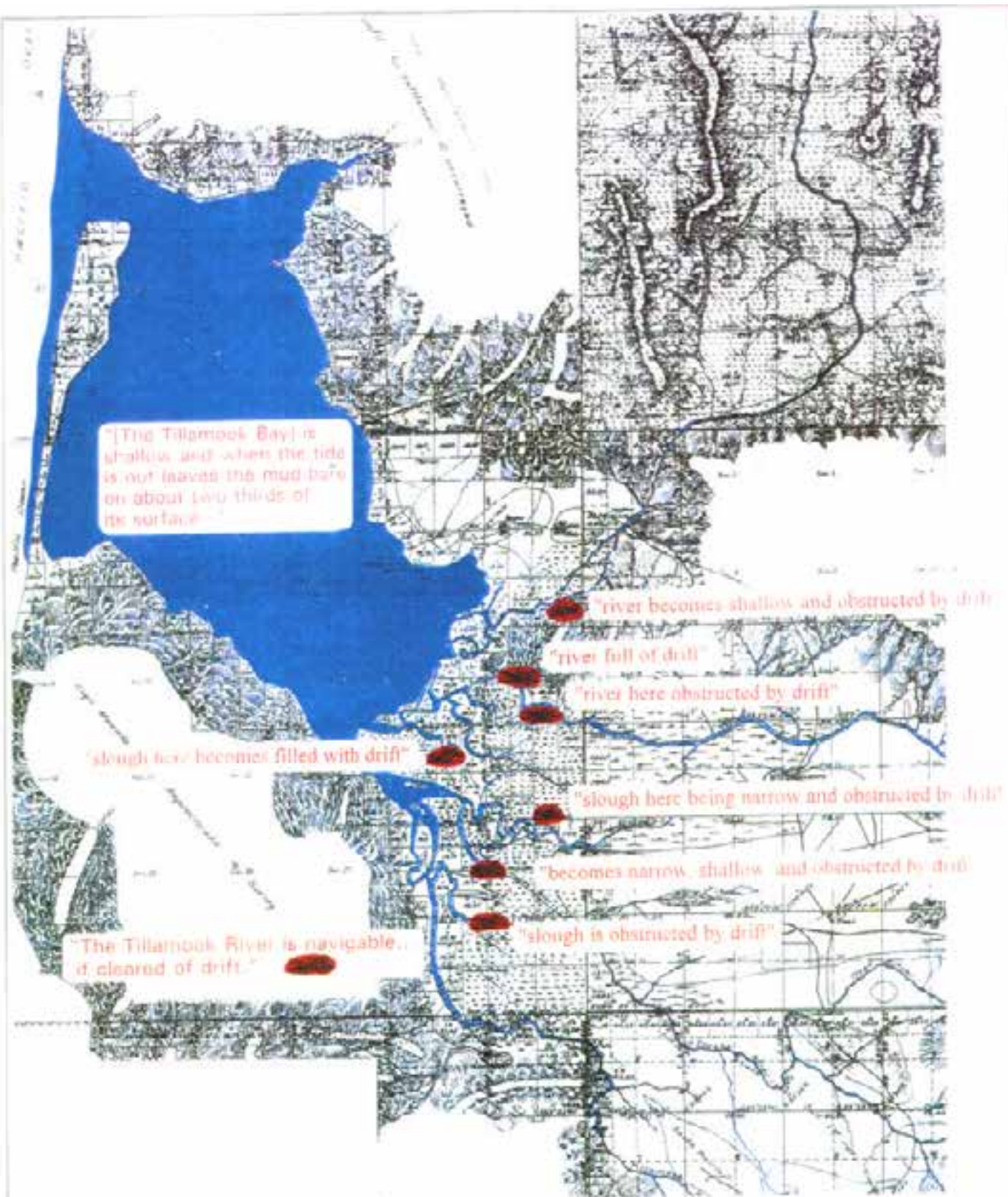


figure 25

Map of Wood Jams on Tillamook Bay Rivers in 1880's

Source: GLO, 1856-84

#1069

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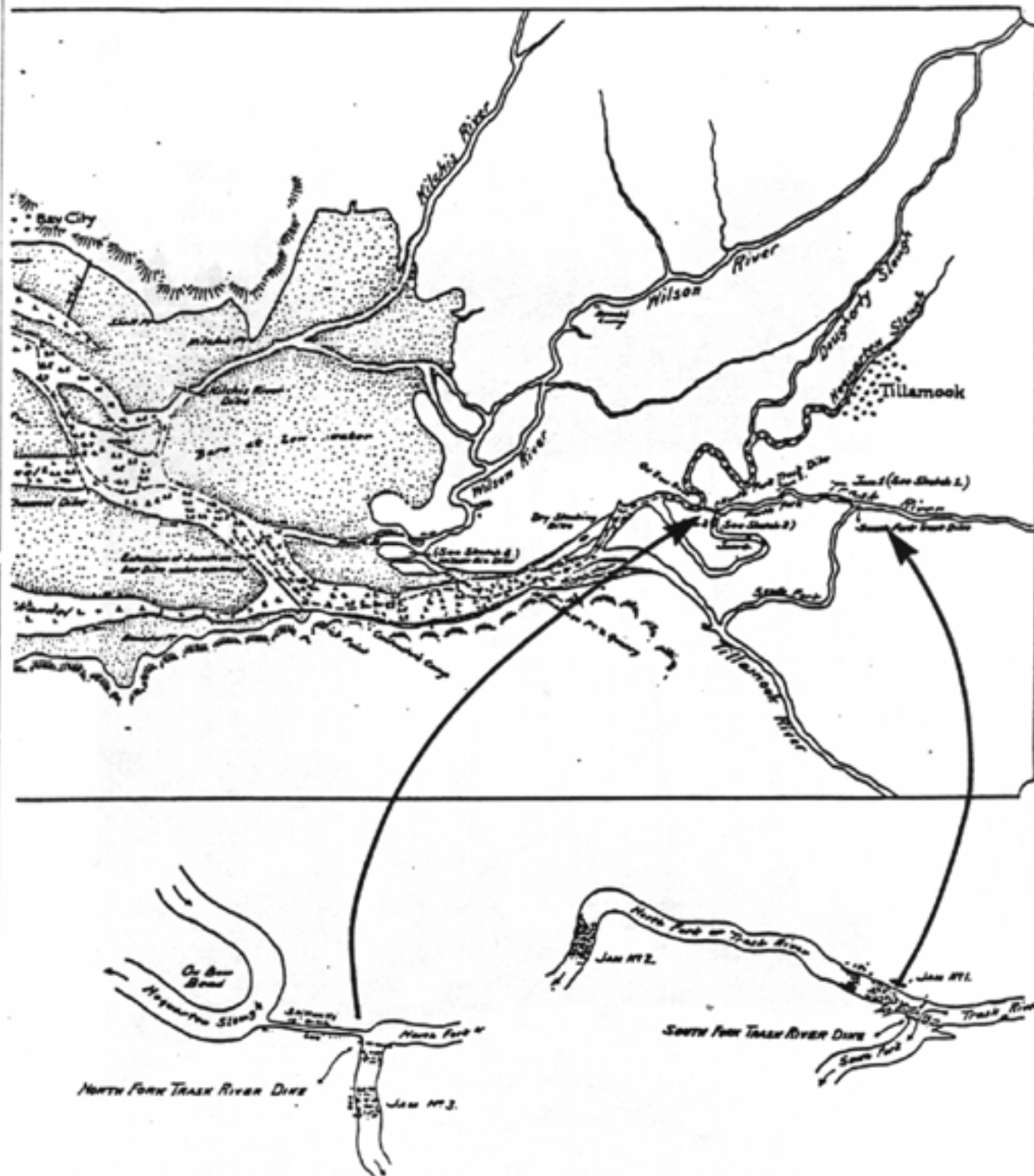


figure 26

Wood Jams on Tidal Portions of the Trask River Near Proposed River Dikes in 1895

Source: Report of the Chief of Engineers, 1875-1921

#1069



Philip Williams & Associates, Ltd.



figure 27

Historic Photographs of Logjams on the Trask River, 1964

Source: Oregon Historical Society

#1069



Philip Williams & Associates, Ltd.

When the fire finally died, Oregonians looked in horror and disbelief at the destruction. Much was unrecognizable; even familiar landmarks were completely gone. Private hearings in Portland, despite conflicting testimony, blamed the Lydas for the great fire.

Courtesy Oregon Historical Society



figure 28

**Historic Photograph of the
1933 Tillamook Burn**

Source: Oregon Historical Society

#1069



Philip Williams & Associates, Ltd.

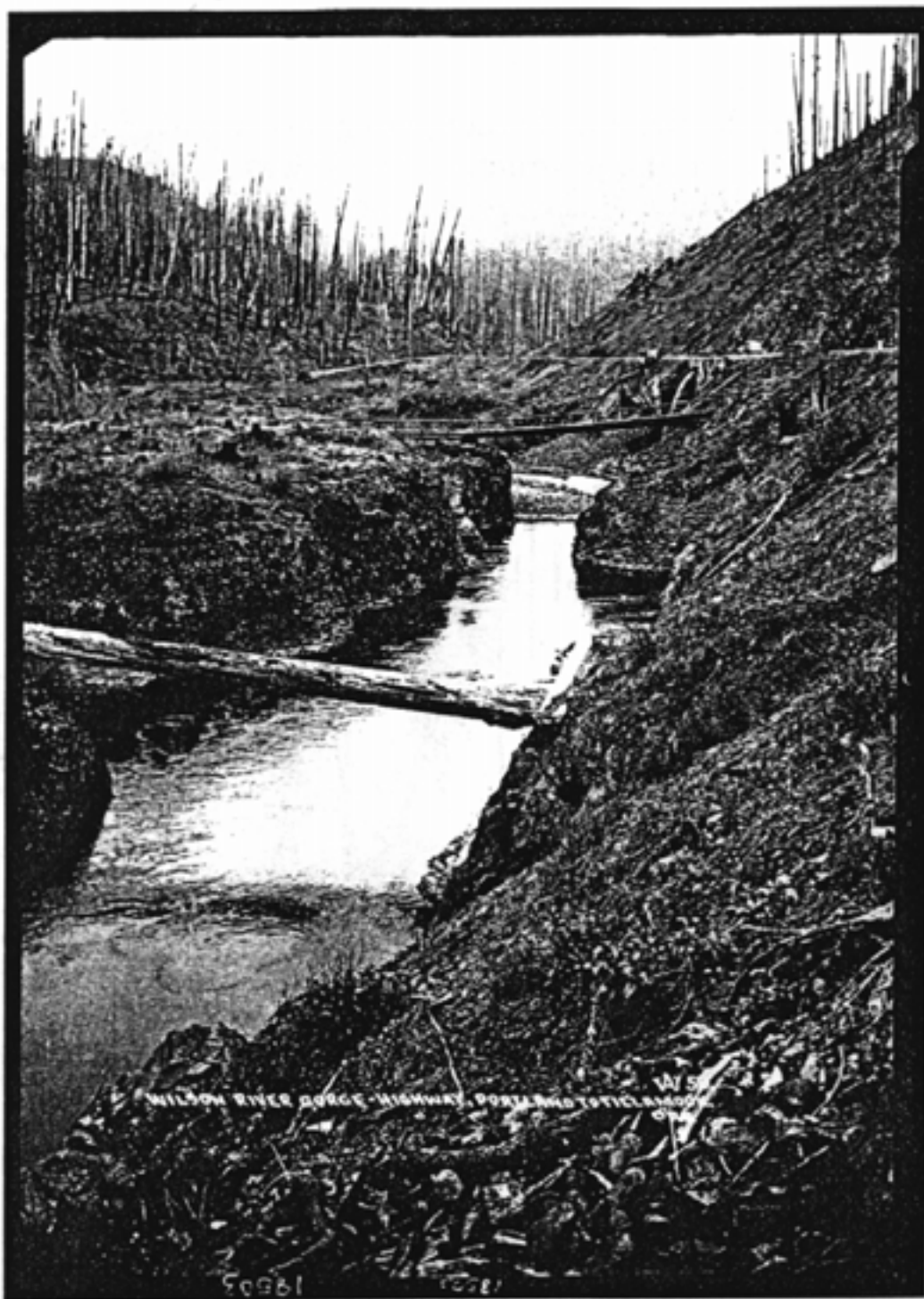


figure 29

**Historic Photograph of
Destroyed Riparian Corridor
along the Wilson River**

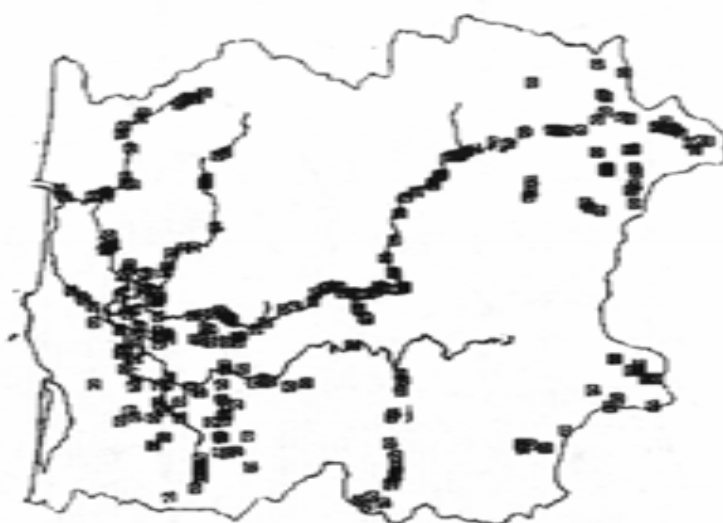
Source: Oregon Historical Society

#1069



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1937



1953



1970



Note:
Data points represent locations
of blue-line stream crossings
observed on USGS quadrangle maps

figure 30

**Stream Crossing Locations in
the Tillamook Bay Watershed**

Source: USGS Quadrangle Mapping

#1069

 Philip Williams & Associates, Ltd.

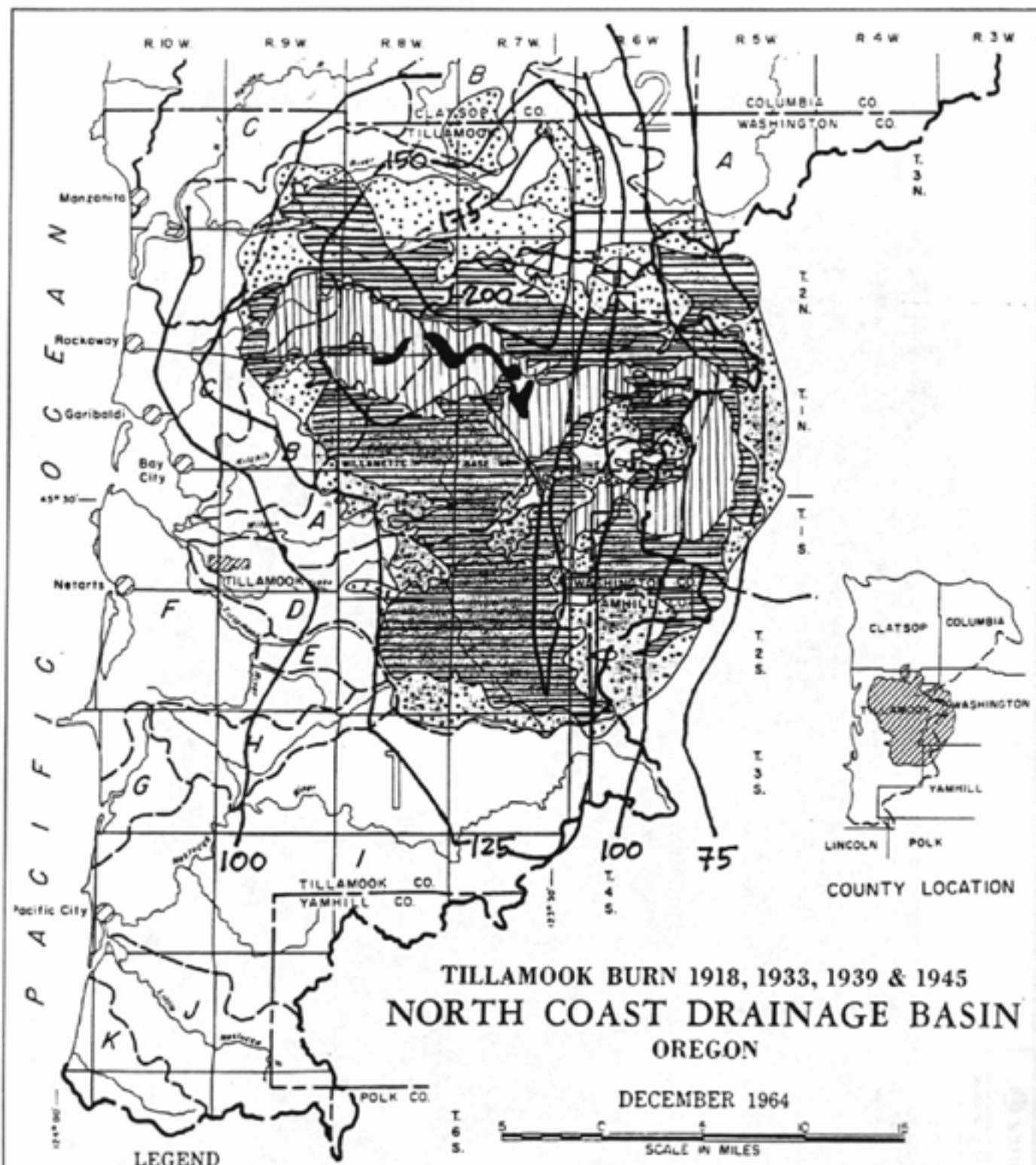


figure 31

**Map of Precipitation and
Repetitive Burns within the
Tillamook Bay Watershed**

#1069

Estimated Sediment Rates 1875-1975

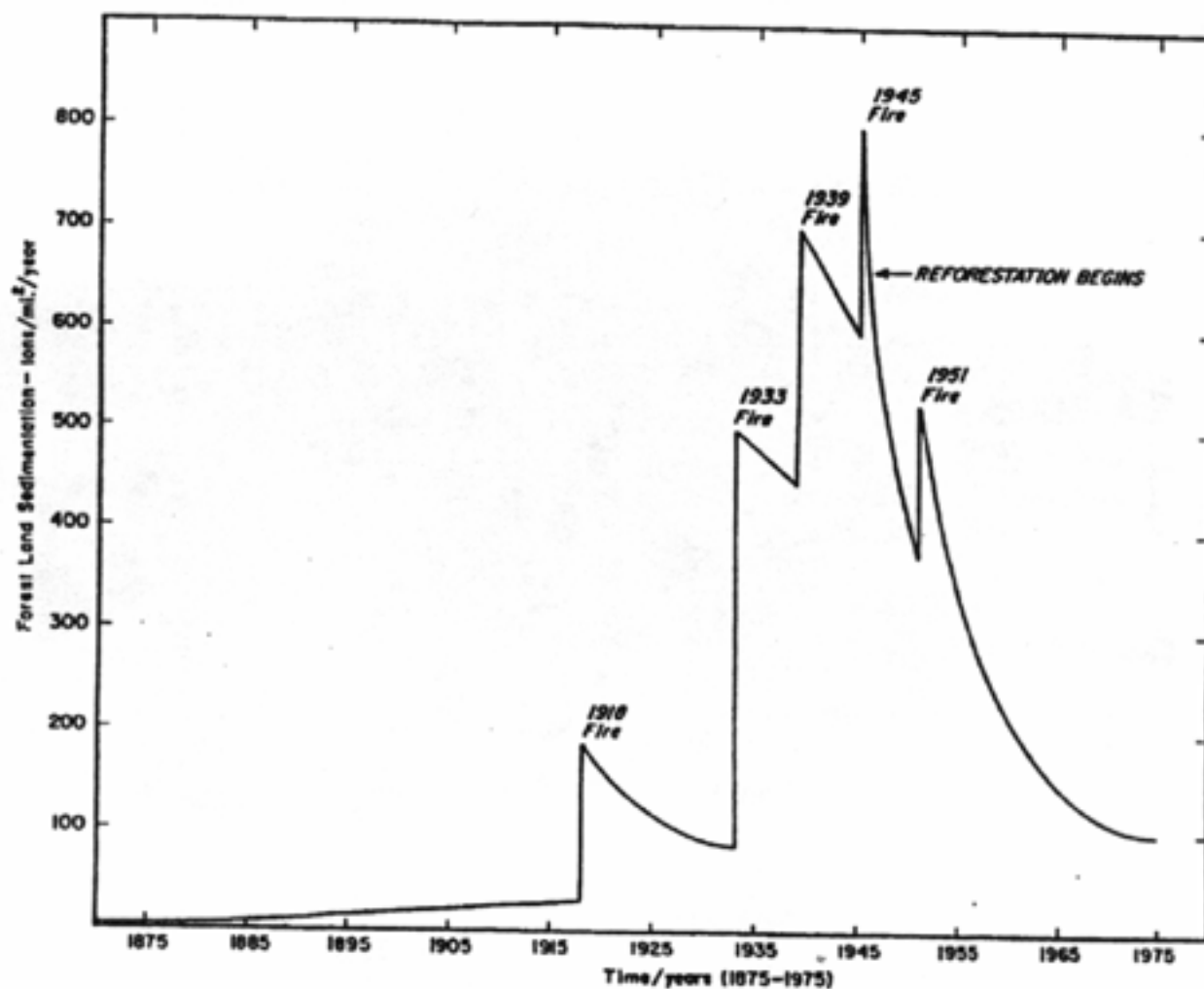


figure 32

**Conceptual Diagram of Historic
Changes in Sediment Delivery
to the Tillamook Bay Estuary**

Source: SCS, 1978

#1069



Philip Williams & Associates, Ltd.



figure 33

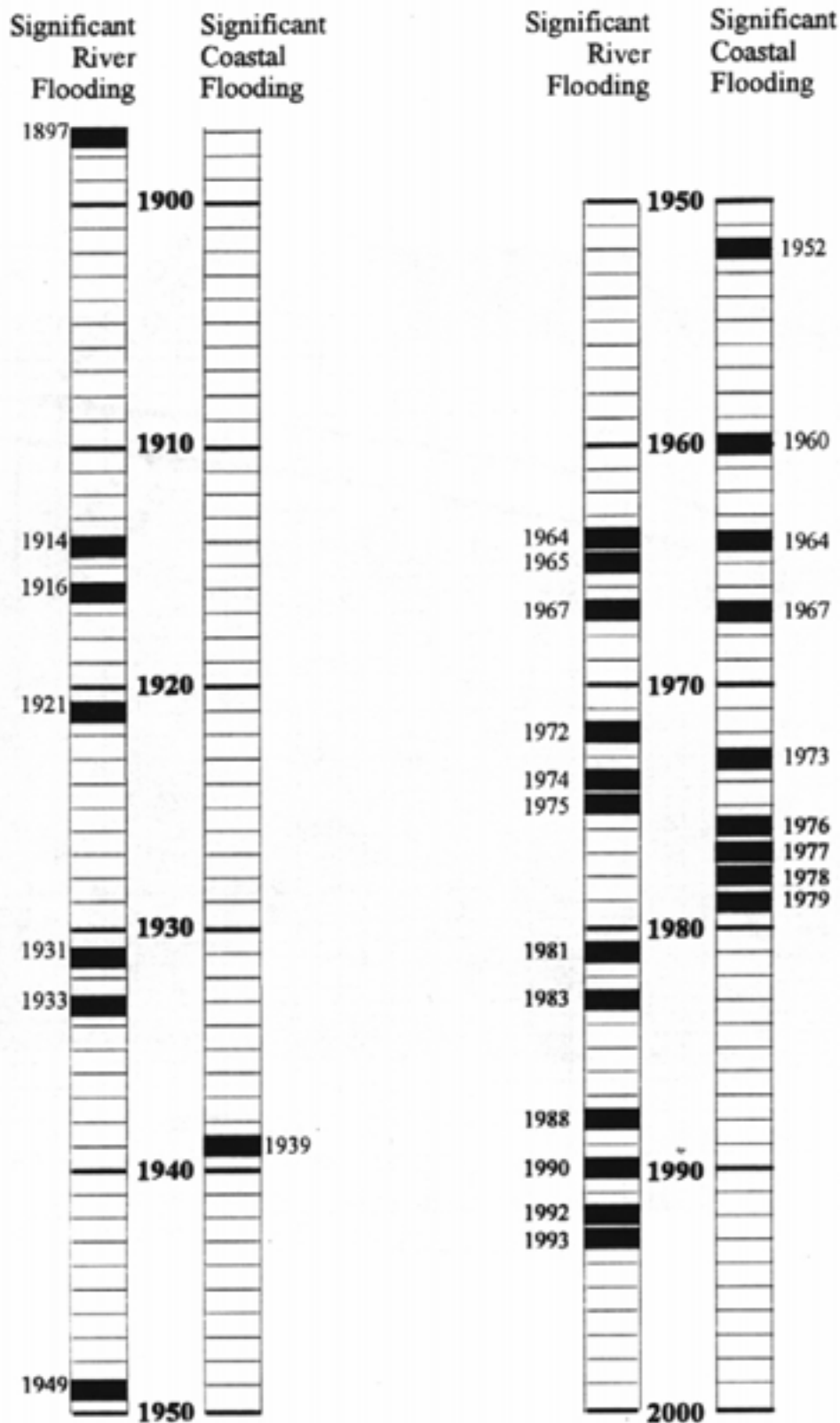
**Historic Photograph
of Flooding on the
Wilson River**

Source: Oregon Historical Society

#1069



Philip Williams & Associates, Ltd.



Significant flooding is defined as flooding of enough significance to result in historic newspaper coverage or other documentation.

figure 34

A Generalized Flood History of Tillamook Bay Rivers and Coastline

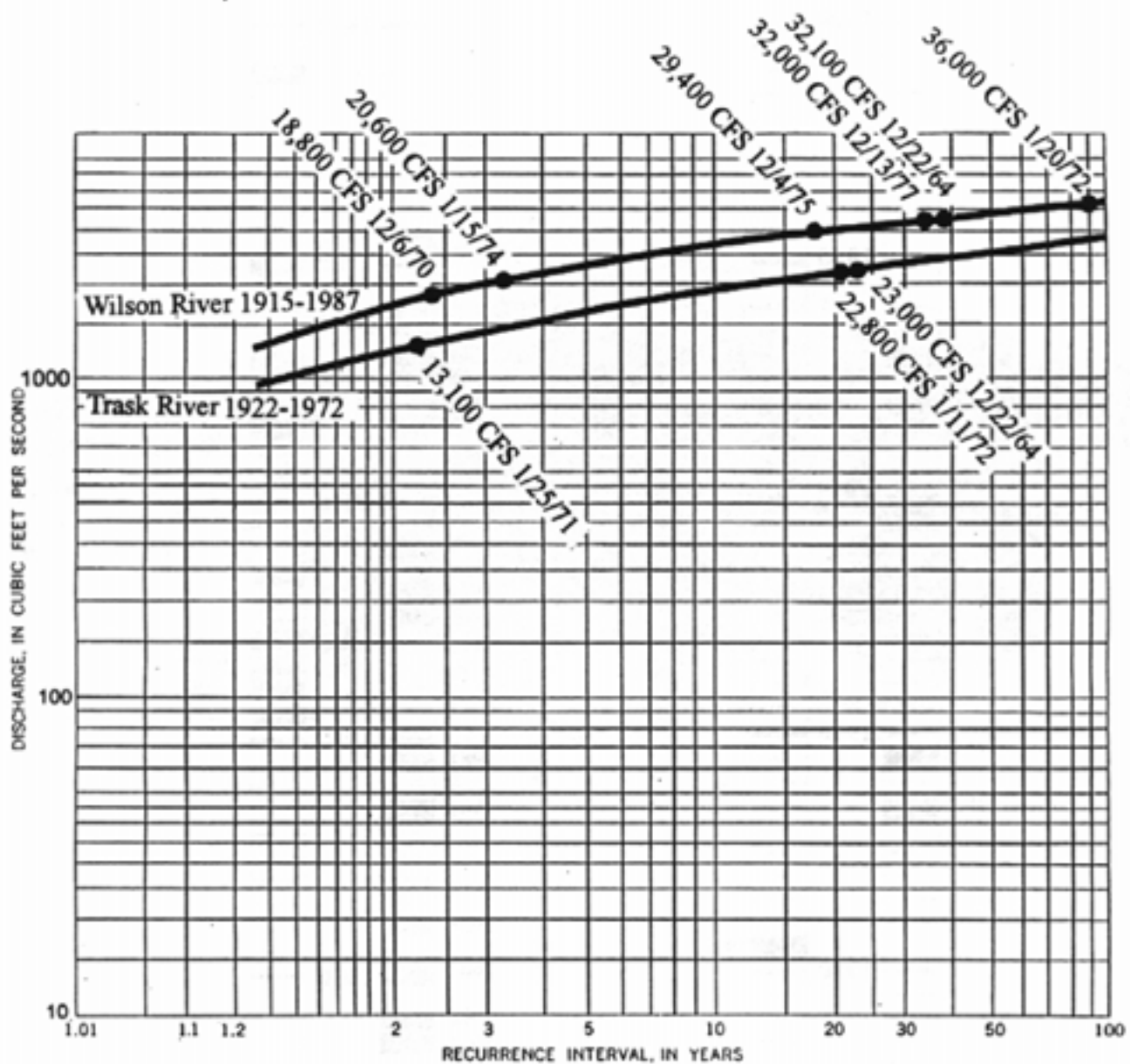


figure 35

Historic Flood Flow Return Periods

#1069



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Roaring in on a wild storm, King Neptune broke the spit on November 13, 1952. At high tide, breach was about one mile wide. Within one month the population of Bayocean dwindled to 6 persons including Mr. and Mrs. F.D. Mitchell.

figure 36

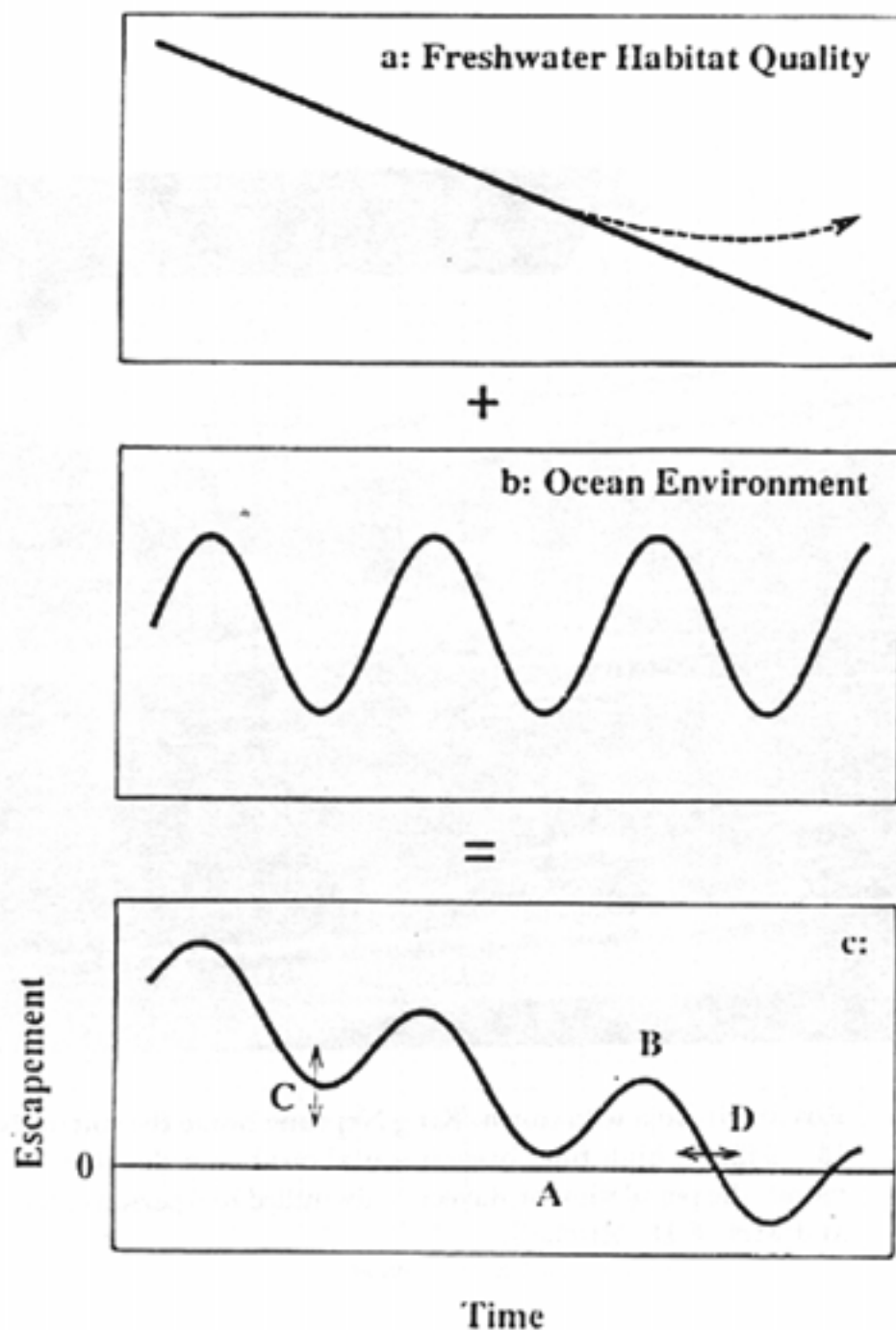
Photo of Bayocean Spit Breach

Source: Bert Webber, 1983

#1069



Philip Williams & Associates, Ltd.



Conceptual model of effects of declining habitat quality and cyclic changes in ocean productivity on the abundance of Oregon's coastal natural coho salmon. a: trajectory over time of habitat quality. Dotted line represents possible effects of habitat restoration projects. b: generalized time series of ocean productivity. c: sum of top two panels where letters represent the following: A = current situation, B = situation in the future, C = change in escapement from increasing or decreasing harvest, and D = change in time of extinction from increasing or decreasing harvest.

figure 37

Conceptual Model of Ocean and Freshwater Habitat Effects on Coho Abundance

Source: Lawson, 1993

#1069



Philip Williams & Associates, Ltd.



figure 38

General Location of Hydric Soils in the Southern Tillamook Bay Valley

Source: SCS, 1963

#1069

Philip Williams & Associates, Ltd.

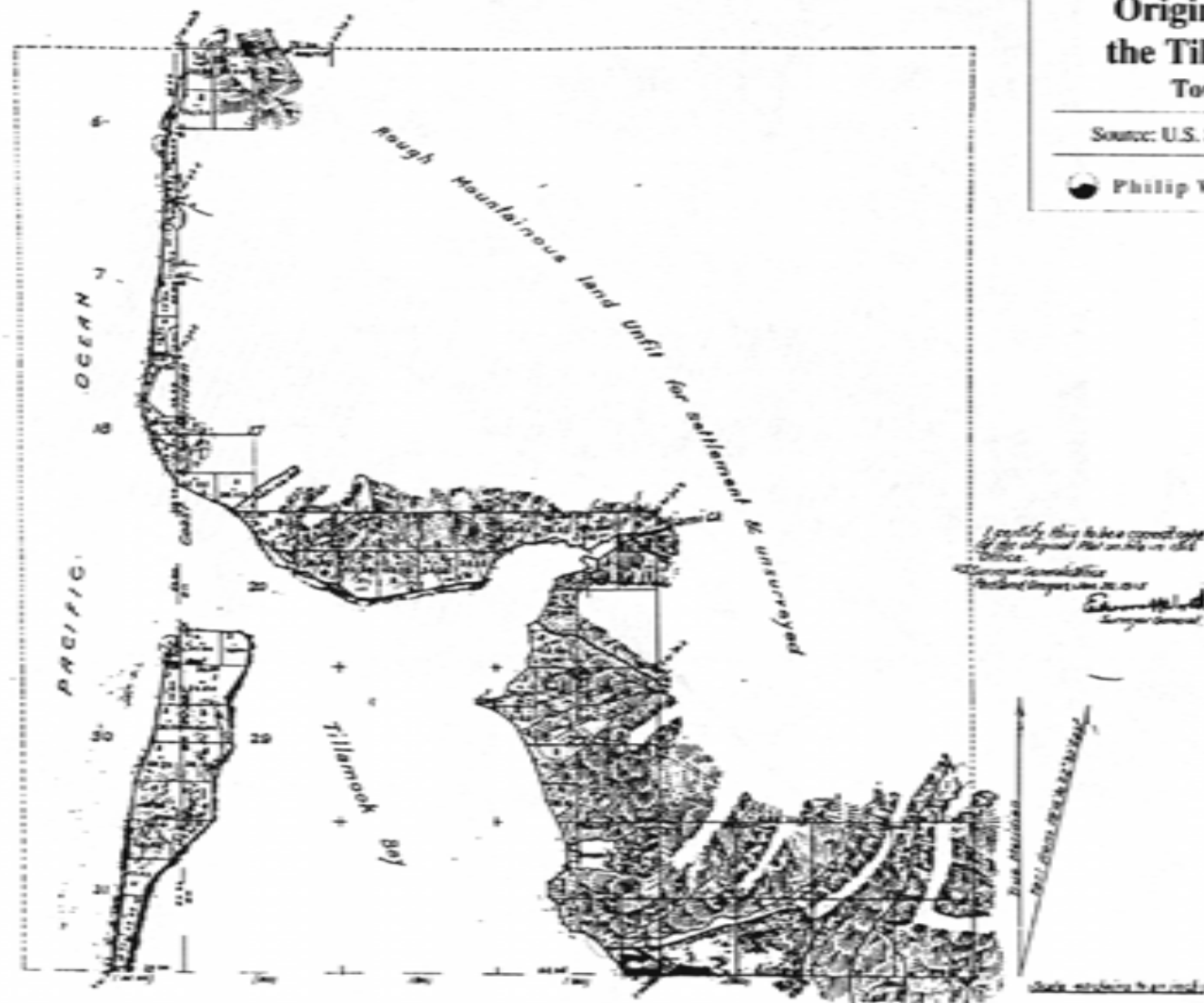
Township No 1 North, Range No 10 West Willamette Meridian.

figure 39a

**Original Survey Mapping of
the Tillamook Valley in 1857**
Township 1 North, Range 10 West

Source: U.S. Surveyor General's Office, 1915 #1069

Philip Williams & Associates, Ltd.



Survey Designated.	By whom Surveyed.	Contract		Amount Surveyed		When Surveyed
		No.	Date	Acres	Sections	
Township Lines	Samuel D. Swenden	67	July 2nd 1855	01	00	00
Definitions	Samuel D. Swenden	67	July 2nd 1855	12	07	11
Resurvey		"	"	18	29	20
Total number of Acres	13321.00					

The above Map of fractional Township in 1857 shows an area of 13321.00 acres. Township lines are shown in white, and the rough mountainous land is shown in black. The map is on file in the office, where it has been examined and approved.
Surveyor General's Office
Portland June 30th 1915

Signed John L. Fisher,
Acting Surveyor General

Township N^o 1 South Range N^o 10 West of the Willamette Meridian.

figure 39b

Original Survey Mapping of the Tillamook Valley in 1857

Township 1 South, Range 10 West

Source: U.S. Surveyor General's Office, 1915 #1069

Philip Williams & Associates, Ltd.

I certify this to be a correct copy of the
original map on file in this office
Surveyor General's Office
Portland Oregon
May 22, 1915

Edmund McWorth
Surveyor General

Area in Acres	
Public Land	
Indian Reservation	
Indian Allotments	
Mineral Claims	
Water Rights	
Total Area	

Scale 40 Chains to an inch

North Magnetic Declination

Survey Designated	By Whom Surveyed	Continued	Amount of Survey	When Surveyed
Township Lines	General D. S. Smith	61 July 2nd 1858	61 00 79	September 1857
Section Lines	General D. S. Smith	61 July 2nd 1858	21 00 18	June 1858
Watering			20 00 00	
Total number of Acres 2452.68				

The above map of Township N^o 1 South, Range N^o 10 West of the Willamette
Meridian, bearing the date, is strictly conformable to the field notes of the survey thereof on file
in this office, which have been examined and approved

Surveyor General's Office

Portland, June 22nd 1858

Witness my hand and seal
John L. Fisher
Tillamook

Township N^o. 1 South Range N^o. 9 West of the Willamette Meridian, Oregon

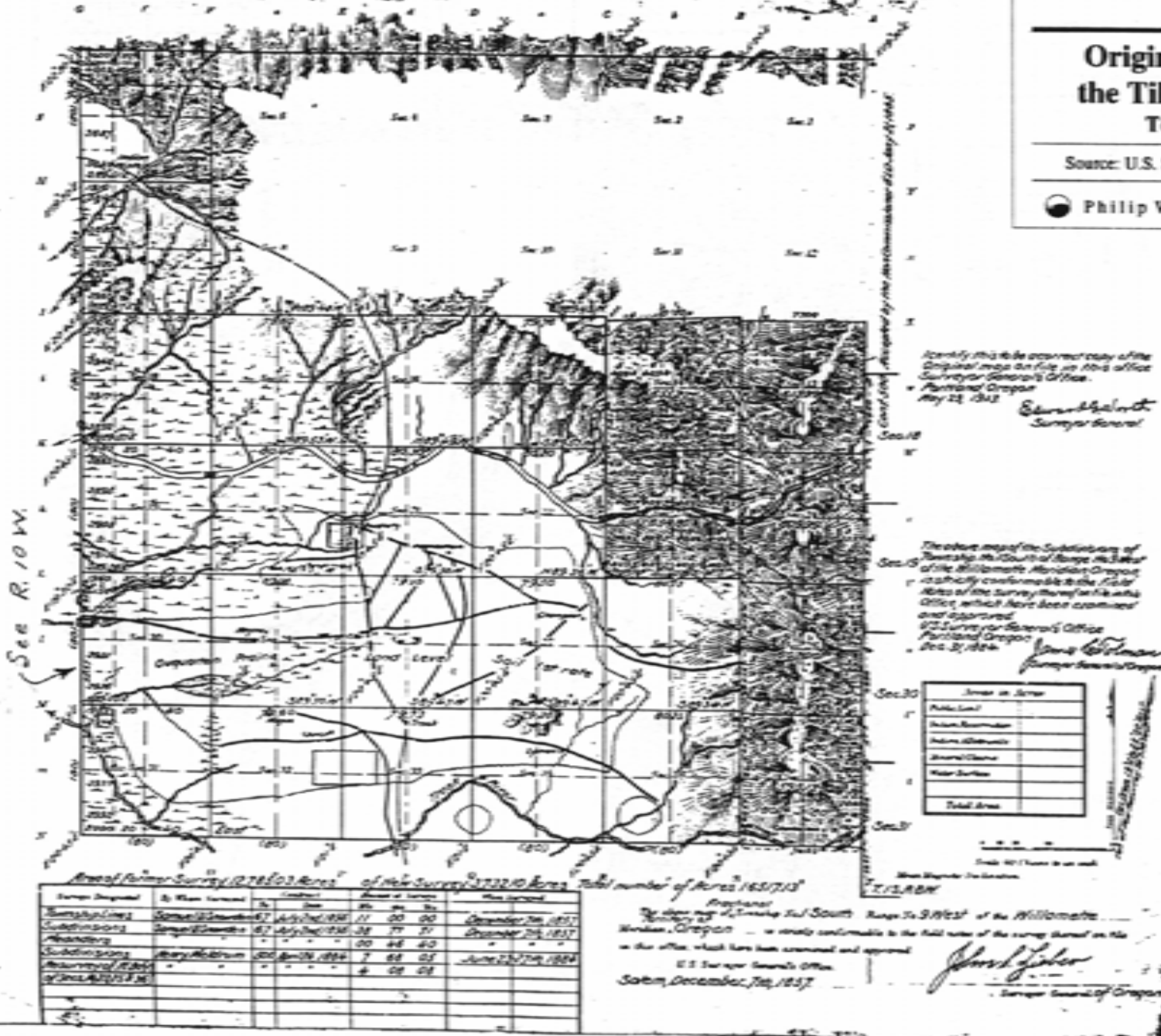
figure 39c

Original Survey Mapping of the Tillamook Valley in 1857

Township 1 South, Range 9 West

Source: U.S. Surveyor General's Office, 1915 #1069

Philip Williams & Associates, Ltd.

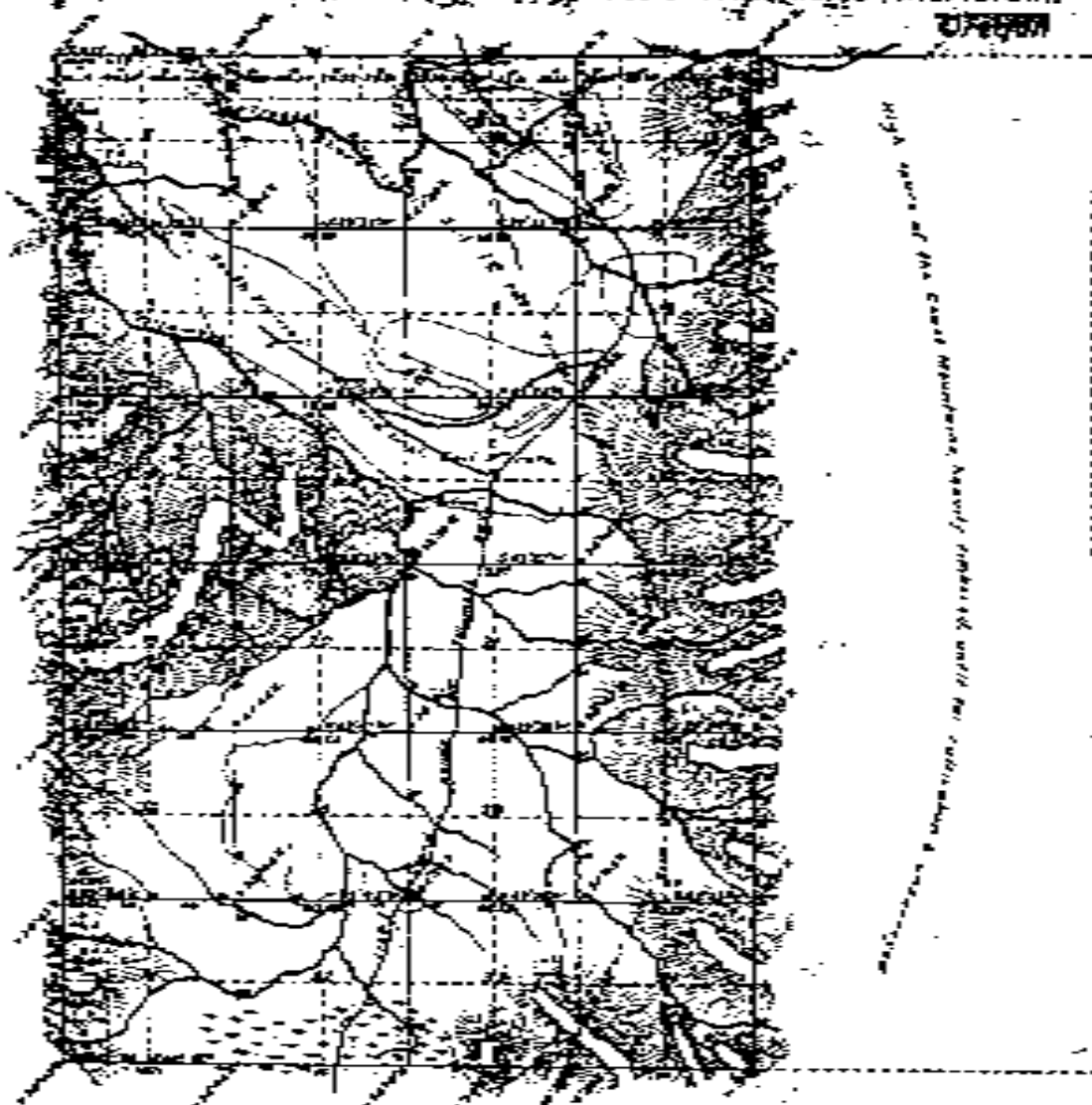


Original Survey Mapping of the Tillamook Valley in 1857

Township 2 South, Range 9 West

Source: U.S. Secretary General's Ofc., 1915 #1009

Philip Wulfinck & Associates, Ltd.

[illegible]

The above are all persons who have been convicted of crimes and are now in the custody of the Federal Bureau of Investigation. The names of these persons are listed in the following table:

Characterization of the
Tillamook Bay Valley Historical Landscape
Oregon, 1857

