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A CRITIQUE OF THE OCC & DC MAPPING SCHEME IN  
COASTAL WETLANDS OF OREGON

AND

A BIBLIOGRAPHY OF AERIAL PHOTO COVERAGE  
FOR OREGON'S ESTUARIES, 1964-1975

Northwest Coastal Information Center  
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March 16, 1977

For: Dr. Robert E. Frenkel  
Grs 501

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## INTRODUCTION

The mapping scheme for intertidal marshes prepared by C. A. Jefferson in the Coastal Wetlands of Oregon for the Oregon Coastal Conservation and Development Commission (Akins & Jefferson, 1973) is inaccurate on several points. The resultant concern is that the undesignated or mis-labelled marshlands will be subject to disruptions from construction activities along the coast since these areas may be ignored by the comprehensive planning process currently underway for Oregon's estuarine areas. In addition, the OCC & DC mapping scheme is being adopted by county planning agencies and the U.S. Army Corps of Engineers such that the permit system for disposal of dredged fill material will not be correctly applied.

A review of the OCC & DC mapping scheme with suggested improvements is a first step toward guaranteeing inclusion of intertidal marshes in the planning and permit process. It is necessary to critique the techniques and mapping legend used by the OCC & DC in their description of individual wetland areas.

The OCC & DC report covered estuary wetlands and inland wetlands, the former including estuary and bay acreage, tidelands, eelgrass beds, and tidal marshes. The tidal marshes are of concern in this review and have been defined by the OCC & DC (Akins & Jefferson, 1973: p.24) as

composed of those communities of vascular aquatic and semi-aquatic vegetation rooted in poorly-drained, poorly aerated soil, which may contain varying concentrations

of salt, occurring from lower high water (LHW) inland to the line of non-aquatic vegetation.

The succession of marsh plants on intertidal marshes is the basis of the mapping legend in the report.

Coastal Wetlands of Oregon was published in the form of a resource inventory in 1973 to precede the OCC & DC proposals for management of coastal resources. The OCC & DC was disbanded in 1975 with their Summary Final Report (Oregon Coastal Conservation and Development Commission, 1975) for that year constituting their management recommendations. The Oregon Land Conservation and Development Commission (LCDC) has incorporated those recommendations in their adopted goals and guidelines for the coast resources. Thus, it is imperative that the coastal marshes be accurately mapped. In addition, the Environmental Protection Agency is engaging in research designed to describe vegetative indicators of the transition zone between intertidal marshes and the adjacent upland. The precise delineation of unmapped marshes will assist in this effort by providing additional field sites for the study.

The following pages will accomplish several tasks. First, the marsh subtypes described by Jefferson as used in the map legend will be outlined and critiqued. Second, the techniques used in the OCC & DC mapping will be discussed and consequent map overlays will be presented which depict the errors in the report. These map overlays are based on refined aerial photo interpretation and have not entirely been field checked. This will require an effort beyond the scope of this report. Third and final, a list of available aerial photo coverage

is presented for similar coastal resource inventories in the future.

#### THE OCC & DC MAP LEGEND: MARSH SUBTYPES

Jefferson has proposed a map legend for the intertidal salt water marshes in Oregon based on a succession of vegetation types. This description contrasts with community mapping which is also needed but does not reflect environmental factors of marsh development such as substrate texture, salinity gradient, marsh elevation, and organic matter accumulation in marsh soils. The eight marsh subtypes and their description as presented in the OCC & DC report are reproduced in appendix A.

Of particular interest is the definition for marsh subtype VIII, the diked salt marshes:

Successfully diked salt marshes are usually of the types IV and V. Diking reduces the surface tidal flooding and soil salinity. Natural ditching is obscured by reduction of tidal scouring. Non-salt marsh plants and weeds invade the marsh surface.

The problem with this definition is threefold. First, many marshes which have been "successfully" diked in the past have since been breached. This begins a reinvation of salt marsh plant species but at varying degrees. Thus, while Jefferson states that vegetation characteristics of types IV and V are usually found, this depends on the time since breaching.

Second, the phrase "successfully diked salt marshes" implies the exclusion of salt water influences on reclaimed agricultural land. Although Jefferson specifies that diking only reduces the surface tidal flooding and soil salinity, field reconnaissance verifies

numerable diked marshes which continue to be grazed or tilled and have excluded nearly all salt marsh plant species. Moreover, while this acreage has been "successfully" diked, the OCC & DC maps do not include these lands. A major opportunity to trace the historical geography of land use in the estuarine areas of Oregon is thus by-passed.

Third, diking represents only one form of human alteration of natural salt marshlands. The OCC & DC report in later pages lists the following modifications of the wetland environment (Akins & Jefferson, 1973: p.59):

- 1) Diking and draining for agricultural purposes;
- 2) filling for residential, commercial, and industrial development;
- 3) deposition of dredge spoils;
- 4) storage of logs directly on tideflats and marshes;
- 5) refuse and wood waste disposal; and
- 6) construction of transportation corridors.

While #1 alters and may preclude salt marsh vegetation altogether, the effects are similar for #2, #3, #5, and #6 to some extent. Log moorage (#4 above) can cause a disruption in sedimentation and #6 can cause interference with tidal water circulation and freshwater supply at the upper edge of the marsh. Although the impact possibilities are far more numerous than suggested above, the point remains that altered salt marsh vegetation exists in marsh types affected by construction activities beyond the diking described by Jefferson.

## MAPPING TECHNIQUES AND THE USE OF AERIAL PHOTOS

The extent of wetlands mapped in the Coastal Wetlands of Oregon was determined by existing maps of the Oregon Wildlife Commission and aerial photographs. The eight marsh subtypes were then mapped in the field. The aerial photography listed on each map does not necessarily represent the imagery used in the OCC & DC report, as **Akins** & Jefferson simply used the existing base maps prepared in late 1972 and early 1973 by the Oregon Division of State Lands. The type of film and scale of photography used by either the Division of State Lands or OCC & DC are not identified (Akins & Jefferson, 1973: p.5). In 1972, U-2, high flight color infrared imagery at a scale of about 1:130,000 became available for the first time. The flight occurred on July 28, 1972 such that it is unlikely that the imagery was available for OCC & DC mapping tasks. It is more likely that the 1:12,000 color photos of the Oregon State Highway Department or black and white imagery of the State Forestry Department was used, but this is relegated to conjecture.

The full advantages of available imagery was not realized in the OCC & DC mapping, as seen in a review of air photo coverage existing in 1972 and that which has since become available. A full listing of aerial photo coverage for Oregon's estuaries is included in Appendix C. It is important to note, however, that each marsh subtype described by Jefferson produces a distinguishing set of photo identification characteristics. Some of the corrections illustrated on the map overlays in this report have been identified in this manner. It will be necessary to verify these corrections by ground truthing in the field.

A Bausch and Lomb zoom transferscope has been used to outline the map corrections presented on the overlays. The zoom transferscope allows the user to simultaneously look at an aerial photo with a map (such as a U.S.G.S. topo map) overlain. Either the photo or map image can be enhanced or eliminated by adjustment of controlled lighting. The scales of each image can be adjusted to correspond, and a magnification can be used to provide detailed mapping.

Color infrared imagery on 9 x 18 inch transparencies were used in the map review, as flown by high flight U-2 aircraft on July 26, 1973 at a scale of 1:34,000. Excellent resolution can be obtained and varying marsh vegetative subtypes are easily distinguished by virtue of photographic color, texture, pattern, and shape.

Errors on the OCC & DC maps may be classed into six groups:

- 1) Unmapped but existing marshes;
- 2) marshes mapped by Jefferson as diked which have been breached long ago and are now reestablished;
- 3) marshes mapped by Jefferson as diked which have not been diked in the past;
- 4) marshes not mapped by Jefferson as diked but which have been diked in the past or are at present;
- 5) areas mapped as marsh by Jefferson which are actually upland; and
- 6) areas which are mapped as marshes by Jefferson in a certain successional stage but which have been disturbed by some means other than diking.

Examples of each can be seen in the accompanying map overlays and are tabulated below (Table 1).

Table 1. Types and Location of OCC & DC Map Errors

LOCATION	TYPE (see description above in text)
Necanicum River	1)
Nehalem River	1), 4) 5)
Tillamook Bay	1), 4)
Netarts Bay	1)
Sand Lake	6)
Nestucca Bay	no apparent errors
Salmon River	1) 4), 6)
Siletz Bay	1), 4)
Yaquina Bay	no apparent errors
Alsea Bay	1), 4)
Siuslaw River	1)
Umpqua River	4)
Coos Bay	not critiqued in this study
Coquille River	no apparent mistakes
Rogue River	no apparent mistakes
Chetco River	no apparent mistakes

Source: prepared by author

These corrections have been largely derived from a thorough examination of aerial photography without a rigorous field checking program. Ground truthing will be necessary to verify the corrections.

#### SUMMARY

Several types of mapping errors on the OCC & DC maps of individual wetland areas have been identified. They are the result of an incomplete description for the map legend of disturbed marshlands as well as failure to fully utilize available aerial photography with inadequate field checking.

It will be necessary to verify the corrections to these mapping errors by a simple field checking of areas outlined on the map overlays in Appendix B. The final corrections should be made available



to the Oregon Land Conservation and Development Commission, Oregon county planning commissions and the regional Council of Governments along the coast as well as the state wildlife commission, E.P.A., and U.S. Army Corps of Engineers. The revised maps will then add an effective measure of wetland protection for these marshlands.

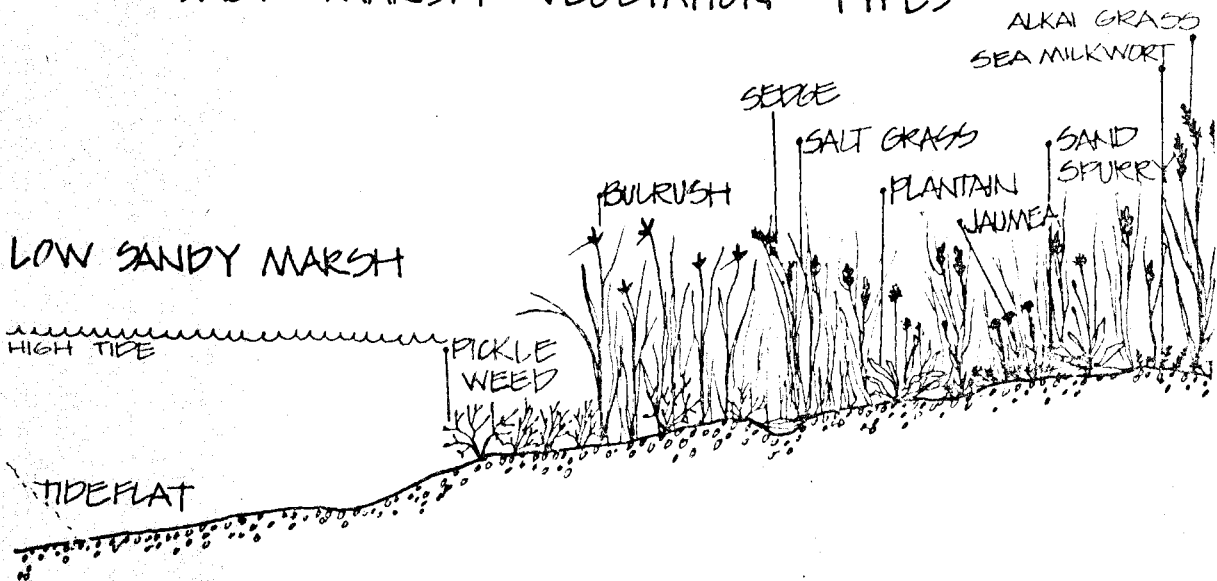
APPENDIX A  
DEFINITION OF EIGHT MARSH SUBTYPES  
•  
USED IN THE MAPPING SCHEME FOR THE  
OCC&DC REPORT ON THE COASTAL WETLANDS  
OF OREGON

Source: Akins and Jefferson, 1973: pp. 28-32

These marsh subtypes are depicted on small-scale estuary maps in the "Description of Individual Wetland Areas" section of this report, and include:

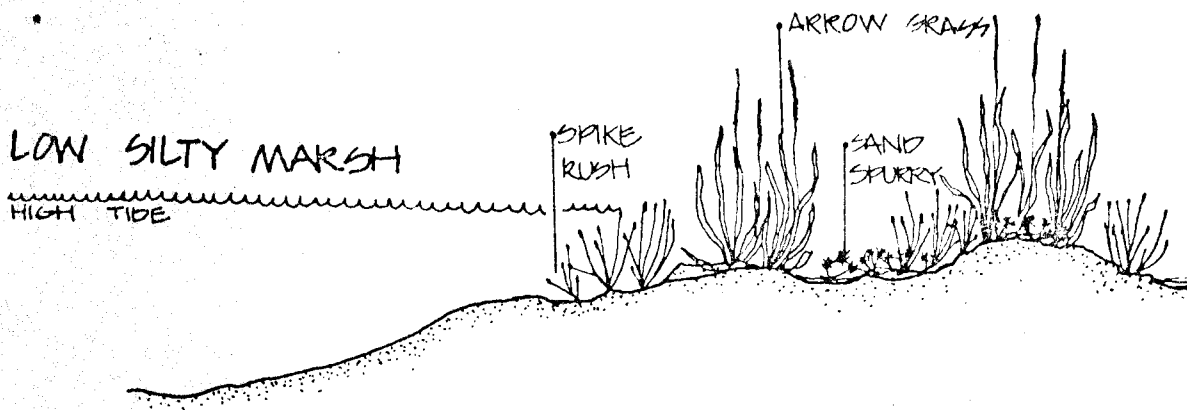
Type I: Low Sandy Marshes. These marshes are usually located on a sandy substratum on the inland side of baymouth sand spits or on islands in sandy bays. In the east side of the Coquille estuary, the large area of this type of marsh is, however, on a silty substrate opposite the sand spit, thereby indicating that another factor besides sand influences formation of this type. The marsh surface is slightly elevated above the tideflat and has a gentle upward slope toward land.

## SALT MARSH VEGETATION TYPES



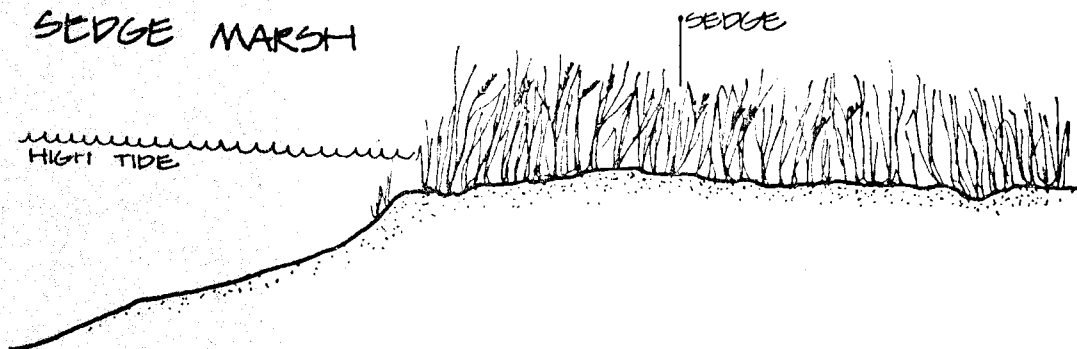
These areas are flooded by nearly all high tides and tidal drainage is diffuse. The lowermost vegetation is dominated by glasswort *Salicornia virginica*, or three-square rush *Scirpus americanus* and the higher vegetation is mainly salt grass *Distichlis spicata*, Jaumea *Jaumea carnosa* and seaside plantain *Plantago maritima*. Lesser quantities of the sand spurries *Spergularia canadensis*, *S. macrotheca*, alkali grass *Puccinellia maritima*, sedge *Carex lyngbyei* and milkwort *Glaux maritima* appear frequently.

Type II: Low Silty Marshes. These marshes are usually located on a silt or mud substratum wherever sedimentation occurs rapidly. The marsh surface is relatively flat but is interrupted with slightly elevated circular islands of colonizing seaside arrow grass *Triglochin maritima*.



These marshes are inundated by nearly all high tides and tidal runoff is diffuse but somewhat channelled around the plant colonies. The smaller plants, spike rush *Eleocharis parvula* and sand spurry *Spergularia marina*, are scattered on the marsh surface.

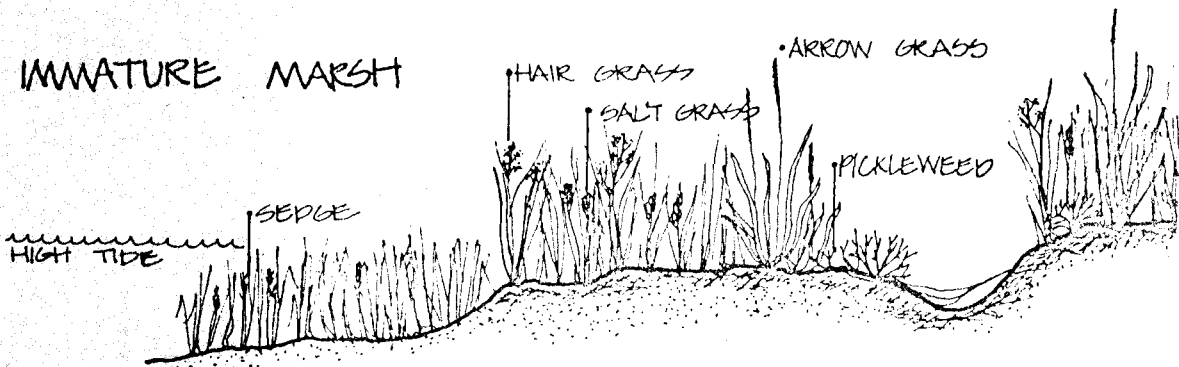
Type III: Sedge Marshes. Sedge marshes occur usually on silt between the low silty type marshes and more mature marshes or on the edge of island, deltas and dikes. The surface is relatively level but may be abruptly raised a foot or more above the tideflat surface.



Most high tides inundate the sedge marshes and tidal runoff is diffuse on lower sedge marshes to well contained in deep ditches on older, higher marshes. The vegetation is almost exclusively sedge *Carex lyngbyei*.

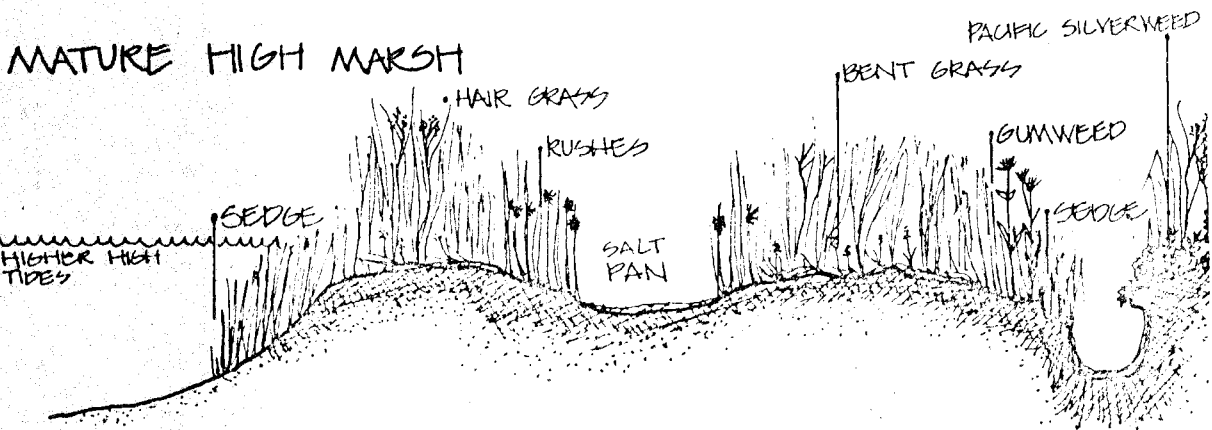
Type IV: Immature High Marshes. Immature high marshes usually occur on substrata high in organics and silts and inland of sedge and low sandy marshes. The marsh surface is relatively level, but is interrupted with shallow bare depressions and drainage ditches. The marsh usually rises abruptly two feet or more above the tideflat or several inches

above the surrounding lower marsh. Immature high marshes are inundated by many higher, high tides. Tidal runoff flows in deep, well defined ditches.



The vegetation present is mixed, because this type is a transition type between lower, immature marshes and mature salt marshes. The vegetation cover is continuous. Tufted hair grass *Deschampsia caespitosa*, a tall grass, is often mixed with salt grass *Distichlis spicata*, a shorter grass, as a co-dominant. Lesser quantities of seaside arrow grass *Triglochin maritima*, glasswort marsh samphire *Salicornia virginica* and sedge *Carex lyngbyei* are also present.

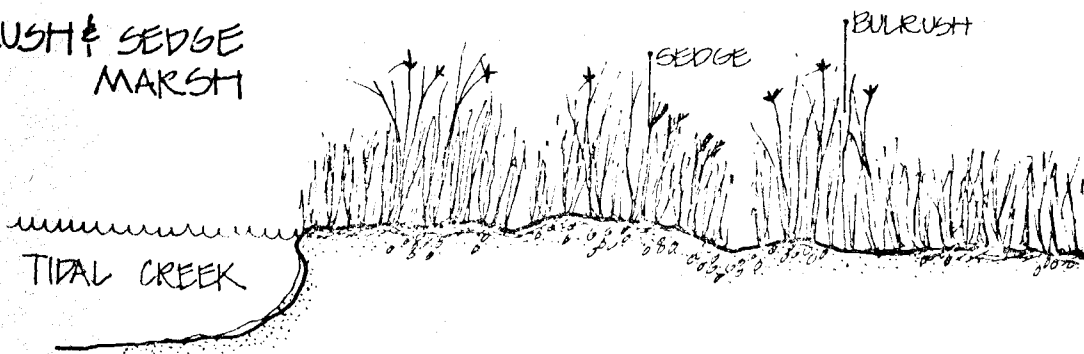
Type V: Mature High Marshes. Mature high salt marshes occur on highly organic substrata which often overlay old clays. The marsh surface is relatively level but is interrupted by shallow depressions and deep ditches and potholes. The marsh rises three feet or more above the tideflat. Many higher, high tides just cover the surface of the marsh. Tidal runoff follows the tidal channels. Fresh water may seep through the soil.



The plant cover is continuous and is characterized by grasses, rushes and forbs. Tufted hair grass *Deschampsia caespitosa*, salt rush *Juncus lescurei* and creeping bent grass *Agrostis alba* dominate. Remnants of earlier plant populations remain scattered across the surface and along ditches. Gum plant *Grindelia integrifolia*, Pacific silverweed *Potentilla pacifica* and salt bush *Atriplex patula* are forbs found on the highest elevations.

Type VI: Bullrush and Sedge Marshes. Bullrush *Scirpus validus* and sedge *Carex lyngbyei* characterize this type of salt marsh. Such marshes occur along tidal creeks and dikes or on islands where fresh water largely dilutes the salt water. As the water becomes fresher upstream, the sedge disappears.

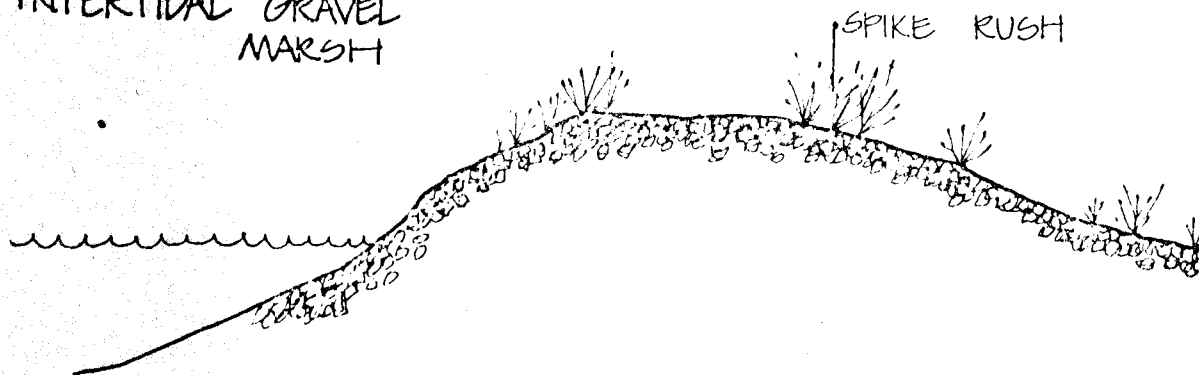
BULLRUSH & SEDGE  
MARSH



Bullrush and sedge marshes occur on silt or sand that is inundated by most high tides. Tidal runoff is diffuse.

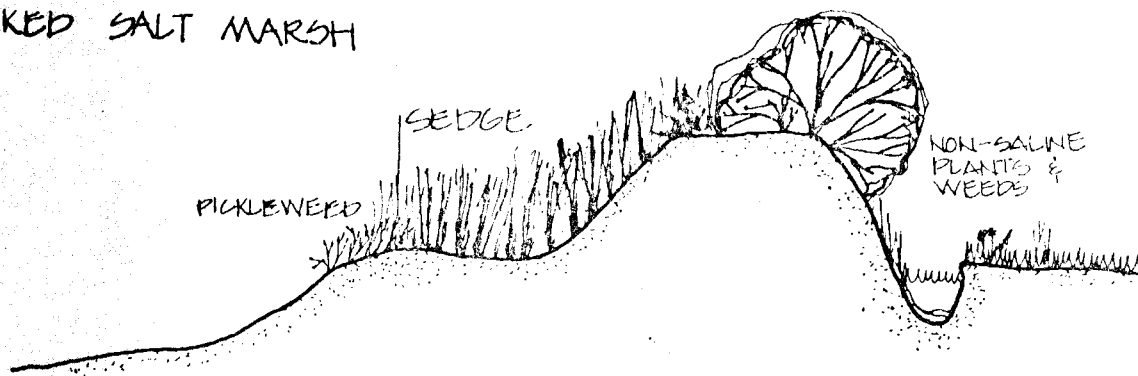
Type VII: Intertidal Gravel Marshes. This type of marsh occurs only near the mouths of the Rogue and Coquille Rivers. Patches of spike rushes *Eleocharis machrostachya*, *E. parishii*, *E. parvula* and scattered forbs grow on gravel bars and beaches subject to tidal inundation. However, the type of plants present indicate that water salinity is probably very low.

INTERTIDAL GRAVEL  
MARSH



Type VIII: Diked Salt Marshes. Successfully diked salt marshes are usually of the types IV and V. Diking reduces the surface tidal flooding and soil salinity. Natural ditching is obscured by reduction of tidal scouring. Non-salt marsh plants and weeds invade the marsh surface.

### DIKED SALT MARSH



### Inland Wetlands of the Coastal Zone

#### FORMATION OF INLAND WETLANDS

During the period of glacial melting approximately 6,000 years ago, sand was deposited as the seas moved increasingly inland. The coastal winds moved the sand from the coastline further inland until the coastal mountain front was reached. Extensive sand dunes which have resulted from this process occur on about half of the Oregon coast, in four distinct dune regions (as identified by Cooper, 1958). These are:

- (1) the broad, unbroken Clatsop Plains of the north coast, derived from the sediments of the Columbia River;
- (2) the smaller and more isolated bay and estuary dunes of Tillamook and Lincoln Counties;
- (3) the Coos Bay dune sheet, a broad and extensive sand area extending from Heceta Head to Coos Bay, broken only by the mouths of the Siuslaw and Umpqua Rivers, Berry Creek, and the other outlets of Siltcoos, Threemile, Tenmile and Tahkenitch Lakes.

APPENDIX B

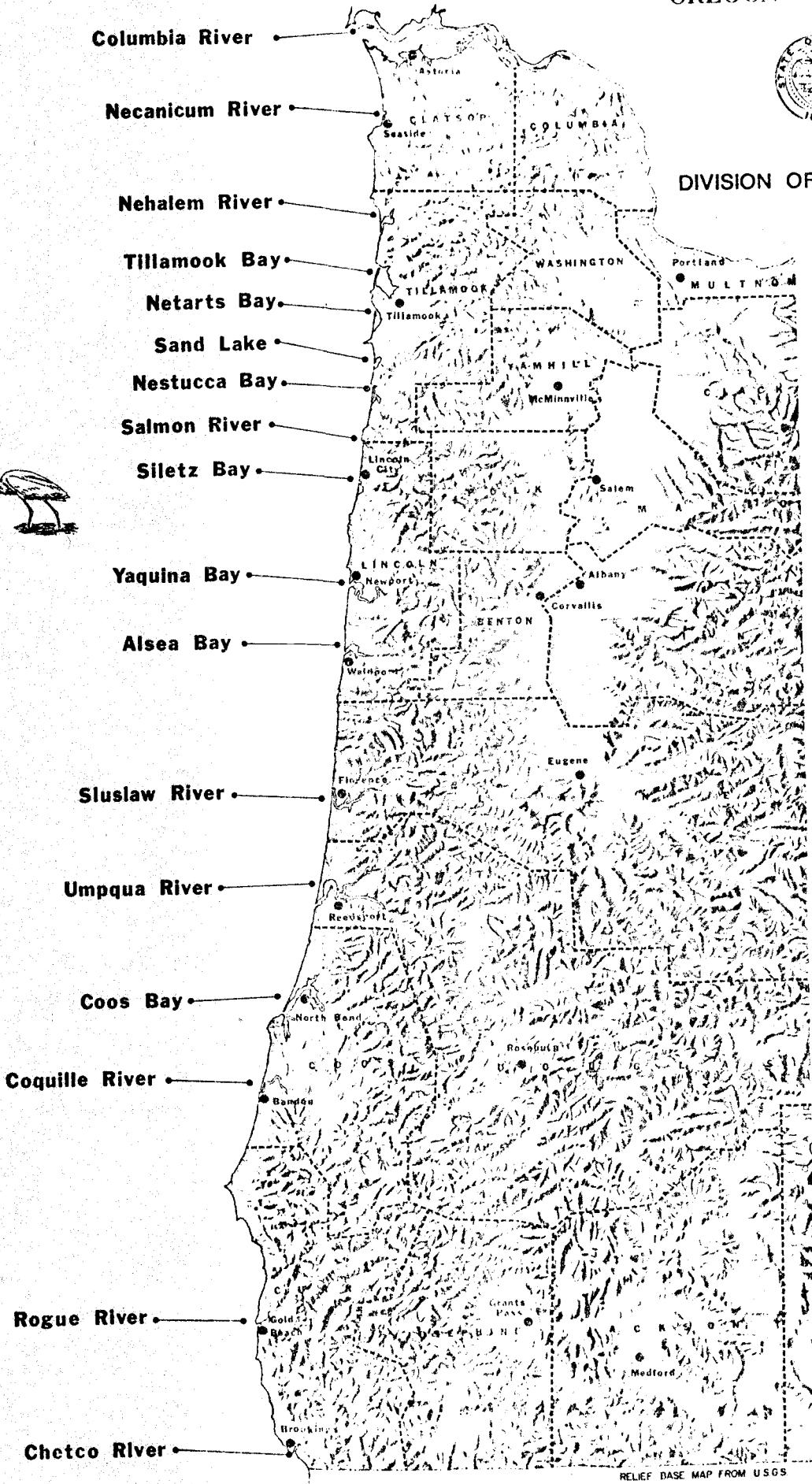
MAP CORRECTIONS



# OREGON ESTUARIES



DIVISION OF STATE LANDS



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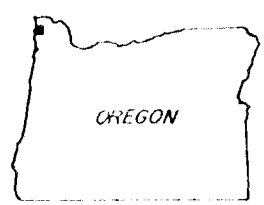
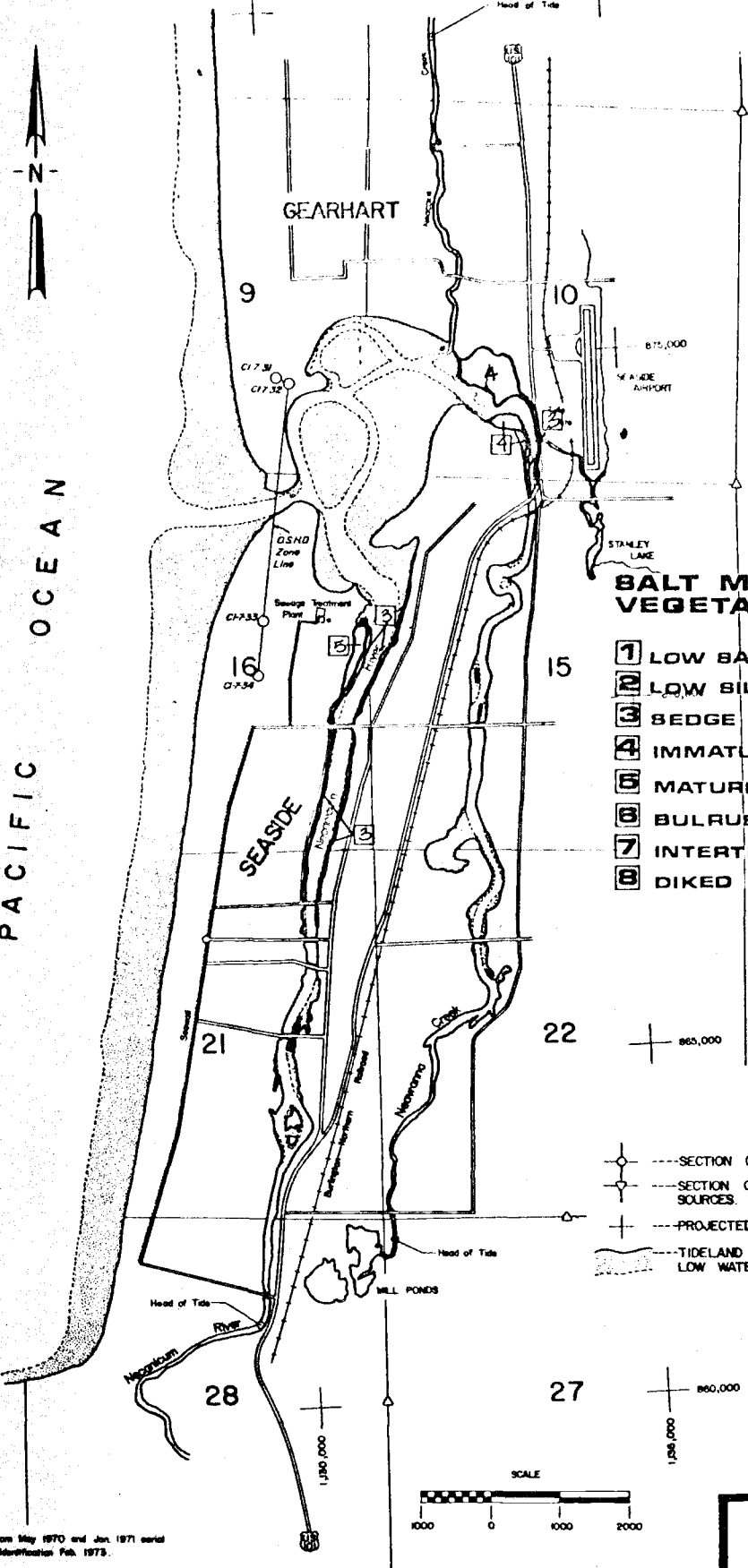
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COASTAL WETLANDS  
STUDY  
OCC & DC

PACIFIC OCEAN

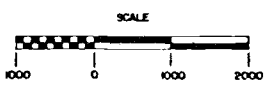


**BALT MARSH VEGETATION**

- 1 LOW BAND MARSH
- 2 LOW SILT MARSH
- 3 SEDGE MARSH
- 4 IMMATURE HIGH MARSH
- 5 MATURE HIGH MARSH
- 6 BULRUSH & SEDGE
- 7 INTERTIDAL GRAVEL MARSH
- 8 DIKED MARSH

**LEGEND**

- SECTION CORNERS FOUND.
- SECTION CORNERS LOCATED FROM OTHER SOURCES.
- PROJECTED CORNERS
- TIDLAND BETWEEN ELEVATIONS OF MEAN LOW WATER AND MEAN HIGH WATER.



Tideland Map compiled from May 1970 and Jan. 1971 aerial photography. Field photo identification Feb. 1973.  
Control from Oregon State Dept. of Revenue Forest Cover Maps  
Oregon State Plane Coordinate North Zone.  
Rectangular Grid.

**TIDELAND MAP**  
of  
**NECANICUM RIVER**  
STATE of OREGON  
DIVISION of STATE LANDS  
1973

UPLAND



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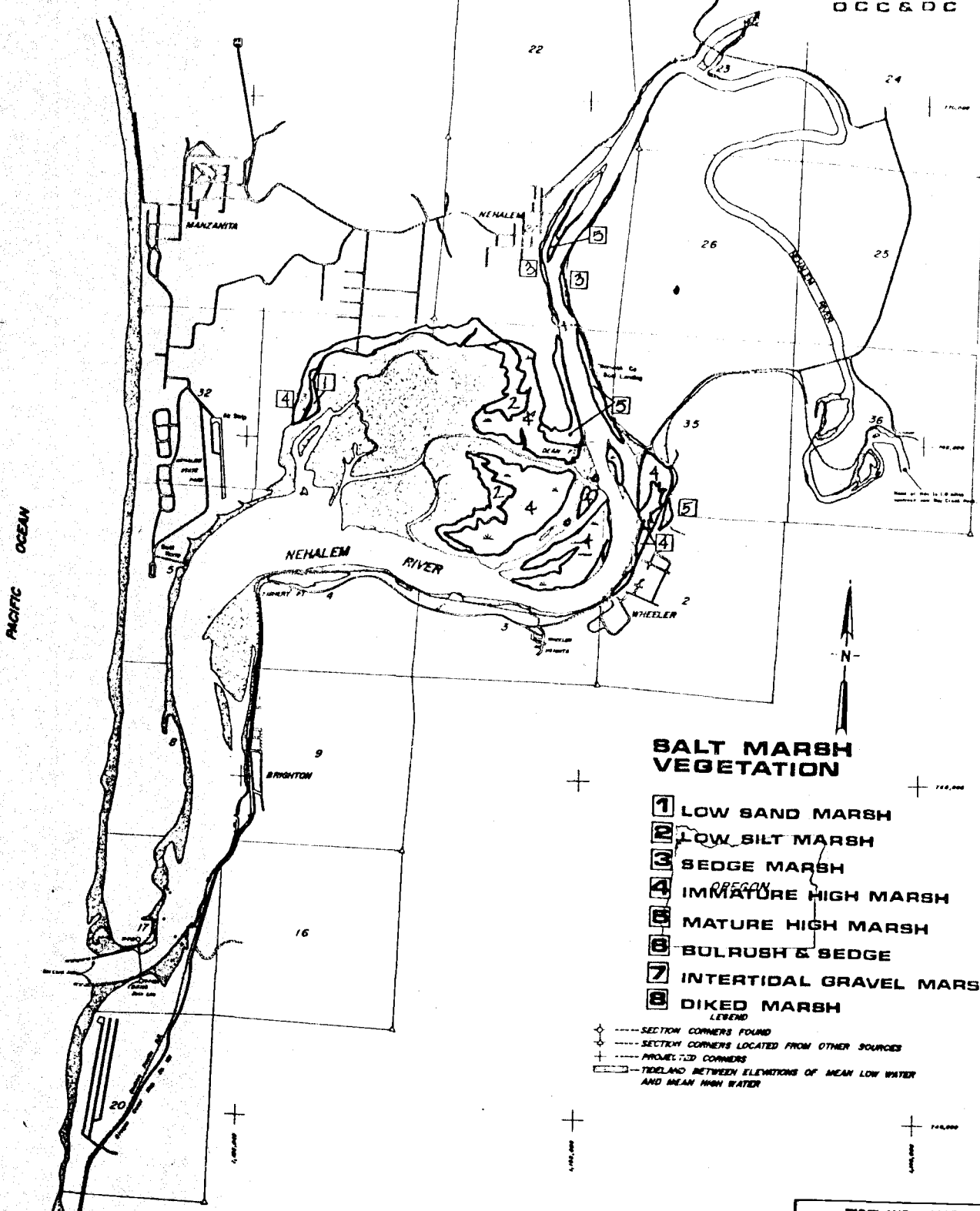
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COASTAL WETLANDS  
STUDY  
OCC & DC



**SALT MARSH  
VEGETATION**

- 1 LOW SAND MARSH
- 2 LOW SILT MARSH
- 3 SEDGE MARSH
- 4 IMMATURE HIGH MARSH
- 5 MATURE HIGH MARSH
- 6 BULRUSH & SEDGE
- 7 INTERTIDAL GRAVEL MARSH
- 8 DIKED MARSH

LEGEND  
 ◆ --- SECTION CORNERS FOUND  
 ◇ --- SECTION CORNERS LOCATED FROM OTHER SOURCES  
 + --- PROMISED CORNERS  
 --- TIDELAND BETWEEN ELEVATIONS OF MEAN LOW WATER AND MEAN HIGH WATER



TIDELAND MAP COMPILED FROM AERIAL PHOTOGRAPHY, FIELD PHOTO IDENTIFICATION JULY 1972  
 CONTROL FROM C.O.S. CHART 20, 200  
 GREAT TIDE PLANE DETERMINED FROM JUNE 1972  
 BY TARRANT AND

TIDELAND MAP  
OF THE  
NEHALEM RIVER  
  
STATE OF OREGON  
DIVISION OF STATE LANDS  
AUGUST 1972

PACIFIC OCEAN

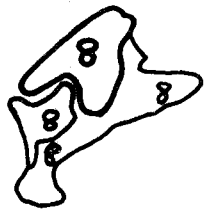


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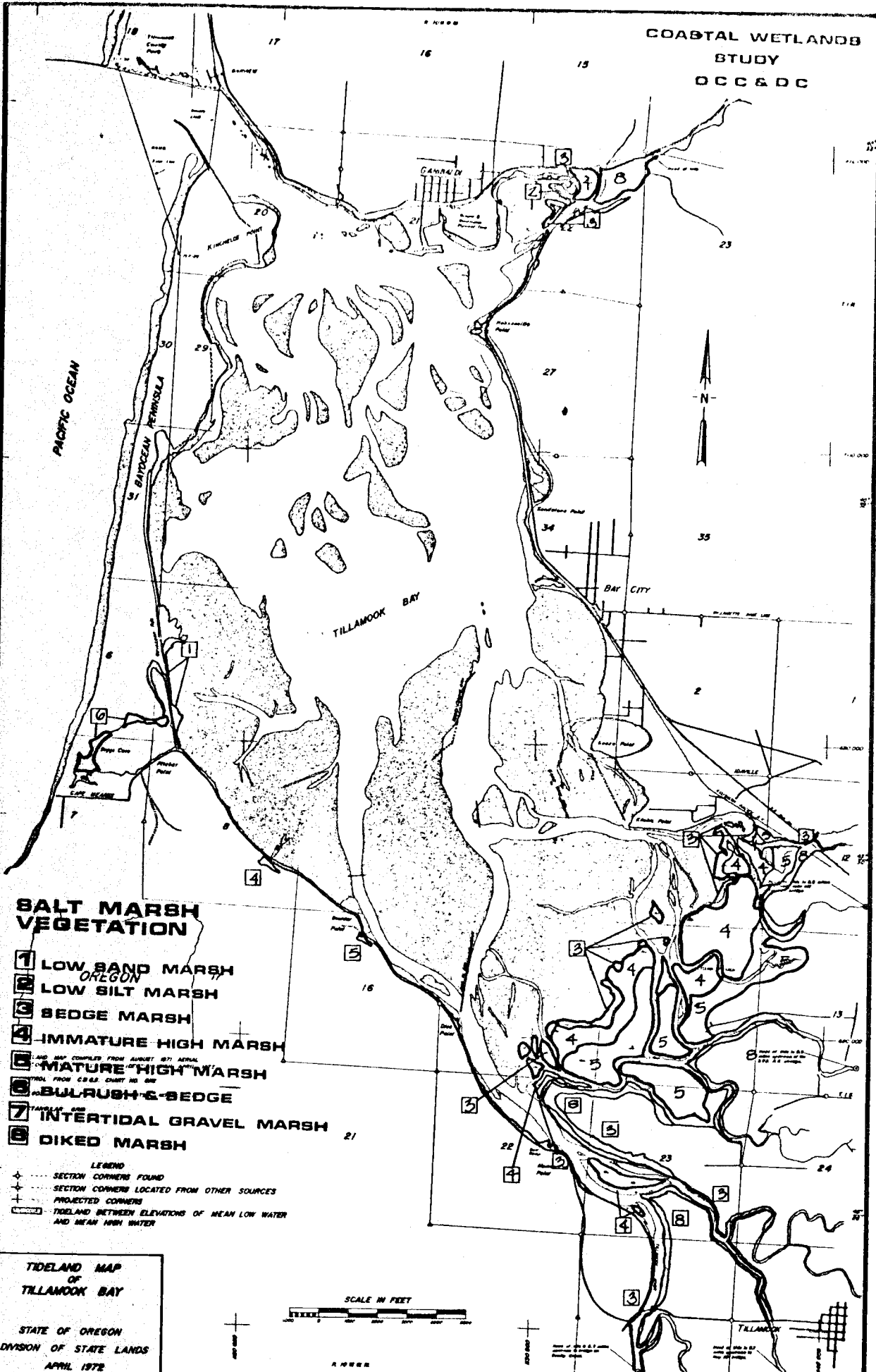
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COASTAL WETLANDS  
STUDY  
OCC & DC



**SALT MARSH  
VEGETATION**

- 1 LOW SAND MARSH
- 2 LOW SILT MARSH
- 3 SEDGE MARSH
- 4 IMMATURE HIGH MARSH
- 5 MATURE HIGH MARSH
- 6 BULRUSH & SEDGE
- 7 INTERTIDAL GRAVEL MARSH
- 8 DIKED MARSH

- LEGEND
- SECTION CORNERS FOUND
  - SECTION CORNERS LOCATED FROM OTHER SOURCES
  - PROJECTED CORNERS
  - TIDELAND BETWEEN ELEVATIONS OF MEAN LOW WATER AND MEAN HIGH WATER

TIDELAND MAP  
OF  
TILLAMOOK BAY

STATE OF OREGON  
DIVISION OF STATE LANDS  
APRIL 1972



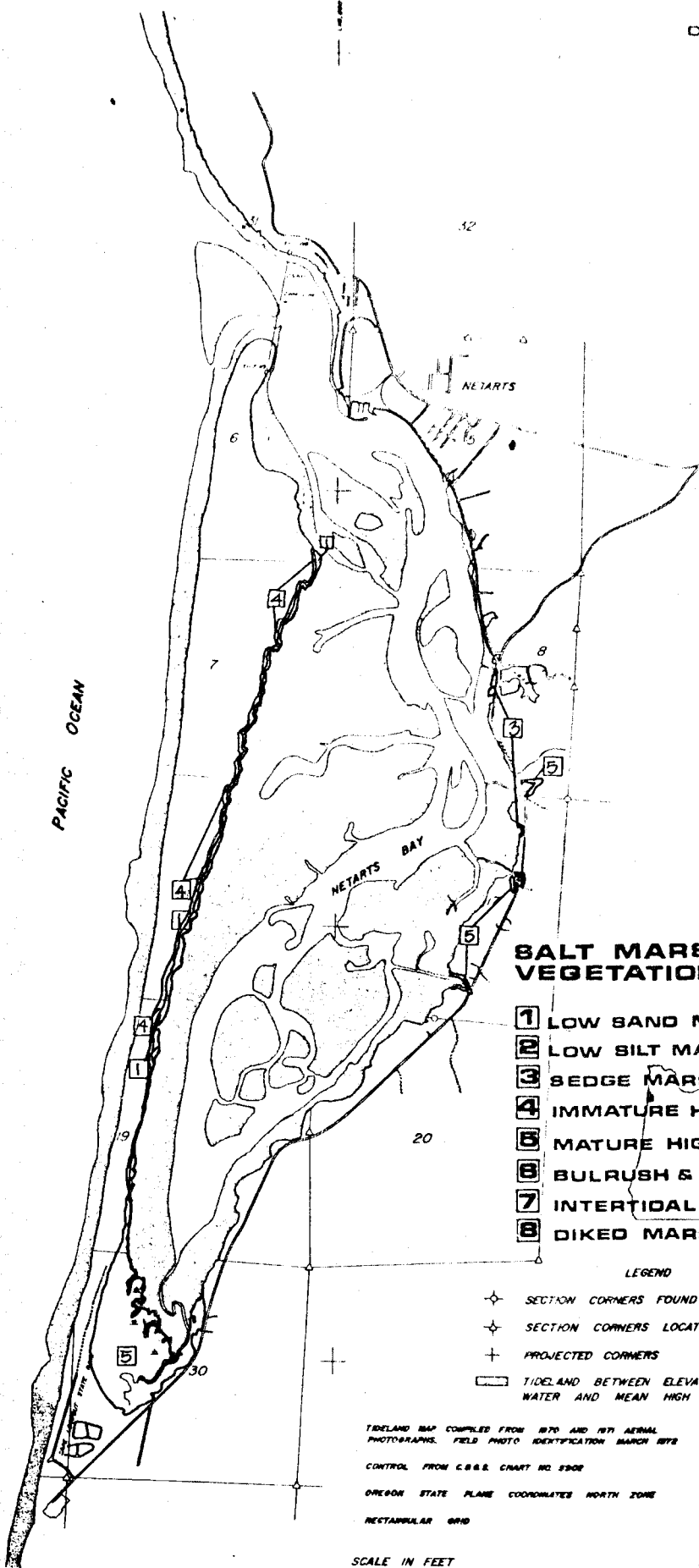
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**SALT MARSH VEGETATION**

- 1 LOW SAND MARSH
- 2 LOW SILT MARSH
- 3 SEDGE MARSH
- 4 IMMATURE HIGH MARSH
- 5 MATURE HIGH MARSH
- 6 BULRUSH & SEDGE
- 7 INTERTIDAL GRAVEL MARSH
- 8 DIKED MARSH

**LEGEND**

- ◆ SECTION CORNERS FOUND
- ◻ SECTION CORNERS LOCATED FROM OTHER SOURCES
- + PROJECTED CORNERS
- ▨ TIDELAND BETWEEN ELEVATIONS OF MEAN LOW WATER AND MEAN HIGH WATER

TIDELAND MAP COMPILED FROM 1970 AND 1971 AERIAL PHOTOGRAPHS. FIELD PHOTO IDENTIFICATION MARCH 1972  
CONTROL FROM C.S.R.S. CHART NO. 2908  
OREGON STATE PLANE COORDINATES NORTH ZONE  
RECTANGULAR GRID



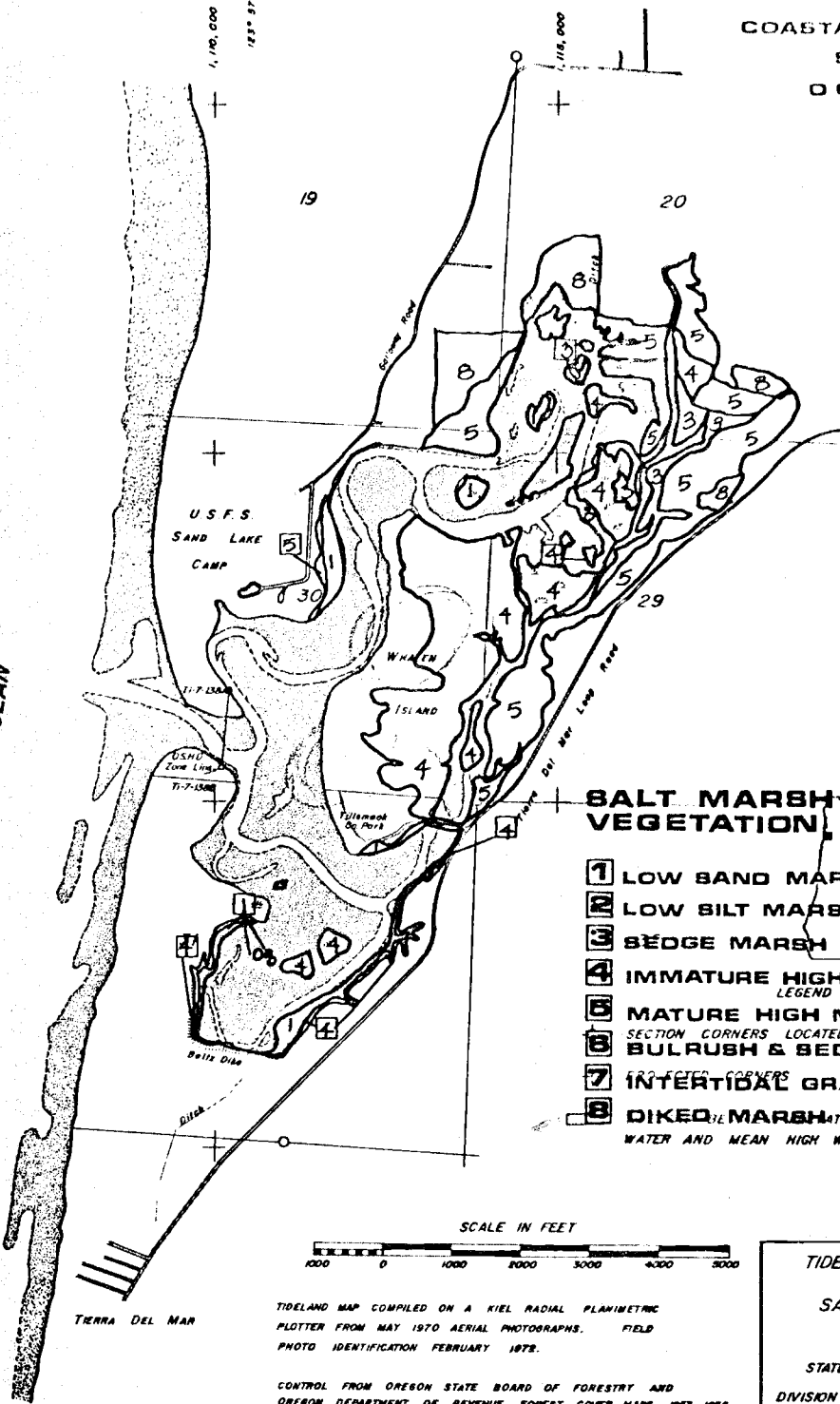
TIDELAND MAP  
OF  
NETARTS BAY  
STATE OF OREGON  
DIVISION OF STATE LANDS  
MAY 1972



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COASTAL WETLANDS  
STUDY  
OCC & DC

PACIFIC OCEAN



**SALT MARSH  
VEGETATION**

- 1 LOW SAND MARSH
  - 2 LOW SILT MARSH
  - 3 SEDGE MARSH
  - 4 IMMATURE HIGH MARSH
  - 5 MATURE HIGH MARSH
  - 6 SECTION CORNERS LOCATED FROM CONTROL MAPS BULRUSH & SEDGE
  - 7 PROJECT CORNERS
  - 8 DIKED MARSH
- LEGEND



TIDELAND MAP  
OF  
SAND LAKE

STATE OF OREGON  
DIVISION OF STATE LANDS  
MAY 1972

TIDELAND MAP COMPILED ON A KIEL RADIAL PLANIMETRIC PLOTTER FROM MAY 1970 AERIAL PHOTOGRAPHS. FIELD PHOTO IDENTIFICATION FEBRUARY 1972.

CONTROL FROM OREGON STATE BOARD OF FORESTRY AND OREGON DEPARTMENT OF REVENUE FOREST COVER MAPS 1963-1966.

OREGON STATE PLANE COORDINATES, NORTH ZONE

RECTANGULAR GRID

TERRA DEL MAR

615,000  
610,000  
608,000  
600,000

1,105,000  
1,100,000  
1,115,000

48° 17' 30"  
48° 18' 00"

COASTAL WETLANDS

STUDY

OCC & DC

1:50,000

BALT MARSH VEGETATION

- 1 LOW BAND MARSH
- 2 LOW SILT MARSH
- 3 BEDGE MARSH
- 4 IMMATURE HIGH MARSH
- 5 MATURE HIGH MARSH
- 6 BULRUSH & BEDGE
- 7 INTERTIDAL GRAVEL MARSH
- 8 DIKED MARSH

LEGEND

- --- SECTION CORNERS FOUND
- △ --- SECTION CORNERS LOCATED FROM OTHER SOURCES
- + --- PROJECTED CORNERS
- TIDELAND BETWEEN ELEVATIONS OF MEAN LOW WATER AND MEAN HIGH WATER

Tideland Map compiled from Oregon State Highway Department map, CAP. KIWANDA - NESKOMM, 1967.

Lambert grid, Oregon - North.

Tidelands from Oregon State Highway Department aerial photography, KWO - B, 1970, corrected by field investigation, April & May, 1972.

PACIFIC OCEAN

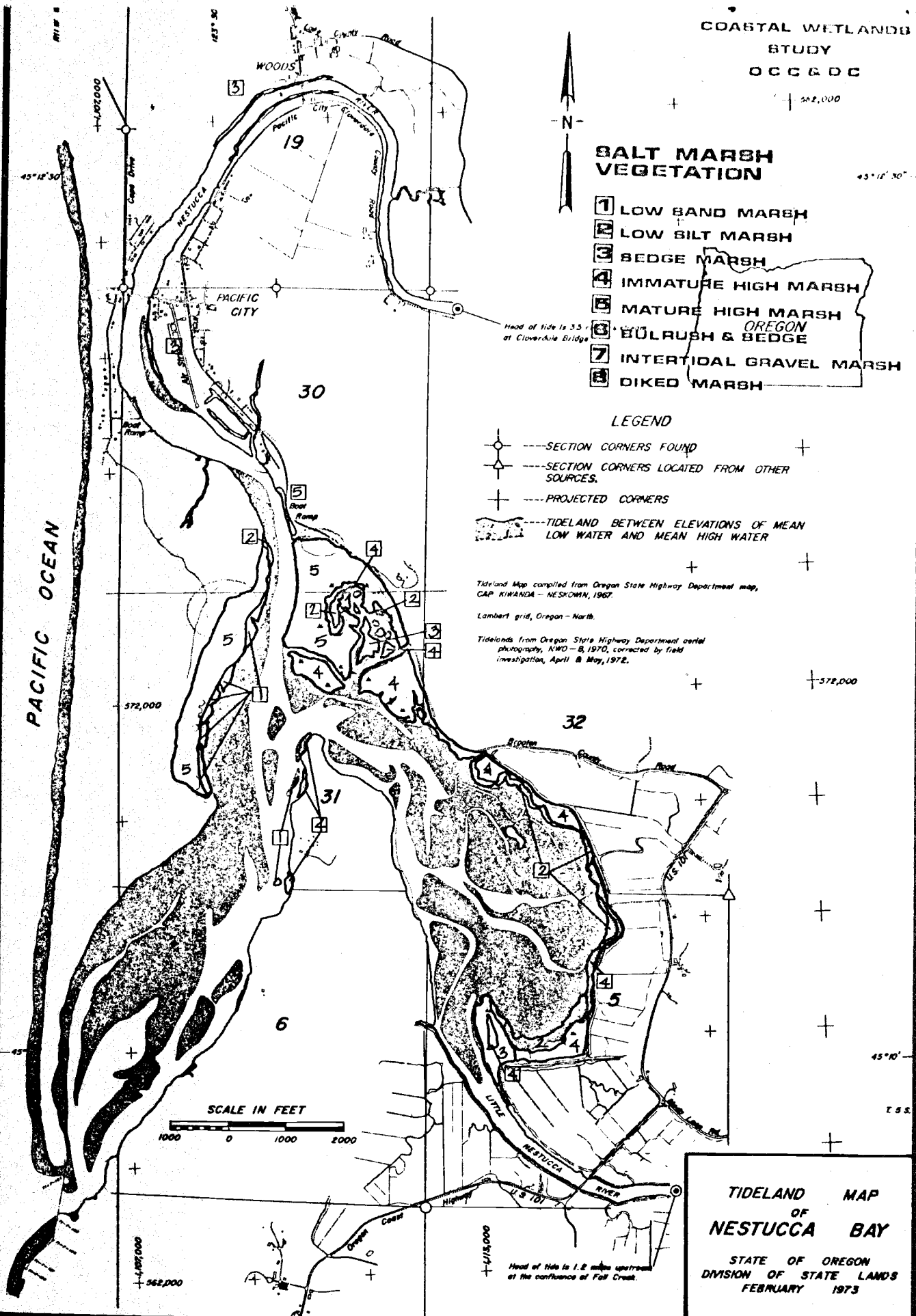
SCALE IN FEET



TIDELAND MAP  
OF  
NESTUCCA BAY

STATE OF OREGON  
DIVISION OF STATE LANDS  
FEBRUARY 1973

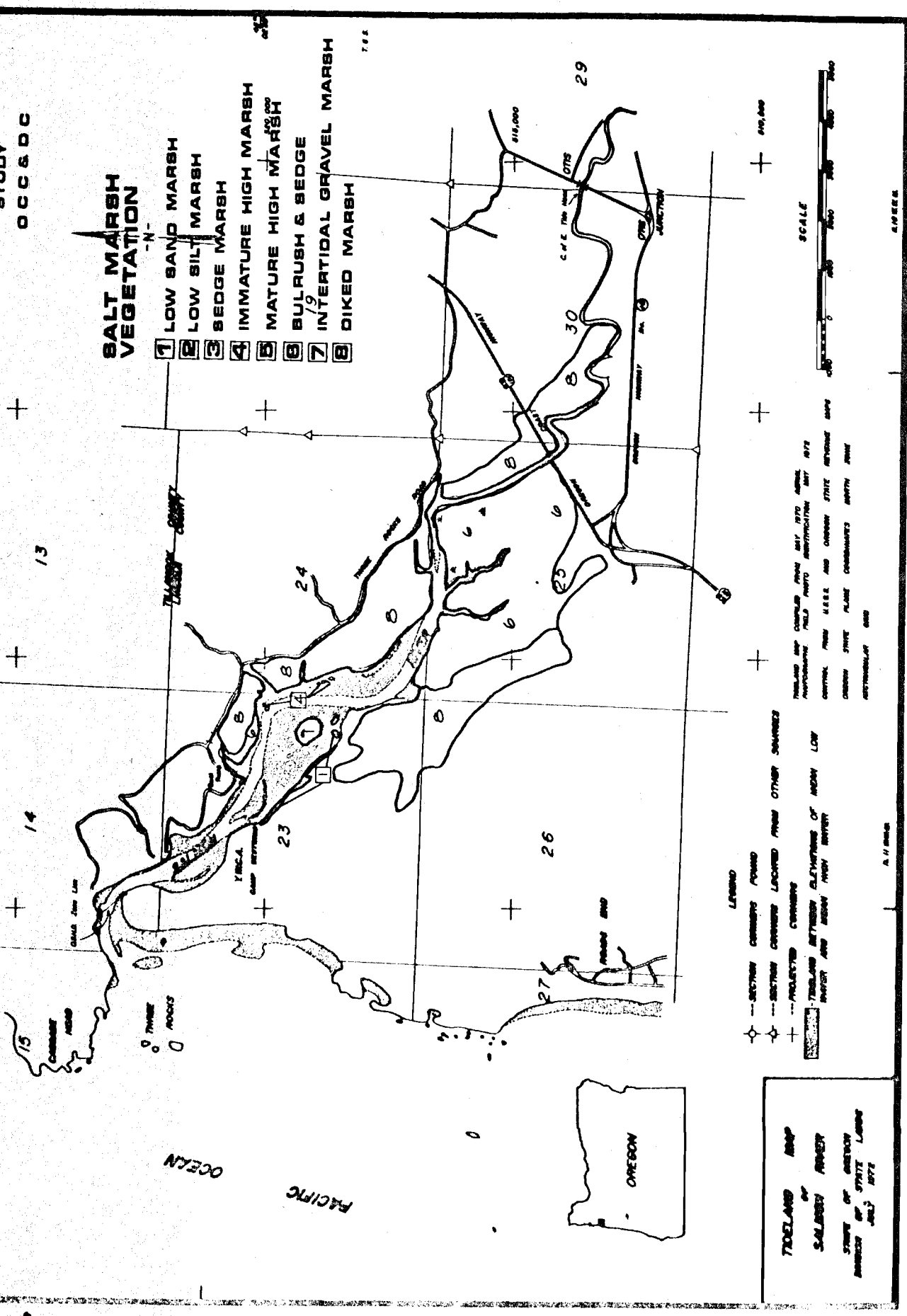
Head of tide is 1.2 miles upstream at the confluence of Fall Creek.





**SALT MARSH  
VEGETATION**

- 1 LOW SAND MARSH
- 2 LOW SILT MARSH
- 3 SEDGE MARSH
- 4 IMMATURE HIGH MARSH
- 5 MATURE HIGH MARSH
- 6 BULRUSH & SEDGE
- 7 INTERTIDAL GRAVEL MARSH
- 8 DIKED MARSH



**LEGEND**

- SECTION CORNERS FOUND
- SECTION CORNERS LOCATED FROM OTHER SOURCES
- PROPOSED CORNERS
- TIDELAND BETWEEN ELEVATIONS OF HIGH LOW TIDE AND MEAN HIGH TIDE

**TIDELAND MAP  
OF  
SALMON RIVER**  
STATE OF OREGON  
APPROX. JULY 1972

FIELD AND COMPILE FROM MAY 1972 Aerial PHOTOGRAPHIC FIELD PHOTO INTERPRETATION MAY 1972  
CORRECTED FROM USGS AND OREGON STATE SERVICE MAPS  
OREGON STATE PLANT COMMUNITIES SURVEY FROM  
UNPUBLISHED 1968

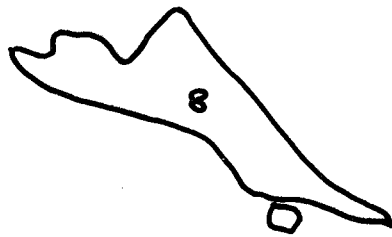


FEET



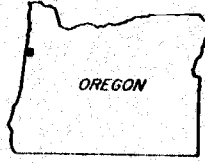
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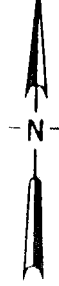
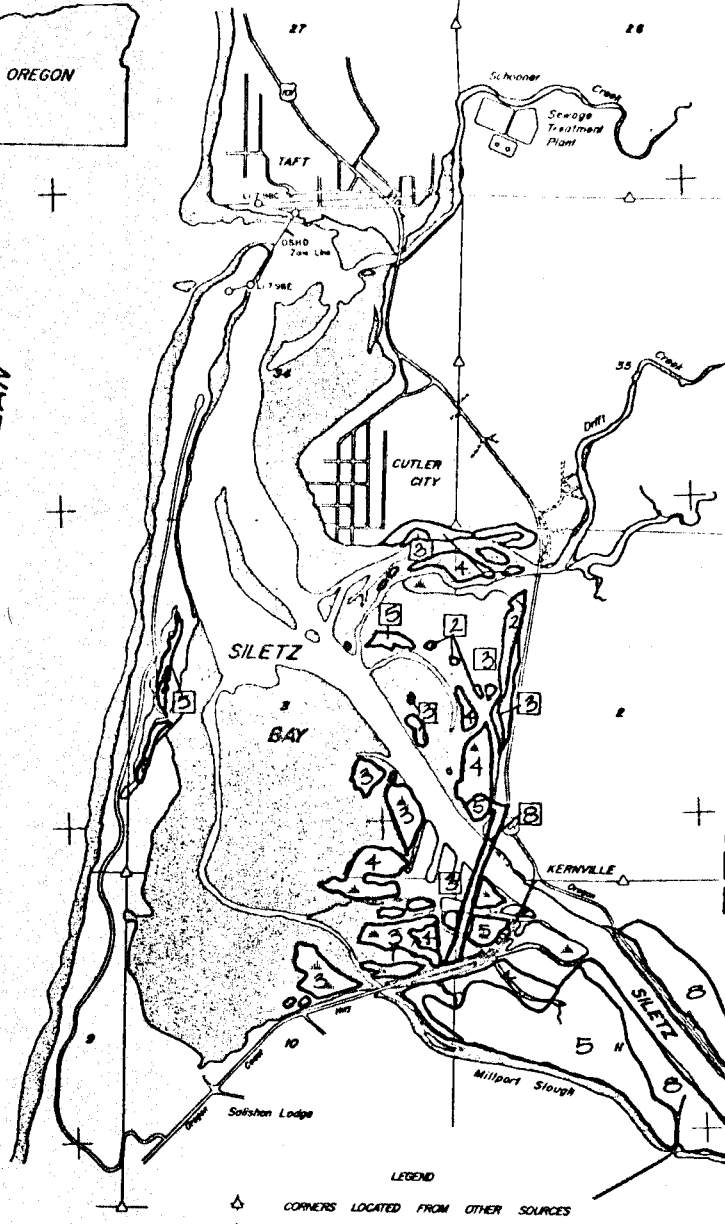


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COASTAL WETLANDS  
STUDY  
OCC & DC



PACIFIC OCEAN



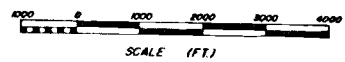
**SALT MARSH VEGETATION**

- 1 LOW SAND MARSH
- 2 LOW SILT MARSH
- 3 BEDGE MARSH
- 4 IMMATURE HIGH MARSH
- 5 MATURE HIGH MARSH
- 6 BULRUSH & BEDGE
- 7 INTERTIDAL GRAVEL MARSH
- 8 DIKED MARSH

LEGEND

- CORNERS LOCATED FROM OTHER SOURCES
- PROJECTED CORNERS
- TIDELAND BETWEEN ELEVATIONS OF MEAN LOW WATER AND MEAN HIGH WATER

TIDELAND MAP COMPILED FROM 1947 AERIAL PHOTOGRAPHY  
FIELD PHOTO IDENTIFICATION AUGUST 1971  
CONTROL FROM OREGON STATE HIGHWAY DEPT. MAP, OTEP-  
WYERHAWNE-KERNVILLE 1967  
OREGON STATE PLANE COORDINATES NORTH ZONE  
RECTANGULAR AND

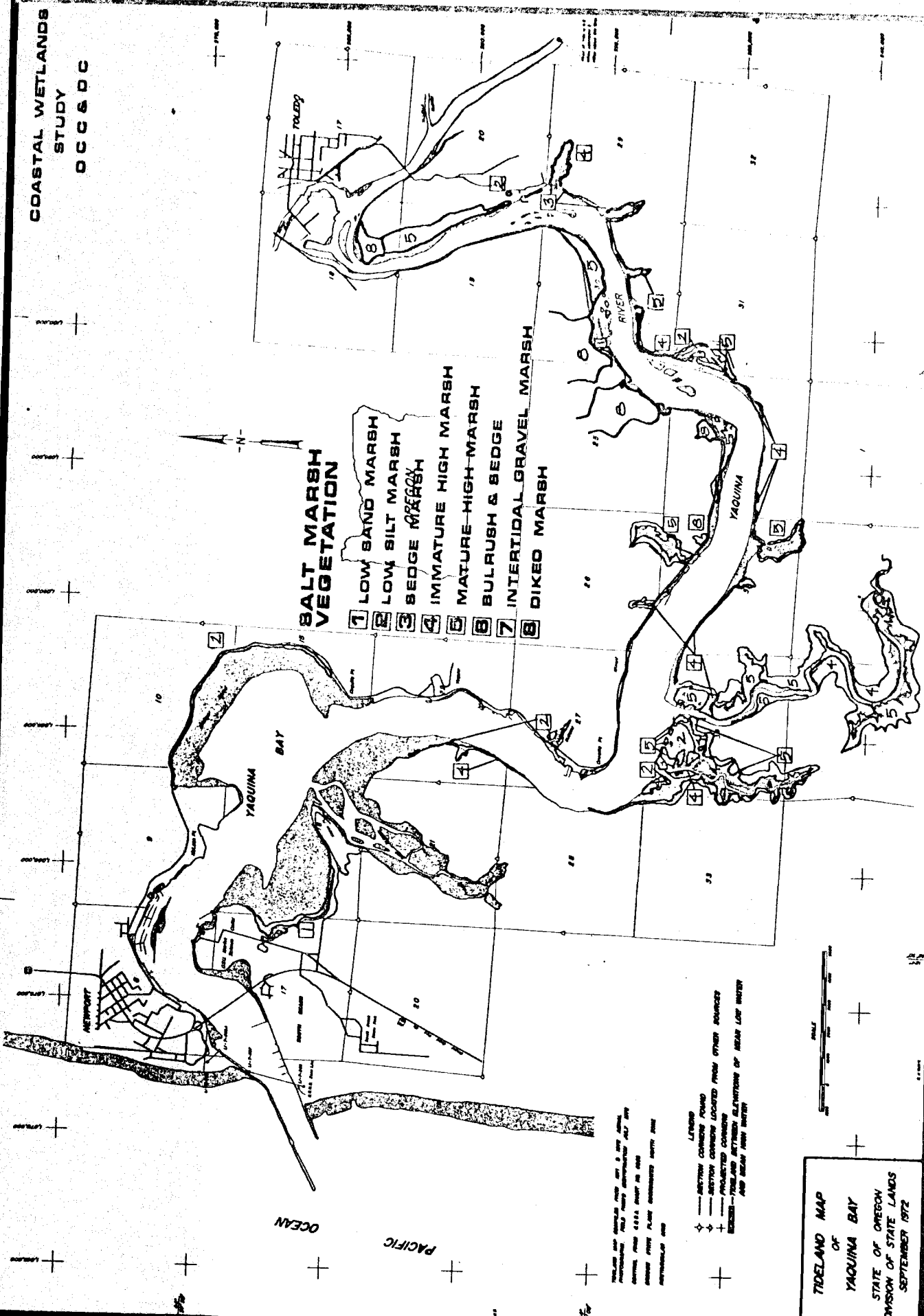


Head of Tide is 12.6 miles  
upstream of the mouth of  
Cedar Creek.

**TIDELAND MAP  
OF  
SILETZ BAY**  
STATE OF OREGON  
DIVISION OF STATE LANDS

44°32'30"





**SALT MARSH  
VEGETATION**

- 1 LOW BAND MARSH
- 2 LOW SILT MARSH
- 3 SEDGE MARSH
- 4 IMMATURE HIGH MARSH
- 5 MATURE-HIGH MARSH
- 6 BULRUSH & SEDGE
- 7 INTERTIDAL GRAVEL MARSH
- 8 DIKED MARSH

\* SECTION CORNERS FOUND  
 \* SECTION CORNERS LOCATED FROM OTHER SOURCES  
 + PROPOSED CORNERS  
 --- PROPOSED BOUNDARIES  
 --- PROPOSED ELEVATIONS OF MEAN LOW WATER AND MEAN HIGH WATER

**TIDELAND MAP  
OF  
YAQUINA BAY**  
 STATE OF OREGON  
 DIVISION OF STATE LANDS  
 SEPTEMBER 1972

+



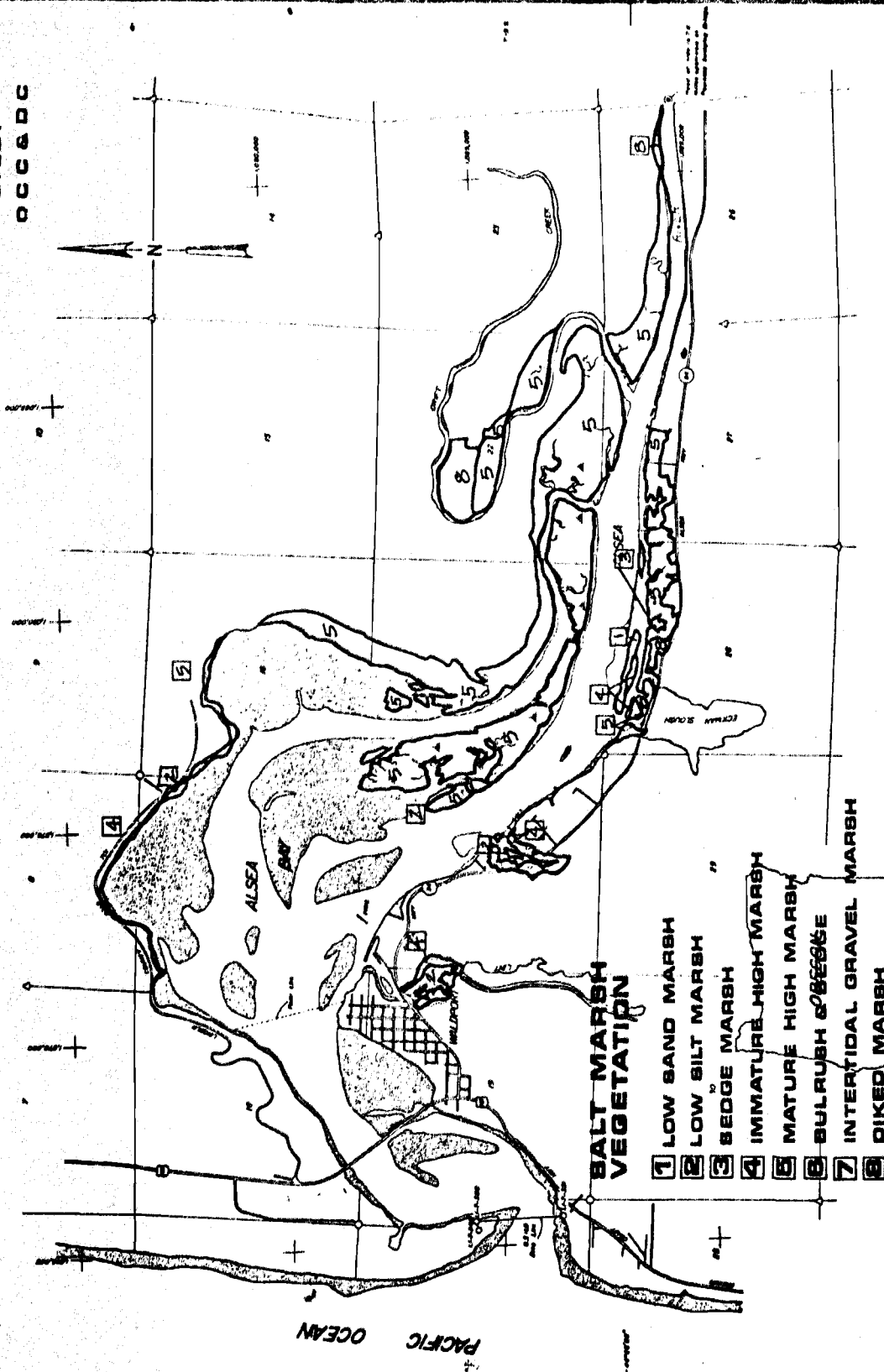
+

LAPLAND  
↙

+

+

**COASTAL WETLANDS  
STUDY  
OCC&DC**



**BALT MARSH  
VEGETATION**

- 1 LOW SAND MARSH
- 2 LOW SILT MARSH
- 3 SEDGE MARSH
- 4 IMMATURE HIGH MARSH
- 5 MATURE HIGH MARSH
- 6 BULRUSH & SEDGE
- 7 INTERTIDAL GRAVEL MARSH
- 8 DIKED MARSH

**TIDELAND MAP  
OF  
ALSEA BAY  
SEPTEMBER 1972  
STATE OF OREGON  
DIVISION OF STATE LANDS**

**LEGEND**  
 + COMBINED FINDING  
 ○ COMBINED LOCATED FROM OTHER SOURCES  
 + PROJECTED COMBINED  
 [ ] TIDELAND BETWEEN ELEVATIONS OF  
 MEAN HIGH WATER AND MEAN LOW  
 WATER

TIDELAND NOT SHOWN FOR THE YEAR 1972  
 FULL MAPS AVAILABLE FROM THE  
 DIVISION OF STATE LANDS - MELROSE, OREGON  
 SOURCE FOR ELEVATION DATA FROM  
 STATE OF OREGON DIVISION OF STATE LANDS  
 1972





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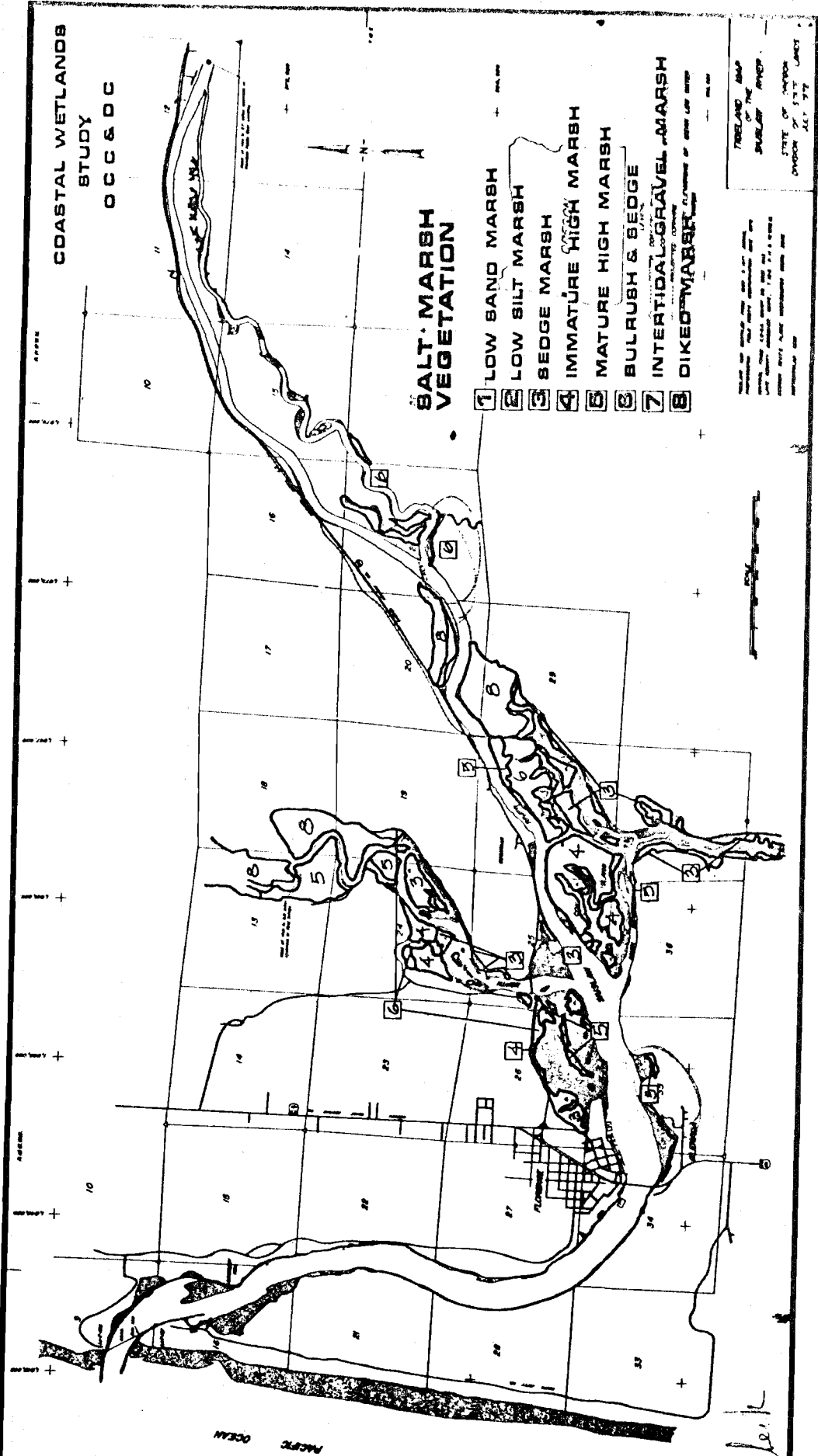
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COASTAL WETLANDS  
STUDY  
OCC & DC



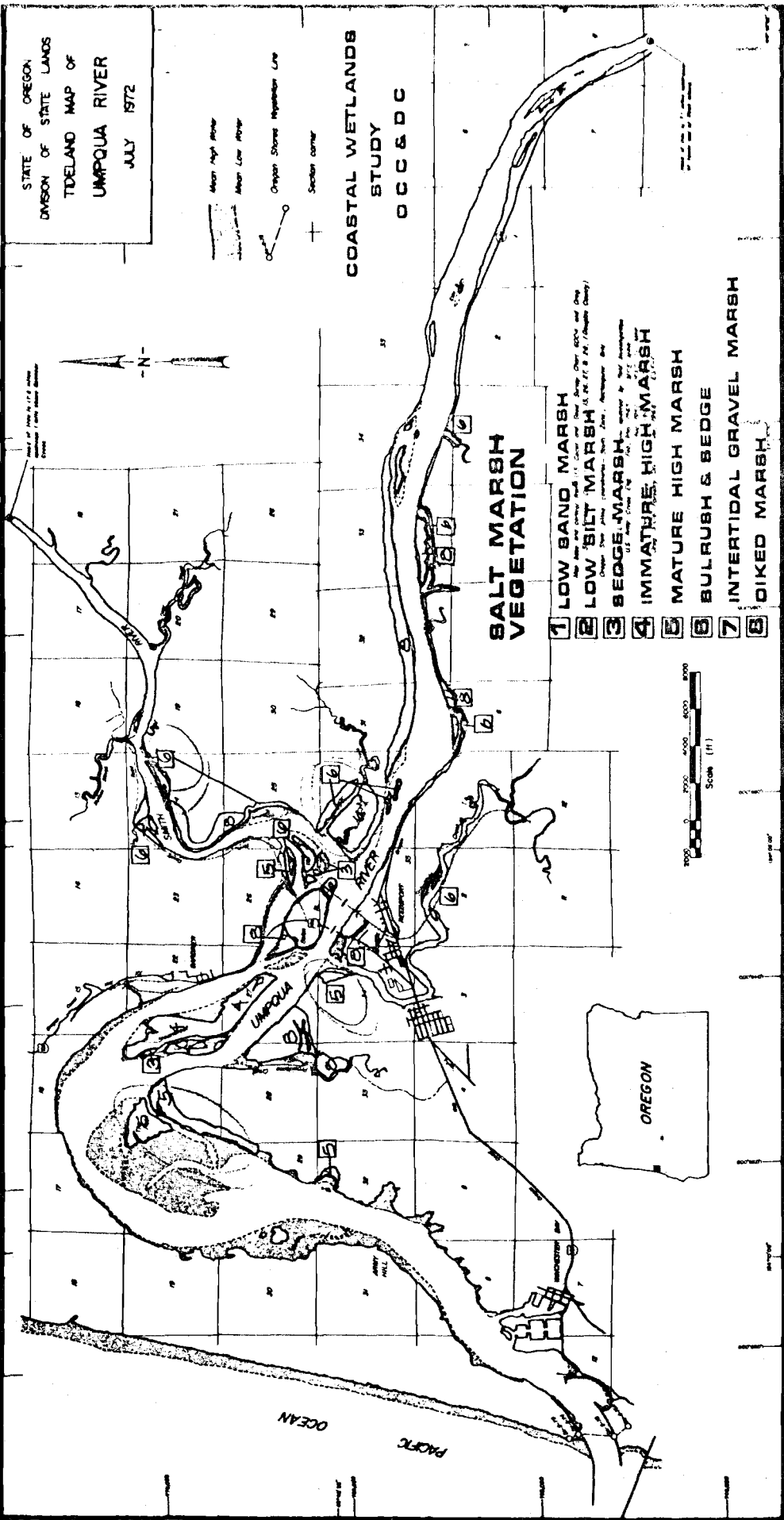
TRELAND MAP  
OF THE  
SALT MARSH WEA  
STATE OF CALIFORNIA  
DIVISION OF STATE LANDS  
JULY 77

MADE BY THE CALIFORNIA STATE DEPARTMENT OF LANDS AND NATURAL RESOURCES  
FROM AERIAL PHOTOGRAPHS TAKEN IN 1976 BY THE CALIFORNIA STATE DEPARTMENT OF LANDS AND NATURAL RESOURCES  
DATE OF PHOTOGRAPHS: 1976  
DATE OF MAP: JULY 1977

STATE OF OREGON  
 DIVISION OF STATE LANDS  
 TIDELAND MAP OF  
 UMPQUA RIVER  
 JULY 1972

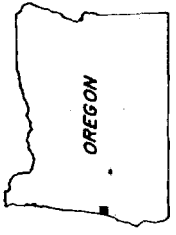
Mean High Water  
 Mean Low Water  
 Oregon Shore Registration Line  
 Section corner

COASTAL WETLANDS  
 STUDY  
 OCC & DC



**SALT MARSH  
 VEGETATION**

- 1 LOW SAND MARSH
- 2 LOW 'SILT' MARSH (U.S. Fish & Wildlife Service)
- 3 BEDGE MARSH (U.S. Fish & Wildlife Service)
- 4 IMMATURE HIGH MARSH
- 5 MATURE HIGH MARSH
- 6 BULRUSH & BEDGE
- 7 INTERTIDAL GRAVEL MARSH
- 8 DIKED MARSH



COASTAL WETLANDS  
STUDY  
OCC & DC

R. 19 W.

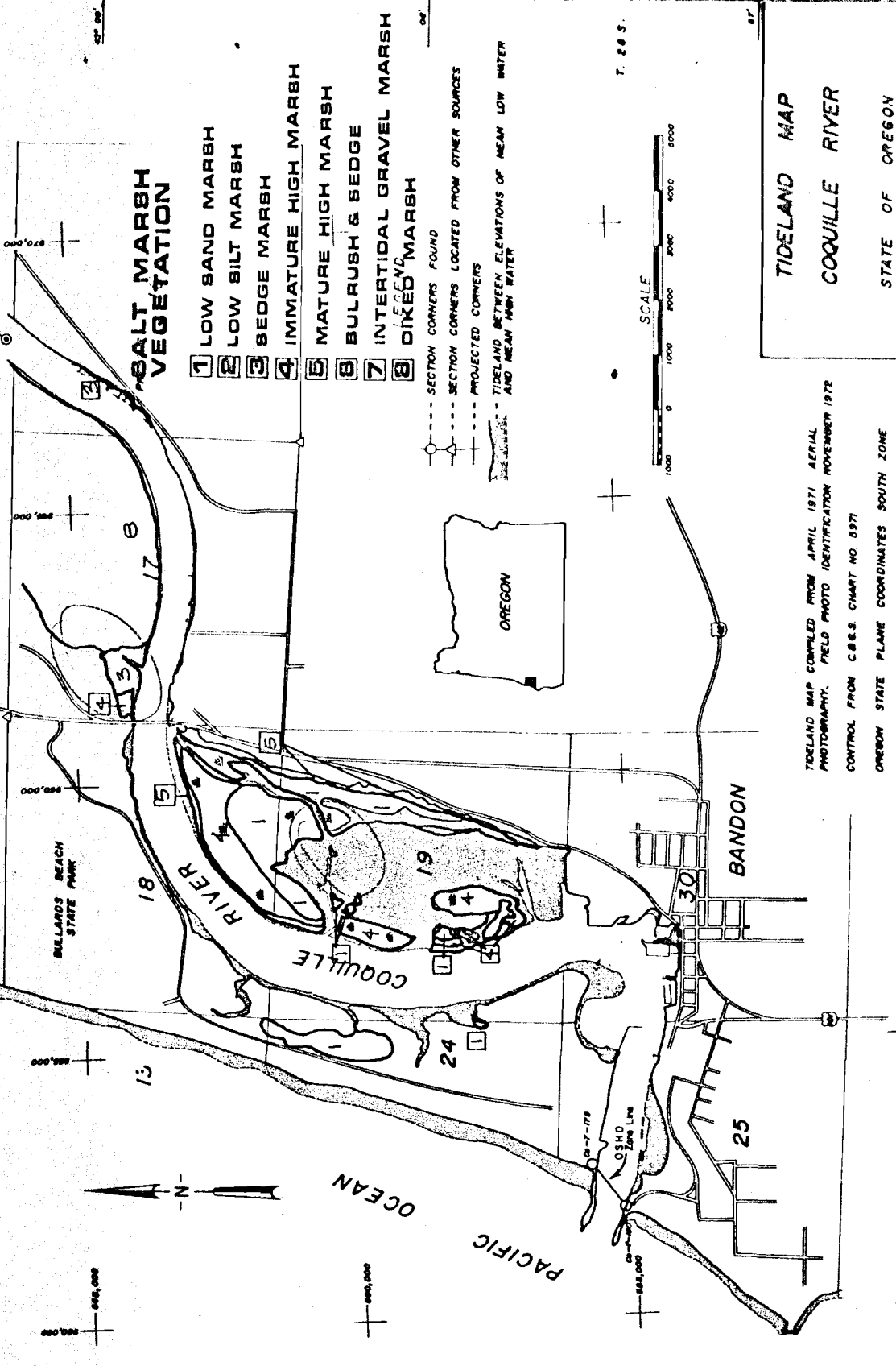
R. 18 W.

R. 17 W.

R. 16 W.

R. 15 W.

R. 14 W.



**SALT MARSH VEGETATION**

- 1 LOW SAND MARSH
- 2 LOW SILT MARSH
- 3 SEDGE MARSH
- 4 IMMATURE HIGH MARSH
- 5 MATURE HIGH MARSH
- 6 BULRUSH & SEDGE
- 7 INTERTIDAL GRAVEL MARSH
- 8 Diked MARSH

--- SECTION CORNERS FOUND  
 - - - SECTION CORNERS LOCATED FROM OTHER SOURCES  
 - - - PROJECTED CORNERS  
 --- TIDELAND BETWEEN ELEVATIONS OF MEAN LOW WATER AND MEAN HIGH WATER



T. 28 S.



TIDELAND MAP  
COQUILLE RIVER

STATE OF OREGON  
DIVISION OF STATE LANDS  
NOVEMBER 1972

TIDELAND MAP COMPILED FROM APRIL 1971 AERIAL PHOTOGRAPHY. FIELD PHOTO IDENTIFICATION NOVEMBER 1972  
CONTROL FROM C.B.S. CHART NO. 5971

OREGON STATE PLANE COORDINATES SOUTH ZONE  
RECTANGULAR GRID

BALLARD'S BEACH STATE PARK

COQUILLE RIVER

PACIFIC OCEAN

BANDON

15

17

18

19

24

25

30

OSHD  
Zone Line

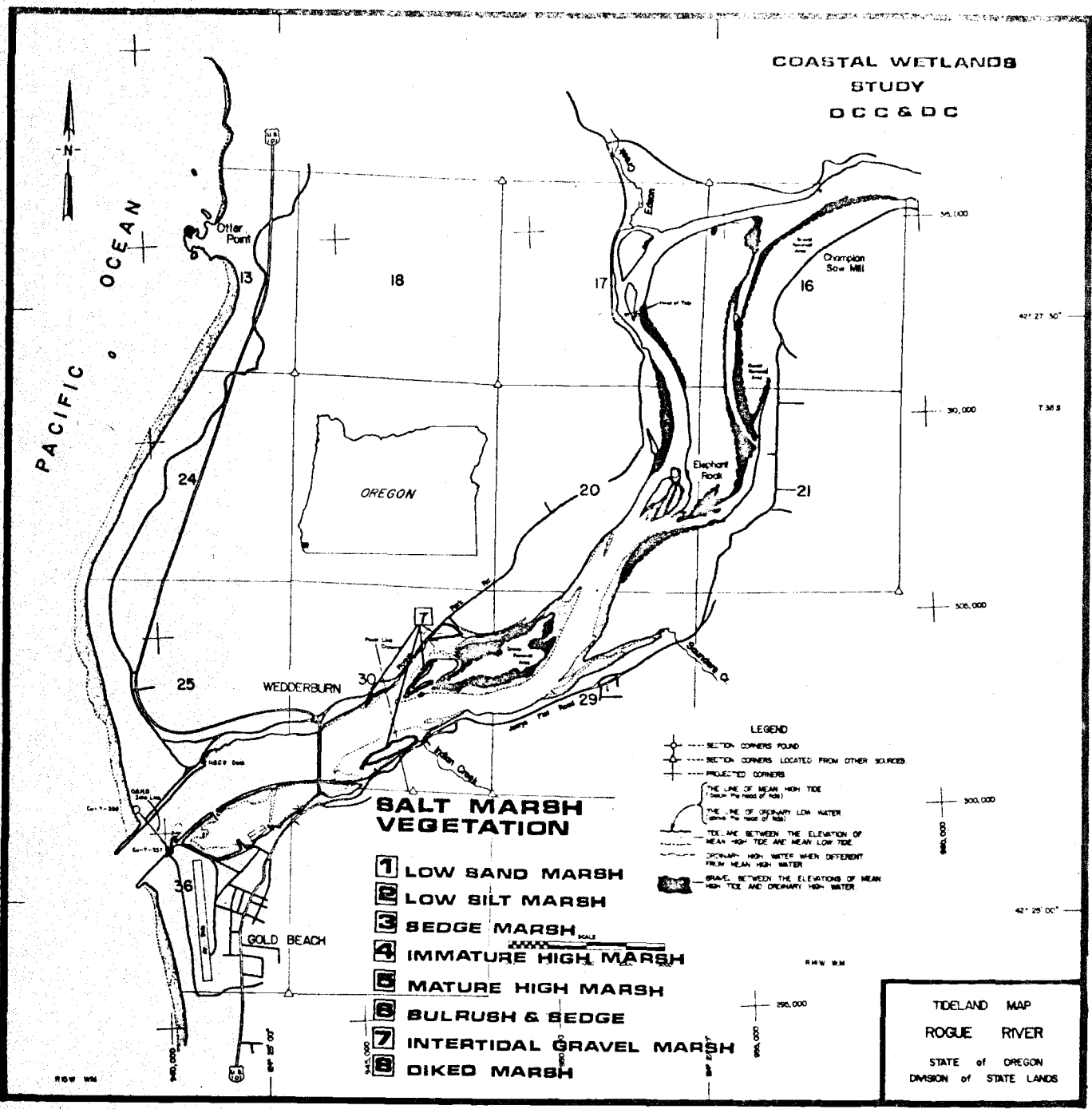
865,000  
866,000  
867,000

868,000  
869,000

865,000  
866,000

865,000  
866,000

COASTAL WETLANDS  
STUDY  
OCC & DC



**SALT MARSH VEGETATION**

- 1** LOW SAND MARSH
- 2** LOW SILT MARSH
- 3** SEDGE MARSH
- 4** IMMATURE HIGH MARSH
- 5** MATURE HIGH MARSH
- 6** BULRUSH & SEDGE
- 7** INTERTIDAL GRAVEL MARSH
- 8** DIKED MARSH

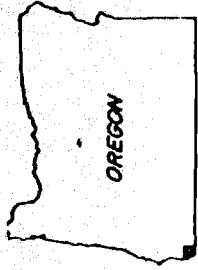
- LEGEND**
- ◆ SECTION CORNERS FOUND
  - ◇ SECTION CORNERS LOCATED FROM OTHER SOURCES
  - ⊕ PROJECTED CORNERS
  - THE LINE OF MEAN HIGH TIDE (Based on the Mean of 1981)
  - - - THE LINE OF ORDINARY LOW WATER (Based on the Mean of 1981)
  - - - TIDE LINE BETWEEN THE ELEVATION OF MEAN HIGH TIDE AND MEAN LOW TIDE
  - - - ORDINARY HIGH WATER WHEN DIFFERENT FROM MEAN HIGH WATER
  - ▬ GRAVE BETWEEN THE ELEVATIONS OF MEAN HIGH TIDE AND ORDINARY HIGH WATER

TIDELAND MAP  
ROGUE RIVER  
STATE of OREGON  
DIVISION of STATE LANDS



**COASTAL WETLANDS STUDY**

OCC & DC



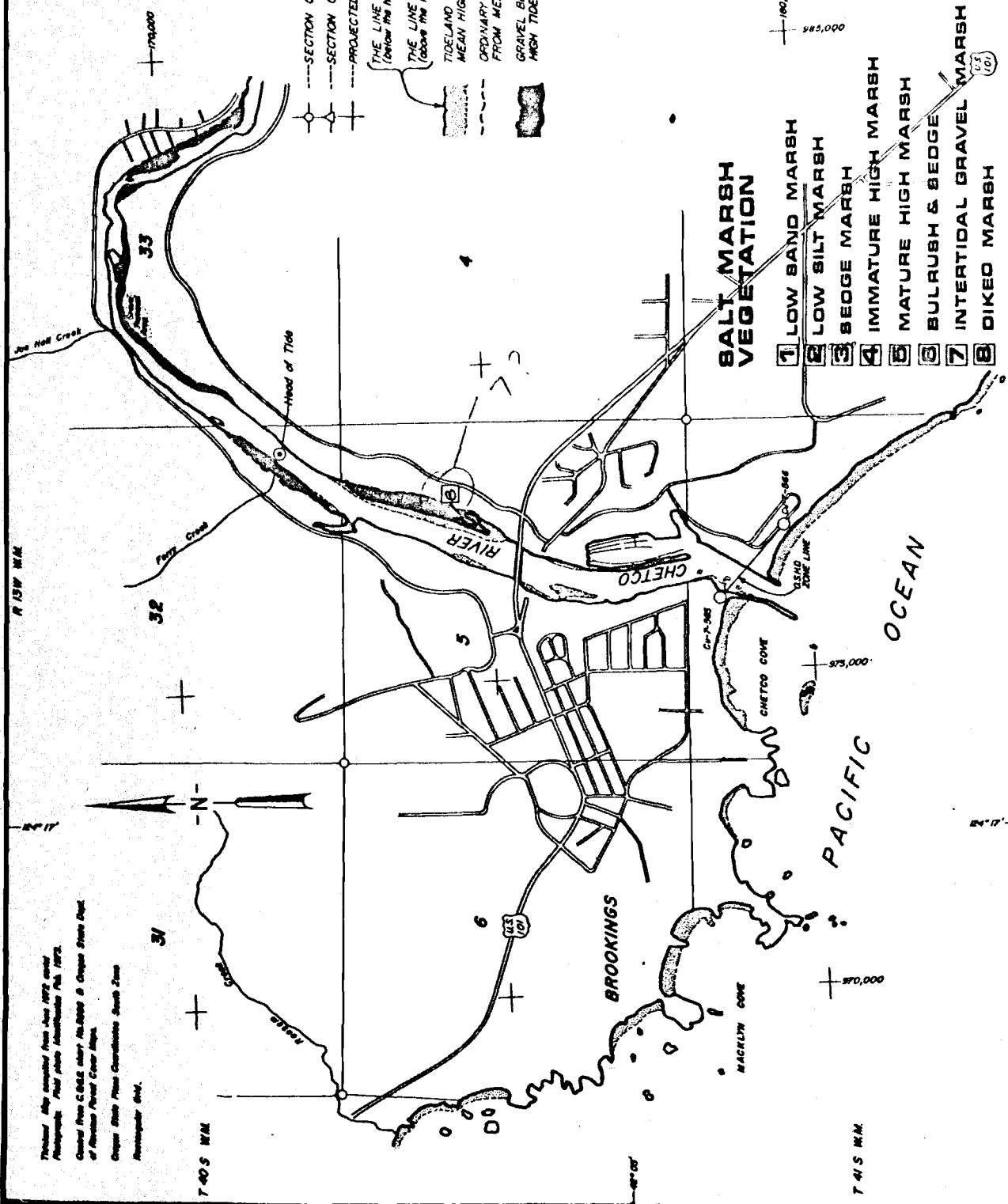
OREGON

**LEGEND**

- SECTION CORNERS FOUND
- SECTION CORNERS LOCATED FROM OTHER SOURCES
- PROJECTED CORNERS
- (THE LINE OF MEAN HIGH TIDE. (Below the Head of Tide))
- (THE LINE OF ORDINARY LOW WATER. (Above the Head of Tide))
- TIDELAND BETWEEN THE ELEVATION OF MEAN HIGH TIDE AND MEAN LOW TIDE
- ORDINARY HIGH WATER WHEN DIFFERENT FROM MEAN HIGH WATER.
- GRAVEL BETWEEN THE ELEVATIONS OF MEAN HIGH TIDE AND ORDINARY HIGH WATER



TIDELAND MAP OF CHETCO RIVER  
STATE OF OREGON  
DIVISION OF STATE LANDS  
FEBRUARY 1983



**BALT MARSH VEGETATION**

- 1 LOW SAND MARSH
- 2 LOW SILT MARSH
- 3 BEDGE MARSH
- 4 IMMATURE HIGH MARSH
- 5 MATURE HIGH MARSH
- 6 BULRUSH & BEDGE
- 7 INTERTIDAL GRAVEL MARSH
- 8 DIKED MARSH

Project Map compiled from June 1972 aerial photographs. Field photo identification July 1972. Contour from C.O.S.L. survey No. 20000 in Oregon State Dept. of Revenue Forest Cover Map. Chapter 2000 Photo Coordinates South Zone NAD83 datum.

APPENDIX C

PHOTO COVERAGE FOR OREGON'S ESTUARIES

BY LOCATION

(1964-1975)

Sources: Barwis, 1975; Boss, 1976; Environmental Remote Sensing  
Applications Laboratory, 1976; U.S. Fish and Wildlife  
Service, 1976.

AGENCY NAMES

ASCS      Agricultural Stabilization & Conservation Service  
          1218 S.W. Washington St.  
          Portland, Oregon 97305

BIM        Bureau of Land Management  
          729 Oregon St.  
          Portland, Oregon 97232

OSDR      Oregon State Department of Revenue  
          Lumber Mapping  
          State Office Building  
          Salem, Oregon 97310

OSFD      Oregon State Forestry Department  
          Mapping Section  
          2600 State Street  
          Salem, Oregon 97310

OSHD      Oregon State Highway Division  
          Rm. 26 Highway Building  
          Salem, Oregon 97310

USCE      U.S. Army Corps of Engineers  
          Portland District  
          Engineering Section  
          P.O. Box 2946  
          Portland, Oregon 97208

USFS      U.S. Forest Service  
          Region 6, Surveys & Mapping Section  
          P.O. Box 3523  
          Portland, Oregon 97208

USGS      U.S. Geologic Survey  
          Topographic Division  
          345 Middlefield Road  
          Menlo Park, California 94025

WDNR      Department of National Resources  
          State of Washington  
          600 N. Capitol Way  
          Olympia, Washington 98501

OSLB      Oregon State Division of Lands  
          502 NE Winter  
          Salem, Oregon  
          378-3805

OSTC Oregon State Transportation Department  
Highway Building  
Salem, Oregon  
378-6970

USC&GS U.S. Coast & Geodetic Survey  
6767 N. Basin  
Portland, Oregon  
221-3407

USAF U.S. Air Force  
Film held by: Defense Intelligence Agency  
1221 S. Fern St.  
Arlington, VA 20301  
photos not for sale or general use, but available  
for loan on limited basis.

NASA U.S. Department of the Interior  
or EROS Data Center  
NASM Sioux Falls, South Dakota 57198

OSU-ERSAL Oregon State University  
ERSAL  
Corvallis, OR 97331

CRTO Carto-Photo Corporation  
520 Conger St.  
Eugene, Oregon 97402  
342-5169

Columbia River

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1975 - mouth	75	Various	USCE	
-Longview	75	Various	USCE	
-Bonneville	75	Various	USCE	
1974	74-165 (2144-2149)	1:130,000	OSU-ERSAL	9 x 9 CIR (9-24-74)
	74-165 (2135-2143)	1:130,000	OSU-ERSAL	9 x 9 CIR (9-24-74)
	74-165 (2150-2155)	1:130,000	OSU-ERSAL	9 x 9 CIR (9-24-74)
	74-165 (2109-2115)	1:130,000	OSU-ERSAL	9 x 9 CIR (9-24-74)
-mouth to Troutdale	NWO-74	1:63,500	OSFD	
1973	73-120 (064-065)	1:130,000	OSU-ERSAL	9 x 9 B & W (7-17-73)
-mouth to Bonneville Dam	73-127 (098, 097, 046, 999)	1:130,000	OSU-ERSAL	9 x 9 B & W (7-26-73)
	Various	Various	USCE	
-mouth	73-127 (0188-0189)	1:30,000	OSU-ERSAL	9 x 18 CIR (7-26-73)
-Longview	73-127 (0138-0189)	1:30,000	OSU-ERSAL	9 x 18 CIR (7-26-73)

Columbia River (Cont.)

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1972	72-128 (2170-2171)	1:130,000	OSU-ERSAL	9 x 9 CIR (7-28-72)
1971	WAC-A70	1:63,000	CRIC	B & W
	UC-13	1:12,000	OSHD	Color
-mouth to Woodson	NWO-C	1:60,000	CSFD	
-Portland to Bonneville Dam	Roll 626-639	Various	USCE	
-Parkrose to Troutdale	Various	Various	NOAA (NOS)	
1970	IP 70 210/1A/1-5	1:12,000	WDNR	B & W
-mouth to Longview	FA-MSL	Various	USCE	
-Longview to St. Helens	CM-2	1:36,000	OSHD	
-Longview to Springdale	UCOA	1:30,000	USGS	
1969	SW-H-69	1:63,000	WDNR	B & W
	100/7	1:60,000	NASA	CIR
	100/7	1:60,000	NASA	B & W
-mouth to Woodson	69-R-CC	1:12,000	OSTC	

Columbia River (Cont.)

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
-Portland to Bonneville Dam	69-E (C)	1:20,000	USC&GS	
1968				
-to Bonneville	Various	Various	ASCS	9 x 9 B & W
-Troutdale-Bonneville	OR 80N	1:84,000	OSHD	B & W
1967	CIA, VO1	1:32,000	USAF	B & W
	WFPA-64 R	1:60,000	WDNR	B & W
	67-S	1:30,000	NOAA (NOS)	B & W
1966				
-mouth to Bonneville	NPP	Various	USCE	B & W
1965				
-mouth	OST-CC-5	1:48,000	OSTC	B & W
1964	WFPA-64	1:60,000	WDNR	B & W

Youngs Bay

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1975	75	Various	USCE	
1974	NWO-74	1:63,500	OSFD	
	74-165 (2144-2149)	1:130,000	OSU-ERSAL	9 x 9 CIR (9-24-74)
1973	73-127 (0188-0189)	1:30,000	OSU-ERSAL	9 x 18 CIR (7-26-73)
	Various	Various	USCE	
	73-127 (098)	1:130,000	OSU-ERSAL	9 x 9 B & W (7-26-73)
1972	72-128 (2170-2171)	1:130,000	OSU-ERSAL	9 x 9 CIR (7-28-73)
1971	Roll 626-639	Various	USCE	
1970	NWO-B	1:12,000	OSFD	
1966	NPP	Various	USCE	B & W
1965	OST-CC-5	1:48,000	OSTC	B & W



Nehalem Bay

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1975	UDYJ	1:78,000	USGS	
1974	NWO-74	1:63,500	OSFD	
	74-165 (2123-2124)	1:130,000	OSU-ERSAL	9 x 9 CIR (9-24-74)
1973	73-127A (0205-0206)	1:34,000	OSU-ERSAL	9 x 18 CIR (7-26-73)
	OC-17	1:12,000	OSHD	Color
	73-127 (103)	1:130,000	OSU-ERSAL	9 x 9 B & W (7-26-73)
1972	72-128A (2175)	1:130,000	OSU-ERSAL	9 x 9 CIR (7-28-72)
	Various	Various	USCE	
1971	NWO-C	1:60,000	OSFD	
	WAC-A70	1:63,000	CRTC	B & W
1970	NWO-B	1:12,000	OSFD	

Nehalem Bay (Cont.)

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1969	100/7	1:60,000	NASA	B & W
	100/7	1:60,000	NASA	CIR
	100/7	1:120,000	NASA	Color
1968	Various	Various	USCE	B & W
1967	CC-3	1:6,000	OSHD	B & W
1966	NPP	Various	USCE	B & W

Tillamook Bay

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1975	75	Various	USCE	
	UDYJ	1:78,000	USGS	
1974	74-165 (2101-2102)	1:130,000	OSU-ERSAL	9 x 9 CIR (9-24-74)
	NWO-74	1:63,500	OSFD	
-south part	DR-TILL-74	1:12,000	OSDR	
1973	UDGW	1:30,000	USGS	
	73-127A (0210-0212)	1:33,000	OSU-ERSAL	9 x 18 CIR (7-26-73)
	73-127A (104-105)	1:130,000	OSU-ERSAL	9 x 9 B & W (7-26-73)
1972	72-128 (2176-2177)	1:130,000	OSU-ERSAL	9 x 9 CIR (7-28-72)
	Various	Various	USCE	
1971	Roll 626-639	Various	USCE	
	OC-13	1:12,000	OSHD	B & W
	WAC-A70	1:63,000	CRTO	B & W

Tillamook Bay (Cont.)

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1970	FA-MSL	Various	USCE	
1969	FA-MSL	Various	USCE	
	100/7	1:120,000	NASA	Color
	100/7	1:60,000	NASA	CIR
1968	NWC-A	1:62,500	OSFD	B & W
1967	OC-3	1:6,000	OSHD	B & W
1966	NPP	Various	USCE	B & W
1964 (south)	TIII	1:12,000	OSTC	B & W

Netarts Bay

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1975	UDYJ	1:78,000	USGS	
1974	DR-TILL-74	1:12,000	OSDR	
	74-165 (2099-2100)	1:130,000	OSU-ERSAL	9 x 9 CIR (9-24-74)
1973	73-127A (0215-0216)	1:33,000	OSU-ERSAL	9 x 18 CIR (7-26-73)
	OC-17	1:12,000	OSHD	Color
	73-127A (105)	1:128,000	OSU-ERSAL	9 x 9 B & W (7-26-73)
1972	72-128 (2177)	1:130,000	OSU-ERSAL	9 x 9 CIR (7-28-72)
1971	NWO-C	1:60,000	USCE	
	WAC-A70	1:63,000	CRTO	B & W
1970	NWO-B	1:12,000	OSFD	
1969	FA-MSL	Various	USCE	
	100/7	1:60,000	NASA	CTR

Netarts Bay (Cont.)

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
	100/7	1:120,000	NASA	Color
	OC-13	1:12,000	OSHD	Color
-south tip	ETJ	1:15,840	USFS	
1968	NWC-A	1:62,500	OSFD	B & W
1967	OC-3	1:6,000	OSHD	B & W
1964	TILL	1:12,000	OSTC	B & W

Sand Lake

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1975	UDYJ	1:78,000	USGS	
1974	NWO-74	1:63,500	OSFD	
	DR-TILL-74	1:12,000	OSDR	
1973	73-127 (0219-0220)	1:33,000	OSU-ERSAL	9 x 18 CIR (7-26-73)
	OC-17	1:12,000	OSHD	Color
	CZ-Consol-73	1:12,000	Crown Zellerbach	Color
	73-127 (106)	1:130,000	OSU-ERSAL	9 x 9 B & W (7-26-73)
1972	72-128 (2178)	1:130,000	OSU-ERSAL	9 x 9 CIR (7-28-72)
	Various	Various	USCE	
1971	OC-13	1:12,000	OSHD	Color
	WAC-A70	1:63,000	CRTO	B & W
1970	NWO-B	1:12,000	OSFD	

Sand Lake (Cont.)

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1969	ETJ	1:15,840	USFS	
	100/7	1:60,000	NASA	B & W
	100/7	1:60,000	NASA	CIR
	100/7	1:120,000	NASA	Color
1968	NWO-A	1:62,500	OSFD	B & W
1967	OC-3	1:6,000	OSHD	B & W



Nestucca Bay

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1975	UDYJ	1:78,000	USGS	
1974	NWO-74	1:63,500	OSFD	
	41041	1:70,000	USFS	
	74-165 (2071)	1:130,000	OSU-ERSAL	9 x 9 CIR (9-24-74)
1973	73-127A (0221-0223)	1:34,000	OSU-ERSAL	9 x 18 CIR (7-26-73)
	OC-17	1:12,000	OSHD	Color
	73-127A (107)	1:129,000	OSU-ERSAL	9 x 9 B & W (7-26-73)
1972	72-128 (2179)	1:130,000	OSU-ERSAL	9 x 9 CIR (7-28-72)
	Various	Various	USCE	
	72-119A (1621)	1:129,000	NASA	CIR
1971	OC-13	1:12,000	OSHD	Color
	WAC-A70	1:63,000	CRTO	B & W

Nestucca Bay (Cont.)

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1970	MWC-B	1:12,000	OSFD	B & W
1969	ETJ	1:15,840	USFS	Color
1968	NWO-A	1:62,500	OSFD	B & W
	WO-A	1:62,500	OSFD	B & W
1967	OC-3	1:6,000	OSHD	B & W

Salmon River

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1975	UDYJ	1:78,000	USGS	
1974	NWC-74	1:63,500	OSFD	
	41041	1:70,000	USFS	
	I-IP-ORE-74	1:12,000	Internatl.	Paper Color
1973	OC-17	1:12,000	OSHD	Color
	73-127A (0229)	1:34,000	OSU-ERSAL	9 x 18 CIR (7-26-73)
	73-127A (109)	1:129,000	OSU-ERSAL	9 x 9 B & W (7-26-73)
1972	72-128 (2181)	1:133,000	OSU-ERSAL	9 x 9 CIR (7-28-72)
	41021 Lincoln Co.	1:21,000	ASCS	9 x 9 B & W
	72-114A (3286-3287)	1:130,000	OSU-ERSAL	9 x 9 CIR (7-17-72)
1971	WAC-A70	1:63,000	CRTO	B & W
1970	NWC-B	1:12,000	OSFD	

Salmon River (Cont.)

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1969	ETJ	1:15,840	USFS	
	100/7	1:60,000	NASA	B & W
	100/7	1:60,000	NASA	CIR
	100/7	1:120,000	NASA	Color
1968	WO-A	1:62,500	OSFD	B & W
1967	OC-3	1:6,000	OSHD	B & W

Siletz Bay

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1975	UDYJ	1:78,000	USGS	
1974	NWO-74	1:63,500	OSFD	
	41041	1:70,000	USFS	
	74-165 (2069)	1:130,000	OSU-ERSAL	9 x 9 CIR (9-24-74)
1973	73-127A (0231-0234)	1:33,000	OSU-ERSAL	9 x 18 CIR (7-26-73)
	OC-17	1:12,000	OSHD	Color
	DR-LC-73	1:12,000	OSDR	
	73-127A (110)	1:130,000	OSU-ERSAL	9 x 9 B & W (7-26-73)
1972	41021 Lincoln Co.	1:21,000	ASCS	9 x 9 B & W
	Various	Various	USCE	
	72-128 (2182)	1:131,000	OSU-ERSAL	9 x 9 CIR (7-28-72)
	72-114A (3285)	1:131,000	OSU-ERSAL	9 x 9 CIR (7-17-72)
1971	WAC-A70	1:63,000	CRFC	B & W

Siletz Bay (Cont.)

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
	Roll 626-639	Various	USCE	
	OC-13	1:12,000	OSHD	Color
1970	NWC-B	1:12,000	OSFD	
1969	ETJ	1:15,840	USFS	
	100/7	1:60,000	NASA	B & W
	100/7	1:60,000	NASA	CIR
	100/7	1:120,000	NASA	Color
1968	WC-A	1:62,500	OSFD	B & W
1967	OC-3	1:6,000	OSHD	B & W

Yaquina Bay

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1975	UDYJ	1:78,000	USGS	
1974	NWO-74	1:63,000	OSFD	
	74-165 (2039-2040)	1:130,000		9 x 9 CIR (9-24-74)
-upper	41041	1:70,000	USFS	
1973	OC-17	1:12,000	OSFD	Color
	Various	Various	USCE	
	73-127A (0243-0244)	1:34,000	OSU-ERSAL	9 x 18 CIR (7-26-73)
	73-127A (112)	1:32,000	OSU-ERSAL	9 x 9 B & W (7-26-73)
1972	72-128 (2184-2185)	1:130,000	OSU-ERSAL	9 x 9 CIR (7-28-72)
	72-114A (3223)	1:133,000	NASM	9 x 9 CIR (7-17-72)
	41021 Lincoln Co.	1:21,000	ASCS	9 x 9 B & W
	Various	Various	USCE	

Yaquina Bay (Cont.)

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1971	Roll 626-639	Various	USCE	
	OC-13	1:12,000	OSHD	Color
	Various	Various	NOAA (NOS)	
	WAC-A70	1:63,000	CRTC	B & W
1970	NWO-B	1:12,000	OSFD	
	FA-MSL	Various	USCE	
1969	ETJ	1:15,840	USFS	
	100/7	1:60,000	NASA	B & W
	100/7	1:60,000	NASA	CIR
	100/7	1:120,000	NASA	Color
1968	Various	Various	ASCS	9 x 9 B & W
	68-E (6660, 6662, 6663)	1:20,000	NOAA (NCS)	Color
	E & EC	Various	USC & GS	B & W
1967	OC-3	1:6,000	OSFD	B & W



Alsea Bay

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1975	UDYJ	1:78,000	USGS	
1974	NWC-74	1:63,500	OSFD	
	41041	1:70,000	USFS	
1973	73-127 (0249-0250)	1:30,000	OSU-ERSAL	9 x 18 CIR (7-26-73)
	OC-18	1:12,000	OSHD	Color
	OC-17 (some)	1:12,000	OSHD	Color
	73-127 (114)	1:130,000	OSU-ERSAL	9 x 9 B & W (7-26-73)
1972	72-114A (3160)	1:128,000	OSU-ERSAL	9 x 9 CIR (7-17-72)
	41021 Lincoln Co.	1:21,000	ASCS	9 x 9 B & W
	41039 Siuslaw	1:15,840	USFS	
	72-128A (2186)	1:131,000	OSU-ERSAL	9 x 9 CIR (7-28-72)
1971	OC-13	1:12,000	OSHD	Color
	OC-14	1:12,000	OSHD	Color

Alsea Bay (Cont.)

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
	WAC-A70	1:63,000	CRTC	B & W
1970	S-AL-RK 70	1:12,000	BLM	9 x 9 B & W
1969	ETJ	1:15,840	USFS	
	100/7	1:60,000	NASA	B & W
	100/7	1:60,000	NASA	CIR
	100/7	1:120,000	NASA	Color
1968	NWO-A	1:62,500	OSFD	B & W
1967	OC-3	1:6,000	OSHD	B & W

Siuslaw Bay

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1975	UDYJ	1:78,000	USGS	
	75	Various	USCE	
1974	NWO-74	1:63,500	OSFD	
	41041	1:70,000	USFS	
	1-IP-ORE	1:12,000	Internatl. Paper Color	
1973	Various	Various	USCE	
	73-127A (0264-0265)	1:33,000	OSU-ERSAL	9 x 18 CIR (7-26-73)
	73-127A (118)	1:131,000	OSU-ERSAL	9 x 9 B & W (7-26-73)
1972	72-128A (2190)	1:132,000	OSU-ERSAL	9 x 9 CIR (7-28-72)
	Various	Various	USCE	
	41039 Siuslaw	1:15,840	USFS	
1971	WAC-A70	1:63,000	CRTO	B & W
	Roll 626-639	Various	USCE	

Siuslaw Bay (Cont.)

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1970	FA-MSL	Various	USCE	
1969	FA-MSL	Various	USCE	
	100/7	1:60,000	NASA	B & W
	100/7	1:60,000	NASA	CIR
	100/7	1:120,000	NASA	Color
1967	OC-3	1:6,000	OSHD	B & W
	67-L (2954, 2955, 2957, 2972)	1:20,000	NOAA (NOS)	Color
1966	E-Sius-6	1:12,000	BLM	9 x 9 B & W

Winchester Bay

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1975	UDYJ	1:78,000	USGS	
	75	Various	USCE	
1974	41041	1:70,000	USFS	
	I-IP-ORE	1:12,000	Internatl.	Paper Color
	74-110A (935-936)	1:130,000	OSU-ERSAL	9 x 9 CIR (6-28-74)
1973	73-127A (0274-0275)	1:33,000	OSU-ERSAL	9 x 18 CIR (7-26-73)
	Various	Various	USCE	
	73-127 (120)	1:130,000	OSU-ERSAL	9 x 9 B & W (7-26-73)
1972	72-128 (2192)	1:130,000	OSU-ERSAL	9 x 9 CIR (7-28-72)
	Various	Various	USCE	
	41039 Siuslaw	1:15,840	USFS	
1971	Roll 626-639	Various	USCE	

Winchester Bay (Cont.)

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1970	FA-MSL	Various	USCE	
1969	69-TC-D	1:12,000	OSTC	
1968	Various	Various	USCE	B & W
1966	NPP	Various	USCE	B & W
1965 (Umpqua R.)		1:40,000	USC & GS	B & W

Coos Bay

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1975	75	Various	USCE	
	DR-COOS-75	1:12,000	USDR	
1974	ORE-74	1:63,000	Weyerhauser	
	74-115 (1276-1278)	1:130,000	OSU-ERSAL	9 x 9 CIR (7-3-74)
1973	73-127A (0282-0286)	1:33,000	OSU-ERSAL	9 x 18 CIR (7-26-74)
	73-127A (122-123)	1:127,000	OSU-ERSAL	9 x 9 B & W (7-26-73)
	73-074B (1272)	1:127,000	NASM	CIR
-mouth	Various	Various	USCE	
1972	72-128A (2196)	1:131,000	OSU-ERSAL	9 x 9 CIR (7-28-72)
	Various	Various	USCE	
	41039 Siuslaw	1:115,840	USFS	
1971	WAC-A70	1:63,000	CRTC	B & W
	Roll 626-639	Various	USCE	

Coos Bay (Cont.)

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
	OC-13	1:12,000	OSHD	Color
	OC-14	1:12,000	OSHD	Color
1970	Coos	1:12,000	OSLB	
	CB Brew RK70	1:12,000	BLM	
1969	FA-MSL	Various	USCE	
	GS-UCFM	Various	USGS	
	100/7 (059)	1:60,000	NASA	CIR
	100/7 (023)	1:60,000	NASA	B & W
	100/7 (3045)	1:120,000	NASA	Color
1968	Various	Various	USCE	B & W
	68-E	1:20,000	NOAA (NOS)	Color
1967	COB	1:20,000	ASCE	9 x 9 B & W
1966	NPP	Various	USCE	B & W
1964 (lower)	CB-EMP-4	1:12,000	BLM	9 x 9 B & W



Coquille River

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1975	75	Various	USCE	
1974	I-IP-ORE	1:12,000	Internatl. Paper Color	
	74-115 (1228-1229)	1:130,000	OSU-ERSAL	9 x 9 CIR (7-3-74)
1973	73-127A (0293-0294)	1:34,000	OSU-ERSAL	9 x 18 CIR (7-26-73)
	73-074 B (1274)	1:131,000	NASM	CIR
	Various	Various	USCE	
	73-127A (125)	1:130,000	OSU-ERSAL	9 x 9 B & W (7-26-73)
1972	ORE-72	1:63,000	OSFD	
-mouth	DR-COOS-72	1:12,000	USDR	
	72-128 (2197)	1:130,000	OSU-ERSAL	9 x 9 CIR (7-28-72)
1971	Roll 626-629	Various	USCE	
1970	VCEN	1:24,000	USGS	
	FA-SL	Various	USCE	

Coguille River (Cont.)

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1969	GS-UCFM	Various	USGS	
	100/7	1:60,000	NASA	CIR
	100/7	1:60,000	NASA	B & W
	100/7	1:120,000	NASA	Color
1968	Various	Various	USCE	B & W
	68-E	1:20,000	NOAA (NOS)	Color
1967	GIA, VOI	1:32,000	USAF	B & W
	OC-3	1:6,000	OSHD	B & W
	OCE	1:20,000	ASCS	9 x 9 B & W

Rogue River

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1975	75	Various	USCE	
1974	74-115 (1173-1174)	1:130,000	OSU-ERSAL	9 x 9 CIR (7-3-74)
1973	73-127A (0319-0320)	1:33,000	OSU-ERSAL	9 x 18 CIR (7-26-73)
	Various	Various	USCE	
	73-074 B (1280)	1:128,000	NASM	CIR
	73-127A (131)	1:132,000	OSU-ERSAL	9 x 9 B & W (7-26-73)
1972	72-128 (2203)	1:130,000	OSU-ERSAL	9 x 9 CIR (7-28-72)
	Various	Various	USCE	
	ORE-72	1:63,000	OSFD	
1971	OC-14	1:12,000	OSHD	Color
	Roll 626-639	Various	USCE	
1970	FA-MSI	Various	USCE	

Rogue River (Cont.)

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1969	EUT	1:16,000	USFS	B & W
	100/7	1:60,000	NASA	B & W
	100/7	1:60,000	NASA	CIR
	100/7	1:120,000	NASA	Color
1967	GIA, VOI	1:32,000	USAF	B & W
	OC-3	1:6,000	OSHD	B & W
	67-L (2791-2793)	1:20,000	NOAA (NOS)	Color
1966	CB-GRIZ	1:12,000	BLM	9 x 9 B & W
1965	Curry EO5	1:20,000	ASCS	9 x 9 B & W

Chetco River

<u>Year</u>	<u>Project No.</u>	<u>Scale</u>	<u>Agency</u>	<u>Description</u>
1970	FA-MSL	Various	USCE	
1969	FA-MSL	Various	USCE	
1967	OC-3	1:6,000	OSHD	B & W
	67-L (2787-2789)	1:20,000	NOAA (NCS)	Color
	GIA, VOI	1:32,000	USAF	B & W
1966	CB-CHEP	1:12,000	BIM	9 x 9 B & W
1965	Curry EO5	1:20,000	ASCS	9 x 9 B & W

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