A COMPARISON OF THE PUBLIC NATURAL AREA SYSTEMS OF THE
PACIFIC COAST STATES

by

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ABSTRACT. Between 1967 and 1973, California, Oregon, and Washington all established state-wide systems for the preservation of land in its natural state. These set aside parcels of land may be termed as Natural Area Preserves. The history of each state's public systems, different establishment procedures, and management policies are discussed.

INTRODUCTION

Purpose and Scope

In the past few decades, citizen and public official awareness of the need to preserve the United State's wilderness and natural areas has gained momentum. In this context, natural area means:

an area of land or water which either reclaims or has reestablished its natural character, although it need not be completely undisturbed, or which retains unusual flora, fauna, geologic, or similar features of scientific or educational interest. (The Nature Conservancy, 1975)

This awareness has arisen from the realization that man's activities are altering all of the natural environment, except already protected areas. Further strengthening the preservation movement was action taken by federal and state governments, as well as action by private organizations, such as The Nature Conservancy, to set aside land in its
natural state. The natural area preserve movement is concerned with saving samples of natural ecosystems for study and research by today's and future generations.

This paper is an attempt to compare the public natural area systems in California, Oregon, and Washington. The process of establishing and managing preserves and the administration of public natural area systems will be considered. By public, I mean those systems that have preserves on state-owned land. These three Pacific Coast states were chosen because of their proximity and the varied approaches to preserve systems. The focus of this paper will be on state-wide public systems only. The Nature Conservancy and the Federal Pacific Northwest Research Natural Area Committee in Oregon and Washington are very important aspects of the total preserve movement, but to include their processes would have been beyond the scope and time constraints of this paper.

The state systems or agencies to be examined include: University of California Natural Land and Water Reserve System, California Department of Fish and Game Ecological Reserves, California Department of Parks and Recreation Natural Preserve designation, Oregon Natural Area Preserves Advisory Committee, Oregon Parks and Recreation Primary Resource Protection designation, Washington Natural Area Advisory Committee, and Washington State Parks and Recreation Commission Natural Area designation.
Definitions

Natural Area Preserve

A general definition of a natural area preserve would be an area of land and/or water that has substantially retained its natural state or is of natural or scientific significance. The following specific definitions of natural area preserves are employed by some of the agencies listed above.

California Department of Parks and Recreation. 'Natural Preserves' consist of distinct areas of outstanding natural or scientific significance established within the boundaries of other state park system units. (Public Resources Code, Section 5001.5)

California Department of Fish and Game. 'Ecological Reserve' refers to land or land and water areas preserved in a natural condition for the benefit of the general public to observe native flora and fauna and for scientific study. (Natural Resources Code, Chapter 11, Title 14, and California Fish and Game Code, Chapter 5, Division 2, Article 4)

University of California. The Natural Land and Water Reserve System provides a series of land parcels throughout the state of California where preservation of a natural environment in as undisturbed a condition as possible is provided
for research and study for students and faculty. No formal definition is adhered to.

Oregon State Parks and Recreation Branch. 'Primary Resource Protection' classification includes vital park attractions, outstanding scenic features, major fish and wildlife habitats, historic and archaeological sites, unique ecological areas to be retained as natural park attractions for public inspiration, enjoyment, and scientific values. (Parks Land Use Master Planning, 1973)

Oregon Natural Area Preserves Advisory Committee. Natural Area includes land and water that has substantially retained its natural character and land and water that, although altered in character, is important as habitats for plants, animal or marine life, for the study of its natural historical, scientific or paleontological features, for the appreciation of its natural features. (ORS 273.562)

Washington State Parks and Recreation Commission. Natural Areas are areas obligated to conserving a natural environment in a nearly undeveloped state for active and passive low density outdoor recreation activities. (Washington Administrative Code 352-16-020)

Washington Natural Area Advisory Committee. Natural Areas shall mean such public or private areas of land or water which have retained their natural character, although not
necessarily completely natural and undisturbed, or which are important in preserving rare or vanishing flora, fauna, archaeological, natural historical, or similar features of scientific or educational value. (Title 79 RCW)

Additional definitions for terms to be used throughout this paper include:

**Dedication**

Dedication of a natural area is a binding legal commitment that prohibits the use of an area for any purpose other than use as stated in the natural area legislation. Once dedicated, a parcel's status cannot be changed by a single administrative action, thus making dedication a more binding system of protection than designation.

**Designation**

Designation of a natural area is formal recognition of the area by administrative action leading to the management of the area as a preserve. The administering agency may change the designation at any time with or without public involvement.

**Inventory**

An inventory is a systematic survey to locate and describe natural areas that meet established criteria.
Registration

A registry is a written record of areas which meet established criteria as natural areas and have received recognition through official registration by a public body. A registry may include descriptive material on each area, but the act of registration does not of itself confer protection to the area. The area may or may not be protected.

Open vs. Closed Use

A natural area system that is designated as 'closed' only allows use of the preserves by special permit. An example is the University of California Natural Land and Water Reserve System. An 'open' system allows entry by any person, provided he does not disturb the preserve.

Easements

An incorporeal interest granted by deed where the land owner retains title to the land but gives up development rights, in the case of natural areas, and allows the second party specific limited uses. The agreements are usually for a specified period of time.

Security

The security of a natural area preserve is a measure of how the area is protected against misuse and development. Also involved in the security of an area is how easily
the area may be changed from its protected natural area status. A dedicated preserve is protected by law from misuse or development and its status is not easily altered.

COMPARATIVE METHODOLOGY

The methodology followed for this paper involved background reading, compilation of materials, and analysis of data. Since the natural area movement is a fairly recent phenomenon, gathering sufficient data for a complete study in each segment of the paper became impossible within the time constraints, but the reader should be able to determine what is happening in the public sphere today in the states of California, Oregon, and Washington.

Initially, each agency involved with natural areas was contacted either by letter or phone or both in an attempt to obtain materials such as statutes, management rules, policies and guidelines, and other pertinent data. These materials were categorized and synthesized. Some agencies provided much of the necessary information; others forwarded only the statutes. Usually telephone contacts and subsequent letters filled in the data gaps as they developed.

A comparative methodology is used in the synthesis of data. The different systems were each compared with respect to several aspects: history, administration, acquisition,
dedication, designation, use, degree of protection, and management policies.

First, the history of the growth of natural area preserve systems in each state is discussed along with the administrative hierarchies existing within the varying systems. This will aid understanding of which agency in each system is responsible for the processes presented later. Following this section, a presentation of the specific processes involved in the establishment of preserves is presented, including such steps as method of site selection, acquisition criteria, acquisition of land, establishment procedures, and security of the different systems. A section of the paper then discusses comparisons of two main categories, the use of natural areas and management policies.

HISTORY AND ADMINISTRATION

California

University of California

The first system of public natural area preserve designation on the Pacific Coast was developed by the University of California. In 1964 a campus-wide ad hoc committee on Natural Land and Water Resources was appointed by the President of the University. According to the Natural Land and Water Reserves System Information Sheet
(1972), this ad hoc committee worked with the University Regents Committee on Educational Policy to develop a reserve system for the preservation of areas for scientific study in California. After a year of planning and deliberations, a program was submitted to the Regents for their consideration. In January 1965, the University of California Regents formally created the Natural Land and Water Reserve System and dedicated seven existing University properties as the initial units of the system (NLWRS Infor. Sheet, 1972).

As of October 1975, the University of California system has 22 reserves and expects to eventually have a system of 50 reserves, representing the diverse community types found in California (Pers. Cor. Cheatham, Oct. 1975) (see Figure 1 for current reserve locations). To help develop this system, Norden H. Cheatham, Field Representative of the University System, has developed a classification of community types for the state of California and is employing this type list in defining future natural area needs (Pers. Cor. Cheatham, Sept. 1973).

The structure of the Natural Land and Water Reserve Systems consists of several levels. Each campus of the University has a campus Natural Land and Water Reserve System Committee to which members are appointed by the campus chancellor. These separate campus committees are responsible for locating and evaluating potential reserve
Figure 1a. Map of California Natural Area Preserves.

CALIFORNIA NATURAL AREA PRESERVES

OWNERSHIP KEY
- University of California
- California Department of Fish & Game
- California Department of Parks & Recreation

Scale

0 50 100 150
Figure 1b. A Listing of the Natural Area Preserves Located on the California Map in Figure 1a (Part 1 of 2).

University of California Natural Land and Water Reserves:

1. Ano Nuevo Island Reserve
2. Bodega Marine Reserve
3. Box Spring Reserve
4. Philip L. Boyd Deep Canyon Desert Research Center
5. Burns Pinon Ridge Reserve
6. Owen R. Cheatham Grove Reserve
7. Coal Oil Point Natural Reserve
8. Dawson Los Monos Canyon Reserve
9. Elliott Chaparral Reserve
10. Hastings Natural History Reservation
11. James San Jacinto Mountains Reserve
12. Kendall-Frost Mission Bay Marsh Reserve
13. Pygmy Forest Reserve
14. Ryan Oak Glen Reserve
15. Sacramento Mountains Reserve
16. San Joaquin Fresh Water Marsh Reserve
17. Santa Cruz Island Reserve
18. Santa Monica Mountains reserve
19. Sawyer Trinity Alps Reserve
20. Scripps Shoreline-Underwater Reserve
21. Unnamed Central Sierra Reserve
22. Valentine Eastern Sierra Reserve

California Department of Fish and Game Ecological Reserves:

23. Buena Vista Lagoon Ecological Reserve
24. Bolsa Chica Ecological Reserve
25. Coldwater Canyon Ecological Reserve
26. Del Mar Canyon Ecological Reserve
27. Farnsworth Bank Ecological Reserve
28. Fish Shough Ecological Reserve
29. Heisler Park Ecological Reserve
30. Hidden Palms Ecological Reserve
31. Limestone Salamander Ecological Reserve
32. Magnesia Spring Ecological Reserve
33. Morro Rock Ecological Reserve
34. Point Lobos Ecological Reserve
35. Saline Valley Ecological Reserve
36. San Diego-La Jolla Ecological Reserve
37. Santa Cruz Long-Toed Salamander Ecological Reserve
38. Tomales Bay Ecological Reserve
39. Upper Newport Bay Ecological Reserve
California Department of Parks and Recreation Natural Preserves:

- 40. Anderson Island Natural Preserve
- 41. Doane Valley Natural Preserve
- 42. Hagen Canyon Natural Preserve
- 43. Heron Rookery Natural Preserve
- 44. La Jolla Valley Natural Preserve
- 45. Least Tern Natural Preserve
- 46. Mitchell Caverns Natural Preserve
- 47. Morro Rock Natural Preserve
- 48. Penasquitos Marsh Natural Preserve
- 49. Pescadero Marsh Natural Preserve
- 50. Pismo Dunes Natural Preserve
- 51. Red Cliffs Natural Preserve
- 52. Sheep Canyon Natural Preserve
- 53. Sugar Pine Point Natural Preserve
- 54. Woodson Bridge Natural Preserve
sites for the system (NLWRS Info. Sheet, 1972) and managing those reserves that have been assigned to their campus by the Regents (Cheatham and Barry, 1975). The campus committees then forward recommendations to the University-wide Committee for consideration in order to gain state-wide perspective on the recommendation. The University-wide Committee consists of members appointed by the President of the University and of ex-officio members who serve as chairmen of the campus Natural Land and Water Reserve System Committees. The role of the University-wide Committee is to coordinate natural area activities and to make "recommendations concerning acquisitions and management of sites, maintains contact with the scientific community within and outside the University, and advises on general policy" (NLWRS Info. Sheet, 1972).

The University-wide Committee keeps close contact with the Office of the Vice President - University Relations in the President's office, which coordinates the operations and development of the Natural Land and Water Reserve System. Purchasing of new sites is handled by the Office of the Treasurer, while any legal concerns are referred to the Office of the General Counsel. The Regents of the University have final say over dedication of any reserve into the system (NLWRS Info. Sheet, 1972).
California Department of Fish and Game

A second approach to the protection of natural areas in California was taken when the 'Ecological Reserves' category of the Department of Fish and Game and the Fish and Game Commission was established in 1968. As of 1975, the Department of Fish and Game has 17 areas, illustrated in Figure 1, designated as ecological reserves (Pers. Cor. Mensch, October 1975). In the 1974-1975 biennium, the Department will receive $300,000 for ecological reserve purchases. This money comes from the California Environmental Protection Fund, acquired from the sale of personalized license plates (Pers. Cor. Mensch, July 1975).

According to Article 4 of the Fish and Game Code, the Commission is responsible for prescribing the rules and regulations for the ecological reserves, while the Department of Fish and Game will secure a valid title to the property for the state of California. The Commission also is responsible for establishing the ecological reserves. The Department of Fish and Game prepares the management plans for each site selected by the Commission (Pers. Cor. Mensch, July 1975).

California State Department of Parks and Recreation

In 1960, the State Park and Recreation Commission adopted a park use classification policy setting forth five different categories of park use to assure increasing
diversity within the State Park System. In 1961, the California Legislature, using this classification, incorporated the five categories into Section 5001 of the Public Resources Code; but, it was not until the park classification law was reorganized in 1971 into six basic classes, one of which has five subclasses, that a specific natural area classification became established. Indeed, one of the reasons for this reorganization in 1971 was to formalize the 1969 decision of the State Parks and Recreation Commission that established protected natural preserves as necessary elements in a state park system (Dept. of Parks & Rec., January 1974). The state park system has 15 park units designated as natural areas, shown in Figure 1, as of November 1975 (Pers. Cor. Meyer, November 1975).

The Department of Parks and Recreation prepares the inventory of a given park's scenic, cultural, and natural features. A resource management plan and a general development plan are also drawn up by the Department to be submitted along with the inventory to the Parks and Recreation Commission. The Commission then holds a public hearing before announcing their decision on classification of park units, of which the nature preserves classification may be a part (Public Resources Code, Section 5002).

**California Natural Areas Coordinating Committee**

Although the California Natural Areas Coordinating Committee is not a public agency nor one of the organizations
to be discussed in this paper, I felt an introduction of their inventory, which will greatly benefit the aforementioned agencies and land use planning throughout California was necessary. The Natural Areas Coordinating Council was founded in 1969 as a non-profit corporation. Among its chief purposes is the coordination of natural area efforts among diverse groups and agencies and the inventorying of potential natural areas throughout the state (CNACC Fact Sheet).

Oregon

Oregon Natural Area Preserves Advisory Committee

Attempts were made to start a state-wide natural area preserve system in Oregon before the 1973 state legislature formalized a natural area statute. A natural areas bill was initiated by an Oregon State University seminar in Forest Management in 1972. Under the direction of Professor William D. Ferrell, students and staff interested several state legislators in this issue and under the sponsorship of Representative Ingalls (R., Corvallis), natural area legislation was introduced. After some modification, natural area legislation was signed into law on July 21, 1973. The Natural Area Preserve Advisory Committee established by this legislation (ORS 273.562) is hoping to have the first preserve dedicated by the State Land Board during 1975. Figure 2 shows the approximate
location of one area the Advisory Committee is considering as a possible Natural Area Preserve.

Although the Natural Area Preserves Advisory Committee is strictly advisory to the State Land Board (Governor, Secretary of State, and State Treasurer), the Committee is aided in its advisory work by the Division of State Lands which serves as the administrative arm of the State Land Board. The State Land Board has the final authority and may dedicate an area as a Natural Area Preserve. The Division of State Lands working with the Advisory Committee helps in negotiating formal agreements between the State Land Board and other agencies and parties and is involved in developing the master plans for the proposals submitted to the Land Board by the Advisory Committee.

The main function of the Natural Area Preserves Advisory Committee is to advise the State Land Board of areas on public land that qualify to become Natural Area Preserves. The Advisory Committee is involved in an inventory of public land to make recommendations on specific areas for preserve status and recommendations for areas for a registry of natural areas in Oregon. The inventory will also be used to develop general and specific rules and regulations for the preserves. The members of the Advisory Committee are appointed for a three-year term by the Governor and are reimbursed for their expenses and projects (NAPAC, 1975).
Figure 2a. Map of Oregon Natural Area Preserves.

OREGON NATURAL AREA PRESERVES

KEY

• = Oregon State Parks

■ = Oregon Natural Area Preserve Advisory Committee
Figure 2b. A Listing of the Natural Area Preserves Located on the Oregon Map in Figure 2a.

Oregon State Parks Natural Areas are located in the following Parks:

1. Azalea
2. Blue Mountain
3. Cape Arago
4. Cape Lookout
5. Carl G. Washburne
6. Cascadia
7. Champoeg
8. Cove Palisades, The
9. Crown Point
10. Darlingtonia
11. Devil's Punchbowl
12. Ecola
13. Erratic Rock
14. Floras Lake
15. Fort Rock
16. Fort Stevens
17. Humbug Mountain
18. Jessie M. Honeyman
19. Kiwanda
20. Lava River Caves
21. Loeb
22. Lone Tree Bar
23. Maria C. Jackson
24. Molalla River
25. Nestucca Sandspit
26. Oswald West
27. Otter Point
28. Redmond-Bend Juniper
29. Saddle Mountain
30. Samuel H. Boardman
31. Shore Acres
32. Silver Falls
33. Smith Rock
34. Succor Creek
35. Tryon Creek
36. Umpqua Lighthouse

Proposed Natural Area Preserves of the Oregon Natural Area Preserves Advisory Committee:

37. Steens Mountain
Oregon State Parks and Recreation Branch

'Primary Resource Protection Area' is a land use designation of the Oregon State Parks and Recreation Branch of the State Highway Division. The authority for this designation is Oregon State Law (ORS 390.110 to 390.210). As of November 1975, there are over 36 portions of parks designated as primary resource protection areas (see Figure 2).

This protection classification was developed out of two main sources. When the Park and Recreation Branch adopted some of Ian McHarg's philosophies, they also incorporated his protected areas. Correspondence with other park systems showed a trend toward protecting areas of natural significance or value and the State Park Branch decided to develop this classification into their master plans (Pers. Cor. Oxley, October 1975).

The State Parks and Recreation Branch classification is for the most part an in-house process within the Department of Transportation. For a master plan to be established, it is generally taken to a public hearing; for any major revisions, public contact is usually desirable. However, for amendments to the master plans, the process of public involvement may not be necessary. To date, no master plan designation of a park section as a natural area has been changed (Pers. Cor. Oxley, October 1975).
Washington State Parks and Recreation Commission

On April 1, 1970, Order 7, WAC 352-16-010 was filed and the natural area classification of the Washington State Parks and Recreation Commission came into existence (WAC 352-16-010). On November 15, 1971, Palouse Falls Natural Area, which is in the boundaries of Lyons Ferry State Park, became the first park to be classified as a natural area. In June of 1974, Point of Arches State Park was classified as a natural area and, in October 1974, the Commission classified 20 parks as natural areas. The Parks and Recreation Commission, as of June 1975, still has 22 parks classified under the natural area category. These parks are illustrated in Figure 3 (Lands Inventory, 1975).

The Planning section of the Parks and Recreation Commission reviews the characteristics of a park area and forwards their recommendations on classification to the Parks and Recreation Commission. The Commission then decides on a classification. If conditions warrant, a park unit may be reclassified through the same process (Pers. Cor. Huebner, 1975).

Washington Natural Area Advisory Committee

The Intercampus Committee on Educational and Scientific Preserves recommended the formation of a Washington Natural
Figure 3a. Map of Washington Natural Area Preserves.

WASHINGTON NATURAL AREA PRESERVES

KEY

- *Washington Parks & Recreation Commission
- *Washington Natural Area Advisory Committee
Figure 3b. A Listing of the Natural Area Preserves Located on the Washington Map in Figure 3a.*

Washington State Parks and Recreation Commission Natural Areas are located in the following parks:

1. Bridle Trails State Park  
2. Clark Island State Park  
3. Cone Island State Park  
4. Doe Island State Park  
5. Eagle Island State Park  
6. Federation Forest State Park  
7. Ice Caves State Park  
8. James Island State Park  
9. Palouse Falls Natural Area (Lyons Ferry State Park)  
10. Matia Island State Park  
11. Patos Island State Park  
12. Point of Arches State Park  
13. Rock Island State Park  
14. Squak Mountain State Park  

Washington Natural Area Preserves of the Washington Natural Area Advisory Committee:

15. Eagle Cliff on Cyprus Island  
16. Goose Island at Grays Harbor  
17. Protection Island  
18. Sand Island at Grays Harbor  
19. Whitcomb Island at Grays Harbor

*Note: Several San Juan Island State Park Natural Areas are not noted here or on the map.
Area Advisory Committee. Representative Lois North introduced the natural area legislation into the House. The natural area statute was signed into law on February 24, 1975, by the Governor of Washington. The Washington Intercampus Committee on Educational and Scientific Preserves disbanded after the Washington Natural Area Advisory Committee was formed. However, there is interest in reviving the intercampus committee as an adjunct to the Advisory Committee (Pers. Cor. Alcorn, 1975).

The Advisory Committee advises the Department of Natural Resources about possible Natural Area Preserves. It is the Department of Natural Resources that formally dedicates any preserve. The Washington Advisory Committee is not funded, thus all expenses for travel, meals, and occasional motel rooms come out of the member's own pockets (Pers. Cor. Alcorn, 1975). This is unfortunate and has possibly kept the Advisory Committee from accomplishing as much as they would like to.

ESTABLISHMENT PROCESSES

Methods of Selection of Areas as Candidates

Natural Area Type Needs List

In the development of various state systems of natural area preserves, a natural area type needs list is often used to gauge how balanced and complete a preserve system
Table 1. Composit Information on the Public State Natural Area Programs

<table>
<thead>
<tr>
<th>AGENCY</th>
<th>DESIGNATING AUTHORITY</th>
<th>TITLE OF PRESERVES</th>
<th>AUTHORITY TO ESTABLISH</th>
<th>LAND AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Department of Parks and Recreation</td>
<td>California Parks and Recreation Commission</td>
<td>Nature Preserves</td>
<td>Public Resources Code, Division 5</td>
<td>15 areas</td>
</tr>
<tr>
<td>California Department of Fish &amp; Game</td>
<td>California Fish &amp; Game Commission</td>
<td>Ecological Reserves</td>
<td>Fish &amp; Game Code, Art. 4 and Natural Resources Code Title 14</td>
<td>17 areas</td>
</tr>
<tr>
<td>Natural Land and Water Reserve System</td>
<td>University of California Regents</td>
<td>Natural Reserves</td>
<td>University of California Areas Regents</td>
<td>22 areas</td>
</tr>
<tr>
<td>Oregon Parks and Recreation Branch</td>
<td>Oregon State Highway Protection Authority</td>
<td>Primary Resource Areas</td>
<td>ORS 390.110, 390.120, 390.140, 390.160, 390.120</td>
<td>36 areas</td>
</tr>
<tr>
<td>Oregon Natural Area Preserves Advisory Committee</td>
<td>Oregon State Land Board with Division of State Lands</td>
<td>Natural Preserves</td>
<td>ORS 273.562 - 273.598</td>
<td>8 areas pending</td>
</tr>
<tr>
<td>Washington Parks and Recreation Commission</td>
<td>Washington Parks and Recreation Commissioner</td>
<td>Natural Areas</td>
<td>Washington Administrative Code, Ch. 352-16</td>
<td>14 areas</td>
</tr>
<tr>
<td>Washington Natural Area Advisory Committee</td>
<td>Department of Natural Resources Reserves</td>
<td>Natural Reserves</td>
<td>Washington Statute Title 79 of the RCW</td>
<td>5 areas</td>
</tr>
</tbody>
</table>

is and to determine what type of ecosystem, plant community, or other ecological element should be retained in a preserve. Such a type needs list brings order into a future acquisition program. A natural area type needs list should designate what types of areas the state contains, so that personnel can decide what areas need protection and if proposed areas are duplications of natural area types already in the system. There have been programs in developing state-wide type lists in all three Pacific Coast states.

The California Natural Land and Water Reserve System now uses "A Checklist of California Habitats" developed by Norden H. Cheatham, the system's Field Representative. When the Natural Land and Water Reserve System first started, the Munz and Keck classification of California plant communities was used as the needs list, but when it was put to practical usage, the field personnel found the Munz and Keck system too broad in scope for their very specific needs (Pers Cor. Cheatham, September 1973). Thus, the new checklist was developed by Cheatham to fulfill the Reserve Systems requirements.

Further enhancing the University of California's needs list, as well as providing inventory data for other agencies, is the California Natural Areas Coordinating Council's work. The Council's first concern is a collection of data to form an inventory of habitats in California as well as geologic and paleontologic features that are of
educational or scientific interest in California. Once the Council's inventory is complete, two concurrent processes will be undertaken. One of these is to classify, by habitats or features present, all the areas using the University of California's habitat classification system. Once classified, the Council will determine what types of areas have already been preserved and what types are not but should be. While the classification is being done, a thorough inventory investigation on each area will be compiled, complete with maps of vegetation types and as much other information as possible. The information compiled by the Council will be published and made available to all interested parties (Pers Cor. Hood, 1975).

Oregon and Washington combined forces in developing a natural area needs list for their states. Under the direction of Dr. Jerry Franklin of the Pacific Northwest Forest and Range Experimental Station (USDA-USFS), a natural area needs workshop was held on November 29 to December 1, 1973, in Wemme, Oregon. Ad hoc committees were established to compile natural area type needs in various areas throughout Oregon and Washington. The basis of the needs list was the unit referred to as a 'cell' representing a plant community, marine ecosystem type, or even a rare or endangered plant species. The needs list was edited by a committee and has recently been published (Dyrness et al., 1975). This type needs list, often referred to as the
'Yellow Book', has been adopted as a planning document by the Washington and Oregon Natural Area Advisory Committees.

Parcel Identification

Integrally related to the type needs list is the specific selection of areas to be considered as natural areas. This is called parcel identification and may be systematic, via an inventory, or it may progress in an ad hoc manner.

The Washington Department of Natural Resources and the Oregon State Land Board are both required by law to inventory land within their respective states for possible preserves. The Washington statute (Title 79 RCW) states that the Department of Natural Resources is to "inventory existing public, state, and private lands in cooperation with the Natural Area Advisory Committee to assess possible natural areas to be preserved within the state." In Oregon, to facilitate an orderly process of parcel selection, the Natural Area Preserves Advisory Committee has committed almost half of its financial resources to an inventory of potential natural areas on state-owned land using remote sensing imagery (NAPAC, 1975).

The California Department of Parks and Recreation is required by the Public Resources Code, Section 5002.1 to "prepare an inventory of the unit's scenic, natural, and cultural features" for the State Park and Recreation
Commission when the Department recommends classification or reclassification of a park unit.

Two further inventory efforts in the Pacific Coast states deserve mention. First is the already mentioned California Natural Areas Coordinating Council with their inventory of all of California's land that may be worth protecting. Their inventory work is meant to be a comprehensive and coordinating effort so that anyone and everyone interested in the natural values of the California landscape can be informed (CNACC Fact Sheet). Secondly, is The Nature Conservancy's inventory of privately owned land in Oregon that has natural area significance. This inventory will orient The Nature Conservancy to needs and priorities of the areas so that acquisition can be better planned (Roderick, 1973). Upon completion of The Nature Conservancy's inventory, their information will help form the data base of land parcels with natural area value and will facilitate the natural area registry for Oregon that is being undertaken by the Oregon Natural Area Preserves Advisory Committee (NAPAC, 1975).

An ad hoc parcel identification method is where areas are selected because of specific features or its distribution pattern that the agency may be interested in. The Oregon Natural Area Preserve Advisory Committee selected their first list of eight sites in an ad hoc manner. The sites were known to have natural area value and were
geographically distributed throughout the state. Likewise, the Washington Natural Area Advisory Committee has operated in an ad hoc manner. However, even though to date an ad hoc selection has prevailed, a more systematic approach is necessary to avoid a redundant system and meet the objections that have been raised about this procedure (Interview Frenkel, 1975).

**Acquisition Criteria**

The Natural Land and Water Reserves System of the University of California is the only agency that has stated specific acquisition guidelines, formulated in March of 1975. These guidelines are broken into three basic sections: scientific, academic, and administrative criteria. Table 2 is taken from the Reserve Systems Acquisition Checklist and illustrates the criteria under each of these three classifications (NLWRS Acquisition Guidelines, 1975).

The Washington Natural Area Advisory Committee, however, has two guidelines for priority in acquisition. As stated in their first year report, these are: "uniqueness ... and imminence of threats to modification/extermination of site or habitat and the needs of universities and other educational institutions in the state" (WNAAC, 1974).
Table 2. University of California Natural Land and Water Reserve System Acquisition Checklist (slightly revised)

Scientific Criteria

Viable Ecosystem
- Undisturbed (or restorable) ecosystem
- Sufficient size so that natural balance of community may be maintained (Boundary Configuration)
- Buffered from adjacent land users

Habitat Significance
- Diversity of habitats present
- Sample of widely distributed habitat
- Special features present

Academic Criteria

Current Academic Use

Potential or Future Academic Use

Interest by a Broad Spectrum of Academic Disciplines

Usable During a 3-hour Laboratory Period

Administrative Criteria

Fill NLWRS Habitat Void

Fill Habitat Void in Other Natural Reserve Systems

Balanced NLWRS Development

Favorable Terms of Acquisition

Easily Administered

Both the Washington Department of Natural Resources and the Oregon State Land Board have certain acquisition criteria implicit in their natural area statutes. The Washington Department of Natural Resources must give the fair market value for land parcels obtained from other state agencies and the board of natural resources must approve all transactions (Title 79 RCW). While the Oregon State Land Board can dedicate parcels owned by other state agencies by agreement, they cannot dedicate any private land acquired with public funds (ORS 273.578, 273.592).

### Acquisition Methods

The methods by which the different agencies may obtain preserves ranges from the purchase of private land to easements, agreements, and gifts. The Oregon State Land Board is the only agency that cannot acquire private land with public funds for natural area purposes, however, the Board can accept a parcel of land as a gift (ORS 273.577).

Currently, the California Department of Fish and Game is the only agency that is allocated monies expressly for the purpose of acquiring land for an ecological reserve. This money comes from the California Environmental Protection Fund, derived from the sale of personalized license plates. The Department will receive $300,000 during the 1975-1976 fiscal year (Pers. Cor. Mensch, July 1975).
The Oregon State Land Board and the Washington Department of Natural Resources are allowed by law to "acquire by gift, devise, grant, dedication, or means other than eminent domain, the fee or any lesser right or interest in real property which shall be held and managed as a natural area" (Title 79 RCW). This format is a typical legal style and used by several other states in their legislation. A modified form of this legislation is used in the California Fish and Game Code (Article 4, Ch. 1580). In the Oregon and Washington legislation there is further provision for the acquisition of personal property, where necessary, for a natural area. Oregon's statute goes a step further and allows the State Land Board, with the advice of the Oregon Natural Area Preserve Advisory Committee, to "apply for and accept grants, contributions, and assistance" from any source, be it public or private to carry out the duties of the statute (ORS 273.562).

In the first year report, the Washington Natural Area Advisory Committee states that the Department of Natural Resources has four methods of acquisition: dedication of privately owned land, natural area preserve easements, public acquisitions, and transfer of public lands from other agencies to the Natural Area Reserve System (WNAAC, 1974). To date, the Washington Advisory Committee has not recommended to the Department of Natural Resources any areas to be considered for easement for leases (Pers. Cor. Alcorn, Oct. 1975).
The University of California has several types of acquisitions. One is conservation easement, which was used to obtain one of the Reserve system's latest Santa Monica Mountain reserves, currently unnamed. With the conservation easement, lease, use permit, etc., used by the University of California, the University requires a term of 20 years on the agreement in order to justify the time and effort in management and research. The Natural Land and Water Reserve system can also dedicate university owned land or acquire land by purchase, which can then be dedicated (Pers. Cor. Cheatham, Oct. 1975). The University receives not only gifts of land, but has also received nonstate money and Ford Foundation grants (Mathias, 1973). The Ford Foundation has offered matching funds (one for three) for the $750,000 to be raised by the Natural Land and Water Reserves Systems Ford Foundation Challenge Campaign (The Challenge Reporter).

Establishment of Areas as Preserves

Dedication

In this section, I feel it will be simplest to present an updated version of the steps involved in the dedication process to establish an Oregon Natural Area Preserve as published in the Advisory Committee's report to the State Land Board (Feb., 1975). Figure 4 outlines the steps involved in dedication.
Figure 4. Process for Natural Area Preserve Dedication. (Revised)

IDEA PROPOSED
- Committee Consideration
  + Preliminary Proposal Prepared (related agencies informed)
  - Committee Consideration
  + Preserve Analysis Prepared (agency review)
  - Committee Review
    + Preliminary Committee Approval to make area a preserve
    + Suggested Master Plan Prepared
      + Recommendation to the State Land Board with Preserve Analysis and Master Plan
    + State Land Board and Division of State Lands
      + Form Agency Agreements
      + Hold Hearings, etc.
      + Finalizes Master Plan

NATURAL AREA PRESERVE DEDICATED
- rejection
+ acceptance
? more information needed

Source: Oregon Natural Area Preserves Advisory Committee's First Year Report to the State Land Board, 1974.
The idea for a Natural Area Preserve can come from any source: inventory suggestions of federal, state, or local agencies; or suggestions from private citizens or groups. The idea proposal needs only to include a brief set of information as to 'what, where, and why' and the ownership so that the Advisory Committee may properly weigh the value of the area suggested. If the Committee decides it might be warranted, the originator of the idea is asked to prepare a preliminary proposal. The proposal should include more specific information, such as: precise location, why the area deserves protection, general biological values, and how the area might be managed as a Natural Area Preserve. After Committee deliberation of the preliminary proposal, either more information can be requested, or the proposal can be rejected, or the Committee can decide to accept the preliminary proposal and draw up a Preserve Analysis.

The Preserve Analysis is a detailed report, researched and prepared under Committee direction. Prior to this stage of development, the State Land Board, as well as the owning or managing agencies, have been notified of the Committee's action. The Preserve Analysis needs to contain sufficient information such that the Committee can assess the desirability of dedication for the area.

The Analysis should contain the following: "an analysis of purpose; ecological, geological, and other biotic and physical values; a discussion of the history of the area; its
present and projected management; details of ownership, lease agreements, right-of-ways, etc.; and an economic evaluation of resources" (ONAPAC, 1975).

Agency participation is involved in the Preserve Analysis. The owning or managing agency's participation may involve help in data accumulation and a thorough review of the analysis before final preparation.

A suggested master plan may then be drawn up by the Advisory Committee and forwarded with the Preserve Analysis to the State Land Board when the Committee recommends an area. If the recommendation is satisfactory to the State Land Board, they proceed with the formal arrangements including a master plan. The State Land Board and its agency, the Division of State Lands, work out agency agreements and, if necessary, hold hearings or informal meetings, and finalize the master plan. Final dedication can then be established by an order of the State Land Board (ONAPAC, 1975).

The Washington Department of Natural Resources also has established procedures for a dedication process. "Formal dedication...consists of a legal document executed by the owner and approved by the Department of Natural Resources in consultation with the Advisory Committee" (WNAPAC, Feb., 1975). These Articles of Dedication will state that the property is a Natural Area Preserve, as specified by law. The Washington process is similar to Oregon's. Following are important aspects of the Washington dedication system.
A potential Natural Area Preserve is surveyed and studied in the field by members of the Washington Advisory Committee and the Department of Natural Resources staff. If the area appears to be qualified for dedication as a Natural Area Preserve, an establishment report, Table 4, is prepared by the leading recommender. The establishment report is then reviewed and revised by the Natural Area Advisory Committee and the Department of Natural Resources. The establishment report and other dedication papers are then sent to the Commissioner of Public Lands for his consideration. If accepted, the Advisory Committee and the Department of Natural Resources write and implement a management plan for the dedicated preserve (WNAPAC, Feb., 1975).

The University of California system also dedicates, or establishes in perpetuity, some of their reserves, thus consideration of the process here. Faculty from at least three campuses visit potential sites. The Campus-Wide Natural Land and Water Reserve System Committee then reviews the proposed acquisition. If the Board of Regents accepts the recommendation of the Campus-Wide Committee, the reserve is established into perpetuity.

Designation

The California Fish and Game Commission designates or administratively establishes the Ecological Reserves and
their regulations for the reserves are legally enforceable. The establishment of Ecological Reserves generally follows the ensuing process. At the request of, or upon the purchase by a land-owning agency, the Department of Fish and Game requests the Fish and Game Commission to take action necessary to establish the reserve and implement certain regulations for the reserve. Notice of intent by the Commission to establish an Ecological Reserve is then published. This notice of intent also includes the regulations for the reserve once it has been established. Thirty days after the notice of intent has been published, the Ecological Reserve can be established and the regulations implemented (Pers. Cor. Mensch, Nov. 1975).

The Washington State Park and Recreation Commission classifies areas as Natural Areas according to the Washington Administrative Code (WAC 352-16-020). The Planning Section of the Commission reviews the characteristics of a park area and then makes their recommendations to the Parks and Recreation Commission of the area. The Commission makes the final decisions as to whether an area will have the Natural Area designation (Pers. Cor. Huebner, Oct. 1975).

The Oregon Parks and Recreation Branch of the State Highway Division designate a park area as a Primary Resource Protection Area through a master plan. Master plans are drawn up by the Park and Recreation Branch and undergo a public
hearing before being finalized (Pers. Cor. Oxley, Oct. 1975). The California Department of Parks and Recreation also employs a master plan for their Natural Area designation. The actual classification is given by the California State Park and Recreation Commission, at the recommendation of the Department. "A public hearing shall be scheduled by the State Park and Recreation Commission to consider each matter of classification or reclassification of a unit and for approval of the Department's resources management plan and general development plan for a park unit (PRC Sect. 5002.3).

Easements

As mentioned earlier, both the Washington Department of Natural Resources and the University of California Reserve System can obtain reserves via easements. To date, the Washington Natural Area Advisory Committee has not recommended any areas for easement to the Department of Natural Resources (Pers. Cor. Alcorn, Oct. 1975). The University of California, however, has obtained reserves via a conservation easement. Each easement must be for a period of longer than 20 years to justify the expenses of the University (Pers. Cor. Cheatham, Oct. 1975).

Security

How easily a natural area preserve status can be changed varies among the different agencies. In the cases of legal
dedication, as in the Oregon and Washington Natural Area Preserves, these preserves cannot be altered except to other public use, upon findings of imperative and unavoidable public necessity by the dedicating authority (Title 79 RCW). The reserves dedicated by the University of California Regents are established into perpetuity and will not be changed or altered in status (Pers. Cor. Cheatham, Oct. 1975). The preserves in these three systems may be considered to have a high degree of security.

The California Parks and Recreation Commission must go through a public hearing, with 30 days advance notice of intent, in order to reclassify a park unit, which includes any natural reserve classification. At the present time, there is strong public opinion in favor of the natural preserve classification and it is felt that it would be difficult for the Commission to abandon a natural preserve classification (Pers. Cor. Meyer, Nov. 1975).

The Oregon Parks and Recreation Branch designation of Primary Resource Protection area, however, is not as secure as the California Parks classification. The Oregon Park designation may be changed through an in-house process, since the master plan for each park unit is considered a flexible document, which may be reworked as data or capability base changes. The abandonment of the Primary Resource Protection area designation may or may not be preceded by a public hearing
or meeting, at the discretion of the Parks Branch. To date however, no protection designation has been changed (Pers. Cor Oxley, Oct. 1975).

The Washington State Park and Recreation Commission procedure for reclassifying their natural area units is an in-house process, similar to the Oregon Parks system. If conditions of a Washington Natural Area classification warrants reclassification, the Planning Section reviews the characteristics of the area and makes their recommendations on reclassification to the Parks and Recreation Commission, which has final authority (Pers. Cor. Huebner, Oct. 1975).

The California Department of Fish and Game, on the other hand, consider their Ecological Reserves to be a permanent situation. However, the status and regulation of a reserve may be changed by the Fish and Game Commission. It is felt by the Department that only those changes consistent with the master plans for the areas will be made (Pers. Cor. Mensch, July 1975).

USE AND MANAGEMENT

The use of the preserves is designated in the management policies of the different agencies or in each preserve and will be included in the discussion of each agency's management processes. The management of the preserves varies among the
agencies, but two separate management procedures exist. One deals with the formalization of generalized rules which are set-up by the agency that governs a given system of natural areas. The other management procedure deals with specific rules set-up for each individual natural area.

The California Department of Parks and Recreation has both the general and the specific rules. The Parks Department general rules are in the Resource Management Directives established in January of 1974, which pertain to all the park unit classifications and not just the nature preserves. These management directives seem to deal more with the criteria to be used in order to classify a park unit as a nature preserve than with actual management of the areas so classified. The restrictions on use and activities by the public are controlled by the regulations of the Commission. The regulations have the force and effect of law and violations are considered to be a misdemeanor. The California State Park Rangers enforce the regulations in the various park nature preserves. The California State Department of Parks and Recreation is currently developing specific management policies for each unit of the State Park System, which includes the Nature Preserve classification (Pres. Cor. Meyer, Nov. 1975).

The Oregon Parks and Recreation Branch handling of Primary Resource Protection Areas differs quite a bit from the
California Parks system with their Nature Preserves. The Oregon Parks Branch limits uses to low density and passive recreational activities which will have little impact on the land resources. The general management policies are discussed in their Land Use Master Planning (Oct. 1973), and specific management regulations are brought out in the individual park master plans (Pers. Cor. Oxley, Oct. 1975).

The Washington Parks and Recreation Commission has generalized rules governed by the definition of the Natural Area Classification within WAC 352-16-020. Specific rules for management and the use of each area are drawn up when the area is classified (Pers. Cor. Huebner, Oct. 1975). The three state park and recreation systems can all be considered open usage. There may be a limitation in activities and use that can be made of a preserve by the public, but generally the areas are open for access by the general public.

The Oregon State Land Board has not yet dedicated the first Natural Area Preserve for Oregon, but general and specific management policies have been formulated. The State Land Board following the recommendation of the Oregon Natural Area Preserves Advisory Committee has promulgated a comprehensive set of management rules for all Natural Area Preserves (Chapter 141 of the Oregon Administrative Rules). For each Natural Area Preserve, the Advisory Committee working with the Division of
State Lands and in conjunction with concerned public agencies, prepares a site specific Master Plan, which establishes the management policies in relation to the needs of the individual preserve. Currently, the Oregon State Land Board is planning to allow open use of the preserves, but if misuse occurs, action will be taken to limit or close the preserves to the general public.

The Washington Department of Natural Resources does not have any set general management policies, although the "Policies and Procedures for the Advisory Committee and its Relation to the Department of Natural Resources" lists several items to be considered in master plans drawn up for the individual natural areas. The specific management rules state times when the public is excluded, what agency will be responsible for carrying out management and then the individual rules for the preserve are drawn up. The Washington Natural Area system is both an open and a closed system. Some of the preserves are entirely excluded from public use, others are open to the public only at specified times. Research permits are issued by the managing agency (Pers. Cor. Alcorn, Oct. 1975).

The California Fish and Game Commission establishes site specific management plans for each Ecological Reserve, developed by the Department of Fish and Game. Like the Washington Natural Area system, the California Fish and Game has open and closed use, ranging from considerable recreational activity to entry
only by special permit for scientific and educational use (Pers. Cor. Mensch, July 1975). The Department of Fish and Game manages the areas and enforces the regulations (Pers. Cor. Mensch, Nov. 1975).

The University of California is developing their University-wide Guidelines (July, 1973) for general management policies. The specific management is in the hands of the Faculty Management Committee of the campus to which the reserve has been assigned. The Faculty Management Committee applies the University-wide guidelines to their Natural Land and Water reserves. The reserve system is a closed system. Entry is granted only by special permit for educational or scientific use (Pers. Cor. Cheatham, Oct. 1975).

SUMMARY

The Natural Area Preserve System in the Pacific Coast States has grown since it first began in California in 1965. Various state systems have grown at varying rates since their individual inception. Information has been gathered about the history and growth of the movement. Also discussed were the many aspects of acquisition and some of the stumbling blocks the system has encountered, were mentioned. The two emerging types of management, specific and general, were dealt with in the last section.

This paper is by no means complete and will soon be out dated as the various systems grow and change as the
organizations learn what works and what does not work for their purposes. A topic of further research in the Natural Area field would be to do field surveys of actual preserves to see if they really are preserving the land in its natural state. A second topic, to be considered in several years, would be a new look at the various state systems. Questions to be answered could include: How have the agencies changed? Do the agencies still exist? How have problems been overcome? Are the systems more secure? Has this young movement survived and will it continue to grow?

The future of the Natural Area Preserve movement along the West Coast will be interesting to follow in the upcoming years; as trade-offs are made, will the environment end up on top, at the bottom, or among the anonymous in the middle?
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