

M A S T E R P L A N

TRYON CREEK STATE PARK

PART I

October, 1971

CONTENTS

FOREWORD / 1

The Site ... 1

The Purpose ... 2

POLICIES AND OBJECTIVES / 3

Significant Resources ... 3

Public Value ... 3

Development Plan ... 4

THE PARK AND THE REGION / 10

Population ... 10

Recreation Needs ... 10

Climate ... 11

Geology ... 12

Hydrology ... 17

Vegetation ... 19

Wildlife ... 24

Cultural Features ... 28

DEVELOPMENT STANDARDS /

Roads and Parking ...

Trails ...

Structures ...

Control ...

Utilities ...

THE SITE

In the urban north end of Willamette Valley, between South Lake Oswego and the Columbia River, competition among land uses runs high. As a result, intensive, high value uses are taking over the diminishing open space. Where forests, fields and pastures used to sustain rural families, homes, streets, stores and industries now compose a metropolitan region. Fortunately, a number of areas remain undeveloped because their physiography has not allowed economic development. Tryon Creek Canyon is such an area.

Tryon Creek is a short tributary of Willamette River that drains about 5,000 acres of land between Lake Oswego and Portland. The northern end of the watershed is a highly developed Portland residential area. Around the east and west sides low density residential development occurs that is gradually increasing in density, and along the south edge the Lake Oswego urban area is located.

Tryon Creek Park is a shallow canyon with rather steep sides and a dense, vigorous and variegated cover of Douglas-fir, alder and maple. Several trails that meander into the canyon are used recreationally by horse riders, hikers and other people who enjoy a natural area. Tryon Creek flows quietly down the canyon, in places riffing through the cool shade of large cedars and maples, then breaking into sinuous meanders through sunlit bogs of sedges, alders and buttercups. Racoons, squirrels, beavers and many other animals find a home in the park, as well as a colorful variety of birds.

Tryon Creek Park is bounded on the east by Terwilliger Boulevard, on the west by Boones Ferry Road and on the south by Lake Oswego neighborhoods.

Tryon Creek Park is a significant area in this region that can provide intellectual and physical recreation values for this and future generations of an urbanizing public.

THE PURPOSE

The purpose of a park here is to provide opportunities for the surrounding urban and suburban populations to appreciate the natural and scenic values of the lower Willamette Valley, and enjoy passive and active recreation through development and other appropriate use of park resources.

POLICIES AND OBJECTIVES

MANAGEMENT OBJECTIVES
TRYON CREEK STATE PARK

1. The undeveloped, natural environment is the park's greatest resource. Protection and perpetuation of it should be the overriding concern in the use and management of the park.
2. Only those uses compatible with a natural area, such as hiking, riding, nature study and enjoyment, and photography will be permitted in the park. Any uses that conflict with this value should not be accommodated. Any use found to be detrimental to the natural environment should be terminated.
3. The park shall be managed to protect and encourage the native wildlife and plant species. Where desirable, native plants and animals may be re-established, but the area, generally, will be left to natural progression.
4. Development in the park will be limited to those facilities necessary to make it usable as a natural area.
5. Access throughout the park shall be only on foot or horseback. With the exception of automobile roads into parking areas, there will be no roads or motorized vehicles in the park.
6. Citizen participation in park activities and projects shall be encouraged.

SIGNIFICANT RESOURCES

Tryon Creek State Park is a natural wooded area that is surrounded by a growing urban population.

The most important resource in the state park is the undeveloped, natural condition of the area. This, then, includes all the natural resources that compose the area--vegetation, soils, water, geology and fauna. It is important that all recreational activities and developments be compatible with the preservation of this resource.

Many portions of the park have been disturbed in the past by logging, land clearing and utility line construction. The natural progress of plant succession and gradual adjustment of the land and life processes to a stable or balanced level can be made a very interesting feature in the park. This also includes the profusion of exotic plant species that have escaped from cultivation to fill niches in the disturbed ecosystem. These adjustments should be allowed to continue over much of the park to serve as an educational model. It may be desirable to attempt a restoration of the historic ecosystem and try to maintain it on a selected large plot, but this would be very difficult and only approximate.

VALUE

The natural environment is the park's greatest recreational value and should be protected and perpetuated.

The primary value of this open space natural area is derived from the park's location in the midst of a developing urban region. It will provide a large urban population with an opportunity to walk, ride horseback, or even bicycle through a pleasing and refreshing wooded area. People can also find an enlightening recreational experience in the observation and study of natural processes revealed in the state park.

The greatest value can be derived from the park's resources if they offer the

visitor a change of pace through enjoyment of a semi-wild, non-motorized environment. Any uses that conflict with this value should not be accommodated in this park. Many surrounding neighborhood, community and regional parks and schools can fill the demand for other recreational activities.

Within a five-mile radius of Tryon Creek State Park there are over 45 neighborhood parks that offer playgrounds, sports developments and picnic facilities. In addition, there are 19 community or regional parks with 700 acres of picnic areas, sports fields, playgrounds and some trails and natural areas.

Significant Community and Regional Parks
Within 5 Miles of Tryon Creek Park

Marshall Park	Westmoreland Park
Himes Park	Waluga Park
Camelle Park	Risley Park
Gray Park	Clarkes Park
Woods Memorial Park	Riverville Park
Gabriel Park	Cedar Island Park
Willamette Park	North Clackamas Park
Council Crest City Park	Lake Oswego City Park
Elk Rock Island Park	Mary Young State Park
Oaks Amusement Park	

DEVELOPMENT

To fully realize the park's value, development shall include access and circulation systems, an equestrian area, a nature center, maintenance facilities and manager's residence.

Access and Circulation

Tryon Creek State Park is easily reached by Oregon's population. Located between two cities, in an area containing a large part of the State's people, the park is only minutes off Interstate Highway 5. Automobiles can enter the park through the primary entrance on Terwilliger Boulevard. Other than a minor parking area on Boones Ferry Road, this will be the only motor vehicle entrance. The internal road will penetrate only a short distance before terminating in a parking area near the Nature Center and trail head.

The minor parking area off Boones Ferry Road will be located on the original county parcel to allow outside visitors convenient access to the west side of the park. Educational groups will probably also make some use of this area.

Additional development here will be limited to trail head signs and restrooms.

In a park of this nature and location, several different trail interests are evident. The bicycle enthusiast looks for a well surfaced trail to enjoy a stimulating ride through wooded surroundings. The horse rider seeks trails of a different nature, and the hiker has still different requirements. To each recreationist the others are undesirable users when met on the same trail. Bicycling, horse riding, hiking and nature trail walks are considered important and desirable activities that should be accommodated in this state park. All are compatible with the purpose of the park, but not necessarily compatible with each other. For this reason four individual, single purpose trail systems will be built to accommodate this wider range of trail activities.

Visitors arriving by horseback will enter the park from Englewood Drive on the

west, and near the main entrance on the east. Between these points 4.5 miles of equestrian trails will loop through scenic portions of the park, arranged in a manner to allow any length of ride. This trail network will be tied into the Equestrian Center, a facility located near the Nature Center.

The bicycle rider will find a 2-mile paved trail that will wind a scenic course along the east side of the park. Bicycle trailheads will be located in Lake Oswego, the State Park Nature Center, and at Lewis and Clark College. Topographic and other physical limitations, as well as potential conflict with other park activities bar a more extensive network of bike trails through the park.

Multnomah County should be encouraged to establish a safe bike route along Boones Ferry Road that could tie into the park's north trailhead. This would complete a safe system for bicycle riders to reach the Nature Center from nearly all sides of the park.

Hiking trails will compose the most extensive visitor circulation system in the park. Eight and a half miles of pathways will provide access to all parts of the park. Trailheads will be located at various places around the perimeter for convenient use by the adjacent population. These will all lead into a network of pathways that generally run along both sides of the canyon, located to offer a variety of hiking experiences. A system of cross-overs will allow nearly any length of walk desired without the necessity of covering the same territory twice. Trails from all entrances eventually lead to the Nature Center.

On the north side of Boones Ferry Road, an extension of the State Park forms a corridor along Tryon Creek that connects with City of Portland's Marshall Park. This park features developed playground-picnic facilities on its north end, and pleasant woodland paths through the south portion. One of these trails will be extended through the corridor to connect with the trail system in the State Park.

A second network of pedestrian pathways will be tied directly and only to the Nature Center, and will be used for ecological interpretive purposes. Their location and design must await investigations by people working with the completed Center.

Because the trails are an important part of a Nature Center's programs, the programs should be designed first.

Equestrian Area

A large portion of the horse riders will probably come from the immediate vicinity of the park. Trail access is provided for these people on the east and west sides of the park, primary areas where horses are stabled. People who bring horses by trailer or truck will be able to unload them and park their vehicles at the equestrian area. This is nothing more than developed parking, loading ramps and hitching posts at the trailhead. These visitors would drive into the park through the main entrance on Terwilliger Boulevard and turn off to the horse area before reaching the Nature Center. The area will be located relatively near the Nature Center to enable horse riders to leave their animals and make use of the Center. Adequate screening and buffer area will be maintained to avoid conflicts.

Nature Center

The State Park's combination of natural resources and proximity to school systems in so populated a region makes an excellent opportunity for teaching ecology, especially man's relation to other members of the ecological system operating here. The Nature Center will provide the facilities required for this purpose and will be suitable for year round use by adults and students. The Center could also be valuable as an

ecological training center for teachers.

The Nature Center will do far more than serve surrounding school systems, for this will be the central attraction of the state park. Visitors who drive to the park will first experience the area at the Nature Center. The Center will be a place of orientation, where the visitor will discover what the park has to offer, where he can observe natural processes, view displays, take self-guided nature walks or enter the primary trail system for an enjoyable hike in pleasant surroundings.

Serving the Nature Center will be a picnic area with sufficient facilities for group lunches as well as individuals, and a parking area designed for busses as well as for cars.

Manager's Residence and Park Maintenance Area

A most effective location for a park manager's residence is near the point of greatest control, the park entrance. Immediately south of the park entrance on Terwilliger Boulevard stands a solid two-story house and a sound garage within the park taking. With some remodeling and major landscaping, this can become the manager's residence. On a bench south of and below the house is a large area suitable for the maintenance and service area. Access to the residence and maintenance area is gained from outside the entrance gate. The maintenance area can be closed off with gates without interfering with access to the residence.

Boundary

Tryon Creek Park had been proposed on a local level for many years before any action began. In 1962 the Portland Metropolitan Planning Commission, in a plan titled "Recreation Outlook 1962-1975," focused much attention on Tryon Creek as a valuable urban-wide park. However, because the area is split between the City of Oswego, Clackamas County, Multnomah County and the City of Portland, little progress was made.

Finally, Multnomah County initiated a plan for a Tryon Creek Park and acquired

a parcel of land. In 1971, when the Oregon State Parks and Recreation Section undertook the project, the boundary proposed by Multnomah County was adopted. This boundary, with a few minor adjustments, will enclose an adequate area for State Park purposes.

Several acres of land at the extreme south end of the park area are owned by the City of Portland for sewer line purposes. The land is a deep and steep sided canyon over which a major pedestrian and bicycle bridge is proposed. It is important that the natural scenic quality of this area be protected and maintained by a land management agreement or easement with the City.

THE PARK AND THE REGION

REGIONAL CHARACTERISTICS

Population

Tryon Creek State Park lies within the region of Oregon's greatest population density. Nearly half a million people, a quarter of the State's population, live within 10 miles of the park. This, and the rarity of close-in parks containing similar attractions, assure that the park will be used to any capacity to which it may be developed.

Recreation Needs

Oregon's Outdoor Recreation Plan estimates that 177,600 acres of additional recreation lands will be needed in the state by 1985. The area of greatest need is in District 2, Clackamas, Columbia, Multnomah and Washington Counties. Nearly twenty thousand acres of additional city-wide and regional park lands are required here by 1985. Tryon Creek's 560 acres will be a move toward satisfying this local need.

CLIMATE

Temperature

Tryon Creek is located in an area that is characterized by dry, moderately warm summers and wet, mild winters. The average summer-winter temperature range is a July maximum of 80 degrees F. and a January minimum of 33 degrees F. One hundred year extremes for the same months are 115 degrees F. and -5 degrees F.

The average growing season is a little over 200 days.

Precipitation

The tryon Creek watershed receives an average of about 45 inches of moisture a year. Approximately 70 percent falls from November through March, and only 5 percent from June through August. In some years, no precipitation falls for periods of from 30 to 60 or more days during late summer.

Most of the precipitation occurs as rain. The average annual snowfall is about 9 inches, with a water equivalent of only 2 percent of the mean annual precipitation. Snow seldom accumulates to depths of more than an inch or two and usually melts in a few hours; on rare occasions, 8 to 12 inches of snow may accumulate, but even the heaviest falls seldom remain longer than 3 or 4 days.

Measurable precipitation falls about 160 days a year. In winter, precipitation results from frequent storms that move in from the Pacific Ocean. Even as late as June, there is still about one chance in three of rain during any one day caused by these storms. In summer, precipitation usually results from occasional shower and thunderstorm activity.

Wind

Several times each year, October to early April, very strong winds strike the Oregon Coast. Occasionally, despite the protection afforded by the Coast Range, they move inland with considerable strength. Sustained speeds of 40 to 50 miles per hour can be expected to occur during most winters. A study by the Bonneville Power Administration shows that a sustained speed of at least 60 miles per hour

can be expected, on the average, every 10 years, 70 miles per hour every 25 years, and 80 miles per hour every 50 years. During the Columbus Day storm in 1962, winds in excess of 70 miles occurred throughout the Willamette Basin.

In the Portland area the prevailing winds during the winter come from the south and east. During the summer moist air flows out of the northwest.

Relative Humidity

Because of the prevalence of marine air, morning humidities are relatively high throughout the year. Daytime heating in the summer reduces the humidity to between 40 to 45 percent during mid-afternoon. During an east wind condition in summer, it usually drops to 15 or 20 percent, causing a high fire hazard.

GEOLOGY

Tryon Creek is generally underlain by beds of conglomerate, sandstone, and siltstone, together known as the Troutdale Formation. Water readily infiltrates these beds where they are exposed, and the small springs and seeps that issue from the formation add substantial amounts to streams draining the area.

Bedrock under the entire area is Columbia River Basalt. Its profile is quite irregular due to erosion during successive periods when streams were actively cutting down to and below the present sea level.

Three soil series have developed on the Troutdale Formation in the Tryon Creek park area. These are the Cascade Silt Loam, Kinton Silt Loam, and Delena Silt Loam.

The Cascade series consists of somewhat poorly drained, silty loam soils formed in loess-like material over mixed, old alluvium. The surface soil is dark brown silt loam about 17 inches thick. The upper subsoil is dark brown silt loam about 7 inches thick. It is underlain by a very firm, brittle, and mottled silt loam 1 or more feet thick. The depth to fragipan ranges from 20 to 30 inches. The subsoil textures range from silt loam to silty clay loam. Permeability is slow. The surface runoff is slow to rapid and erosion hazard ranges from slight to very high depending

on slope. Total available water holding capacity is 9 to 12 inches.

The climax species growing on Cascade soils are Douglas-fir and bigleaf maple.

A moderate windthrow hazard is associated with this soil series.

The Kinton series also consists of poorly drained, silty loam soils formed in loess-like material over mixed old alluvium. The surface soil is a dark brown silt loam, the subsoil is dark brown and mottled, and the substratum is a dark yellowish brown, mottled silty clay loam. Surface runoff is moderately good, and the erosion hazard ranges from slight to severe. Available waterholding capacity is 10 to 12 inches.

The Delena series is a poorly drained silt loam that occurs on swales and draws on smooth or rolling topography. The surface layer is very dark grayish brown silt loam about 13 inches thick. The upper subsoil is firm, dark grayish brown silty clay loam about 10 inches thick. It is underlain by firm, brittle, silty clay loam that grades into bedrock below 60 inches. The depth to fragipan ranges from 20 to 30 inches. Permeability is slow, surface runoff is slow, and the erosion hazard is slight to moderate. Total available waterholding capacity is 11 to 13 inches.

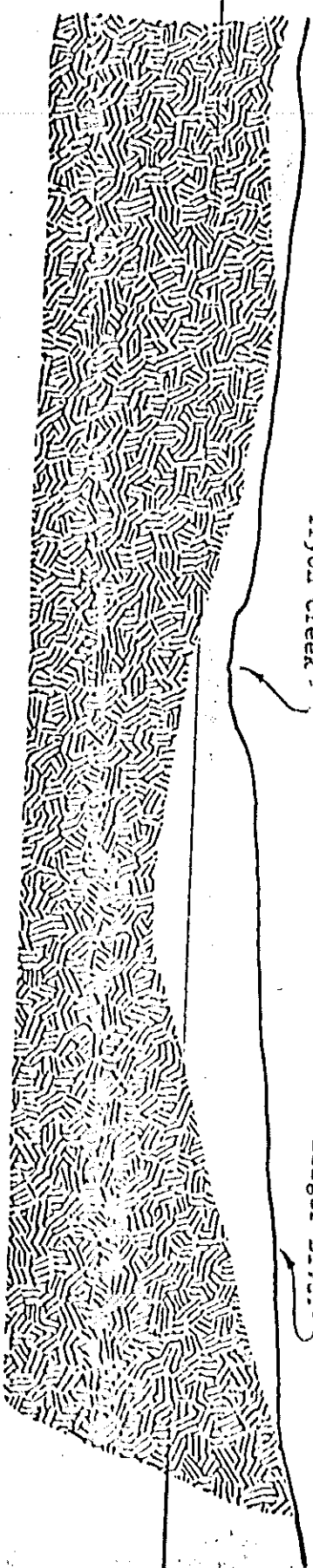
The climax species growing on Delena soils are western red cedar and Oregon ash. A high windthrow hazard is associated with this soil series.

500'

FOREST HILLS
School

Iryon Creek

Terrilliger Blvd.

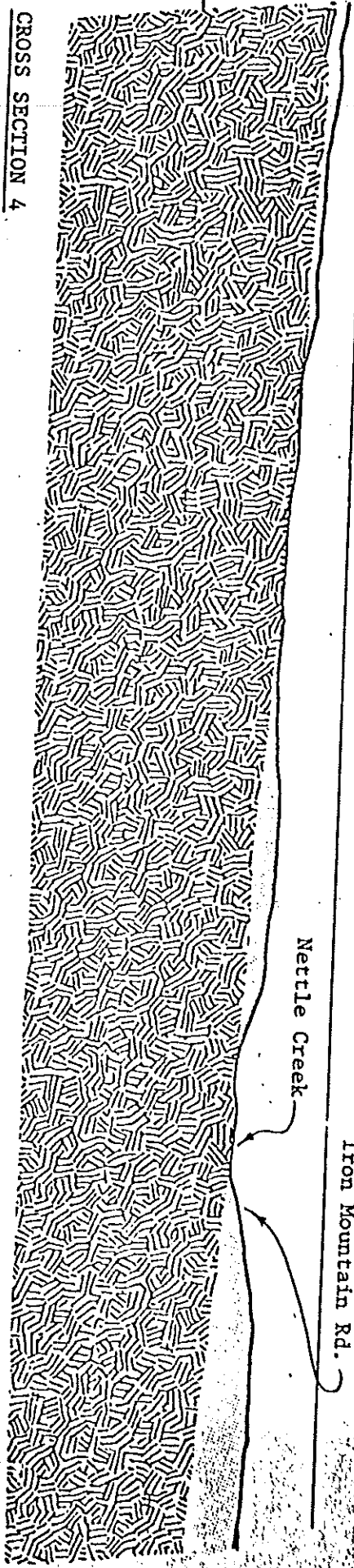


CROSS SECTION 3

500'

Nettle Creek

Iron Mountain Rd.

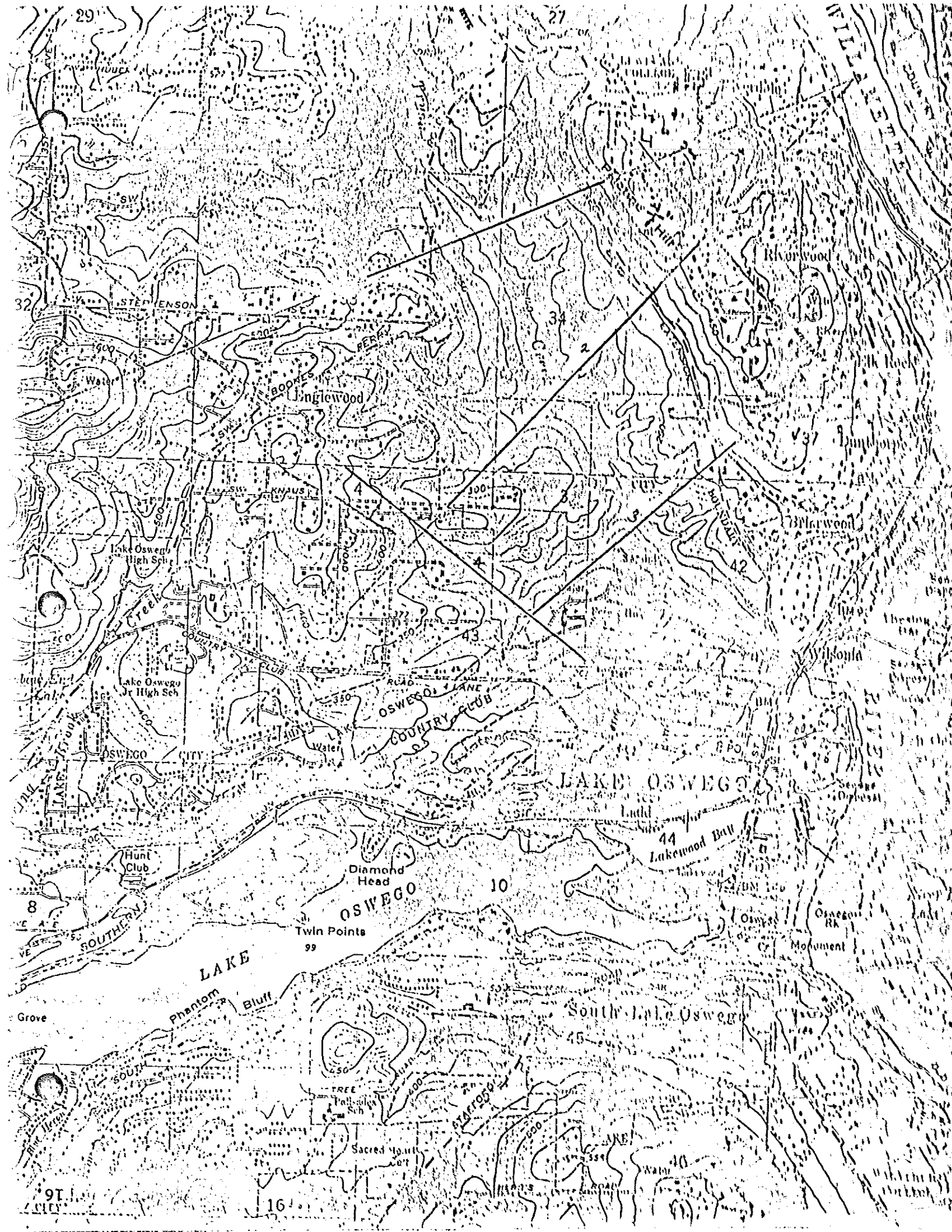


CROSS SECTION 4

Elevation

TROUTDALE FORMATION
COLUMBIA RIVER BASALT





29

27

32

34

STEPHENSON

Jinglewood

Lake Oswego High Sch

Lake Oswego Jr High Sch

OSWEGO CITY

Hunt Club

Diamond Head

Twin Points

LAKE

Phantom Bluff

LAKE OSWEGO

Lakewood Ball

10

South Lake Oswego

9T

16

HYDROLOGY

Tryon Creek is a short, perennially flowing stream that drains a small watershed north of Lake Oswego, south of Capitol Hill and east of West Portland. No measured data are available on the stream, so general observations are presented here. Tryon Creek is only 7 miles long, and is characterized by a large seasonal fluctuation in water levels. In the winter between November and January the stream carries a large volume of run-off that cannot infiltrate the soaked, low permeability soils and the paved and built on areas. The water rages down the creek bottom and spreads over its narrow flood plain; all along picking up the light silty soil and carrying it into the Willamette River. The channel is modified in places, logs, trash and brush pile into jams and small footbridges are washed away.

Through the spring the water level rapidly drops and changes from a muddy brown color to a fairly clear appearance. Some of its volume is still composed of run-off, but much of the water is now flowing out of subterranean aquifers.

All through the dry summer the stream and its primary tributaries continue to flow. Tryon Creek has cut a canyon down into an important aquifer, the Troutdale Formation, and in places is near the well charged Columbia River Basalt. Clean water surfaces through the streambed and in many places flows through the soils composing the narrow flood plain to maintain stream flow. Degradation of water quality during this period occurs through street drainage, construction that opens and scars the land surface near the stream and even from the use of trails through the muddy discharge zones.

Tryon Creek is actively cutting its channel and canyon deeper. The stream profile shows a fairly steep gradient as well as being perched 50 feet above the Willamette River. It appears that the basalt barrier at this end controls the rate at which the stream cuts into the ground.

PROFILE OF BOON FERRY
AND PRIMARY TERRACES



Elevation

Willamette River

thousands of feet

VEGETATION

The plant cover in the Tryon Creek Park area is generally typical in composition of the vast forests that one time covered much of the Tualatin country. However, many changes have naturally taken place as exotic plants were introduced in developed areas, and spread by the winds, birds, and animals. English ivy, holly, several blackberries, and many herbs are not historically a part of the plant community, but are now well established.

Man's activities have not missed any of the Tryon Creek area; and this, too, has shaped the plant communities now growing here. General logging first removed the giant Cedar and Douglas-fir that occupied the site a hundred years ago. Sewer and water lines have been dug through the area and have resulted in dense even-aged stands of early successional plants. Land developers have cleared large areas and then left them to the brush and blackberries that quickly choked them. Strong winds were able to tear down many remaining second growth trees that were exposed by these land clearing activities.

Today, after nearly eight years without a major disturbance an extremely varied group of plant communities covers the 500+ acres of park land. There are stands of strong and vigorous Douglas-fir and cedar, mixed and uneven aged stands, pure stands of even age and disturbed areas in various stages of natural plant succession.

The following basic vegetation types have been identified on a map of the park area:

1. Coniferous Stand

The dominant tree species in most of the coniferous stands is Douglas-fir. Various combinations can be found that range from a pure stand of Douglas-fir, through mixed Doug-fir, Cedar and Hemlock, to primarily Cedar. The average stand contains Douglas-fir, Western Red Cedar, Hemlock, Grand fir and an occasional big leaf maple, alder, engleman spruce and Pacific yew.

Most of these stands contain a second level of shade tolerant trees like grand fir, hemlock and cedar. The ground cover typically consists of vine

maple, salal, Oregon grape, red huckleberry, swordfern, red-flowering currant, trillium, and trailing blackberry.

2. Deciduous Stand

The primary deciduous tree species in this area is red alder. Many places it is found as a pure even-aged stand, due to its ability to effectively cover a disturbed site. Big leaf maple is a common associate of the alder, and is found in various densities throughout the area. It is rarely found as a pure stand; it is mixed with other species and is normally of uneven age.

Most of the deciduous stands contain random Douglas-fir, cedar, grand fir, and English holly. The ground cover is usually very dense and consists of Indian plum, small alders and maples, elderberry, nettles, blackberries, ninebark, salmonberry, scotch broom, thistles, meadowrue and ferns. A small stand of cottonwood is located in the southern part of the area.

3. Mixed Stand

Nearly all of the stands in the area are mixed to some degree, but this type contains about even densities of conifers and deciduous trees. They are usually quite brushy due to additional light passing through the canopy, and contain a large variety of plants. The more obvious plants are Douglas-fir, cedar, hemlock, grand fir, holly, red alder, bigleaf maple, vine maple, Oregon grape, ferns, pacific dogwood, trillium, false solomon seal, fairy bells, nettle, baneberry, red-flowering currant, blackberries, salmonberry, Indian plum, English ivy, elderberry, western wahoo and white columbine.

4. Brush

This type generally occupies the most recently disturbed sites that are not marshy. Because this type is open to full sunlight, it is usually very brushy. Some of the more common components are blackberries, snowberry, hawthorne, willows, ninebark, bitter cherry, alder, bracken fern, hazel, oregon

spray, cascara, scotch broom, elderberry, mustard, thistles, goldenrod, fireweed, and small Douglas-fir, cedar and maple.

5. Marsh

These wet areas are generally disturbed ground in an unnatural condition. They consist of parts of Tryon Creek flood plain where subsurface drainage is lacking due to a surfacing water table. Ground water seeps to the surface here as it makes its way to the stream channel. A main line of the Portland City sewer system was planted down the length of Tryon Creek. When this was done an excellent seed bed was created for the quick seeding alder that now covers much of the area as a dense stand 10 to 15 feet tall. Under and around this canopy are various grasses, sedges, equisetums, nettles, willows, skunk cabbage, water hemlock, cattail, and water parsley.

Plants Identified in Tryon Creek

Jean L. Siddall

Trees

Western hemlock - *Tsuga heterophylla*
 Douglas fir - *Pseudotsuga Menziesii*
 Grand fir - *Abies grandis*
 Western red cedar - *Thuja plicata*
 Red alder - *Alnus oregana*
 Vine maple - *Acer circinatum*
 Big leaf maple - *Acer macrophyllum*
 Pacific dogwood - *Cornus nuttallii*
 Pacific yew - *Taxus brevifolia*
 Englemann spruce - *Picea englemannii*
 Cottonwood - *Populus trichocarpa*
 Willow spp.

Shrubs and Flowers and Ferns

Bracken - *Pteridium aquilinum*
 Western sword fern - *Polystichum munitum*
 Anderson's Shield fern - *Polystichum Andersonii*
 Licorice fern - *Polypodium vulgare*
 Bladder fern - *Cystopteris fragilis*
 Lady fern - *Athyrium felix-femina*
 Spreading wood fern - *Dryopteris dilatata*
 Maidenhair fern - *Adiantum pedatum*
 Deer fern - *Struthiopteris spicant*

Yellow skunk cabbage - *Lysichitum americanum*
 Trillium - *Trillium ovatum*
 False solomon's seal - *Smilacina amplexicaulis*
 Fairy bells - *Disporum Hookeri oregonum*
 Twisted stalk - *Streptopus amplexifolius*
 Northwest nettle - *Urtica gracilis*
 Wild ginger - *Asarum caudatum*
 Curly dock - *Rumex crispus*
 Sheep sorrel - *Rumex acetosella*
 Pigweed - *Chenopodium album*
 Buttercup - *Ranunculus occidentalis*
 Miner's lettuce - *Montia perfoliata*
 Candy flower - *Montia siberica*
 Chickweed - *Cerastium arvense*
 Western baneberry - *Actaea arguta*
 Western meadowrue - *Thalictrum occidentale*
 Oregon grape - *Berberis aquifolium*
 Inside-out flower - *Vancouveria hexandra*
 Bleeding heart - *Dicentra formosa*
 Spring beauty - *Dentaria tenella*
 Mustard - *Brassica campestris*
 Foam flower - *Tiarella unifoliata*
 Fringe cup - *Tellima grandiflora*
 Youth on age - *Tolmiea Menziesii*
 Mitella sp
 Heuchera sp.

Red-flowering currant - *Ribes sanguineum*
Ninebark - *Physocarpus capitatus*
Steeplebush - *Spiraea Douglasii*
Large-leaved avens - *Geum macrophyllum*
Trailing blackberry - *Rubus macropetalus*
Evergreen blackberry - *Rubus laciniatus*
Himalayan blackberry - *Rubus procerus*
Black cap - *Rubus leucodermis*
Salmon berry - *Rubus spectabilis*
Thimbleberry - *Rubus parviflorus*
Scotch broom - *Cytisus scoparius*
Indian plum - *Osmaronia cerasiformis*
Hawthorn - *Crataegus Oxyacantha*
Wood sorrel - *Oxalis oregana*
Yellow oxalis - *Oxalis Suksdorfii*
Western wahoo - *Euonymus occidentalis*
St. John's wort - *Hypericum scouleri*
Cascara - *Rhamnus purshiana*
Johnny jump up - *Viola glabella*
Fireweed - *Epilobium angustifolium*
Willow herb - *Epilobium paniculatum*
Evening primrose - *Oenothera biennis*
English ivy - *Hedera Helix*
Sweet cicely - *Osmorhiza chilensis*
Queen Anne's lace - *daucus carota*
Poison hemlock - *Conium maculatum*
Water parsley - *Oenanthe sarmentosa*
Cow parsnip - *Heracleum lanatum*
Bunchberry - *Cornus canadensis*
Indian pipe - *Monotropa uniflora*
Red huckleberry - *Vaccinium parviflorum*
Starflower - *Trientalis latifolia*
Morning glory - *Convolvulus sp*
Blue gilia - *Gilia capitata*
Waterleaf - *Hydrophyllum tenuipes*
Self heal - *Prunella vulgaris*
Bittersweet nightshade - *Solanum dulcamara*
Common plantain - *Plantago major*
English plantain - *Plantago lanceolata*
Bedstraw - *Galium sp*
Blue elderberry - *Sambucus glauca*
Red elderberry - *Sambucus callicarpa*
Twin flower - *Linnaea borealis, var. americana*
Snowberry - *Symphoricarpos albus*
Orange honeysuckle - *Lonicera ciliosa*
Yarrow - *Achilles millefolium*
Coltsfoot - *Petasites speciosa*
Thistles - *Cirsium sp*
Chicory - *Cicorium intybus*
Sow thistle - *Crepis capellaris*
Burdock - *Arctium sp*
Goldenrod - *Solidago elongata*
Wild cucumber - *Marah oreganus*
Cat-tail - *Typha latifolia*
Wild Iris - *Iris tenax*
English holly -
Poison Oak -

WILDLIFE

Existing Habitat

Tryon Creek, with its mixed woodlands, wet areas, stream bank woodlands and brush patches is a valuable and productive wildlife habitat: The wonderful variety in vegetation types expressed by the abundance of edge zones (where several types meet) are an important requirement for the maintenance of a healthy wildlife population. However, pressures from cultural development, domestic animals, land and plant modification, and water pollution have had a very strong effect on the wild inhabitants along Tryon Creek.

In the Tryon Creek Park area the habitat is fit and should support a greater wildlife population than is now present. This situation is probably caused by the many cats and dogs that come into the area, by young people with air rifles, slingshots and rimfire rifles, and by the poor water quality in the streams.

Habitat Requirements

Following are a few animals that should be able to thrive in Tryon Creek Park under full protection and with stream improvement. A few survive well now in the area, others occur only rarely.

Black-Tailed Deer Before intensive urban development occurred in this area, deer ranged through the park's woodlands and meadows. Rare sightings of deer in the park area are still occasionally reported. Black-tailed deer require a brushy, edge-type habitat characterized by stands or patches of broadleafed brush species interspersed with fields, pastures, meadows, or coniferous stands.

It is doubtful that any deer presently live in the park area, but the establishment of a small group may be possible.

Gray Squirrel The western gray squirrel requires an arboreal habitat of deciduous or coniferous trees. This animal is not strongly affected by urbanization as is evidenced by large numbers inhabiting city parks. A moderate number of gray

squirrels inhabit the park area, and a larger population would occur with adequate protection.

Opossum Introduced in the 1930's, opossum are very adaptable as to habitat and may be found from downtown Portland to relatively primitive forested areas. Opossum fully occupy the park area, and will continue to thrive here.

Raccoon Raccoon are rather common in the park area. They are compatible with man's activities and may even be found in well developed residential areas. These animals require a rather open deciduous habitat with fresh water nearby, all available in Tryon Creek Park.

Muskrat The occurrence of muskrat in the park area is uncertain. They are normally found in marshes and slow moving streams where an abundance of sedges and cattails are available. Perhaps the establishment of a large pond and cattail stands will encourage this as well as other desirable animals.

Nutria Nutria requirements are nearly identical to those of muskrats. They were introduced into Oregon within the last 25 years when they were released by unsuccessful fur farmers who had been raising them commercially. If the native muskrat is established, nutria would be an undesirable competition for the same niche and would adversely affect the muskrat.

Beaver An occasional beaver can be found in the Tryon Creek park area. They require a habitat where there is an abundance of streamside growth such as willows, alder, birch and cottonwood. Beaver require clean water and will only tolerate urban and agricultural development that does not destroy streamside habitat or degrade water quality.

The park area has an excellent streamside beaver habitat. However, water quality at times is very marginal in Tryon Creek due to heavy siltation, an overload of nutrients and other pollutants from street, yard and other drainage and solid waste in the form of plastics, tires, papers, and other general trash. Very low summer flows accentuate these problems and also reduce the protection afforded by deeper water.

Some of these problems can be remedied to encourage a continuous establishment of a healthy beaver colony in the park.

Mink Mink are probably not present in the park area, although in the past they were surely found here. They require clean water and a stream or lake habitat relatively undisturbed by urbanization. Mink have a fairly wide range, but with stream improvement their re-establishment here may be possible.

Coyote Coyotes are found throughout the Willamette Basin, in the most dense urban areas, and in primitive undeveloped areas. The coyote has been able to adapt to man's changes in the environment so that a pronounced increase has occurred during the last 25 years. A coyote's range is too extensive for its establishment in the park area, but an occasional animal probably travels through the park.

Many other animals have found a suitable habitat along Tryon Creek. Skunks, red squirrels, chipmunks, weasels, rats, mice, frogs, salamanders, and snakes thrive here. Bird life is abundant with many residents as well as the occasional visitor.

The following is a list of birds that have been observed in the park area.

Birds Seen Within Tryon Creek Park

Jean L. Siddall

Mallard
Red-tailed hawk
Ruffed grouse
California quail
Ring-necked pheasant
Band-tailed pigeon
Mourning dove
Screech owl
Great horned owl
Rufous hummingbird
Red-shafted flicker
Pileated woodpecker
Yellow-bellied sapsucker
Hairy woodpecker
Downy woodpecker
Western wood pewee
Olive-sided flycatcher
Violet green swallow
Steller's jay
Crow
Black-capped chickadee
Chestnut-backed chickadee
Bushtit
White-breasted nuthatch
Red-breasted nuthatch
House wren
Bewick's wren
Robin

Varied thrush
Hermit thrush
Swainson's thrush
Golden-crowned kinglet
Ruby-crowned kinglet
Cedar waxwing
Starling
Warbling vireo
Orange-crowned warbler
Black-throated gray warbler
Wilson's warbler
Brown-headed cowbird
Western tanager
Black-headed grosbeak
Evening grosbeak
Purple finch
House finch
American goldfinch
Lesser goldfinch
Rufous-sided towhee
Oregon junco
Slate-colored junco
Chipping sparrow
White-crowned sparrow
Golden-crowned sparrow
Fox sparrow
Song sparrow
House sparrow
Peragreen falcon

CULTURAL FEATURES

The interior of Tryon Creek Park has not escaped all of the development that has occurred around it. Presently the closest a motor vehicle can get into the area is around the perimeter on Boones Ferry Road or on Terwilliger Boulevard. However, the area contains a large number of abandoned roads that were graded in, but now either serve as trail routes or are completely overgrown and lost. Some of the oldest roadbeds were made over 50 years ago when the virgin timber was being logged. It is reported that a mill during this time was located in the southwest corner of the park in Clackamas County. A number of old roadbeds are found here that now carry trails.

Most recent roadway attempts were connected with subdivision efforts in the park. For example, Englewood Drive was once planned to continue into the west side of the park, pass through the county parcel, and connect to Boones Ferry Road. The street was graded into the park as far as the canyon, and now serves as a trail. In the southeast corner of the park 34 acres of land was cleared and streets graded in before the project was abandoned. One of the streets now serves as a trail.

Utilities have been laid through the park area, and have affected its present appearance. A large city water line crosses the canyon on the county line. The resulting scar and roadway was immediately adopted as a trail route. A 6-inch waterline crosses the north end of the park and remains of an old overgrown roadbed is the only visible evidence. There are no trails in this area.

In 1962 Portland extended a primary sewer line down the full length of Tryon Creek to tie into the sewer treatment plant on the banks of the Willamette River. The pipe was dug in very close to the stream, even crossing it many times, and as a result the stream character was altered. Dense stands of even-aged alder quickly covered the bared water-soaked soil along with willows, grasses and sedges. Manhole stands thrust from the ground about every hundred yards, and a trail generally connects them above the ground. This trail is periodically kept open by sewer inspection people.

A number of minor soil drainage or storm drain lines empty into Tryon Creek and

its tributaries. Their source and purpose must be discovered to enable a degree of water quality control within the park.

Overhead electric transmission lines occur along Terwilliger Boulevard and along parts of Boones Ferry Road. There are no lines that intrude across the park area.

It is obvious that the present network of trails in the park area are generally the result of other developments that created pathways through the thick tangle of vegetation. Therefore, many of the trails, or portions of them, are poorly located with respect to soil and moisture conditions, steep slopes, scenic quality and destination.

Around the perimeter of Tryon Creek Park, within the desirable boundary, are a number of houses. Some may be valuable as employee housing, but the others would probably be removed and their sites allowed to return to a natural condition.

DEVELOPMENT STANDARDS

TRAIL STANDARDS

Horse riding, hiking, nature trail walks and some bicycling are considered important and desirable activities and will be accommodated in this state park. Four individual, single purpose trail systems will be made to accommodate this range of trail activities with a minimum of conflict.

All the trails will be built and maintained so they are usable year-round. This will require proper drainage considerations, grades and surface composition. The following standards will apply to Tryon Creek Park trails.

1) General Hiking Trails

Dimensions Generally, the trail tread will be from 1½' to 3' wide. One and one-half feet will be the minimum width at all locations, and three feet should be the maximum width unless additional width is required for safety. At switchback landings, graded trails should be five feet wide. Switchbacks should be designed to minimize the amount of excavation and cut-bank exposure.

Alignment The ideal alignment will "fit" the trail to the ground, and afford the user the best views from the trail. The alignment should follow the contours of the land and be generally curvilinear. Sharp angular turns and long, straight stretches should be avoided. Wherever possible, switchbacks should be avoided. When necessary, the most desirable alignment for a switchback utilizes a topographic feature as a turning point so that it does not appear to be "carved" out of the hillside. Provisions for screening and protecting the switchbacks with trees or brush should be incorporated in the design when it cannot be constructed around a natural topographic feature. The alignment should angle across the natural slope of the hillside, rather than take a route directly up or down the slope which affords little opportunity to drain water away, and can cause severe erosion.

Grade As a general rule, the trail should not be steeper than 10 percent. Grades may exceed 10 percent if the steeper grade does not impair service--

ability, safety, preservation, and trailside esthetics. No grade should be so steep that erosion and safety is a problem.

Long stretches of a given grade should be avoided. The grade should undulate gently to provide natural drainage and to eliminate monotonous level stretches and long, steady grades that are tiring to the traveler.

Grades should be lessened at approaches to switchbacks and the turns should be as nearly level as practicable.

Clearing As a general rule, hiking trails will be cleared of all small trees, brush, limbs, down logs, and debris to a minimum width of five feet. Trees larger than eight inches in diameter should not be cut. The trail should be routed around them. The overhead clearance shall be a minimum of eight feet above the trail tread. All stumps within the trail clearing width shall be cut flush as practical with the ground or removed.

Clearing beyond that necessary for adequate room along the trail may be desirable to provide openings so that the traveler can enjoy a particular scene. These clearings should be planned to give the appearance of a natural opening. Remove "hazard" trees which would endanger trail users.

Structures Materials used for structures generally should be of a quality to permit long life, and designed to harmonize with the surrounding environment. Raised sections, puncheon, retaining walls, and footbridges should be built of suitable native materials, simple and unobtrusive.

At small intermittent streams, large stepping stones or a foot log with hand railing will usually be adequate.

Drainage Provide surface drainage by undulating the grade and outloping the surface, or by installing water bars. Use metal or wood culverts or

open rock drains to provide cross drainage when needed. A minimum use of metal culverts is preferred. The most troublesome drainage problem that will be encountered here is subsurface water. Where it is possible the water table should be lowered along the trail by drainage ditches, and the tread built up and stabilized internally with gravel. Occasional seeps or springs under the trail should be handled with perforated culverts or French drains. Some larger boggy sections will require a built-up trail of rock, gravel and a firm soil surface.

Trail Surface Tread surfacing material which will blend with and preserve the natural environment will be used where native soil cannot support the traffic, or as necessary to prevent severe conditions of erosion, dust, or mud. Wood chips or bark dust will not be used.

2) Equestrian Trails

Nearly all features of equestrian trails are the same as hiking trails. There are differences in dimensions, clearing, and bridge structures.

Dimensions

Generally, the trail tread will be from a minimum of 3' to a maximum of 6' wide. At switchback landings graded trails should be 8' wide.

Clearing As a general rule, all projecting limbs, brush, down logs, debris, and sapling trees will be cleared to a minimum width of eight feet. If trees larger than eight inches in diameter cannot be avoided, they shall be cut in order to provide a minimum cleared width of six feet. The overhead clearance shall be a minimum of 10 feet above the trail tread.

Structures

Wherever possible these trails should be located where a natural fording of the creek is possible. The stream bottom and banks must have a gradual profile and be firm enough to handle heavy horse traffic

without development of a bog hole.

When bridges are necessary they will be designed to harmonize with the surrounding environment. A bridge deck should be six feet wide, and have heavy guard rails on each side.

3) Nature Center Trails

These trails will be designed to handle a greater intensity of use by people with a wide range of physical ability.

Dimensions The trail tread will be 48" wide.

Alignment The trail will fit the topography with a minimum of cutting or filling. Sharp angular turns and long, straight stretches will be avoided.

Grade Maximum grade will not exceed 9 percent except where unavoidable for short distances where it may reach 15 percent.

Clearing These trails should be cleared of all small trees, brush, limbs, down logs and debris to a minimum width of six feet. Overhead clearance will be a minimum of eight feet.

Trail Surface Tread surfacing material should be natural but hard and smooth. Mixing 1/2-inch minus angular gravel and a soil cement into the tread soil may be necessary in places to achieve a desirable surface.

Special trails may require an asphaltic concrete surface.

4) Bicycle Trail

This will be a two-way, north-south trail that will closely follow Terwilliger Blvd. In places it will be directly adjacent to the road with a physical separation and other places it will be just inside the park boundary.

Dimensions The trail surface should be eight feet wide.

Clearing Vegetation will be cleared to a minimum of two feet from the edge of the trail surface. Minimum overhead clearance will be ten feet above the surface. All dead and hazardous trees and branches will be removed from above the trail.

Trail Surface Asphaltic concrete wearing surface. Other specifications are found in the 1972 Footpaths and Bike Routes - Standards and Guidelines by the Oregon State Highway Division.

Hiking Trails

tread width - 1- $\frac{1}{2}$ ' to 3', 5' switchback landings
grade - 10% max.
clearing - 5' wide, 8' high
structures - natural materials (logs, poles, rough planks, etc.)
surface - natural

Equestrian Trails

tread width - 3' to 6', 8' switchback landings
grade - 10% max.
clearing - 8' wide, 10' high
structures - natural materials
surface - natural

Nature Center Trails

tread width - 48"
grade - 9% max.
clearing - 6' wide, 8' high
surface - stabilized natural

Bicycle Trail

tread width - 8'
grade - 10% max.
clearing - 12' wide, 10' high
surface - asphaltic concrete

DEVELOPMENT STANDARDS

An optimum quantity of recreational trails in this park is 17 miles. This considers physiographic limitations, destinations, and maintenance of a high quality setting. The 17 trail miles are allocated as follows:

<u>Type</u>	<u>Length</u>	<u>Remarks</u>
Equestrian	4.5 miles	This is a minimum length of trail for a horse riding attraction, yet the maximum that should be allocated to this use due to park size, terrain limitations and other uses.
Bicycle	2.0 miles	This is primarily a route into and through the park. It is based on terrain limitations, bicycling populations and competing uses.
Interpretive Nature	2.3 miles	These are directly related to the Nature Center and will be used as a part of the Center. The 91-acre area containing these trails was established to provide a convenient walking distance in any direction from the building, and still include a wide variety of natural features.
General Hiking & Walking	8.4 miles	This fills out the desirable trail capacity for the park. It is properly the greatest distance because it will support the more popular park activities.

FACILITY CAPACITY STANDARDS

Optimum trail development - 17 miles

4.5 miles of equestrian trail with a peak capacity of 6 horses per mile and a turnover rate of 6 gives a daily capacity of 162 horse riders.

2.0 miles of bicycle trail with a peak capacity of 30 bikes per mile and a turnover rate of 34 gives a daily capacity of 2,040 bike riders.

2.3 miles of nature trails with a peak capacity of 60 people per mile and a turnover rate of 8 gives a daily capacity of 1,104 people.

8.4 miles of hiking trails with a peak capacity of 50 people per mile and a turnover rate of 6 gives a daily capacity of 2,520 people.

Nature Center Building should handle a peak of 90 people per hour.

80% of people using hiking trails will arrive by car.

90% of people using nature trails will arrive by car.

90% of people using Nature Center will arrive by car.

10% of people using equestrian trails will arrive by car.

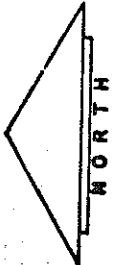
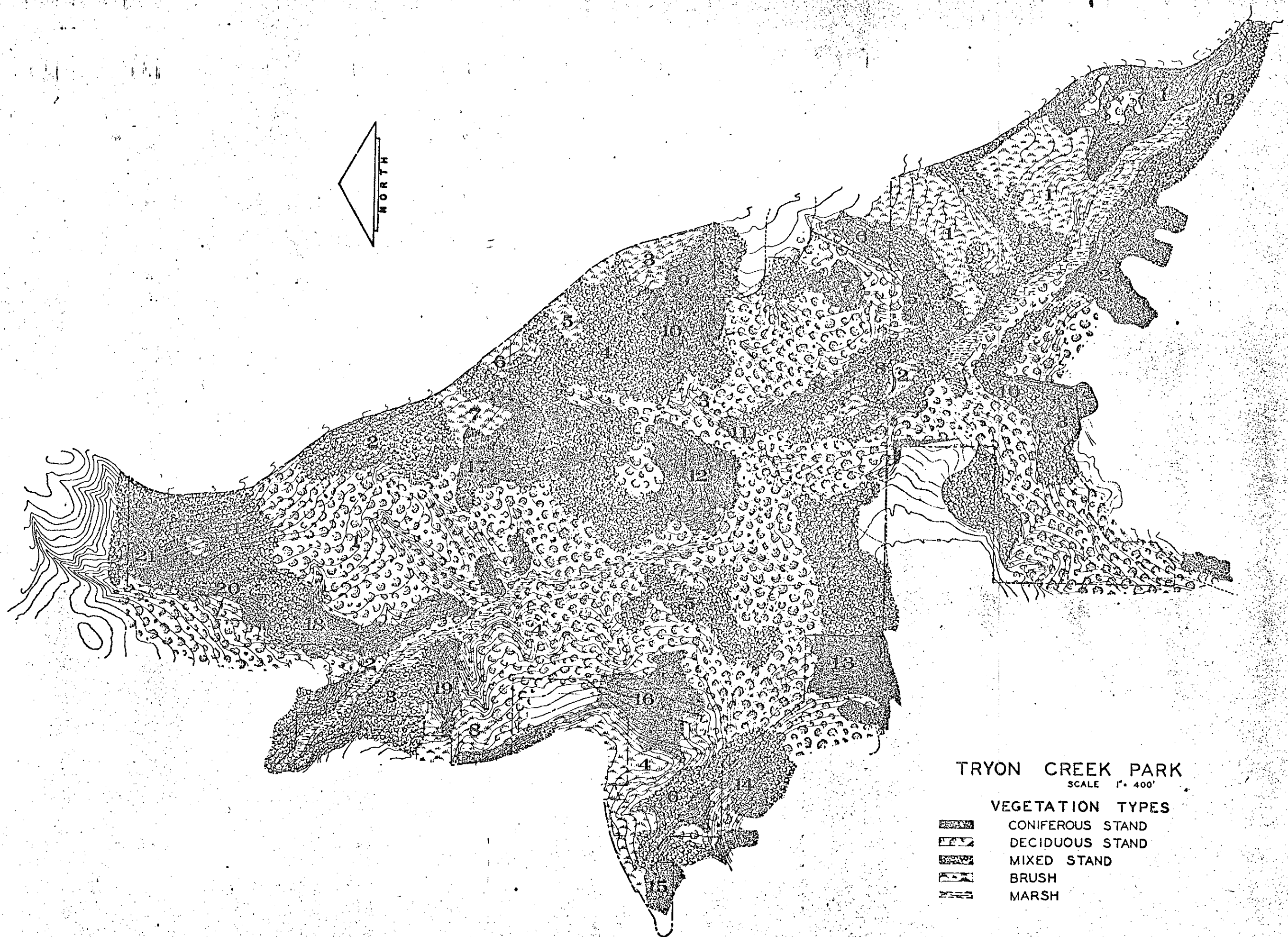
With an average parking area turnover rate of 6:

Capacity use will require space for about 156 cars, or 6 buses and 96 cars, or 9 buses and 65 cars.

Nature Center Parking Area should be designed to accommodate 9 buses and 40 cars at any one time. Weekend use will not require much bus parking, so part of the bus area can be used by cars.

Secondary Parking Area off Boones Ferry Road should accommodate 25 cars.






Equestrian Area Parking should accommodate 6 pickup truck-trailer rigs.

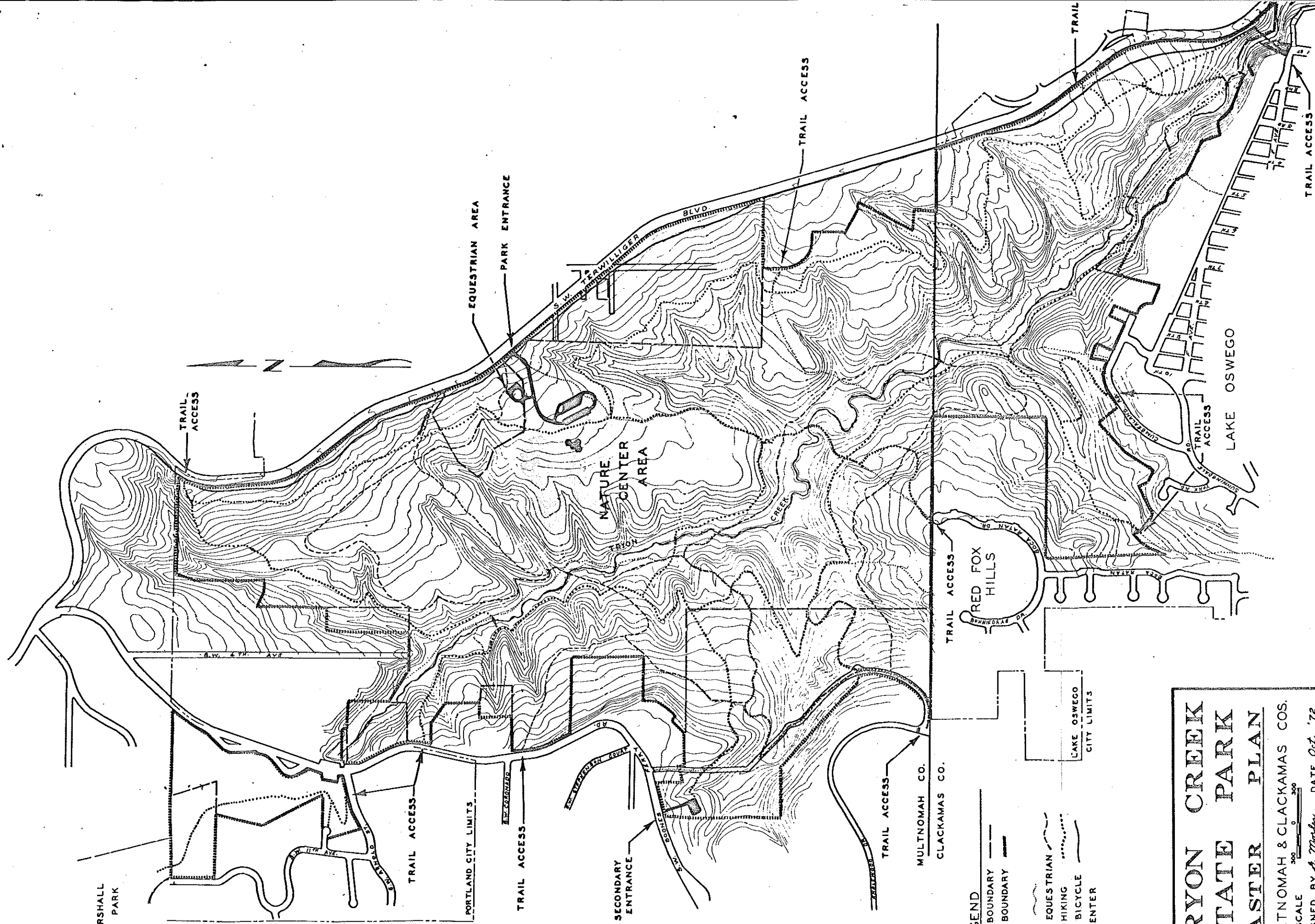


TRYON CREEK PARK

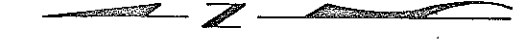
SCALE 1" = 400'

VEGETATION TYPES

-  CONIFEROUS STAND
-  DECIDUOUS STAND
-  MIXED STAND
-  BRUSH
-  MARSH



MARSHALL PARK



TRAIL ACCESS

PORTLAND CITY LIMITS

TRAIL ACCESS

SECONDARY ENTRANCE

EQUESTRIAN AREA
PARK ENTRANCE

NATURE CENTER AREA

TRAIL ACCESS

TRAIL ACCESS
MULTNOMAH CO.
CLACKAMAS CO.

LEGEND

- AUG. 1972 BOUNDARY ———
- PROPOSED BOUNDARY - - - - -
- TRAILS -
- EXISTING EQUESTRIAN ———
- PLANNED HIKING - - - - -
- PLANNED BICYCLE ·····
- NATURE CENTER ———

LAKE OSWEGO CITY LIMITS

**TRYON CREEK
STATE PARK
MASTER PLAN**

MULTNOMAH & CLACKAMAS COS.

SCALE 0 300 300

DESIGNED BY *A. Barber* DATE *Oct. '72*

APPROVED BY _____ DATE _____
STATE PARKS SUPERINTENDENT