

# **Forest Resource Management Plan 2012-2021**



**Parks and Cemeteries Division  
City of Klamath Falls, Oregon**

# Moore Park Forest Resource Management Plan 2012-2021

**Date of Plan:** Draft June 2011, Final April 2012

**Landowner Name:** City of Klamath Falls

**Landowner Address:** PO Box 237, Klamath Falls, OR 97601

**Landowner Phone:** 541/883-5351

**Tract Name:** Moore Park

**Tract Acreage:** This plan covers approximately 483 acres of wildland of the total 543 acres in Moore Park. The remaining 60 acres is landscaped or improved.

**Tract Legal Description:** Portions of Sections 25 and 36 of T38S, R8E, WM  
Portions of Sections 30, 31 and 32 of T38S, R9E, WM

**Tax ID:** R-3808-025DB-03200 (1.272556 mapped acres)  
R-3808-025DC-00700 (28.999016 mapped acres)  
R-3808-025DD-10300 (4.416749 mapped acres)  
R-3808-03600-00100 (79.964824 mapped acres)  
R-3809-030BD-00100 (2.667028 mapped acres)  
R-3809-03000-00100 (220.817831 mapped acres)  
R-3809-03100-00100 (204.703387 mapped acres)  
Total acres (542.841391)

**Seed Zone** ponderosa pine 4

**Latitude/Longitude:** 42°13.8805' by -121°48.5884' (Gingerbread House)

**Quad Name & Number:** Klamath Falls, 42121B7

**Land Use Classification:** Special Reserve (west portion), Public Facilities (east portion)

**Fire Protection District:** Klamath Unit, Klamath-Lake District, Oregon Department of Forestry (wildland fire only)  
Klamath County Fire District #1 (landscaped area, structures and buffer around structures)

**Watershed:** Upper Klamath Lake to the North (18010203)  
Lost to the South (18010204)

**Elevation Range:** 4145 feet to 5100 feet

**Writer Names/Numbers:** Anne C. Maloney, forester, Oregon Department of Forestry, 541/883-5681  
Gene Rogers, retired U.S. Forest Service forester, now consulting as Wildland Fire Technologies, Inc., 541/883-2556

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## Plan Introduction

Moore Park is located in south-central Oregon within the City of Klamath Falls. The Park is administered by the Superintendent of the Parks and Cemeteries Division of the city government. A primary mission of the Parks Division is to provide outdoor recreational and education opportunities for the public. Moore Park is relatively unique among Oregon city parks as it contains several hundred forested acres. The threat of damaging wildfires initiated more active planning and management of the Moore Park resources. This plan and its associated "Fuels Management Plan for Moore Park" (Gene Rogers, 2005, Appendix A01) have been prepared at the request of the City and are intended to provide guidance and recommendations for a 10-year period. The overall goal of the plan is long-term sustainable management of the wildland vegetation, wildlife and facilities in Moore Park for recreational and public education opportunities.

Several professionals and citizens have provided input to the plan including Gene Rogers of Wildland Fire Technologies, Inc.; Tom Collom of the Oregon Department of Fish and Wildlife; Dave Ross of the US Fish and Wildlife Service; Valerie Lantz, Ken Hay and John Bellon of the City of Klamath Falls; Anne Maloney, Dennis Lee and Craig Leech of the Oregon Department of Forestry; and Mike Benedict and Andy Mudd of The Friends of Moore Park. The City of Klamath Falls is not obligated in any way to complete the recommended treatments. Policy guidance is found in the Parks, Recreation and Open Space Master Plan (City of Klamath Falls, 2000). This plan is an element of the City's Comprehensive Plan. Activities of the parks staff are governed by the Parks Advisory Board, the Planning Commission and the City Council. The Parks Advisory Board meets regularly to review park management activities.

The original park commissioners of Klamath Falls, appointed in 1911, faced similar challenges as today's managers in establishing public parks. Finding appropriate property and funding the property purchases required several years of effort prior to Moore Park being acquired by donation from the Moore family in 1926. The same meeting that accepted the park donation from the Moore Family also established the first property tax for park purposes. Those funds were used to begin park development in 1927, starting with a well and mapping. Brush clearing was started (by one employee for eight months @ \$150 per month) followed by the construction of tennis courts. The superb rock wall framing the park entry and front lawns was commissioned by Clara Moore to memorialize Rufus Moore and dedicated in 1934, Image 1 on page 6.

Many of the park facilities were constructed in the early decades, from the 30's through the 50's, with a few updates done over the years. Today, the lawns, rock wall and tennis courts continue to serve thousands of park visitors each year. The park hosts many events, picnics, family outings and offers many individuals a great boating, walking or jogging setting. Opportunities for education and research have increased over the years. Social gatherings, soccer, cross country runs and winter sledding, cross-country skiing and snowshoeing bring crowds into the park year-round. Increasingly popular activities at Moore Park include walking paths and disc golf in the forested areas. Boy Scouts utilize the forested area for an annual day camp. Those first park commissioners would be happy to see how treasured the park has become over the years.

This plan has several chapters that follow the Oregon Forest Stewardship Planning Guidelines. Numerous reference or planning documents are found in the Appendices. This plan and reference materials is intended to be electronic in format due to the significant number of pages. A master copy will be printed and filed at the office of the City Parks following approval by the City Council.

This plan addresses a variety of management topics for the park. It is intended to be a strategic management plan. Project-specific plans will be developed for identified sites on the ground based on recommendations in this plan. Project planning and post-treatment evaluations have and should continue to use an inter-disciplinary team to capture expertise on a variety of natural resource topics.

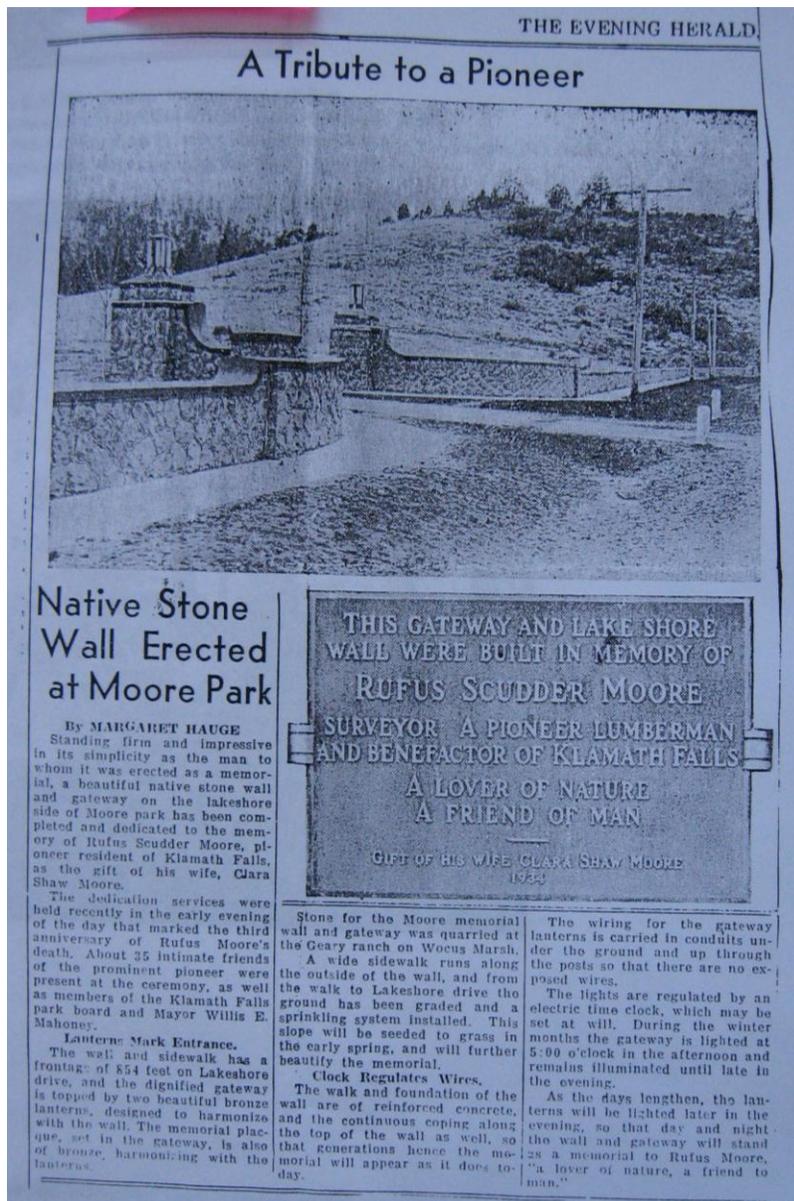


Image 1 – provided by Klamath County Museum

## Landowner Goals and Objectives

The City of Klamath Falls owns and maintains Moore Park as green space within the city limits. A native forest of this size falling entirely within a city boundary is rare. Green space typically provides opportunities for residents and visitors to recreate in a variety of ways in the outdoors. Moore Park has been, and continues to be, an important site for the public to experience nature, exercise and celebrate holidays or special occasions. City managers recognize the importance of outreach to diverse public groups and agencies in order to continue to provide these opportunities. Public understanding, acceptance and support are critical components of each of the following objectives.

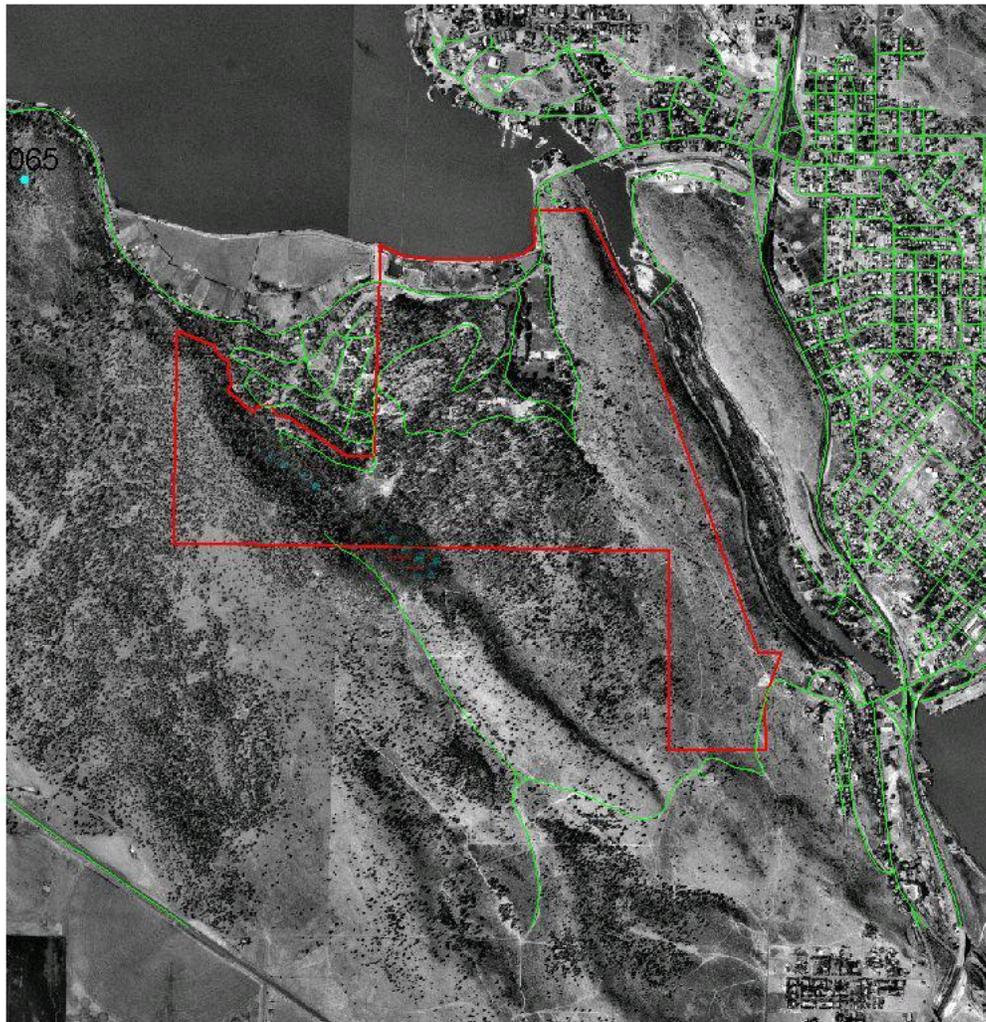
1. Maintain healthy forest and shrub lands.
  - a. Monitor natural regeneration of resident conifers, hardwoods and shrubs. Plant in appropriate locations to ensure replacement trees for current overstory trees.
  - b. Control noxious weeds.
  - c. Maintain tree health and species diversity by periodic selective removal of undesirable trees.
  - d. Apply fuel treatments as prescribed in the Fuels Management Plan to mitigate potential fire hazards.
  - e. Protect sensitive plant species during treatments.
  - f. Remove abandoned personal property and debris from past activities.
2. Maintain and enhance wildlife habitat.
  - a. Monitor habitat components for diversity and condition.
  - b. Protect critical components from unnecessary disturbance.
  - c. Control illegal activities.
  - d. Plan and manage for replacement eagle nest and perch trees.
  - e. Establish beneficial water sources for wildlife use.
  - f. Provide interpretation of diverse habitats.
  - g. Develop a wildlife plan for the Park.
  - h. Coordinate with adjacent landowners for wildlife objectives.
3. Protect cultural & natural features.
  - a. Identify, protect & interpret culturally significant sites.
  - b. Identify, protect & interpret significant natural features.
  - c. Complete cultural surveys of the Park.
  - d. Maintain records of historic and cultural sites.
  - e. Survey, establish and sign Park boundaries.
4. Provide a broad spectrum of dispersed and developed, non-motorized recreation opportunities that are compatible with the above objectives. (Horses and dispersed camping are prohibited.)
  - a. Continue to provide facilities for youth group day and overnight camps.
  - b. Establish a designated trail system, connected to neighboring trails, for hiking, running and cross country skiing for various skill levels.
  - c. Establish a separate designated trail system for mountain bicycles with various skill levels.

- d. Decommission undesirable non-game trails.
- e. Restore the winter sledding/snowboarding/skiing hill.
- f. Provide trails suitable for universal access.
- g. Develop a formal recreation plan for the Park.

An effort is underway to establish and implement this 10-year resource management plan for Moore Park's 483 acres of forest, shrub and open land. Management has primarily been focused on the developed areas of the Park in the past. An extensive harvest of dead, dying, overcrowded and hazardous trees was completed in 1995. See Appendix A02 for a narrative about this project. The fuels management plan was approved in 2005 with many of its recommendations implemented, including some demonstration treatments in 2004.

## Property Maps/Woodland Description

Moore Park encompasses approximately 543 acres, including 60 acres of developed areas and 483 acres of forest and wildland. It is bordered by Upper Klamath Lake, the Lynnewood residential subdivision and other private property and home sites on the north, west and south side and the Link River/Pacific Power and Light ownership on the east side. Forestland in other ownership borders the Park on the west and south sides (Image 2). The majority of these adjacent forestlands are undergoing development into single-family home sites (Map 1).

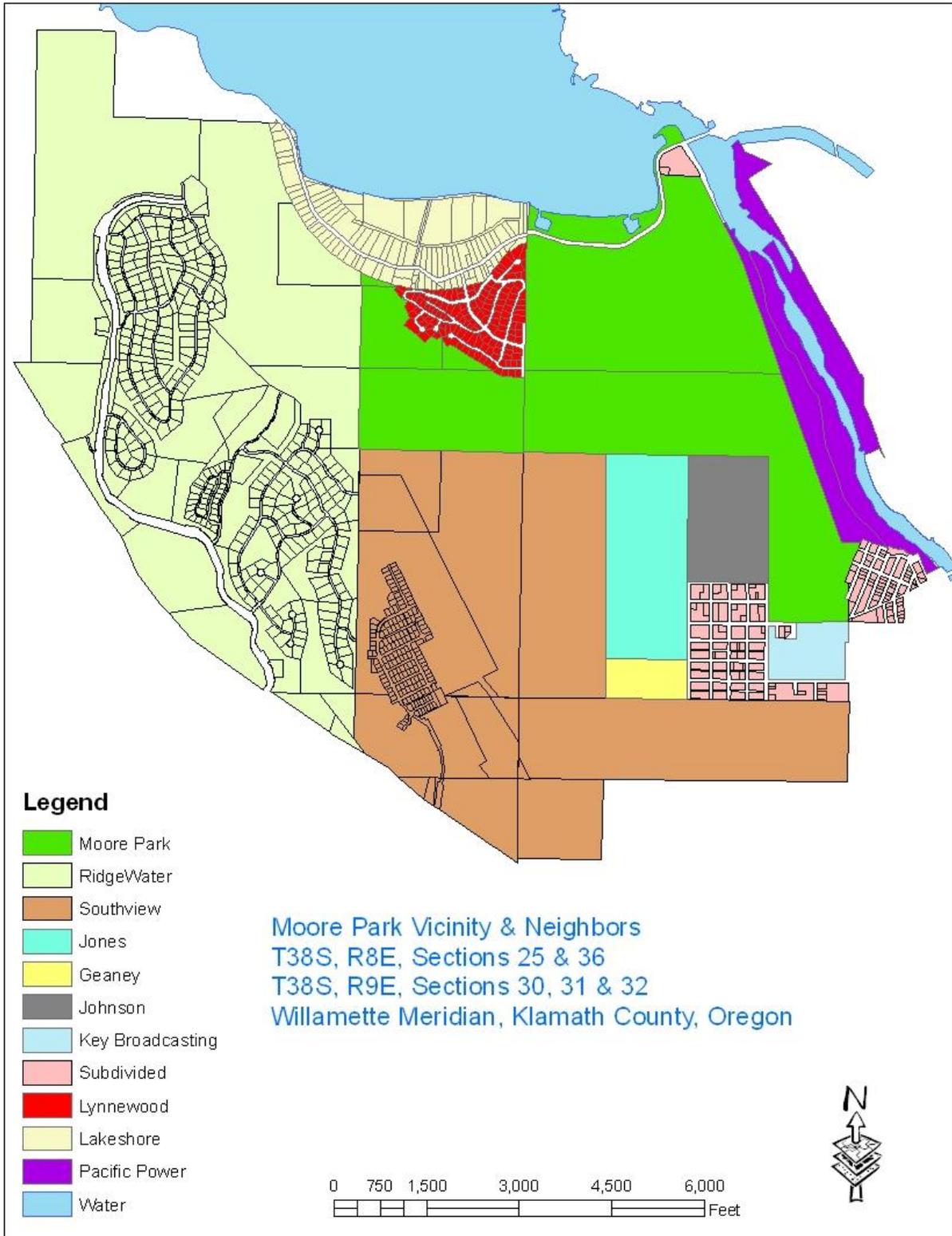


Moore Park  
Klamath Falls, OR



2003 Assessment Data

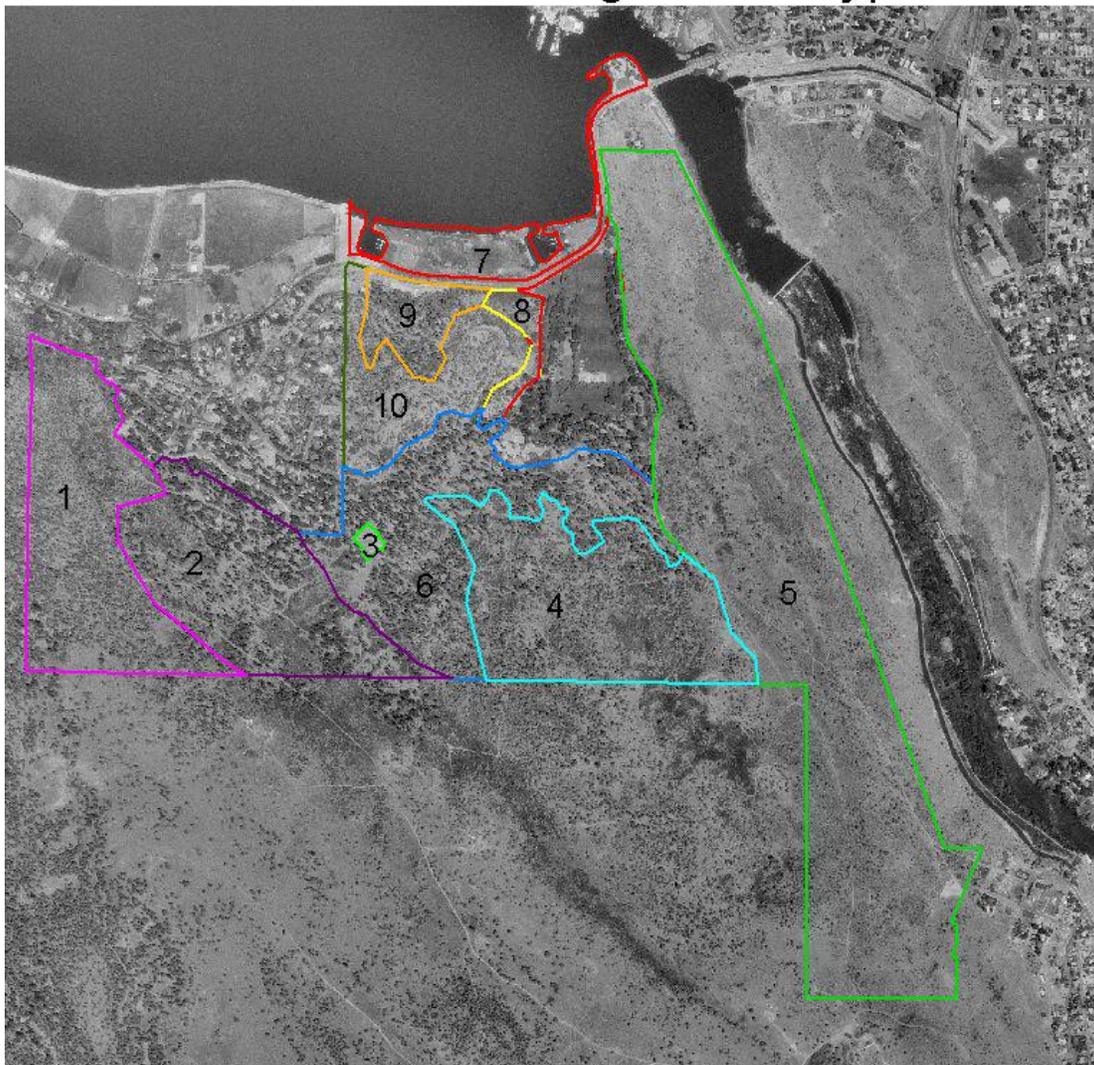
Image 2 – Aerial view of Moore Park, boundary in red



Map 1 – Moore Park and adjacent ownership

The Park has been divided into 10 plant communities or vegetation types for this Plan. These vegetation types vary due to factors such as microclimate, elevation, aspect, slope, soil type, historic fire occurrence, insect or disease activity and previous treatments such as logging or thinning. Each of the Types is covered in detail in the next section, followed by more specific information about the existing and potential resources, wildland improvements, management recommendations and operational constraints, see Image 3.

## Moore Park Vegetation Types



- Type Island 1 - 61.180 acres
- Type Island 2 - 57.536 acres
- Type Island 3 - 0.961 acres
- Type Island 4 - 66.748 acres
- Type Island 5 - 183.258 acres
- Type Island 6 - 64.088 acres
- Type Island 7 - 58.134 acres
- Type Island 8 - 6.074 acres
- Type Island 9 - 13.207 acres
- Type Island 10 - 29.105 acres

1000 0 1000 2000 3000 4000 Feet

Township 38 South, Range 8 East, Sections 25 and 36  
and  
Township 38 South, Range 9 East, Sections 30, 31 and 32  
Willamette Meridian, Klamath County, Oregon



Image 3 – Vegetation Type Map

## Forest Vegetation - Vegetation Type Descriptions

The co-authors of this plan independently surveyed and mapped the vegetation patterns/associations of Moore Park. Their field notes and maps were compared after this effort and were edited to the vegetation types listed here. Forestry terms used are found in the Glossary and in Appendix A03.

### Vegetation Type 1 – 61 acres

Description: Located on the west side of Moore Park, this type includes the highest elevations within the Park and some slopes up to 30%. The northeast corner of Type 1 borders the Lynnewood subdivision, the west side is bordered by the RidgeWater subdivision and additional subdivisions are proposed to the south of this unit. Dominated by juniper, grass, shrubs and scattered ponderosa pine, this is a relatively dry site. Birchleaf mountain-mahogany is the predominant shrub. Other than the area immediately above Lynnewood, human use is the lowest in this Type of any in the Park. Its vegetation, terrain and isolation make it suitable for wildlife habitat. Fuel treatment was completed on approximately 20 acres in this unit in 2008 providing fuel breaks on the west boundary with Lynnewood and along the ridgeline on the west slope. See the Previous Treatments map on page 51 for an outline of this area.

Vegetation Type: Non-timber - Juniper, scattered ponderosa pine, shrubs, forbs and grasses

Tree Species: Juniper, occasional ponderosa pine and Douglas-fir, transitioning to mostly juniper on the ridge and west slopes

Tree Density: Average 23 sq. ft. basal area/acre of juniper over 8" d.b.h. and 60 trees/acre under 8" d.b.h. basal area ranges from 0 to 75 square feet and understory trees range from 0 to 100 trees/acre

Size classes: <2" to 50" d.b.h.

Elevation: 4500 – 5100 feet

Slope: 15% to 30%

Aspect: Primarily west through northeast

Understory vegetation: Birchleaf mountain-mahogany, currant, rabbitbrush, sagebrush, grasses

Management opportunities: Where shrubs and forbs are present the potential vegetation is attractive to wildlife. It would be beneficial to leave hiding cover on the slopes of this unit above the Lynnewood subdivision, outside of the 200 foot fuel break mentioned below. Since this Type receives relatively little cross-country foot traffic by Park visitors, it is also significant for hiding cover. Optimum wildlife diversity will be

encouraged by maintaining the number of mature trees at 5 -12 per acre, or less than 10% tree canopy cover to encourage growth of shrubs, forbs and grasses on these harsh sites. Retain legacy juniper, over 20" d.b.h., and favor healthy ponderosa pine. On portions adjacent to subdivisions, reduce fuels (decadent brush, dead material) according to specifications in the Fuels Management Plan. Where fuels are removed and sunlight reaches the ground on the northeast slopes, encourage natural or artificial reproduction of ponderosa pine. In other areas, encourage natural reseeding of grasses and forbs. Take precautions to avoid significant soil disturbance on steep slopes and install water bars where necessary.



Image 4 - Vegetation Type 1, southwest slope



Image 5 – Vegetation Type 1, post-treatment 2008, southwest slope



Image 6 – Vegetation Type 1, northeast slope

## Vegetation Type 2 – 58 acres

Description: Type 2 lies to the south of the Lynnewood subdivision. This relatively steep ground is on a northeast aspect and is a significantly different site than Type Number 1. This is a cooler, moister site with deeper soil that is dominated by a highly-variable mixed conifer stand of Douglas-fir, white fir, incense cedar and ponderosa pine, with scattered juniper over grass, forbs and shrubs. Birchleaf mountain-mahogany, Klamath plum, chokecherry, elderberry and serviceberry are among the common shrubs. Brush predominates in openings, with birchleaf mountain-mahogany being the primary species. Human use of this Type is light to moderate, primarily because of the slopes and the large brush component. Most foot travel is on existing roads and trails.

The majority of this type was commercially thinned in 1995. See Appendix A02 for a narrative of this harvest treatment. Four bald eagle nest trees on the official inventory are mapped in Type 2; however two of them were not located during inventory in 2005. Three inventoried nest trees are located to the south of the Type on private property. Two of these nests have been active in the recent past and this activity will affect timing of Park treatments utilizing machinery. Approximately 5 acres of this Type along the south boundary of Lynnewood were included in a fuel treatment operation in 2005. Remnants of an old ski/sledding hill can be found in this Type (see Image 32 on page 39). A water tower is located near the north end of the Type. Steep slopes will limit operability of machinery.

Vegetation Type: Timber, reproduction, shrubs, forbs and grasses

Tree Species: Douglas-fir, white fir, incense cedar, ponderosa pine, occasional juniper and at least one Oregon white oak

Tree Density: Average 26 sq. ft. basal area/acre over 8" d.b.h. (ranges from 0 sq. ft. to 75 sq. ft.) and 155 trees/acre under 8" d.b.h. (varies from 0 trees/acre to 820 trees/acre), multi-layered canopy

Size classes: <2" to 27" d.b.h.

Elevation: 4260 – 4920 feet

Slope: 36% to 58%

Aspect: Northeast

Understory vegetation: Highly variable reproduction of tree species listed above and serviceberry, birchleaf mountain-mahogany, currant, Klamath plum, Oregon grape, grasses.

Management opportunities: Consider presence and potential for bald eagle nesting and perching habitat in all management activities. Stocking of trees and shrub species is variable. Reduce heavy concentrations of decadent brush, leaving a mosaic of younger

shrub patches. Thin the clumps of trees <8" d.b.h. to regulate stocking level when the majority of the trees are at least 2" d.b.h. but less than 8" d.b.h.. Thin the clumps to result in a maximum of 130 trees per acre. Where trees greater than 8" d.b.h. prevail, thin stand to result in a maximum of 100 square feet basal area per acre. Favor Oregon white oak for habitat, consider planting to enhance population. Maintain multiple tree size classes to result in multi-aged stand conditions. Consider planting ponderosa pine seedlings in large openings. Many openings were created by the mechanical brush removal treatment. Monitor existing roads and skidtrails for evidence of surface erosion. Take precautions to avoid significant soil disturbance on steep slopes and install waterbars where necessary. Refer to the Forest Road Management Guidebook (given to City Parks in master copy of this plan, not available electronically), Thinning – Appendix A04, Hawk, Eagle and Osprey Management on Small Woodlands – Appendix A05 and the Planting Guide in Appendix A06.



Image 7 - Vegetation Type 2, northeast slope

### Vegetation Type 3 – 1 acre

Description: Type 3 is a small parcel just east of the southeast corner of the Lynnewood subdivision. This acre has been planted by the Friends of Moore Park and is signed as the “Naturescape”. A foot path and small wooden bridge weave through the area. The bridge is in disrepair. Several native species are present. Some trees and shrubs have been browsed heavily and rubbed by deer. This area will be incorporated into Type Island 6 during treatments. Soil compaction and the opening suggest that this area was used as a landing during historic logging operations, and/or served as a parking lot or gathering area when the ski rope tow was in operation.



Image 8 - Vegetation Type 3, the Naturescape

## Vegetation Type 4 – 67 acres

Description: Type 4 is directly south and upslope of the developed portion of Moore Park. Type 4 is also adjacent to the southern boundary of Moore Park and has historically experienced wildfire on a periodic basis. It is well used by deer and small mammals, as well as a variety of birds and recreationists. Vegetation consists primarily of juniper with an occasional ponderosa pine. The density of shrubs and grasses diminishes on the drier portions of the Type. The predominant shrub species is birchleaf mountain-mahogany. Approximately 12 acres on the east edge of Type 4 burned in the KAGO Fire in August 2003. See the KAGO Fire Map on page 42.

Vegetation Type: Non-timber: juniper, shrubs, forbs and grasses

Tree Species: Juniper and ponderosa pine

Tree Density: Average 24 sq. ft. basal area/acre of juniper over 8" d.b.h. (ranges from 0 to 75 sq. ft. basal area/acre) and 20% of the Type supports 30 sq. ft. basal area/acre of ponderosa pine

Size class: <2" to 33" d.b.h.

Elevation: 4280 – 4540 feet

Slope: 25% - 40%

Aspect: North-Northeast

Understory vegetation: Occasional juniper reproduction, birchleaf mountain-mahogany, forbs and grasses.

Management opportunities: This Type is among the highest priority areas for fuel reduction treatment. There is moderate to high use of this Type by deer and other wildlife species. Optimum diversity of wildlife will be encouraged by reducing the number of mature trees to 5 – 12 per acre, or less than 10% tree canopy cover and encouraging a variety of shrub and forb species. Consider planting ponderosa pine to replace trees lost in KAGO Fire and to re-establish pine where junipers have been thinned.

10 acres were treated by a slashbuster in 2006. An additional 14 acres were treated in spring of 2010 by a slashbuster. A Klamath Tribes crew thinned juniper in this Type in late 2010. Slash was hand piled. An attempt to burn the piles in fall of 2011 was stopped by wet weather. The piles were burned in spring of 2012. Additional thinning, mastication (mowing) and piling was done in the spring of 2012. Chipping may be an option where machine can be transported without undue soil compaction or disturbance.



Image 9 – Vegetation Type 4, before slashbuster treatment



Image 10 – Vegetation Type 4, after slashbuster treatment

## Vegetation Type 5 – 183 acres

Description: The largest Type is located primarily on the ridge to the west of the Link River and forms the east side of Moore Park. It is an exposed, dry ridge with poor soil. The vegetation is mostly grass and shrubs with some scattered juniper and ponderosa pine, some in pockets. Bitterbrush and rabbitbrush are the primary shrubs. Birchleaf mountain-mahogany occurs on the west edge of this type. This Type is frequently utilized by deer. Significant recreational use (e.g. hiking, cross-country skiing, mountain biking) occurs in this Type, particularly as a route to/from the Link River Trail.

Vegetation Type: Non-timber: juniper, shrubs and grasses.

Tree Species: Juniper with occasional ponderosa pine

Size class: <2" to 38" d.b.h.

Elevation: 4500 – 5100 feet

Slope: 6% to 18%

Aspect: Southwest, west, northwest, north, northeast and east

Understory vegetation: Variable, light juniper reproduction, Klamath plum, sagebrush, rabbitbrush, serviceberry, bitterbrush, grasses, forbs, Baker's globe mallow, also called Baker's wild hollyhock.

Management opportunities: Where shrubs and forbs are present the potential vegetation is attractive to wildlife. Optimum wildlife diversity will be encouraged by maintaining the number of mature trees at 5 - 12 per acre, or less than 10% tree canopy cover. Baker's globe mallow (*Iliamna bakeri*) is included on List 4 of the Oregon Natural Heritage Program as a conservation concern to be watched but is not threatened or endangered. Prescribed burning may help sustain the mallow. Monitor existing roads and trails for evidence of surface erosion. Install waterbars and/or wattles as needed. Projects involving site disturbance in this Type will require a cultural resource survey prior to operation.



Image 11 – Vegetation Type 5



Image 12 - Baker's Globe Mallow in the KAGO Fire area Oct. 2004

## Vegetation Type 6 – 64 acres

Description: This Type is predominantly forested with ponderosa pine, ranging from pure stands with a grass understory to pine/juniper associated with shrubs as the site becomes drier to the south. The predominant shrub is birchleaf mountain-mahogany with Klamath plum and serviceberry appearing on more moist sites. Management activities in the past near the park maintenance yard have created a grassy slope above the picnic area, which is included in this Type as well as a grassy slope above Type 3. This Type represents the public image of the natural areas in the Park and is heavily used by Park visitors.

Vegetation Type: Timber, reproduction, shrubs, forbs and grasses

Tree Species: Ponderosa pine, some juniper

Tree Density: Average 40 sq. ft. basal area/acre over 8" d.b.h. ranging from 0 to 105 sq. ft. basal area/acre. 10% of the Type has approximately 100 trees per acre less than 8" d.b.h. of which 20% are good.

Size class: 2" to 38" d.b.h.

Elevation: 4225 – 4535 feet

Slope: 5% to 20%

Aspect: Northwest-North-Northeast

Understory vegetation: Juniper, birchleaf mountain-mahogany, serviceberry, willow, grasses

Management opportunities: Manage this Type to retain the old growth ponderosa pine characteristics and structure. Stocking of trees and shrubs is variable. Remove juniper and poor overstory trees from clumps to result in approximately 80 sq. ft. BA/ac. This Type is considered priority 1 for fuel treatment on 29 to 37 acres. Reduce density of mature shrubs near Park structures to provide defensible space according to the treatment specifications in the Fuels Management Plan. Retain a mosaic of the shrub component to provide hiding cover for deer. This Type includes the lower end of an old ski/sled hill and there has been some interest in reestablishing this recreation site. Tree planting would not be desirable in the area to be developed for sledding. Interplant significant openings in the stand.



Image 13 – Vegetation Type 6



Image 14 – Vegetation Type 6

## Vegetation Type 7 – 60 acres

Description: This type is the most intensely managed portion of Moore Park. It is represented by the irrigated and groomed lawns within the park and adjacent to the boat ramps at Marina I and II. Type 7 is mostly lawns with surrounding ornamental trees and shrubbery. Development includes playgrounds, restroom facilities, sidewalks, parking lots, boat ramps, picnic facilities, tennis courts and park administration structures.

Vegetation Type: Landscape plants, ornamental trees, ponderosa pine and grass

Elevation: 4145 – 4260 feet

Aspect: North-Northeast

Management opportunities: Standard park management. Recommendations for this Type are outside the scope of this Plan. Opportunity exists for development of a wetland area near the park maintenance area. Park managers are working with Fish & Wildlife agencies to explore this opportunity.



Image 15 – Vegetation Type 7

## Vegetation Type 8 – 6 acres

Description: Type 8 is the brushy hillside just west of Type 7 near the main entrance to the Park. This Type forms a transition between the developed portion of the Park to the east and the natural areas to the west. It has shallow soil with numerous rock outcrops. It is frequented by hikers and wildlife. The shrub community includes Klamath plum, birchleaf mountain-mahogany, chokecherry, serviceberry, blue elderberry, elm and others. Approximately .7 acres of this Type was treated in the 2004 fuel reduction project. An additional 3 acres was treated in 2006, about 2 acres of that was underburned in 2009.

Vegetation Type: Shrubs, forbs, grasses, occasional conifer and broadleaf trees

Tree Species: 4 ponderosa pine trees and one Douglas-fir tree, some elm

Elevation: 4150 – 4260 feet

Slope: 25% average

Aspect: Northeast

Understory vegetation: Serviceberry, sagebrush, rabbitbrush, juniper, Klamath plum, Oregon grape, and elm sprouts from the adjacent landscaped Type 7.

Management opportunities: Good site for wild herbaceous plants, shrubs and browse for rangeland wildlife. Shrubs are generally old, containing large amounts of dead material. Fuel treatments in this area have rejuvenated shrubs, making them more palatable to browsing wildlife. Retain a mosaic of shrubs for hiding cover. Reforestation would be difficult because of the heavy shrub component and shallow soils.



Image 16 – Vegetation Type 8, shrubs on the hillside



Image 17 – Vegetation Type 8, post-treatment 09/27/04

## Vegetation Type 9 – 13 acres

Description: This area near the north end of Moore Park overlooks Klamath Lake and is adjacent to and visible from Lakeshore Drive. It includes an area once used as an ice-skating rink and parking area along Lakeshore Drive. The Type is dominated by many large ponderosa pine, including some snags that are valuable as roost and perch trees for bald eagles and other raptors. Western juniper is present in the type in a variety of size classes, with most of the stems being under 100 years of age. As the aspect changes so does the vegetation, with a more dense population of associated shrubs on the north and northeast aspects. Klamath plum, serviceberry, birchleaf mountain-mahogany, chokecherry, elderberry and others are present in scattered and dense, decadent stands. This type was a high priority for fuel treatment. In 2004, approximately 8.25 acres of fuel reduction were completed in the shrub and juniper components of this Type. Additional treatment in the shrub component was considered but it is being left for hiding cover for deer. This Type is heavily used by deer. In 2009, approximately 100 ponderosa pine seedlings were planted by local Girl Scouts to begin stocking forest openings.

Vegetation Type: Timber, shrubs, forbs and grasses

Tree Species: ponderosa pine and juniper

Tree Density: Average 45 sq. ft. basal area/acre over 8" d.b.h. (varies from 15 sq. ft. to 105sq. ft.) and 5 juniper trees/acre under 8" d.b.h. (varies from 0 to 60 trees per acre)

Size class: 4" to 46" d.b.h.

Elevation: 4150 – 4350 feet

Slope: 10% to 50%

Aspect: Northwest, north and northeast

Understory vegetation: Grasses, currant, rabbitbrush, blue elderberry, Klamath plum, birchleaf mahogany, Oregon grape, chokecherry

Management opportunities: Stocking is variable. Remove juniper and poor dominant and codominant trees from clumps to result in approximately 80 sq. ft. basal area/acre. Leave largest pine trees and snags for bald eagle perching. Continue fuel reduction treatment and maintain ponderosa pine old growth structure and characteristics. Consider planting ponderosa pine in larger openings created by the brush removal treatment. Such canopy openings exist on the slope above Lakeshore Drive. Monitor natural seedling regeneration. The goal should be ensuring future trees in the overstory. Refer to Thinning (Appendix A04) and the planting guide (Appendix A06).



Images 18 and 19 – Vegetation Type 9, bald eagle and turkey vultures



Image 20 - June 2004 pre-treatment, dense, decadent shrubs w/ high dead fuel loading



Image 21 - July 2004 first phase post-treatment



Images 22 and 23 - September 2004 second phase post-treatment



Image 24 - May 2011 shrub regeneration at 7 years

Image 20 shows the slope above Lakeshore Drive prior to the 2004 treatment. Crews from the Oregon Department of Forestry (ODF), Bureau of Land Management (BLM), U.S. Forest Service (USQ. FT.S) and Klamath County Fire District #1 (KCFD#1) cut the brush with chainsaws, pulled it down the slope and chipped it. Pruning of the trees was done to reduce ladder fuels. This work was done in two phases. The second phase was completed as personnel were available at the end of the fire season.

Image 24 shows the same slope with 7 years of regeneration of shrub, predominantly chokecherry. Although some stems are several feet tall it should be noted that the flammability of these young stems is very limited. The 2004 treatment removed decadent brush with a high percentage of dead limbs. It is estimated that the shrubs will have to reach 25 years of age before accumulating enough dead limbs to increase flammability. Surface litter and duff was not removed.

## Vegetation Type 10 – 29 acres

Description: This Type forms much of the west boundary of Moore Park adjacent to the Lynnewood subdivision and includes the top of the knob west of the park entrance road. This Type is primarily juniper with some ponderosa pine in the overstory. The south aspect of the knob supports a large mature shrub stand, although poor soil inhibits vegetation on top of the knob. Visibility and visitor use are significant in this Type. In 2004, approximately 7.8 acres of fuel reduction was completed in the shrub and juniper components of this high priority Type. This type was given high priority for hazard fuels reduction due to the immediately adjacent subdivision.

The 2004 treatment was done by the BLM "Bobcat" brush cutter. Hand crews pruned trees and hand piled debris. The piles were burned in March of 2005 by personnel from the USFS, ODF and KCFD#1. Additional brush mastication was done on the slope above the Gingerbread House in 2006. This 5 acre area involved about 2 acres of Type 10. Junipers were thinned by ODF fire crew personnel and slash concentrations pulled to the road and chipped, see Image 30. The area was underburned in 2009 by a contingency of personnel from the U.S. Fish and Wildlife (USQ. FT.WS), National Park Service (NPS), ODF, BLM and KCFD#1, see Image 31.

Vegetation Type: Non-timber: juniper, light reproduction, shrubs, grasses and forbs

Tree Species: Juniper, ponderosa pine

Tree Density: Average 45 sq. ft. Basal area/acre over 8"d.b.h. (varies from 0 to 90 sq. ft.) and 12 juniper trees/acre under 8"d.b.h. (12% of the Type has 80 trees/acre).

Size class: <2" to 44" d.b.h.

Elevation: 4150 – 4358 feet

Slope: 0% to 30%

Aspect: All

Understory vegetation: Oregon grape, Klamath plum, sagebrush, currant, rabbitbrush, birchleaf mahogany, blue elderberry, serviceberry, and grasses.

Management opportunities: Stocking is variable. Optimum wildlife diversity will be encouraged by maintaining the number of mature trees at 5 -12 per acre, or less than 10% tree canopy cover to encourage growth of shrubs, forbs and grasses on these harsh sites. Continue to thin heavy shrub accumulations to reduce fuel and encourage sprouting of young, palatable shrub species. Maintain adequate hiding cover for deer traveling through this Type. Reforestation on much of this harsh site with poor soils would be difficult. Mistletoe is present in the junipers.



Image 25 – Vegetation Type 10, looking south from knob



Image 26 - July 2004 pre-treatment



Image 27 - July 2004 during treatment



Image 28 - pre-treatment 2004



Image 29 – post-treatment 2011

This juniper snag was left during treatment as a character tree. It is actively used by cavity nesting bird species.



Image 30 - Fuel Treatment Project 2009



Image 31 - Prescribed Fire 9/29/09 photo by John Bellon, Klamath Falls City Parks

## **Integrated Pest Management**

Park managers are currently seeking advice from the USFWS on developing an Integrated Pest Management program which will comply with Oregon Revised Statutes and Oregon Department of Forestry Administrative Rules. This process should identify specific targets (invasive species, insects and diseases). A coordinated effort with state and federal agencies should result from this collaborative effort.

To date there have been periodic efforts to deal with invasive species by volunteer groups. Noxious weeds targeted for hand removal have included Dalmatian toadflax. These efforts have been piecemeal as workforce and funding opportunities have been presented. For the past several years Klamath Community College students have donated time as have local Boy Scout troops. Toadflax stem weevils were introduced in the county and have migrated to most toadflax sites. The weevils have impacted, but not eradicated the spread of toadflax. Additional information is found in Noxious Weeds of Klamath County, Appendix A08.

Thinning of western juniper has been incorporated with the fuels management and forest health efforts addressed in other sections of this plan. No past activities targeting insects or disease are known to the present park management staff.

## **Wildlife/Fish Habitat**

Providing habitat for various wildlife species is one of the primary objectives of the park managers. As a natural forested area within the city limits of Klamath Falls, Moore Park is important for forage, nesting, and thermal/hiding cover components for resident and migratory species. This habitat is enhanced by the variety of age classes in the forest vegetation communities. Diversity is a goal in wildlife habitat management. Forests and related wildlife populations are constantly changing.

These wildlife habitat components require periodic maintenance and must be considered in all stand treatment operations. Maintenance treatments will typically include control of encroaching juniper, since it competes with other native species and can have negative impact on important habitat components, such as ponderosa pine, sagebrush, bitterbrush, mountain and birchleaf mahogany and understory grasses and forbs. The goal is not to eliminate the juniper, but to reduce it to a minor stand component and discourage juniper regeneration. Juniper is known to actively encroach on sites where fire is excluded. Where juniper is dominant, leave 1 to 3 acre patches to provide thermal cover. For more information, refer to the Woodland Fish and Wildlife publication Managing Western Juniper for Wildlife in Appendix A07.

Significant species in Moore Park include, but are not limited to, American bald eagles, red-tailed hawks, Lewis' woodpeckers (Oregon sensitive species), Mountain quail (Oregon sensitive species), Valley quail, common gray fox, red fox, mule deer, and western gray squirrel. In addition, Moore Park provides important habitat components during spring and fall bird migrations and is a stop on the Klamath Basin Birding Trail (#27). Refer to Appendix A12 for a list of common wildlife species in Moore Park.

When considering wildlife habitat and opportunities for habitat enhancement, look at vertical diversity, horizontal diversity and standing/downed wood. Vary the amount and type of vegetation both vertically and horizontally. Opening stands may encourage establishment of important shrub species. Downed, decaying logs are important for snakes, amphibians, reptiles, birds and mammals. Birds, mammals and possibly other species also depend upon standing dead and dying trees for foraging, nesting, roosting and building dens or cavities. The larger the snags and downed logs are, the more habitat they will provide. It is also desirable to retain wood at varying stages of decay, including large green trees with cavities, hard dead snags, soft dead snags, plus hard and soft downed logs.

Each vegetation type in Moore Park has features that are beneficial to wildlife. The Park supports a large diversity of shrubs, forbs and grasses that provide multiple habitats. Management treatments should be designed to maintain and enhance this diversity. In general, treatments to reduce fuels and improve the health and vigor of tree and shrub species can also improve conditions for a variety of wildlife species. For instance, slash piles are beneficial to various small mammals and birds. Management treatments should be designed to provide a matrix of cover types, including trees and shrubs of all sizes in non-uniform patches or mosaics. The transition boundary, or edge, where vegetation types/age classes intersect are highly used habitat. Most vegetation types in the Park have areas deficient in reproduction. Reforestation of ponderosa pine would be beneficial in some larger openings. This will ensure future overstory trees. Vigorous sprouting of shrubs after fuel treatments will be beneficial for deer browse.

Larger dead snags and downed logs should be retained with an average of 2 to 3 per acre recommended. Bald eagle nest trees, perching trees, fledging trees, staging trees and replacement nest trees should be protected during all treatment operations. No mechanical treatments should be conducted during the bald eagle nesting period, January 1 through August 31, within one half mile of an active nest (line-of-sight) or one quarter mile if the site is obscured from the nest. Past and future fuels management treatments have and need to adhere to this restriction. This distance restriction is per the Oregon Department of Fish and Wildlife and is more restrictive than the federal guidelines. Active bald eagle nests should be verified. The USFWS office on California Avenue is responsible for bald eagle nest monitoring; the contact person is Elizabeth Willy – 541 885-2525. Additional information on bald eagles is found in Appendices A19 and A20.

The most readily available water source for wildlife in the Park is Upper Klamath Lake, which requires crossing Lakeshore Drive and has resulted in some mortality. Park managers have expressed an interest in rehabilitation of a pond located to the west of the maintenance buildings. An alternative proposal would install one or more “guzzlers” and redesign an existing fountain to provide water for wildlife. Consult with a biologist from Oregon Department of Fish and Wildlife or the US Fish and Wildlife Service to explore opportunities for habitat development which may include thinning and prescribed fire treatments.

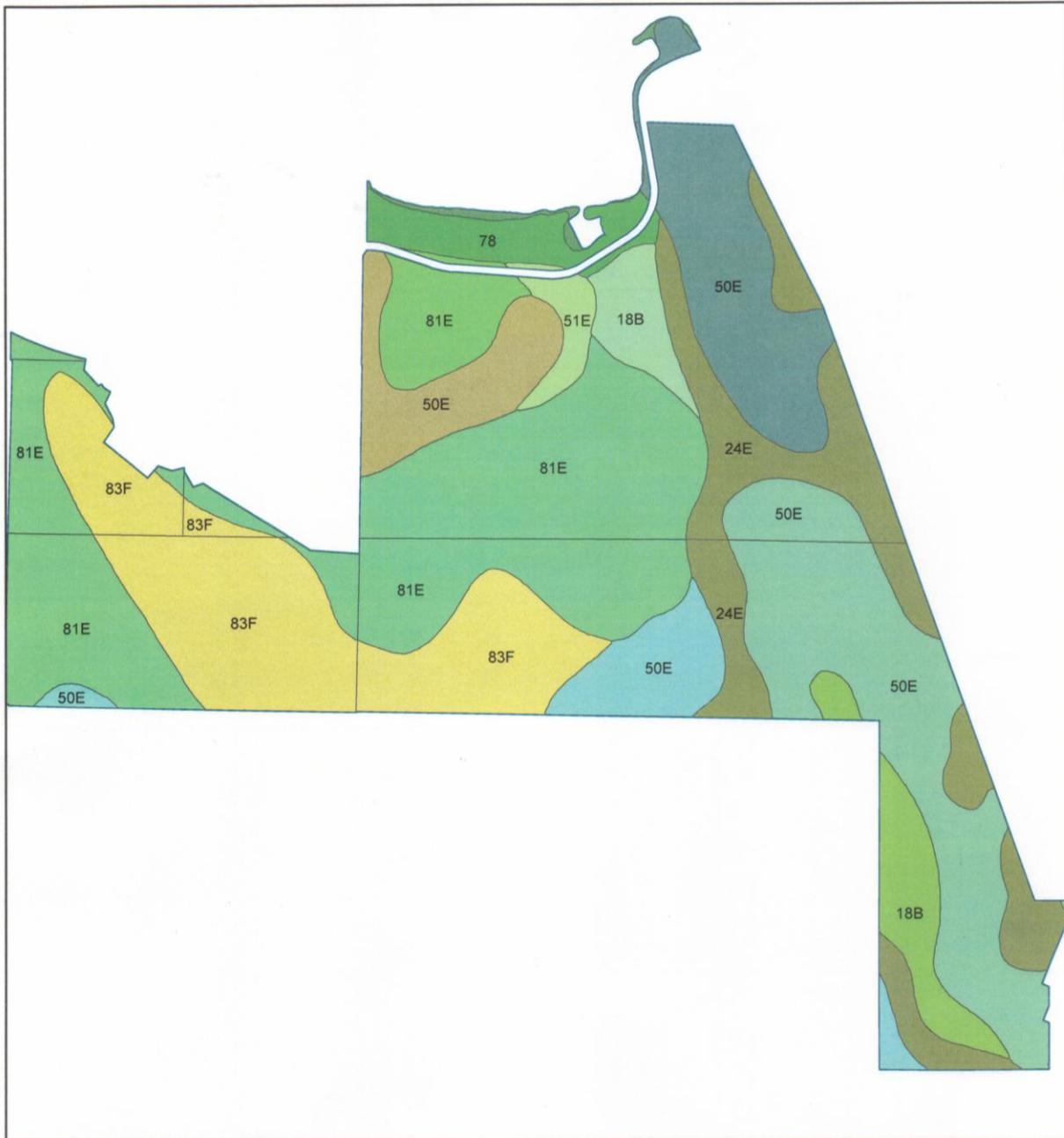
A water-associated wildlife species list is included in Appendix A13. Type 7 is adjacent to Klamath Lake and is the most likely area for development of riparian habitat for these species. More detailed wildlife management information may be found in these references in the following Appendices:

- Habitat Management for Bats on Small Woodlands, A14
- Hawk, Eagle and Osprey Management on Small Woodlands, A05
- Living with Wildlife – Mountain Lion, Cougar, A16 and A17
- Managing Deer on Small Woodlands, A22
- Managing Forest Habitats for Migrant Songbirds, A18
- Managing Ponderosa Pine Woodlands for Fish & Wildlife, A24
- Managing Small Woodlands for Cavity Nesting Birds, A15
- Managing Small Woodlands for Grouse, A21
- Managing Western Juniper for Wildlife, A07
- Quail on Small Woodlands, A23

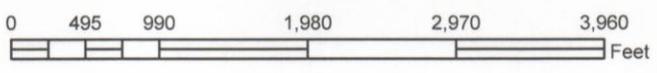
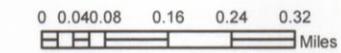
## **Soils**

Mapped soils give a general indication of soil capability and characteristics. Land managers should not rely solely on the map to determine soil type, since it is extensive and general. Consult with soil scientists and the Klamath Soil & Water Conservation District if site-specific soil identification becomes important. The Soil Survey for Klamath County, Oregon, Southern Part covers the Moore Park area. The Moore Park Soil Report is in Appendix A11. Custom soil survey queries can be made at: <http://websoilsurvey.nrcs.usda.gov/app/>.

Some areas of surface erosion have been identified and corrective measures have been installed. Trails, established and pioneered (created by public users), have several sites with erosion issues. Hikers and bicyclists have cut many of the existing switchbacks, which will be a constant trail maintenance issue. The park will need to monitor the trails for erosion mitigation needs. Fuel and stand treatment on slopes over 30% should be designed to minimize the likelihood of additional surface erosion caused by the treatment.



*Moore Park showing Soils  
 Approximately 482 acres forestland, 540 acres total  
 4145 feet to 5100 feet elevation  
 2005 Photography*



Map 2 – Moore Park Soils Map

Moore Park Soil Types	
Map Unit Symbol	Map Unit Name
18B	Dodes loam, 2 to 15 percent slopes
24E	Harriman-Lorella complex, 5 to 35 percent south slopes
50E	Lorella very stony loam, 2 to 35 percent south slopes
51E	Lorella-Calimus association, steep north slopes
78	Tulana silt loam
81E	Woodcock association, north
83F	Woodcock-Rock outcrop complex, 40 to 60 percent north slopes

Table 1 – Moore Park Soils

## Roads & Access

Moore Park contains several roads that have been used for management activities in the past. Most of these roads are inaccessible to the public and are only occasionally used by Park Maintenance personnel. Only one of the existing roads has shown evidence of erosion and it was relocated after the KAGO fire to alleviate the problem. The Park roads have not been detrimental to adjacent water. Compaction of roads and skid trails will adversely affect the productivity of forest soils and could potentially cause tree species to be more susceptible to insect attack. If a selective harvest is planned, use pre-existing skid trails and landings to minimize compacted area.

Due to the minimal use of most of the existing roads in the Park, no road improvement or maintenance projects are recommended. Existing roads are adequate for access by emergency vehicles; however, some of them need to be cleared of brush. Keys to locked gates should be provided to KCFD#1 and ODF fire officers. It is highly recommended to meet annually with these personnel to visit road access points for Moore Park to ensure that fire equipment can gain entry.

## Water Resources

Moore Park is adjacent to Upper Klamath Lake on the north side and the Link River is nearby on the east side. No other perennial surface water is present. These two water resources are buffered from the natural areas of the Park and it is unlikely that

treatments recommended in this Plan will have any affect on water quality. Upper Klamath Lake is considered a Conservation Opportunity Area (COA, EC-09) in the Oregon Conservation Strategy. Consult with state and federal fish and wildlife agencies to determine what opportunities are proposed for the riparian areas adjacent to the Lake. In 2010, the City formalized a Cooperative Agreement with the USFWS for the construction of an interpretive trail between Moore Park and Putnam Point. Wetland protection and creation is included in this project.

Marinas I and II offer ready access for fire apparatus to draft water from the lake for fire suppression and prescribed fire support. City fire hydrants are available in the Lynnewood subdivision and along Lakeshore Drive.

## **Forest Health**

"The entire array of possible forested conditions must be represented across the landscape in order for a forest to be healthy. In this way, each "piece of the puzzle" undergoes its own set of changes and collectively these pieces provide for a wide variety of processes, functions, and habitats that we associate with a healthy forest ecosystem." (Eglitis, June 2002)

Overall, the forested areas of Moore Park have been becoming over-stocked through the recent decades; see Images 31 and 32 on page 38. This situation stresses the trees due to competition for moisture, nutrients and sunlight. Areas of increased crown cover shade out surface grasses, forbs and shrubs. Over-stocking, to some degree, has evolved in the absence of fire, a result of settlement grazing and fire suppression. The encroachment of western juniper has certainly increased since settlement. Wildlife habitat and associated plants are adversely affected by juniper encroachment. Thinning and prescribed fire can be effective tools. Pruning should be included to eliminate ladder fuels to the canopy. Since 2004, treatments of the natural areas of the Park have included fuel reduction, thinning and prescribed fire. A harvest removal of dead/dying trees was completed in 1995 (see Appendix A02).

Some damage has been observed from insects and/or diseases in Moore Park. Apparent bark beetle mortality in individual ponderosa pine is present in type 10. Mistletoe is present in several junipers on the upper slope in this type as well. Many areas are overstocked with trees and are more susceptible to insect attack and wildfire as a result. Thinning during fuel treatments will be beneficial to the overall health of the trees. See the general thinning guidelines in Appendices A04 and A09. A subsequent document regarding disposal of the woody debris generated by thinning is in Appendix A10.

Noxious weeds could become a significant problem for the Park following wildfire. Refer to the Noxious Weeds of Klamath County field identification handbook in Appendix A08. OSU Extension may be consulted for treatment recommendations, <http://extension.oregonstate.edu/>.



Image 32 - Moore Park circa 1940. Klamath Co. Museum photo



Image 33 - Moore Park May 24, 2011 WFT, Inc. photo

Encroaching juniper trees precluded achieving the same angle as the 1940 photo

## **Invasive Species**

The encroachment of western juniper was discussed in the Forest Health section. This species is the most expensive and labor-intensive to treat among those considered invasive in Moore Park. This tree historically was and shall remain a part of the forest community in Moore Park. The goal is to bring stocking levels and age distribution more in line with historical conditions. The tree occurs in most of the forested vegetation types in the park. Areas where juniper trees have been thinned should be monitored for seedlings. These should be periodically (5 years) removed to maintain the desired stocking of juniper.

Other invasive species will be addressed in the future Integrated Pest Management Plan. Once completed, that document should be inserted in the appendices of this plan.

## **Protection from Wildfire**

The KAGO Fire of 2003 (Image 34, page 42) spurred interest in developing a fire protection plan for Moore Park. Park and KCFD#1 staff met with Gene Rogers while that fire was still smoking in August 2003. That meeting led to the development and implementation of the Fuels Management Plan for Moore Park completed and approved in 2005 (see Appendix A01). The goal of that plan is to implement vegetative treatments that would reduce the severity of future wildfires in Moore Park while offering strategic opportunities to suppress those wildfires. These treatments have created fire suppression opportunities for the fire protection agencies and departments.

Collaboration in fuels management treatments has given personnel of these organizations valuable knowledge of the terrain, access and vegetation in Moore Park. Future wildfire suppression operations should be able to take advantage of the reduced fire behavior potential in treatment areas to plan wildfire containment. Another component of the fuels plan was to recognize and preserve areas of more dense vegetation for wildlife. This affords hiding cover while areas receiving vegetation treatments have shown increased browse capacity. The importance of vegetative diversity is recognized in the fuels treatment efforts.

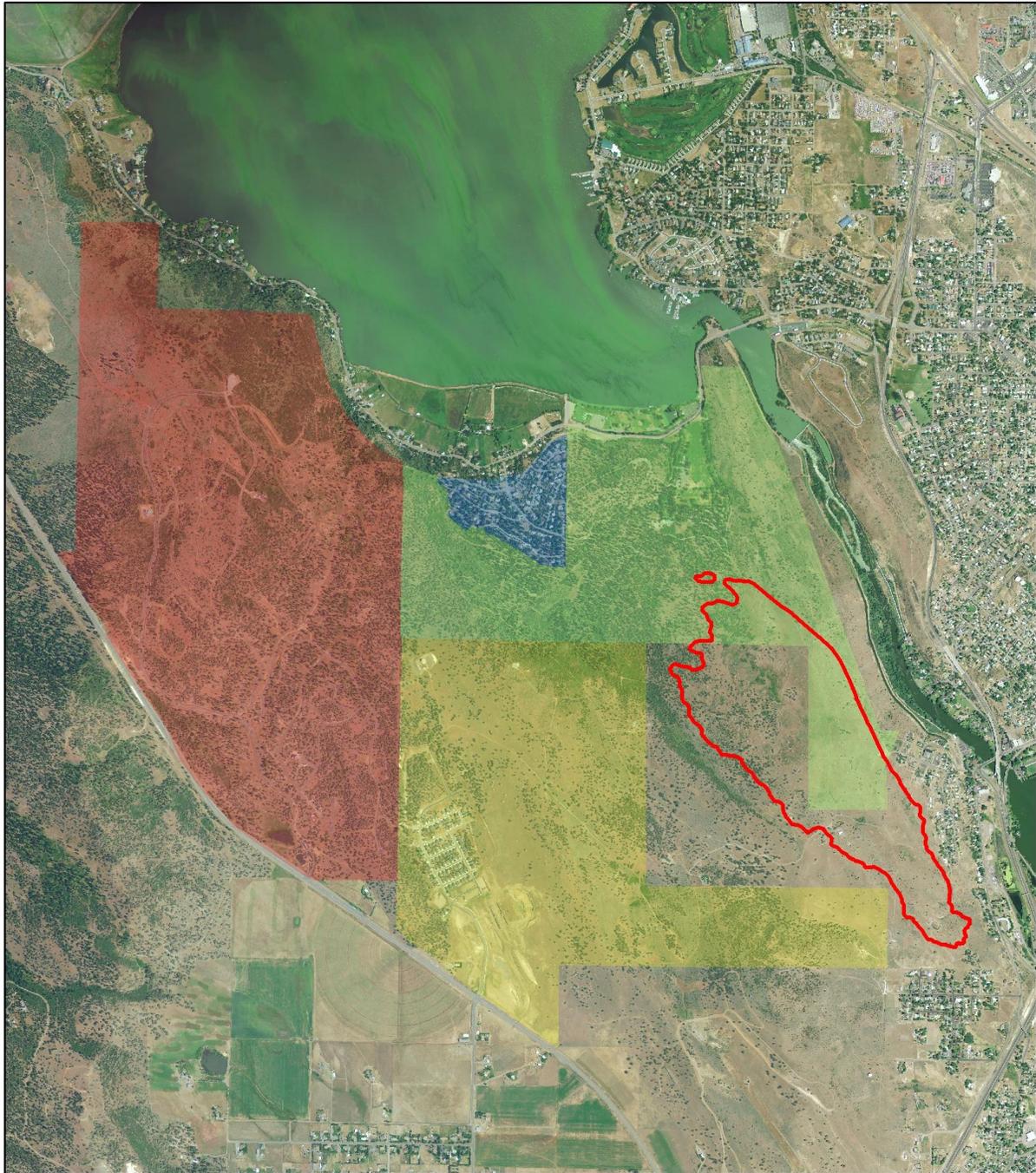
Several fires have approached Moore Park in recent decades. The most common fire spread direction is from the south as exhibited by the 2003 KAGO Fire and the 1995 Orindale Fire. The fuels management plan proposed fuels reduction treatments that recognized this direction of threat to the park and adjacent residential development. Much of the fuels work completed has such strategic application as does the recently developed Klamath Ridge View Trail. Previously existing roads, trails, and historical logging skid/haul routes offer further fire line potential on the north-facing slope below Moore Mountain.

Access to the park is provided by a paved road entering the park from Lakeshore Drive. This road makes a loop through the park and back out to Lakeshore Drive. Access to the structures in the park is provided directly by this road. The road to the maintenance area is paved and does have a dirt exit route to the southwest that ties back to the upper paved road. Structural engine turning space is adequate to poor near the buildings. Annual pre-planning visits would improve deployment efficiency.

Locked gates currently control vehicular access to most of the wildland areas. However, the Park is under the protection of Klamath County Fire District #1 (structure fires) and the Klamath-Lake District of Oregon Department of Forestry (wildland fires). It is important that these organizations have keys to these gates. Water supply is sufficient for refilling engines and helicopter buckets at the lake. Power line hazards to aircraft exist along the ridge west of the Link River and across the Link River adjacent to Moore Park. Hydrants exist in Lynnewood and the suburban areas east of the park.

Klamath County Fire District #1 is the primary structural fire department, while the Oregon Department of Forestry is the primary wildland fire protection agency. It should be noted that numerous cooperating structure and wildland fire protection entities (local, state, federal) are available in the Klamath basin. Many of these organizations have participated in the suppression of past wildfires and prescribed fires in Moore Park. Among the cooperating agencies/departments are the BLM, USFS, USFWS, NPS and several rural fire protection districts.

# KAGO FIRE



 KAGO Fire Perimeter  Moore Park  RidgeWater  SouthView  Lynnewood

0 0.25 0.5 1 Miles



Image 34 – KAGO Fire perimeter, the fire started 8/13/03

## **Agro-Forestry/Range**

Moore Park is managed as an urban/wildland park primarily for the use and enjoyment of the public. As such, agro-forestry and range production are not an objective of the landowner (The City of Klamath Falls). Maintaining forest and shrub health is an objective, specifically to ensure diverse wildlife habitat. Although production of a commodity, e.g. wood products, is not an objective, utilization options will be considered in the event of marketable material becoming available. Examples would be large wind-thrown trees or biomass resulting from fuels/forest treatments such as thinning.

## **High Conservation Value Forests**

Moore Park is a regional park with a concentration of biodiversity values (flora and fauna). It is a rare example of several hundred acres of forest and wildlife habitat within a city boundary. Perhaps of higher significance is the role Moore Park has in meeting the fundamental needs of the local communities for outdoor recreation, interpretation, solace and cultural history. Moore Park was a significant gathering site for native human populations that frequented the area for social activities including trading and spiritual ceremony. In recent decades the park is frequently used for private and public gatherings of ceremony and celebration.

The native forest that makes up much of Moore Park draws wildlife and humans alike. The opportunity to visit a forested setting within an urban boundary draws a variety of people to the park. The maintenance of a healthy forest now and for future generations is a primary goal of the park managers.

## **Special Sites – Archaeological, Cultural, Historical, Geological, Biological or Ecological**

Oregon's history goes back 10,000 years but its written history only goes back 200 years. Cultural resources represent our only link to understanding the State's history and its relationship to the forest landscape. A study of these resources can further our understanding of human behavior and of the interaction of people and their environment, as well as a broader understanding of cultural histories. Likewise there are important family historical resources that landowners want to protect and preserve to pass on to their next generations. These resources are finite and need to be addressed with special care.

Currently, more emphasis is being placed on the protection of cultural resources both at the local level and the national. In 1996, the Governor issued an executive order (Executive Order 96-30) which recognizes the Tribes legal status as independent governments and directs state agencies to consult and coordinate. Also, there are seven federal laws and three Oregon State laws related to cultural resources.

#### Federal Laws:

1. National Historic Preservation Act
2. National Environmental Policy Act
3. Archaeological and Historic Preservation Act
4. Archaeological Resource Protection Act
5. Housing and Community Development Act
6. Department of Transportation Act
7. Native American Graves Protection and Repatriation Act

#### State Laws:

1. ORS 97.740 Indian Graves and Protected Objects
2. ORS 358.905 Archaeological Objectives and Sites
3. ORS 390.235 Archaeological sites and Historical Materials

The cooperation of landowners and operators is needed to protect and preserve cultural resource sites. At the same time it is important that these owners and operators continue to meet their goals of forestland ownership.

Two cultural resource surveys have been completed in the Park. A June 2006 survey by Dorothy Fleming covers approximately 79 acres in portions of Vegetation Types 4, 6, 8 and 10. A second survey completed in June of 2008 by Tveskov & Bialas, covered 21 acres in Type Number 1 prior to fuels treatment in that area. A short cultural survey was conducted in the area treated in 2004 by BLM Archeologist Tim Canaday and the Klamath Tribes Culture and Heritage Director Perry Chocktoot. Two additional cultural surveys were completed in 2011. One preceded fuels treatments done in late 2011 through early 2012. The other will guide management decisions in Type 5.

Additional cultural surveys are needed to include areas of future proposed activities involving any ground-disturbance. Park managers are actively pursuing opportunities for funding-assistance with accomplishing these surveys.

The Moore Park property was deeded to the City of Klamath Falls by the Moore family in various documents dated 1926, 1930 and 1946. Park managers have strived to follow the conditions spelled out in those donation documents, while accommodating a wide diversity of requests for use of the park.

## Recreation



Image 35 – Moore Park picnic, July 1942

Library of Congress photo

Moore Park has a long history of recreation use. The forested setting offers visitors an experience that has drawn local residents for generations. Moore Park provides recreational opportunities to the public during all seasons of the year. Residents have recalled winter recreation including a ski and sledding ramp constructed on the lower slope of Moore Mountain, see Image 32 on page 39. Local citizens responded to a recent request in the newspaper for information about the ramp in that picture, see Appendix A25.

Use of the park for recreation is managed through the Parks Division, particularly group activities and events. The general public has access to the park which is respected by most users. There are issues with personal use that may not be appropriate; including trails being developed without approval from the park managers, possible trespass due to lack of formal survey and boundary marking, and transient camping in more remote portions of the park.

It is recommended that Park managers seek funding to solicit a formal recreation plan from a recreation consultant. Uses of the wildland areas of the Park include hiking, mountain-biking, bird-watching, sledding, picnicking, interpretation, education, day-camping, cross-country skiing, snowshoeing, disk golf and others. The developed portions of the park are actively used for social gathering, boating and playground activities. Each of these activities requires space and each can interfere with other uses. The complex array of recreational opportunities that the Park provides deserves professional recommendations to avoid conflicts and/or waste of effort and resources. The Friends of Moore Park organization provides a good opportunity for public input to the formal recreational plan.

City Park managers are currently creating a trail management plan. Recreation management is addressed in the Parks, Recreation and Open Space Master Plan. Specific guidance for trails is offered in that document. The objective of the Trails Plan is to build on the existing trail system already in place by utilizing natural patterns and private lands to connect existing trails into a comprehensive trail system.

The recent initial construction of the Klamath Ridge View Trail allows foot and bicycle traffic to connect from the Link River Trail, through Moore Park, through RidgeWater and Buck Ridge subdivisions to the Running Y subdivision. Planning has begun for an extensive trail system connecting many scenic portions of Klamath County, including Crater Lake National Park with this system. Obliteration of some existing trails will be needed to focus use on the primary trails. Repair of switchback cuts and pioneered routes will be an ongoing maintenance issue.

## **Aesthetic/Scenic**

Being within the city limits of Klamath Falls and incorporating a large portion of Moore Mountain, Moore Park is in a highly visible location. Nearly all proposed management activities will be visible to the public. Clean up of debris and slash from management activities in a timely manner will be necessary. Encourage healthy and diverse vegetation. Significant forest health problems will require quick response.

Air quality is compromised whenever open burning or wildland fire is occurring on forestland. Oregon has various restrictions on burning that are in place whenever air quality will be significantly affected, based upon weather conditions and location of the burn. Prior to any burning, submit a Permit to Operate Power-Driven Machinery (PDM-includes burning) from the Oregon Department of Forestry, and call the smoke forecaster at 503/945-7401 at ODF in Salem just prior to burning to determine restrictions for that day. Current restrictions for the Klamath Falls will also be found at [http://egov.oregon.gov/ODF/FIRE/fire.shtml#Smoke\\_Management](http://egov.oregon.gov/ODF/FIRE/fire.shtml#Smoke_Management) during the burning season. Prescribed burning should also be coordinated with the Klamath County Department of Public Health.

## **Threatened and Endangered Species**

There are no known Threatened and Endangered species (T&E) in Moore Park. Baker's globe mallow is classified as a species to be "watched" by the Oregon Natural Heritage Program. It has been identified in Type 5, in the area burned by the KAGO fire in 2003. Treatment activities in Types 4 and 5 should be planned and conducted so as to protect this rare species. Since globe mallow typically shows up after fire, periodic prescribed burning in Types 4 and 5 could help to sustain the plant.

Moore Park has a history of bald eagle use for roosting, nesting and fledging their young. Although the bald eagle was removed from the federal T&E list in 2007, numerous protection measures for the habitat of the bald eagle are required by the Oregon Forest Practices Act prior to and during forest management activities in the Park. Consult with the local Oregon Department of Forestry prior to implementing these activities (541 883-5681). Federal Bald Eagle Management Guidelines can be found in Appendix A20.

## **Forest Practices Rules**

The Oregon Forest Practices Act establishes standards that encourage and assure the growing and harvesting of trees, while providing sound management of forest resources. The protected resources addressed in the Act are the trees, soil, air, water resources, and wildlife and aquatic habitats. Riparian areas next to streams, lakes and estuaries have been given special protection. These areas play an important role in protecting water quality and fish populations. Diverse wildlife populations utilize these areas. Wetlands and adjacent lands are also provided special protection to maintain the water quality and quantity, and the fish and wildlife values, these resources contribute to the forest environment. The Act regulates activities during commercial operations on all private and state forest lands and is administered by the Oregon Department of Forestry.

This plan and all management recommendations must meet or exceed the Oregon Forest Practice Rules as administered by the Oregon Department of Forestry. Most forest operations require filing of Notification of Operations and a 15-day waiting period. This advance notice gives the ODF foresters the opportunity to review the work site, identify potential problem areas and help landowners and operators avoid damage by implementing Best Management Practices. Some operations require filing of a Written Plan when those operations are on or near riparian management areas, significant wetlands or other specified resource sites.

Copies of the complete forest practices rules and fire laws are available at all Department of Forestry offices. Also refer to "Oregon's Forest Protection Laws: An Illustrated Manual" included with this Plan. Additional information is available under Private Forests/Forest Practices Act at: <http://www.odf.state.or.us>

Notifications of Operations on forestlands are required for:

- Harvesting of forest tree species
- Road construction and reconstruction
- Site preparation for reforestation
- Slash disposal or treatment
- Chemical application
- Pre-commercial thinning
- Clearing forest land for conversion to any non-forest use
- Commercial cutting of firewood
- Surface mining

## **Assistance**

Sources of assistance vary over time. City managers have developed a wide network of professional cooperators to assist in planning and managing Moore Park. Maintaining contact with this network will provide the best opportunities for assistance. This plan will provide the framework for potential projects to demonstrate to funding sources that a thoughtful process has been followed. Many proposed projects will require more detailed plans than provided here.

Oregon Department of Forestry  
3200 Delap Road  
Klamath Falls, OR 97601  
541/883-5681

<http://oregon.gov/ODF/FIELD/KL/aboutklamathlake.shtml>

Natural Resources Conservation Service, Farm Service Agency and Klamath Soil and Water Conservation District  
2316 So. 6<sup>th</sup> Street  
Klamath Falls, OR 97601  
541/883-6932

<http://www.nrcs.usda.gov/>

[www.fsa.usda.gov](http://www.fsa.usda.gov)

<http://www.klamathswcd.org/>

Oregon Department of Fish & Wildlife  
1850 Miller Island Road  
Klamath Falls, OR 97603  
541/883-5732

[http://www.dfw.state.or.us/agency/directory/local\\_offices.asp](http://www.dfw.state.or.us/agency/directory/local_offices.asp)

US Fish & Wildlife Service  
1936 California Avenue  
Klamath Falls, OR 97601  
541/885-8481  
<http://www.fws.gov/klamathfallsfwo/>

Oregon Society of American Foresters  
4033 SW Canyon Road  
Portland, OR 97221  
503/224-8046  
<http://www.forestry.org/northwest/>

Klamath County OSU Extension Service  
3328 Vandenberg Road  
Klamath Falls, OR 97601  
541/883-7131  
<http://oregonstate.edu/dept/kbrec/>

Klamath Watershed Partnership  
700 Main Street, Suite 202  
Klamath Falls, OR 97601  
541/850-1717  
<http://www.klamathpartnership.org/>

OSU Forestry Extension Service  
<http://extension.oregonstate.edu/index.php>

## **Tax and Business Management**

Moore Park does not have tax management issues as it is owned by the City of Klamath Falls. It is important that good documentation of activities planned, funded and implemented be kept for future park managers.

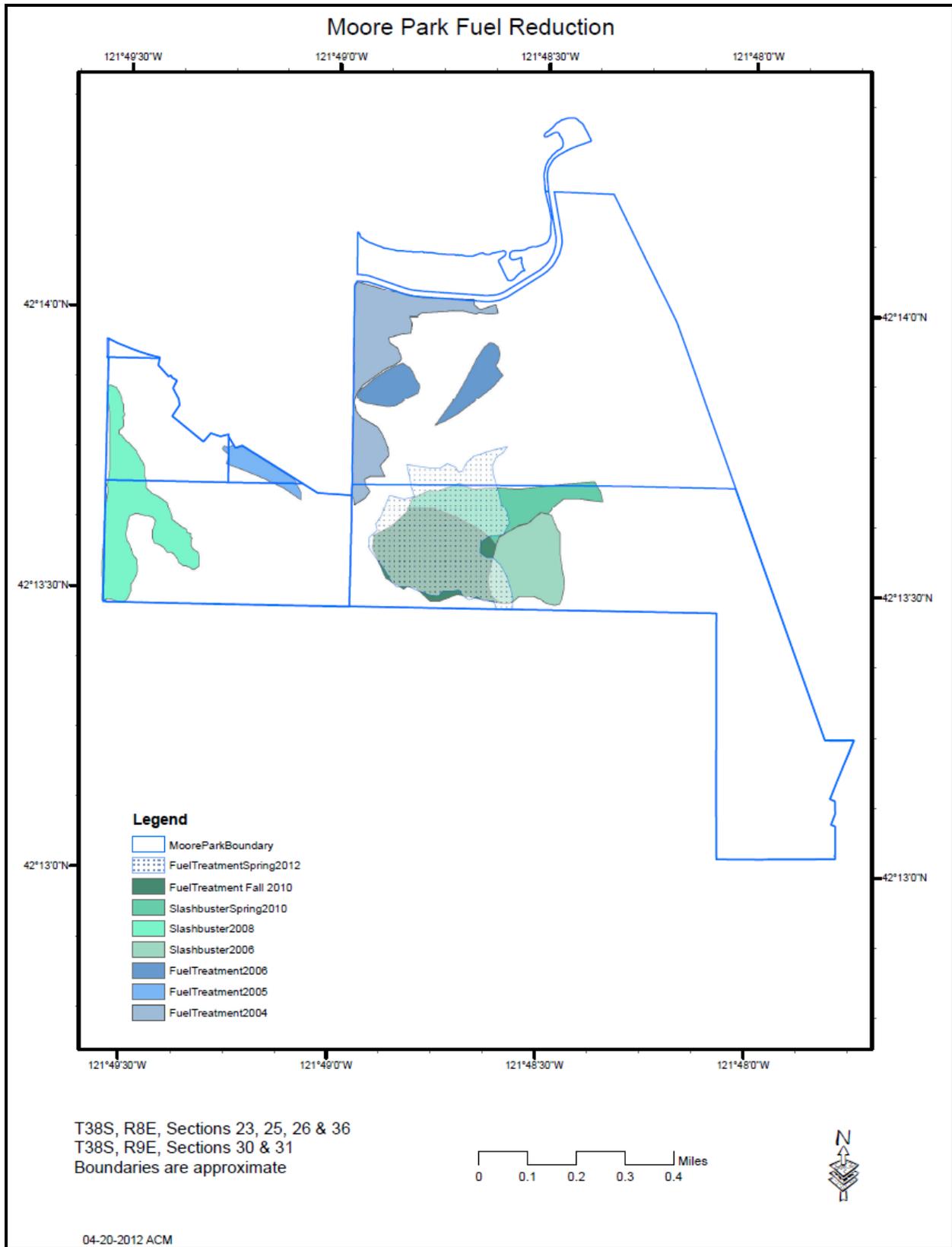
## **Action Plan – Management Recommendations and Priorities**

Moore Park is situated in a unique location within the City of Klamath Falls. Overriding influences on management include heavy visitor use, significant wildlife use (including the American bald eagle and numerous migrating species in the Pacific Flyway), adjacent residential neighborhoods, expected future development on adjacent ownerships, history of wildfire, abundance and diversity of vegetation and the presence of historical artifacts.

Management recommendations in this Plan take into account the above factors, as well as the objectives of the landowner and the intent to manage the Park under the concepts of multiple-use. Plan preparers have emphasized forest health and sustainability of social, environmental and economic benefits.

Table 2 summarizes fuels/forest health treatment options and history in a format to be adaptable to fluctuations in budgets and labor and grant availability. Map 3 shows the history of those activities since 2004.

Perceived priorities generally correspond to placement in the table. Circumstances may dictate that lower priority treatments be applied earlier in the Plan period. No recommendations have been made for the developed areas of the Park (Type #7). This part of the park has numerous on-going maintenance and development projects associated with the marinas, lawns, social shelter and boat ramps.



Map 3 – fuels treatment areas through 2004 through 2012

## Recommended Treatment Planning Schedule

### Fuels Management & Forest Health Treatments

Black text was originally proposed in fuels management plan, blue entries are actual completed treatments. Some of the treated acres received a second treatment and are noted. This has consisted of hand thinning, pruning, piling and burning after equipment mastication. This work is mostly in Types 4 and 6.

As the plan was implemented adjustments were made as new information was made available using an interdisciplinary approach to planning. All proposed and completed work has been field reviewed by a group of specialists with the park managers.

Vegetation Type	Priority	Acres	Total Treatment Acres	Portion of Type Treated	Remaining to be done/considered
1	2	62	9, <u>20</u> (2008)	15%, <u>32%</u>	≤ 9 ac of hand fuelbreak
2	2	57	9, <u>5</u> (2005)	16%, <u>9%</u>	none, ground too steep
3	N/A	1			
4	1	67	32*, <u>46*</u> - 10 (2006), 14 (2010), 14 ** (2010), 10 (2012)	48%, <u>67%</u>	scattered piles to burn
5	3	183			
6	1	64	29-37, <u>25</u> - 5 (2004), 20 (2012)	45-58%, <u>39%</u>	up to 12 acres of thinning/pruning, prescribed fire
7	N/A	58			
8	3	6	1-4, <u>3</u> (2006), 2 (2009)+	17-67%, <u>50%</u>	none
9	1	13	10, <u>6.5</u> (2004)	77%, <u>50%</u>	maintenance of treated areas, rest for wildlife habitat/cover
10	1	29	21, <u>11</u> - 9 (2004) 2 (2006), 2 (2009) same 2 ac as 2006	72%, <u>38%</u>	maintenance of treated areas, rest for wildlife habitat/cover
		540	111-122, <u>116.5</u>	21-23%, <u>22%</u>	
* includes 12 acres burned in the 2003 KAGO Fire					
** with previous 14 acres, thinned juniper, piled/burned slash + 4 ac underburned in 2009 included 2 ac ea of 8 and 10					

Table 2 – Moore Park Fuel Treatments Planned and Accomplished

As of March 2012, the initial objective for treated acres in Moore Park has been met. About 8-10 proposed treatment acres were reserved for wildlife habitat. Many islands were left untreated for wildlife hiding cover. It should be noted that the initial treated acre objective was an estimate. Actual acres treated have been carefully selected to meet plan objectives. The fuelbreak planned in type 1 has not been completed, but is in progress. Additional thinning/pruning could be done for fuels and forest health objectives in type 6. Additional days of machine mastication and pile burning are planned for the fall of 2012. This work should be on slopes less than 35%.

There are future maintenance treatments to consider on the areas treated to date. These treatments would be on acres receiving initial treatments in 2004-2012. Regeneration rates in the shrub community (chokecherry/Klamath plum/birchleaf mountain mahogany) suggest that it could take 25 years or more to generate sufficient dead woody fuel to be a wildfire problem again. Sites prone to extensive pine needle drape may be flammable before 25 years of age. Monitoring of those sites should be done periodically to determine dead wood accumulation. A mosaic of small treatments could be implemented to maintain the previously treated areas. Such work might be within the capability of park personnel and equipment.

Periodic small (< 5 acre) prescribed fire projects are recommended. Projects need to be small enough to reduce personnel needs. Air quality constraints will be a significant issue to address. These burns would be for forest health maintenance as well as fuels management. Opportunities to access cost-share funds have become available and should be pursued for these projects. To date the fuels management work in Moore Park has been a good example of cooperation and collaboration. Significant amounts of labor and expertise have been donated to the park.

### **Forest Health Treatments**

The Moore Park Urban Forester has removed individual juniper trees to reduce competition and increase the vigor of ponderosa pine. Juniper encroachment since settlement has been significant with grazing and the resultant decrease in fire. He plans to continue this effort on a tree selection basis. Monitoring of juniper seedling encroachment needs to be continued and seedlings removed.

Where mixed conifer stands are present, especially with decadent shrubs, pruning and thinning will also reduce the risk to tree mortality from fire. Specifically type 6 has many acres of overstocked trees growing in clumps. This clumping is mainly due to past selective harvest of larger trees (prior to Moore Park deed). This area would be in type 6 south of type 3 below 30% slope and the area north of type 4.

Reforestation of ponderosa pine in larger openings created by fuels treatments and thinning should be considered. Care should be taken to not overstock, requiring a subsequent thinning expense. The 2009 pine planting done in type 9 should be monitored for success rates and thinning needs.

## STEWARDSHIP PLAN SIGNATURE PAGE

This stewardship plan describes the existing vegetation, soils, and wildlife/fisheries habitat on the property and addresses the opportunities for the protection of all natural resources while assisting the land manager in meeting his or her objectives for the management of the property. It provides guidelines for a sound strategy which reflects the land manager's management objectives and blends them with a land stewardship ethic. It focuses on the integration of all resources in the management of the property as a valuable legacy for future generations. All plan elements listed below must be addressed during plan development. The amount of information and the level of detail included under each element will vary with the land manager's and plan's purpose.

PLAN ELEMENT CHECK LIST	Check if included
Cover Page	X
Plan Introduction	X
Landowner Objectives	X
Map/Woodland Description	X
Forest Vegetation/ Timber	X
Wildlife/Fish Habitat	X
Soils	X
Roads	X
Water Resources	X
Forest Health	X
Fire Plan	X
Archeological and Cultural Resources	X
Recreation	X
Aesthetic/Scenic Resources	X
Threatened and Endangered Species	X
Forest Practice Rules	X
Sources of Assistance	X
Tax and Business Management	X
Management Recommendations	X
Signature Page	X

Actions recommended in this plan have no significant long-term adverse impact on any of the above listed resources. This plan does not limit or reduce any existing rights of the landowner.

**Prepared for:**

John Bellon  
Land Manager's Signature

5/3/12  
Date

**Prepared by:**

Gene Rogers, Anne Maloney ODF  
Resource Professional's Signatures

9/27/12  
Date

**John Bellon – Superintendent for Operations and Maintenance**  
Print Land Manager's Name

**Gene Rogers, Anne Maloney - Foresters**  
Print Resource Professional's Name

County KLAMATH

**Approved by:**

Sandra Fox  
City Representative's Signature

10 MAY 12  
Date

Acres in Plan 543

**Sandra Fox - Community Development Director**  
Print City Representative's Name/Title

## Appendices

In the interest of reducing paper use, only one master copy of this plan is planned for printing. That document will also contain archeological survey information not appropriate for public distribution. Copies of the final document will be burned to a compact disk and all of the listed appendices will be on that disk as well. The file format is Adobe Reader or .pdf format. The appendix files are listed in order in the Table of Contents and reside in a folder named Appendices on the disk.

## Glossary

Many terms used in the Moore Park Forest Resource Management Plan are found in the enclosed Glossary of Woodland Words by R. Fletcher and B. Udell, EC 1155, OSU Extension Service, Appendix A03.

The following is a list of terms found in the plan that are not addressed in the above document.

**decadent brush:** older shrubs that contain a high volume of dead limbs and often stand over a significant build-up of dead litter fuels (author)

**fuels:** a general term used to describe the flammable components of the wildland environment, includes live and dead vegetation, litter and duff (author)

**legacy tree (character tree):** a tree, usually mature or old-growth, that is retained on a site after harvesting or natural disturbance to provide a biological legacy (Society of American Foresters: The Dictionary of Forestry, <http://dictionaryofforestry.org/dictrees/acredvsearch>)

**underburn:** a prescribed fire consuming surface fuels but not significant portions of the canopy of trees and/or shrubs (author)