

## 5.0 Issues, Threats and Potential Impacts



## 5.0 ISSUES, THREATS AND POTENTIAL IMPACTS

Identifying key issues, or established threats and potential impacts clarifies the needed focus for the RMP. Key management challenges for AWCWP stem from the proximity to residential development and increased park use. Other issues, such as invasive plant infestations, stem from historical land uses and are exacerbated by current environmental conditions. Based on the information collected at public meetings and from preparing the Existing Conditions Report (Appendix C), the project team identified key park-wide issues.

### 5.1 ISSUES

#### Biological Resources

- Need habitat restoration especially in areas with high resource value
- Failure of past passive resource management: loss of CSS habitat and rare plants due to goat grazing, weed invasions, unauthorized trail use, improper fuel management practices, and over-use of the park
- Lack quality of fish habitat in park creeks
- Heavy infestation of a variety of invasive exotic weed species (i.e., giant reed, thistles, palms, castor bean)
- Spread of invasive exotic weeds from adjacent development
- Presence of nuisance wildlife species (i.e., African clawed frog, bullfrog, cowbird) that are pervasive throughout Southern California
- Lack of wildlife corridor connectivity between adjacent open space lands
- Need additional monitoring/surveys for some sensitive species
- Lack management of existing wildlife corridors
- Potential impacts on aquatic species from infrastructure and creek stabilization projects
- Loss of CSS habitat
- Loss of rare plants
- Impacts on biological resources from over-use of park

#### Water Quality

- Increased runoff and nuisance flows from surrounding urban development impacts water quality and causes erosion
- Improper management of adjacent fuel modification areas impacts water quality

### **Fire Management**

- Biomass buildup increases fire hazards
- Poor management of adjacent fuel modification areas impacts park resources (e.g., erosion, exotic species, visual impact) and affects operations and maintenance
- Damaged and disturbed park land (e.g., loss of habitat, fencing scars, weed invasions, lack of management and monitoring)

### **Cultural and Paleontological Resources**

- Potential effects on cultural resources by park development such as construction of trails and interpretive facilities
- Potential effects on cultural resources by park maintenance such as restoration activities, and weed removal
- Potential impact on cultural resources from existing utilities, infrastructure maintenance, improvements, realignment, SOCWA access road, and SOCWA and MNWD pipelines
- Potential impact from creek erosion and creek stabilization projects
- Potential effects on cultural resources by park visitors such as unauthorized collection and removal of artifacts or fossils, vandalism, and creation of illegal trails.
- Potential effects on cultural resources by fire management practices such as development and maintenance of fire breaks and damage or destruction of burnable cultural materials during controlled burning
- Need to implement recommended system for cultural resources records management as adopted by the County
- Need to identify Traditional Cultural Areas (burial sites) within the park, including ceremonial and/or procurement sites
- Need to systematically and routinely inventory and document cultural resources
- Need to integrate park management of cultural and paleontological resources with other agencies such as Orange County Natural History Association, Orange County Archaeological/Paleontological Curation Program, and Pacific Coast Archaeological Society
- Need to ensure formal procedure for care of collections within the park or given to the park is implemented
- Need to control access to paleontological resources

### **Interpretation/Education**

- Enhance education program to promote understanding of appropriate park uses (e.g. stay on trails) and park resources (sensitive species, urban edge effects)
- Upgrade/renovate interpretive center to provide a more dynamic learning experience and to improve the appearance of the park's main entry
- Create an information/education hub at creek confluence or at Soka University
- Lack signage, particularly directional and safety information

- Signage clutter – too much signage
- Need park interpretive plan that staff can use to guide interpretation, education, and outreach activities
- Need “Good Neighbor” program to educate residents about living along the wildland interface (i.e., invasive plants, low fire hazard natives, use of herbicides near natural areas)

### **Visual Resources**

- Visual intrusion of urban development along the ridges of both Aliso and Wood Canyons
- Lack of screening of urban development and utility infrastructure (i.e., water tanks, power lines, structures)
- Interruption of scenic landscape by utility lines, illegal trails, and structures
- Landscape scars from goat fencing and grazing
- Denuded slopes resulting from inappropriate fuel medication activities and failure to follow approved landscape plans
- Exposed and collapsing pipe adjacent to creek
- Sea of giant reed along Aliso Creek

### **Public Use and Access**

- Impacts of public use on park resources
- Need access to the coast
- Need better access in lower Aliso Canyon; no trail on the east side of Aliso Creek
- Conflicts between trail users
- Encroachment of adjacent property owners into park
- Underutilized hiking trails
- Creation and ongoing use of unauthorized trails destroys and fragments habitat and causes erosion
- Need education program to improve trail safety and reduce conflicts between users
- Moderate interest to expand existing trail system
- Safety concerns related to steep trails and the frequency of accidents
- Informal end-of-street access points makes enforcement of regulations difficult and facilitates creation of unauthorized trails
- Lack of parking/access, e.g., from Soka University
- Need connection between AWCWP and Laguna Coast Wilderness Park across Laguna Canyon Road
- Need consistent and creative design for park entries and signs to inform and engage the public

- Traffic congestion caused by on-street parking as a result of people trying to avoid park fees
- Improve design at park entries and along trail routes to decrease clutter of signs
- Need trail connection to regional trail from better access to park and trail connectivity to outlying destinations

### **Operations, Maintenance and Management**

- Coordination of management efforts between jurisdictions. Need to build relationships with cities, HOAs, OCFA.
- Need to integrate park resource management practices with NROC programs
- Difficult to close trails and ensure compliance with trail closures
- Need for consistency in enforcement of dog regulations
- Need boundary fences at problem areas.
- Problem with illegal homeless camping (e.g., heavy littering, bike theft, habitat destruction, safety, water quality)
- Enforcement of park hours/potential effects of 24-hour use
- Problems with litter and illegal dumping
- Limited staff resources available to enforce park regulations and manage park resources

## **5.2 THREATS AND POTENTIAL IMPACTS**

Table E identifies the most significant threats for AWCWP and lists the potential impacts that are likely to result from these threats. Habitat fragmentation, invasive plant species, existing fuels and fire hazard conditions, the urban edge effect, public use, and erosion constitute the main threats. The RMP is designed to address these issues and threats and to minimize impacts while supporting the intent of a County wilderness park. Management guidelines and strategies that address these issues are provided in the sections that follow.

### **5.2.1 Public Use**

Human use has the potential to cause extensive degradation of the natural and cultural resource values of open space areas. Overuse and inappropriate uses of the extensive trail network can have negative environmental effects by altering natural drainage patterns, eroding and depositing of soil, introducing exotic vegetation, and increasing human-wildlife conflicts. Degraded trails also diminish the quality of the visitor experience by creating difficult or unsafe trail conditions, promoting trail use conflicts, and impacting the scenic quality of the landscape.

**Table E: Analysis of Threats and Potential Impacts for the AWCWP**

THREATS	POTENTIAL IMPACTS
<b>5.2.1 PUBLIC USE</b>	
<p>The existing trail network is heavily used by hikers, runners, and mountain cyclists. Off-trail use has facilitated the development of unauthorized trails and shortcuts.</p>	<ul style="list-style-type: none"> <li>• Overuse and inappropriate uses of trails causes erosion, alters natural drainage patterns, introduces exotic vegetation, degrades native vegetation, and increases human-wildlife conflicts.</li> <li>• Degraded trails create difficult or unsafe trail conditions for visitors.</li> <li>• Conflicts/safety problems between the highly active (cyclist) trail users and the passive (bird watching, painting, photography)</li> </ul>
<b>5.2.2 URBAN EDGE EFFECT</b>	
<p>AWCWP is surrounded by urban area along most of its boundaries. Because of its size and “Y-shaped” configuration, the park has a lengthy perimeter (approximately 42 miles) that borders several different communities.</p>	<ul style="list-style-type: none"> <li>• Exotic plant and animal species are introduced and degrade the natural environment.</li> <li>• Prevents native wildlife from using habitat along the periphery of the park or puts them at risk for predation by feral or domesticated animals when they do move out into this region.</li> <li>• Contributes to an increase in frequency and severity of wildfires.</li> <li>• Visual intrusion degrades scenic quality of the park.</li> <li>• Unauthorized access from adjacent development contributes to habitat fragmentation.</li> <li>• Ambient lighting, including night lighting from Soka University and sports field, and noise can disturb wildlife and ecosystem functioning.</li> <li>• Inappropriate management of fuel modification zones contribute to soil erosion, poor water quality, degradation of habitat, and landscape blight.</li> <li>• Lack of permanent markers to delineate fuel modification boundaries facilitates infringement (<i>i.e.</i>, goat grazing) on park property.</li> <li>• Variety of landscape plans creates</li> </ul>

THREATS	POTENTIAL IMPACTS
	confusion and difficulties for enforcement and management.
<b>5.2.3 INVASIVE PLANT AND ANIMAL SPECIES</b>	
Invasive plant and animal species are outcompeting native species in areas of the AWCWP. Invasive species are spreading into the AWCWP from adjacent development.	<ul style="list-style-type: none"> <li>• Invasive species degrade existing native habitat and reduce biodiversity.</li> <li>• Invasive species compete with native plants for resources and habitat, and prevent seedling establishment.</li> <li>• Invasive species may displace native wildlife.</li> </ul>
<b>5.2.4 WATER QUALITY</b>	
Land use practices and natural processes throughout the watershed adversely affect water quality within the park. Many of these practices occur outside the purview of park managers. Some threats to water quality within the park boundaries can be controlled by park managers (e.g., invasive vegetation).	<ul style="list-style-type: none"> <li>• Increased runoff causes flooding and erosion damage to habitat, open space, large wastewater lines, and other infrastructure.</li> <li>• Water quality that does not meet public health regulatory requirements.</li> <li>• Degradation of aquatic and terrestrial habitat.</li> <li>• Loss of recreational opportunities.</li> </ul>
<b>5.2.5 HABITAT FRAGMENTATION</b>	
Biocorridors become increasingly important for plants and wildlife as human development encroaches upon natural areas, yet even the biocorridors within the AWCWP are threatened by human development.	<ul style="list-style-type: none"> <li>• Movement of wildlife and genetic material is hindered, resulting in the loss of species in the isolated patches.</li> <li>• Habitat fragmentation contributes to the “urban edge effect.”</li> </ul>
<b>5.2.6 EXISTING FUELS AND FIRE HAZARD CONDITIONS</b>	
Excess fuel loads within AWCWP (e.g. near homes) increase the risk of wildfire.	<ul style="list-style-type: none"> <li>• Eroded hillsides become invaded by nonnative vegetation and native vegetation is diminished.</li> <li>• Neighboring homes and businesses are at risk when wildfires become unmanageable.</li> <li>• AWCWP is at risk from fires at the urban interface</li> </ul>
<b>5.2.7 EROSION</b>	
Steep slopes, historic land use practices, and the construction of unauthorized trails have resulted in erosion. Areas without vegetation on steep slopes are the most	<ul style="list-style-type: none"> <li>• Increases sedimentation in streams and watercourses.</li> <li>• Degrades water quality (increased turbidity).</li> </ul>



THREATS	POTENTIAL IMPACTS
susceptible to erosion.	<ul style="list-style-type: none"> <li>• Lose habitat value in riparian and wetland ecosystems from siltation and type conversion.</li> <li>• Creates hazardous trail conditions from rills and gullies for hikers, bikers, and equestrians.</li> <li>• Reduces soil productivity and water-holding capacity.</li> <li>• Alters natural drainage patterns.</li> <li>• Increases velocity and amount of stormwater runoff.</li> <li>• Barren areas reduce scenic value.</li> </ul>

A long history of use, prior to the establishment of AWCWP, has facilitated the development of visitor-created unauthorized trails and shortcuts. Steep trails without adequate ground cover are heavily eroded with cutting and compaction along their edges. In some areas, trails act as drainage ditches carrying water during storm events. In addition, off-trail use tramples native vegetation, degrades habitat, disturbs wildlife, and promotes invasive exotic species.

### 5.2.2 Urban Edge Effect

Urban areas in proximity to the park may cause negative effects. Some of these effects are urban runoff, light pollution, exotic pests, feral pets, exotic plants, diseases, fire, and pollution. Some are more easily controlled than others. These effects can deter animals from using the habitat along the edge of the park, which in turn reduces the overall usable acreage of the park. Conflicts may occur along the urban edge from animals in AWCWP moving into the urban area to roam and forage.

AWCWP has urban area along most of its boundaries. One of the obvious effects of the urban edge is the fuel modification required along these areas. Most of the fuel modification zones associated with adjacent development lie outside the park boundaries; there are only a few areas for fuel modification within AWCWP. Mismanagement of these fuel modification zones has the potential to adversely affect AWCWP. Over zealous vegetation removal and failure to revegetate with fire-resistant, native plant species contribute to soil erosion, poor water quality and degradation of native habitat. Inappropriate/unauthorized chemical control further degrades water quality and riparian ecosystems. In addition, the large number of fuel modification/landscape plans governing the fuel modification zones and inconsistency in management approaches between the different Homeowners Associations (HOAs) make it difficult for park managers to ensure appropriate management.

Ornamental plants planted in the urban areas may move into AWCWP and if not monitored can become established. Domestic/feral pets enter AWCWP to roam and forage for food. These animals may compete with native animals for food or prey upon the native animals themselves, and may also introduce disease to native populations. The best way to reduce these and other urban edge effects is to educate the public who live adjacent to AWCWP and to explain the ways they can reduce impacts to AWCWP and why they should be concerned. Park staff should work with HOAs, cities, Orange County Fire Authority (OCFA) and others to enforce compliance of approved fuel modification landscape plans and promote revegetation of denuded areas with low fire hazard native plants.

### **5.2.3 Invasive Plant Species**

Invasive plants are a threat to open space because they colonize disturbed areas and degrade existing native habitat. The invasive plants are more aggressive than most native plants, will out compete the natives, and prevent certain native species from germinating. The nonnative invasive plants take hold, and since they are colonizers, they are very difficult to get rid of once they have become established. It is much easier to fight invasive weeds in the early stages.

Historic land uses, from cattle and sheep grazing and cultivation to recreation use, has allowed nonnative invasive plants to take hold within the park. In some of these areas the weeds have caused significant damage and are not allowing the disturbed areas to recover and fill in with native vegetation. The management of the invasive plants will be an important component of the continued health and vitality of the habitat at AWCWP.

### **5.2.4 Water Quality**

The proximity of AWCWP to urban development renders it susceptible to water quality problems including urban runoff, non-point source pollution, increased sedimentation, and streambank erosion. The entire Aliso Creek watershed suffers from a number of problems related to water resources. These problems are a result of natural processes as well as human actions and land uses that exacerbate natural conditions such as variation in rainfall, changes in sediment and other occurrences. Problems within the watershed fall into four general categories: creek instability, water quality, loss of fish and wildlife habitat, and flooding damage. Creek instability results in channel degradation, erosion damage, loss of habitat, expansion of invasive species and devalued recreation experience.

Many of these problems are a result of processes and practices occurring beyond park boundaries and outside of the purview of park managers. Participation in public outreach and watershed-wide management efforts will be the most effective method for addressing water quality problems within AWCWP.

### **5.2.5 Habitat Fragmentation**

Habitat fragmentation may occur on either a local or regional level. Local fragmentation of habitat can be caused by activities within the area that damage the functionality of the

habitat. Examples of these are trails, roads, invasion by exotic weeds, goat fencing, habitat removal from goat grazing, and development. Regional fragmentation is when large tracts of open space are isolated from other large stretches of land. If corridors are not kept between these lands, then they become isolated and the movement of wildlife and genetic material (seed, spores, and pollen) of plants will be diminished. This in time will reduce the viability and health of the smaller patches of isolated habitat.

Trails that cut across AWCWP, as well as scars from installation of goat fencing, and invasive weeds are decreasing the quality and functionality of the habitat. Other areas of the habitat are doing well but they are fragmented and isolated. Keeping certain areas closed to public use and restoring habitat on the unauthorized trails can preserve areas of intact habitat.

### **5.2.6 Existing Fuels and Fire Hazard Conditions**

The Mediterranean climate of Southern California—characterized by wet, mild winters and dry, hot summers—is conducive to producing an abundance of fire fuel because of the long growing season. Fire suppression, heavy rains, and seasonal or prolonged drought all result in excessive fuel accumulation. When excess fuel loads are not managed properly and fire is suppressed in plant communities (e.g., chaparral) that have fire-based regeneration requirements, wildfires pose a threat to the surrounding homes and communities and the native vegetation itself. Major wildfires adversely impact native habitat because of the increased chance of erosion and subsequent invasion of exotic plant species (Kent 2005).

The southern California fire season typically starts in the fall when the Santa Ana winds bring hot and dry air from the east (Kent 2005). Within AWCWP, the risk of fire is significant in areas where fire has been suppressed, allowing a dense understory to accumulate in areas where vegetation might normally be thin. Hillsides with southern exposure, steep slopes that allow fires to spread rapidly, and unmanaged growth along the residential areas at the periphery of AWCWP are especially fire prone.

In response to the potential threat of fire along the urban edge, the City of Laguna Beach has been conducting fuel management by goat grazing for the past 18 years. In grazed areas fuel is reduced so that fires burning into it can be more readily extinguished. Five of the fuel modification zones (1, 2, 5, 6, and 7) are adjacent to AWCWP.

### **5.2.7 Erosion**

Erosion, the process by which soil particles are displaced and transported by wind or water, occurs naturally from weather or runoff. Human land use practices such as unrestricted construction, agriculture, removal of vegetation or mulch, paving or heavy repeated trampling can cause accelerated erosion beyond natural levels. Erosion reduces soil quality and water-holding capacity by removing the nutrient-rich upper layers of the soil. Erosion can increase sedimentation in wetlands, streams (including riparian habitats) and watercourses, degrade water quality, increase flood hazards and reduce water storage capacity. The extent of erosion depends on a combination of factors including the amount

and intensity of rainfall, soil type, slope length and steepness, and ground cover (vegetation, litter/mulch, rocks). Soil erodibility is a function of texture, organic matter content, structure and permeability. In general, areas with erosive soils on long steep slopes with little or no vegetative cover will be most susceptible to erosion.

The creation of unauthorized trails, particularly downhill, mountain biking trails in steep hillside areas exacerbate conditions that are conducive to erosion because they compact soils, remove ground cover and concentrate runoff flows.