Chesebrough Scout Reservation Resource Management Plan

The Chesebrough Boy Scout Reservation is approximately 544 acres located in the Santa Cruz Mountains of the County of Santa Cruz. According to the master plan developed by Arthunian/Kinney Associates, Inc. "the over-all Scouting objectives for Chesebrough are to provide a "natural" environmental setting "close in" to Santa Clara County that would accommodate primitive and wilderness types of camping experiences.

With this philosophy in mind, this resource management plan will address the following:
1. A general over-all description of the ecosystems and biomes present, including vegetative types, wildlife present, soil types and capability.
2. The layout and program for rotating campsites according to the recommendations of the Engineering Service Design Standard No.D-20.
3. A vegetative management plan.
5. Creekside management (fisheries).
6. A schedule for accomplishment within three to five years, with a year to year breakdown of projects with cost estimates.

AREA DESCRIPTION

Chesebrough has within its boundaries, four zones of vegetation; Redwood, Transition, Oak Woodland, and Chaparral.

Redwood: The redwoods follow the pathways of two streams which lie within Chesebrough. Trees were observed that were over four feet in diameter breast height(DBH). Common plants found in redwood forests include Coast Redwood(Sequoia Sempervirens); Tanbark Oak (Lithocarpus densiflora); Evergreen huckleberry(Vaccinium ovatum); and redwood sorrel(Oxalis oregana). Average rainfall is between 35 inches and 80 inches, with some fog during the dry season. A unique feature of redwoods is their ability to root sprout and to stump sprout after cutting. This allows for fast reforestation since a sprout that grows from a stump or existing root system can use that root system for support and food.

Transition: (Mixed Evergreen) The mixed evergreen forests are usually found adjacent to redwood forests and in areas where timber harvest of redwoods has placed the forest in succession where Douglas Fir(Pseudotsuga menziesii), tanbark oak(Lithocarpus densiflora) and other trees have taken a spot once held by the redwood. This seems to be the case in the steep canyons of Chesebrough since timber production has taken place on the property within the past 25 years. The
above community occupies a large portion of Chesebrough. Other
trees found in this community are Madrone(arbutus menziesii)
and California Bay (Umbellularia californica). Common
understory shrubs are poison oak (Rhus diversiloba) and
California Lilac (ceanothus spp).

Oak Woodland: On the upper portions of Chesebrough lie some
vegetation which is very typical of oak woodlands found in the
eastern escarpment of the Santa Cruz Mountains. Common trees
are valley oak (Quercus lobata), Coast Live Oak (Quercus
agrifolia), and California Buckeye (Aesculus californica). Madrone
and other vegetation found in dry areas are also found there.

Chaparral: At the north end of the property, and on all south
facing slopes are those vegetative types that are resistant
to drought. Chaparral is characterized by dense shrubs, and
is deficient in trees and herbs. Common shrubs include the
Manzanita (Arctostaphylos spp), Chamise (Adenostoma
fasciculatum) and Coyote Brush (Baccharis pilularis).

Wildlife

Five distinct habitat/cover types are present at
Chesebrough: (1) Forest, (2) Riparian, (3) Grassland, (4) Oak
Woodland, and (5) Brush. In addition to these major habitat
types, other features are present, such as downed woody
material (logs), snags, and the areas between vegetational
transition zones.

Forest: The majority of the Chesebrough property is forest.
This habitat includes both the redwood forests and the mixed
evergreen, and the oak woodlands previously described above.
Based upon the specie occurrence and the dominance of species,
the redwood forest and the mixed and oak woodlands present a
very complex mosaic and have similar habitat values. Because
of the timber harvest which has occurred within the last 25
years and a heavy snowfall during the winter of 1974, the
forest floor has accumulated heavy fuel loads choking out
those plants normally used as deer browse. Mature understory
plants are growing tall and singular (one trunk) at a height
which deer cannot reach.

Riparian: A very valuable habitat, the streamside provide
excellent food sources and escape cover close to water and
also serve as travel corridors for many species.

Grassland: Although not addressed in the general description,
some small grassland areas do exist on the north end of the
property interspersed with shrubs on the south facing slopes.
It is an important habitat as it provides openings and edge
habitat in an otherwise total forest cover.

Oak woodland and Brush: Although the oak woodland comprises
only a small area of Chesebrough, it is valuable as a wildlife
habitat. Acorns are a major foodstuff for a variety of species
including deer and squirrel. Because of the absence of fire the
brushy areas in the north section of Chesebrough offer little
more than cover as the mature plants offer little nourishment for deer and other wildlife species.

Special Habitat Features
Snags, live trees with cavities, downed logs and edge habitat are important features for wildlife habitat. The edge habitat can be described as the zone of intergradation between two vegetation types. The zone typically supports a greater number and diversity than the two habitats independently. This is known as the "edge effect." (WESCO Pescadero Creek Resource Management Plan)

Snags and live trees with cavities provide important nesting and escape cover for many wildlife species. In a forest habitat, 20 to 30 percent of the bird species inhabiting it are directly dependent upon cavities for nesting (WESCO). In general, snags smaller than six inches in diameter have very little value. Dead, woody material that has fallen to the forest floor is another valuable forest habitat feature. Large logs provide cover by breaking up the line of sight for large animals such as deer and serve other valuable uses which include nesting, food storage, feeding and perching sites. Wood which is decaying also is a home to insects which are a valuable food source.

Species of Special Concern: (See table 1)
Deer are fairly common at Chesebrough. There is a lack of data as to how many deer might be in the complex. Usually, a proper density for deer in a forest such as is present at Chesebrough would range from 10 to 15 per/square mile. Deer were probably much more abundant in the area during the period of timber harvest. Deer are an early seral stage species and dense and maturing forest habitats do not support large populations. Timber production as well as fires which open up mature forests cause an increase in deer population which usually reaches a peak some 15 years after logging or a fire, and then starts a decline as food becomes more scarce (see figure 2). There are no known endangered species located at CSR. However, a resource management plan written for Pescadero County Park by WESCO, identified several "species of concern" for that park unit. Pescadero Creek County Park is located with 5 air miles of CSR, and Oil Creek flows into Pescadero Creek.

Keeping in mind that wildlife are living, moving individuals, it is very possible that species on this list may frequent CRS.

Another species of concern that could cause negative impact on the Reservation, is the feral pig. The Camp Ranger has had visual sightings of the animal on the reservation. Much has yet to be learned about the impact of this animal on Oak Woodlands. The animal uses acorns as a staple food, as well as other vegetation. The populations of feral pigs have exploded in the past few years. Several parks in the Bay Area are experiencing a great deal of damage from rooting activity. Lawns and oaks
are experiencing the greatest damage. A great deal of study has taken place in California concerning the disappearance of oaks. Propagation in some areas is not taking place. Many theories have been given, including extensive grazing and the impact of feral pigs. The appearance of feral pigs on the Reservation needs to be further monitored by the Camp Ranger, and the Reservation visitor. When and if damage starts to appear, then coordination with the California Department of Fish and Game, and/or a professional trapper will need to be employed to move the animals from the area.

As no research is available on the wildlife that frequents Chesebough, a "wildlife sighting" form needs to be developed and Scout leaders informed to report any wildlife sighting to the Camp Ranger and records kept as to place and time, date, individuals, etc. (see example in appendix)

CLIMATE

The climate of CSR is typical of its Santa Cruz Mountain location. Compared to the Santa Clara Valley, CSR will be cooler in both summer and winter. The average daily temperature in Ben Lomond some 10 miles to the southeast during July, is 83.9°F, and the highest temperature recorded is 113 degrees F. The average monthly temperature in January is 47.7°F and the lowest recorded temperature was 19. However, in summer it will receive less overcast and fog conditions than the Valley experiences. In the winter rainy season (October to April) CSR will receive approximately 45 to 50 inches of rain. The Cal Trans Station located at the junction of highways 9 and 35, and has recorded rainfall since 1935-36 has recorded a high of 84 inches and a low per year of 20 inches. On an average, CSR will receive snowfall three to four times each winter averaging 4 to 5 inches. A snowfall which occurred in 1974 deposited 30 inches of snow which was very unusual and caused a great deal of damage to the vegetation. Fuel load on the forest floor is still present from this storm. Within this over-all climatic context the CSR property because of its dramatic range of elevations and sun exposures has a number of micro climates. As an example, on the hot southern exposures of Red Mountain and on the north slopes of Oil Creek, temperatures may be in the eightys, while in the redwoods along Oil Creek or Deep Gulch, the temperatures may be in the 60's or 70's. Air quality at CSR is high.

HYDROLOGY

The CSR property is located near the headwaters of Oil Creek and the westerly of the divide between Oil Creek and the San Lorenzo River. Oil Creek is a perennial stream located generally on the northern part of the property. Running southwest from Oil Creek is an intermittent stream referred to as Deep Gulch. From a review of operating wells in the vicinity of the property, it was verified that ground water is readily
found between 150 to 225 feet in depth. As a matter of comparison, the California Division of Forestry has a well at its Saratoga Gap Station which was drilled in May, 1975. Statistics for this well are:

- Depth 285 feet
- Depth to water 115 feet
- Pumping Capacity 25-35 GPM

Geologic maps indicate the camp area to be underlaid by the same formations as the Saratoga Gap Station. This formation is known as Lompico Sandstone. Because of the steepness of the terrain there are few, if any, opportunities to develop artificial water bodies of any substantial size without greatly modifying and altering the existing environment. However, small check dams to accommodate recreational swimming are definitely feasible.

(Climate and Hydrology taken from Chesbrough Master Plan)
<table>
<thead>
<tr>
<th>Species</th>
<th>Status/List</th>
<th>Occurrence in Study Area</th>
<th>Habitat</th>
<th>Special Habitat Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Birds</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Great blue heron</td>
<td>NAS</td>
<td>Year-round - no known rookeries</td>
<td>s, r</td>
<td>Colonial nester, generally located near water, marsh. Sensitive to disturbance while nesting.</td>
</tr>
<tr>
<td><em>(Ardea herodias)</em></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooper's hawk</td>
<td>Remsen, NAS</td>
<td>Year-round - probable nesting activity</td>
<td>f, w, r, g</td>
<td>Prefers relatively dense tree canopy (generally &gt;40%) for nesting. Sensitive to disturbance while nesting.</td>
</tr>
<tr>
<td><em>(Accipiter cooperii)</em></td>
<td></td>
<td></td>
<td></td>
<td>Ground nester, requires tall dense cover. Sensitive to disturbance while nesting.</td>
</tr>
<tr>
<td>Marsh hawk</td>
<td>Remsen, NAS</td>
<td>Year-round - possible nesting activity</td>
<td>g</td>
<td>Open country for foraging.</td>
</tr>
<tr>
<td><em>(Circus cyaneus)</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Golden eagle</td>
<td>Fully Protected</td>
<td>Year-round - no known nests</td>
<td>w, b, g</td>
<td>Nests in old growth redwood and Douglas-fir forests.</td>
</tr>
<tr>
<td><em>(Aquila chrysaetos)</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marbled murrelet</td>
<td>Remsen</td>
<td>Spring - believed to nest in Portola State Park, may also nest in Memorial and Pescadero Creek parks</td>
<td>f</td>
<td>Requires dense (&gt;40% canopy closure) old growth forest, preferably near water. Nests in snags and old nests of other raptors. Appears to be fairly tolerant of human activity while nesting.</td>
</tr>
<tr>
<td><em>(Brachyramphus marmoratum)</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spotted owl</td>
<td>Remsen</td>
<td>Presence unknown, but suitable habitat present - likely year-round resident</td>
<td>f</td>
<td>Cliffs, crevices, snags and old buildings are used for nesting.</td>
</tr>
<tr>
<td><em>(Strix occidentalis)</em></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barn owl</td>
<td>Remsen, NAS</td>
<td>Year-round resident</td>
<td>f, w, g</td>
<td></td>
</tr>
<tr>
<td><em>(Tyto alba)</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2.4-1, continued.

<table>
<thead>
<tr>
<th>Species</th>
<th>Status</th>
<th>Presence/Activity</th>
<th>Habitat</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-eared owl (Asio otus)</td>
<td>Remsen</td>
<td>Presence unknown, possible year-round resident</td>
<td>a, f, w, s</td>
<td>Generally found close to riparian habitats.</td>
</tr>
<tr>
<td>Purple martin (Progne subis)</td>
<td>Remsen</td>
<td>Nesting activity unknown, suitable habitat present</td>
<td>g, w, s</td>
<td>Colonial cavity nester.</td>
</tr>
<tr>
<td>Western bluebird (Sialia mexicana)</td>
<td>NAS</td>
<td>Year-round resident</td>
<td></td>
<td>Cavity nester. An edge species, prefer mix of grassland and woodland or forest.</td>
</tr>
<tr>
<td>Mammals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mountain lion (Felis concolor)</td>
<td>Protected</td>
<td>Occasionally observed</td>
<td>b, w, f, s</td>
<td>Dens in caves, rock crevices, and hollow logs.</td>
</tr>
<tr>
<td>Ringtail (Bassariscus astutus)</td>
<td>Fully</td>
<td>Likely inhabitant, but presence unconfirmed</td>
<td>b, w, f, r</td>
<td>Dens in snags, hollow logs, and rock crevices</td>
</tr>
<tr>
<td>Black-tailed deer (Odocoileus hemionus columbianus)</td>
<td>Protected</td>
<td>Found throughout</td>
<td>b, w, g, f</td>
<td>An edge species, prefers mix of habitat types.</td>
</tr>
<tr>
<td>Western gray squirrel (Sciurus griseus)</td>
<td></td>
<td>Found throughout</td>
<td>w, f, s</td>
<td>Mature trees and snags with nest cavities. Acorns are critical food source.</td>
</tr>
<tr>
<td>Reptiles and Amphibians</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>California red-legged frog (Rana aurora)</td>
<td>Bury</td>
<td>Presence unconfirmed</td>
<td>s</td>
<td>Quiet pools at at least 3' deep in perennial streams. Generally found near streams. Generally found near rockystreams.</td>
</tr>
<tr>
<td>Sharp-tailed snake (Contia tenuis)</td>
<td>Bury</td>
<td>Presence unconfirmed</td>
<td>w, g, f</td>
<td></td>
</tr>
<tr>
<td>California mountain kingsnake (Lampropeltis zonata)</td>
<td>Bury</td>
<td>Unknown</td>
<td>f, w, s, r</td>
<td></td>
</tr>
</tbody>
</table>

Footnotes:
2 Habitat codes: a: aerial (may be seen over most habitats)
 b: bruhland
 f: forest
 q: quarrard
 s: stream
 v: woodland