

### 3.1- Changes in Canopy 1952-2003



**Figure 3.1-9. Plot 16 area in 1952 (top) and 2003 (bottom). Overall canopy cover increased from 1952 to 2003. Most oaks present in 1952 were conserved in open space areas and additional canopy cover has developed in residential neighborhoods.**

### 3.1- Changes in Canopy 1952-2003



**Figure 3.1-10. Plot 15 area in 1952 (top) and 2003 (bottom). Overall canopy cover increased from 1952 to 2003. The few oaks in the upper left corner are shown for reference, but are beyond the actual sampled plot, so canopy cover in 1952 was zero. Tree canopy present in the plot in 2003 was due to growth of new trees planted in the developed area. (Lines and numbers on the 1952 image are markings on the original photo).**

3.1- Changes in Canopy 1952-2003



**Figure 3.1-11. Plot 3 area in 1952 (top) and 2003 (bottom). Tree cover in relatively recent housing developments has not yet compensated for removal of oak woodland and orchard trees. Hence, overall canopy cover declined from 1952 to 2003.**

## Management issues and recommendations

The Sacramento Regional Urban Forest Framework (GreenPrint), an initiative of the Sacramento Tree Foundation and the Sacramento Area Council of Governments (SACOG), establishes a goal of approximately doubling regional tree canopy cover over the next 40 years to 35% canopy cover. As shown in Figure 3.1-6, one of the sampled areas (plot 17) currently has 35% tree canopy cover, and several other plots had canopy cover near or above 30%. Given that these areas could support even greater canopy cover and that canopy cover in most other areas is likely to increase substantially if most existing trees survive to maturity, a goal of 35% overall canopy cover in 40 years is an attainable goal for Rocklin. However, planning and conscious efforts by the City will be needed in order to achieve this overall goal. Required actions will include the following:

- establish canopy cover goals for major land use categories and develop specific strategies to help attain these goals;
- maximize the success of tree establishment in newly constructed areas;
- increase levels of shading in parking lots;
- encourage residential tree planting;
- promote proper care of mature trees on public and private lands;
- increase tree canopy cover on city open space lands by promoting natural regeneration of oaks and planting native trees where natural regeneration is insufficient.

Current canopy cover in Rocklin is a result of both historical clearing, most of which dates to the late 1800's, and the City's recent policies and ordinances related to tree conservation and planting. Without the efforts that the City has made to protect existing trees, tree canopy cover would undoubtedly be much lower than it is. Phytosphere recommends that the City continue its efforts to conserve as much tree canopy as possible and provide adequate buffering from woodlands when developing in areas that contain existing tree resources. Because existing native tree cover is such a major contributor to total canopy cover in the City, protection and proper management of these trees is important for achieving the City's overall tree canopy cover goals.

In general, long-term protection of oak woodland resources is best achieved with conserved woodlands on open space lands that are adequately buffered from adjacent land uses. In addition, the City's existing policies encouraging protection of these areas needs to be coupled with monitoring and appropriate management of these woodlands. In open space lands, persistence of existing trees and natural or assisted regeneration are needed to maintain canopy cover. Tree survival and regeneration can be affected by management, and periodic monitoring is needed to assess the influence of management practices. The current status of oak woodlands on City-owned open space is addressed in detail in Section 3.2 of this report.

Many conserved trees within built areas have shortened potential life spans due to construction-related damage and suboptimal management of trees after construction. Improving the protection and subsequent management of conserved oaks within developed areas will help extend the useful life of these important tree resources. However, as these trees eventually decline and are removed, replacement planting of the same or similarly large species will be needed to avoid likely future losses in canopy cover.

In addition, efforts to encourage tree planting in new developments, especially in areas lacking native tree cover should be continued and bolstered. Commercial developments in particular tended to have very low tree cover, so additional strategies to allow for tree planting

in these areas could be considered. This situation is not unique to Rocklin. McPherson and Simpson (2003) found that only 6% of the trees in 21 California cities were found on commercial/industrial land uses. In contrast, 77% of the trees in these cities occurred in residential land uses. Furthermore, average tree cover in commercial/industrial areas averaged 7% compared with 24% tree cover in residential areas among cities in previously forested areas (Western Center for Urban Forest Research and Education 1997). Although the percentage of land area covered by pavement and structures in commercial sites tends to be high, increased use of trees with moderate to wide canopy spread (a minimum of 30 to 35 feet) could increase the canopy cover in such locations.

## References

- California State Board of Forestry. 1886. Biennial report. State Printer, Sacramento.
- California State Agricultural Society. 1870. Transactions of the California State Agricultural Society. State Printer, Sacramento.
- McPherson, E. G.; Simpson, J. R. 2003. Potential energy savings in buildings by an urban tree planting programme in California. *Urban Forestry and Urban Greening* 2: 73-86.
- Swiecki, T. J; Bernhardt, E. A. 1998. Understanding blue oak regeneration. *Fremontia* 26:19-26.
- Western Center for Urban Forest Research and Education. 1997. Urban forest canopy cover in California: Analysis of 21 cities and towns. Draft report dated 5/2/97.