Which vegetation data to use:

Map 1.
Aerial photograph showing **2005 National Aerial Imagery Program (NAIP) photo** (top left).

Most recent **CWHR vegetation data (2009)** (bottom left). Prepared using the 2005 NAIP photo (Very good data but only part of the County is finished and even the entire Sierra Foothills set won't cover higher elevations. Has a finer resolution than Cal Veg and the most ground truthing.

Cal Veg data updated in 2005 (bottom right). Prepared by USFS and CalFire Land Cover Mapping and Monitoring Project (LCMMP). Good data, 30m pixel size, minimum mapping unit 2.5 acres. Uses CDFG convention for habitats (CWHR) and is the same data used for the OWMP. It doesn't show extent of urban development and agricultural areas as well as it should.

USGS Landfire data 2008 (top right). Good resolution, 30m pixels; uses a national vegetation classification system. Some areas don't appear to correspond to West Slope Sierra Nevada Vegetation types and does not appear to match-up well with the better ground-truthed datasets above. The data also contains many small, scattered, pixilated areas.

Mapping large expanses of vegetation: (maps use Cal Veg data)
As a preliminary exercise, we first tried to simply pull out large contiguous blocks of vegetation based on vegetation types, but this is not really practical because vegetation is a mosaic of different plant communities and this method doesn't consider adjacent vegetation. Map 2 shows the cal veg types and a summary of acreages by type.

We need to decide on a metric to define large expanses. Maps 3-5 show an example of how to arrive at large expanses using road density as an indicator of disturbance. Large expanses of native vegetation are those areas with low road density in this case. We chose 0.15 mile/acre as a threshold, densities above which produce disturbed and fragmented expanses of vegetation. Density was determined from a statistical calculation performed using the GIS. Further analysis and research would be necessary to determine a more representative threshold. The last map shows the vegetation types that fall into the large expanses category using this approach.

A more sophisticated approach would involve combining datasets such as parcel size and/or land use. Map 6 is an example of using parcel size as an indicator of disturbance – smaller parcels equate to more-disturbed habitat. In addition, using weighted values for roads depending on their level of use (highways vs. major roads vs. minor roads) would provide a better approximation of the level of disturbance.

Is this general concept a reasonable approach for addressing the problem of mapping "large expanses"? Other suggestions?

Mapping special-status species (SSS): Map 7
We need to determine how to map SSS – Which species? Only listed species? Use CNDDB only? USFS data? Soils data for plants? Do we try to determine other suitable indicators of habitat for SSS? Very few other good data sources have been located to date.