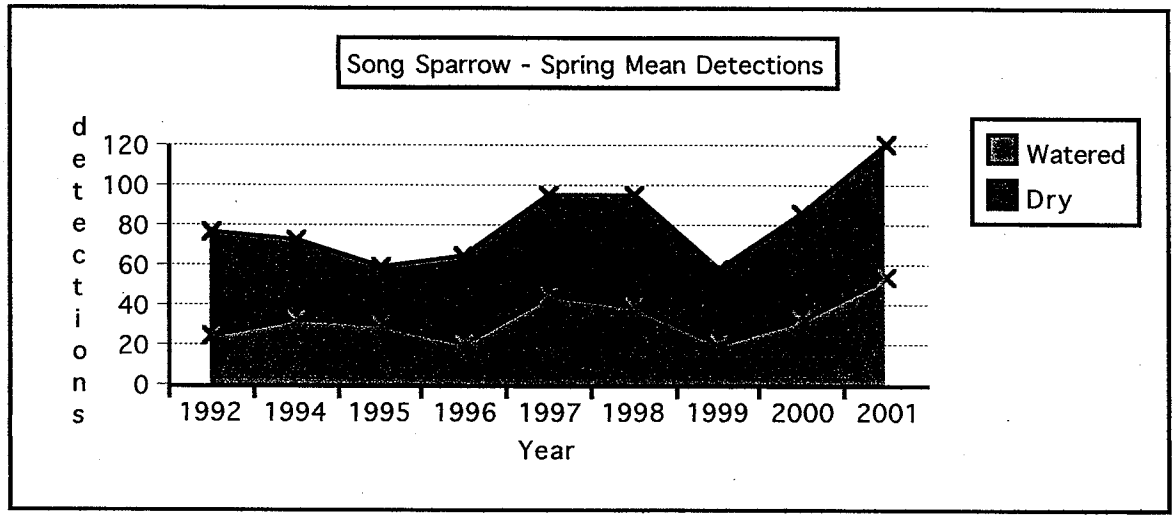
Carmel River Riparian Corridor
Wildlife Habitat Monitoring Program

CHART N-3. Annual mean spring Song Sparrow detections on perennially watered reaches (transects 2A-3A) and seasonally dry reaches (transects 3B-4C).

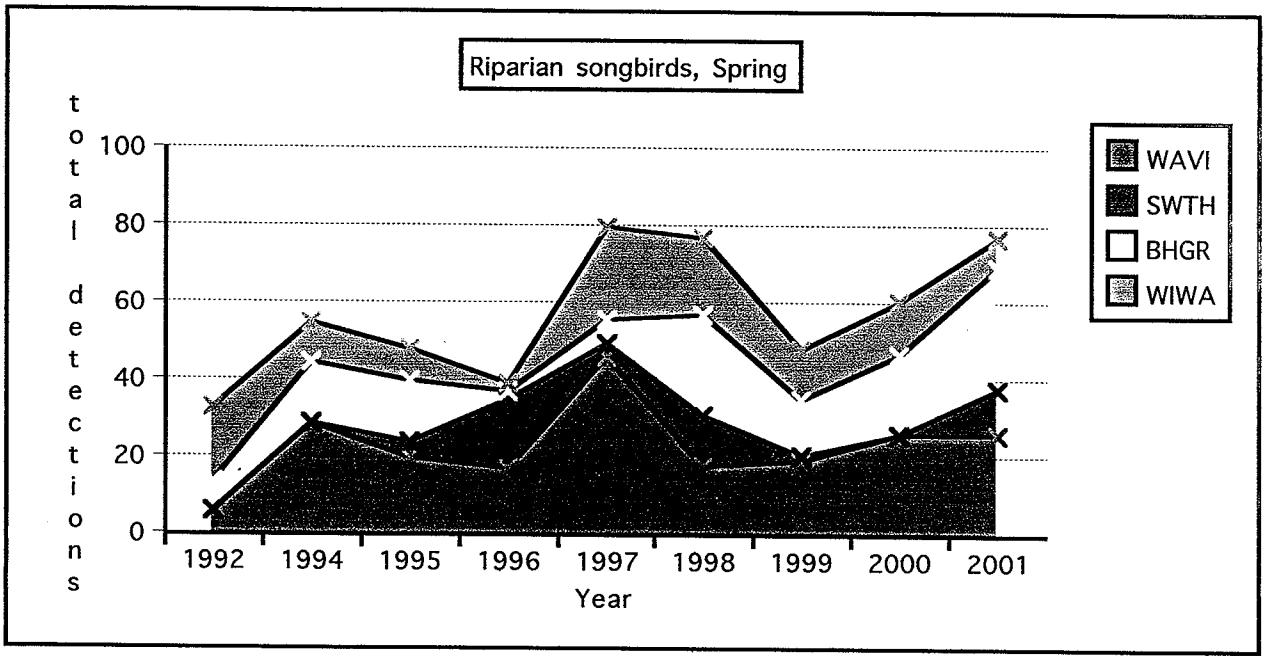


The charts show little difference in detections between watered and dry reaches. What they do show, however, is an apparent decline in numbers (based on detections) that roughly coincides with the winter flooding events of 1995 and 1998 (El Nino). The sharpest decline (1999) is actually one year after the flood event, possibly due to reduced productivity (numbers of offspring) during the previous summer.

Chart N-4 below plots annual changes in numbers of detections of four additional riparian obligate or riparian-dependent species - Swainson's Thrush (SWTH), Black-headed Grosbeak (BHGR), Wilson's Warbler (WIWA), and Warbling Vireo (WAVI). Both Swainson's Thrush and Warbling Vireo have been nominated and are likely to be designated as "Species of Special Concern" by the state of California due to population threats and declines.

Note that, like the Song Sparrow, the aggregate total detections for these four species also shows declines in the years following the winter flood events (the low numbers of detections in 1992 should be disregarded, since spring surveys that year were conducted in April, too early for the arrival of many migrant breeding pairs).

CHART N-4. Annual detections in numbers of four riparian songbird species - Warbling Vireo (WAVI), Swainson's Thrush (SWTH), Black-headed Grosbeak (BHGR), and Wilson's Warbler (WIWA) .



As more baseline information is obtained from this long-term monitoring program, it should be possible to determine, with some precision, the reaction of bird populations to habitat manipulations. This will permit the planning and development of mitigation measures, the success of which can be monitored using similar field techniques. The Swainson's Thrush has gone undetected, or nearly so, during four survey years - 1994, 1997, 1999, and 2000 (Chart N-4 above). This would suggest that future mitigation measures might be directed toward the habitat needs of this species.

Trends in Riparian Species

Included among the riparian songbird species detected on these Carmel River surveys are several species which have been designated by California Partners in Flight as either riparian obligate or riparian dependent species. Trends in presence and numbers of these species can be indicative of the health of riparian habitat. Charts 1-3 below plot annual changes in numbers of the Song Sparrow, a widespread riparian obligates species throughout California.

CHARTS N-1 and N-2. Comparison of spring Song Sparrow detections on perennially watered reaches (transects 2A-3A) and seasonally dry reaches (transects 3B-4C).