

Program show that the Carmel River riparian corridor provides important breeding habitat for a wide variety of species, such as the green-backed heron, California quail and Nuttall's woodpecker.

### Stream Flow, Water Quality, and Water Levels Monitored

Stream flow and precipitation data provide a scientific basis for managing the water resources within the District. District staff monitors the flow of water at four stations on the Carmel River and eleven stations on streams both within and outside the Carmel River watershed. Three new stations, one on the Carmel River, and two on other streams, were installed in 2002 to enhance the network.

### Conditions at Carmel River Lagoon Monitored

The Carmel River Lagoon is very important rearing habitat for steelhead. The District maintains a real time water level sensor at the Lagoon, checks water quality of the surface water at the Lagoon twice per month, and annually checks water quality in nearby dedicated monitoring wells.

District staff also monitors vegetation in the Lagoon's wetlands to determine how water distribution practices upstream affect the wetland habitat. Annual channel bottom surveys measure sand supply



A ladybug rests on a streamside plant, Carmel River

within the main body of the Lagoon. No major trends in sand accumulation or depletion, which can affect Lagoon habitat, have been identified.

The District participates in interagency meetings regarding management of the Lagoon mouth during storm events and provides technical expertise for a lagoon restoration program.

### Ground Water Quality Monitored

Each year the District samples ground water quality in 17 wells in the Carmel Valley Alluvial Aquifer and 12 wells in the Seaside Basin. Although the potential for seawater intrusion in coastal wells, and elevated nitrate levels in upper Carmel Valley are of primary concern, the samples are of primary concern, the samples are tested for a wide range of elements. Test results indicate that nitrate concentration remains well within State drinking water standards, and there is no evidence of seawater intrusion. The District has been collecting water quality samples in Carmel Valley since 1981, and from Seaside since 1990. These efforts supplement Cal-Am's extensive water quality monitoring program.

### Ground Water Storage and Water Level Monitored

The District began tracking water levels and calculating changes in storage in both the Carmel River Basin and Seaside Basin in 1987. Each month the District checks water levels in about 50 wells in Carmel Valley and 34 wells in Seaside. Although the water levels in Carmel Valley fluctuate throughout the year, they remain relatively stable from year to year, especially when compared to the years prior to 1991. Better management practices, as well as more favorable hydrologic factors, have contributed to the improved conditions.

However, water levels have declined in the Seaside Basin since 1995 when the State ordered Cal-Am to maximize production from the Seaside Basin. The Seaside Basin production has exceeded its estimated safe yield in four of the past seven years. The District identified the development of the Seaside Basin Management Plan in 2001 as a priority, and recently prepared a set of draft ordinances to regulate future and existing water production from the Seaside Basin.

Downloading water level data, Carmel River (pictured: Greg James, MPWMD)

