

## **SCCWRP Annual Report 2003-04**

### **Nitrogen deposition on coastal watersheds in the Los Angeles region**

Rong Lu<sup>1</sup>, Kenneth C. Schiff and Keith D. Stolzenbach<sup>1</sup>

<sup>1</sup>*University of California, Department of Civil and Environmental Engineering, Los Angeles, CA*

#### **ABSTRACT**

Many waterbodies throughout the Los Angeles region are eutrophied by nutrients such as nitrogen. While the loads of nitrogen from some sources (i.e., water reclamation plants) are well monitored, the load of total nitrogen from atmospheric dry deposition is almost completely uncharacterized. The goal of this study was to estimate nitrogen deposition to coastal watersheds in the Los Angeles Basin. An atmospheric transport and transformation model was used within the airshed for dry deposition flux of total nitrogen to the Ballona Creek, Dominguez Channel, Los Angeles River, Malibu Creek, San Gabriel River, Lower Santa Ana River (below Prado Dam), Upper Santa Ana River (above Prado Dam), and Santa Clara River watersheds. The estimated mean annual flux of total nitrogen from dry deposition varied from 21 to 71 g N/ha/day among watersheds. The greatest annual loads of total nitrogen were estimated for the Los Angeles River, San Gabriel River, and Upper Santa Ana River watersheds (5,100 to 8,400 tons N/yr). These are the largest watersheds in the region, contain the greatest densities of sources that contribute atmospheric pollutants, and are located in areas of deposition maxima near the airshed boundaries (i.e., along the foothills of the coastal mountain ranges).

#### **Full Text**

[ftp://ftp.sccwrp.org/pub/download/DOCUMENTS/AnnualReports/2003\\_04AnnualReport/ar07-schiff\\_pg73-81.pdf](ftp://ftp.sccwrp.org/pub/download/DOCUMENTS/AnnualReports/2003_04AnnualReport/ar07-schiff_pg73-81.pdf)