One of the central issues of pollution control is the establishment of reference conditions. This is particularly true of efforts to control anthropogenic eutrophication because some ami6Tnnicilishenric(lishmenaquophc systems from landue of)TjT987.0473Thia natu cens isssuesristiTwecosystems. Idlisifyingnt of refeu

aggregated Omernik's ecoregions to suggest geographically delineated nutrient criteria (USEPA 1998).

The USEPA suggests using one of three strategies for determining reference conditions (Buck et al. 2000). The first

USGS data for United States—Nutrient data were obtained from a large data set compiled by the USGS for sampling that occurred from 1970 to 1983 (Alexander et al. 1998). All sampling dates when both TN and TP were collected were

and percentages of cropland or urban land (Table 1). This lack of an ecoregion effect indicated that the ecoregions could be combined; therefore, data were pooled across ecoregions for the multiple regression analysis. Both the percentage of cropland and urban land, as well as the intercept, were significantly related to TP concentrations in the regression model (Table 2). The strength of this relationship can be visualized by creating an x-axis value from the results of the regression across all sites with varying land use (Fig. 2). In this example, the regression equation was Log_{10} TP = –0.724 + 0.00668 × % cropland + 0.1465 × % urban land (Table 2).

Therefore, for each sampling site, an x variable was created by using the equation: x = 0.00668 ×

The regression method was compared with two other meth-

land use and TP was weak (i.e., the Xeric west and the Great Plains grass and shrublands) and in the Texas-Louisiana coastal and Mississippi alluvial plains ecoregion.

All possible subsets regression of anthropogenic land-use factors was also used to predict TN (Table 6). As with the regression analyses for TP, the percentage of cropland was the variable most often included in the model that best predicted

method presented here provides yet another tool for estimat-