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How effective has the Clean Water Act been at reducing pollutant mass emissions to the Southern California Bight over the past 35 years?

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ABSTRACT

The Clean Water Act (CWA) has regulated discharges of contaminants since 1972. However, evaluations of the CWA's effectiveness at improving regional water quality are lacking, primarily because integration of monitoring data from multiple dischargers to assess cumulative effects is not required. A rare opportunity exists to assess CWA effectiveness by integrating mass emissions data from all major sources of contaminants to the Southern California Bight from 1971 to 2000. While the coastal population grew by 56% and total effluent volume increased 31% since 1971, mass emissions of nearly all constituents decreased since passage of the CWA, most by greater than 65%. Publicly owned treatment works were the dominant point source of many contaminants, but also accounted for the greatest reductions in pollutant discharge since 1971. As point source treatment has improved, the relative contribution of non-point sources, such as storm water runoff has increased. Despite the increased importance of storm water discharges, regional monitoring and data compilation of this source is lacking, making it difficult to accurately assess trends in non-point source discharge.

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