

Effects of municipal discharges on open coastal ecosystems

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ABSTRACT

Many coastal communities discharge their sewage wastes directly into the ocean. In North America municipal wastes from some large coastal cities are partially treated and discharged by barges (New York and Philadelphia) or through shallow-water outfalls (Vancouver and Oakland). However, in southern California, Hawaii, and Puget Sound, Washington, municipal wastes are discharged through large outfalls and into relatively deep water several kilometers from shore.

These wastes cause measurable changes in the abundance, diversity and health of adjacent marine plant and animal communities. This chapter summarizes the quantity and composition of these wastes, coastal conditions which influence their distribution, and their effects on coastal marine life. Effects are examined first in terms of biological processes (growth, food web bioaccumulation of pollutants, response and recovery of affected ecosystems). Emphasis is focused on similarities and differences among five sites in southern California and one in Puget Sound, Washington.

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