The fin erosion disease in southern California demersal fishes appears to be associated with the discharge of wastes. Although the exact cause of the disease is unknown, it does not appear to result primarily from an infectious process. It does appear to be associated with the exposure of susceptible species to chemically contaminated bottom sediments.

One approach to identifying the cause(s) of fin erosion is to locate areas where the disease is present and compare and contrast conditions in those areas. The disease has been studied in southern California (Sherwood and Mearns 1977), Puget Sound (Wellings et al. 1976), and New York (Murchelano and Ziskowski 1976). It may also be present in Boston Harbor (Charles A. Willingham, Battelle Columbus Laboratories, Duxbury, Mass., personal communication); Suruga Bay, Japan (Nakai 1973), and the Northeast Irish Sea (Perkins 1972).

To identify other areas where fin erosion in demersal fishes might be occurring, we contacted approximately 150 marine laboratories and information centers throughout the world. Approximate locations of these organizations are summarized in Figure 1. To each we sent a description of the fin erosion disease in southern California and a questionnaire.

Approximately 40 percent of the organizations contacted have responded to the questionnaire. The responses have varied in the detail of information presented, which ranges from published papers and internal reports to summary statements not accompanied by data. There is some suggestion that fin erosion may be present in polluted areas of Durban Harbor, South Africa; the Gulf of Marseilles, France; the Gulf of Tunis, Tunisia; and estuaries near Sao Paulo, Brazil.

Fin erosion of a type similar to that seen in southern California bottom fishes may be present off the coast of Brittany in France. The Institut Scientifique et Technique de Pêches Maritimes in Nantes, France, studied diseases of
fishes in the coastal region impacted by the Amoco Cadiz oil spill. Beillois (1979) reported that there were alterations in the fins of many species from the Bay of Lammion. The fins, to varying degrees, appeared eroded; certain injuries were bordered by scar tissue. Approximately 90 percent of the plaice (*Pleuronectes platessa*) collected were affected, and the injuries were primarily to the posterior portion of the individuals and to the pectoral fin, which extends into the sediment.

The responses collected to date confirm that fin erosion in bottom fishes occurs predominately in contaminated areas. Although cause and effect relationships have not been established, these and previous studies suggest that petroleum products and/or synthetic organic compounds such as PCB, may contribute to the development of the disease.

Figure 1. Locations of marine laboratories and information centers contacted in the fin erosion survey.
LITERATURE CITED


