

radioactivity, rivers, lakes and seas

Progress in gaining an understanding of the behaviour of radionuclides in the marine environment is to be discussed at an IAEA symposium to be held in July, 1972, in Seattle, Washington, in the United States of America.

The symposium is intended to be a forum for discussion and the presentation of papers which may elucidate the influence of radioactivity on the marine ecosystem, and provide some background material for the estimation of the capacity of the sea to accept radioactive waste without harmful effects on man and that ecosystem. The list of topics is very broad, indicating not only the factors of interest in the possible contamination of the marine environment by radioactive substances, but also in part ways in which nuclear techniques may assist in the assessment and control of other forms of pollution.

The first grouping of topics deals with the physical and chemical forms of radioactive contaminants and their stable natural isotopes in marine waters, particulate matter and sedimentary particles; chemical reactions which take place after the introduction of fallout and radioactive waste into the sea, especially those which involve a change in chemical species; chemical reactions which take place with radioactive contaminants and trace metals in rivers during their transport to the sea, and the sea bottom as reservoir and sink for radionuclides and trace metals; and the transport of these isotopes in conjunction with sediment transport.

Secondly, participants in the symposium will be invited to consider the interaction of radionuclides with marine biota: the biological interaction of radionuclides as a function of their physico-chemical state in

(3) From one of the tracking boats a specially-designed Geiger counter is lowered to detect the movement of the sand, which is now labelled with the radioactive gold. The movement of the sand was tracked continuously for 10 days during the experiment; the exact position of the boat was accurately determined and plotted each time a Geiger counter reading was taken. Photo: AAEC

sea water; the flux of radionuclides through marine biota as a function of different environmental parameters, the dynamics of accumulation and loss, the use of models and of concepts such as biological half-lives for evaluating results, and reliability of extrapolation of laboratory results to the field; the transfer of radionuclides along marine food chains; and the effects of ionizing radiation on marine biota.

The third grouping of topics is on questions of health and safety. Papers may be submitted dealing with the evaluation of hazards to man resulting from the effects of radionuclide contaminations in ocean water, biota and sediment, and the application of both the "critical pathway" and the specific activity approach to the evaluation of the dose to man. Lastly, the symposium will consider the application of radioactively-labelled environments to waste management control, the study of biogeochemical processes and the study of non-radioactive pollution.

As is usual, the nomination of a participant will be accepted only if it is presented to the Agency by the Government of a Member State of the Agency, or by an international organization invited to participate. The symposium is to be held in Seattle on the invitation of the US Government.