

Hydrocarbon Natural Diffusion out of Offshore Petroleum Deposits Possible as Major Source in Marine Food Chain

Shuji Mori[1]

[1] AmericanChemicalSociety(ACS)
AmericanGeophysicalUnion(AGU)

<http://www.geodyneone.com>

Petroleum production out of offshore petroleum deposits is often coincided with abundant fisheries in the world. The coincidence is tried to be proved by superposition of marine microorganism concentration distribution and offshore petroleum field distribution from published various data. Tokyo Bay, Sakhalin Island coastal regions, North Sea, Gulf of Mexico, etc. are chosen for the superpositions. Significant conformity is observed between the plankton concentration distribution and the offshore petroleum deposit distribution in all those regions. Also, most of studies reported on the consequence of oil spills to marine ecosystem are mostly focused on hazardous marine pollution caused by high concentration of spilled petroleum into marine environment. However, some of those data clearly indicates stimulation of plankton population at properly low concentration level of dissolved hydrocarbons and dissolved petroleum compositions. Further, increase of hydrocarbon concentration seems to make the food a toxin and to lead from its stimulation to inhibition across over a critical concentration level; let us call it a plankton-stimulation/inhibition threshold concentration (SITC) of hydrocarbons. The SITC is varied depending on hydrocarbon compounds, petroleum compositions, and microorganisms such as planktons. Further, petroleum composition diffusing through subterranean layers from petroleum deposits reacts with dissolved oxygen at ocean floor to precipitate the hydrocarbons to give organic agglomerate suspension, leaving the sea water occasionally in oxygen depletion on the ocean floor. Such incidences are also briefly discussed.