

Chemical Contamination in Aquatic Ecosystems

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The 21st Century's Center of Excellence (COE) Program "Coastal Marine Environmental Research" in Ehime University, funded by the Ministry of Education, Culture, Sports, Science and Technology, Government of Japan, started its activities in October 2002. One of the core projects of COE Program in Ehime University is "studies on environmental behavior of hazardous chemicals and their toxic effects on wildlife". This core project deals with studies on local and global distribution of environmental contaminants in aquatic ecosystems, retrospective analysis of such chemicals, their toxicokinetics in human and wildlife, molecular mechanisms to determine species-specific reaction and sensitivity of chemically induced effects, and also with development of methodology of risk assessment for the conservation of ecological and species diversity. This presentation will provide our recent achievement of this project including researches on contamination by arsenic and organohalogen pollutants in Mekong River basin, and molecular mechanisms of morphological deformities in dioxin-exposed red seabream (*Pagrus major*) embryos. We established the "Environmental Specimen Bank (es-BANK)" in Ehime University in 2004, archiving more than 30,000 cryogenic samples containing tissues of wildlife and humans that have been collected for the past 40 years. The CMES homepage offers details of samples through online database retrieval. The es-BANK facility will be ready by the end of FY2005. More detailed information on the es-BANK will also be presented.