No.	Records	Request
1	15370	INDICATOR*
2	174175	MARINE
* 3	101	INDICATOR* "AND" MARINE

Record 1 of 101 - ASFA 1978-1987
TI: Some geochemical indicators of the Pearl River Delta and their facies significance.
OT: Zhujiang Sanjiaozhou ruogan diqiu huaxue biaozhi ji zhixiang yiyi
AU: Lan,-X.-H.; Ma,-D.-X.; Xu,-M.-G.; Zhou,-Q.-W.; Zhang,-G.-G.
AF: Inst. Mar. Geol., MGMR, Qingdao, People's Rep. China
SO: MAR.-GEOL.-QUATERN.-GEOL.-HAIYANG-DIZHI-YU-DISIJI-DIZHI.-QINGDAO. 1987. vol. 7, no. 1, pp. 39-50
PY: 1987
LA: Chinese
LS: English
PT: J (Journal-Article)
ER: B (Brackish)
AB: Contents of B, Sr, Ba and the ratio of Ca/Ca + Fe in sedimentary phosphate in the surface sediments of the Pearl River (Zhujiang) Delta increase gradually with the increase of water salinity and that the contents of Rb, K and the ratios of B/Ga, Sr/Ba, Rb/K are not related to the increase of water salinity. The indicators of marine environments are B > 100 ppm, Sr > 160 PPm, Ba > 400 ppm, Ca/Ca + Fe > 0.80 and those of the freshwater environments are B < 50 ppm, Sr < 60ppm, Ba < 300ppm, Ca/Ca + Fe < 0.40. Applying the above indicators to distinguish the Quaternary marine from continental sediments of the Pearl River Delta shows that the change of the contents of trace elements and of sedimentary calcium-phosphate fraction are in agreement with the biological indicators of Foraminifera and Ostracoda, the change of content of glauconite and the result of radiocarbon dating.
DE: geochemistry-; facies-; Quaternary-; sediment-analysis; sedimentary-environments; China,-People'-s-Rep.,-Jiangsu-Prov.,-Zhujiang-R.; ISEW,-China,-People'-s-Rep.,-Jiangsu-Prov.,-Zhujiang-Delta
CL: Chemistry-and-Geochemistry:-Geochemistry-of-sediments-2187
JA: Ocean-Technology,-Policy-and-Non-Living-Resources (Q2)
OZ: Pacific-Southwest (ISEW)
AN: 1603767

Record 2 of 101 - ASFA 1978-1987
TI: Benthic invertebrates as indicators of marine pollution: 35 Years of study.
AU: Reish,-D.J.
AF: Dep. Biol., California State Univ., Long Beach, CA 90840, USA
CO: National Symposium on Monitoring Strategies (at) Oceans '86 "Science-Engineering-Adventure", Washington, DC (USA), 23-25 Sep 1986
SO: OCEANS-'-86-CONFERENCE-RECORD:-SCIENCE-ENGINEERING-ADVENTURE.-VOL.-3.-MONITORING-STRATEGIES-SYMPOSIUM. Marine-Technology-Soc.,-Washington,-DC-USA;-IEEE,-New-York,-NY-USA 1986. pp. 885-888
ST: OCEANS-'-86.
RN: IEEE-86CH2363 (IEEE86CH2363)
PY: 1986
LA: English
LS: English
PT: B (Book); K (Conference)
ER: M (Marine)
AB: Los Angeles-Long Beach harbors were grossly polluted waters at the time of initiation of benthic invertebrate studies in 1951. Waste discharges included

industrial, domestic and storm waters which received little or no treatment. The inner harbor water mass contained little or no dissolved oxygen, but the outer harbor was well oxygenated.
DE: indicator-species; zoobenthos-; ecosystem-resilience; bioindicators-; biocenoses-; California-; ecosystems-; USA,-California; benthos-; Invertebrata-; marine-pollution; pollution-indicators; long-term-changes; INE,-USA,-California
CL: Pollution:-Effects-on-organisms-1504
JA: Biological-Sciences-and-Living-Resources (Q1)
OZ: Pacific-Northeast (INE)
AN: 1419248

Record 3 of 101 - ASFA 1978-1987
TI: Some limitations of indicators and their place in monitoring schemes.
AU: Wolfe,-D.A.; O'-Connor,-J.S.
AF: Ocean Assess. Div., NOAA, Rockville, MD 20852, USA
CO: National Symposium on Monitoring Strategies (at) Oceans '86 "Science-Engineering-Adventure", Washington, DC (USA), 23-25 Sep 1986
SO: OCEANS-'-86-CONFERENCE-RECORD:-SCIENCE-ENGINEERING-ADVENTURE.-VOL.-3.-MONITORING-STRATEGIES-SYMPOSIUM. Marine-Technology-Soc.,-Washington,-DC-USA;-IEEE,-New-York,-NY-USA 1986. pp. 878-884
ST: OCEANS-'-86.
RN: IEEE-86CH2363 (IEEE86CH2363)
PY: 1986
LA: English
LS: English
PT: B (Book); K (Conference)
AB: Indicators of marine environmental quality in problem oriented monitoring must be matched to management needs. Indicators, carefully chosen, applied, and interpreted, can help us understand environmental status, and perhaps help to forecast environmental changes. Understanding the causal mechanisms and inter-relationships underlying changes in indicator values usually relies on models derived from previous research.
DE: environmental-monitoring; pollution-monitoring; pollution-indicators; bioindicators-; pollutant-detection
CL: Pollution:-Methods-and-instruments-2442; Pollution:-Methods-and-instruments-1502
JA: Ocean-Technology,-Policy-and-Non-Living-Resources (Q2); Biological-Sciences-and-Living-Resources (Q1)
AN: 1419239

Record 4 of 101 - ASFA 1978-1987
TI: Trends in crabeater seal age at maturity: An insight into Antarctic marine interactions.
AU: Bengtson,-J.L.; Laws,-R.M.
AF: Address not stated
CO: Meet. Scientific Committee of the Commission for the Conservation of Antarctic Marine Living Resources, (np), 1982. 1983. 1984
SO: SELECTED-PAPERS-PRESENTED-TO-THE-SCIENTIFIC-COMMITTEE-OF-CCAMLR,-1982-1984.-PART-2. Commission-Conserv.-of-Antarctic-Marine-Living-Resources,-Hobart-Australia 1985. pp. 341-368
NT: Incl. bibliogr.: 35 ref.
RN: SC/CAMLR/2/INF-3 (SCCAMLR2INF3)
PY: 1985
LA: English
LS: English; Spanish; French; Russian

PT: B (Book); K (Conference)
ER: M (Marine)
AB: The crabeater seal, Lobodon carcinophagus , is a species which appears to be useful as an indicator of marine community interactions. Crabeater seals eat krill almost exclusively, live up to 40 years of age, have a circumpolar distribution and a large standing stock. The age at which crabeater seals reach sexual maturity is a parameter which might reflect changes in krill availability. Abundant food and relatively faster growth rates may lead to attaining sexual maturity earlier, decreased food availability would presumably have an opposite effect. The data on age at maturity previously published are reviewed in the light of recent material from the Antarctic Peninsula and an expanded sample from Marguerite Bay. A correlation is demonstrated between Baleen whale catch data and seal maturity data from the study area. The age of sexual maturity in crabeater seals apparently decreased as a result of whaling and subsequently increased when whaling ceased.
DE: ecosystems-; indicator-species; population-structure; sexual-maturity; Lobodon-carcinophagus; PS,-Antarctica
CL: Productivity,-Ecosystems,-Species-Interactions:-Ecosystems-and-energetics-1482
JA: Biological-Sciences-and-Living-Resources (Q1)
AN: 1363273

Record 5 of 101 - ASFA 1978-1987
TI: Paleoenvironments of the heterostracans, agnathes vertebrates from the Ordovician to Devonian.
OT: Paleoenvironnements des heterostraces, vertebres agnathes ordoviciens a devoniens
AU: Blieck,-A.
AF: GRECO 7, Univ. Lille I, Sci. Terre, B.P. 36, 59655 Villeneuve d'Ascq Cedex, France
SO: BULL.-MUS.-NATL.-HIST.-NAT.-FRANCE-4E-SER.-C-PALEONTOL.-GEOL.-MINER.. 1985. vol. 7, no. 2, pp. 143-155
PY: 1985
LA: French
LS: English; French
PT: J (Journal-Article)
AB: The heterostracan fishes have classically been considered freshwater indicators. The author here makes a short historical survey of how this idea settled, and then gives some results of recent studies on Ordovician, Silurian, and Devonian faunas which contradict that hypothesis. The heterostracans are thus better considered mainly (but not only) coastal marine indicators, some being found in ancient lagoonal or open shelf environments. In both northern (arctic) and western Europe, they are chiefly collected in very particular beds, interfingered in Old Red Sandstone facies, most probably deposited as intermediate sediments on a "planicoastal" domain.
DE: paleoenvironments-; indicator-species; paleosalinity-; fish-; Paleozoic-
CL: Descriptive-Oceanography-and-Limnology:-Paleo-studies-2148; Biology:-General:-Paleontology-1187
JA: Ocean-Technology,-Policy-and-Non-Living-Resources (Q2); Biological-Sciences-and-Living-Resources (Q1)
AN: 1323389

Record 6 of 101 - ASFA 1978-1987
TI: Use of Fundulus heteroclitus in pollution studies.
AU: Eisler,-R.

AF: USFWS, Patuxent Wildl. Res. Cent., Laurel, MD 20708, USA
CO: Symposium on the Biology of Fundulus heteroclitus at Annual Meeting of the American Society of Zoologists, Philadelphia, PA (USA), 27-30 Dec 1983
SO: AM.-ZOOL. 1986. vol. 26, no. 1, pp. 283-288
PY: 1986
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine); B (Brackish); F (Freshwater)
AB: The mummichog, Fundulus heteroclitus (L.), an estuarine cyprinodontiform teleost, is used extensively and increasingly as a bioassay organism in toxicological investigations and as an indicator of marine water quality owing, in part, to its wide geographic range, abuncance throughout most of that range, and adaptability to laboratory conditions. Available data are summarized for acute toxicities to mummichog adults of 118 contaminants at 22 plus or minus 2ppt. salinity, 19.5 plus or minus 0.5 degree C, pH 7.8 plus or minus 0.2, and dissolved oxygen > 4.0 mg/liter. Organochlorine insecticides were the most toxic chemicals tested under these conditions; approximate concentrations of 15 organochlorine pesticide compounds fatal to 50% in 96 hr ranged between 0.0001 mg/liter and 0.1 mg/liter.
DE: Fundulus-heteroclitus; toxicity-; water-pollution; insecticides-; metals-; detergents-; bioindicators-; pollutant-detection
CL: Pollution:-Effects-on-organisms-1504
JA: Biological-Sciences-and-Living-Resources (Q1)
AN: 1246960

Record 7 of 101 - ASFA 1978-1987
TI: Fish diseases in coastal waters: Indicators of marine pollution?.
AU: Moeller,-H.
AF: Univ. Kiel, Inst. Meereskd., Duesternbrooker Weg 20, D-2300 Kiel 1, FRG
SO: ANIM.-RES.-DEV. 1985. vol. 22, pp. 106-115
IS: ISSN 0340-3165
PY: 1985
LA: English
PT: J (Journal-Article)
ER: M (Marine); B (Brackish)
AB: The occurrence of fish diseases in coastal zones is discussed as a possible indicator of marine pollution. The combined effects of disease-causing agents, resistance of the fish and environmental factors are discussed for the Elbe estuary (FRG).
DE: fish-diseases; pollution-indicators; Teleostei-; disease-resistance; ANE,-Germany,-Fed.-Rep.,-Elbe-Estuary
CL: Pollution:-Effects-on-organisms-1504; Productivity,-Ecosystems,-Species-Interactions:-Parasites-and-diseases-1484
JA: Biological-Sciences-and-Living-Resources (Q1)
OZ: Atlantic-Northeast (ANE)
AN: 1193183

Record 8 of 101 - ASFA 1978-1987
TI: delta super(13)C values of Miocene Pacific benthic foraminifera: Correlations with sea level and biological productivity.
AU: Woodruff,-F.; Savin,-S.M.
AF: Dep. Geol. Sci., Univ. Southern California, Los Angeles, CA 90089-0741, USA
SO: GEOLOGY. 1985. vol. 13, no. 2, pp. 119-122
PY: 1985

LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: super(13)C/ super(12)C ratios of Miocene benthic foraminifera from 22 Pacific Ocean sites vary with time but are similar at almost all sites in any restricted interval. delta super(13)C values are correlated with sea levels inferred from onlap/offlap curves, reflecting the deposition of greater amounts of organic matter on the continental shelves during transgressions. Differences in delta super(13)C between sites are correlated with local differences in biological productivity in the overlying surface waters. super(13)C/ super(12)C values of benthic foraminifera show promise as indicators of marine paleoproductivity.
DE: fossil-foraminifera; sea-level-changes; Miocene-; biological-production; paleontology-; benthos-; correlation-analysis; I,-Pacific
ID: carbon-isotope-ratios
CL: Geology-and-Geophysics:-Paleontology-2273; Biology:-General:-Paleontology-1187
JA: Ocean-Technology,-Policy-and-Non-Living-Resources (Q2); Biological-Sciences-and-Living-Resources (Q1)
AN: 1045708

Record 9 of 101 - ASFA 1978-1987
TI: (Characteristics of the community associated with the chiton Acanthopleura granulata Gmelin (Mollusca, Polyplacophora) with regard to the pollution from the Havana Club rum factory.).
OT: Caracteristicas de la comunidad asociada al quiton Acanthopleura granulata Gmelin (Mollusca; Polyplacophora) en relacion con la contaminacion de la fabrica de ron Havana Club
AU: Valle-Garcia,-R.-del
AF: Acad. Cienc. Cuba, Inst. Oceanol., Havana, Cuba
CO: 6. Jornada Cientifica del Instituto de Oceanologia de la Ciencias de Cuba, Havana (Cuba), 1982
SO: SUMMARIES-OF-THE-6th-SCIENTIFIC-WORKSHOP,-INSTITUTE-OF-OCEANOLOGY.. 6.-JORNADA-CIENTIFICA,-INSTITUTO-DE-OCEANOLOGIA,-RESUMENES.- 1982. p. 48
NT: Summary only.
PY: 1982
LA: Spanish
PT: B (Book); K (Conference); Y (Summary)
ER: M (Marine)
AB: The community associated to the chiton Acanthopleura granulata was analyzed. It is located in the area adjacent to the residual discharge of the Havana Club rum factory. The results obtained were compared with those from a non-polluted reference area, to determine the effects of the pollution originated from the factory and the potential usefulness of the community as a biological indicator of marine pollution. The quantitative and qualitative analysis of the associated fauna and the determination of the relative dominance can serve as a useful pollution index. A new methodology is suggested, which uses the community characteristics and it can help to evaluate the impact on the coastal environment.
DE: marine-pollution; industrial-wastes; pollution-effects; indicator-species; aquatic-communities; ASW,-Cuba
CL: Pollution:-Effects-on-organisms-1504; Pollution:-General-2441
JA: Biological-Sciences-and-Living-Resources (Q1); Ocean-Technology,-Policy-and-Non-Living-Resources (Q2)
OZ: Atlantic-Southwest (ASW)

AN: 0586410

Record 10 of 101 - ASFA 1978-1987
TI: South African ornithological research in the Southern Ocean.
AU: Siegfried,-W.R.
AF: FitzPatrick Inst., Univ. Cape Town, Private Bag, Rondebosch, 7700, South Africa
CO: 5. National Oceanographic Symposium, Grahamstown (South Africa), 24 Jan 1983
SO: FIFTH-NATIONAL-OCEANOGRAPHIC-SYMPOSIUM.-24-28-JANUARY-1983.-RHODES-UNIVERSITY,-GRAHAMSTOWN.-ABSTRACTS. Council-for-Scientific-and-Indust.-Res.-South-Africa;-SANCOR-South-Africa 1983. pp. D VII
RN: S.228 (S228)
PY: 1983
LA: English
PT: B (Book); K (Conference); Y (Summary)
ER: M (Marine)
AB: South African ornithological research in the Southern Ocean is carried out at sea and on land, and aims at improving our understanding of the structure and functioning of the Southern Ocean ecosystem. Thus, much of the research complements and supplements the international research programme known as BIOMASS (Biological Investigations of Marine Antarctic Systems and Stocks). The aims and scope of BIOMASS-related avian research are described, and the Southern African contributions to BIOMASS are reviewed. More particularly, the review includes assessments of the usefulness of birds as indicators of marine biotopes and resources, their impact as predators on marine resources, and the impact of man's activities on birds in the Southern Ocean.
DE: ornithology-; ecosystems-; stock-assessment; indicator-species; predators-; man-induced-effects; Aves-; PS,-Antarctic-Ocean
CL: Ornithology:-General-1361
JA: Biological-Sciences-and-Living-Resources (Q1)
AN: 0493335

Record 11 of 101 - ASFA 1978-1987
TI: Content of Heavy Metals in the Gastropod Collisella cassis from the Sea of Japan. Soderzhanie Tyazhelykh Metallov v Bryukhonogom Mollyuske Colisella Cassis iz Yaponskogo Morya.
AU: Khristoforova,-N.K.
AF: Tikhookean. Inst. Georgr. DVNTs AN S.S.S.R., Vladivostok, USSR
SO: BIOL.-MORYA. 1981. no. 4, pp. 66-72
IS: ISSN: 0134-3475
PY: 1981
LA: Russian
LS: English; Russian
PT: J (Journal-Article)
ER: M (Marine)
AB: The littoral gastropod Collisella cassis is considered as a possible indicator of marine environment heavy metal contamination. A study is reported of the seasonal and age variability of Fe, Mn, Cu, Zn, Pb and Cd content in the soft tissues of the gastropods collected along the northwest coast of the Sea of Japan. The concentration of metals in the gastropods taken from the same place was found to be higher in winter than in spring. The concentration of most of the metals decreased with increasing size, while that of Cd increased with age. Competitive relations between Zn and Cd accumulating in the tissues are discussed.

DE: heavy-metals; bioaccumulation-; indicator-species; marine-pollution; Collisella-cassis; INW,-Japan-Sea
CL: Pollution:-Effects-on-organisms-1504
JA: Biological-Sciences-and-Living-Resources (Q1)
OZ: Pacific-Northwest (INW)
AN: 0313196

Record 12 of 101 - ASFA 1978-1987
TI: Tintinnids of Chesterfield Inlet, Northwest Territories.
AU: Rogers,-G.F.; Roff,-J.C.; Lynn,-D.H.
AF: Dep. Zool., Coll. Sci., Univ. Guelph, Guelph, Ont., Canada N1G 2W1
SO: CAN.-J.-ZOOL. 1981. vol. 59, no. 12, pp. 2360-2364
PY: 1981
LA: English
LS: English; en
PT: J (Journal-Article)
ER: M (Marine)
AB: Tintinnids were numerically dominant in plankton samples collected from Chesterfield Inlet, Northwest Territories, in September 1978. Thirteen species were identified, 11 of which are new records for the Hudson Bay area. Tintinnopsis fimbriata and T. angusta were the most numerous tintinnids in the upper estuary at salinities below 24 ppt.; their cell numbers were significantly positively correlated to temperature. Parafavella denticulata was the most abundant species in marine waters but it penetrated the estuary to salinities as low as 4 ppt. Cell numbers and volumes of P. denticulata were significantly positively correlated to salinity and negatively to chlorophyll; this species appeared to act as an almost conservative indicator of marine influence in this estuary.
DE: plankton-surveys; arctic-waters; estuaries-; new-records; geographical-distribution; Tintinnida-; Tintinnopsis-fimbriata; Tintinnopsis-angusta; Parafavella-denticulata; PNW,-Hudson-Bay,-Chesterfield-Inlet
CL: Aquatic-Communities:-Plankton-1461
JA: Biological-Sciences-and-Living-Resources (Q1)
OZ: Polar-Arctic-Westward (PNW)
AN: 0237808

Record 13 of 101 - ASFA 1978-1987
TI: Field bioassays on shellfish to assess environmental pollution levels of the Masan Bay.
AU: Park,J.-S.-(Fish.-Res.-and-Dev.-Agency,-Busan,-Korea)
SO: J.-Oceanol.-Soc.-Korea, 1979 14(1), 15-25
PY: 1979
LA: Korean
LS: Korean; English
PT: J (Journal-Article)
ER: M (Marine)
AB: A study on field bioassay test using 4 species of commercially important shellfish was carried out to assess the effect of pollutants and determine the extent of marine environmental pollution of the Masan Bay from 9 to 15 Aug 1978. Water quality analysis (temperature, DO, COD, SS and nutrients) and planktological examination of seawater were made. The percentage composition of phytoplankton standing crop between diatoms and dinoflagellates varied in respect of location. Phytoplankton was composed of 80% diatoms and 20% dinoflagellates in the outer bay, and only 4% diatoms and 96% dinoflagellates (94% Prorocentrum micans- species tolerant to polluted areas). There are 2

significant zooplankton communities in the bay: one is characterized by the predominance of Oithona nana- and the other by Favella- sp. O. nana, Favella- and P. micans- are recommended as valuable indicators of marine pollution. During the period of the bioassays Mytilus edulis- showed the highest and Tapes japonica- the lowest mortality of the 4 test species. The highest death rate was found at the most inner stations and the lowest occurred at the outer station. The significant high mortality of the test shellfish was caused by severe pollution with mainly organic pollutants from domestic sewage and industrial wastes resulting in much higher concentrations of dissolved inorganic, especially ammonia-N, COD, SS and a lack of dissolved oxygen.
DE: pollution-effects; shellfish-fisheries; marine-pollution; pollution-surveys; plankton-; indicator-species; Bivalvia-; INW,-Korea,-Rep.,-Mason-Bay
ID: water-analysis; community-composition; Bacillariophyceae-; Mastigophora-; Dinoflagellata-; Prorocentrum-micans; Oithona-nana; Favella-; Copepoda-; Mason-Bay; Korea,-Rep.; indicator-organisms; pollution-indicators; water-quality
OZ: Pacific-Northwest (INW)
AN: 1002780

Record 14 of 101 - ASFA 1978-1987
TI: Enchytraeid oligochaetes as marine pollution indicators.
AU: Coates,K.; Ellis,D.V.-(Biol.-Dep.,-Univ.-Victoria,-Victoria,-BC-V8W-2Y2,-Canada)
SO: Mar.-Pollut.-Bull., 1980 11(6), 171-174
PY: 1980
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: Fifteen species of enchytraeid oligochaetes have been collected from a pulp mill waste receiving area. Of these, one species, Lumbricillus lineatus-, which is a known stress-resistant intertidal form, is predominant within 1.5 km of the mill outfall. Beyond that distance the species is replaced by a variable association of 14 other species from the genera Lumbricillus, Marionina- and Enchytraeus. L. lineatus- is common in Europe and eastern North America in upper intertidal drift habitats, but on the Pacific Coast is not indigenous. In British Columbia it has only been collected adjacent to three pulp mills, not at five other such mills, nor at ten undisturbed intertidal stations at each of which a diverse association of enchytraeid species occurs. L. lineatus- can serve as an index of the impact of pulp mill effluent at the site investigated. The most practical index is percentage of total adult enchytraeids represented by L. lineatus-.
DE: pollution-indicators; industrial-wastes; Enchytraeidae-; INE,-Canada,-British-Columbia
ID: Oligochaeta-; Lumbricillus-lineatus; marine-pollution; indicator-species; pulp-wastes; outfalls-; indicator-organisms; Annelida-
OZ: Pacific-Northeast (INE)
AN: 0125680

Record 15 of 101 - ASFA 1978-1987
TI: [On the use of the Shannon index in the sanitary assessment of marine waters].
AU: Milovidova,N.Yu.; Kiryukhina,L.N.-(Dep.-Mar.-Sanitary-Hydrobiol.,-Inst.-Biol.-Southern-Seas,-Acad.-Sci.-Ukrainian-SSR,-Sevastopol-335000,-USSR)
SO: Biol.-Morya, 1979 6, 76-79
PY: 1979

LA: Russian
LS: English; Russian
PT: J (Journal-Article)
ER: M (Marine)
AB: The relationship between Shannon's species diversity index of macrozoobenthos and content of chloroform extracting substances in bottom residues from two bays as well as from open shore areas of the Black Sea was considered. The bond between the above-mentioned two parameters was noticed for silt and silt-sand bay ground but not for the open shore area and for bay sandy ground, or biocoenoses with a strong domination of Chameiea gallina, Mytilus galloprovincialis, Modiolus phaseolinus-, and Terebellides stroemi-. Thus, the species diversity index is suggested to be used only as an auxiliary indicator of marine water sanitary state.
DE: species-diversity; comparative-studies; benthos-; water-quality
ID: sediment-analysis
AN: 0040200

Record 16 of 101 - ASFA 1978-1987
TI: The dominance of nanoplankton as an indicator of marine pollution: a critique.
AU: Eppley,R.W.; Weiler,C.S.-(Inst.-Mar.-Resour.,-A-018,-Scripps-Inst.-Oceanogr.,-Univ.-California,-San-Diego,-La-Jolla,-CA-92093,-USA)
SO: Oceanol.-Acta, 1979 2(2), 241-245
PY: 1979
LA: English
LS: English; French
PT: J (Journal-Article)
ER: M (Marine)
AB: This is a brief review of the possible relationship between small-celled flagellated and coccoid phytoplankton and pollution. Examples are presented on the abundance af these forms in both pristine and polluted or eutrophied areas of the ocean. The natural distribution of these organisms is influenced also by water circulation patterns and food web interactions, including the grazing upon them by microzooplankton. Their dominance in the ocean at particular times and places cannot be inferred to reflect a result of pollution without other supporting evidence.
DE: marine-pollution; indicator-species; nanoplankton-; marine-pollution; indicator-species
AN: 9027630

Record 17 of 101 - ASFA 1978-1987
TI: Effects of some trace elements on the blood of Kuwait mullets, Liza macrolepis- (Smith).
AU: Helmy,M.M.; Lemke,A.E.; Jacob,P.G.; Oostdam,B.L.-(Mar.-Pollut.-Programme,-Environ.-Earth-Sci.-Div.,-Kuwait-Inst.-Sci.-Res.,-Kuwait)
SO: J.-Exp.-Mar.-Biol.-Ecol., 1978 34(2), 151-161
PY: 1978
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: Haemopathological changes attributed to heavy metal poisoning were observed in blood smears of Liza macrolepis- (Smith) taken after exposures of 96 h to graded doses (mg/l) of copper (0.11-1.80), lead (1.15-18.36), and mercury (0.04-0.59), in a flow-through marine bioassay system. In general, changes in

leucocytic profile appear to be correlated with pathological changes caused by increasing copper and mercury concentrations. By contrast, blood samples of mullets exposed to lead, showed significant polychromasia and +1 anisocytosis regardless of concentrations. The RBC count, haemoglobin content, and haematocrit percentages were less valuable in diagnosis of copper and mercury effects. These manifestations of poisoning by trace elements bear a resemblance to the pathological changes that have been shown clinically and experimentally in mammals. Consequently, blood measurements on marine organisms may be diagnostic of undesirably high levels of copper and mercury, and so may constitute useful indicators of marine pollution.
DE: trace-elements; pollution-effects; blood-; Liza-macrolepis
ID: pathology-; copper-; lead-; mercury-; effects-on; haematology-
AN: 9024250

Record 18 of 101 - ASFA 1978-1987
TI: Persistence of polychlorinated biphenyls in marine bivalves.
AU: Langston,-W.J.-(London-Univ.,-Zool.-Dep.,-Westfield-Coll.,-UK)
SO: Mar.-Biol., 1978 46(1), 35-40
PY: 1978
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: Bivalves (Cerastoderma edule and Macoma balthica) which had previously been exposed to Aroclors-RegTM- 1242, 1254 and 1260 were able to reduce their tissue burdens of chlorobiphenyls with 2 to 5 chlorine atoms in short-term static assay systems. Elimination rates decreased with increasing chlorination and removal of isomers with more than 5 chlorine atoms was not recorded. Position, in addition to the number, of chlorine atoms influenced the persistence of chlorobiphenyls. Isomers with most 'ortho'-substituted chlorine atoms were least persistent. Experiments with single isomers indicated variation in the elimination of low chlorinated isomers between bivalve species. These biological and chemical influences on tissue residues, together with environmental parameters such as temperature and suspended solids, are considered in relation to the use of bivalves as bio-indicators of marine pollution.
DE: polychlorinated-biphenyls; indicator-species; tissues-; Bivalvia-
ID: temperature-effects; Cerastoderma-edule; Macoma-balthica
AN: 8005170

Record 19 of 101 - ASFA 1978-1987
TI: Ophiomorpha: a marine indicator?
AU: Stewart,-D.J.-(Dep.-Geol.,-Portsmouth-Polytech.,-Burnaby-Road,-Portsmouth,-PO1-3QL,-UK)
SO: Proc.-Geol.-Assoc., 1978 89(1), 33-41
PY: 1978
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: The validity of Ophiomorpha nodosa as a marine indicator is reviewed in the light of its occurrence in the Wealden Marls of the Isle of Wight, where it is associated with sediments considered to be of marsh and levee facies marginal to a brackish lagoon. Recent research indicates that modern Ophiomorpha, Thalassinoides and possibly Spongeliomorpha type burrows occur in fresh, brackish and marine environments, and it is concluded that the occurrence of

these burrows in ancient sediments should be considered carefully in their sedimentological context, before accepting them as indicating marine conditions.
DE: indicator-species; palaeoenvironments-; sedimentology-; Ophiomorpha-nodosa; British-Isles,-Isle-of-Wight
AN: 8119400

Record 20 of 101 - ASFA 1978-1987
TI: Tunicate species as marine pollution indicators.
AU: Papadopoulou,-C.; Kanias,-G.D.-(Chem.-Dep.,-Nucl.-Res.-Cent.,-Demikritos'-,-Aghia-Paraskevi-Attikis,-Athens,-Greece)
SO: Mar.-Pollut.-Bull., 8(10), 229-231 (1977)
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: Tunicates may serve as marine pollution indicators for monitoring the release of industrial and/or radioactive wastes into the marine environment. Their ability to accumulate certain trace elements from the seawater can be employed in order to define a suitable organism as indicator for some specific pollutants. In this work the concentration of the elements cobalt, zinc, chromium, caesium, silver, iron, rubidium, selenium, scandium and antimony has been determined by instrumental neutron activation analysis and -gamma--ray spectroscopy, in two tunicates, Microcosmus sulcatus (Pyuridae) and Ciona intestinalis (Cionidae). According to the concentration factors found for these species Ciona intestinalis can be used as indicator for iron, while Microcosmus sulcatus as indicator for the elements selenium, chromium, zinc and cobalt.
DE: indicator-species; marine-pollution; Microcosmus-sulcatus; Ciona-intestin
ID: heavy-metals; indicator-organisms; pollution-indicators
AN: 8055420

Record 21 of 101 - ASFA 1988-12/96
TI: Seabirds as indicators of marine resources: Black-browed albatrosses feeding on ommastrephid squids in Kerguelen waters
AU: Cherell,-Y.; Weimerskirch,-H.
AF: Centre d'Etudes Biologiques de Chize, Centre National de la Recherche Scientifique, F-79360 Villiers-en-Bois, France
SO: MAR.-ECOL.-PROG.-SER. 1995 vol. 129, no. 1-3, pp. 295-300
IS: ISSN 0171-8630
NT: Bibliogr.: 35 ref.
PY: 1995
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: The species, distributions and abundances of squids in the Southern Ocean are difficult to assess by conventional oceanographic means. The study of the food and feeding ecology of squid-eating predators such as procellariiform seabirds appears to be a supplemental way to collect useful information on cephalopod biology. Regurgitations were collected from 52 chicks of the black-browed albatross Diomedea melanophrys at Kerguelen Island in February 1994. Cephalopod remains were removed and identified by means of beaks, gladius and mantle. Squid beaks of the family Ommastrephidae amounted to 55% (n = 348) of the accumulated squid beaks. They were also those most often regurgitated in association with partially digested crowns and mantles (90% of the squid fresh remains, n = 28). Two species of ommastrephids equally dominated the squid diet,

Martialia hyadesi (only found once in Kerguelen waters) and a Todarodes species, probably T. angolensis, previously unknown in the area. The concomitant satellite tracking of 16 adult birds over a total of 35 foraging trips identified their main feeding areas as the inner shelf break to the NE and over a bank to the SE of Kerguelen Island. Taken together, albatross dietary and foraging data indicate that juveniles of M. hyadesi and Todarodes concentrate over the upper shelf slope to the east of Kerguelen Island, some of them occurring in the top 5 m of the water column where they are caught by the albatrosses.
DE: feeding-behavior; diets-; marine-birds; predation-; abundance-; geographical-distribution; stomach-content; satellite-sensing; Diomedea-melanophrys; Martialia-hyadesi; Todarodes-angolensis; Ommastrephidae-; PSE,-Indian-Ocean,-Kerguelen-Is.; indicator-species; living-resources
CL: Productivity,-Ecosystems,-Species-Interactions:-Species-interactions:-General-1483; Fishable-stocks:-Stock-assessment-and-management-1604
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
OZ: Polar-Antarctic-Eastward (PSE)
AN: 3967329
UD: 9612

Record 22 of 101 - ASFA 1988-12/96
TI: Sulfur diagenesis and burial on the Amazon shelf: Major control by physical sedimentation processes
AU: Aller,-R.C.; Blair,-N.E.
AF: Mar. Sci. Res. Cent., State Univ. New York, Stony Brook, NY 11794-5000, USA
SO: GEO-MAR.-LETT. 1996 vol. 16, no. 1, pp. 3-10
IS: ISSN 0276-0460
NT: Special issue: Tropical coastal sedimentary environments.
PY: 1996
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: Early diagenetic properties of Amazon shelf muds are dominated by nonsulfidic Fe and Mn cycling, resulting in relatively little S deposition compared to previously studied marine margin environments. Despite abundant potential reactants typical of sulfidic deposits, authigenic sulfides represent only similar to 10% of diagenetically reduced Fe, and DOP (degree of pyritization) is only similar to 0.02. The average C/S (wt wt super(-1)) ratio of buried sediment below the zone of SO sub(4) super(2-) reduction is similar to 7.4, similar to 2.6 times more than the commonly assumed modern shelf average of similar to 2.8. The deltaic burial rate for capital sigma S is similar to 0.65 x 10 super(6) tons yr super(-1). Relatively low capital sigma S deposition is promoted by terrestrial weathering that delivers reactive oxide debris, but apparently depends most strongly on reoxidation and rapid burial by intense physical reworking and fluid-mud formation. Diagenetic models of S distributions demonstrate rapid sediment reworking (similar to 10-100 cm yr super(-1) as apparent advection), substantial capital sigma S reoxidation (84-98%), and in one case, massive sediment deposition of up to similar to 5 m of sediment in similar to 1 year. Extremely low DOP coupled with dominance by nonsulfidic reduced-Fe minerals and lack of biogenic sedimentary structures may be an indicator in marine organic-rich muds of intense physical reworking under oxygenated waters.
DE: sulfur-; diagenesis-; ASW,-Brazil,-Amazon-Delta; sedimentation-; continental-shelves; shelf-geology; mud-; sediment-chemistry; geology-; Brazil,-Amazon-R.; continental-shelf; ASW,-Brazil,-Amapa; ASW,-Brazil,-Para; ASW,-Brazil,-Amazon-Estuary

CL: Chemistry-and-Geochemistry:-Geochemistry-of-sediments-2187
JA: ASFA-2:-Ocean-Technology-Policy-and-Non-Living-Resources (Q2)
OZ: Atlantic-Southwest (ASW)
AN: 3941049
UD: 9612

Record 23 of 101 - ASFA 1988-12/96
TI: Heavy metal and nutrient contamination of marine sediments in Hong Kong
AU: Wong,-J.W.C.
AF: Dep. Biol., Hong Kong Baptist Univ., Kowloon Tong, Kowloon, Hong Kong
SO: TOXICOL.-ENVIRON.-CHEM. 1996 vol. 53, no. 1-4, pp. 175-189
IS: ISSN 0277-2248
PY: 1996
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: A monitoring programme was performed to use marine sediments as an indicator of marine contamination in Hong Kong. A total of 51 samples were collected from eight marine sites and analysed for pH, redox potential, salinity, total-N, total-P, total organic carbon, and total Cu, Zn, Pb, Cr and Cd. Sites with high industrial or aquacultural activities contained high total organic carbon contents, total-N and total-P contents. Sediments from sites with high industrial activities also enriched with heavy metals. Metal speciation results indicate that Cu and Cr existed mainly in the organic fraction, Pb and Zn were distributed approximately equally in both the organic and residual fractions while Cd mainly occurred in the residual fraction. The Cu, Cr and Zn contents were highly correlated with total organic carbon contents. All samples were classified as non-acid forming according to the net acid generation test and only samples from the industrial site released a high concentration of heavy metals under a complete oxidising condition. The present study reveals that organic and heavy metal pollution is serious in the marine sediments of Hong Kong, and industrial and aquacultural activities are probably the major sources of contamination.
DE: Hong-Kong; heavy-metals; nutrients-; contamination-; marine-sediments; monitoring-; aquaculture-; organic-carbon; industrial-wastewater; speciation-; nutrients-mineral; pollution-monitoring; environmental-impact; sediment-pollution; organic-compounds; aquaculture-effluents; industrial-wastes; ISEW,-Hong-Kong; chemical-speciation
CL: Pollution:-Characteristics,-behavior-and-fate-1503; Aquaculture:-General-1581
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5); ASFA-1:-Biological-Sciences-and-Living-Resources (Q1); ASFA-Aquaculture-Abstracts (Q3)
OZ: Pacific-Southwest (ISEW)
IC: CS9612189
AN: 3927066
UD: 9609

Record 24 of 101 - ASFA 1988-12/96
TI: Long-chain alkenones in Qinghai Lake sediments
AU: Li,-J.; Philp,-R.P.; Pu,-Fan; Allen,-J.
AF: Sch. Geology and Geophys., Univ. Oklahoma, Norman, OK 73019, USA
SO: GEOCHIM.-COSMOCHIM.-ACTA 1996 vol. 60, no. 2, pp. 235-241
IS: ISSN 0016-7037
PY: 1996
LA: English
LS: English

PT: J (Journal-Article)
ER: B (Brackish)
AB: Long-chain methyl and ethyl alkenones (C sub(37)-C sub(40)) containing two to four double bonds have been detected in sediments from Qinghai Lake, China. This is the first report of the alkenones in lake sediments, deposited under a variety of salinity conditions, where the lake has not encountered any marine incursions. The presence of the alkenones suggests the presence of Prymnesiophyceae in the lake which may have reached the lake via eolian transportation or seabirds. Sediment samples from the more saline areas of the lake contained higher concentrations of the more highly unsaturated compounds. Widespread use of these compounds as paleotemperature indicators in marine sediments introduces the possibility of extrapolating this approach to lacustrine environments if appropriate calibrations can be undertaken.
DE: chemical-limnology; alkenes-; sediment-chemistry; China,-People'-s-Rep.,-Qinghai-Prov.,-Qinghai-L.; limnology-; lake-sediments; molecular-structure; salt-lakes
CL: Chemistry-and-Geochemistry:-Composition-of-water-2184
JA: ASFA-2:-Ocean-Technology-Policy-and-Non-Living-Resources (Q2)
IC: CS9609491
AN: 3881169
UD: 9606

Record 25 of 101 - ASFA 1988-12/96
TI: Molecular responses as indicators of marine pollution: DNA damage and enzyme induction in Limanda limanda and Asterias rubens
AU: Everaarts,-J.-M.; Sleiderink,-H.M.; Den-Besten,-P.J.; Halbrook,-R.S.; Shugart,-L.R.
AF: Netherlands Inst. Sea Res., P.O. Box 59, 1790 AB DenBurg-Texel, Netherlands
CO: Napa Conference on Genetic and Molecular Ecotoxicology, Yountville, CA (USA), 12-15 Oct 1993
SO: GENETIC-AND-MOLECULAR-ECOTOXICOLOGY. 1994 vol. 102, no. 12 Suppl. pp. 37-43
ST: ENVIRON.-HEALTH-PERSPECT. NIH-94-218 vol. 102, no. 12 Suppl.
RN: NIH 94-218 (94218)
PY: 1994
LA: English
LS: English
PT: B (Book); K (Conference)
ER: M (Marine)
AB: During a survey from 26 August through 13 September 1991, specimens of the flatfish, Limanda limanda (dab), and the asteroid echinoderm, Asterias rubens (seastar), were collected at sampling locations along transects radiating into the North Sea from the coastal zone of The Netherlands. In homogenates of liver tissue from male dab and the digestive gland (pyloric caeca) of female seastar, DNA damage (strand breaks) and induction of the cytochrome P450-dependent monooxygenase system (MO) were determined. Areas could be described with significantly increased percentages of strand breaks (lower integrity) both in dab and seastar. However, enhanced DNA strand breaks did not correspond with contamination gradients, expressed as concentrations of polychlorinated biphenyls (PCBs) or polyaromatic hydrocarbons. MO enzyme induction in the hepatic 13,000g fraction of male dab, measured as 7-ethoxyresorufin-O-deethylase activity, was significantly enhanced in response to low ambient temperatures. Some evidence was found for the facilitation of benzo[a]pyrene hydroxylase activity expressing the enzyme induction in the microsomal fraction of pyloric caeca of seastars, at increasing PCB concentrations. DNA integrity and enzyme induction elucidate the physiologic status and might be indicative for ambient impairment within restricted areas, and not necessarily related to the presence of anthropogenic or xenobiotic substances.

DE: marine-environment; pollution-; DNA-damage; Limanda-limanda; Asterias-rubens; North-Sea; unspecific-monooxygenase; benzoapyrene-hydroxylase; aromatic-hydrocarbons; bioindicators-; marine-pollution; DNA-; PCB-compounds; bioassays-; pollution-indicators; indicator-species; enzymatic-activity; carcinogenesis-; pollution-effects; PCB-; ANE,-North-Sea
CL: Pollution:-Effects-on-organisms-1504; Invertebrate-Biology:-General:-Genetics-and-evolution-1245
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5); ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
OZ: Atlantic-Northeast (ANE)
IC: CS9601139
AN: 3828479
UD: 9603

Record 26 of 101 - ASFA 1988-12/96
TI: Molecular biomarkers and toxic consequences of impact by organic pollution in aquatic organisms
AU: Livingstone,-D.R.; Foerlin,-L.; George,-S.G.
AF: Plymouth Mar. Lab., Citadel Hill, Plymouth PL1 2PB, UK
CO: Water Quality and Stress Indicators in Marine and Freshwater Ecosystems, Edinburgh (UK), 6 Sep 1993
SO: WATER-QUALITY-AND-STRESS-INDICATORS-IN-MARINE-AND-FRESHWATER-ECOSYSTEMS:-LINKING-LEVELS-OF-ORGANISATION-INDIVIDUALS,-POPULATIONS,-COMMUNITIES. Sutcliffe,-D.W.-ed. AMBLESIDE-UK FRESHWATER-BIOLOGICAL-ASSOCIATION 1994 pp. 154-171
IS: ISBN 0-900386-54-1
PY: 1994
LA: English
LS: English
PT: B (Book); K (Conference)
ER: M (Marine); B (Brackish); F (Freshwater)
AB: Organic contaminants are readily bioaccumulated by aquatic organisms. Exposure to and toxic effects of contaminants can be measured in terms of the biochemical responses of the organisms. The hepatic biotransformation enzyme cytochrome P4501A (CYP1A) in vertebrates is specifically induced by organic contaminants such as aromatic hydrocarbons, PCBs and dioxins, and is involved in chemical carcinogenesis via catalysis of the covalent binding of organic contaminants to DNA (DNA-adducts). Hepatic CYP1A induction has been used extensively and successfully as a biomarker of organic contaminant exposure in fish. Fewer but equally encouraging studies in fish have used hepatic bulky, hydrophobic DNA-adducts as biomarkers of organic contaminant damage. Much less is known of the situation in marine invertebrates, but a CYP1A-like enzyme with limited inducibility and some potential for biomarker application is indicated.
DE: pollution-indicators; biological-stress; toxicity-tests; enzymatic-activity; enzymes-; oxidation-; cytochromes-; PCB-; aromatic-hydrocarbons; animal-metabolism; sublethal-effects; aquatic-organisms
CL: Pollution:-Methods-and-instruments-1502
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: MB9500268
AN: 3762249
UD: 9509

Record 27 of 101 - ASFA 1988-12/96
TI: Metallothionein as an indicator of water quality -- assessment of the bioavailability of cadmium, copper, mercury and zinc in aquatic animals at the cellular level
AU: George,-S.G.; Langston,-W.J.

AF: NERC Unit Aquat. Biochem., Univ. Stirling, Stirling FK9 4LA, UK
CO: Water Quality and Stress Indicators in Marine and Freshwater Ecosystems, Edinburgh (UK), 6 Sep 1993
SO: WATER-QUALITY-AND-STRESS-INDICATORS-IN-MARINE-AND-FRESHWATER-ECOSYSTEMS:-LINKING-LEVELS-OF-ORGANISATION-INDIVIDUALS,-POPULATIONS,-COMMUNITIES. Sutcliffe,-D.W.-ed. AMBLESIDE-UK FRESHWATER-BIOLOGICAL-ASSOCIATION 1994 pp. 138-153
IS: ISBN 0-900386-54-1
PY: 1994
LA: English
LS: English
PT: B (Book); K (Conference)
ER: M (Marine)
AB: The study of metallothioneins (MTs) has greatly improved the understanding of body burdens, metal storage and detoxification in aquatic organisms subjected to contamination by the toxic heavy metals, Cd, Cu, Hg and Zn. These studies have shown that in certain organisms MT status can be used to assess impact of these metals at the cellular level. Molluscs, such as Mytilus spp., and several commonly occurring teleost species, are the most promising of the indicator species tested. Natural variability of MT levels caused by the organism's size, condition, age, position in the sexual cycle, temperature and various stressors, can lead to difficulties in interpretation of field data as a definitive response-indicator of metal contamination unless a critical appraisal of these variables is available. From laboratory and field studies these data are almost complete for teleost fish.
DE: marine-fish; pollution-indicators; heavy-metals; biological-stress; toxicity-tests; sublethal-effects; animal-metabolism; marine-mollusks; proteins-; cadmium-; copper-; mercury-; zinc-; Mytilus-edulis; marine-pollution
ID: metallothionein-
CL: Pollution:-Methods-and-instruments-1502
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: MB9500267
AN: 3762246
UD: 9509

Record 28 of 101 - ASFA 1988-12/96
TI: Mussel eggs as indicators of mutagen exposure in coastal and estuarine marine environments
AU: Dixon,-D.R.; Pascoe,-P.L.
AF: Plymouth Mar. Lab., Citadel Hill, Plymouth PL1 2PB, UK
CO: Water Quality and Stress Indicators in Marine and Freshwater Ecosystems, Edinburgh (UK), 6 Sep 1993
SO: WATER-QUALITY-AND-STRESS-INDICATORS-IN-MARINE-AND-FRESHWATER-ECOSYSTEMS:-LINKING-LEVELS-OF-ORGANISATION-INDIVIDUALS,-POPULATIONS,-COMMUNITIES. Sutcliffe,-D.W.-ed. AMBLESIDE-UK FRESHWATER-BIOLOGICAL-ASSOCIATION 1994 pp. 124-137
IS: ISBN 0-900386-54-1
PY: 1994
LA: English
LS: English
PT: B (Book); K (Conference)
ER: M (Marine); B (Brackish)
AB: The aim of this study was to develop a short-term genotoxicity assay for monitoring the marine environment for mutagens. Based on the developing eggs and embryos of the marine mussel Mytilus edulis, an important pollution indicator species, the test employs the sensitive sister chromatid exchange (SCE) technique as its end-point, and exploits the potential of mussel eggs to

accumulate mutagenic pollutants from the surrounding sea water. Mussel eggs take up to 6 months to develop while in the gonad, which provides scope for DNA damage to be accumulated over an extended time interval: chromosome damage is subsequently visualised as SCEs in 2-cell-stage embryos after these have been spawned in the laboratory. Methods which measure biological responses to pollutant exposure are able to integrate all the factors which contribute to the exposure.
DE: toxicity-tests; indicator-species; mutagens-; mutations-; genetic-abnormalities; pollution-indicators; marine-mollusks; Mytilus-edulis; ANE,-British-Isles,-England,-Cornwall; bioassays-; eggs-
CL: Pollution:-Methods-and-instruments-1502
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
OZ: Atlantic-Northeast (ANE)
IC: MB9500266
AN: 3762243
UD: 9509

Record 29 of 101 - ASFA 1988-12/96
TI: Effects of stress on the immune system of fish
AU: Pulsford,-A.L.; Lemaire-Gony,-S.; Farley,-S.
AF: Plymouth Mar. Lab., Citadel Hill, Plymouth PL1 2PB, UK
CO: Water Quality and Stress Indicators in Marine and Freshwater Ecosystems, Edinburgh (UK), 6 Sep 1993
SO: WATER-QUALITY-AND-STRESS-INDICATORS-IN-MARINE-AND-FRESHWATER-ECOSYSTEMS:-LINKING-LEVELS-OF-ORGANISATION-INDIVIDUALS,-POPULATIONS,-COMMUNITIES. Sutcliffe,-D.W.-ed. AMBLESIDE-UK FRESHWATER-BIOLOGICAL-ASSOCIATION 1994 pp. 111-123
IS: ISBN 0-900386-54-1
PY: 1994
LA: English
LS: English
PT: B (Book); K (Conference)
ER: M (Marine); B (Brackish)
AB: The effects of stress on the immune system of various fish species including dab Limanda limanda, flounder Platichthys flesus, sea bass Dicentrarchus labrax and gobies Zosterisessor ophiocephalus, were investigated from laboratory and field experiments, using various assays to measure immunocompetence, correlated with histological and ultrastructural observations. Modulation of the immune system was demonstrated at tissue, cellular and biochemical levels following exposure to various stressors. The spleen somatic index was depressed in dab stressed in the laboratory and gobies collected from polluted sites in the Venice Lagoon. Differential blood cell counts consistently showed in increase in phagocytes and decrease in thrombocytes in fish exposed to various stressors. Phagocytic activity from spleen and kidney adherent cells was stimulated in dab stressed by transportation but depressed in fish exposed to chemical pollutants.
DE: immunology-; biological-stress; phagocytosis-; sediment-pollution; cadmium-; marine-fish; Limanda-limanda; Platichthys-flesus; Dicentrarchus-labrax; Zosterisessor-ophiocephalus; MED,-Italy,-Veneto,-Venice-Lagoon; pollution-effects; controlled-conditions
CL: Pollution:-Effects-on-organisms-1504
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
OZ: Mediterranean (MED)
IC: MB9500265
AN: 3762239
UD: 9509

Record 30 of 101 - ASFA 1988-12/96
TI: Stress, shredders and streams: Using Gammarus energetics to assess water quality
AU: Maltby,-L.
AF: Dep. Anim. and Plant Sci., Univ. Sheffield, West. Bank, P.O. Box 601, Sheffield S10 2UQ, UK
CO: Water Quality and Stress Indicators in Marine and Freshwater Ecosystems, Edinburgh (UK), 6 Sep 1993
SO: WATER-QUALITY-AND-STRESS-INDICATORS-IN-MARINE-AND-FRESHWATER-ECOSYSTEMS:-LINKING-LEVELS-OF-ORGANISATION-INDIVIDUALS,-POPULATIONS,-COMMUNITIES. Sutcliffe,-D.W.-ed. AMBLESIDE-UK FRESHWATER-BIOLOGICAL-ASSOCIATION 1994 pp. 98-110
IS: ISBN 0-900386-54-1
PY: 1994
LA: English
LS: English
PT: B (Book); K (Conference)
ER: F (Freshwater)
AB: This paper reviews the effectiveness of Gammarus scope for growth (SfG) as an indicator of water quality. In addition, the link between physiological changes and effects at higher levels of biological organisation is addressed. Exposure to a range of toxicants resulted in decreases in Gammarus SfG which were qualitatively and quantitatively correlated with subsequent reductions in growth and reproduction. Reductions in SfG were due principally to a decrease in energy intake (i.e. feeding rate) rather than an increase in energy expenditure. Gammarus pulex is an important shredder in many stream communities and stressed-induced reductions in its feeding activity were correlated with reductions in the processing of leaf litter by a semi-natural stream community. Hence, changes in the physiological energetics of Gammarus provide a general and sensitive indicator of stress which can be linked to effects at higher levels of biological organisation.
DE: pollution-indicators; toxicity-tolerance; energy-budget; biological-stress; toxicity-tests; sublethal-effects; indicator-species; freshwater-crustaceans; Gammarus-pulex; bioenergetics-
CL: Pollution:-Effects-on-organisms-1504
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: MB9500264
AN: 3762237
UD: 9509

Record 31 of 101 - ASFA 1988-12/96
TI: The ecological impact of different mechanisms of chronic sub-lethal toxicity on feeding and respiratory physiology
AU: Willows,-R.I.
AF: Plymouth Mar. Lab., Prospect Pl., West Hoe, Plymouth PL1 3DH, UK
CO: Water Quality and Stress Indicators in Marine and Freshwater Ecosystems, Edinburgh (UK), 6 Sep 1993
SO: WATER-QUALITY-AND-STRESS-INDICATORS-IN-MARINE-AND-FRESHWATER-ECOSYSTEMS:-LINKING-LEVELS-OF-ORGANISATION-INDIVIDUALS,-POPULATIONS,-COMMUNITIES. Sutcliffe,-D.W.-ed. AMBLESIDE-UK FRESHWATER-BIOLOGICAL-ASSOCIATION 1994 pp. 88-97
IS: ISBN 0-900386-54-1
PY: 1994
LA: English
LS: English
PT: B (Book); K (Conference)
ER: M (Marine)

AB: Sub-lethal toxicity tests, such as the scope-for-growth test, reveal simple relationships between measures of contaminant concentration and effect on respiratory and feeding physiology. Simple models are presented to investigate the potential impact of different mechanisms of chronic sub-lethal toxicity on these physiological processes. Since environmental quality is variable, even in unimpacted environments, toxicants may have differentially greater impacts in poor compared to higher quality environments. The models illustrate the implications of different degrees and mechanisms of toxicity in response to variability in the quality of the feeding environment, and variability in standard metabolic rate. The models suggest that the relationships between measured degrees of toxic stress, and the maintenance ration required to maintain zero scope-for-growth, may be highly nonlinear.
DE: toxicity-tolerance; biological-stress; energy-budget; sublethal-effects; toxicity-tests; animal-metabolism; respiration-; marine-molluscs; Mytilus-edulis
CL: Pollution:-Effects-on-organisms-1504
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: MB9500263
AN: 3762234
UD: 9509

Record 32 of 101 - ASFA 1988-12/96
TI: The connection between single species and ecosystems
AU: Slobodkin,-L.B.
AF: Dep. Biol., SUNY, Stony Brook, NY 11794, USA
CO: Water Quality and Stress Indicators in Marine and Freshwater Ecosystems, Edinburgh (UK), 6 Sep 1993
SO: WATER-QUALITY-AND-STRESS-INDICATORS-IN-MARINE-AND-FRESHWATER-ECOSYSTEMS:-LINKING-LEVELS-OF-ORGANISATION-INDIVIDUALS,-POPULATIONS,-COMMUNITIES. Sutcliffe,-D.W.-ed. AMBLESIDE-UK FRESHWATER-BIOLOGICAL-ASSOCIATION 1994 pp. 75-87
IS: ISBN 0-900386-54-1
PY: 1994
LA: English
LS: English
PT: B (Book); K (Conference)
ER: M (Marine); B (Brackish); F (Freshwater)
AB: Ecosystem level models are motivated by some combination of scientific and practical concerns. Those models motivated by practical concerns are likely to bear little historical relation to previous models. Mechanisms of interaction between particular species and their ecosystems vary enormously. Some species literally construct their own ecosystems. Others have more or less complex and important interactions with other species so that their presence or absence may alter the ecosystem. Prior information about the natural history of particular species can make ecosystem investigations quicker, cheaper, and more effective. The optimal resource for preparing to deal with the unlimited diversity of questions asked of ecologists would be a large computerized databank of natural history observations for as many species as possible.
DE: population-dynamics; interspecific-relationships; ecosystem-resilience; life-history; ecosystem-disturbance; indicator-species; aquatic-communities; Hydra-
CL: Pollution:-Methods-and-instruments-1502
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: MB9500262
AN: 3762232
UD: 9509

Record 33 of 101 - ASFA 1988-12/96

TI: From organism to population: The role of life-history theory
AU: Sibly,-R.M.
AF: Dep. Pure and Appl. Zool., Univ. Reading, Whiteknights, P.O. Box 228, Reading RG6 2AJ, UK
CO: Water Quality and Stress Indicators in Marine and Freshwater Ecosystems, Edinburgh (UK), 6 Sep 1993
SO: WATER-QUALITY-AND-STRESS-INDICATORS-IN-MARINE-AND-FRESHWATER-ECOSYSTEMS:-LINKING-LEVELS-OF-ORGANISATION-INDIVIDUALS,-POPULATIONS,-COMMUNITIES. Sutcliffe,-D.W.-ed. AMBLESIDE-UK FRESHWATER-BIOLOGICAL-ASSOCIATION 1994 pp. 63-74
IS: ISBN 0-900386-54-1
PY: 1994
LA: English
LS: English
PT: B (Book); K (Conference)
ER: M (Marine); B (Brackish); F (Freshwater)
AB: The role of life-history theory in population and evolutionary analyses is outlined. In both cases general life histories can be analysed, but simpler life histories need fewer parameters for their description. The simplest case, of semelparous (breed-once-then-die) organisms, needs only three parameters: somatic growth rate, mortality rate and fecundity. This case is analysed in detail. Possible effects of pollution on this system are discussed. The state-space approach allows direct population analysis of the twin effects of pollution and density on population growth rate. Evolutionary analysis uses related methods to identify likely evolutionary outcomes when an organism's genetic options are subject to trade-offs. The trade-off considered here is between somatic growth rate and mortality rate. The evolutionary implications of pollution acting on such a trade-off are outlined.
DE: life-cycle; life-history; evolution-; fecundity-; biological-stress; pollution-effects; population-dynamics; aquatic-organisms; models-; ecosystem-disturbance
CL: Pollution:-Effects-on-organisms-1504
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: MB9500261
AN: 3762230
UD: 9509

Record 34 of 101 - ASFA 1988-12/96
TI: From the individual to the community and beyond: Water quality, stress indicators and key species in coastal ecosystems
AU: Hawkins,-S.J.; Proud,-S.V.; Spence,-S.K.; Southward,-A.J.
AF: Port Erin Mar. Lab., Port Erin, Isle of Man, IM9 6JA, UK
CO: Water Quality and Stress Indicators in Marine and Freshwater Ecosystems, Edinburgh (UK), 6 Sep 1993
SO: WATER-QUALITY-AND-STRESS-INDICATORS-IN-MARINE-AND-FRESHWATER-ECOSYSTEMS:-LINKING-LEVELS-OF-ORGANISATION-INDIVIDUALS,-POPULATIONS,-COMMUNITIES. Sutcliffe,-D.W.-ed. AMBLESIDE-UK FRESHWATER-BIOLOGICAL-ASSOCIATION 1994 pp. 35-62
IS: ISBN 0-900386-54-1
PY: 1994
LA: English
LS: English
PT: B (Book); K (Conference)
ER: M (Marine)
AB: This review examines water quality and stress indicators at levels of organisation from the individual to the community and beyond by means of three case studies concentrating on rocky shores within the north-east Atlantic.

Responses of dogwhelks (Nucella) to tributyltin pollution from antifouling paints is examined as the main case study. Community level responses to stress on rocky shores are then explored by reference to catastrophic impacts such as oil spills, using the Torrey Canyon spill as a case study. Recovery of the system in response to this major perturbation took between 10-15 years through a series of damped oscillations. The final case study is that of indicators of ecosystem level change in response to climate fluctuations, using ratios of northern (Semibalanus balanoides) and southern (Chthamalus spp.) barnacles. The use of barnacles to measure offshore changes is reviewed.
DE: biological-stress; oil-spills; rocky-shores; indicator-species; pollution-indicators; marine-mollusks; antifouling-substances; sterility-; temperature-effects; marine-crustaceans; Nucella-lapillus; Patella-; Semibalanus-balanoides; Chthamalus-; ANE,-Isle-of-Man; ANE,-British-Isles,-England; climatic-changes; ecosystem-disturbance; aquatic-communities; marine-pollution
ID: Torrey-Canyon
CL: Pollution:-Methods-and-instruments-1502; Aquatic-Ecology:-Methods-and-instruments-1382
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5); ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
OZ: Atlantic-Northeast (ANE)
IC: MB9500260
AN: 3762228
UD: 9509

Record 35 of 101 - ASFA 1988-12/96
TI: Use of macroinvertebrate communities to detect environmental stress in running waters
AU: Wright,-J.F.; Furse,-M.T.; Armitage,-P.D.
AF: Inst. Freshwat. Ecol., River Lab., East Stoke, Wareham, Dorset BH20 6BB, UK
CO: Water Quality and Stress Indicators in Marine and Freshwater Ecosystems, Edinburgh (UK), 6 Sep 1993
SO: WATER-QUALITY-AND-STRESS-INDICATORS-IN-MARINE-AND-FRESHWATER-ECOSYSTEMS:-LINKING-LEVELS-OF-ORGANISATION-INDIVIDUALS,-POPULATIONS,-COMMUNITIES. Sutcliffe,-D.W.-ed. AMBLESIDE-UK FRESHWATER-BIOLOGICAL-ASSOCIATION 1994 pp. 15-34
IS: ISBN 0-900386-54-1
PY: 1994
LA: English
LS: English
PT: B (Book); K (Conference)
ER: F (Freshwater)
AB: The authors present an account of some current uses of RIVPACS (River Invertebrate Prediction and Classification System), a software package developed by the Institute of Freshwater Ecology. Background information is also given on the unique data-set on which the system is based. Before discussing RIVPACS, they consider the range of environmental stresses encountered in flowing-water systems and some of the ways in which stresses may affect macroinvertebrate communities. The wide application and relevance of the RIVPACS approach was recognised when it was chosen as the biological method for use throughout the UK in the 1990 River Quality Survey (RQS). In the concluding section the authors list some lessons learned both from the 1990 survey and from their own testing exercise, and outline current developments which will lead to a new version of RIVPACS for use in the 1995 RQS.
DE: biological-stress; freshwater-pollution; rivers-; lotic-environment; species-diversity; pollution-monitoring; environmental-impact; aquatic-communities; pollution-indicators; Invertebrata-; British-Isles,-England; freshwater-organisms

CL: Pollution:-Methods-and-instruments-1502; Environmental-Changes,-Conservation,-Public-Health:-Mechanical-and-natural-changes-1521
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: MB9500259
AN: 3762226
UD: 9509

Record 36 of 101 - ASFA 1988-12/96
TI: The effects of stress on benthic algal communities
AU: Cox,-E.J.; Norton,-T.A.
AF: Dep. Bot., Nat. Hist. Mus., Cromwell Rd., London SW7 5BD, UK
CO: Water Quality and Stress Indicators in Marine and Freshwater Ecosystems, Edinburgh (UK), 6 Sep 1993
SO: WATER-QUALITY-AND-STRESS-INDICATORS-IN-MARINE-AND-FRESHWATER-ECOSYSTEMS:-LINKING-LEVELS-OF-ORGANISATION-INDIVIDUALS,-POPULATIONS,-COMMUNITIES. Sutcliffe,-D.W.-ed. AMBLESIDE-UK FRESHWATER-BIOLOGICAL-ASSOCIATION 1994 pp. 1-14
IS: ISBN 0-900386-54-1
PY: 1994
LA: English
LS: English
PT: B (Book); K (Conference)
ER: M (Marine); F (Freshwater)
AB: The effects of stress on both microalgal and macroalgal communities are considered. The contrasting approaches of studies of these two communities reflect intrinsic differences in plant size, longevity and ease of handling. They reveal that biological monitoring of the potentially deleterious effects of man's activities has focused largely on freshwater environments in which macroalgae only occasionally dominate. Large conspicuous plants can be readily investigated as individuals, whereas it is virtually impossible to trace effects of stress on an individual cell of a vegetatively-reproducing microalga. Failure to extend such investigations into marine systems rests as much on man's ability to ignore environmental deterioration until it affects his quality of life as on the visual dominance of seaweeds around our coasts.
DE: biological-stress; seaweeds-; man-induced-effects; environmental-impact; aquatic-communities; community-composition; intertidal-environment; algae-; phytobenthos-; pollution-monitoring; pollution-indicators; marine-pollution
CL: Pollution:-General-1501
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: MB9500258
AN: 3762224
UD: 9509

Record 37 of 101 - ASFA 1988-12/96
TI: Water Quality and Stress Indicators in Marine and Freshwater Ecosystems: Linking Levels of Organisation (Individuals, Populations, Communities)
AU: Sutcliffe,-D.W.-(ed.)
CO: Water Quality and Stress Indicators in Marine and Freshwater Ecosystems, Edinburgh (UK), 6 Sep 1993
SO: AMBLESIDE-UK FRESHWATER-BIOLOGICAL-ASSOCIATION 1994 192 pp
IS: ISBN 0-900386-54-1
PY: 1994
LA: English
PT: B (Book); K (Conference)
ER: M (Marine); F (Freshwater)
AB: In order to strengthen cooperation and collaboration between aquatic scientists, in 1992, the Freshwater Biological Association, Marine Biological Association and Scottish Association for Marine Science, agreed that Joint

Associations' Conferences would be held triennially. The first of these took place at Napier University, Edinburgh, in September 1993. Techniques were reviewed for assessing water quality and environmental stress, and to carefully examine their relevance and and determine the relationship between one method and another. Particular emphasis was given to the importance of linking the various approaches and methodologies which are used at the different levels of biological organisation: the level of the individual, the level of the population, and the level of the community.
DE: water-quality; biological-stress; ecosystem-disturbance; indicator-species; pollution-indicators; aquatic-communities; conferences-; pollution-monitoring; marine-pollution; freshwater-pollution; climatic-changes; temperature-effects
CL: Pollution:-Methods-and-instruments-1502; Pollution:-General-1501; Aquatic-Ecology:-Methods-and-instruments-1382; General-Aspects:-Conferences,-meetings,-etc.-1106
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5); ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
IC: MB9500257
AN: 3762218
UD: 9509

Record 38 of 101 - ASFA 1988-12/96
TI: Boleophthalmus pectinirostris as indicator of radionuclides
AU: Cai,-Fulong; Chen,-Ying; Xu,-Pian; Chen,-Yaming; Lin,-Shiyong; Lai,-Zhaocai
AF: 3rd Inst. Oceanogr., SOA, Xiamen 361005, People's Rep. China
SO: ACTA-SCI.-CIRCUMSTANT.-HUANJING-KEXUE-XUEBAO 1992 vol. 12, no. 3, pp. 282-287
IS: ISSN 0253-2468
PY: 1992
LA: Chinese
LS: Chinese; English
PT: J (Journal-Article)
ER: M (Marine)
AB: The concentrations of super(137)Cs, super(134)Cs, super(65)Zn and super(60)Co in body, tissue, organs and excretion of Boleophthalmus pectinirostris was determined. The relationship between the accumulated and remained concentrations of the nuclides and those in sea water were investigated. The gonad, muscle, and head of the fish were suggested as bio-indicators of marine pollution by the nuclides.
DE: radioisotopes-; pollution-indicators; indicator-species; bioaccumulation-; Boleophthalmus-pectinirostris
CL: Pollution:-Effects-on-organisms-1504
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: CH9500020
AN: 3756041
UD: 9509

Record 39 of 101 - ASFA 1988-12/96
TI: Induction of micronuclei in hemocytes of Mytilus edulis and statistical analysis
AU: Wrisberg,-M.N.; Bilbo,-C.M.; Spliid,-H.
AF: Lab. Environ. Sci. and Ecol., Tech. Univ. Denmark, DK-2800 Lyngby, Denmark
SO: ECOTOXICOL.-ENVIRON.-SAF. 1992 vol. 23, no. 2, pp. 191-205
IS: ISSN 0147-6513
PY: 1992
LA: English
LS: English
PT: J (Journal-Article)

ER: M (Marine)
AB: A genotoxicity test focusing on micronucleus production in the blood cells (hemocytes) of blue mussel M. edulis has been developed as a possible indicator for marine pollution. A linear dose-response relationship was found when M. edulis was exposed to low concentrations (0, 12.5, and 25 mg/liter) of the alkylating agent ethyl methanesulfonate under laboratory conditions, while higher concentrations (50 and 100 mg/liter) resulted in cytotoxic effects. Furthermore the micronuclei (MN) frequencies in wild mussels from four different field locations have been determined. Mussels collected from two polluted sites showed an elevated MN frequency, indicating the presence of genotoxic pollution. A method to determine the micronuclei background level is suggested and the further implications for applying the method in biomonitoring investigations are discussed. The considered M. edulis exhibits a high biological variation, emphasizing the importance of application of a correct statistical method. A systematic approach to the statistical evaluation of the mussel MN test is outlined. The statistical model includes three different situations: (a) estimation of parameters of a single sample, (b) estimation and comparison of two samples, and (c) estimation of a dose-response relationship. Cases (a) and (b) are especially relevant in biomonitoring investigations while case (c) primarily concerns laboratory experiments.
DE: genotoxicity-; blood-levels; Mytilus-edulis; bioindicators-; dose-response-effects; statistical-analysis; laboratory-testing; marine-pollution; pollution-effects; genotoxicity-testing; hemocytes-; micronuclei-; pollution-indicators; indicator-species; ethyl-methanesulfonate; bioassays-; carcinogens-; cytology-
CL: Pollution:-Effects-on-organisms-1504
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: CS9504942
AN: 3690893
UD: 9506

Record 40 of 101 - ASFA 1988-12/96
TI: Volatile compounds from the marine indicator organism Mytilus edulis
AU: Rasmussen,-T.; Anthoni,-U.; Christophersen,-C.; Nielsen,-P.H.
AF: Univ. Copenhagen, Universitetsparken 5, DK-2100 Copenhagen, Denmark
SO: CHEMOSPHERE 1993 vol. 27, no. 11, pp. 2123-2125
IS: ISSN 0045-6535
PY: 1993
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: The blue mussel, Mytilus edulis is widely used as an indicator organism to monitor the chemical conditions of the environment in which it thrives. Although volatile compounds relating to oil pollution and to pesticide contamination have been intensitely investigated other volatiles have received only minor attention. This is unexpected owing to the economic importance of the flavor of commercial mussels and the importance of monitoring volatile contaminants. Conventional Likens-Nickerson gas phase extraction has revealed the potential of this organism to yield information, especially on short time variations in the chemical composition of the environment. Commercial samples of Mytilus edulis were extracted using a Likens-Nickerson extractor and analyzed gas chromatography and combined gas chromatography-mass spectrometry allowing characterization of 33 components. The method is suited for the study of fluxes of volatile compounds including environmental contaminants in the sea.
DE: xenobiotics-; volatiles-; analysis-; methodology-; Mytilus-edulis; volatile-organic-compounds; bioindicators-; marine-pollution; pollution-

monitoring; gas-chromatography; indicator-species; pollution-indicators; marine-mollusks; volatile-compounds; chemical-extraction
CL: Pollution:-Methods-and-instruments-1502
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: CS9410474
AN: 3552288

Record 41 of 101 - ASFA 1988-12/96
TI: Microcosmus polymorphus, a tunicate species as marine pollution indicator
AU: Cimino,-G.; Leuzzi,-U.; Ziino,-M.
AF: Univ. Studi, Dip. Chim. Organ. Biol., Salita Sperone 31 - Papardo, 98166 Messina, Italy
CO: Aquaculture Europe '91, Dublin (Eire), 10-12 Jun 1991
SO: AQUACULTURE-AND-THE-ENVIRONMENT. DePauw,-N.;Joyce,-J.-comps. 1991 no. 14 pp. 69-70
IS: ISBN 90-71625-08-7
ISSN 0774-0689
ST: SPEC.-PUBL.-EUR.-AQUACULT.-SOC. no. 14
NT: Summary only.
PY: 1991
LA: English
PT: B (Book); K (Conference); Y (Summary)
ER: M (Marine)
AB: It has been pointed out that various tunicates selectively accumulate certain trace elements from the marine environment. This capacity endangers human health because it allows pollutants to be transferred to man through the food chain; nevertheless it can also enable the release of industrial wastes into the marine environment to be monitored. The purpose of this study was to evaluate accumulations of some metals of biological importance in Microcosmus polymorphus, a member of the Pyuridae which has not been the subject of much research to date, despite the fact that it is eaten in large quantities in France and Italy.
DE: indicator-species; pollution-indicators; marine-pollution; water-pollution; marine-aquaculture; bioaccumulation-; heavy-metals; Microcosmus-polymorphus; MED,-Italy
CL: Aquaculture:-General-1581; Pollution:-Methods-and-instruments-1502
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1); ASFA-Aquaculture-Abstracts (Q3); ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
OZ: Mediterranean (MED)
IC: CS9406884
AN: 3548572

Record 42 of 101 - ASFA 1988-12/96
TI: Birds as bio-indicators in marine and terrestrial ecosystems
AU: Montevecchi,-W.A.
AF: Dep. Psychol., Biol. Ocean Sci. Cent., Memorial Univ. Newfoundland, St. John's NF A1B 3X9, Canada
CO: The Scientific Challenge of our Changing Environment, St. John's, NF (Canada), 3-5 Mar 1993
SO: ATL.-GEOL. 1993 vol. 29, no. 2, p. 168
IS: ISSN 0843-5561
PY: 1993
LA: English
PT: J (Journal-Article); K (Conference); Y (Summary)
ER: M (Marine); B (Brackish); F (Freshwater)
AB: Birds are the most wide-ranging and highly visible components of terrestrial and marine ecosystems. They are also vulnerable to anthropogenic and

natural perturbation, and importantly, they are relatively easily accessible to scientific investigation. Seabird studies have been critical in bringing to light the extensiveness and significance of the deliberate discharge of bilge and tank oil from ships in the northwest Atlantic and in monitoring this pollution problem, which cannot be remotely sensed through technical means. Marine birds are also useful in assaying the movements and conditions of capelin and other pelagic fish and squid in the Newfoundland region. Recent studies with landbirds are revealing that different avian communities are associated with different forest habitats and how bird abundance and biodiversity can be preserved in the face of forestry, land-use and protected areas practices and policies.
DE: aquatic-birds; pollution-indicators; indicator-species; ecosystem-disturbance
CL: Pollution:-Methods-and-instruments-1502
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: CS9404120
AN: 3531171

Record 43 of 101 - ASFA 1988-12/96
TI: Serum enzymes in fish as biochemical indicators of marine pollution
AU: Ozretic,-M.
AF: "Rudjer Boskovic" Inst. Cent. Mar. Res., Rovinj, Croatia
SO: FINAL-REPORTS-ON-RESEARCH-PROJECTS-ACTIVITY-G.#RAPPORTS-FINAUX-SUR-LES-PROJETS-DE-RECHERCHE-ACTIVITE-G. UNEP-Mediterranean-Action-Plan,-Athens-Greece ATHENS-GREECE UNEP 1993 no. 48 pp. 1-11
ST: MAP-TECH.-REP.-SER. no. 48
PY: 1993
LA: English
LS: English
PT: R (Report)
ER: M (Marine)
AB: This study was initiated to evaluate the changes in plasma enzyme activity in marine fish after acute exposure to pollutants, using mullets Mugil auratus as test organisms. Acute liver injury was experimentally induced with high carbon tetrachloride and phenol doses. Lactic dehydrogenase (LDH), glutamate oxaloacetate transaminase (GOT) and glutamate pyruvate transaminase (GPT) were selected as relevant enzymes for evaluation of liver intoxication. Dose dependent increases of all three enzymes in plasma were observed promptly after injection of the toxicants. This study showed also that the toxic effect on the normally low plasma GPT activity was relatively higher than on plasma GOT, but the general response of GOT was of longer duration. The electrophoretic patterns of GOT from different mullet tissues, and the organ/tissue distribution of both GOT and GPT suggested liver to be their origin. As in mammals, GPT appeared to be a specific "liver-guiding enzyme" that can be used as a sensitive indicator of hepatotoxic effect. However, the increased LDH activity in fish plasma cannot be considered as an indicator of the hepatotoxic effect because the electrophoretic separation indicated that the increased plasma LDH activity was generated by the presence of a substantial amount of LDH sub(5) isozyme fraction, the origin of which could be assigned to the very large LDH sub(5) pool from the white muscle tissue.
DE: chemical-pollutants; pollution-effects; liver-; enzymes-; toxicity-; indicator-species; marine-pollution; Mugil-auratus
CL: Pollution:-Methods-and-instruments-1502
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: EP9300076
AN: 3505342

Record 44 of 101 - ASFA 1988-12/96
TI: Mussels as bioindicators in marine monitoring programs
AU: Viarengo,-A.
AF: Ist. Fision. Gen., Univ. Stud., Corso Europa 26 - 16132 Genoa, Italy
CO: Symp. Mediterranean Seas 2000, Santa Margherita Ligure (Italy), 23-27 Sep 1991
SO: SYMPOSIUM-MEDITERRANEAN-SEAS-2000,-SANTA-MARGHERITA-LIGURE,-23-27-SEPTEMBER-1991. Della-Croce,-N.F.R.-ed. SANTA-MARGHERITA-LIGURE-ITALY IST.-SCI.-AMBIENTALI-MAR. 1993 pp. 161-171
PY: 1993
LA: English
LS: English
PT: B (Book); K (Conference)
ER: M (Marine)
AB: Data are presented concerning the possible use of mussels as biological indicators of marine pollution. It has been demonstrated that mussels living in polluted coastal areas show a stress syndrome, i.e. an altered physiological status that can be quantitatively evaluated by the utilization of stress indices. Parameters have been identified to evaluate both the sum of the effects of the environmental stressors and the effects of particular classes of pollutants. It has been found that the alteration of mussel physiology can provide information to detect the effects of pollutants on the organisms and to early predict possible repercussions at the population or higher levels. The possibility of integrating in monitoring programs data from this mussel watch with those obtained from other organisms is also discussed. Finally, the remarkable advantage of low cost biological analyses utilizing mussels as bioindicators in pollution monitoring of marine and estuarine areas is underlined.
DE: marine-pollution; pollution-monitoring; pollution-indicators; indicator-species; Mytilidae-
CL: Pollution:-Methods-and-instruments-1502; Pollution:-Effects-on-organisms-1504; Aquatic-Products-and-their-Utilization:-Food-quality-and-standards-1627
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5); ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
IC: FA9301913
AN: 3052616

Record 45 of 101 - ASFA 1988-12/96
TI: Report of twenty-second session, Vienna, 9-13 March 1992
CA: IMO/FAO/UNESCO/WMO/WHO/IAEA/UN/UNEP Joint Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP)
CO: 22. Sess. GESAMP, Vienna (Austria), 9-13 Mar 1992
SO: REP.-STUD.-GESAMP VIENNA-AUSTRIA IAEA 1992 no. 49, 58 pp
PY: 1992
LA: English
LS: English
PT: B (Book); K (Conference)
ER: M (Marine)
AB: This report describes topics discussed at the session which include the following: state of the marine environment, comprehensive framework for the assessment and regulation of waste disposal in the marine environment, review of potentially harmful substances, impact of anthropogenically mobilized sediments in the coastal environment, evaluation of the hazards of harmful substances carried by ships, environmental impacts of coastal aquaculture, biological indicators of marine ecosystem "health", report on GESAMP contribution to UNCED.
DE: marine-pollution; chemical-pollution; waste-disposal; pollution-control; pollution-monitoring; conferences-

CL: Pollution:-Prevention-and-control-1505
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: EP9300073
AN: 3044264

Record 46 of 101 - ASFA 1988-12/96
TI: Sediments and red tides.
AU: Dale,-B.
AF: Dep. Geol., Univ. Oslo, P.O. Box 1047, Blindern, 0316, Oslo 3, Norway
CO: Int. Conf. and Workshop on the Problems of Toxic Dinoflagellate Blooms in Aquaculture, Sherkin Island (Eire), 11-12 Jun 1987
SO: THE-PROBLEMS-OF-TOXIC-DINOFLAGELLATE-BLOOMS-IN-AQUACULTURE.-PROCEEDINGS-FROM-A-WORKSHOP-AND-INTERNATIONAL-CONFERENCE-HELD-AT-SHERKIN-ISLAND-MARINE-STATION,-IRELAND,-8-13,-JUNE-1987. Dale,-B.;Baden,-D.G.;Bary,-B.Mck.;Edler,-L.;Fraga,-S.;Jenkinson,-I.R.;Hallegraeff,-G.M.;Ochaichi,-T.;et-al.-eds.. SHERKIN-ISLAND-EIRE SHERKIN-ISLAND-MAR.-STN. 1987. p. 40
NT: Summary only.
PY: 1987
LA: English
PT: B (Book); K (Conference); Y (Summary)
ER: M (Marine)
AB: Two aspects of sediments are of particular interest concerning dinoflagellate blooms and aquaculture projects: sediments as indicators of marine environmental conditions, and resting cysts in sediments as a "benthic view" of dinoflagellate ecology. Grain size and oxygen content of bottom sediments may be used to estimate some aspects of flushing in overlying waters. Such observations combined with cyst analysis provide a useful survey tool for regional surveys, monitoring environmental conditions during aquaculture and also for after-the-fact identification of dinoflagellates that have caused a toxic bloom, by recognizing cysts in sediments after the motile stage is no longer present in the water.
DE: algal-blooms; red-tides; sediment-analysis; environmental-conditions; pollution-monitoring; water-quality; aquaculture-
CL: Aquatic-Communities:-Plankton-1461; Aquaculture:-General-1581; Environmental-Changes,-Conservation,-Public-Health:-Public-health,-medicines,-dangerous-organisms-1524
JA: ASFA --1:-Biological-Sciences-and-Living-Resources (Q1); ASFA --3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
AN: 2889856

Record 47 of 101 - ASFA 1988-12/96
TI: Polychaetes: Key taxa for marine environmental quality monitoring.
AU: Pocklington,-P.; Wells,-P.G.
AF: Arenicola Marine, 19 Guy St., Dartmouth, NS B3A 2PA, Canada
SO: MAR.-POLLUT.-BULL. 1992. vol. 24, no. 12, pp. 593-598
PY: 1992
LA: English
PT: J (Journal-Article); O (Review-Article)
ER: M (Marine)
AB: Polychaetes are used: as bioassay organisms, as monitors for toxic materials, and as pollution indicators at the various levels. The literature clearly demonstrates that their use as indicators of marine environmental quality, together with better known methods employing other organisms and assemblages, is widespread on a global scale. It further shows the potential for greater use of polychaetes as biomonitors for compliance and marine environmental quality monitoring purposes, by regulatory and research groups.

DE: marine-pollution; pollution-monitoring; Polychaeta-; pollution-indicators; indicator-species; filter-feeders; sediment-pollution; bioaccumulation-; pollution-effects; population-dynamics; bioindicators-; reviews-; environmental-quality
CL: Pollution:-Methods-and-instruments-1502
JA: ASFA --3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
AN: 2874791

Record 48 of 101 - ASFA 1988-12/96
TI: Recovery rate of juvenile Cape gannets: A potential indicator of marine conditions.
AU: Oatley,-T.B.; Underhill,-L.G.; Ross,-G.J.B.
AF: Avian Demogr. Unit, Dep. Stat. Sci., Univ. Cape Town, Rondebosch 7700, South Africa
SO: COLONIAL-WATERBIRDS. 1992. vol. 15, no. 1, pp. 140-143
PY: 1992
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: Young Cape Gannets (Morus capensis) were banded at Bird Island, Algoa Bay, South Africa every year between 1980 and 1990. An unprecedented number of recoveries in 1983 was thought to have been occasioned by a warm-water event, but also coincided with increased banding effort and the introduction of a new band address. Examination of seven-year recovery totals with old and new address bands suggests that the change did not have a major influence on reporting rate. The 1983 recovery rate of 2.71% was 3.8 times higher than the mean 0.72% of "normal" years. The expected number of recoveries of Cape Gannets in their first year of life can be predicted. An increase in the reporting rate may indicate abnormality of marine conditions. A formula is provided to determine the number of young Cape Gannets that must be banded in order to detect an increase in recovery rate.
DE: banding-; recovery-; rates-; juveniles-; indicator-species; marine-environment; environmental-conditions; Morus-capensis; Africa,-Southern; migratory-species; marine-birds; tagging-; PSW,-South-Africa,-Cape-Prov.,-Bird-I.
CL: Autecology:-Environmental-effects-1422
JA: ASFA --1:-Biological-Sciences-and-Living-Resources (Q1)
OZ: Polar-Antarctic-Westward (PSW)
AN: 2874321

Record 49 of 101 - ASFA 1988-12/96
TI: Toxic impact of aldrin on acid and alkaline phosphatase activity of penaeid prawn, Metapenaeus monoceros : In vitro study.
AU: Reddy,-M.S.; Jayaprada,-P.; Rao,-K.V.R.
AF: Div. Toxicol., Dep. Mar. Zool., Sri Venkatateswara Univ. Post Grad. Cent., Kavali 524 202, India
SO: BULL.-ENVIRON.-CONTAM.-TOXICOL. 1991. vol. 46, no. 3, pp. 479-484
PY: 1991
LA: English
PT: J (Journal-Article)
ER: B (Brackish)
AB: The present study is aimed to probe into the in vitro effects of aldrin on the acid and alkaline phosphatase activity levels in selected tissues of penaeid prawn, Metapenaeus monoceros. M. monoceros selected in the investigation is considered to be a sensitive indicator of marine or estuarine pollution. Penaeid

prawns were collected from the Buckingham canal, near Kavali seacoast, Andhra Pradesh, India.
DE: insecticides-; toxicity-tests; enzymatic-activity; animal-metabolism; aldrin-; brackishwater-pollution; Metapenaeus-monoceros; ISW,-India,-Andhra-Pradesh,-Buckingham-Canal; Crustacea-; indicator-species; India-; pesticides-organochlorine; acid-phosphatase; alkaline-phosphatase; pollution-indicators; organochlorine-compounds; toxicity-testing; India,-Andhra-Pradesh,-Buckingham-Canal
CL: Pollution:-Effects-on-organisms-1504
JA: ASFA --3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
OZ: Indian-Ocean (ISW)
IC: CS9215940
AN: 2840206

Record 50 of 101 - ASFA 1988-12/96
TI: (Biochemical indicators of marine environment pollution.).
OT: Indicateurs biochimiques de contamination de l'environnement marin
AU: Lafaurie,-M.; Narbonne,-J.-F.; Galgani,-F.
AF: Lab. Biotransformation Cancerogenese, Fac. Med., Univ. Nice-Sophia Antipolis, 06107 Nice Cedex 2, France
SO: ANALUSIS. 1992. vol. 20, no. 6, pp. M27-M33
IS: ISSN 0365-4877
PY: 1992
LA: French
LS: French
PT: J (Journal-Article)
ER: M (Marine)
AB: Ecotoxicological evaluation requires knowledge on the relations between pollutants and their biological effects in situ. The validation of a biomarker in situ allows: 1) an evaluation of biosurvey methods and of ecotoxicity tests, 2) an evaluation of the risk for environment by the presence of a chemical compound, 3) the proposition of standards for water quality.
DE: pollution-indicators; pollution-monitoring; pollution-effects; bioaccumulation-; trophic-relationships; chemical-pollution; analytical-techniques; toxicity-tests; enzymes-
ID: biomarkers-; biomonitoring-
CL: Pollution:-Methods-and-instruments-1502
JA: ASFA --3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: IF9200891
AN: 2832801

Record 51 of 101 - ASFA 1988-12/96
TI: Toxicity of selected insecticides to the penaeid prawn, Metapenaeus monoceros (Fabricius).
AU: Srinivasulu-Reddy,-M.; Ramana-Rao,-K.V.
AF: Div. Toxicol., Dep. Mar. Zool., Sri Venkateswara Univ. Post Grad. Cent., Kavali 524 202, India
SO: BULL.-ENVIRON.-CONTAM.-TOXICOL. 1992. vol. 48, no. 4, pp. 622-629
PY: 1992
LA: English
PT: J (Journal-Article)
ER: F (Freshwater)
AB: Hazards of environmental contamination through indiscriminate and widespread use of a variety of pesticides have attracted global attention. These pesticides have been found to be extremely toxic to several aquatic biota including crustaceans. Paucity of literature on the toxicity of insecticides to penaeid prawns has initiated the present study. In the present study an attempt

has been made to investigate the acute toxicity of selected insecticides, which are commonly used in and around this area to penaeid prawn, Metapenaeus monoceros. M. monoceros selected in the present study is considered to be a sensitive indicator of marine and estuarine pollution and also forms one of the important fisheries of India.
DE: pesticides-; insecticides-; toxicity-; aquatic-environment; pollution-; indicators-; Metapenaeus-monoceros; bioindicators-; pollutant-detection; toxicity-tests; freshwater-crustaceans; pollution-indicators; indicator-species
CL: Pollution:-Effects-on-organisms-1504
JA: ASFA --3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: CS9208058
AN: 2719219

Record 52 of 101 - ASFA 1988-12/96
TI: Trace metals in tropical marine fish from the Bay of Bengal.
AU: Sharif,-A.K.M.; Mustafa,-A.I.; Mirza,-A.H.; Safiullah,-S.
AF: Inst. Nucl. Sci. and Technol., At. Energy Res. Establ., Savar, P.O. Box 3787, Dhaka, Bangladesh
SO: SCI.-TOTAL-ENVIRON. 1991. vol. 107, pp. 135-142
PY: 1991
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: Due largely to the discharge of industrial effluents and wastes into the sea, the concentrations of some elements have become alarmingly high and are considered a serious health hazard to man as well as to some aquatic organisms. Fish are often used as indicators of marine pollution. Concentrations of potassium, calcium, magnesium, manganese, iron, nickel, copper, zinc, lead, cadmium, strontium and rubidium were determined in the flesh of 6 marine fish species from the Bay of Bengal. Analytical quality was determined by analysis of standard reference material MA-A-2 (TM), Fish Flesh Homogenate, from IAEA (International Atomic Energy Agency). In most cases the results are similar to data published on fish from other marine environments.
DE: marine-pollution; pollution-effects; trace-metals; indicator-species; pollution-indicators; industrial-wastes; fish-; bioindicators-; Bengal-Bay; tropical-environment; trace-elements; marine-fauna; Pisces-; bioaccumulation-; ISW,-Bengal-Bay; heavy-metals
ID: marine-fish
CL: Pollution:-Prevention-and-control-1505
JA: ASFA --3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
OZ: Indian-Ocean (ISW)
IC: CS9117993
AN: 2600469

Record 53 of 101 - ASFA 1988-12/96
TI: Coastal plain sedimentation in the Late Devonian of southern Ireland; Hummocky cross-stratification in fluvial deposits?.
AU: Cotter,-E.; Graham,-J.R.
AF: Dep. Geol., Bucknell Univ., Lewisburg, PA 17837, USA
SO: SEDIMENT.-GEOL. 1991. vol. 72, no. 3-4, pp. 201-224
PY: 1991
LA: English
LS: English
PT: J (Journal-Article)
ER: F (Freshwater)

AB: The late Devonian Toe Head Formation crops out extensively in southwest Ireland and has been considered previously as the topmost Old Red Sandstone formation in conformable non-marine to marine sequence. The most characteristic lithofacies, the flat laminated and inclined parallel laminated sandstones, displays a range of structures from flat to gently inclined laminae and includes sets which meet the four criteria of Harms et al. for hummocky cross-strata. Associated facies include desiccated mudrocks, palaeosols and ripple cross-laminated sandstones which lack the flaser-linsen dominated bedsets characteristic of the overlying marine strata. Only non-marine fossils are recorded and numerous palynological preparations lack the marine indicators which appear at the top of the formation. Palaeocurrents show considerable spread with indications of overall easterly transport of sand. The balance of evidence strongly favours a non-marine environment with the implication that hummocky cross-strata, as presently defined, are not good environmental or process indicators. The fine to very fine sand sizes and possibly the amount of suspended load were important controls on the resultant structures. A depositional model of essentially fluvial deposition on a low gradient coastal plain is proposed.
DE: Devonian-; facies-; fluvial-deposits; fluvial-sedimentation; Eire,-Toe-Head-Formation; models-
ID: sedimentation-; hummocky-cross-strata
CL: Geology-and-Geophysics:-Sedimentary-structures-and-stratigraphy-2265
JA: ASFA --2:-Ocean-Technology,-Policy-and-Non-Living-Resources (Q2)
IC: CS9117662
AN: 2588039

Record 54 of 101 - ASFA 1988-12/96
TI: Existing forms of phosphorus in sediment from middle and northern Taiwan Strait.
AU: Xu,-Jinshu; Li,-Liangge
AF: Fujian Inst. Oceanol., Xiamen, People's Rep. China
SO: OCEANOL.-LIMNOL.-SIN.-HAIYANG-YU-HUZHAO. 1990. vol. 21, no. 1, pp. 62-69
IS: ISSN 0029-814X
PY: 1990
LA: Chinese
LS: Chinese; English
PT: J (Journal-Article)
ER: M (Marine)
AB: The results are presented of a preliminary study on the existing form distribution of phosphorus and its content in sediment from middle and northern parts of Taiwan Strait. The content of P sub(Ca) makes up 90% of the total content of inorganic P; and the content distribution of P sub(Ca) is closely related with hydrodynamics, sea water temperature, and pH value etc. The content of P sub(Al) and P sub(Fe) shows a positive correlation with that of organic carbon, Cu and Zn, and it can be used as an indicator of marine environmental pollution. The content of soluble phosphorus is correlated with environmental oxidation-reduction, and it increases in reductive condition.
DE: chemical-speciation; distribution-; ISEW,-Taiwan-Strait
ID: phosphorus-
CL: Chemistry-and-Geochemistry:-Geochemistry-of-sediments-2187
JA: ASFA-2:-Ocean-Technology,-Policy-and-Non-Living-Resources (Q2)
OZ: Pacific-Southwest (ISEW)
AN: 2331944

Record 55 of 101 - ASFA 1988-12/96
TI: Use of carbonyl iron to induce iron loading in the mussel Mytilus edulis .
AU: Bootsma,-N.; Macey,-D.J.; Webb,-J.; Talbot,-V.

AF: Sch. Biol. and Environ. Sci., Murdoch Univ., Murdoch, W.A. 6150, Australia
SO: BULL.-ENVIRON.-CONTAM.-TOXICOL. 1990. vol. 44, no. 2, pp. 205-209
PY: 1990
LA: English
PT: J (Journal-Article)
ER: M (Marine)
AB: This study was undertaken to determine whether carbonyl iron could be sued for the rapid non-toxic iron loading of the mussel Mytilus edulis . Such loading could subsequently be used for the investigation of synergistic metal accumulation in mussels, a topic of considerable interest due to their use as marine pollution indicators.
DE: iron-; pollution-monitoring; bioassays-; heavy-metals; pollutant-detection; Mytilus-edulis
ID: bioaccumulation-
CL: Pollution:-Effects-on-organisms-1504; Pollution:-Methods-and-instruments-1502; Aquaculture:-Shellfish-culture-1583
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5); ASFA-1:-Biological-Sciences-and-Living-Resources (Q1); ASFA-Aquaculture-Abstracts (Q3)
AN: 2282195

Record 56 of 101 - ASFA 1988-12/96
TI: Dinoflagellate cysts as indicators of marine influences during the Paleogene in Alsace (NE France).
OT: Les dinokystes, des temoins d'influences marines dans le Paleogene d'Alsace
AU: Rauscher,-R.; Sculer,-M.
AF: Cent. Sedimentol. Geochim. Surface, CNRS, Inst. Geol., 1 rue Blessig, 67084 Strasbourg Cedex, France
CO: 10. Symposium de l'Association des Palynologues de Langue Francaise (APLF), Bordeaux (France), 29 Sep-4 Oct 1987
SO: 10th-SYMPOSIUM-OF-THE-ASSOCIATION-OF-FRENCH-SPEAKING-PALYNOLOGISTS:-DINOFLAGELLATE-DAYS.-BORDEAUX,-29-SEPTEMBER-4-OCTOBER-1987. 10eme-SYMPOSIUM-DE-L'-ASSOCIATION-DES-PALYNOLOGUES-DE-LANGUE-FRANCAISE-APLF.-JOURNEES-DINOFLAGELLES-BMS-APLF.-BORDEAUX,-29-SEPTEMBRE-4-OCTOBRE-1987. 1988. vol. 12, no. 1 pp. 405-425
IS: ISSN 0396-2687
ST: BULL.-CENT.-RECH.-EXPLOR.-PROD.-ELF-AQUITAINE. vol. 12, no. 1
PY: 1988
LA: French
PT: B (Book); K (Conference)
ER: M (Marine); B (Brackish)
AB: An inventory of dinocyst levels has been carried out in the Paleogene of Alsace (NE France) in order to contribute to the reconstruction of the Alsatian sedimentary history during this period when a significant evaporitic and organic sedimentation took place. This study is based on numerous boreholes drilled in the south (in the potash salt basin of Mulhouse and surroundings), in the north (in the oilfields of Pechelbronn-Scheibenhard) and between Strasbourg and Colmar. Several kinds of dinoflagellate cysts assemblages are described: diversified ones reveal marine influences whereas other monospecific ones show brackish periods. Once they are set in their stratigraphic (post-Lutetian to Stampian) and local contexts, these assemblages point out the especially complex and changing sedimentary history of this part of the Rhinegraben during the Paleogene.
DE: sedimentation-; palynology-; Dinoflagellata-; France,-Alsace
ID: palaeoceanography-
CL: Geology-and-Geophysics:-Paleontology-2273; Biology:-General:-Paleontology-1187

JA: ASFA-2:-Ocean-Technology,-Policy-and-Non-Living-Resources (Q2); ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
AN: 1973741

Record 57 of 101 - ASFA 1988-12/96
TI: Seabirds as indicators of marine food supplies.
AU: Cairns,-D.K.
AF: Sci. Branch, Dep. Fish. Oceans, Box 5030, Moncton, N.B. E1C 9B6, Canada
SO: BIOL.-OCEANOGR. 1988. vol. 5, no. 4, pp. 261-271
IS: ISSN 0196-5581
PY: 1988
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: An integrated approach to the use of seabirds as indicators of marine food supplies is developed, based on proposed relations between food availability and seabird population, and behavior parameters. Adult survivorship, breeding success, chick growth, colony attendance, and activity budgets vary with prey availability, but response to food supply occurs at different temporal scales and at different levels of prey availability for each parameter. Seabird data most reliably indicate food availability when monophagous birds are used to monitor temporal variation in prey supplies.
DE: indicator-species; food-chains; stock-assessment; fishery-resources; survival-; interspecific-relationships; food-availability
ID: marine-birds
CL: Fishable-stocks:-Stock-assessment-and-management-1604
JA: ASFA --1:-Biological-Sciences-and-Living-Resources (Q1)
AN: 1921636

Record 58 of 101 - ASFA 1988-12/96
TI: (Ascidians: Marine stains and biological indicators (metals, hydrocarbons).).
OT: Ascidies: "Salissures" marines et indicateurs biologiques (metaux, hydrocarbures)
AU: Monniot,-F.; Giannesini,-P.-J.; Oudot,-J.; Richard,-M.-L.
AF: Lab. Biol. Invertebr. Mar. Malacol., Mus. Natl. Hist. Nat., 55 rue Buffon, 75005 Paris, France
SO: BULL.-MUS.-NATL.-HIST.-NAT.-FRANCE-4E-SER.-A.-ZOOL.-BIOL.-ECOL.-ANIM.. 1986. vol. 8, no. 2, pp. 215-245
IS: ISSN 0181-0626
PY: 1986
LA: French
LS: English; French
PT: J (Journal-Article)
ER: M (Marine)
AB: The advantages of ascidians as marine biological indicators, sessile, and filterfeeding, are proved in six stations along the coasts of the Channel, the Atlantic and the Mediterranean sea. Metals (Fe, Mn, Cu, Zn, Pb, Cd) were dosed in sea-water, sediment, tissues and digestive contents of several ascidian species collected in harbours and a shell-farm, considered as a clean site. Ascidian tissues were examined for hydrocarbons at the same localities and past or recent oil pollutions have been detected except in the Mediterranean lagoon. Ascidians seem to be better indicators than molluscs. The cosmopolitism of the species studied here allows the use of ascidians as marine biological indicators in any area of human activity.

DE: pollution-indicators; indicator-species; marine-pollution; Ascidiacea-; hydrocarbons-; heavy-metals; pollution-monitoring; ANE,-France; ANE,-English-Channel; MED,-France
CL: Pollution:-Methods-and-instruments-1502; Pollution:-Methods-and-instruments-2442
JA: Biological-Sciences-and-Living-Resources (Q1); Ocean-Technology,-Policy-and-Non-Living-Resources (Q2)
OZ: Atlantic-Northeast (ANE); Mediterranean (MED)
AN: 1774782

Record 59 of 101 - ASFA 1988-12/96
TI: An evaluation of deviation from the lognormal distribution among species as a pollution indicator in marine benthic communities.
AU: Nelson,-W.G.
AF: Dep. Oceanogr. and Ocean Eng., Florida Inst. Technol., Melbourne, FL 32901, USA
SO: J.-EXP.-MAR.-BIOL.-ECOL. 1987. vol. 113, no. 2, pp. 181-206
PY: 1987
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: A graphical probability-plot method for detection of pollution in marine communities based on deviations from the lognormal distribution of abundance among species has been proposed (Gray & Mirza, 1979). An extensive group of marine benthic studies was used to empirically define the conditions under which the probability-plot methodology may apply by determining inherent levels of deviation from the lognormal distribution in marine benthic systems. Levels of deviation from the lognormal in unpolluted marine-benthic communities determined with the probability-plot method were on the order of 6% for replicate samples within a station, 29% based on temporal variation at a single station, and 23% based on spatial differences in location of stations, suggesting that a high inherent level of variability may make application of the probability-plot method generally difficult.
DE: pollution-indicators; marine-pollution; benthos-; community-structure; statistical-analysis; bioindicators-; biocenoses-; population-dynamics; indicator-species
CL: Pollution:-Methods-and-instruments-1502; Pollution:-Methods-and-instruments-2442
JA: Biological-Sciences-and-Living-Resources (Q1); Ocean-Technology,-Policy-and-Non-Living-Resources (Q2)
AN: 1728838

Record 60 of 101 - ASFA 1988-12/96
TI: (Indicators of marine pollution. Deuteromycetes.).
OT: Indicateurs de pollution marine. 2. Deuteromycetes
AU: Hulea,-A.; Apas,-M.
AF: Inst. Prot. Plantes, Bucharest, Romania
SO: CERCET.-MAR.-RECH.-MAR. 1984. no. 17, pp. 267-283
PY: 1984
LA: French
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: Thirteen marine pollution indicators belonging to the Deuteromycetes (Blastomycetes and Coelomycetes orders) are presented. The species were identified in 1,560 samples both in nearshore waters and on the sands, during

1975-1980. For each species, shape and size of the mycelium, spores, conidia, conidiophores, seasonal variation and spread are described.
DE: marine-pollution; pollution-indicators; Deuteromycetes-; MED,-Romania
CL: Pollution:-Methods-and-instruments-1502
JA: Biological-Sciences-and-Living-Resources (Q1)
OZ: Mediterranean (MED)
AN: 1711646

Record 61 of 101 - ASFA 1988-12/96
TI: (Indicators of marine pollution. Phycomycetes.).
OT: Indicateurs de pollution marine. 1. Phycomycetes
AU: Apas,-M.; Hulea,-A.
AF: Inst. Roumain Rech. Mar., Constanta, Romania
SO: CERCET.-MAR.-RECH.-MAR. 1984. no. 17, pp. 251-266
PY: 1984
LA: French
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: Marine fungi are considered as indicator organisms. A large number of samples from nearshore Romanian marine waters (1,330), as well as from the sands (230) were analysed throughout 1975-1980. Eleven marine fungi belonging to the Phycomycetes were identified: Chytridiales, Saprolegniales, Peronosporales and Mucorales. The shape and the size of the mycelium, spores, sporangia and sporangiophores were used for the systematic account. The morphology, seasonal variation and spread, are described for each species.
DE: marine-pollution; pollution-indicators; Phycomycetes-; MED,-Romania
CL: Pollution:-Methods-and-instruments-1502
JA: Biological-Sciences-and-Living-Resources (Q1)
OZ: Mediterranean (MED)
AN: 1710900

Record 62 of 101 - ASFA 1988-12/96
TI: (Bioindicators and biologico-biochemical indicators in marine pollution.).
OT: Bio-indicateurs et indicateurs biologico-biochemiques en pollution marine
AU: Augier,-H.
AF: Fac. Sci. Luminy, Case 901, 13288 Marseille Cedex 9, France
CO: 8. Colloque International d'Oceanographie Medicale, Nice (France), 9 Oct 1985
SO: PROCEEDINGS-OF-THE-8th-INTERNATIONAL-SYMPOSIUM-ON-MEDICAL-OCEANOGRAPHY,-9-12-OCTOBER-1985,-NICE-FRANCE.. ACTES-DU-8eme-COLLOQUE-INTERNATIONAL-D'-OCEANOGRAPHIE-MEDICALE,-9-12-OCTOBRE-1985,-NICE-FRANCE.- Drach,-P.;Nissenbaum,-A.;Aubert,-M.;Aubert,-J.-eds.1987. no. 85-86 pp. 147-150
IS: ISSN 0035-3497
ST: REV.-INT.-OCEANOGR.-MED. no. 85-86
PY: 1987
LA: French
PT: B (Book); K (Conference)
ER: M (Marine)
AB: Physicochemical pertubations of water and ecosystem desequilibriums issued, affect marine organisms by biological, physiological, biochemical, histological, cytological and biocenotic modifications. Their study can be used to determine the origin and the degree of environmental and organism alterations. From this research the concept of biological indicator is born. A review of the more familiar bioindicators is made in this publication.
DE: indicator-species; marine-pollution; environmental-effects; biochemical-analysis; bioaccumulation-

CL: Pollution:-Effects-on-organisms-1504
JA: Biological-Sciences-and-Living-Resources (Q1)
AN: 1687564

Record 63 of 101 - ASFA 1997-2001/09
TI: Sponges, indicators of marine environmental health
AU: Battershill,-C.N.; Abraham,-R.
AF: Australian Institute of Marine Science, PMB 3, Townsville MC, Qld., 4810, Australia; E-mail: c.battershill@niwa.cri.nz
CO: 5. International Sponge Symposium: Origin and Outlook, Brisbane, QLD (Australia), 27 Jun-4 Jul, 1998
SO: Memoirs-of-the-Queensland-Museum [Mem-Queensl-Mus] 1999 vol. 44, 50
IS: ISSN 0079-8835
PY: 1999
LA: English
LS: English
PT: J (Journal-Article); K (Conference)
ER: M (Marine)
AB: There is an urgent need for marine ecosystem indicators to facilitate management aimed at either ameliorating impacts or guiding sustainable utilisation of marine resources. We propose that qualitative and quantitative examination of marine benthic communities will provide robust indication of responses to short and long term environmental conditions, and further suggest that information exists which permits the creation of a hierarchy of indicators for establishing ecosystem health in a regional context. These are in the form of identifiable marine community assemblages, together with biomass and growth indices determined from morphological parameters associated with the characterising species for each assemblage. Examples are provided to demonstrate the sensitivity of such indicators by focusing on sponge characterised communities. The composition of assemblages and population statistics of key species reflect ecosystem disturbances following catastrophic sediment deposition following cyclones, and in response to more recent and relatively short-term impacts. The latter include responses to sediment disruption from trawling and sand mining, and responses to water quality change during algal bloom events. Marine environmental indicators are likely to take the form of well-defined ecotypes described by characterising species presence. These species have known ranges of tolerance to environmental variables such as light, current, food supply, turbidity, BOD, and sediment regime. They are by their very nature, relevant at a regional level and will be set in the context of a biogeographic classification for any coast or shelf. They can be further refined by interrogation of models relating population structure of key species to biological and physical attributes of the environment.
DE: Community-composition; Marine-invertebrates; Indicator-species; Species-diversity; Marine-pollution; Eutrophication-; Environmental-effects
CL: Aquatic-pollution:-Methods-and-instruments-1502
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: CS0112596
AN: 4718792
UD: 200109

Record 64 of 101 - ASFA 1997-2001/09
TI: Potential multidrug resistance gene POHL: An ecologically relevant indicator in marine sponges
AU: Krasko,-A.; Kurelec,-B.; Batel,-R.; Mueller,-I.M.; Mueller,-W.E.G.
AF: Institut fuer Physiologische Chemie, Abteilung Angewandte Molekularbiologie, Universitaet Mainz, Duesbergweg 6, D-55099 Mainz, Germany; E-mail: wmueller@mail.uni-mainz.de

SO: Environmental-Toxicology-and-Chemistry [Environ-Toxicol-Chem] 2001 vol. 20, no. 1, pp. 198-204
IS: ISSN 0730-7268
PY: 2001
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: Sponges are sessile filter feeders found in all aquatic habitats from the tropics to the arctic. Against potential environmental hazards, they are provided with efficient defense systems, e.g., protecting chaperones and/or the P-170/multidrug resistance pump system. Here we report on a further multidrug resistance pathway that is related to the pad one homologue (POH1) mechanism recently identified in humans. It is suggested that proteolysis is involved in the inactivation of xenobiotics by the POH1 system. Two cDNAs were cloned, one from the demosponge Geodia cydonium and a second from the hexactinellid sponge Aphrocallistes vastus. The cDNA from G. cydonium, termed GCPOHL, encodes a deduced polypeptide with a size of 34,591 Da and that from A. vastus, AVPOHL, a protein of a calculated M sub(r) of 34,282. The two sponge cDNAs are highly similar to each other as well as to the known sequences from fungi (Schizosaccharomyces pombe and Saccharomyces cerevisiae) and other Metazoa (from Schistosoma mansoni to humans). Under controlled laboratory conditions, the expression of the potential multidrug resistance gene POHL is, in G. cydonium, strongly upregulated in response to the toxins staurosporin (20 mu M) or taxol (50 mu M); the first detectable transcripts appear after 1 d and reach a maximum after 3 to 5 d of incubation. The relevance of the expression pattern of the G. cydonium gene POHL for the assessment of pollution in the field was determined at differently polluted sites in the area around Rovinj (Croatia; Mediterranean Sea, Adriatic Sea). The load of the selected sites was assessed by measuring the potency of XAD-7 concentrates of water samples taken from those places to induce the level of benzo[a]pyrene monooxygenase (BaPMO) in fish and to impair the multidrug resistance (MDR)/P-170 extrusion pump in clams. These field experiments revealed that the levels of inducible BaPMO activity in fish and of the MDR potential by the water concentrates are highly correlated with the level of expression of the potential multidrug resistance gene POHL in G. cydonium. This report demonstrates that the detoxification POH pathway, here mediated by the G. cydonium GCPOHL gene, is an additional marker for the assessment of the environmental load in a given marine area.
DE: Drug-resistance; Marine-organisms; Multidrug-resistance; Detoxification-; POHL-gene; Genes-; Sessile-species; Filter-feeders; Defence-mechanisms; Geodia-cydonium; Aphrocallistes-vastus; MED,-Croatia
ID: cDNA-
CL: Environmental-quality:-Public-health,-medicines,-dangerous-organisms-1524
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
OZ: Mediterranean (MED)
IC: CS0106738
AN: 4848233
UD: 200106

Record 65 of 101 - ASFA 1997-2001/09
TI: Sibling species in the marine pollution indicator genus Pontonema Leidy (Nematoda: Oncholaimidae), with a description of P. mediterranea sp. nov.
AU: Warwick,-R.M.; Robinson,-J.
AF: Centre for Coastal and Marine Sciences, Plymouth Marine Laboratory, Prospect Place, West Hoe, Plymouth PL1 3DH, UK; E-mail: r.warwick@pml.ac.uk
SO: Journal-of-Natural-History [J-Nat-Hist] 2000 vol. 34, no. 5, pp. 641-662
IS: ISSN 0022-2933

PY: 2000
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: Species of the marine nematode genus Pontonema have been found to dominate the macrobenthos under abnormally high conditions of particulate organic enrichment. Populations from organically enriched habitats in six localities (Kiel fjord, Germany; the Garroch Head sewage-sludge dump ground in the Firth of Clyde, Scotland; Cornelian Bay, N.E. England; the Tyne estuary, N.E. England; Sete, N.W. Mediterranean, France; Blanes Bay, N.W. Mediterranean, Spain) have been compared. Multivariate analyses of 16 morphometric characters in males, and 13 in females, shows that each population is significantly different morphologically from every other population. However, there is morphological overlap between the populations, and it is considered pragmatic to recognize three species in this group, based on a few stable morphological characters: P. vulgare from the Baltic, P. alaeospicula Bett and Moore 1988 from the UK sites, and P. mediterranea sp. nov. from the Mediterranean. P. mediterranea sp. nov. is described. The species were not found to have established sympatry in this study, unlike many other opportunistic taxa from organically enriched habitats, and the significance of this is discussed.
DE: Sibling-species; Pollution-indicators; Europe-; Marine-pollution; Bioindicators-; Morphology-; Habitat-; Species-diversity; Aquatic-organisms; Nematoda-; Pontonema-vulgare; Pontonema-alaeospicula; Pontonema-mediterranea; Taxonomy-; Animal-morphology; New-species; Pontonema-; Pontonema-mediterranea
CL: Invertebrate-biology:-Taxonomy-and-morphology-1243
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
IC: CS0107291
AN: 4776337
UD: 200106

Record 66 of 101 - ASFA 1997-2001/09
TI: Marine pollution by metals and their accumulation by biological indicators (accumulation factor).
AU: Majori,-L.; Petronio,-F.
AF: Univ. Trieste, Inst. Hyg. Trieste Italy
SO: Rev-Int-Oceanogr-Med-Cerbom 1973 no. 31-32, pp. 55-90
NT: records keyed from 1974 ASFA printed journals
PY: 1973
LA: English
LS: English; French
PT: J (Journal-Article)
ER: M (Marine)
AB: Mention is made of the present interest in environmental pollution by potentially toxic metals; especially in the marine environment these dissolved pollutants set serious hygiene problems when the close contact and their affinity, as regards marine organisms, are considered. The experimental study of the effects of metal pollution simulated in the lab, on sensitive biological subjects such as mussels, is useful not only in estimating the negative hygienic consequences on a wider scale, but also for example for purposes of pollution diagnosis by using the mussel as pollution indicator. This investigation can be aided by working out a suitable mathematical model of correlation between pollution and accumulation, for descriptive and predictive purposes. As regard the experimental procedure, the description of the analytical methods used in our institute for the measurement of metals in marine water and in biological tissue are described, as well as the methods of maintenance and simulated pollution of the mussels by heavy metals, added as soluble ions. The results,

obtained by using Cd super(++), Cu super(++), Pb super(++), Hg super(++) as soluble pollutants, confirm their accumulation by the mussel and specify the hygienic dangers for the mussel and man, as well as the characteristics of the mussel as an indicator of marine pollution. The simplified model of correlation between pollution and accumulation which was used, is very useful to quantify these important aspects.
CL: Aquatic-pollution:-Characteristics,-behavior-and-fate-1503
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: 1974
AN: 4842255
UD: 200103

Record 67 of 101 - ASFA 1997-2001/09
TI: Hydrography and plankton as indicators of marine resources.
AU: Subrahmanyan,-R.
AF: CMFRI Mandapam Camp India
CO: Symp. on Living Resources of the Seas around India, ,
SO: Proceedings-of-the-Symposium-on-Living-Resources-of-the-Seas-around-India,-Cochin,-December-1968 Cochin-India CMFRI 1973 pp. 199-228
NT: records keyed from 1974 ASFA printed journals
PY: 1973
LA: English
LS: English
PT: B (Book); K (Conference)
ER: M (Marine)
AB: Available data on the standing crop of phytoplankton and zooplankton are presented for the Indian region and hydrographical factors such as upwelling, divergence, convergence, currents, nutrients responsible for production of plankton, and distribution of plankton in time and space are dealt with. Role of southwest monsoon and the magnitude of the intense bloom of phytoplankton during this period are pointed out. The significance of the distribution of plankton to other organisms in the food chain including fish is indicated. An attempt is made to correlate the fisheries of the region with the above several factors and point out the potential resources and their location. The possibilities of using some of the factors as indicators of fishery resources are examined. Certain similarities in the hydrological features, production of plankton, its distribution and fisheries occurring here and elsewhere are reviewed. It is also suggested that the high production of plankton which is also rich in oil -a product of the photosynthesis of the diatoms which form the bulk of the synthesizers of the organic matter- is responsible for the rather extensive oil deposits in the past geological ages in the northern Arabian Sea region which we are exploiting now; this is a continuing process. It is also pointed out that the general pattern of circulation of water during the period of heavy bloom of plankton, viz., south-west monsoon in the Arabian Sea, is clockwise which is likely to lead to anticyclonic eddies on a large scale, particularly around Saurashtra coast which would have the effect of taking plankton to the bottom leading to gradual deposition of matter.
CL: Fishable-stocks:-Stock-assessment-and-management-1604
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
IC: 1974
AN: 4833232
UD: 200103

Record 68 of 101 - ASFA 1997-2001/09
TI: The FAO Guidelines for the devolopment and use of indicators for sustainable development of marine capture fisheries and an Australian example of their application.

AU: Garcia,-S.M.; Staples,-D.J.; Chesson,-J.
AF: United Nations Food and Agriculture Organization Viale delle Terme di Caracalla, 00100, Rome Italy
CA: International Counc. for the Exploration of the Sea Copenhagen (Denmark) Theme Sess. Sustainability Criteria
CO: Counc. Meet. of the Int. Counc. for the Exploration of the Sea, Stockholm (Sweden), 27 Sep-6 Oct 1999
SO: Copenhagen-Denmark ICES 1999 18 pp
NT: Physical Medium: CD
RN: ICES-CM-1999/P:5 (ICESCM1999P5)
PY: 1999
LA: English
LS: English
PT: B (Book); K (Conference)
ER: M (Marine)
AB: Guidelines for developing and implementing sustainability indicators for marine capture fisheries were drafted during a recent expert consultation jointly organized by Australia and FAO in Sydney (Australia). This paper provides an overview of the guidelines and illustrates their application with an Australian example. As a background to the guidelines, the concept of sustainable development (SD) for marine capture fisheries was discussed and an agreed set of definitions and usage of common terms developed. The guidelines then outline the five sequential steps that need to be addressed in developing a meaningful set of indicators in the context of a Sustainable Development Reference System (SDRS). The five steps are: 1. Specifying the scope of the SDRS 2. Developing a framework to agree on components within the system 3. Specifying criteria, objectives, potential indicators and reference values 4. Choosing the set of indicators and reference values 5. Specifying the method of aggregation and visualisation. These steps are further elaborated in terms of how to scope the SDRS, define the dimensions and hierarchical levels to be included in the system, set multiple objectives and link these to indicators and reference values (e.g. targets, thresholds and/or standards). The guidelines also provide some examples of possible indicators, criteria for selecting some indicators over others and present ways of aggregating and visualising the indicators so that progress towards achieving sustainable development can be communicated easily to decision makers.
DE: Potential-yield; International-cooperation; Catch-effort; Economic-feasibility; Biomass-; Spawning-populations; World-Oceans
ID: standards-
CL: Fishable-stocks:-Stock-assessment-and-management-1604
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
IC: BF0001729
AN: 4802505
UD: 200012

Record 69 of 101 - ASFA 1997-2001/09
TI: The FAO guidelines for the development and use of indicators for sustainable development of marine capture fisheries and an Australian example of their application
AU: Garcia,-S.M.; Staples,-D.J.; Chesson,-J.
AF: Fisheries Department, United Nations Food and Agriculture Organization, Viale delle Terme di, Caracalla, 00100 Rome, Italy; E-mail: serge.garcia@fao.org
SO: Ocean-and-Coastal-Management [Ocean-Coast-Manage] 2000 vol. 43, no. 7, pp. 537-556
IS: ISSN 0964-5691
PY: 2000
LA: English

LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: Guidelines for developing and implementing sustainability indicators for marine capture fisheries were drafted during a recent expert consultation jointly organised by Australia and FAO in Sydney (Australia). This paper provides an overview of the guidelines and illustrates their application with an Australian example. As a background to the guidelines, the concept of sustainable development (SD) for marine capture fisheries was discussed and an agreed set of definitions and usage of common terms developed. The guidelines then outline the five sequential steps that need to be addressed in developing a meaningful set of indicators in the context of a Sustainable Development Reference System (SDRS). The five steps are: 1. specifying the scope of the SDRS; 2. developing a framework to agree on components within the system; 3. specifying criteria, objectives, potential indicators and reference values; 4. choosing the set of indicators and reference values; 5. specifying the method of aggregation and visualisation. These steps are further elaborated in terms of how to scope the SDRS, define the dimensions and hierarchical levels to be included in the system, set multiple objectives and link these to indicators and reference values (e.g. targets, thresholds and/or standards). The guidelines also provide some examples of possible indicators, criteria for selecting some indicators over others and present ways of aggregating and visualising the indicators so that progress towards achieving sustainable development can be communicated easily to decision-makers.
DE: Potential-yield; Marine-fish; Fisheries-; Fishery-management; Australia-
ID: FAO-guidelines
CL: Fishable-stocks:-Stock-assessment-and-management-1604
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
IC: CS0015819
AN: 4749406
UD: 200012

Record 70 of 101 - ASFA 1997-2001/09
TI: Pandalid shrimp as indicators of marine ecological regime shift
AU: Anderson,-P.J.
AF: National Marine Fisheries Service, Alaska Fisheries Science Center, Kodiak Laboratory, P. O. Box 1638, Kodiak, AK 99615-1638, USA
CO: NAFO-ICES-PICES Symposium on Pandalid Shrimp Fisheries. "Science and Management at the Millenium", Halifax, Nova Scotia (Canada), September 8-10, 1999
SO: Journal-of-Shellfish-Research 2000 vol. 19, no. 1, p. 549
IS: ISSN 0730-8000
PY: 2000
LA: English
LS: English
PT: J (Journal-Article); K (Conference)
ER: M (Marine)
AB: Pandalid shrimp are central components of the cold-regime boreal marine ecosystem in the Gulf of Alaska. Declines in abundance of several Pandalid species occurred quickly following water column warming due to an abrupt climate change after 1977. Shrimp trawl surveys conducted from 1953-1999 are used to describe how shrimp composition in catches changed relative to environmental parameters. Proportion of shrimp in survey catches was found to be negatively correlated with water column temperature. Pandalid shrimp species which occupied inshore and typically shallower water declined to near functional extinction, while offshore and deep water shrimp species have maintained low population levels. Possible mechanisms responsible for the chronic decline of several taxa

of Pandalid shrimp and other crustaceans and replacement by other species are discussed. Abrupt climate change has an immediate effect on lower trophic levels of boreal marine ecosystems and rapid pandalid shrimp population changes are one of the first indicators that a community regime shift is underway.
DE: Stock-assessment; Shrimp-fisheries; Overfishing-; Indicator-species; Environmental-impact; Fishery-management; Fishery-surveys; Catch-statistics; Ecosystem-disturbance; Population-number; INE,-USA,-Alaska,-Alaska-Gulf
CL: Fishable-stocks:-Stock-assessment-and-management-1604
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
OZ: Pacific-Northeast (INE)
IC: CS0017439
AN: 4773074
UD: 200012

Record 71 of 101 - ASFA 1997-2001/09
TI: Characterization of a harbor seal class I major histocompatability complex cDNA clone
AU: Zhong,-J.F.; Harvey,-J.T.; Boothby,-J.T.
AF: Department of Biological Sciences, San Jose State University, San Jose, CA 95132, USA
SO: Immunogenetics 1998 vol. 48, no. 6, pp. 422-424
IS: ISSN 0093-7711
PY: 1998
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: Major histocompatibility complex (MHC) molecules are cell surface glycoproteins that bind foreign peptides such as viral proteins and provide the context for their recognition by T-lymphocytes, the cells responsible for cell-mediated immunity. Susceptibility to viral infections in wild animal populations may be determined by MHC. Wild harbor seal (Phoca vitulina) populations can be used as indicators of marine ecosystem health, yet little is known about their susceptibility to disease. Slade has suggested that marine mammals have limited MHC polymorphism due to diminished exposure to pathogenic selection pressure compared with terrestrial mammals. If this is true, marine mammals may be more susceptible to sporadic pathogen-induced mass mortality than their terrestrial counterparts. We describe here the first nucleotide sequence of an MHC class I gene in a harbor seal.
DE: Major-histocompatibility-complex; Immune-response-cell-mediated; Lymphocytes-T; Phoca-vitulina; Genes-; Nucleotide-sequence; Glycoproteins-; Immunology-; Phoca-vitulina
ID: cDNA-; Harbor-seal; histocompatability-complex-cDNA-clone
CL: Mammalogy:-Genetics-and-evolution-1375
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
IC: CS0011145
AN: 4698914
UD: 200009

Record 72 of 101 - ASFA 1997-2001/09
TI: Parasites as Pollution Indicators in Marine Ecosystems: a Proposed Early Warning System
AU: Mackenzie,-K.
AF: Department of Zoology, The University of Aberdeen, Tillydrone Avenue, Aberdeen, Scotland AB24 2TZ, UK
SO: Marine-Pollution-Bulletin [Mar-Pollut-Bull] 1999 vol. 38, no. 11, pp. 955-959

IS: ISSN 0025-326X
PY: 1999
LA: English
LS: English
PT: J (Journal-Article)
AB: There are good reasons for focusing on parasites in the search for indicators to monitor the effects of pollutants on marine organisms. Firstly, there are more parasitic than free-living species. Secondly, in parasites with complex life cycles, the different stages have widely differing requirements, so that each stage must be assessed separately, thereby greatly increasing the number of potential indicators. Thirdly, many parasites have delicate free-living transmission stages which are highly sensitive to environmental change. A reduction in their levels of infection will serve as an early warning that changes are occurring. Conversely, other parasites are highly resistant to environmental change and will respond by increased levels of infection. As a general rule, infections with endoparasitic helminths tend to decrease, while infections with ectoparasites tend to increase, with increasing levels of pollution.
DE: Bioindicators-; Water-Pollution; Marine-Environment; Parasites-; Warning-Systems; Marine-pollution; Pollution-effects; infection-; Pollution-indicators; Pollution-monitoring; Indicator-species; Developmental-stages; Ectoparasites-; Endoparasites-; Pollution-tolerance; Community-composition; Marine-ecosystems; Helminthes-
ID: marine-pollution
CL: Aquatic-pollution:-Effects-on-organisms-1504
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: CS0007117
AN: 4670464
UD: 200009

Record 73 of 101 - ASFA 1997-2001/09
TI: Concentrations of strontium in the pectoral fin rays of the white sturgeon (Acipenser transmontanus) by laser ablation sampling - inductively coupled plasma - mass spectrometry as an indicator of marine migrations
AU: Veinott,-G.; Northcote,-T.; Rosenau,-M.; Evans,-R.D.
AF: Department of Fisheries and Oceans, Environmental Sciences Division, Northwest Atlantic Fisheries Centre P.O. Box 5667, St. John's, NF A1C 5X1 Canada
SO: Can-J-Fish-Aquat-Sci; J-Can-Sci-Halieut-Aquat 1999 vol. 56, no. 11, pp. 1981-1990
IS: ISSN 0706-652X
PY: 1999
LA: English
LS: English; French
PT: J (Journal-Article)
ER: F (Freshwater); M (Marine); B (Brackish)
AB: Laser ablation sampling - inductively coupled plasma - mass spectrometry (LAS-ICP-MS) was an effective technique for the comparison of relative Sr concentrations in the opaque growth zones (annuli) in the fin rays of white sturgeon (Acipenser transmontanus). Three of 29 Fraser River white sturgeon (10.3% of the sample) showed significantly higher Sr fin ray concentrations in at least one annulus compared with the remainder of the fin ray, and this was interpreted as evidence of marine migrations. Eleven other individual fish had significantly higher mean Sr concentrations in their first 15 annuli compared with annuli 16-30 but lower than the concentrations of the three putative diadromous fish, and this was interpreted as evidence of time spent in the estuary. Eight Fraser River fish greater than 15 years old showed no significant increase in fin ray Sr concentrations in the first 15 annuli, and Sr

concentrations remained below 350 ppm throughout their lives. These individuals were considered likely to have spent most of their lives in a freshwater environment . Based on the evidence in this study, it is probable that the majority of white sturgeon in the lower Fraser River are not diadromous, but many spend extended periods of time in the Fraser River estuary as juveniles.
DE: Migrations-; Strontium-; Fin-ray-counts; Growth-rings; Acipenser-transmontanus; Canada,-British-Columbia,-Fraser-R.
CL: Autecology:-Migrations-and-rhythms-1421
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
IC: CA0000131
AN: 4725220
UD: 200006

Record 74 of 101 - ASFA 1997-2001/09
TI: Differential preservation of primary isotopic signatures in Silurian brachiopods from northern Europe
AU: Wenzel,-B.
AF: Institut fuer Geologie und Mineralogie, Universitaet Erlangen, Schlossgarten 5, 91054 Erlangen, Germany
SO: Journal-of-Sedimentary-Research-Section-A:-Sedimentary-Petrology-and-Processes [J-Sediment-Res-A-Sediment-Petrol-Process] 2000 vol. 70, no. 1, pp. 194-209
IS: ISSN 1073-130X
PY: 2000
LA: English
LS: English
PT: J (Journal-Article)
AB: Isotopic and geochemical compositions of Silurian calcitic brachiopod shells, carbonate host rocks, and calcite cements from two Northern European sites with different diagenetic histories are compared (Gotland, Sweden; Oslo Graben, Norway). The sequence exposed on Gotland is characterized by repeated synsedimentary subaerial exposure and meteoric influence but only insignificant thermal alteration during shallow burial diagenesis. In contrast, Silurian sediments exposed in the Oslo area show only few signs of early exposure but were severely affected by thermal alteration during burial of the succession. The preservation potential of brachiopod shells in each basin is different. Most nonluminescent brachiopods from Gotland show well-preserved microstructures and trace-element contents very similar to those of modern brachiopod shells. Tightly clustered isotope values of individual brachiopod populations do not suggest significant meteoric alteration of primary marine isotope signatures. In contrast, there is strong evidence that all brachiopod shells from the Oslo area contain diagenetically altered d super(18)O values. Alteration of Norwegian brachiopods is not always reflected in their trace-element contents and cathodoluminescence characteristics, but under SEM the shells often display corrosion and recrystallization. Scattered oxygen-isotope values in nonluminescent brachiopods (d super(18)O -18 to -5.5) together with low d super(18)O values (< -10) and unusual trace-element enrichments (Sr, Mn, Fe) of associated carbonate matrix samples and fracture-filling calcite cements can be related to contact metamorphism and infiltration of hydrothermal fluids during Permian time. Extensive fluid/rock exchange was facilitated by brittle deformation, as evidenced by numerous luminescent microfractures and macrofractures crosscutting brachiopod shells and surrounding sediments. The case study from the Oslo Graben demonstrates that high fluid/rock ratios and thermal overprinting during burial diagenesis may result in pervasive diagenetic alteration of d super(18)O values in nonluminescent brachiopod shells. This alteration can be detected by combined petrographic and geochemical investigations on brachiopod shells, diagenetic cements, and carbonate host

rocks. Brachiopods from deeply buried and hydrothermally altered sites should not be used for deciphering marine d super(18)O signals. However, the data presented here argue against a general rejection of lower Paleozoic brachiopods as indicators of marine isotope signatures.
DE: Animal-fossils; Silurian-; Isotopes-; Chemical-composition; Brachiopoda-; Europe-
ID: Bivalve-coelomates; Lamp-shells
CL: Biology:-Paleontology-1187; Geology-and-geophysics:-Paleontology-2273
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1); ASFA-2:-Ocean-Technology-Policy-and-Non-Living-Resources (Q2)
IC: CS0008663
AN: 4688693
UD: 200006

Record 75 of 101 - ASFA 1997-2001/09

TI: Horizontal distributions of biogenic and lithogenic elements of suspended particulate matter in the Mediterranean Sea
AU: Price,-N.B.; Brand,-T.; Pates,-J.M.; Mowbray,-S.; Theocharis,-A.; Civitarese,-G.; Miserocchi,-S.; Heussner,-S.; Lindsay,-F.
AF: Department of Geology and Geophysics, King's Buildings, West Mains Road, Edinburgh, EH16 5NS, UK
SO: Progress-in-Oceanography [Prog-Oceanogr] 1999 vol. 44, no. 1-3, pp. 191-218
IS: ISSN 0079-6611
PY: 1999
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: A study has been made of the distribution of terrigenous (Al and Mn sub(ex), Fe sub(ex)) and biogenic (POC, PN sub(tot), P sub(org), Si sub(bio), Ba sub(ex)) elements of suspended particulate matter (SPM) on a series of transects in three marginal areas of the Mediterranean Sea; the NW Mediterranean, the western Adriatic to the Strait of Otranto and the southern (Cretan) and northern Aegean Sea, with the intention of assessing the influence that river discharges have on their concentrations. In the Adriatic, high Al concentrations (60--200 mu g/l) occur as a consequence of direct discharge from the River Po but importantly from sediment resuspension the amount of which, under steady state conditions, is also related to riverine discharge. In the Otranto Strait high Al concentrations overlie its western shelf and slope. On the NW Mediterranean only waters influenced by the River Rhone, as off Banyuls-sur-Mer, show high Al. Particulate Mn is mostly river derived, but principally exists in marginal areas from redox cycling in surficial sediments, a consequence of high biological production induced by nutrient discharges from rivers. High particulate Mn sub(ex) concentrations were measured in the northern Adriatic, off Banyuls-sur-Mer and the northern Aegean, where there are strong river influences. In contrast, the more oligotrophic seawaters off Marseilles, the Balearics and the Cretan Sea show lower concentrations of Mn sub(ex), and depth profiles of Mn sub(ex) especially in the latter area are similar to those found in ocean waters. Of the biogenic elements studied, the assumed presence of terrigenous organic carbon, especially on the Adriatic shelf, largely precludes POC concentrations from being an indicator of marine production. A better guide to productivity induced by river nutrient discharges is seen in the distribution of P sub(org) and Si sub(bio) concentrations, which show a gradual southward reduction along the Adriatic shelf and higher concentrations off Banyuls-sur-Mer than on other transects in the NW Mediterranean. In the Cretan Sea the close association between Ba sub(ex) and Si sub(bio) rather than P sub(org) within

cyclonic eddies, where upwelling occurs, implies degradation of organic matter associated with diatom production causes barite to precipitate in the seawater.
DE: Provenance-; Suspended-particulate-matter; Particulate-organic-carbon; Particulate-organic-nitrogen; Silica-; Phosphorus-; Barium-; Manganese-; Aluminium-; Geochemistry-; Lithology-; Terrigenous-sediments; Biogenic-material; Nutrients-mineral; Marginal-seas; River-discharge; Biogeochemical-cycle; Biological-production; Primary-production; Biodegradation-; Organic-carbon; Chemical-precipitation; Chemical-oceanography; Ocean-circulation; Continental-shelves; MED-; MED,-Adriatic-Sea; MED,-Aegean-Sea; MED,-Crete-Sea; MED,-Eastern-Mediterranean,-Otranto-Strait; MED,-France,-Languedoc-Roussillon,-Banyuls-sur-Mer; Italy,-Po-R.; France,-Rhone-R.; MED,-Western-Mediterranean; MED,-Spain,-Balearic-Is.
ID: Oligotrophic-waters
CL: Chemistry-and-geochemistry:-Chemistry-of-suspended-matter-2186; Productivity,-ecosystems,-species-interactions:-Ecosystems-and-energetics--1482
JA: ASFA-2:-Ocean-Technology-Policy-and-Non-Living-Resources (Q2); ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
OZ: Mediterranean (MED)
IC: CS0004359
AN: 4653419
UD: 200003

Record 76 of 101 - ASFA 1997-2001/09
TI: Global distribution of the super(230)Th flux to ocean sediments constrained by GCM modelling
AU: Henderson,-G.M.; Heinze,-C.; Anderson,-R.F.; Winguth,-A.M.E.
AF: Lamont-Doherty Earth Observatory of Columbia University, Route 9W, palisades, NY 10964, USA
SO: Deep-Sea-Research-Part-1,-Oceanographic-Research-Papers [Deep-Sea-Res-1-Oceanogr-Res-Pap] 1999 vol. 46, no. 11, pp. 1861-1893
IS: ISSN 0967-0637
PY: 1999
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: We have introduced a simple particle field into an existing and well-documented ocean general circulation model. This enables us to investigate the advection and scavenging of particle-reactive species within the water column. As a first use of this model, we have assessed the advection and flux to sediment of super(230)Th, a nuclide with a well understood marine chemistry that exhibits extreme particle reactivity. The flux to sediment of this nuclide is of interest as it is widely assumed to be related only to water depth, and therefore to act as a constant-flux indicator for marine sediments. By assuming an average settling velocity for marine particles of 3 m/d, in good agreement with observational constraints the model generates a particle field close to that observed. Thorium-230 is scavenged onto this particle field reversibly according to Kd values constrained by observations and incorporating a particle-concentration effect. This scavenging gives a good fit to the 900 literature water-column measurements of super(230)Th suggesting that the model is advecting and removing super(230)Th realistically. An exception to this is the Weddell Sea, where the model has too little ice cover and too much lateral mixing, which prevents it from duplicating the observed high super(230)Th values. The model confirms that significant advection of super(230)Th occurs and duplicates the low super(230)Th values seen deep in the North Atlantic due to the advection of low- super(230)Th surface waters to depth. Model-derived maps of the super(230)Th flux to the sediment indicate that 70% of the ocean floor receives

a super(230)Th flux within 30% of that expected from production. In extremely non-productive regions, the flux can fall to as low as 0.4 times that expected for in situ scavenging, while highly productive regions have fluxes up to 1.6 times that expected. An additional model run using glacial circulation fields suggests that glacial super(230)Th fluxes are similar to those in the Holocene except in regions close to sea ice. This is particularly true of the North Atlantic, where appreciably more scavenging occurs in the glacial run due to advection of super(2320)Th from the ice-covered Arctic, and because of reduced North Atlantic Deep Water (NADW) formation. These ice-related effects mean that the area of ocean floor with super(230)Th fluxes within 30% of production falls to 60% for the glacial. The Holocene and Glacial flux maps allow an assessment of the accuracy of super(230)Th -derived sedimentation rates for existing and future studies.
DE: Sedimentation-; Thorium-isotopes; Radioisotopes-; Ocean-circulation; Particulates-; Particulate-flux; Settling-rate; Water-column; Adsorption-; Advection-; Palaeoceanography-; Tracers-
ID: Modelling-
CL: Geology-and-geophysics:-Methods-and-instruments-2262
JA: ASFA-2:-Ocean-Technology-Policy-and-Non-Living-Resources (Q2)
IC: CS0003513
AN: 4627158
UD: 200003

Record 77 of 101 - ASFA 1997-2001/09
TI: Sunlight inactivation of fecal bacteriophages and bacteria in sewage-polluted seawater
AU: Sinton,-L.W.; Finlay,-R.K.; Lynch,-Ph.A.
AF: Christchurch Science Centre, Institute of Environmental Science and Research Ltd., P.O. Box 29-181, Christchurch, New Zealand; E-mail: lester.sinton@esr.cri.nz
SO: Applied-and-Environmental-Microbiology [Appl-Environ-Microbiol] 1999 vol. 65, no. 8, pp. 3605-3613
IS: ISSN 0099-2240
PY: 1999
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: Sunlight inactivation rates of somatic coliphages, F-specific RNA bacteriophages (F-RNA phages), and fecal coliforms were compared in seven summer and three winter survival experiments. Experiments were conducted outdoors, using 300-liter 2% (vol/vol) sewage-seawater mixtures held in open-top chambers. Dark inactivation rates (k sub(D)s), measured from exponential survival curves in enclosed (control) chambers, were higher in summer (temperature range: 14 to 20 degree C) than in winter (temperature range: 8 to 10 degree C). Winter k sub(D)s were highest for fecal coliforms and lowest for F-RNA phages but were the same or similar for all three indicators in summer. Sunlight inactivation rates (k sub(S)), as a function of cumulative global solar radiation (insolation), were all higher than the k sub(D)s with a consistent k sub(S) ranking (from greatest to least) as follows: fecal coliforms, F-RNA phages, and somatic coliphages. Phage inactivation was exponential, but bacterial curves typically exhibited a shoulder. Phages from raw sewage exhibited k sub(S)s similar to those from waste stabilization pond effluent, but raw sewage fecal coliforms were inactivated faster than pond effluent fecal coliforms. In an experiment which included F-DNA phages and Bacteroides fragilis phages, the k sub(S) ranking (from greatest to least) was as follows: fecal coliforms, F-RNA phages, B. fragilis phages, F-DNA phages, and somatic coliphages. In a 2-day

experiment which included enterococci, the initial concentration ranking (from greatest to least: fecal coliforms, enterococci, F-RNA phages, and somatic coliphages) was reversed during sunlight exposure, with only the phages remaining detectable by the end of day 2. Inactivation rates under different optical filters decreased with the increase in spectral cutoff wavelength (50% light transmission) and indicated that F-RNA phages and fecal coliforms are more susceptible than somatic coliphages to longer solar wavelengths, which predominate in seawater. The consistently superior survival of somatic coliphages in our experiments suggests that they warrant further consideration as fecal, and possibly viral, indicators in marine waters.
DE: Seawater-; Sewage-; Fecal-coliforms; Viruses-; Water-pollution; Sea-water; RNA-phages; Light-effects; Sunlight-; Survival-; Pathogenic-bacteria; Sewage-disposal; Microbial-contamination; Pollution-indicators; Bacteria-; Wastewater-Pollution; Coliforms-; Bacteroides-fragilis; Enterococcus-
ID: Bacteria-; Viruses-
CL: Aquatic-pollution:-Characteristics,-behavior-and-fate-1503
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: CS9925025
AN: 4587959
UD: 200003

Record 78 of 101 - ASFA 1997-2001/09
TI: Study on the accumulation of heavy metals (Pb, Cd, Cu, Zn) in the bodies of invertebrates sampled from intertidal zones of Yantai sea area
AU: Zhuang,-Shuhong; Lui,-Xuemei; Li,-Hui
AF: Institute of Biology and Chemistry, Yantai University Yantai 264005 China, People's Rep
SO: Mar-Sci-Bull; Haiyang-Tongbao 1998 vol. 17, no. 2, pp. 42-50
IS: ISSN 1001-6392
PY: 1998
LA: Chinese
LS: Chinese; English
PT: J (Journal-Article)
ER: M (Marine)
AB: The accumulated heavy metal amounts of Ph, Cd, Cu and Zn have been monitored in the bodies of 12 invertebrates, which are Littorina brericula, Pycnodonta plicatula, Acanthochiton rubrolineatus, Acmaeidae spp. Mytilus edulis, Rignadula atrata, Ruditapes philippinensis, Argopecten irradians, Grapsidae spp. Crangon crangon, and Trachypenaeus currirortris, sampled from intertidal zones of the Yantai sea area with spectrophotometry of atomic absorption. The results indicate: the heavy metal amounts accumulated in the bodies of studied marine invertebrates rank as follows: Zn>Cu>Pb>Cd; The accumulating capacity of most benthic filter-feeding shell fish to heavy metal (Pb, Cd, Cu, Zn) exceeds that of nektonic species, Pycnodonta plicatula is one of the ideal entry-indicator marine creature for heavy metal pollution of Pb, Cd, Cu and Zn; Sensitive biological indicators for Pb among the 12 studied invertebrates are ranked, Ruditapes philippinensis>Pycnodonta plicatula>Acanthochiton rubrolineatus; Pycnodonta plicatula and Acmaeidae spp. can be taken as indicator for heavy metal Cd, Pycnodonta plicatula, Acanthochiton rubrolineatus show great capacity of concentrating of Cu, while Pycnodonta plicatula, Argopecten irradians, Mytilus edulis and Acanthochiton rubrolineatus of Zn.
DE: Indicator-species; Bioaccumulation-; Heavy-metals; Marine-pollution; Invertebrata-; INW,-China,-People'-s-Rep.,-Shandong-Prov.,-Yantai
ID: eulittoral-zone
CL: Invertebrate-biology:-Physiology,-biochemistry,-biophysics-1246
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)

OZ: Pacific-Northwest (INW)
IC: CH9900947
AN: 4644587
UD: 200003

Record 79 of 101 - ASFA 1997-2001/09
TI: Turritella attenuata (Kasinathan): As biological indicator of marine pollution - A trace metal analytical study
AU: Paulinose,-V.T.; Radhakrishnan,-M.V.; Hemalatha,-S.
AF: Department of Zoology, Annamalai University Annamalai Nagar 608 002 India
SO: Indian-J-Exp-Biol 1999 vol. 37, no. 11, pp. 1151-1153
IS: ISSN 0019-5189
PY: 1999
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: A study to monitor marine pollution with reference to trace elements (Fe, Zn, Mn and Cu) on Turritella attenuata, commonly called as screw shell over a period of one year on the whole body and various organs, viz. digestive diverticula, foot mantle and ovary was conducted from the sandy beach of Porto Novo Coast (Lat 11 degree 29'N Long: 79 degree 46'E) of Peninsular India using Atomic Absorption Spectrophotometer (AAS). Higher concentration of all the four trace metals analysed were recorded in the digestive diverticula, whereas lower concentration of zinc and manganese were recorded in the ovary during the monsoon period. The higher level of trace metal concentration in the monsoon period may be due to the presence of these pollutants in large amounts in water. The accumulation of selected trace metals varies in different seasons according to the extent of pollution load in the marine environment.
DE: Marine-pollution; Indicator-species; Trace-fossils; Turritella-attenuata; ISW,-India,-Tamil-Nadu,-Porto-Novo
ID: iron-; zinc-; manganese-; copper-; spectrophotometers-
CL: Aquatic-pollution:-Effects-on-organisms-1504; Malacology:-General-1261
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5); ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
OZ: Indian-Ocean (ISW)
IC: DP9900743
AN: 4643411
UD: 199912

Record 80 of 101 - ASFA 1997-2001/09
TI: Trace Metals in Lethrinus lentjan Fish from the Arabian Gulf (Ras Al-Khaimah, United Arab Emirates): Metal Accumulation in Kidney and Heart Tissues
AU: Al-Yousuf,-M.H.; El-Shahawi,-M.S.
AF: Dep. Chem., Fac. Sci. at Damiatta, Mansoura Univ., New Damiatta, Damiatta, Egypt
SO: Bulletin-of-Environmental-Contamination-and-Toxicology [Bull-Environ-Contam-Toxicol] 1999 vol. 62, no. 3, pp. 293-300
IS: ISSN 0007-4861
PY: 1999
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: The Arabian Gulf is set in an extremely and region of the world where the circular pattern of the water is counter-clockwise and it 2-4 years to turnover. Thus, in the present communication, the levels of the nonessential elements Pb

and Cd in the kidney and heart tissues of Lethrinus lentjan fish was examined after the long term environmental effects of the 1991 Gulf War to determine whether these levels constitute a health hazard to consumers. The contents of these elements in marine fishes are often used as indicators of marine pollutants in addition to monitor the source points and site of dumping I ground (Kendrick et al. 1992).
DE: Metals-; Trace-metals; Bioaccumulation-; Kidney-; Heart-; Arabian-Gulf; Fish-; Kidneys-; Tissue-Analysis; Oil-Spills; Water-Circulation; Water-Pollution-Effects; Wastewater-Pollution; Cardiovascular-system; Tissues-; Lead-; Cadmium-; Pisces-; Marine-pollution; Pollution-monitoring; Lethrinus-lentjan; Pollution-effects; Oil-pollution; Military-operations; Lethrinus-lentjan; ISW,-United-Arab-Emirates
ID: heart-
CL: Aquatic-pollution:-Effects-on-organisms-1504
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
OZ: Indian-Ocean (ISW)
IC: CS9919559
AN: 4502415
UD: 199912

Record 81 of 101 - ASFA 1997-2001/09
TI: Plankton are the key to climate change: New towed body system enhances 65-year dataset
AU: Rawlinson,-M.B.; Mills,-D.K.
AF: Centre for Environment, Fisheries and Aquaculture Science (CEFAS) Lowestoft Laboratory, UK
SO: International-Ocean-Systems-Design [Int-Ocean-Syst-Des] 1998 vol. 2, no. 6, pp. 4-9
IS: ISSN 1460-4892
PY: 1998
LA: English
PT: J (Journal-Article)
ER: M (Marine)
AB: The Continuous Plankton Recorder (CPR) survey programme has provided a singular, 65-year data set identifying the distribution of plankton in European regional seas and the North Atlantic. Operating on an ocean basin scale for more than 60 years (Ref.1) it is a yardstick against which changes in the planktonic ecosystem can be assessed (Ref.2). As a sensitive indicator of marine environmental change, observations showing the evidence of a climate-induced response in surface marine plant communities have recently been published for the first time (Ref.3).
DE: Plankton-surveys; Climatic-changes; Environmental-monitoring; Indicator-species; Phytoplankton-; ANE,-North-Atlantic
CL: Aquatic-communities:-Plankton-1461; Marine-meteorology-and-climatology:-Observations-and-measurements-at-sea--2242
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1); ASFA-2:-Ocean-Technology-Policy-and-Non-Living-Resources (Q2)
OZ: Atlantic-Northeast (ANE)
IC: CS9916840
AN: 4548854
UD: 199909

Record 82 of 101 - ASFA 1997-2001/09
TI: Chemistry of rainwater in the Massif Central (France): a strontium isotope and major element study
AU: Negrel,-P.; Roy,-S.

AF: BRGM Service Geologique National, Avenue C. Guillemin, BP 6009, 45060 Orleans Cedex 2, France
SO: Applied-Geochemistry [Appl-Geochem] 1998 vol. 13, no. 8, pp. 941-952
IS: ISSN 0883-2927
PY: 1998
LA: English
LS: English
PT: J (Journal-Article)
ER: F (Freshwater)
AB: Atmospheric aerosols (sea salt, crustal dust, and biogenic aerosols) are the primary source of dissolved species in rainwater as well as one of the sources of dissolved species in river water. Chemical weathering studies require quantification of this atmospheric input. The crustal component of atmospheric input can have various origins, both distant and local. The proportions of the various inputs (marine, distant or local) are determined in this study. Strontium isotope ratios and Ca, Na, K, Mg, Al, Cl, SO sub(4), NO sub(3) and Sr concentrations were measured in rainwater samples collected in the Massif Central (France) over a period of one year. Each sample, collected automatically, represents a monthly series of rain events. Chemical composition of the rainwater samples varied considerably and the super(87)Sr/ super(86)Sr ratios ranged between 0.709198 and 0.713143. Using Na as an indicator of marine origin, and Al for the crustal input in rain samples, the proportion of marine and crustal elements was estimated from elemental ratios. A marine origin of 4 to 100% of Cl, of 0.6 to 20% of the SO sub(4), of < 1 to 10% of Ca, < 1 to 40% of K, 4 to 100% of Mg and 1 to 44% of Sr was determined. Strontium isotopes were used to characterize the crustal sources. The super(87)Sr/ super(86)Sr ratios of the crustal sources varied considerably from 0.7092 to 0.71625 and indicate the occurrence of multiple sources for the crustal component in the analysed rainwaters.
DE: France,-Massif-Central; Rain-; Chemistry-of-Precipitation; Weathering-; Atmosphere-; Strontium-Radioisotopes; Water-Sampling; Chemical-Composition; Water-analysis; Strontium-; Radioisotopes-; Atmospheric-chemistry; Geochemistry-; Rainfall-; Strontium-isotopes; France,-Massif-Central
CL: Chemistry-and-geochemistry:-Composition-of-water-2184
JA: ASFA-2:-Ocean-Technology-Policy-and-Non-Living-Resources (Q2)
IC: CS9915472
AN: 4469054
UD: 199909

Record 83 of 101 - ASFA 1997-2001/09
TI: The origin and paleoecologic significance of the trace fossil Asteriacites in the Pennsylvanian of Kansas and Missouri
AU: Mangano,-M.G.; Buatois,-L.A.; West,-R.R.; Maples,-C.G.
AF: INSUGEO, Universidad Nacional de Tucuman, Casilla de correo 1, Correo central, 4000 San Miguel de Tucuman, Argentina; E-mail: rrwest@ksu.edu
SO: Lethaia 1999 vol. 32, no. 1
IS: ISSN 0024-1164
PY: 1999
LA: English
LS: English
PT: J (Journal-Article)
ER: B (Brackish); M (Marine)
AB: The trace fossil Asteriacites, recorded in Cambrian to Recent shallow- and deep-marine facies, is traditionally interpreted as the resting trace of asterozoans. Well-preserved specimens of A. lumbricalis are abundant in Pennsylvanian (Upper Carboniferous) shallow- and marginal-marine siliciclastic deposits of eastern Kansas and western Missouri. Detailed morphologic analysis

of these specimens suggests that they record the activities of mobile epifaunal ophiuroids. Evidence of a brittle star (ophiuroid) producer rather than sea star (asteroid) is provided by (1) trace-fossil morphologic features reflecting the anatomy of the producer (e.g., well-differentiated central structure, slender vermiform arms) and ophiuroid burrowing technique (e.g., proximal arm expansion, arm branching), and (2) mode of occurrence (e.g., gregarious behavior, horizontal and vertical repetition). Vertical and horizontal repetition produces complex aggregates of A. lumbricalis that are interpreted either as escape structures (fugichnia) or as feeding structures, respectively. Ophiura texturata is proposed as a modern analogue for the A. lumbricalis producer, based on inferred life habit and feeding behavior. Asteriacites lumbricalis is present in two different intertidal trace-fossil assemblages. The first assemblage is characterized by high diversity and records tidal flats developed outside of embayments under normal marine conditions. The second assemblage consists of A. lumbricalis together with a few other ichnotaxa and represents a depauperate association that developed in restricted tidal flats within an embayment or estuarine setting. This challenges the conventional view of Asteriacites as a normal-marine salinity indicator. Some echinoderms, and particularly asterozoans, penetrate and inhabit modern environments of depressed salinity. The presence of Asteriacites in Pennsylvanian marginal-marine facies of Kansas and Missouri provides evidence that ophiuroids had adapted to brackish-water conditions by the late Paleozoic.
DE: Intertidal-environment; Palaeoecology-; Brackish-water; Carboniferous-; Trace-fossils; Ophiuroidea-; Asteriacites-lumbricalis; USA,-Kansas; USA,-Missouri
ID: Basket-stars; Brittlestars-; Snake-stars
CL: Biology:-Paleontology-1187
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
IC: CS9913110
AN: 4547503
UD: 199909

Record 84 of 101 - ASFA 1997-2001/09
TI: Distribution of indicator bacteria and bacteriophages in shellfish and shellfish-growing waters
AU: Legnani,-P.; Leoni,-E.; Lev,-D.; Rossi,-R.; Villa,-G.C.; Bisbini,-P.
AF: Dipartimento di Medicina e Sanita Pubblica, Universita di Bologna, Via S.Giacomo, 12 40126 Bologna, Italy; E-mail: eleoni@kaiser.alma.unibo.it
SO: Journal-of-Applied-Microbiology [J-Appl-Microbiol] 1998 vol. 85, no. 5, pp. 790-798
IS: ISSN 1364-5072
PY: 1998
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine); B (Brackish); F (Freshwater)
AB: Shellfish (mussels and clams) and shellfish-growing waters were examined for indicator bacteria according to the EC regulations, Salmonella spp., coliphages and anti-Salmonella phages. Samples were collected both from natural-growing areas along the Rimini coast and from authorized shellfish-harvesting beds. The coastal area was affected by organic pollution and extensive faecal contamination and, according to the legal requirements, was unsuitable for shellfish farming. The shellfish collected along the coast also showed faecal contamination at levels which did not conform to legal standards. No significant differences were observed between the frequency of isolation of somatic coliphages and indicator bacteria from sea water. In contrast, both the authorized and wild coastal shellfish were contaminated by coliphages at a

significantly higher level than the corresponding bacterial indicators for faecal contamination (chi super(2) test, P < 0.01). Coliphage concentrations were significantly correlated with faecal indicators in marine waters (P < 0.001) and sediments (P < 0.05), but no correlation was found in shellfish, thus showing their low specificity as indicators of faecal pollution of human origin in shellfish of economic importance.
DE: Microbial-contamination; Microbiological-analysis; Mussel-culture; Clam-culture; Indicator-species; Pathogenic-bacteria; Pollution-indicators; Coastal-waters; Fecal-microflora; Phages-; Seafood-; Salmonella-; Mollusca-; MED,-Italy
CL: Aquaculture:-Diseases-of-cultured-organisms-1587
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1); ASFA-Aquaculture-Abstracts (Q3)
OZ: Mediterranean (MED)
IC: CS9906841
AN: 4469813
UD: 199909

Record 85 of 101 - ASFA 1997-2001/09
TI: The development of marine indicators for coastal zone management
AU: Vandermeulen,-H.
AF: Department of Fisheries and Oceans, Environmental Science Branch, 200 Kent St., Ottawa, Ontario, K1A 0E6, Canada
SO: Ocean-and-Coastal-Management [Ocean-Coast-Manage] 1998 vol. 39, no. 1-2, pp. 63-71
IS: ISSN 0964-5691
NT: Special issue: Integrated management and sustainable development in coastal zones.
PY: 1998
LA: English
LS: English
PT: J (Journal-Article)
AB: An indicator is essentially a statistic based upon a time trend data set which is relevant to a particular issue of concern. The "added value" of an indicator over a raw data set is that the indicator is presented in a way which represents the broader significance or implications of the data. Indicators tell a story. Indicators could be a useful tool within coastal zone management for purposes of communication and decision making. The National Marine Indicators Working Group has been tasked with developing indicators of marine ecosystem health and sustainable resource use in Canada. The methods, criteria and categories used by the Working Group as a part of Canada's national set of environmental indicators are presented. A list of marine indicators is outlined along with an example (Pacific herring fishery).
DE: Coastal-zone-management; Government-policy; International-cooperation; Resource-development; Environmental-protection; Indicators-; Marine-fisheries; Canada-; Marine-Environment; Decision-Making; Ecosystems-; Resources-Management
CL: Law,-policy,-economics-and-social-sciences:-Coastal-zone-management-2124
JA: ASFA-2:-Ocean-Technology-Policy-and-Non-Living-Resources (Q2)
IC: CS9905387
AN: 4445820
UD: 199903

Record 86 of 101 - ASFA 1997-2001/09
TI: Balanus eburneus Gould, 1841 (Cirripedia: Balanomorpha) larvae as marine biofouling indicator
OT: Larvas de Balanus eburneus Gould, 1841 (Cirripedia: Balanomorpha) como indicador de las incrustaciones marinas
AU: Martinez-Daranas,-B.

AF: Inst. Oceanologia, La Habana, Cuba
SO: Rev-Invest-Mar 1997 vol. 18, no. 1, pp. 41-43
IS: ISSN 0252-1962
PY: 1997
LA: Spanish
LS: English; Spanish
PT: J (Journal-Article)
ER: M (Marine)
AB: Eight plankton samples were realized at the intake of the Power Station Carlos Manuel de Cespedes channel located at Cienfuegos Bay, with the aim of determine if the density of Balanus eburneus larvae is a useful tool for predicting marine biofouling levels. It was concluded that this is not a good indicator because of the need for a very high sampling effort.
DE: Fouling-organisms; Fouling-control; Crustacean-larvae; Indicator-species; Power-plants; Bays-; Balanus-eburneus; Balanomorpha-; Cirripedia-; ASW,-Caribbean-Sea,-Greater-Antilles,-Cuba,-Cienfuegos-Bay
ID: Barnacles-; Analytical-techniques
CL: Fouling-and-boring:-Biology-of-fouling-and-boring-organisms-1541; Marine-technology:-Materials-technology,-corrosion,-fouling-and-boring-2282
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1); ASFA-2:-Ocean-Technology-Policy-and-Non-Living-Resources (Q2)
OZ: Atlantic-Southwest (ASW)
IC: MX9800365
AN: 4413227
UD: 199903

Record 87 of 101 - ASFA 1997-2001/09
TI: Bioconcentration of Eight Metals By the Mussel Mytilus edulis in Boston Harbor
AU: Staffier,-M.
AF: University Of Lowell
SO: Diss.-Abst.-Int.-Pt.-B-Sci.-and-Eng. 1997 vol. 58, no. 3, p. 1260
NT: Thesis publ. date: 1997, 417pp. Source UMI, 300 N Zeeb Rd, POB 1346, Ann Arbor, MI 48106, USA (800.521.0600) or www.umi.com/hp/Products/Dissertations.html.
RN: AAT 9726276 (9726276)
PY: 1997
LA: English
LS: English
PT: B (Book); U (Thesis-or-Dissertation)
ER: M (Marine)
AB: The purpose of this study was to develop a mathematical model which relates the rate of bioconcentration of metals by the mussel Mytilus edulis with the concentration of labile metal in the surrounding seawater. It has been shown by Robinson and Ryan (1988) that not only is the mussel Mytilus edulis a qualitative indicator of marine pollution but, can also be used as a quantitative tool to estimate a particular contaminants seawater concentration. This can be done by examining the relationship between rate of accumulation and seawater concentration for a particular species. Studies such as the one done by Ritz et al. (1982) in which groups of Mytilus edulis were exposed to various concentrations of metals for a certain length of time, showed that the relationship between the rate of metal bioconcentration and metal seawater concentration was linear. Therefore by using the equation of the line it is possible to determine a particular metal's average seawater concentration by simply determining its rate of bioconcentration. A metal's rate of bioconcentration at a particular site can be determined by conducting a mussel transplant study. These studies involve transplanting groups of mussels taken

from a clean site to a polluted site. By using literature derived bioaccumulation equations, a particular metal's average seawater concentration can then be determined. In this study the mathematical relationships described above will be tested by conducting field studies involving transplanted mussels.
DE: Bioaccumulation-; Heavy-metals; Animal-physiology; Indicator-species; Mytilus-edulis; ANW,-USA,-Massachusetts,-Boston-Harbor
ID: Mathematical-models; Edible-blue-mussel
CL: Aquatic-pollution:-Effects-on-organisms-1504; Malacology:-Physiology,-biochemistry,-biophysics-1266
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5); ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
OZ: Atlantic-Northwest (ANW)
IC: NO9800390
AN: 4241691
UD: 199812

Record 88 of 101 - ASFA 1997-2001/09
TI: Problems of ecology and protection of marine mammals upon commercial utilization of the Barents Sea natural resources
OT: Problemy ehkologii i okhrany morskikh mlekopitayushchikh v usloviyakh osvoeniya prirodnykh resursov Barentseva morya
AU: Mishin,-V.L.
AF: Murmanskij Morskoj Biologicheskij Institut Kol'skogo nauchnogo tsentra RAN, Moscow, Russia
SO: Ehkologiya 1998 no. 2, pp. 139-142
IS: ISSN 0367-0597
PY: 1998
LA: Russian
LS: Russian; English
PT: J (Journal-Article)
ER: M (Marine)
AB: Present and possible future effect of commercial activity upon the Barents Sea (Russia) marine mammals is discussed. In some cases whales and pinnipeds can serve as indicators of marine environment conditions. The group of principle anthropogenic stress factors with negative effect upon marine animals is determined.
DE: Anthropogenic-factors; Marine-mammals; Environmental-protection; Marine-ecology; Indicator-species; Environmental-monitoring; PNE,-Barents-Sea
CL: Mammalogy:-General-1371; Autecology:-Environmental-effects-1422; Environmental-quality:-Mechanical-and-natural-changes-1521
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1); ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
OZ: Polar-Arctic-Eastward (PNE)
IC: VN9800146
AN: 4401733
UD: 199812

Record 89 of 101 - ASFA 1997-2001/09
TI: Foraminifera and deep-sea research
AU: Phleger,-F.B.
SO: Deep-Sea-Res. 1954 vol. 2, no. 1, pp. 1-23
IS: ISSN 0146-6313
PY: 1954
LA: English
PT: J (Journal-Article)
ER: M (Marine)

AB: The Foraminifera have been of considerable value in study of certain problems of the deep sea. Sequences of planktonic species in deep-sea cores have been used to interpret stratigraphic sequences, for correlation, and to indicate possible marine conditions during glacial and interglacial times. These forms also have been used as indicators of marine water-masses, both in the modern ocean and in ancient seas. Benthonic species, used as tracers of sediment displaced from shallower into deeper water, have given considerable insight into deep-sea sedimentation. It is the purpose of this paper to summarize briefly our knowledge of the uses of Foraminifera in these and related problems, and generally attempt to evaluate the status of this phase of deep-sea research. There is no attempt to make this a complete discussion of the subject; references are cited to illustrate the topics of discussion, and any omissions are not intended to imply criticisms of such work.
DE: Marine-organisms; Deep-water; Marine-environment; Fossil-Foraminifera; Sediment-samples; Cores-; Palaeoceanography-
CL: Biology:-Paleontology-1187; Descriptive-oceanography-and-limnology:-Paleo-studies-2148
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1); ASFA-2:-Ocean-Technology-Policy-and-Non-Living-Resources (Q2)
IC: CS9806252
AN: 4262392
UD: 199809

Record 90 of 101 - ASFA 1997-2001/09
TI: Stress indicators in marine decapod crustaceans, with particular reference to the grading of western rock lobsters (Panulirus cygnus) during commercial handling
AU: Paterson,-B.D.; Spanoghe,-P.T.
AF: Centre for Food Technology, Queensland Department of Primary Industries, 19 Hercules St, Hamilton, Qld 4007, Australia
CO: 5. Int. Conf. and Workshop on Lobster Biology and Management, Queenstown (New Zealand), 10-14 Feb 1997
SO: Marine-and-Freshwater-Research 1997 vol. 48, no. 8, pp. 829-834
IS: ISSN 1323-1650
PY: 1997
LA: English
LS: English
PT: J (Journal-Article); K (Conference)
AB: Good transport survival of western rock lobsters (Panulirus cygnus) is ensured by rigorous selection of healthy lobsters prior to packaging for transport. The rejects are attributed to stress during harvesting and handling. A major stressor, of variable severity throughout the fishery, is the storage and transport of the lobsters out of water with accompanying effects of temperature, disturbance and tail-flipping exercise on metabolic rate. Pointers to apparent fatigue or injury in weak lobsters may be found in lobster haemolymph. Published literature suggests a number of parameters that might prove to be predictors of mortality in P. cygnus, but these will have to be examined in detailed physiological studies. Information is also required from tissue metabolism and pathology to complete the picture. If the symptoms are the result of previous stress, then one obvious approach is to sample rock lobsters at key points along the harvesting and handling process, in conjunction with sampling of normal or 'baseline' lobsters and laboratory stress trials. Practical stress indicators, once identified, can be used both to test existing screening methods and in studies aimed at changing handling practices to reduce stress.
DE: Live-storage; Transportation-; Biological-stress; Mortality-causes; Commercial-species; Fishery-products; Haemolymph-; Panulirus-cygnus

CL: Marketing-and-economics-of-aquatic-products:-Storage,-transport-and-packing-1642
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
IC: CS9811401
AN: 4297471
UD: 199809

Record 91 of 101 - ASFA 1997-2001/09
TI: Effects of anthropogenic factors on genetic diversity in the marine bivalve Crassostrea gigas: search for genetic markers
AU: Moraga,-D.; Tanguy,-A.
AF: UMR CNRS 6539, Biologie Marine, Institut Universitaire Europeen de la Mer, Universite de Bretagne Occidentale, 6 avenue le Gorgeu, BP809, 29285 Brest cedex, France
CO: Biodiversity in dispersive environments, MNHN, Paris (France), 18-20 Nov 1996
SO: Biodiversity-in-dispersive-environments.-Congress-of-the-French-Marine-Network.-BIODIVERSITE-EN-MILIEU-DISPERSIF.-COLLOQUE-RESULTATS-PROSPECTIVE-DU-RESEAU-DIVERSITE-MARINE. Feral,-J.P.-eds.;Boucher,-G.-eds. Banyuls-sur-Mer-France Laboratoire-Arago 1997 vol. 47, no. 4 pp. 355-365
IS: ISSN 0240-8759
ST: Vie-Milieu vol. 47, no. 4
PY: 1997
LA: English
LS: French
PT: B (Book); K (Conference)
ER: M (Marine)
AB: The effects of various pollutants including heavy metals, pesticides and organic contaminant on the genetic structure of the marine bivalve Crassostrea gigas were studied as part of an environmental biomonitoring project. This research was carried out on two natural oyster populations from the French Atlantic coast. Results indicate a differential survival of allozyme genotypes for the populations which depends on the pollutant tested. The sensitivity of allozymes to environmental stress through differential mortality reflects the adaptive nature of the surviving individuals. Moreover, it supports the hypothesis that allozymes could be used as genetic indicators in marine bivalves. Our results revealed that the six studied enzyme loci (Aat-2, Ak, Pgdh, Cap-], Pgi and Pgm) involved in the physiological processes were affected by the pollutants and can therefore be considered as potential genetic indicators.
DE: Pesticides-; Heavy-metals; Organic-compounds; Genes-; Bivalvia-; Crassostrea-gigas; ANE,-France,-Brittany,-Brest-Roadsted; ANE,-France,-Arcachon-Bay
ID: enzymes-; genetic-marker
CL: Malacology:-Genetics-and-evolution-1265
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
OZ: Atlantic-Northeast (ANE)
IC: IF9800362
AN: 4245216
UD: 9803

Record 92 of 101 - ASFA 1997-2001/09
TI: The sister chromatid exchange test as an indicator of marine pollution: Some factors affecting SCE frequencies in Mytilus galloprovincialison, with bioenergetic considerations
AU: Pasantes,-J.J.; Martinez-Exposito,-M.J.; Torreiro,-A.; Mendez,-J.

AF: Dpto Bioloxia Fundamental, Xenetica, Universidade de Vigo, E-36200 Vigo, Spain
SO: Mar.-Ecol.-Prog.-Ser. 1996 vol. 143, no. 1-3, pp. 113-119
IS: ISSN 0171-8630
PY: 1996
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: The sister chromatid exchange (SCE) test is a widely used method to detect chemically induced genetic damage. This method has been applied in some aquatic species to monitor genetic pollutants in estuarine and marine environments. Dose response to 5-bromodeoxyuridine (BrdU) was investigated in the mussel Mytilus galloprovincialis.Experimental assays were carried out by incorporating 4, 10, 20 and 40 mu g/ml BrdU in asynchronously growing mussel gill cell populations. SCE frequency was dose dependent both for mussel cells labelled with BrdU for a first round of replication followed by a second round without BrdU (24+36 h), and for mussel cells labelled with BrdU for 2 consecutive rounds of replication (60 h). For every dose assayed, significant differences in SCE frequencies were also found between these 2 kinds of BrdU treatments. The relationship between the duration of the BrdU treatment and the frequency of SCEs was also investigated in M. galloprovincialis. We tested the effect ofin vivo rdU incorporation for either the first cell cycle, or the first and second cell cycles in mussel gill cells. This paper shows that SCE frequencies remain constant for the different BrdU exposures (12+36, 12+48, 24+24, 24+36 and 36+24 h) assayed to obtain first cell cycle labelling, but a striking increase was noted in BrdU treatments (48, 60, 72, 84 and 96 h) for 2 consecutive cycles of labelling. A monthly study of SCE frequencies occurring in 2 natural populations from NW Spain was also performed during 1993. Significant differences in the frequency of SCE were detected both between populations and among months in the mussel populations. In most of the cases, noticeable interindividual variations in SCE frequencies were detected in mussels exposed to the same BrdU conditions.
DE: biological-damage; gills-
CL: Aquatic-pollution:-Effects-on-organisms-1504
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: BF9701727
AN: 4213809
UD: 9712

Record 93 of 101 - ASFA 1997-2001/09
TI: Canada's national set of environmental indicators: The marine component
AU: Vandermeulen,-H.
AF: Environ. Canada, Indicators and Assessment Office, Ottawa, ON, Canada
CO: ECO-INFORMA '96. Global Networks for Environmental Information, Lake Buena Vista, FL (USA), 4-7 May 1996
SO: PROCEEDINGS-OF-ECO-INFORMA-'-96.-GLOBAL-NETWORKS-FOR-ENVIRONMENTAL-INFORMATION. P.O.-BOX-134001,-ANN-ARBOR,-MI-48113-4001-USA ENVIRONMENTAL-RESEARCH-INSTITUTE-OF-MICHIGAN-ERIM 1996 vol. 10, pp. 277-282
IS: ISBN 0-9603590-5-2
PY: 1996
LA: English
LS: English
PT: B (Book); K (Conference)
AB: An indicator is essentially a statistic based upon a time trend data set which is relevant to a particular issue of concern. Considerable effort is expended to select an appropriate time trend data set and additional calculations are frequently required. The "added value" of an indicator over a

raw data set is that the indicator is presented in a way which represents the broader significance or implications of the data. Indicators tell a story. The National Marine Indicators Working Group is composed of Canadian federal science and research staff. The Group has been tasked with developing indicators of marine ecosystem health and sustainable resource use. The indicators will comprise the marine component of Canada's national set of environmental indicators. The national set is being presented as a series of indicators through the medium of indicator bulletins. The bulletins are produced for a general and policy level audience.
DE: marine-environment; ecosystems-; Canada-; sustainable-development; bioindicators-; statistical-analysis; decision-making; pollution-indicators; environmental-monitoring; resource-development; environmental-impact; ecosystem-disturbance; Canada-
CL: Aquatic-pollution:-General-1501
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: CS9718970
AN: 4105218
UD: 9712

Record 94 of 101 - ASFA 1997-2001/09
TI: The leucogram as an indicator of marine-cultured rainbow trout, Oncorhynchus mykiss (Walbaum), health in The Netherlands
AU: Peutz,-I.L.J.A.; Oorschot,-R.W.A.; Johnson,-G.R.; Horney,-B.S.; Boon,-J.H.
AF: Dep. Fish Culture and Fish., Wageningen Agric. Univ., PO Box 338, 6700 AH Wageningen, The Netherlands
SO: AQUACULT.-RES. 1996 vol. 27, no. 6, pp. 437-445
IS: ISSN 1355-557X
PY: 1996
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: During a longitudinal survey from June until October 1987 cytological blood parameters of smoltified marine cultured rainbow trout, Oncorhynchus mykiss (Walbaum), were monitored. In this period, the trout were exposed to environmental stress resulting in summer mortality. The statistical analyses showed that the observed summer mortality was preceeded by a shift in the relative abundance of different peripheral white blood cells (PWBCs), from lymphocytic to extremely granulocytic, which was mainly attributed to mature granulocytes. It was concluded that changes in relative abundance of PWBCs can predict health disturbances in marine-cultured rainbow trout.
DE: haematology-; blood-; condition-factor; fish-culture; Oncorhynchus-mykiss; Netherlands-
ID: leucogram-
CL: Aquaculture:-Fish-culture-1582
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1); ASFA-Aquaculture-Abstracts (Q3)
IC: CS9719570
AN: 4108374
UD: 9712

Record 95 of 101 - ASFA 1997-2001/09
TI: Late-glacial and Early Holocene sea-level fluctuations in the central Puget Lowland, Washington, inferred from lake sediments
AU: Anundsen,-K.; Abella,-S.; Leopold,-E.; Stuiver,-M.; Turner,-S.
AF: Dep. Geol., Univ. Bergen, N-5007 Bergen, Norway
SO: QUATERNARY-RES. 1994 vol. 42, no. 2, pp. 149-161

IS: ISSN 0033-5894
PY: 1994
LA: English
LS: English
PT: J (Journal-Article)
ER: F (Freshwater)
AB: Analyses of sediments, diatoms, and pollen in a 12.65-m-long sediment core taken from Lake Carpenter in the central Puget Lowland, Washington, provide detailed information regarding the history of deglaciation and late-glacial/early Holocene sea-level changes. The lake outlet, now 8.2 m above sea level, has been lowered 1-1.5 m by postglacial erosion. The lithology and pollen record suggest that no lengthy hiatuses in sedimentation have occurred. The basal sediments are glacialmarine and contain shell fragments and brackish/marine diatoms. Freshwater sediments above the basal section are interrupted only by a short section containing few fossils, most of which are brackish to marine indicators and by the Mazama tephra at 9.5 m. The pollen record in the basal 4 m reveals a Pinus zone (ca. 13,850-11,000 yr B.P.) with a brief peak of Picea at ca. 13,700 yr B.P., and an Alnus/Pseudostuga zone (ca. 11,000-6500 yr B.P.). The chronology is based on nine radiocarbon ages. A relative lowering of sea level below the 9.5-m threshold is recorded in the core at 12.41 m and dates 13,850 to 13,700 yr B.P. A marine episode occurred about 13,600 yr B.P., implying that relative sea-level temporarily rose above 9.5 m. No subsequent transgressions above the 9.5-m level have been recorded. Comparison of six radiocarbon dates greater than or equal to 13,600 yr B.P. suggest that the marine reservoir correction of 760 yr currently used for this area may be too high for this time period.
DE: USA,-Washington; Holocene-; lake-deposits; sea-level-changes; deglaciation-; palynology-; fossil-pollen; fossil-diatoms
CL: Biology:-Paleontology-1187; Descriptive-oceanography-and-limnology:-Paleo-studies-2148
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1); ASFA-2:-Ocean-Technology-Policy-and-Non-Living-Resources (Q2)
IC: CS9716801
AN: 4086105
UD: 9709

Record 96 of 101 - ASFA 1997-2001/09
TI: Breeding ecology of the fulmar Fulmarus glacialis and the kittiwake Rissa tridactyla in high-arctic northeastern Greenland, 1993
AU: Falk,-K.; Moeller,-S.
AF: Ornis Consult, 140 Vesterbrogade, DK-1620 Copenhagen V, Denmark
SO: IBIS 1997 vol. 139, no. 2, pp. 270-281
IS: ISSN 0019-1019
PY: 1997
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: The breeding ecology of the Fulmar Fulmarus glacialis and the Kittiwake Rissa tridactyla in the high Arctic was studied in relation to the occurrence of the northeast water polynya in northeasternmost Greenland (80 degree N). Mean laying dates were 31 May in the Fulmar and 18 June in the Kittiwake; the total nesting season for the Fulmar just matched the time window of the polynya opening period. Fulmar colony attendance fluctuated within a period of 11.6 days because of variation in nonbreeding prospectors but showed no clear diurnal variation. Fulmar incubation shifts, on average, lasted 6.1 days (range 1-13 days), which is significantly longer than elsewhere, and the average chick-guard

period of 10.9 days (range 1-17 days) was significantly shorter than in other studies. Egg neglect occurred in 18% of Fulmar nests or 0.7% of nests per day. Overall breeding success (chicks fledged per egg laid) was 0.56 in the Fulmar and 0.67 in the Kittiwake; the latter produced 1.4 young per active nest or 1.2 per completed nest. Mean Kittiwake clutch size was 2.03; larger clutches were laid early. Nest site characteristics (presumably reflecting nest predation risk) and breeding behaviour affected breeding success. In the Fulmar, hatching success was negatively correlated with laying date and the proportion of egg neglect, while overall breeding success was correlated negatively with distance to nearest neighbouring site and positively with the length of the chick-guard period. Kittiwake breeding success was negatively correlated with laying date. Using seabirds as indicators of marine food supply, breeding success in both species suggested moderate to good food supply in the northeast water polynya in 1993, although at least in the Fulmar the high reproductive output appeared partly maintained by behavioural buffering; long incubation shifts, egg neglect and short chick-guard periods were symptoms of foraging constraints.
DE: Fulmarus-glacialis; Rissa-tridactyla; reproductive-behavior; breeding-success; sea-ice; Greenland-; marine-birds; breeding-; PNE,-Greenland; polynyas-; breeding-sites; nesting-
ID: laying-date
CL: Autecology:-Behaviour-1423
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
OZ: Polar-Arctic-Eastward (PNE)
IC: CS9715580
AN: 4080146
UD: 9709

Record 97 of 101 - ASFA 1997-2001/09
TI: Bay of Fundy Issues: A scientific overview. Workshop Proceedings, Wolfville, N.S., January 29 to February 1, 1996
AU: Percy,-J.A.; Wells,-P.G.; Evans,-A.J.-(eds.)
CA: Environment Canada, Sackville, NB [Canada], Atlantic Region
CO: Bay of Fundy Issues: A scientific overview, Wolfville, NS, Canada, 29 Jan-1 Feb, 1996
SO: OCCAS.-REP.-ENVIRON.-CAN.-ATL.-REG. 1996 205 pp
IS: ISBN 0-662-25570-4
ISSN 1195-664X
PY: 1996
LA: English
PT: R (Report); K (Conference)
ER: M (Marine)
AB: Bay of Fundy Issues: A scientific overview workshop, was held January 29 - February 1, 1996, in Wolfville, NS, Canada. The Bay of Fundy's dynamic environment is continually changing, both naturally and as a result of human activity. Some indicators of marine ecosystem health suggest that undesirable ecological and habitat changes may be occurring in the Bay, and that important parts of the ecosystem are being impaired. These concerns have led to the launching of a new project - the Fundy Marine Ecosystem Science Project. This confernece attempts to address some of these concerns.
DE: ecosystems-; physical-oceanography; chemical-oceanography; marine-ecology; marine-resources; conferences-; resource-conservation; ANW,-Canada,-Fundy-Bay
CL: Aquatic-ecology:-General-1381; General-aspects:-Conferences-and-other-meetings-1106; Environmental-quality:-Conservation,-wildlife-management-and-recreation--1523
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1); ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
OZ: Atlantic-Northwest (ANW)

IC: CA9700693
AN: 4078069
UD: 9709

Record 98 of 101 - ASFA 1997-2001/09
TI: Oleananes in oils and sediments: Evidence of marine influence during early diagenesis?
AU: Murray,-A.P.; Sosrowidjojo,-I.B.; Alexander,-R.; Kagi,-R.I.; Norgate,-C.M.; Summons,-R.E.
AF: Australian Geol. Surv. Organisation, PO Box 378, Canberra, ACT 2601, Australia
SO: GEOCHIM.-COSMOCHIM.-ACTA 1997 vol. 61, no. 6, pp. 1261-1276
IS: ISSN 0016-7037
PY: 1997
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: The oleananes, as markers for the angiosperms, provide valuable source and age information when present in an oil. Nevertheless, they are not quantitatively related to the land plant input and indeed their presence reflects only a small leak in diagenetic processes leading primarily to aromatic oleanoids. Because they are minor products, the abundance of oleananes in terrigenous oils and sediments may be highly sensitive to changes in early diagenetic conditions. Here we present evidence that contact of plant matter with seawater during early diagenesis enhances the expression of oleananes in a mature sediment or oil. Oleananes are absent or present at very low concentrations in samples from the base of an Eocene coal seam affected by postdepositional seawater intrusion. However, their abundance increases toward the top of the seam in correlation with % organic sulphur, dibenzothiophene/phenanthrene, and the homohopane index. Similarly, in deltaic sediments from the South Sumatra Basin, oleanane/hopane is strongly correlated with indicators of marine influence such as C sub(27)/C sub(29) steranes and the homohopane index. In each case, increasing oleanane abundance is accompanied by a reduction in the extent of aromatisation and, for the South Sumatra Basin, the proportion of A-ring contracted oleananes. An angiosperm-derived Miocene coal from the Philippines, deposited under freshwater conditions, shows abundant aromatic oleanoids but no oleananes. These results show that oleananes need to be used with caution as age and source markers in fluvio-deltaic and lacustrine petroleum systems. On the other hand, their sensitivity to early diagenetic conditions may make them useful in locating effective source rocks in such systems.
DE: diagenesis-; sediment-chemistry; organic-compounds; oil-; geochemistry-
CL: Chemistry-and-geochemistry:-Geochemistry-of-sediments-2187
JA: ASFA-2:-Ocean-Technology-Policy-and-Non-Living-Resources (Q2)
IC: CS9714872
AN: 4074038
UD: 9709

Record 99 of 101 - ASFA 1997-2001/09
TI: Use of marine sponges as stress indicators in marine ecosystems at Algeciras Bay (southern Iberian Peninsula)
AU: Carballo,-J.L.; Naranjo,-S.A.; Garcia-Gomez,-J.C.
AF: Laboratorio de Biologia Marina, Dpto de Fisiologia y Biologia Animal, Facultad de Biologia, Apdo 1095, E-41080 Sevilla, Spain
SO: MAR.-ECOL.-PROG.-SER. 1996 vol. 135, no. 1-3, pp. 109-122
IS: ISSN 0171-8630

PY: 1996
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: Infralittoral sponge fauna was studied as part of a multidisciplinary investigation of benthic communities in Algeciras Bay. On a monthly basis over 1 year, a series of environmental variables were measured (hydrodynamism, silting, suspended solids, dissolved organic matter, % organic matter in silt). The only abiotic variable that was significantly correlated with beta diversity was hydrodynamism, with a linear regression model between the 2 variables showing a correlation coefficient of 0.66. The distributional pattern of the sponges (based on the relative abundance matrix) was correlated with the environmental variables by matching sample similarities using the Spearman rank correlation, thus showing that the variable combination that best explains the patterns of distribution is hydrodynamism/organic matter in silt (p sub(s) = 0.6). Of the species considered, Phorbas fictitius, Cliona celata, Cliona viridis, Crella elegans, Oscarella lobularis, Dysidea fragilis were among those showing the greatest adaptive plasticity in their relationship to environmental variables, depth, and selection by substrate, and are categorized as eurytopic species present in areas subject to great environmental stress. Other species such as Phorbas tenacior, Reniera fulva, Reniera mucosa, Cliona rhodensis proved to be much more sensitive to these variables, and were categorized as stenotopic species, indicators of normal conditions. Due to the particular environmental conditions where it is located, Mycale micracanthoxea was categorized as a good indicator species in port environments. Others such as Dysidea avara, Halichondria bowerbanki or Crella elegans presented morphological differentiations which have permitted them to adapt to sedimentary environments.
DE: indicator-species; biological-stress; harbours-; statistical-analysis; check-lists; dissolved-organic-matter; silting-; hydrodynamics-; abundance-; Spongidae-; MED,-Spain,-Cadiz,-Algeciras-Bay
CL: Aquatic-communities:-Benthos-1462
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
OZ: Mediterranean (MED)
IC: BF9700609
AN: 4054180
UD: 9706

Record 100 of 101 - ASFA 1997-2001/09
TI: Genotoxicity biomarkers in M. galloprovincialis as indicators of marine pollutants
AU: Bolognesi,-C.; Rabboni,-R.; Roggieri,-P.
AF: Istituto Nazionale per la Ricerca sul Cancro - IST, Largo Rosanna Benzi 10, 16132 Genova, Italy
SO: COMP.-BIOCHEM.-PHYSIOL.,-C 1996 vol. 113C, no. 2, pp. 319-323
IS: ISSN 0742-8413
PY: 1996
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: Many substances pollute the marine environment. There is today a growing evidence on the increased risk of disease in marine organisms, especially fish, that inhabit contaminated waters. Different types of tumours have been evidenced in fish and shellfish populations. Different short-term biomarkers are available to predict the impact of carcinogens on marine organisms. Their endpoints are different effects at the molecular and cellular level such as gene mutation,

chromosome alteration and induction of DNA damage and repair. We have applied two different assays: alkaline elution to measure DNA single strand breaks and micronucleus assay as an index of a chromosomal damage. In order to select an aquatic organism as an indicator of water pollution by carcinogenic agents, we have focused on the mussel. A program of validation of genotoxicity was conducted in aquarium using DMBA. A time-dependence increase of micronuclei was evident after the exposure to 100 ppb/animal. For alkaline elution the effect was 4 times the level of the controls. Experiments in the fields were conducted on adult specimens of Mytilus galloprovincialis collected from natural substrates. Our sampling stations were located in the La Spezia gulf, Ligurian sea. Genotoxic effects were evaluated in gill cells. A significant increment of the two parameters in polluted, in comparison with the unpolluted sites has been observed. High frequencies of micronuclei (the highest value was 42 plus or minus 13 with respect to control value 3 plus or minus 2) were scored in mussels from polluted stations. The extent of DNA damage was also relevant with respect to clastogenic damage as revealed by micronucleus test. The greatest value of K (constant of elution) was 8-fold higher with respect to the value of K obtained in the same tissue of mussel from reference areas. Evidence of DNA damage could reflect a recent pollution status, since DNA strand breaks can be rapidly repaired by different mechanisms. On the contrary animals exposed to clastogenic compounds may exhibit elevated micronucleus frequency long after the exposure has ceased. The evaluation of both parameters could provide information of great significance about the pollution status of the water.
DE: pollution-indicators; indicator-species; marine-pollution; pollution-effects; DNA-; mutations-; gills-; Mytilus-galloprovincialis; genotoxicity-; bioindicators-; mutants-; marine-environment; water-pollution-effects; toxicity-; Mytilus-; toxicity-testing
ID: genotoxicity-
CL: Aquatic-pollution:-Effects-on-organisms-1504
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: CS9705249
AN: 4010065
UD: 9703

Record 101 of 101 - ASFA 1997-2001/09
TI: Parasites as indicators of social structure and stock identity of marine mammals
AU: Balbuena,-J.A.; Aznar,-F.J.; Fernandez,-M.; Raga,-J.A.
AF: Dep. Animal Biol., Univ. Valencia, Dr. Moliner 50, 46100-Burjassot, Valencia, Spain
CO: Int. Symp. on the Biology of Marine Mammals in the North East Atlantic, Tromso (Norway), 29 Nov-1 Dec 1994
SO: WHALES,-SEALS,-FISH-AND-MAN.-PROCEEDINGS-OF-THE-INTERNATIONAL-SYMPOSIUM-ON-THE-BIOLOGY-OF-MARINE-MAMMALS-IN-THE-NORTH-EAST-ATLANTIC-HELD-IN-TROMSO,-NORWAY,-29-NOVEMBER-DECEMBER-1,-1994. Blix,-A.S.;Walloe,-L.;Wltang,-O.-eds. AMSTERDAM-NETHERLANDS ELSEVIER-SCIENCE-B.V. vol. 4 133
IS: ISBN 0-444-82070-1
ST: DEV.-MAR.-BIOL. ISBN-0-444-82070-1 1995 vol. 4
LA: English
LS: English
PT: B (Book); K (Conference)
ER: M (Marine)
AB: Introduction: the use of parasites as biological indicators of marine mammals has not yet received all the necessary attention. The aim of this review is to show the value of parasite data in studies of stock identity and social structure. Methods: the application of the technique to marine mammals is hampered by the lack of control over sampling conditions and the paucity of

information about the biology of their parasites. Relevant criteria for suitable parasite tags are discussed. Case studies: previous work on marine mammals is presented to illustrate the usefulness and limitations of parasite data. A study of pilot whales revealed that differences in helminth infections between two groups of pods conformed with previous evidence suggesting separate stocks. Other investigations have provided valuable information about behavioural features of marine mammals. Studies of whale-lice exemplify the advantages of using directly transmitted ectoparasites. Conclusions: the technique has so far proven more successful in behavioural than in population studies. However, parasite analyses have yet to reach their full potential. Improved statistical rigour and the use of molecular techniques applied to the parasites may provide new tools for further studies.
DE: ectoparasites-; indicator-species; sociological-aspects; stock-identification; marine-mammals; taxonomy-; Pinnipedia-; Mammalia-
CL: Productivity,-ecosystems,-species-interactions:-Species-interactions:-general--1483
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
IC: CS9700299
AN: 3974348
UD: 9703

No. Records Request

* 3 01 INDICATOR* "AND" BIODIVERSITY

Record 1.
TI: Recent developments in benthology: Seminar 2 December 1993.
OT: Aspects recents des recherches en benthologie
CA: Institut Oceanographique, Paris (France)
SO: OCEANIS-DOC.-OCEANOGR. PARIS-FRANCE INSTITUT-OCEANOGRAPHIQUE 1993 vol. 19, no. 6, 145 pp
IS: ISSN 0182-0745
PY: 1993
LA: French
LS: English; French
PT: B (Book); K (Conference)
ER: M (Marine)
AB: The author deals with recent developments in environmental variations and develops the following topics: benthos, climatic changes, pollution indicators, eutrophication, biodiversity, recruitment, experimental research in marine environment. All the contributions are analyzed separately.
DE: conferences-; benthos-
ID: biodiversity-
CL: Aquatic-Communities:-Benthos-1462; General-Aspects:-Conferences,-meetings,-etc.-1106
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
IC: IF9501597
AN: 3831434
UD: 9603

No. Records Request

* 4 13 INDICATOR* "AND" DIVERSITY

1.
TI: A framework for evaluating community measures of marine pollution.

AU: Smith,-W.K.
AF: Stat. Dep., Sch. Bus. Admin., Temple Univ., Philadelphia, PA 19122, USA
SO: CONCEPTS-IN-MARINE-POLLUTION-MEASUREMENTS. White,-H.H.-ed. Maryland-Univ.,-College-Park-USA.-Sea-Grant-Coll.-Program 1984. pp. 193-202
IS: ISBN 0-943676-18-5
ST: TECH.-REP.-MD.-UNIV.-SEA-GRANT-PROGRAM. UM-SG-TS-84-03
RN: UM-SG-TS-84-03 (UMSGTS8403)
PY: 1984
LA: English
PT: B (Book)
ER: M (Marine)
AB: This paper presents a systematic approach to investigating the practical usefulness of pollution indicators based on the community composition. The authors develop a general setting in which community indicators of pollution effects are used, and a general method of evaluating the efficacy of these measures. Then, they evaluate the effectiveness of two community measures, similarity and diversity, as indicators of pollution.
DE: marine-pollution; pollution-indicators; pollution-effects; bioindicators-; species-diversity; indicator-species; community-composition; marine-organisms
CL: Pollution:-Effects-on-organisms-1504; Pollution:-Characteristics,-behavior-and-fate-2445
JA: Biological-Sciences-and-Living-Resources (Q1); Ocean-Technology,-Policy-and-Non-Living-Resources (Q2)
AN: 1080797

2.
TI: Observations on the diatom flora from springs along The Balcones Fault, Texas.
AU: Christensen,C.L.-(Sci.-Dep.,-Iowa-Central-Community-Coll.,-IA,-USA)
SO: Phytologia, 1978 41(2), 88-104
PY: 1978
LA: English
PT: J (Journal-Article)
ER: F (Freshwater)
AB: The results of a comparative survey of the diatom flora of 3 clean feeder streams, Balcones Fault, Texas, USA are presented. It is concluded that the use of indicator species, diversity and population structure of diatom communities can give a clear, accurate picture of the long term organic pollution conditions of flowing bodies of water. A list of taxa considered to be oganic pollution indicators is included.
DE: pollution-indicators; community-composition; Bacillariophyceae-; USA,-Texas
ID: diatoms-; Chrysophyta-; USA-; Texas-; springs-; indicator-organisms; freshwater-pollution; Algae-
AN: 0100050

3.
TI: Diversity and indicator species as measures of water pollution in a subarctic lake.
AU: Moore,J.W.-(PO-Box-2310,-Yellowknife,-NWT-X1A-2P7,-Canada)
SO: Hydrobiologia, 1979 66(1), 73-80
PY: 1979
LA: English
LS: English
PT: J (Journal-Article)
ER: F (Freshwater)

AB: Benthic invertebrates were collected from a subarctic lake during 1976 to assess the effectiveness of diversity indices and indicator species as measures of heavy metal pollution. Collections were made near an operating metal mine, where sediments were contaminated with high levels of As (up to 2,500 mg/kg dry weight), Hg (500 g/kg), Pb (850 mg/kg), Cu (750 mg/kg) and Zn (950 mg/kg). A total of 25 species and a diversity index of 2.4-2.9 were recorded in this heavily impacted area. Chironomids (Procladius denticulatus, Heterotrissocladius changi, Chironomus decorus)- were most common in the sediments, followed in importance by molluscs (Pisidium casertaman)- and oligochaetes (Lumbriculus variegatus)-. There were 23 and 25 species in the areas of moderate and negligible contamination, respectively. The diversity indices ranged from 2.4-2.6 and 2.4-2.8 and the main species were generally similar to those found in the heavily impacted area. While diversity indices and indicator species were therefore ineffective in monitoring metal contamination, the strong negative correlation between the concentration of metals and the abundance of benthic organisms provided a much more realistic assessment of the level of contamination.
DE: indicator-species; benthos-; freshwater-pollution; heavy-metals; pollution-monitoring; Canada,-Great-Slave-Lake,-Yellowknife-Bay
ID: community-composition; pollution-indicators; indicator-organisms; lakes-; water-pollution; Canada-; Northwest-Territories; Great-Slave-L.
AN: 9182120

4.
TI: A comprehensive analysis of the effects of offshore oil and gas exploration and production on the benthic communities of the Norwegian continental shelf
AU: Olsgard,-F.; Gray,-J.S.
AF: Section of Marine Zoology and Marine Chemistry, Department of Biology, University of Oslo, PO Box 1064, N-0316 Oslo, Norway
SO: MAR.-ECOL.-PROG.-SER. 1995 vol. 122, no. 1-3, pp. 277-306
IS: ISSN 0171-8630
NT: Bibliogr.: 64 ref.
PY: 1995
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: Multivariate statistical analyses of data on environmental variables and benthic fauna from 14 oil and gas fields obtained from 24 surveys collected between 1985 and 1993 are presented. At all fields oil-based drilling mud was used. The purpose of this study was to investigate contamination gradients, assess effects on benthic fauna both spatially and temporally and to evaluate measures such as diversity indices, indicator species and multivariate analysis techniques in assessment of pollution. Results from analyses of baseline surveys of environmental variables and fauna were characterised by a lack of distinct gradients in station placement, having a typical shot-gun pattern in PCA-, DCA- and MDS-ordination analyses. Likewise there was no consistency in which environmental variables correlated with the fauna. Contamination was assessed using all the physical and chemical data in classification and PCA-ordination analyses. Clear patterns were found using 4 categories, conveniently termed initial, moderate, severe and gross. The categories were usually apparent as rings radiating from the platform. Initial contamination of the outermost areas at most fields was shown as elevated levels of barium and total hydrocarbons (THC) and sometimes also by elevated levels of zinc, copper, cadmium and lead. Three fields were studied in particular and showed contaminated areas of over 100 km super(2) (Valhall), over 15 km super(2) (Gyda) and over 10 km super(2)

(Veslefrikk). After a period of 6 to 9 yr contamination had spread, so that nearly all of the outermost stations 2 to 6 km away from the platforms showed evidence of contamination. Thus, the existing sampling design is no longer suitable for assessment of the area contaminated. Effects on the fauna showed, as with contamination, 4 categories. Analyses linking fauna and environmental variables indicated that the effects were mainly related to THC, barium and strontium, but also to metals like zinc, copper, cadmium and lead, which are all discharged in drill-cuttings. Effects on the fauna closely followed the patterns of contamination with only a few stations at each field that were contaminated not showing effects. Thus the areas showing effects were only slightly less than the areas contaminated. Subsequent to cessation of discharges biodegradation of oil and reduced concentrations of THC were observed. Yet there was an extension of areas where the fauna was affected several years after cessation of drill-cutting discharges. This may indicate that barite and related compounds associated with the discharges also have an environmental impact. However, preliminary results from fields using only water-based mud clearly indicate a reduction in environmental contamination and biological impact, compared to effects reported here, for oil-based drill-cuttings. Diversity indices applied to the data did not show the extent of effects and such indices alone should not be used to interpret changes. The consistent patterns that the multivariate techniques were able to detect showed that these methods were far superior. Analyses of the initial effects on the fauna showed that there were no consistent patterns in changes in species composition over fields or time, and thus the search for 'universal' sensitive indicator species does not seem to be rewarding. Yet under gross effects of pollution there were consistent patterns with the same species dominating. Finally, the initial effects of pollution included severe reductions in organisms that are key components of the benthic communities and also food for bottom-living fish, and are thus ecologically important. The new fauna which establishes in the contaminated sediments close to platforms, often with high abundance, will probably be less valuable as a food source for fish populations since it is of small size and lives sub-surface.
DE: oil-and-gas-exploration; biological-production; zoobenthos-; pollution-effects; pollution-monitoring; water-depth; grain-size; sediment-analysis; total-organic-carbon; barium-; strontium-; lead-; iron-; copper-; zinc-; baseline-studies; statistical-analysis; sample-contamination; check-lists; ANE,-North-Sea,-Norway
CL: Pollution:-Effects-on-organisms-1504
JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
OZ: Atlantic-Northeast (ANE)
AN: 3967435
UD: 9612

5.
TI: Molecular population genetics of planktonic marine copepods: mtDNA indicators of diversity and structure
AU: Bucklin,-A.; LaJeunesse,-T.C.; Caudill,-C.C.
AF: Univ. New Hampshire, Durham, NH 03824, USA
CO: 3. International Marine Biotechnology Conference, Tromsoe, Norway, 7-12 Aug 1994
SO: 3RD-INTERNATIONAL-MARINE-BIOTECHNOLOGY-CONFERENCE:-PROGRAM,-ABSTRACTS-AND-LIST-OF-PARTICIPANTS. International-Advisory-Comm.-of-the-Int.-Marine-Biotechnology-Conference-1994,-Tromsoe-Norway TROMSOE-NORWAY TROMSOE-UNIVERSITY 1994 p. 88
PY: 1994
LA: English
PT: B (Book); K (Conference)

ER: M (Marine)
AB: Mitochondrial DNA (mtDNA) is a useful indicator of population genetic structure for planktonic marine copepods. In recent studies, the base sequences for several regions of mtDNA have been determined for four species of planktonic marine copepods (Calanus finmarchicus, C. pacificus, Nannocalanus minor, Acartia tonsa) and a euphausiid (Meganyctiphanes norvegica). These highly abundant and geographically widespread species exhibit moderate levels of nucleotide and haplotype diversity. The numerous haplotypes are distinguished by a small number of substitutions. The haplotype frequency distribution is highly skewed, with one common and nearly ubiquitous haplotype and numerous unique haplotypes. MtDNA has revealed significant population genetic structure in several species at meso- and large scales. The boundaries of populations coincide with physical boundaries imposed by circulation patterns and/or constraints imposed by reproductive ecology.
DE: DNA-; mitochondrial-; population-genetics; genetic-markers; structure-; diversity-; Calanus-finmarchicus; Calanus-pacificus; Nannocalanus-minor; Acartia-tonsa; Meganyctiphanes-norvegica; zooplankton-; allopatric-populations; ecophysiology-; Copepoda-
CL: Molecular-Biotechnology:-Shellfish-and-other-aquatic-animals-excl.-fish-4200; Population-Studies:-Population-genetics-1443
JA: ASFA-Marine-Biotechnology-Abstracts (Q4); ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
IC: CS9419421
AN: 3627763

6.
TI: Ecological studies on the periphytonic protozoans in Xiaoxihu Lake, Qingdao
AU: Song,-Weibo; Cheng,-Xiaoji; Liu,-Guirong; Wu,-Luping
AF: Aquacult. Dep., Sch. Fish., Ocean Univ. Qingdao, Qingdao 266003, People's Rep. China
SO: J.-OCEAN-UNIV.-QINGDAO-QINGDAO-HAIYANG-DAXUE-XUEBAO 1993 vol. 23, no. 3, pp. 99-106
IS: ISSN 1001-1862
PY: 1993
LA: Chinese
LS: Chinese; English
PT: J (Journal-Article)
ER: F (Freshwater)
AB: In March-June (1990) the ecological features of the periphytonic protozoans in Xiaoxihu Lake in Qingdao (China) were preliminarily studied. Examination of the samples revealed a total of 27 species of ciliates, of which 17 belong to saprobic indicators. The population size and composition, dominant species differed markedly with the water temperature, dissolved oxygen content, bacteria and other periphytonic organisms. In spring the community structure was always unstable. As to its species composition, the most dominant protozoan were ciliates. According to the abundance, they are in sequence as phytoflagellates, ciliates, zooflagelates and sarcodines. By using saprobic indicators and diversity index as the biological parameters for monitoring and evaluating the pollution condition of water quality, Xiaoxihu Lake in this period was alpha - to P-mesosaprobic.
DE: population-structure; pollution-monitoring; check-lists; indicator-species; environmental-effects; Ciliophora-; INW,-China,-People'-s-Rep.,-Shandong-Prov.,-Qingdao,-Xiaoxihu-L.
CL: Population-Studies:-Population-structure-1441
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
OZ: Pacific-Northwest (INW)

IC: CH9301022
AN: 3041233

7.
TI: An evaluation of water pollution and eutrophication in the Dalaihu Lake using phytoplankton communities.
AU: Li,-Baoling; Wang,-Yuting; Zhang,-Luzheng
AF: Dalaihu Lake Fish. Res. Lab., Manzhouli 021410, People's Rep. China
SO: ACTA-HYDROBIOL.-SIN.-SHUISHENG-SHENGQU-XUEBAO. 1993. vol. 17, no. 1, pp. 27-34
IS: ISSN 1000-3207
PY: 1993
LA: Chinese
LS: Chinese; English
PT: J (Journal-Article)
ER: F (Freshwater)
AB: The seasonal changes in the ecological features of phytoplankton community including species composition, population size, dominant species, saprobic indicators, diversity index, diatom biotic index, comprehensive index ect, were preliminarily studied at 30 sampling stations in the Dalaihu Lake, Manzhouli. By using population densities (individuals and cells per litre), dominant species, saprobic indicators, diatom biotic indices and comprehensive index as the important biological parameters, the trophic level and saprobic degree were evaluated for both the whole and subareas of the lake. In the Dalaihu Lake, the annual mean density of phytoplankton reached 54.7 x 10 super(6) cells per litre or 2.3 x 10 super(6) individuals per litre. The diatom biotic index was 149.3, the comprehensive index was 5.6 and the saprobic indicators comprised 65% of the total species in the community. In Spring, the dominant species of planktonic algae were almost entirely composed of green algae, especially Crucigenia quadrata) and Oocystis . In Summer, Autumn and Winter, the dominant species of planktonic algae were almost entirely composed of blue-green algae, especially Microcystis (M. aeruginosa and M. flos-aquae) and Anabaena (A. spiroides and A. flos-aquae). All these features indicate that the lake has suffered from moderate pollution and can be regarded as a blue-green and green algae-eutrophic lake.
DE: phytoplankton-; check-lists; biomass-; population-number; dominant-species; indicator-species; water-pollution; eutrophic-lakes; China,-People'-s-Rep.,-Nei-Mongol-Dalaihu-L.
CL: Pollution:-Methods-and-instruments-1502
JA: ASFA --3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: CH9300537
AN: 2967177

8.
TI: Planktic foraminiferal diversity as indicator of ocean environments.
AU: Ottens,-J.J.; Nederbragt,-A.J.
AF: Geomar. Cent., Inst. Earth Sci., Free Univ., De Boelelaan 1085, 1081 HV Amsterdam, Netherlands
SO: MAR.-MICROPALEONTOL. 1992. vol. 19, no. 1-2, pp. 13-28
NT: Special Issue: Approaches to Paleoproductivity Reconstructions.
PY: 1992
LA: English
LS: English
PT: J (Journal-Article)
ER: M (Marine)
AB: The combination of the number of species (simple diversity), an information function (Shannon diversity) and a measure of equitability is used

to characterize modern ocean environments based on planktic foraminiferal faunas. Regional environmental conditions can be recognized as deviations from the global latitudinal trend. Simple diversity (number of species) offers relatively little resolution itself, because it is sensitive to the addition of rare species. Variable conditions, such as the highly productive spring bloom and upwelling, are characterized by relatively low diversity and equitability values. Relatively high diversity and a lesser increase in equitability are found in mixing zones of adjacent water masses. In extreme conditions diversity is low, whereas equitability is intermediate to high. Modern patterns can be applied to fossil sections, to reconstruct regional paleoceanographic conditions. Thus relatively low Shannon diversity with low equitability in Maastrichitian heterohelicid faunas from El Kef, Tunisia, is interpreted as indicating variable conditions. An increase in simple diversity mostly traces evolution of the heterohelicids as a group, which diversified during the Maastrichtian.
DE: species-diversity; fossil-foraminifera; plankton-; palaeoenvironments-; palaeoceanography-; ocean-circulation; palaeo-studies; MED,-Tunisia,-El-Kef; Foraminifera-; zooplankton-; surface-water; marine-environment
CL: Biology:-General:-Paleontology-1187; Descriptive-Oceanography-and-Limnology:-Paleo-studies-2148
JA: ASFA --1:-Biological-Sciences-and-Living-Resources (Q1); ASFA --2:-Ocean-Technology,-Policy-and-Non-Living-Resources (Q2)
OZ: Mediterranean (MED)
IC: CS9207986
AN: 2733855

9.
TI: The characteristics of benthic macroinvertebrate community and water quality in Beijing-Tianjin area.
AU: Ren,-Shuzhi
AF: Inst. Zool., Acad. Sin., Beijing, People's Rep. China
SO: ACTA-ECOL.-SIN.-SHENGTAI-XUEBAO. 1991. vol. 11, no. 3, pp. 262-268
IS: ISSN 1000-0933
PY: 1991
LA: Chinese
LS: Chinese; English
PT: J (Journal-Article)
ER: F (Freshwater)
AB: Bioassessments of water quality using Shannon's diversity index and indicator organisms of macroinvertebrates were carried out around Beijing, Tianjin and adjacent area in China during 1983-1987. The results obtained indicate that the joint indicator of diversity index and species indicator of benthic macroinvertebrates can be satisfactorily used to evaluate and classify the status of water quality into 5 classes i.e. clean water, light pollution, moderate pollution, heavy pollution and serious pollution in this area. Most of the clean and light polluted waters are distributed in the mountain area in the north-west and the heavy and serious pollution exists in the plain area in the south-east region. Urbanization is the major factor affecting water quality. Treatment of the urban sewage and industrial waste water from Beijing and Tianjin city before discharging into environment is emphasized.
DE: pollution-indicators; zoobenthos-; species-diversity; pollution-monitoring; marine-pollution; industrial-wastes; domestic-wastes; Invertebrata-; China,-People'-s-Rep.,-Beijing-Tianjin
ID: water-quality
CL: Pollution:-Prevention-and-control-1505
JA: ASFA --3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: CH9100592

AN: 2678549

10.
TI: Temporal and spatial diversity of trophy-indicators in a lowland dam reservoir.
AU: Kajak,-Z.; Dusoge,-K.
AF: Dep. Hydrobiol., Inst. Ecol., Pol. Acad. Sci., Dziekanow Lesny near Warsaw, 05-092 Lomianki, Poland
SO: EKOL.-POL. 1989. vol. 37, no. 3-4, pp. 211-233
NT: Published 1990.
PY: 1989
LA: English
LS: English; Polish
PT: J (Journal-Article)
ER: F (Freshwater)
AB: Main trophic factors (Secchi disc visibility, total and phosphate phosphorus, and all forms of nitrogen) in shallow (about 4 m mean depth), 33 km super(2) of surface area, about 70 km long lowland reservoir, fed by 2 rivers of different trophic degree, are described for 4 years (1981-1984). Water retention time is short (ca 1-20, usually 5-15 d). Trophic status is high (P tot. up to 0.5 mg x l super(-1), N tot. up to 3.0-4.0 mg x l super(-1)). Main changes along the reservoir consist in the significant decrease of seston and P tot. concentrations. Differences of average values of particular factors between years come up to several times; also the differentiation in the reservoir at the same time and the differences in short (several days) intervals may be of that order of magnitude.
DE: trophic-status; reservoirs-; reservoirs-water; chemical-properties; phosphorus-
ID: water-quality; annual-variations
CL: Environmental-Changes,-Conservation,-Public-Health:-Mechanical-and-natural-changes-1521
JA: ASFA --3:-Aquatic-Pollution-and-Environmental-Quality (Q5)
IC: CS9202234
AN: 2650834

11.
TI: An evaluation of water pollution and eutrophication of the Chaohu Lake by means of phytoplankton.
OT: Yi fuyouzhiwu pingjia Chaohu shuizhi wuran ji fuyingyanghua
AU: Meng,-Renxian; Liu,-Zhenqiu
AF: Dep. Biol., Anhui Univ., Hefei, People's Rep. China
SO: ACTA-HYDROBIOL.-SIN.-SHUISHENG-SHENGWU-XUEBAO. 1988. vol. 12, no. 1, pp. 13-26
IS: ISSN-1000-3207
PY: 1988
LA: Chinese
LS: English
PT: J (Journal-Article)
ER: F (Freshwater)
AB: Seasonal ecological features of the phytoplankton community including its species composition, population size, dominant species, saprobic indicator, diversity index and diatom biotic index were studied at 22 sampling stations in Chaohu Lake, Anhui Province China. By using population densities (individuals and cells per litre), dominant species, saprobic indicators and diatom biotic indices as the important biological parameters for monitoring and evaluating pollution conditions of water quality, the trophic level and saprobic degree of the lake were evaluated as a whole, and in subareas.

DE: phytoplankton-; eutrophication-; community-composition; species-diversity; China,-People'-s-Rep.,-Anhui-Prov.,-Chaohu-L.; pollution-indicators
ID: pollution-monitoring
CL: Pollution:-Effects-on-organisms-1504
JA: ASFA --1:-Biological-Sciences-and-Living-Resources (Q1)
AN: 1937655

12.
TI: Biodiversity of lagoon and reef fish of the Pacific region: status and threats
AU: Kulbicki,-M.
AF: IRD -- ex ORSTOM BP A5, 98848, Noumea New Caledonia; E-mail: kulbicki@noumea.ird.nc
CA: UNEP, Nairobi (Kenya)
Institut de Recherche pour le Developpement IRD, Montpellier (France)
CO: Status of the Freshwater/Coastal/Marine Living Resources with particular emphasis on threats and options in coastal areas, Montpellier (France), 15-18 Nov 1999
SO: International-Workshop-on-status-of-the-freshwater; coastal; marine-living-resources-with-particular-emphasis-on-threats-and-options-in-coastal-areas,-15-18-november-1999-in-Montpellier,-France Vidy,-G.-(ed.); Albaret,-J.J.-(ed.); Baran,-E.-(ed.) Montpellier-France IRD 1999 p. A.3.17
NT: (Each author's abstract is published in the Annexe 3. Abstracts A.3.page number).
PY: 1999
LA: English
PT: B (Book); K (Conference)
ER: M (Marine)
AB: The Pacific is probably the region where fish diversity is the highest. At the moment there are approximately 4 800 reef and lagoon species recorded in this area and the total number of these species is certainly well over 5 000. These fish are distributed among 158 families, but 10 families make more than 30% of the total and one family, the Gobiidae, makes more than 12% by itself. The Pacific reef and lagoon fish fauna shares many species with the Indian Ocean since nearly two thirds of the species of the Indian Ocean are also known from the Pacific. On the opposite, very little is shared with the Atlantic. Endemism is very difficult to assess as the fish fauna of many islands in the Pacific is poorly known. However, local endemism is very low, with the exception of Hawaii, seldom exceeding 5%. "Regional" endemism is probably much higher as there are several faunistic regions in the Pacific. Species richness (species/unit area) is a good indicator of diversity density and biomass of reef fish increase with species richness. Species richness is linked to local factors (coral cover, substratum, depth...) and regional factors (island size, island type, biogeographical region...). The type of relationship between species richness and local factors may vary greatly between regions. On the opposite, the organization of the fish assemblages (trophic structure, size, mobility behavior...) is strongly dependent on local conditions, usually more so than on regional factors. Pacific reef and lagoon fishes are submitted to a number of threats which can be divided into four major components: habitat destruction, pollution, fishing and miscellaneous factors. Demographic increase is at the base of all the changes observed. Habitat destruction is mainly caused by destructive fishing (cyanide, explosives, trawling), changes in the coastal areas (mangrove and wet land drainage, coral grinding, dredging...) situation due to bad land uses, and major ecological changes such as Acanthaster outbreaks or urchins proliferations. As a large part of reef and lagoon fish are territorial or sedentary such changes may have major impacts on the local diversity and consequently fish production. Pollution is probably the second

major concern for fish diversity (industrial and city wastes, mining, forestry agriculture and aquaculture). Other threats such as increased fishing, changes in fishing gear, global warming or introduction of foreign species are probably not as important at the moment. A shift is currently occurring in the quality of the catch (more herbivores and plankton feeders, smaller species) which can be related to a degradation in environmental condifions and increased fishing pressure. However, the probability of extinction of reef or lagoon fish is certainly much lower than in terrestrial systems because most species have a wide distribution. Fish is a fundamental part of Pacific cultures and the preservation of species diversity on reefs and lagoons is vital to most of the island countries in the Pacific. These countries however have major problems in facing the changes in their environment because they do not have the financial and human capacities to do so.
DE: Biodiversity-; Lagoon-fisheries; Reef-fish; Distribution-; Endemism-; Species-diversity; Environmental-factors; I,-Pacific
CL: Aquatic-ecology:-General-1381
JA: ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
IC: IF0001089
AN: 4763548
UD: 200012

13.
TI: Changes in aquatic plant communities on the island of Valaam due to invasion by the muskrat Ondatra zibethicus L. (Rodentia, Mammalia)
AU: Smirnov,-V.V.; Tretyakov,-K.
AF: Department of Biogeography, Institute of Geography RAS, Staromonetny 29, Moscow 109017, Russia
SO: Biodiversity-and-Conservation [Biodivers-Conserv] 1998 vol. 7, no. 5, pp. 673-690
IS: ISSN 0960-3115
PY: 1998
LA: English
LS: English
PT: J (Journal-Article)
AB: Muskrat invaded Valaam Island (Northern part of European Russia) in the 1970s. Aquatic plant communities of 1962 and 1993 were compared on the same plots. Quantitative changes were tested with the help of jack-knifing estimates of most known inventory (alpha -) diversity indicators. Qualitative transformations were assessed using beta -diversity values. The results demonstrated substantially more discriminant ability of diversity measures than classical methods of mathematical statistics. All of the alpha -diversity values declined synchronously without exception. Species composition also changed greatly and those species which turn out to be more resistant to muskrat grazing became the main dominant plants. The activity of Ondatra became the over-riding ecological factor connecting the littoral plant communities of the Valaam. It is concluded that the sustainability of this ecosystem was damaged by muskrat's invasion and that the role of muskrat should not be underestimated when studying the ecology of freshwater littoral communities.
DE: Aquatic-plants; Plant-communities; Invasions-; Species-diversity; Species-composition; Herbivores-; Russia-; Introduced-species; Community-composition; Aquatic-mammals; Russia,-Valaam-I.; Muskrats-; Comparison-Studies; Resistance-; Grazing-; Ecosystems-; Littoral-Environment; Ecological-Effects; Statistical-Analysis; Plant-Populations; Ondatra-zibethicus; Russia,-Karelskaya,-Valaam-I.
ID: Muskrat-
CL: Environmental-quality:-Mechanical-and-natural-changes-1521; Aquatic-communities:-Habitat-community-studies-1463

JA: ASFA-3:-Aquatic-Pollution-and-Environmental-Quality (Q5); ASFA-1:-Biological-Sciences-and-Living-Resources (Q1)
IC: CS9820672
AN: 4382401
UD: 199903