

Index

A

Abiotic factors affecting chemical breakdown, 14
 Actinomyoetes, 19, 21
 Adams, V. D., 31–42
 Adenosine triphosphate (ATP), 15, 20, 23
 Algae, 6, 58, 59, 110, 112, 125
 Algal
 Bloom, 60, 61
 Competition and dominance, 70
 Dominance relationships, 62
 Altered algal dominance and productivity, 71
 Ammonia, 36
 Application factor (AF), 109, 116
 Aquatic Ecosystems Simulator (AEcoS), 213
 Atrazine, 76, 93, 212
 Aufwuchs, 4
 Autotrophic, 36, 39, 215
 Azinphosmethyl, 17

B

Bacteria, 6, 19, 21, 59, 110
 Bacterial counts, 35
 Benthic, 44
 Benz (a) anthracene (BA), 31
 Bioaccumulation, 58, 131
 Bioconcentration factors (BCF), 131
 Biological
 Degradation, 31
 Oxydation, 39
 Oxygen demand, 40

Biolysis rates, 5, 186
 Biomagnification, 93
 Biomass, 38, 167
 Biotic factors affecting chemical breakdown, 14
 Biotransformation
 Radio-labeled substrates, 17
 Rate, 15
 Biotransformers, 184
 Boyle, T. P., 120–133, 134–151
 Burns, L., 176–190

C

Carbon uptake, 93
 Chemical hydrolysis, 5
 Chen, C. W., 204–211
 2-chlorophenol, 17
 Chlorophyll *a*, 137
¹⁴C uptake/chlorophyll *a* ratio, 84, 96
 Cladocerans, 140
 Coal liquefaction, 105
 Cole, F. A., 152–175
 Colonization rates, 6
 “Cometabolism”, 184
 Community
 Metabolism, 39, 111
 Recovery, 57
 Competitive interactions, 115
 Convection, 198
 Copepods, 140
 Copper, 57, 59
 Sulfate, 60
 Correlative analysis of validation, 15
 Critical behaviors, 196
 Crude oils, 31

D

DDE, 170
 DeBen, W. A., 152–175
 Dehydrogenase, 15, 19, 25
 Delayed effects, 58
 Denitrification, 222
 DeNoyelles, F., Jr., 91–103
 Detrital compartments, 215
 Detritivores, 58
 Deauxic effect, 11
 2,4-dichlorophenoxyacetic acid butoxyethyl ester (2,4-DBE), 4
 Diethyl phthalate, 4
 2,4 dimethylphenol, 165
 Direct effects, 58
 Dispersion, 186
 Dissolution, 179
 Dissolved
 Nutrients, 35, 212
 Oxygen, 80
 Ditsworth, G. R., 152–175
 Diversity indices, 139
 Dominance index, 155
 Dynamic mode, 193
 Dynamics (forms of N), 35, 38, 212
 Dynamics (forms of P), 35, 212

E

Ecological interactions, 70
 Ecosystem
 Level effects, 134
 Modeling and stimulation, 177
 Recovered, 113
 Structure and function, 39, 114
 Entrainment, 179
 Environmental chemistry, 177
 Enzymatic activity profiles, 25
 Enzyme assays, 19
 Epilimnion, 44
 Eutrophication, 94
 EXAMS2, 187
 Exchange, 186
 Exposure assessment modeling systems, 191

F

Fairchild, F., 120–133
 Fate of synthetic chemicals, 31, 177
 Feeding behavior tests, 123
 Final
 Acute value, 109
 Chronic value, 109
 Finger, S. E., 120–133, 134–151
 First-order transformations, 180
 Fish, 124, 142
 Fluorene, 121, 134
 Fluorescein acetate hydrolysis, 15
 Franco, P. J., 104–119
 Fungi, 6, 19, 21, 59

G

Gas dynamics, 35
 Giddings, J. M., 104–119
 Grazer/algae interaction, 62, 71
 Gypsum dissolution, 48

H

Half-life ($t_{1/2}$), 27
 Harrass, M. C., 57–74
 Harte, J., 43–56, 210–211
 Heavy metals, 156
 Henry, M. G., 120–133
 Henry's law constant, 179
 Heterotrophic, 36, 39, 215
 Heuristic mode, 194
 Holm, H. W., 3–13
 Hydraulic flow, 43
 Hydrolysis, 186

I

Indirect
 Effects, 58, 114
 Photolysis and oxidation, 183
 Infaunal index, 155
 Inhibition of photosynthesis, 222
 Insects, 110, 138
 Invertebrate grazers, 58
 Invertebrates, 124

Ionic
And sorptive equilibria, 177
Speciation, 178

K

Katko, A., 75–90
Kawaratani, 204–211
Kellogg, R. B., 3–13
Kepone, 17
Kettle, W. D., 91–103
Kollig, H. P., 212–224

L

Larsen, D. P., 75–90
Lassiter, R. S., 191–203
Lateral flow, 198
Levy, D., 43–56, 204–211
Lewis, D. L., 3–13
Light intensity, 31
Linear donor-controlled models, 213
Little, E. F., 120–133
Lockett, G., 43–56, 204–211
Long-term factor, 40

M

Macrobenthic
Communities, 43, 153, 158
Community structure, 153, 155
Macrobenthos, 158
Macroflora, 43
Macrophyte, 110, 112, 114, 125, 137
Malanchuk, J. L., 212–224
Mass balance, 33, 186
Maximum acceptable toxicant concentration (MATC), 130
Methyl parathion (MP), 4, 15, 17, 27, 186
Michaelis-Menten kinetic, 5
Microbial
Biomass, 22
Biotransformation, 183
Decomposition, 199
Density, 15

Transformation rate coefficients, 4, 6, 7
Models “diagnostic,” 200

N

New species (became) dominant, 97
Nitrate (NO_3), 36, 213
Depletion, 60
Utilization, 36
Nitrogen, 36, 206
4-nitrophenol, 17
Numerical classification of the chemical data, 162
Nutrient
Demand, 40
Limitation, 40, 215
Uptake, 38, 60
Nutrients, 204
Added, 94

O

Oldfather, J., 43–56
Omnivores, 58
Organic enrichment, 153
Overton, W. S., 191–203
Oxidation, 186
Oxygen demand, 36, 40

P

Parker, J. D., 31–42
Particulate organic carbon, 35
Paulson, R. L., 134–151
Pearson and Rosenberg model of macrobenthic succession, 153
Pentachlorophenol, 165
Periphyton community, 4, 11, 115, 116
Petroleum hydrocarbons, 39
pH manipulation, 99
Phenol, 107, 165
Phenolic compounds, 105
Phosphatase, 15, 25
Activity, 19
Phosphate (PO_4), 213

Depletion, 60
 Utilization, 36
 Photochemical reactions direct and indirect, 181
 Photo-oxidation, 32
 Photoautotrophs, 38
 Species composition of, 39
 Photodegradation, 35
 Photolysis, 186
 Photosynthetic carbon, 93, 137
 Phoxocephaloid amphipod, 153
 Phytoplankton
 Biomass, 96
 Species, 35, 46, 95, 204, 206
 Succession, 94, 99
 Pollution gradient, 153
 Polycyclic aromatic hydrocarbons (PAH), 32, 121
 Polynuclear aromatic hydrocarbons (PAH), 134, 165
 Porcella, D. B., 31–42, 204–211
 Portier, R. J., 14–30
 Predator/prey
 Ratio, 143
 Test, 124
 Primary productivity, 34, 58, 76, 82, 110, 125, 136
 Priority pollutant, 121
 Production/respiration ratio (P/R), 112
 Prognostic assessment, 191, 200
 Protists, 59
 Protocol, 194

R

$P_n R_{ni}$ ratio, 83
 Rabeni, C. F., 134–151
 Rate constant, 180
 Recovery, 58, 70, 71, 147
 Rees, J., 43–56, 204–211
 Region of critical behavior, 194
 Relative sensitivity, 68
 Replicability, 43
 Reproduction, 143
 Resiliency, 71

Resistance, 96, 97, 100
 Respiration, 82, 111
 Reynolds number, 6
 Rohm, C. M., 75–90
 Rotifer, 62, 140

S

Saegebarth, E., 43–56
 Salinity gradient, 21, 22
 Schneider, R., 43–56
 Schults, D. W., 152–175
 Second order
 Rate constants, 180, 184
 Transformation coefficients k_b , k_A , 4
 Sediment toxicity, 152, 153, 164
 Sediments, 35, 39, 186
 Sewage outfalls, 152, 170
 Site-specific dynamic models of chemical fate, 200
 Snails, 110
 Snapshot mode, 193
 Southern California Bight, 152
 Species
 Diversity, 141
 Relative abundance, 35
 Richness, 167
 Spontaneous swimming activity, 123
 Standardized aquatic microcosm (SAM), 58
 Stay, F. S., 75–90
 Stimulation of heterotrophic communities, 40
 Successional response, 69, 97
 Suppression of transformation, 12
 Survival, 142
 Swartz, R. C., 152–175
 Swimming
 Behavior, 123, 129
 Capacity, 123
 Distance, 123
 Synthetic crude oils, 105
 System
 Level effects, 223
 Recovery, 62, 63

T

Taub, F. B., 57–74
 Terrestrial exposure assessment model
 (TEA), 192
 Three-phase aquatic microcosm
 (TPAM), 31
 Total gross productivity, 137
 Transformation, 58, 177, 186
 Transport processes, 177, 179
 Trophic interactions, 39, 57, 76, 116

V

Vertical flow, 198

Volatilization, 179, 186

W

Water-soluble fractions, 105
 Werner, M. D., 31–42

Y

Yeasts, 19, 21

Z

Zooplankton, 45, 58, 66, 110, 140,
 204, 206, 207