
Index

- Aarhus Convention on Access to Information 540
- abiotic components 440, 442
- Access to Justice in Environmental Matters 540
- accuracy of valuation 295–6
- acid rain deposition in Scotland 472
- acidification, threat to fisheries 61
- adaptation potential of marine ecosystems 85
- adaptation strategies
- fisheries adaption to climate change 74
- adjusted net national income (ANNI) 16
- adjusted net savings (ANS) 15
- adverse selection, found in most AEPs 353–4
- AEP (agri-environmental projects)
- preservation of environmental features 354
- aesthetic experience enhancement 446
- afforestation, economic incentives
- for carbon sequestration 356
 - Costa Rican programme 353–4
- African countries in Mediterranean basin
- economic vulnerability to climatic change 165
- African Sustainability Summit, 2012 25
- agricultural biodiversity 322
- research progress 331
- agricultural capital asset values 134
- agricultural gross domestic product (GDP) 130
- agricultural intensification 322
- effect on biodiversity 303, 344
- agricultural labor in man-hours 134
- agricultural land 16
- Latin America, Caribbean, South Asia 22
 - productivity 162
 - use patterns 153
- agricultural production 130–31, 134, 137
- agricultural productivity via natural pollination 523
- agricultural products, international demands
- for drivers of deforestation 325
- agricultural sector changes
- climate change, world economies change 153
- agricultural water pollution 353
- agricultural yield 158
- market price of crops 284
- agriculture
- development strategy 319
 - intensive and less intensive 354
 - ‘poor countries’ dependence on 322, 346
- agri-environmental programme in EU 353–4
- agro-chemicals use 344
- AHP (analytical hierarchical process) 455
- pairwise comparisons 457
 - Waterpark (*het Lankheet*) 460
- air and water quantity and quality 513
- air pollution 321, 325, 538
- air quality regulation, ecosystem services 340
- Akaike information criteria (AIC) 403
- Albania, Turkey
- climate-change-induced effects 164–5
- alien species, invasive 324
- Alsation aquifer (France), non-use value 479
- alternative hypothesis 487
- MMA (marine-managed areas) users vs MMA non-users 494
- alternative specific content (*ASC_{sq}*) 403
- Rokua esker, Northern Finland 474
- Altun La, Belize 44
- Amani Nature Reserve, Tanzania
- protection need 347
- animal species extinction 343
- aquaculture, income source and food 78, 85, 90
- aquatic plant species, decline, Lake Takkobu 394
- aquatic resources uses, competing 70
- aquifer and cave ecosystems
- with diverse, unique fauna 426, 466
- arable land, abundance of, in poor countries
- ecosystem services for natural preservation 249
- aragonite saturation state in EEZ 86
- archaeological heritage protection 169
- archaeological sites, Belize
- international reputation 58
- areas of high carbon storage, avoidance,
- forest, riparian areas, oak woodland, mesquite 553
- ARIES (Artificial Intelligence for Ecosystem Services) 559, 565
- carbon results 176–7
 - computer simulation tool 548–55
 - InVEST (computer simulation tool) 561–2
 - model, case study regions 171
 - maps of service provision US San Pedro Watershed, Arizona 170
 - open space proximity results 175, 182–183
 - recreation models 177–8

- San Pedro River Basin, USA
 - application 169–91
 - carbon sequestration and storage 174
 - system planned enhancement 190
 - viewshed results 175, 180, 181, 189
 - water results 178–9
- Armington assumption product heterogeneity 161
- ASC (alternative specific constant) parameter negative
 - Rokua esker, Northern Finland 474
- attributed effects on estimated probability 387
- auction systems for landowners 355
- average unit value calculation 101
- AZULMAR enterprise 439, 440, 441
 - Jardines de la Reina Archipelago, Cuba 448
- baseline growth for world economy 162
- basic set covering 195
- base model with random parameters (RPLI)
 - Ras Mohammad National Park, Egypt, 1983 377
- Basque Centre for Climate Change (BC3) 170
- Bayesian information criteria (BIC) 403
- Bayesian network models 170, 174–5, 177, 190
- beach loss and erosion, slowing of coral reefs 95
- bees, reasons for increase in European cities 222
- behavioral psychology, ‘social cognition’ 120
- Bel-Cruise Limited, cruise suppliers 42
- Belize (Caribbean)
 - economy from onshore activities 48–9
 - local economy from tour purchases 50
 - nature-based tourism 43, 44
 - random selection 487
 - ‘responsible tourism’ 40
 - study data 487
- Belize City investment needs
 - in local products, customs and festivals 58
- Belize Laughing Bird/Gladden Spit
 - random selection 487
- Belize, Lighthouse Reef, random selection 487
- Belize, Protected Area Conservation Trust (PACT) 45
- Belize, South Water Caye, random selection 487
- Belize Tourism Board
 - Visitor Expenditure and Motivation Survey (VEMS) 41
 - Belize tourism season November–April 45–56
- benchmark datasets for world economy
 - ‘without climate change’ 162
- benefit-cost analysis (BCA) 113, 114
 - foundation for deliberative valuation 116–24
- benefit transfer 96, 294, 295
 - economic value estimates 292–4
- benefits, non-economic, of scientific research 440
- benefits, non-fishing, scuba diving, catch-and-release game fishing 440
- benefits of nature 511, 524
- benefits of protected areas
 - Finland, Venezuela, New Zealand 525
- Bering Sea ecosystem model 81
- biodiversity (Bio) 552–3
 - agricultural 154
 - concentrations in less-developed countries 320
 - conservation 6, 255, 337–60
 - aquatic plant species 396–7
 - crop productivity 153
 - decline 303, 331
 - ecosystems services in serious jeopardy 322–4, 357–8
 - Himalayan region in northern India 253
 - human well-being 508
 - impacts on land productivity for crops 162
 - poverty and development 318–33
 - preservation 303–8
 - productivity impacts on agricultural sector 153–67
 - prospecting 252–62
 - restoration 217
 - socio-ecological systems 318
 - types, genetic, species, ecosystem, functional 252–3
 - valuation in pharmaceutical research 254
 - valuation framework 113
- biodiversity improvement, Waterpark (*het Lankheet*) 454
- biodiversity protection 233, 329, 326–32, 448, 518
- biodiversity-related ecosystem services 7
- ‘Biodiversity: Science and Governance’
 - international conference 2006
 - regional consultation workshops 500
- biogeochemical effects 1, 61, 79
 - economic impacts of ocean acidification 84, 90
 - water, carbon, nitrogen 294
- biological conservation 195
- biological control (pest, disease) 219
- biological diversity, worldwide decrease 10, 165
- biological natural capital 342
- biological relevance of chemical changes 85

- biological screening of medicinal plants
 - threats from 254
- biomass production (454, 455)
 - reed, Waterpark (*het Lankheet*) 454
- biophysical impact of ocean acidification
 - on coral reefs 86
- biophysical values for ecosystem service
 - changes
 - mesquite management scenarios 187
 - 'bioprospecting' 320, 327, 330
- biotic components 441, 442
- birding, San Pedro River watershed 179, 188
- birds, threatened species 321
- black urchin study
 - Jardines de la Reina Archipelago, Cuba 442
- bleaching frequency for coral reefs
 - different climate scenarios 106
- Brodmann's Area 10, 119, 120
- Brundtland Report, *Our Common Future*, 1987 519
- 'bundling' ecosystem services
 - merging of multiple values from property 356–9
- Bureau of Land Management (BLM) 169
- Bureau of Reclamation (BOR)
 - Central Arizona Project proposed extension 173
- bush meat hunting 347
- Business and Biodiversity Offsets Programme (BBOP) 540
- business community engagement in solutions
 - Environmental Profit and Loss Account (EP&L) 529
 - Natural Capital Declaration 529
- Business for Social Responsibility (BSR) 170, 547
- business integration in biodiversity
 - important reasons for 537
- calcification due to ocean acidification 83, 88
- calcium carbonate availability 78, 79, 80
 - 'transition decade' 86
- Californian anchovy catch increase, predicted 68
- CAP Reform 209–11, 217
- capacity-building components, IPBES activity 505
- capital
 - intangible 19, 20, 24
- capital misallocation 521
- capital rental payments 136
 - types of, manufactured or 'man-made' 515
- capital stock rent 133
- capital stocks, G-Cubed model 162
- Capo Feto, Sicily
 - draining for agricultural land, 1950s 409
 - fauna diversity, risk of extinction 409
 - illegal dumping ground for debris 409
 - Mediterranean wetlands landscape 408
 - methane pipeline Italian-Algerian 409
 - military use, urban development, tourism 409
 - professional survey company interviews 414–15
 - Ramsar Convention, international 409
 - Red List of plants at risk 409
 - survey design test on individuals 414
 - valuation study 419–20
 - waterfowl migration site 409
 - wetland, 409
- carbon capture and storage, global benefit 290–91
- carbon dioxide emission damage 89
 - ocean acidification 78, 85, 90
- carbon emission reductions 4, 518
 - from deforestation 338
- carbon footprint of fisheries industry 74
- carbon sequestration 154, 173–4, 233, 349
 - abiotic components 447
 - markets 352
 - reduction San Pedro River watershed 187
 - storage 171, 173
 - test application 547
 - timber products 1
 - via peatland restoration 523
- carbon stock value 144, 174
- carbonic acid in water 78
- Caribbean cruise market 40, 41, 43–56
- Caribbean Tourism Conference
 - on cruise and land-based tourism 41
- case study area
 - Rokua esker, Northern Finland 468
- catch potential, of fish species
 - macroecology theory 67
 - maximum, declining of 84
- cave tubing at Caves Branch 42
 - activity for cruise passengers 48–9
- Caye Caulker Marine Reserve 44
- cereal agro-ecosystems, composition and productivity 158
- cereal productivity changes
 - by climate changes, wheat in Italy 159
- CGE (computable general equilibrium) 160
- chain of esker ridges and small 'kettle' lakes 468
- 'charismatic' mammals, ocean acidification 80
- Chesapeake Bay watershed, US 238
- child malnutrition 326
- Chinese production of molluscs
 - estimate for global domination 84

- choice experiment data, conditional logit (CL) 399
- choice experiment, design of, Lake Takkobu 396
- choice experiments (CE) 391, 455
 benefit valuing 371
 complexity of 372
 environmental valuation (EV) 467
- circular economy model (closed loop) 519
- cities and transition towns, green economy 538
- classical economic theory, basic value system 125
- Clean Development Mechanism (CDM)
 Kyoto Protocol 356
- clear-water state 394–5
- climate change 1, 6, 158, 324, 511
 adaptation via floodplain conservation 523
 agricultural yields 158
 benefits for fisheries in Iceland 64
 biodiversity loss 319
 cause, greenhouse gases 79
 direct threats to coral reefs 93–109
 direct variations in temperature, (CC) 162
 effects on marine fisheries economy 61–75
 effects on ocean biophysics 64
 effects on primary productivity 62
 enhanced damage costs 87–8
 impacts on agro-ecosystems 155, 157, 159
 160
 impacts on crop productivity 154–62
 increased extinction 326
 industry reorganization, labour markets 75
 negative effect, worse for low-income countries 358
 possible biggest threat to biodiversity 326
 revenue loss, companies and households 61
 scenarios, different 103–9
 world's fish and fisheries 75
- climate change impacts on crop biodiversity 156–60
- climate counterfactual scenario
 temperature and precipitations imposed 162
- Climate Framework for Uncertainty,
 Negotiation and Distribution (FUND)
 81–3
- climate regulation 4, 342, 352, 515
 ecosystem services (ES) 226, 340, 513
- climatic fluctuations, land productivity impact 153
- climatic variability, groundwater, economic value 430
- clinical diagnosis in medicine 212
- cluster conservation lands
 optimal selection 193–205
- CO₂ emissions, impacts of ocean acidification 79
- coal, uranium, mineral extraction 169
- coast of Fiji
 economic impact of climate change 65
- coastal and island communities
 dependence on coral reefs 93
- coastal and marine resources
 governance as critical 485–98
- coastal communities surveyed 488
- Coastal Ecosystems Research Center (CIEC),
 Cuba 437
 Jardines de la Reina Archipelago, Cuba 442
- coastal marine fisheries, threat of collapse 485
- coastal protection 83, 93
- coastal recreation on coral reefs 94, 95
- coastal topography of near-shore bathymetry 36–7
- coastal waters, level of ocean acidification 85
- coastal wetland system, degraded,
 Capo Feto, Sicily 407–20
- coastal wetlands preservation flood protection 238
- Cobb-Douglas function 84, 133–4, 139, 141, 160
 fixed effects, regression results 136
- Cockscomb Wildlife Sanctuary 44
- Coiba National Park, Panama, random selection 487
- collective intelligence 120–21, 123
- combined MPA model, strategic welfare function 270
- commercial and non-commercial benefits to human society, coral reefs 95
- commercial wetlands
 management by profit-maximising entrepreneurs 454
- Committed Climate Change Scenario (Commit)
 climate change 66
- Common Agricultural Policy (CAP) 153, 211, 355
- Common Database on Designated Areas (CDDA) 217
- compact sites for gopher frogs optimum selection 205
- comparison between BNL and RPL models 384
- compensation for farmers 462
 necessity for income loss 459
- compensation when required 116
 Rokua esker, Northern Finland 470
- comprehensive wealth accounting 15–25
- computable general equilibrium (CGE) model 153, 160

- conditional logit (CL) model 403
- confidence intervals for conditional means (IT model)
 - Ras Mohammad National Park, Egypt, 1983 382
- conservation 236, 329, 359, 521–2
 - in ecosystem services (ES) 233
- conservation appreciation enhancement 446
- conservation area expansion
 - Rokua esker, Northern Finland 470
- conservation areas, clustered, base model 197
- conservation autarky 265, 266
 - improvement over strategic behaviour 276
 - Marine Protected Areas (MPAs) 267–8, 274
- conservation efforts
 - of Germany, Netherlands and UK 265
 - interest in Upper San Pedro 171
 - on military installations 195
- Conservation Management Area 195–6, 443
 - base model results 199
 - compact shapes need, species conservation 196
 - computation models 204
 - data illustration 198, 199, 200
 - gopher frog GF 196, 198, 202
 - gopher tortoise GT 196, 198, 201–2
- conservation programme targets 355
- constant elasticity of substitution (CES) 133
- constant marginal utility of money assumption 114
- consumer welfare loss 84, 87
- consumption shares
 - for final goods agriculture, Japan 139
- contingent valuation (CV) 113, 126, 392, 410, 455, 467, 470–71, 479
 - benefit valuing 371
 - groundwater protection in Milan, Italy 431, 479
 - survey 407–20
- Convention on Biological Diversity (CBD) 2011–20, 318, 338–9, 345, 501
 - protection of world's oceans 264
 - targets by 2020 527–8
- Convention on International Trade in Endangered Species (CITES) 327
- coral bleaching
 - due to rise in water temperature 94–5
 - Indian Ocean tsunami, 2004 30
- coral loss value, discount rate 94, 107
- coral reef ecosystem services 369–70
 - economic valuation 86
 - estimated value distribution in world 102
 - Ras Mohammad National Park, Egypt 368, 388
 - scarcity of information on value 86–7
- coral reef fish populations
 - mangrove protection in Caribbean 37
- coral reef fishers in national population 86
- coral reef management failure 370
- coral reef mortality, deterioration
 - increase in wave energy to shores 37
- coral reefs 6, 27, 93
 - Belize, international reputation 58
 - bleaching severity, value loss rate 104
 - coastal coverage, Egyptian coastline 369
 - degradation and destruction, South East Asia 94
 - deterioration, different scenarios 105
 - destruction, twenty per cent of world 485
 - protection from storm damage and erosion 78
 - ecosystem services, value 81, 83
 - foreshore habitats 37
 - goods and services, provision of 93–4
 - harbouring of valuable fish 78
 - impoverishment of millions of people 95
 - 'oases' in marine nutrient deserts 93
 - wave attenuation 30
 - coral reefs, spectacular, and threats to Ras Mohammad National Park, Egypt, 1983 367–89
- coral reef services
 - contribution to GDP 130
 - impacts of ocean acidification on 87–8
 - mean of values across valuation methods 100
 - value, loss of 83
- coral reef valuation, overarching approach 97
- Corine Land Cover (CLC) 155
- correlated parameters (RPL4) 382
- Cost Effectiveness Priority Investment Index (CEPII) 304
- Costa Rican programme 357
 - forest protection contracts 355
- cost-benefit analysis 114–16
 - water resource planning 288
 - welfare estimates 419
- Crooked Tree Wildlife Sanctuary 44
- crop biodiversity 153, 322–3
 - wheat production in Punjab, Pakistan 323
- crop productivity modelling 156–7
- crop simulation model (SIRIUS) 158
- Cruise Ship Policy, Belize, 2000 56
 - closure on on-board activities 48
- cruise tourism, Belize 6, 40–41, 56, 59
 - activities in Belize, 49
 - demographic information 46
 - disembarkation at Belize 51–2
 - evaluation of travel experience 52–3

- expansion, Caribbean 43
- infrastructure investments 45
- in-port activities 48–9
- passengers vs ecotourists 58
- potential job creation for locals 57
- sampling Belize City Tourist Village 42
- survey, passenger questionnaire 41
- cruise vacation characteristics
 - length, places visited 46–7
- cumulative distribution (CDF) 410
- cyclone, Orissa, India, 1999 31
- damage assessment cases in USA 288
- damage cost of ocean acidification
 - reduced carbon storage 85
- decision support toolbox (DST) 208–9, 211, 222, 225–7
 - offer and demand gap 210
- deer hunting, San Pedro River watershed 188
- deforestation 348
 - in Costa Rica Thailand 329, 355
- degree heating month (DHM) 107
 - 230-39, 2050-59 105
- deliberative group, WTP or WTA 122
- deliberative monetary valuation (DMV)
 - willingness to pay for 121–2
- deliberative valuation (DV) 116, 121, 124–5
 - behavioral and neuroscience case for 117–20
 - compatible with democratic institutions 124
- demersal fish in North-East Atlantic 84
- Denmark on protected area status
 - to Dogger Bank, refusal to sign 265
- Department of Defense (DoD) lands
 - endangered species high distribution 193
 - human capital for conservation efforts 193
- departure taxes, Belize tourism survey 42
- dependent groundwater ecosystem
 - Rokua esker, Northern Finland 468
- detoxification and sequestration of pollutants 441
- developing countries 3, 20, 66
- DHM (degree heating month)
 - annual DHM experience for coral reefs 105
- discount rate 65–6, 139, 261
- disease regulation 344
- distance to wildlife corridors 552
- Distant Water Fishing Nations (DWFN) 74
- diving as tourist activity, Cuba 437
- diversity of life on earth, loss of 2
- diversity theory (1992) 302, 304–5
- DMV (deliberative money valuation) 123
- Dominica, Caribbean, nature-based tourism 43
- drug production, organism quality 255, 258–9
- drugs and biochemical from coral reefs 93
- dunes, foreshore habitats 37
- Dutch water management 463
- duty-free shopping
 - no benefit to local economy 50–51
- Dynamic Bioclimate Envelope Model (DBEM) 66
- dynamite fishing, direct threats to coral reefs 94
- Earth, ‘mass extinction’ 319
- environmental degradation 328
- ECM (error component model) results 475
- EcoAIM (Ecological Asset Inventory and Management) 565
 - distinctions and complementarities among tools 561
- eco-labelling
 - Forest Stewardship Council wood and non-wood certification 352
- ecological damage function (EDF) 349
- ecological services from groundwater 121, 431
- ecological structure of entire coastal systems
 - degradation from anthropogenic impacts 485
- EcoMetrix 565
 - distinctions among tools 561–2
 - environmental measuring tool 559
- econometric analysis, Capo Feto, Sicily 410–17
- economic analysis
 - benefits and cost of protection 478
 - of decline of corals 95
- economic assessments
 - ecosystems and biodiversity 3
 - groundwater, economic value 430
- economic growth and incomes, biodiversity 321
- economic impact of biodiversity
 - temperature effect on land productivity 164
- economic impacts of ocean acidification
 - geographic scale 82, 87
- economic implications of coral reefs
 - effect on human well-being 93
- economic instruments
 - incentives for efficient groundwater use 433
- economic issues on cruise tourism 41
- economic valuation 125, 289, 367, 467
 - biodiversity contribution to land productivity 165
 - of corals, value transfer 96
 - of damages to coral reefs 95–6
 - of ecosystem services 1, 109
 - marine and coastal ecosystems 89
 - in monetary terms 160–65
 - of riparian habitat of San Pedro River recreational value 171

- of water resources
 - groundwater undervaluation 432
- economics of biodiversity 305–6
- Economics of Ecosystems and Biodiversity (TEEB) report 2–3
- economics of fishing
 - quantity and quality changes 64
- economy-climate-biodiversity interactions
 - general equilibrium model 160
- economy of China, domination 23
- economy measuring
 - wide flow and stock values of natural assets and ecosystems 144
- economy, simple, example model for 239–41
- Ecosystem for Poverty Alleviation (ESPA) UK programme 3
- ecosystem goods
 - food, raw materials, medicine, water 513
- ecosystem goods and services 6, 95, 325
- ecosystem restoration in Lake Takkobu, Japan 393
- Ecosystem Restoration Strategy, 2005, Japan 391
- ecosystem risks 480
- ecosystem service assessment and valuation 169
 - decision-making support 188–9
- ecosystem services (ESS) 1, 40, 93, 170, 215, 219, 266, 283, 337, 234–5,
 - accounting 17
 - allocation of land 233–50
 - assessment and management 208–28
 - conservation policy doubts 236
 - contribution to GDP, methodology 144
 - drivers and impacts 514
 - economic impacts of ocean acidification 90
 - generation solution proposal 241–2
 - nutrient cycles, biological control of 290
 - provision 337–60, 80
 - quantification 169–91
 - restoration programmes in East Asia 391–405
 - timber production, food security water security 298–9
 - tool assessment process
 - US San Pedro Watershed, Arizona 547
 - value changes, urban growth scenarios 187
 - winners and losers, valuation 290
 - Waterpark (*het Lankheet*) 454
- ecosystem service shadow prices, Japan 142
- ecosystem service tools
 - US San Pedro Watershed 548–50
- ecosystem service valuation (ESV) 282–5
 - in macroeconomic settings 130–45
 - study sites map 99
- Ecosystem Services for Poverty Alleviation (ESPA), UK 4
- Ecosystem Services Valuation Pilot study 547
- ecotourism in Belize 41, 44, 56
- ecotourism, welfare impact 328
- Ecuador (Eastern Pacific), study data 487
- educational opportunities
 - non-economic benefits 446
- EEZ *see* exclusive economic zones
- EGS *see* environmental goods and services
- Egyptian Red Sea
 - genera and species of reef-building corals 368
- endangered species, habitats, ecosystems 215, 396
 - preservation of species 396–7
- endemic species
 - Central and South America, Caribbean 304
- environmental awareness
 - MMA users versus MMA non-users 494
- environmental concern 41
 - reasons for disembarkation at Belize 118
- environmental degradation
 - per-capita income 321
 - poverty, social and political conflicts 522
 - Rokua esker, Northern Finland 470
- environmental goods and services (EGS)
 - in marine environments 436–7
 - Jardines de la Reina Archipelago, Cuba 439, 443, 447–8
 - public goods 122
 - valuation studies 437
- environmental impact assessment (EIA) 210
- environmental impact statements (EISs) 169
- environmental institutions
 - Flora and Fauna International 546
 - International Union for Conservation of Nature (IUCN) 546
 - Nature Conservancy 546
 - World Resources Institute (WRI, 1998) 546
 - World Wildlife Fund 546
- Environmental Kuznets Curve (EKC) hypothesis, 2002 321
- environmental limits of planet 519
- environmental organizations, membership attitude variable 462
- environmental valuation (EV) 280
 - records of subject areas 281
- Environmental Valuation Reference Inventory (EVRI) 295
- environmental and economic sciences and decision-making process 208
- environmental volunteering, case study cooperative behavior example 120

- Environmentally Sensitive Areas (ESA) UK 1986 353
- ERcoMetrix
environmental measuring tool 548–5
- ESR (Ecosystem Services Review) 561, 565
structured approach to priorities setting 548–55
- estimated form efficiency measures, 429
- estimates of mean WTP
for Capo Feto restoration 418
- Estimation of Food and Raw Materials 101
- estuarine and coastal ecosystems (ECEs) 27, 37
protective value 27, 28, 32, 36
wave attenuation 28, 30, 36
- estuarine ecosystems 6, 466
- ESV (ecosystem services valuation) 289–95
spatial issues 291
- ESValue 565
distinctions among tools 561, 562
stakeholder preferences 548–55
- Ethical Vegetarian Alternative 539
- Ethiopia Central Highlands, 2005 323
- EU Birds Directive (79-401/EEC) 408
- EU Groundwater Directive 424
- EU Habitats Directive (92/43/EEC) 408
- EU Natura 2000 408
- European Mediterranean countries
climate-change-induced effects 164
- European Network of Natura 2000 155
- EU Water Frame Directive (WFD) 424
- Everglades National Park, Florida 393
- Exclusive Economic Zone (EEZ) 85, 264–5
- expected damage function (EDF) approach
estuarine and coastal ecosystems (ECEs) 33–4
replacement cost vs damage function 35–6
- ‘experiential’ tourism, growth of 56
- experimental design, choice experiments (CE) 373
- extreme events protection
higher than values of raw material 98
- factor account entries, land, water rent 131–9
- farming and loss of wildlife habitat 353–4
- farm-level cross-section analysis 323
- fee structure of commissions
local businesses to cruise passengers 57
- fees elasticity
Ras Mohammad National Park, Egypt, 1983 386–8
- Fiji (Western Pacific), study data 487
- financial benefit from coral reefs 95
- financing tools, innovative, green economy 535
- fin fishing, 441, 443, 445
- fines for illegal extraction 329
- firm-specific technical efficiencies 428
- fish catch, predicted change
Mexican exclusive economic zones 72–3
- fish, commercially valuable, coral reefs 95
- fish movement studies
Jardines de la Reina Archipelago, Cuba 440
- fish species, commercially important
ocean acidification 80
- fish trade, international fisheries, threats to
overfishing, ocean warming 61
- fisheries 7, 61–75, 78
development strategy 319
over-exploitation 74, 511
- fisheries and carbon storage
impacts of ocean acidification on 87–8
- fisheries and fish stocks
marine protected areas 264
- fisheries catch, predicted percentage change 68–9
American cupped oyster 68–9
blue crab 68–70
common octopus 68–9
flathead mullet 68–9
Jumbo flying squid 68–9
northern red snappers 68–9
Pacific calico scallop 68–9
- fisheries MPA (marine protected areas)
Gordon-Schaefer model 268–9
- fishing benefits
Jardines de la Reina Archipelago, Cuba 441
- fishing economic benefits evaluation 439
- fishing subsidies, threat to coral reefs 94
- fishing techniques in Fiji, sustainability of 495
- flood control by afforestation 455, 530
- flood protection 233, 463
Tobit regression model 462
- flora and fauna diversity
Ras Mohammad National Park, 1983 367
- flow (shadow rental) value
ecosystems service’s contribution to GDP 130
- flowchart, subsidy reform tool green economy 534
- Food and Agricultural Organization
crop products in Europe 156
North-East Atlantic 87
- food and drink expenditures, Belize average 50
- food chain effects on animals
ocean acidification 78–91
- food, fibre, biochemical production 340
- food provision, cropping, harvesting 219
- food security 318, 326
- forest 22, 36, 319, 341, 355, 511, 515
cutting for agricultural land
impact on environment 351

- large scale 340
- deterioration, unprotected forests, Tanzania 348
- drainage of peatland disturbance to groundwater 468
- regeneration, rainwater preservation 521
- forestry, sustainable, welfare impact 328
- freshwater provision increase 226
- freshwater resources, deterioration of services 326
- fuel wood from forests 347
- fundamental capacities, key findings of IPBES 502
- Gaborone Declaration by African Nations 2012
 - green accounting 528
- Galapagos National Park, Ecuador
 - random selection 487
- game theory 117, 275
 - marine protected areas 264–76
- GDE (groundwater-dependent ecosystems) 478
 - wetlands, territorial ecosystems 467
- GDP (gross domestic product) 4, 25
- GDP and GNP (gross national product) 133
- gene banks 219, 322
- general equilibrium framework 6, 130, 133
- General High-Level Panel on Global Sustainability 516
- genetic base of crops, narrowing 324
- genetic biodiversity services
 - higher than values of food 98
- genetic diversity 252, 304
- Geophysical Fluid Dynamics Laboratory, US 66
- GF *see* gopher frog
- Ghent, Belgium
 - weekly vegetarian days at schools 539
- GHG *see* greenhouse gas emissions
- gift and souvenir purchases, Belize average 50
- global assessment on ecosystem services 500
- global climate regulation, abiotic components 447
 - through carbon sequestration 440–41
- global consumption increase 318
- global crisis
 - marine biodiversity conservation 485
- global desertification
 - UN Convention to Combat Desertification (UNCCD) 526
- global ecosystems
 - rapid change 1950 to 2000 318
- Global Environmental Facility (GEF) 346, 500
- global extinction risk 337
- global fish catches, estimate 61, 63
- global fisheries damage 95
- Global Forest Resource Assessment 328
- global investment for biodiversity 304
- global models MIMES, GUMBO 144
- global monitoring sites 99
- Global Partnership for Wealth Accounting and Valuation of Ecosystem Services (WAVES) 546
- global public goods 233
- global states of coral reef bleaching 103
- global studies 89
- Global Trade Analysis Project (GTAP) 160–61
- global wealth increase 20
- gopher frog (GF) (*rama capito*) 193–4
 - and gopher tortoise (GT) 201–4, 205
 - ground-bound species 196
 - joint management of both sites 202
 - parcels in conservation area 201
 - Species at Risk 193–4
 - water access need 196
- gopher tortoise (*gopherus polyphemus*) GT 193–4
 - Fort Stewart in Georgia, USA, case 193–205
 - ground-bound species 196
 - keystone species threatened under Endangered Species Act 193–4
 - military base supporting conservation 193
 - water access need 196
- Gordon-Schaefer model, asymmetry 275
- governance for a green economy
 - integrated, multi-level 535–9
 - public-private partnerships 536
 - research and education public support for 535
- governance, voluntary types, Dutch government
 - Minister of Agriculture, Nature and Food Quality, 2008 454
- governance spectrum 486
- grasslands for grazing 154
- green accounts 132, 133–52
- green area enhancement, in European cities 222
- green city, Freiburg, Germany, 1992 538
- green economy 9
 - active participation of citizens 539
 - low carbon, resource efficient, socially inclusive 513–15
 - nine principles 516
 - sustainable development, circular economy 518
 - transition 529–30
- Green Economy Initiative 4, 538

- green economy transition 531, 533
 - targeted education and skills training 539
 - values of nature 511–42
 - urgent need for social equity, poverty eradication
 - human well-being 512, 513
- greenhouse gas emissions 95, 158, 174
- greenhouse gas increase by forestry clearance 325
- Green Infrastructure 211, 217, 218, 223, 226
 - CAP Reform 222
 - change in ecosystems services 221
 - maintenance and enhancement 220, 226
 - QUICKScan (QS) 219
- Greenpeace conservation focus 266
- Grenada Caribbean, natural capital accounts 43
- graphical user interface (GUI)-based modelling 190
- gross national income (GNI) per capita 96
 - threats to biodiversity 321
- groundwater 2, 8, 175, 430, 468, 478
 - abstraction costs 433
 - as aquifer 8, 430
 - augmentation, wildlife habitat quality 179
 - decline, pumping from urban growth 171
 - and important ecosystems 431
 - in situ shadow price of 423–4
 - water supply for human consumption 467
- groundwater-dependent ecosystems (GDEs) 466, 480
 - Rokua, Northern Finland 431
- Groundwater Directive (GWD)
- groundwater protection from pollution 431
- groundwater pumping 426
 - San Pedro River 171
- groundwater recharge and discharge 480, 552
- groundwater resources, loss of, as threat to ecosystems' functions 466
- groundwater systems, management of
 - contribution of non-use values 466–81
- groundwater use, costs 432
- group compositions
 - for critical decision-making 120–21
- GT *see* gopher tortoise 196
- GTAP (Global Trade Analysis Project)
 - calibration data 162
- GTAP-EF sectoral and regional disaggregation countries and crops 161
- Gund Institute for Ecological Economics 170
- habitat configuration degradation from
 - anthropogenic impacts 485
- habitat conservation 169
 - habitat conversion, drive of biodiversity loss 325
 - habitat degradation 70, 88, 226, 303, 324
 - habitat loss avoidance 328
 - habitat preservation 132
 - habitat suitability 198
 - Habitats Directive 209, 211, 215, 217
 - Half Moon Caye 44
 - heterogeneity, individual observed 476
 - heterogeneity in variances (RPL3) 382
 - Hicksian income effects 116
 - high carbon storage, disturbance avoidance 552–3
 - high species diversity 338
 - hogfish study
 - Jardines de la Reina Archipelago, Cuba 442
 - household consumption and savings decisions
 - Japan, agriculture, manufacturing services in each region 137
 - human-built barriers as 'replacement cost' 33
 - human capital 24
 - health and productive potential 515
 - human consumption
 - more than planet's regenerative capacity 511
 - human impacts on environment 337
 - human motives for conservation 6
 - human population, continuous increases 324
 - 7 billion, 2011 324
 - human welfare, impacts on, 541
 - of ocean acidification 79
 - humanity's reliance on nature for survival 279
 - hunting sites, San Pedro River watershed 179
 - Hurricane Katrina and Hurricane Rita, 2005 27
 - hurricanes, economic damages 30–31, 44
 - hydrodynamic modelling
 - of storm surge and wind characteristics 36–7
 - hydrological services 318
 - hydropower 24
 - hypoxia, threat to fisheries 61
- in situ groundwater, shadow price 480
- in situ values
 - distance function methodology 479
- incentives for biodiversity 357–8
 - payments for ecosystem services (PES) 328
- Inclusive Wealth Index (IWI) 4, 5
- income-based measure of welfare definition 132
- income growth, correlation to increase in threat to biodiversity 322
- income sources of coral reefs 93
- Indian Ocean tsunami, 2004 27, 36, mangroves 31–2

- indigo snake, at risk, USA 195
- industrial fishing practices
depression of large predatory fish
populations 485
- industrial wastewaters
in Filiouris River, Greece 425
- infiltration 552
- information problem 123
- inland pollution, direct threats to coral reefs
94
- input distance function, estimated parameters
428
- input-output (IO) table, Tokyo 133, 133–45
- Integrated Assessment Model (IMAGE team,
2001) 158
- Integrated Conservation and Development
Projects (ICDPs) 345
- integrated modelling 11
- Integrated Valuation of Ecosystem Services
and Tradeoffs (InVEST) 170
- intellectual draw techniques, Halton sequence
375
- intellectual property rights 253
- intensive farming, reversal need 354
- InterAmerican Development Bank (IDB)
funding Belize archaeological sites 45
- Intergovernmental Panel on Climate Change
(IPCC) 84, 109, 153, 156, 158, 173, 499
- Intergovernmental Platform on Biodiversity
and Ecosystem Services (IPBES) 3, 9,
502–3, 529, 536
biodiversity and ecosystem services 499–509
decision-making, final 504
four major initiatives 500
meeting in Putra Jaya, Malaysia 501–2
proposed governance structure 507
- international environments 486
- International Finance Corporation (IFC)
financial services sector 546
- International Mechanism, of Scientific
Expertise in Biodiversity (IMoSEB) 500
- International Union for Conservation of
Nature (IUCN)
Red List of Threatened Species 319, 322, 337
- internet survey on WTP
for man-made wetlands in Netherlands
457–8
- interpersonal comparisons of utility 116, 120
- interpretational tools 225
- invasive species 319, 320, 326, 332
- invertebrates
dependency on oceanographic conditions
62
- invertebrates in North-East Atlantic 2005–50
estimated impact of ocean acidification 84
- InVEST* (Integrated Valuation of Ecosystem
Services and Trade-offs) 548–55, 559,
565
ecosystem service modelling system 190
- investment increase, green economy 4, 524,
535–6
- IPBES (Intergovernmental Platform on
Biodiversity and Ecosystem Services)
global knowledge assessments 504
governance structure, core principles 505
- irrigation technologies for real water savings
433
- Ismarida Lake, coastal lagoons, important
ecosystem 424
- Israel Nature and Parks Authority 316
- IUCN Red List of Threatened Species
coral reefs threatened 370
- Japan, agriculture, manufacturing, services in
each region
capital, labor, land, water 137
Ministry of Agriculture data sources
data on water use 134
'mixed income' accounts 133
regions, Tokyo, rest of Kanto (ROK) rest of
Japan (ROJ) 137
residential water in Tokyo and ROK 137
small open economy
- Jardines de la Reina Archipelago (JNRP),
Cuba
benefits calculation 437–9
conservation cost 450
current benefits from 449
discount cash flow 451
economic feasibility for creation 436–51
environment goods and services 444
management methods 438
Marine Reserve 437
scientific information study 437
- javelina hunting, San Pedro River watershed
188
- Kaldor-Hicks compensation principle 114
- Kanto manufacturing, elasticity of water 140
- Kanto region, Japan
natural and physical asset values 143
keystone and dominant species prevention
448
- keystone dependent species 307–15, 338, 344
- Kibale National Park
protection of forests and primates 329
- Kiti aquifer in Cyprus 479
- knowledge creation, cultural bias 118
- knowledge gaps 88, 504
- Kushiro More wetlands, Japan 393

- Ecosystem Restoration Strategy, 2005 Japan 404
- Kyoto Protocol on Climate Change 352
- labor costs
 - agricultural production value 136
- labor opportunities, off-farm, welfare impact 328
- Lake Takkobu, Japan
 - data collection internet survey 2006 398–9
 - ecosystem restoration 396–7
- lakes, restoration goals 391, 395
- lakes' water levels, restoration
 - Rokua esker, Northern Finland 470
- land
 - agricultural production, solutions 243
 - area, cultivated, Japan 134
 - management decisions 169, 550, 554–5
 - natural state, or land production 245–6
 - productivity changes 158
 - rental payments, Japan 133
 - shadow values 141
 - use changes 211, 324
 - as result of climate change 158
 - and water rent 136
- land-based resort tourism, Belize 41
- landed values, current and predicted future
 - fish catches, Mexico 67
- landowners, and contractual compliance 354
- landscape beauty, historical preservation 353
- land-sea interface, coast, land, watersheds 36–7
- land-use activity, adoption without payments 355
- land-use change 70, 226, 319, 320, 325, 344
- larval dispersal, fisheries 67
- last common ancestor (LCA) 119
- latent segment logit (LSL)
 - preference for wetland restoration 393
- Law for the Promotion of Nature Restoration
 - in Japan, 2003
 - Kushiro Mire wetlands 391
- learning-by-doing team-building 209
- legal juries, management and behavior 123
- lexicographic preferences 121
- life expectancy increase 511
- lifecycle (pollination) 219
- light pollution 325
- Like-Minded Megadiverse Countries (LMMD), political group member countries 332
- linear cost function 315
- linear integer programming
 - conservation management areas (CMAs) 203
- livestock production, decrease 226
- lobster catch, 445
- local communities
 - inclusion in decision-making 123–4
- local conservation willingness to pay 358
- local government investment in environment and culture, Belize 55
- local public goods provision
 - by ecosystem services 237
- local shopping vs duty-free shops, Belize 58
- log-linear model-CV results 477
- long-lived species protection 448
- loss in future value, interest rates, 109
- loss prevention
 - of keystone and dominant species 442
 - protection of long-lived species 442
 - of vulnerable or rare species 442
- loss rate led by climate change 106
 - coral reef bleaching 106
 - different climate change scenarios 107
- losses in revenue, value 83
- Lower San Pedro watershed
 - conservation significance 171
- low-income countries
 - reactions to protected areas 349
- MA Follow-Up Global Strategy, 2007 500
- macroeconomic-based valuation
 - scenario analysis 162
- macroeconomic frameworks 6
- macro-micro-based approach, 153–67
- Madagascar
 - 'intensification' of resource use 348
- mammal and bird species, threatened
 - from human population density 324
- mangrove deforestation
 - storm events, economic loss, Thailand 27, 32
- mangrove ecosystem study, Cuba 440–41
- mangrove plantations, Vietnam
 - wave attenuation 29–30
- mangrove, protection against tsunamis 28, 36–7
- mangrove restoration
 - annual expenditure saving 525
 - help with storm defences in Vietnam 524
- mangroves 27
 - death and damage reduction 31
 - loss estimates 35, 511
 - storm protection service, Thailand 1996–2004 35–6
 - under sharp decline 485
- mangroves in Cambodia
 - storm protection, erosion control, fish breeding grounds 522
- mangroves, refuge and protection areas
 - for fish and other species 440

- mangroves to shrimp farms, conversion
 - wave attenuation decline 32
- man-made wetland ecosystem services 8
 - on Dutch agricultural land 455
 - lower WTP 462
 - statistics for sample surveys 458
 - valuation of ecosystems from 454–63
- maps of impacts, trade-offs and values
 - clearer communication 188–9
- marginal social utility, individual income 115–16
- marine and coastal ecosystems lack of attention 78
- marine and terrestrial visitor sites
 - environmental and scientific studies 42
- marine ecosystem services 61, 80
 - biologically diverse 369–70
- marine environment importance
 - to human welfare 89
- marine environment stressors
 - pollution, overfishing, temperature change 80
- marine fisheries 6, 61, 75
 - dependency on oceanographic conditions 62
- marine managed areas (MMAs) 9, 487
 - environmental awareness and knowledge 496
 - improvement of socioeconomic situation 495
 - information dissemination 497
 - resource management plans (RMPs) 485
 - effects of 485–98
- Marine Protected Areas (MPAs) 7, 436
 - benefits of 436–7
 - conservation of fisheries 273
 - effects on multiple-use environment 264–76
 - fisheries management tools 265
 - game theory 264–76
 - size and welfare 274
 - size for conservation autarky 273
- marine species adaptation to changing conditions 88
- maritime countries, fisheries decline 75
- market-based instruments (MBIs) 523
- market failures 351
 - and policy challenges 337–59
- market prices 113, 284
- marsh, as sea defence, East Anglia, UK 31
- mass extinctions of species 331
- mass market cruise tourism, Belize 44
- mathematical programming methods
 - linear integer programming 195–6
- Mayan archaeological sites, Belize 44
 - activity for cruise passengers 48–9
- medicinal plants, Himalayan 253
- medicinal plants, importance increase 254
- Mediterranean Basin, climate change 165–6
- Mediterranean Sea ocean acidification
 - impacts on tourism, recreation, red coral extraction 85
- Mediterranean wetlands landscape
 - public financial resources 419
- mesquite
 - in desert scrub and grassland 173
 - ecosystem service value changes 188
 - management scenarios 174–5
 - monetary values 187
 - riparian area maintenance 187–8
 - San Pedro River watershed 173
 - mandate to protect 187
- meta-analysis of coral reef valuation
 - TEEB Valuation Database 99
- meta-analytic function transfer 96
- meta-analytic value transfer
 - benefit of ecosystem 101
- meta-regression results 98
- Mexican Exclusive Economic Zone 61, 66, 70
- Mexican fisheries, climate change impacts 66–70
- Mexican payments for ecosystem services
 - slower deforestation rates, greenhouse gas emissions avoidance 525
- micro (farm-level) dataset
 - Production Survey, 2010, Vosvozi aquifer, Greece 426–7
- Middle East region
 - climate-change-induced effects 164
- military control of lands
 - prevention of urban development 193
- military installations in USA
 - habitat areas for endangered species 193
- Millennium Development Goals (MDGs) 522
- Millennium Ecosystems Assessment (MA) 93, 154, 282–3, 318, 339, 341, 344, 500, 519
 - biodiversity loss causes and effects 319
 - Follow-up Global Strategy 500
- mineral estate, sub-surface, in US 169
- Ministry of Food, Cuba 437
- Ministry of Tourism (MINTOUR), Cuba 437
- mixed logit estimation result
 - Lake Takkobu, Japan 401–2
- mixed logit (ML) model, preference heterogeneity 399
- MMA beneficiaries and non-MMA beneficiaries
 - level of capacity building and training 495
- MMA (marine-managed areas)
- MMA users versus MMA non-users 490, 491
 - effective management structures 493–4
 - resource dependence 493
 - resource use 492

- stakeholder participation 494
- T-test results for dependence on marine resources 492
- MMA, sample sizes, coastal communities 489
- mollusc aquaculture industry 86
- mollusc fisheries
 - impacts of ocean acidification on 83, 86–8
- molluscs, demand for 84
- monetary assessment of identified crop productivity 153
- monetary estimates
 - of costs of ocean acidification 87–8
- monetary loss 107
 - in different marine regions 108
- monetary terms, welfare impacts
 - climate conditions, biodiversity 160
- monetary valuation techniques, for nature 524
- monetary value results of the CGE Model
 - wheat crop output 162–3
- monoculture cultivations 340–41
- Monte Carlo simulation 170
- monthly bleaching index
 - degree heating month (DHM) 105
- MPA *see* Marine Protected Areas
- multilateral environment agreements (MEAs) 499
- multi-method research 10
- multiple ecosystem services 265–6
 - food production, species protection 264
 - Marine Protected Areas (MPAs) 264
- multiple science-policy interfaces
 - key findings of IPBES 502
- municipal water provision, Kanto, Japan 147
- Nagoya Protocol on Access to Genetic Resources 528
- NAIS (The Natural Assets Information System) 549–55, 565
- Nash bargaining solutions 122
- National Biodiversity Institute (INBio) Costa Rica 252–3, 330
- national economy, impact on
 - fisheries decline 66
 - impact on boatbuilding, restaurants 66
- National Enterprise for the Protection of the Flora and the Fauna 437
- National Environment Policy Act (NEPA) 169
- National Forestry Environmental Service, Costa Rica
 - ‘bundling’ ecosystem services 357
- national governance 486
 - India, Colombia, Mexico, the Philippines, the UK, Norway 546
- National Institute of Biological Resources, Korea, 2007 536
- National Ocean Economics Program
 - coastal and marine resources 295
 - national parks, Belize, 53, 320, 327
 - international reputation 58
- National Research Council
 - Committee on Valuing Groundwater 430
- national tourists in Egypt
 - Ras Mohammad National Park, Egypt, 1983 388
- Native American tribes,
 - cultural significance area 547
- Natura, 2000 215, 217
- natural and cultural environment of Belize
 - willingness to support 55–6
- natural asset-adjusted I-O accounts
 - Tokyo agriculture 136
- natural assets
 - and wealth 143
 - contribution to GDP 130, 132, 144
 - land and water 134
 - value share, embedded in GDP 141, 144
- natural capital 2, 283, 516–18
 - contribution to human well-being and livelihoods 517, 520
 - crop, forest, pasture land, protected areas 19
 - developing countries 24
 - energy and mineral resources 19
 - loss implications for people 522–3, 526
 - timber, water, energy, mineral reserve, natural assets 515
 - undervaluation 234
 - value of remaining 4, 345, 521
- natural capital accounting (NCA) 5, 15, 25, 34
- natural capital development path
 - alternative 532
- natural disaster impacts 226
- natural ecosystems, pollination,
 - flood protection 233
- natural environment in the Netherlands 459
- natural features, tourist evaluation 52
- natural functions of ESS, loss replacement 284
- natural products from croplands 154
- natural resources 24
 - commons 289, 358
 - dependence on, by rural poor 522
 - depletion and degradation 132
 - management, irreversibility of 344
 - overuse 511
 - valuation 289
- natural science studies 4
 - for economic impact analysis 88
- natural wealth and income 2
- nature
 - caring for, more than monetary value 340
 - conservation, traditional 359

- ecosystems, landscapes, habitats, species, genetic materials 513
- and natural capital 513–19
- protection 337
- threats to 340
- value of 9, 523–6
- near-shore bathymetry 37
- neoclassical welfare theory 114
- neurological studies
 - psycho-physical correlates 120
- neurons, horizontal spacing of 119
- neuroscience 120
 - unique human 'social brain' 118–19
- nitrate pollution of groundwaters
 - Vosvozis case study, Greece 425
- nitrogen retention, storm protection service 238
- nitrogen storage, ecosystem service 238
- Noah's Ark problem
 - species preservation ranking 302, 311–3, 315
- noise pollution 325
- non-cruise vacations at Belize 54
- non-economic benefits, research projects 441–2
- non-fishing benefits
 - SCUBA diving, catch-and-release game fishing 441
- non-governmental organizations (NGOs) 169, 266, 503
 - key players for green economy 536
- non-market methods of valuation 284, 288
- non-use and existence values of ecosystems 480
- non-use values of groundwater, neglect 479
- non-use values, Reina National Park in Cuba 8
- Norwegian Exclusive Economic Zone 88
- Norwegian water, ocean acidification
 - potential impacts 85
- null hypothesis 487, 491
 - MMA users versus MMA non-users 494
- nutrient cycles 342, 441
 - abiotic components 447
- nutrient removal, control 226
- nutrient run-off 353
- ocean acidification (OA)
 - economic impacts 78–91, 82
 - on coral reefs 81–3
 - expected impacts catch decrease, fish prices rise 84–5
 - impact pathway 80
 - negative impact on marine organisms 62
 - positive effects, fisheries and aquaculture 85
- ocean-atmospheric changes, global changes caused 61
- ocean biogeochemistry 84–5
- oceanographic changes
 - tuna distribution effect, Western Pacific 65
- oil and gas extraction 169
- one-and-a-half bound (OOHB) 410–18
 - bid pairs, in Euros 415
- onshore tour purchases 49–50
- open access regimes
 - in developing countries 1995–2008 329
- open space proximity 171, 175, 177
- optimal policy, keystone species 310–11, 315
- organic farming 354–5, 539
- organism quality, threshold level 259, 260–61
- Organization for Economic Co-operation and Development (OECD) 16
 - Green Growth Strategy 519
- overexploitation 324
 - fishing and recreation, threats to coral reefs 94
 - perverse subsidies 351
- overfishing 70, 83, 527
- overharvesting 319, 326, 340
- oxygen minimum zones 61
- Pacific sierra, catch increase, predicted 68
- Panama (Eastern Pacific), random selection 487
- panids (bonobos and chimpanzees) 119
- parameter values, conservation autarky 273
- parameters and simulations
 - fixed versus random 373–5
 - marine protected areas 271–2
- partial equilibrium analysis 83
- passenger spending, Belize tourism survey 42
- passenger tax, need for increase, Belize 57
- path of integration 116
- payment for ecosystems services (PES)
 - agricultural lands and forests 8, 297, 328, 331–2, 339, 353–4, 454, 523
 - biodiversity conservation 352–7
 - programme for Catskill mountains watershed 525
 - projects, landscape beauty, carbon and water regulation 353, 354
- peatland drainage restriction
 - Rokua esker, Northern Finland 470
- peatlands restoration 530
 - emission savings 525
 - in Germany 525
 - improved carbon storage 524
- Penaeus shrimps
 - Mexico Exclusive Economic Zone 67–9
- per-capita gross national product (GNP)
 - birds, reduction in 321
- percentage change in landed value
 - fisheries catch, predicted percentage change 71

- percentage change in wheat output
 - no climate change baseline 2050 163
- Peru tropical forest
 - no decrease in deforestation 327
- pest control 237, 248
- pharmaceutical firm (PF)
 - drug-producing, analysis 255
 - existing organism or new wild organism 261
 - optimal course of action 259
 - private incentives 262
 - wild organism use 257–8
- phytoplankton biomass decline 62–3
- Pigou tax on carbon dioxide emissions 90
- plant and insect samples 352
- plant genetic resources conservation 331
- plant species reduction 326
- policy approaches for biodiversity conservation 339
- policy impact, key findings of IPBES 502
- policy instruments
 - for biodiversity conservation 351
- policy-making community
 - and scientific community 509
- policy-science interface 208
 - DST framework 210
- pollination services 235, 320
- polluter pays principle 533
- pollution 4, 226, 288, 303, 324, 344, 511
 - biodiversity loss 319
 - groundwater, economic value 430
 - increased extinction 326
- pollution control, lack of threats to coral reefs 94
- population density 96, 321, 342
 - and wetlands 392
- population dependence on impacted ecosystem services 87
- population dynamics, fisheries 67
- population increase in world 511
 - and land preservation 247
- potential ecosystem services, tool taxonomy 560
- potential fish catch changes, 63
- poverty alleviation 4, 9, 518
 - and biodiversity conservation, reconciliation 332
- Poverty-Environment Initiative (PEI) 3
- poverty eradication 541
 - from health ecosystems 521
- poverty in Costa Rica and Thailand 327–9
- precipitations (CC) 156, 157, 162
- predator-prey relation 88
- preference 117–18
 - and social context 120, 125
- preference formation, social process 6, 113, 118
- preference heterogeneity 374, 393
 - random parameters (RPL2), 382
- preservation of species 302–16, 359
- primary productivity, changes in 63
- primary valuation studies, 96
- private deals
 - Costa Rican National Institute of Biodiversity (INBio) 352
- production technologies 133–45
- product life cycle assessments 530
- Programme on Ecosystem Change and Society (PECS) 504
- Project for Ecosystem Services (ProEcoServ)
 - in five countries 3
- property rights 2, 113, 343–4, 358–9
 - for habitats and ecosystems 329
 - legal tool 339
- property values loss 30
- protected areas 16, 321, 327
 - biodiversity policy 328–9
 - key policy tools, biodiversity conservation 349
 - reaction to, dependence on resources 350
- protected areas, investments in
 - increased visitor spending, Finnish case 524
- protective legislation enforcement insufficiency of Ras Mohammad National Park, Egypt, 1983 367
- protection against storms and flooding 27, 235
- protection and refuge for migratory species
 - abiotic components 447
- protection of endangered species 404
- protest bidders 459
 - objection to payment questions 456–7
- public funds, opportunity costs 57
- Public Goods Game 117
- public investment in cruise tourism, Belize unjustifiability of 58
- Public Participation in Decision Making 540
- public payments
 - conservation easements 352
 - for man-made wetlands in Netherlands 463
- public-private partnerships
 - multiple policy objectives 524
- Quail hunting San Pedro River watershed 188
- quality determination process 261
- QUICKScan (QS) 7, 211, 222, 225–7
 - application for EU policy support 215
 - decision support in ecosystem services assessment, management 208–28
 - framework, toolbox 213

- metrics, 216
- open DST (decision support toolbox) 209
- support tool 212
- rainforests, dense, in Belize 44
- rainwater in agricultural production 130
- random parameter logit (RPL) 393, 400–401
- random parameter model
 - Ras Mohammad National Park, Egypt, 1983 376, 377, 379, 381
- random utility theory 371
- random variables 374
- rare species prevention 448
- Ras Mohammad National Park, Egypt 367–89
 - choice experiments (CE) 376
 - islands of Tiran and Sanafir and Sharm-El-Sheikh
 - reef quality 375
 - results from logit models 377
 - tourism development area 367
- raw materials, extraction for energy or fuel
 - impact on environment 351
- real world cooperative behavior 120
- receiver operating characteristics (ROC) curve
 - predicted values vs observed values 378
- recreation, market price 454
- recreation sites, San Pedro River watershed 179
- recreation value of coral reefs, visitor
 - questionnaire 2008
 - Ras Mohammad National Park, Egypt, 1983 370–71
- recreational availability
 - restriction of camping and canoeing 396–7
 - Waterpark (*het Lankheet*) 454
- recreational value of ecosystems 6, 83, 171
- red coral extraction 85
- Red Data species List 10
- red mullet, migration of, to North Sea 74
- Red Sea, geologic and bio-geographic features
 - coral reef, diverse 368
- Reduced Emission from Deforestation and Degradation (REDD+) 348, 354
 - halving of deforestation rates 526
 - tropical forest financing 332
- reed growing for water quality improvement
 - Waterpark (*het Lankheet*) 454
- reef degradation by tourists
 - Ras Mohammad National Park, Egypt, 1983 367
- reef destruction 30
- regional analyses on broad marine ecosystems
 - Bering Sea ecosystem model 87
- regional labour, G-Cubed model 162
- regional-scale studies 89
- regression equations 96
 - values of coral reefs in marine regions 101
- regression variables
 - summary statistics, Japanese regions, 135
- regulating services 88
 - ecosystem service 341
- regulation of recreational use 404
- replacement cost vs expected damage function 33
- Representative Concentration Pathways 84
- residential housing project
 - US San Pedro Watershed, Arizona 9
- residential project siting
 - least impact on ecosystem service 550
- resource dependence
 - socioeconomic effects of MMAs 491–2
- resource depletion
 - effect on future generation 343
- resource management plans (RMPs) 169
- resource rent 65, 75
 - in fisheries in developing countries 66
- resource sustainability in fisheries 70
- respondent groups, differences
 - Ras Mohammad National Park, Egypt, 1983 386
- restoration as cost-effective solution 525
- restoration project, EU Life programme
 - Capo Feto, Sicily 409
- restricting the distribution (RPL5) 383
- revenue increase from cruise tourism 40–41
- revenue loss, for pelagic fisheries in Peru 64
- revenue loss from El Niño, 1997–8 64
- rice as food provision, world 293
 - staple food 292
- Rio+20 Conference
 - commitment to working with nature 541
- riparian buffer strips, grass, trees, vegetation 238
 - creation 356
- riparian ecosystem water 174
- riparian forest restoration
 - other improvements, ‘bundling’ 356
- risk exposure, and crop biodiversity 323–2
- risk mapping for flood control 530
- river base-flow systems 466
- river cruises, activity for cruise passengers 48–9
- riverside vegetation, Rokua esker, Northern Finland 474
- Rokua esker, Northern Finland, 466–81
 - choice experiment design 470
 - estimation results for PCCV 477
 - prices for water management attributed 476
 - questionnaire structure 469

- stakeholders, forestry, peatland, homeowners 469
- survey design 469–72
- RPL (random parameter logit) 377–87
- runoff water treatment
 - agriculture, sewage treatment 238
- rural households in low-income countries 347, 522
 - ecosystem services 327
 - fragile environments, vulnerable ecosystems 522–3
- Saadani National Park
 - impacts on households in Tanzania 329–30
- salinity, changes 66
- salmon treaty, Canada and United States 74
- salt marshes 27, 29
- San Francisco, 2010, ‘meat free’ Mondays 539
- San Pedro Data Browser 172
- San Pedro Riparian National Conservation Area (SPRNC) 169, 177
- San Pedro River 171, 172
 - riparian vegetation, geomorphology, hydrology, avifauna 171
- San Pedro River, Upper, scientific study 171
 - baseline values 177
 - mesquite shrubland to native grassland 173
 - salt marshes 27, 29
- San Pedro River watershed 169
 - aesthetic values 174
 - analysis of year 2000 173
 - ARIES case study 171
 - degrees of uncertainty in results 189
 - ecosystem services, analysis 174
 - urban growth scenarios 173
 - wildlife viewing, hunting, birding 174
 - ecosystem services tool assessment process, key insights 555–6
- San Pedro water supply
 - domestic, also irrigation and mining 174
- sand beaches and dunes 27
- wave attenuation 30
- sardine fishery, European
 - earnings decrease with rising temperatures 65
- scarcity rents estimation, Kiti region, Cyprus 433
- scenic landscape, Belize 53
- science-policy cycle
 - Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) 3, 9, 504
- science-policy interface
 - bottom-up approach principle 506–7
 - complete science policy cycle 509
 - equity principle 507
 - key attributes for human well-being 508–9
 - regional representation 509
 - scientific credibility principle 505–6
 - scientific independence principle 506
 - social sciences and humanities partnership 509
- science-policy platform, common 499
 - guiding principles 505–7
- scientific research 499, 504
 - non-economic benefits 446
 - Rokua esker, Northern Finland 478
- SCUBA diving
 - Ras Mohammad National Park, Egypt, 1983 367, 373
 - sport fishing catch-and-release 445
- seagrass beds 27, 30–31
 - foreshore habitats 37
 - Rokua esker, Northern Finland 474
- sea levels rising, risks 523
 - threats to coral reefs 83
- sea surface temperature (SST) changes, 1960s to 2000s 61, 62, 66
 - effect on coral bleaching 106
- seawater pH, decrease 79
- sedimentation, threats to coral reefs 83
- SEEA (System of Environmental Economic Accounting)
 - adoption of 24–5
- self-referential economic values 121
- Service Path Attribution Networks (SPANs) 170
- services to society, of coral reefs 93
- shadow flow value of carbon storage 144
- shadow prices 137–9, 140
 - calculation 142
 - of in situ resources, groundwater 423–4
- shadow rental value of agricultural water 131
- shadow rental values 130, 132, 137–141, 144
 - water and land ecosystem 137
- shallow lake ecosystems 392–3
 - Lake Takkobu, Japan 404
- Shaman Pharmaceuticals, successes, failure 253
- Shark Observatory
 - Ras Mohammad National Park, Egypt, 1983 368
- Sharm El-Sheikh cheap package holidays 388
- shellfish harvest loss rate 78, 83
- Sinai Peninsula 368
- single country vs regional grouping
 - African Block 503
- sink functions, flow regulations 219
- snorkelling, activity for cruise passengers 48–9
- social cost of carbon (SCC) 181

- social opinion on man-made wetlands
 - contingent valuation (CV) 459–60
- social profitability of environmental project
 - Capo Feto, Sicily 419
- social WTP, 'speculative value' 122
- socioeconomic activities
 - impacts of ocean acidification on 79
- socioeconomic effects of MMAs 436, 491
- socioeconomic information for fishing activities
 - Jardines de la Reina Archipelago, Cuba 439
- socio-economic studies of ocean acidification 85
- socio-economic variables, 96
 - Rokua esker, Northern Finland 474
- sociopolitical institutions, failure 328
- soil erosion 284, 353, 524
- soil fertility 219, 248
- soil management 318, 320
- South American pilchard 67–8
- Southwest Regional Gap Analysis Project
 - land-cover dataset 173
- spatial adult migration, fisheries 67
- spatial analyses of deforestation 348
- spatial datasets
 - ARIES to San Pedro River Basin, USA 170
- spatial distribution of fishes and invertebrates 62
- spatial dynamics of ecosystem service flows 170
- spatial nature of biodiversity 346–7
- spatial patterns of degradation 350
- spatial planning 523–4
- spatial scale of measurement 291
- Special Area of Conservation (SAC)
 - Capo Feto, Sicily 408
- Special Protection Area, Capo Feto, Sicily 408
- Special Report on Emissions Scenarios (SRES) 81–3, 158
- species, impacts on
 - economic impacts of ocean acidification 90
- species diversity and ecosystem 304, 306, 307
- species extinction 303, 344
 - faster than in geological times 511
- species imperilled, density and distribution 194
- species in coral reefs 93
- species interaction, importance of 302–3
- species-level biophysical changes 80
- species protection
 - Marine Protected Areas (MPAs) 268
- species protection reserves, USA 195, 552
- species richness 339, 351, 552
- species, threatened
 - per-capita gross national product (GNP) 321
 - spillover of species of high commercial value 441, 445
 - spindle neurons, in human brain 119
 - spiny lobster fishing, economic benefit 439–40
 - highest commercial value 441
 - Jardines de la Reina Archipelago, Cuba 437
 - square-cell assumption 205
 - stabilization experiment
 - Special Report on Emissions Scenarios (SRES) 66
 - stakeholder participation 9
 - marine managed areas (MMAs) 497
 - stakeholder preferences 10
 - stated preference methods
 - social survey techniques 467
 - stated preference (SP) 391
 - stayover guests, Belize
 - foreign capital income 44, 54
 - higher economic returns than cruise tourism 57
 - stock estimated for machinery, equipment 19
 - stochastic frontier model
 - Vosvozis case study, Greece, 424
 - stock value of natural asset or ecosystem 131–2
 - stock value of water and land, Japan 143
 - storm damage lessening 95, 237
 - storm protection service 30–6
 - storm surge attenuation 27
 - storms, more frequent 523
 - Strategic Plan for Biodiversity 2011–2020 526–9
 - Aichi Biodiversity Targets 3
 - striped newt, at risk, USA 195
 - Sub-Saharan Africa, wealth creation 22
 - subsidies, negative impact on uptake of AEPs 355–6
 - subsidiarization of international companies
 - cruise tourism in Belize 58
 - subsistence, food production 243–4
 - subsoil assets 16
 - North Africa, Middle East 20–22
 - sun-and-sand resort tourism, loss of interest 43
 - supporting services, ecosystem service 341
 - surface water supply 171, 175
 - survey design, one-and-a-half bound 407–8
 - sustainable development, measuring 15–25, 303,
 - System of Environmental-Economic Accounting (SEEA) 4, 137, 528, 540
 - UN Statistical Commission 16
 - System of National Accounts (SNA) 4, 16

- target species, suitable habitat provision 195
- tarpon and sharks
 - Jardines de la Reina Archipelago, Cuba 442
- taxes on water service prices 459
- taxonomy of groundwater valuation
 - terminology 430
- tax reductions for desired technology 339
- technology and land management practices 156
- TEEB *see* The Economics of Ecosystems and Biodiversity) 79
- temperature, positive impact on crop productivity 157
- temperature rises, threats to coral reefs 83
- Thailand, mangroves, storm protection service, 1996–2004 32, 35–6
- The Economics of Ecosystems and Biodiversity (TEEB) 93
 - key outputs, reports, conferences 512
- The Nature Conservancy (TNC)
 - voluntary contributions for biodiversity 330
 - 'The Noah's Ark Problem' (1998) 314–15
- timber extraction 169
- timber regulation from forests 226
- TNC *see* The Nature Conservancy
- Tobit regression model
 - heterogeneity in WTP values 461
- Tokyo manufacturing, labor intensive 140
- water shadow prices 140, 142
- tool parameters and boundaries of San Pedro application 551
- tools for applying ecosystem services
 - in corporate settings 558
- total economic value (TEV) framework 278
 - Capo Feto, Sicily 419–20
 - single economic indicator 289
- tourism
 - behaviour surveys, Belize 40, 42
 - importance, in marine managed areas 496
 - major income source, Caribbean 43
 - role of coral reefs, income sources 93
- tourist destination
 - Ras Mohammad National Park, Egypt, 1983 367
- trade patterns in fish products 74
- trade-related intellectual property rights 253
 - trading of manufactured and agricultural goods, Japan 137
- transformation, detoxification, sequestration of pollutants, abiotic components 447
- 'transition towns'
 - local sourced food, community gardens 538–9
 - peak oil, climate change and economic instability, response network 538
- transportation costs 47, 51, 342
- transportation network model
 - San Pedro River watershed 179
- travel cost method (TCM), cruise passengers 42
 - valuation technique 54–5, 371
- travel expenses on cruise vacation, Belize 47
- tropical and sub-tropical regions 322
 - education in fish catch 66
- tropical forests 304, 320, 321
- tropical marine ecosystems, sharp decline 485
 - crucial role of coral reefs 93, 94
- T-test results for resource use 491
- Turnbull parametric results 418
- Turtle Beach, Ras Mohammad National Park, Egypt, 1983 368
- typhoon Wukong, Vietnam
 - mangrove planted areas, protection 525
- UK House of Commons
 - Environmental Audit Committee 500
- UK National Ecosystem Assessment 522
- Ultimatum Game (UG) 117, 118
- UNEP-UNDP Poverty-Environment Initiative (UNPEI), 2007 3
- unit flow value, of ecosystem service 131
- unit price of capital 139
- unit shadow price, of ecosystem service 130, 139
 - stock of natural assets 131
- unit shadow water price values 139, 140, 144, 143
 - Japan 142
- unit values 96, 101, 132
- United Nations Economic Commission for Europe (UNECE) 540
- United Nations Educational Scientific and Cultural Organization (UNESCO)
 - Biosphere Reserves, spatial policy 350
- United Nations Environment Programme (UNEP) 3, 500, 512
 - Global Green New Deal* 518
 - MA Follow-Up Global Strategy 500–501
- United Nations Framework Convention on Climate Change (UNFCCC) 332, 526
- United Nations Millennium Ecosystem Assessment (MA, 2005) 2–3
- United Nations Secretary General, Kofi Annan
 - Millennium Ecosystem Assessment (MA) 500
- United Nations Statistics Division (UNSD)
 - Experimental Ecosystem Accounting (EEA) 4

- System of Environmental-Economic Accounting (SEEA) 4
- United Nations System of National Accounts (SNA) 133, 528
- United Nations University
 - The Inclusive Wealth Report* 2012 16
- United Nations World Tourism Association (UNWTO) 43
- units of income, investment in physical capital 138
- urban area population increase 511
- urban growth scenarios 185–6
 - biophysical and relative values for ecosystem service charges 186
 - San Pedro River watershed 173, 179
- urban sprawl 217, 222, 224
- urbanization, species richness, reduction in 324–5
- urbanization, unplanned, threats to coral reefs 94
- Uruguay Round
 - General Agreement on Tariffs and Trade (GATT) 253
- US (BLM) Bureau of Land Management 169
 - discussion, tool developers and government 547
- US Environmental Protection Agency (EPA) 249
 - San Pedro Data Browser 172
- US Geosciences and Environmental Change Science Center 170
- US market estimation
 - oysters, scallops, clams, mussels, 2010–2100 84
- US San Pedro Watershed, Arizona 548–50
 - assessment results 550–55
 - time required for case study 552
- use and non-use of in situ groundwater
 - micro-economic approach 423–34
- Valuation and Accounting of Natural Capital for Green Economy (VANTAGE) 5
- valuation framework for ecosystem services 113
- valuation methods 32–6, 101, 118, 181, 284, 288–9, 295
- value of scenic views San Pedro River watershed 183
- value transfer function
 - coral reef ecosystem services 83, 93, 96, 101
 - ‘scaling up’ 294–5
- vegetation, role of, in storm protection 37, 552
- vertical linkages between water bodies 480
- visitor volume and cruise ships, control 40–41
- Von Economo neurons 119, 120
- Vosvozis case study, Greece
 - coral reefs 424
 - land use, agricultural, cattle breeding, industrial, urban 424
 - location map 425
 - river discharge into Ismarida Lake 424
 - use and non-use of in situ groundwater 423–34
- vulnerability criteria to ocean acidification 89–90
 - coral reefs in EEZs 85
 - fish and shellfish catch 85
 - seafood consumption 85
- vulnerable species prevention 448
- Walrasian-based BCA approaches
 - to valuation and policy 113
- Walrasian welfare economics 6, 113, 117, 125
- wastewater discharges 41
- wastewater treatment plant
 - discharge into Vosvozis River 424
- water and land ecosystem, Japan 137
- water augmentation
 - recreation source values 188
 - San Pedro River watershed 173, 179, 185
- water degradation from anthropogenic impacts 485
- water for human consumption
 - Komotini well field, Greece 426
- Water Framework Directive (WFD)
 - environmental legislation in EU 466
 - revision of water management 470
- water from Colorado River to San Pedro 173
- water purification by forest management 235, 237, 522–3, 538
- water quality 219, 430
 - based on hydrogeological information 426–7
 - degradation by human activities, livestock excreta 393
 - improvement, Tobit regression model 404, 462
- water regulation
 - ecosystem services (ES) 340 344, 351
- water resources in Rokua
 - goods and services 468–9
 - protection 518
 - total economic value components 468
- water shortage and vegetation loss
 - Hiware Bazar, Indian village 521
- water storage when flood risk
 - Waterpark (*het Lankheet*) 454
- water temperature change 61
- water treatment service 454
- water use in Greece
 - charged by farm-specific total area 432–3

- water valuation
 - market price, replacement cost, willingness to pay (WTP) 181
- watershed ecosystems management
 - clean water provision in New York 524
- watershed groups near Upper San Pedro 171
- water yield changes
 - mesquite management 173
 - San Pedro River watershed 183
- wave attenuation
 - across mangrove landscape 29
 - for coastal protection 27, 37
- wave impact reduction on shore, coral reefs 95
- Wealth Accounting and Valuation of Ecosystem Services (WAVES) 17, 21, 25
- wealth and per capita wealth
 - in developing countries 1995–2008 22–3
- wealth-based measure of welfare, definition 132
- weeds, pests, diseases 155
- weights and shares of different functions in WTP 460
- welfare gain
 - dependence on geographical location of country 165
- welfare impacts and biodiversity policy 328
- welfare indices
 - GDP and gross national product (GNP) 131
- wetland, acres of, values 291
- wetland, dependence on groundwater influx 466
- wetland, Waterpark (*het Lankheet*)
 - eastern Netherlands 454
- wetland economic services, East Asia 391–2
- wetland mitigation
 - Clean Water Act of 1972 352
- wetland survey interviews
 - Capo Feto, Sicily 414–15
 - sample descriptive statistics 415
- wetland system threat, eutrophication 425
- wetland valuation studies 392
 - Mediterranean region 407
 - natural wetlands 454–5
- wetlands loss estimates 511
- whale shark
 - Jardines de la Reina Archipelago, Cuba 442
- whales, dolphins, great apes, Von Economo neurons 119
- wheat output in Italy 157, 162
- wheat yield variation 158–60
- wild areas, preservation
 - aesthetic satisfaction of preservation 249
- wild genetic diversity 322
- wild organisms 255–7, 259
- wildfire carbon release 174
- wildlife corridors 347
- wildlife habitat in military installations, US 193
- wildlife viewing, San Pedro River watershed 179, 188
- willingness to accept (WTA) 121, 122
- willingness to pay (WTP) 122, 373, 375, 404, 410, 414, 454
- wind and wave damage
 - wave attenuation protection 36
- wind buffering functions for coastal protection 37
- wood harvests for pulp and paper, tripling 318
- woodland restoration, Nihili, Central Tanzania
 - ecosystem services increase 521
- Working for Wetlands, South Africa 521
- World Bank
 - environmental accounting 15
 - Inclusive Wealth Report* 25
 - Wealth Accounting and Valuation of Ecosystem Services (WAVES) 5
- World Development Indicators 16
- World Development Summit, Brazil 25
- world population doubling 318
- World Resources Institute (WRI), (1998) 94
- World Travel and Tourism Council (WTTC) 41
- water quality improvement 463
- WTA (willingness to accept)
- WTP (willingness to pay) 368, 418
 - estimate for Ras Mohammad National Park, Egypt, 1983 386
 - for man-made wetlands 463
 - frequency and average
 - Haaksbergen region, Netherlands 460
 - per household
 - for good status of water quality 478
 - value estimation results
 - from Tobit regression 461
 - values from BNL and RPL models 385
- zero net land degradation 526
- zero profit in municipal water provision
 - Tokyo agriculture 151
- zero WTP bids 459