

Index

- acceptance, 65
- accuracy, 167
- actions, 138, 196
- actor, 171
- adaptive harvest management, 193
- adaptive management, 6, 7, 9, 21, 43, 49, 60, 64, 109, 117, 118, 125, 131, 139, 154, 170, 180, 198, 214, 220, 228, 229
 - model-based, 40
- aerial point sampling, 159
- aerial surveys and remote sensing, 141
- Africa, 208
 - sub-Saharan, 200
- agent-based model, 38
- agricultural crops, 185
- agriculture, 3, 106
- Aichi Target, 6, 196, 199, 206, 208, 210
- alpine bog, 125, 126
- Alpine Sphagnum Bogs and Associated Fens, 126
- American martens, 66
- antelope, 1
- anthropologists, 216
- anthropology, 121
- applied ecology, 4
- approach
 - model-based, 1
 - participatory, 1, 12
 - quantitative, 11
 - structured, 1, 11
- assessment model, 22, 23, 29, 166, 168
- assumptions, 4, 134
- Atlantis model, 35
- attitude towards model, 73
- attitudes, 69, 73, 111, 186, 225
- Australia, 125, 126, 217, 220, 223
- Bangladesh, 102, 106
- barriers, 158, 169, 177
 - organizational, 93
- Basic Necessities Survey, 119
- bats
 - white-nose syndrome, 61
- Bayesian Belief Network, 14
- Bayesian Networks, 66
- Bayesian state-space harvesting model, 188
- Before-After, Control-Impact, 118
- behaviour
 - harvester, 163
 - resource-user, 163
- behavioural economics, 225
- beliefs, 65, 70, 79
- bias
 - geographical, 205, 210
 - spatial, 210
 - taxonomic, 204, 210
- biodiversity, 1, 2, 4, 5, 125, 158, 162, 175, 196
- biodiversity loss, 196
- bioeconomic model, 28, 30, 185, 191
- bio-socio-economic model, 188
- bog recovery, 131
- Bogong High Plains, 127
- bogs, 217
- brown bears, 192
- budget, 167, 168
- bull trout, 59
- bushmeat hunting, 5, 159, 164, 167, 175, 178
- bycatch, 29, 36, 38, 43, 46
- Cambodia, 118, 223, 228, 231
 - Norther Plains, 118
- capabilities, 100

- capacity, 157, 201
- carnivore, 158, 182
 - fear of, 187
- choice experiments, 169
- citizen science, 122
- climate change, 2
- coastal ecosystem, 104
- coexistence model, 182
- collaboration, 149, 151, 187
- co-management, 28, 32, 39
- commitment, 153, 201, 218, 220, 223, 233
- communal ownership, 3
- communication, 147, 169, 194, 219
 - mobile, 231
- communities
 - local, 1
- Community profiling*, 111
- complex problem, 49
- compliance, 159
- compromise, 43
- computer-based decision-support
 - models, 65
- conceptual model, 2, 131
- conflict, 5, 6, 20, 52, 54, 56, 57, 75, 83, 116, 154, 162, 172, 187, 217, 233
 - land-use, 175
- Congo, 232
- conservation, 4, 12, 38
 - marine, 5
- conservation conflict, 223
- conservation modellers, 214
- conservation planning, 6
- consultation, 59
- Convention on Biological Diversity, 2, 5, 196
- cooperation and collaboration, 177
- corruption, 114
- cost effectiveness, 132, 134
- credit availability, 176
- cultural heritage, 158

- data
 - limitations, 52
- data management, 143
- data poor situations, 109
- decision, 2, 6, 10, 21, 40, 43, 125
 - conservation, 46
 - evidence-based, 49
 - impediment, 54
 - optimal, 60
 - prototype, 47
 - qualitative, 48
 - quantitative, 48
 - structured, 6, 7, 15
 - theory, 7
 - values-based, 49
- decision model, 135
- decision theoretic approaches, 6
- deficit model of science, 70
- Delphi processes, 232
- detectability, 167
- detection, 136
- deterministic model, 183
- developing countries, 157
- development, 5, 170, 175
 - road, 160
- development economics, 100
- discount rate, 177
- disease, 57, 61
- disturbance, 57
- dynamic models, 30

- East Africa, 105
- eco-certification, 115
- Ecological Sustainable Development, 20
- ecology, 131
- ecospace model, 31
- Ecosystem Approach, 20
- Ecosystem-based Fisheries
 - Management, 20
- ecosystem function, 125
- ecosystem health, 207
- ecosystem model, 200
- ecosystem services, 5, 97, 183
 - cultural, 5, 187
 - provisioning, 5
 - social, 5
- ecosystems, 2
- ecotourism, 119
- education, 119
- effectiveness, 134, 142, 144, 151, 168, 201
- effort, 133, 138, 139, 142, 143, 144
 - spatial, 135
- endangered, 1
- Endangered Species, 59
- engagement, 39, 42, 195, 221
 - barriers, 40
- engineering, 51
 - conservation, 51
- England, 195
- entitlement, 100
- environmental protection, 2

- eradication, 127
 Estonia, 192
 ethics, 98
 Ethiopia, 171
 EU, 112
 evaluation, 98
 exclusion of people, 5
 experiment
 harvest, 191
 experimental economics, 169
 experimental games, 169
 expert elicitation, 61, 63
 expert judgement, 171
 expert knowledge, 34
 expertise, 56, 62
 exploitation, 4
 extinction risk, 208
 Extreme Citizen Science, 231
- facilitator, 51, 73, 84
 failures, 157
 fairness, 117
 FAO Code of Conduct
 Ecosystem Approach to Fisheries, 20
 Precautionary Approach to Fisheries, 20
 Responsible fisheries, 20
 Farmer Field Schools, 105
 farming, 159, 176
 fire, 128
 fisheries, 3, 5, 6, 9, 13, 19, 24, 29, 33, 104,
 115, 158, 162, 181, 200, 202, 203, 205,
 215, 216, 221, 227, 229, 233
 data-poor, 37
 fishing, 3, 111
 recreational, 38
 focus groups, 108
 food, 110, 115, 119
 food security, 2, 6, 119
 forestry, 3
 forests, 115, 118, 128, 225
 tropical, 5, 223, 232
 framework
 human well-being, 98
 Frankfurt Zoological Society, 173
 funding, 201
- game bird, 187
 Game Controlled Area
 Loliondo, 160
 Game Reserves
 Ikorongo, Grumeti and Maswa, 160
- Gamification, 232
Global Person Generated Index, 111
 good life. *See* wellbeing
 governance, 109, 117, 158, 180, 185,
 201, 219
Governance Relationship Assessment, 111
 government, 2
 GPS, 136, 142, 152
 Great Barrier Reef, 29
 Ground-truthing, 178
 grouse, 223
- harvest, 3–5, 10–11, 21–22, 24, 30, 37,
 157–158, 165–166, 182–183, 191,
 194, 235
 harvest management, 194
 hen harrier, 195
 herbivore, 158, 185
 History, 39
 holistic approaches, 180
 household, 110, 173, 178
 household utility model, 176
 human development, 2
 human population growth, 174
 humanities, 216, 233
 hunter preferences, 188
 hunters, 185
 hunting, 15
 recreational, 187
 hunting permits, 187
 hyena, 165
 hypotheses, 62
- Ibis Rice programme, 119
 ICDPs. *See* Integrated Conservation and
 Development Projects
 illegal hunting, 159, 165
 impala, 165
 impediment, 54
 implementation, 92, 95, 165, 172, 174, 197
 incentives, 177
 India, 232
 Indicator Performance, 202
 indicator policy-cycle, 197, 198
 indicators, 104, 105, 175, 196
 biodiversity, 204
 monitoring, 16
 systematic evaluation, 197
 individual transferable quotas, 33, 35
 Indonesia, 117, 118
 info-gap decision theory, 230

- institutional and stakeholder analysis, 175
- institutional arrangements, 41
- institutional barriers, 165
- institutional complexity, 158
- institutional profiling, 109
- institutions, 103
- integrated approach, 146
- Integrated Conservation and Development Projects, 5
- Interdisciplinary Collaborations, 173
- International Whaling Commission, 10
- intertemporal choices, 177
- intervention, 117, 156, 157, 163, 168
 - top-down, 107
- interviews, 76
 - coding, 68
 - informal, 110
 - semi-structured, 110, 117, 175
- invader, 127
- invasive willow, 125
- iterations, 51

- jurisdiction, 185

- Kenya, 107, 115
- key informants, 105
- keystone species, 158
- knowledge*, 65, 69, 75, 92, 96, 132, 185, 192, 225
 - scientific, 70
 - statistical, 70
- knowledge gaps, 132, 151

- landowners, 183, 185, 217
- language, 146
- Latvia, 192
- law enforcement, 159, 179
- leaders, 32
- learning, 132
- Likert scales, 107
- limitations of the model, 41
- lion, 171, 222
- livelihood, 1, 115, 159, 165, 176, 221, 230
- livestock, 159, 183
- livestock depredation, 187
- Living Planet Index, 199, 204, 210
- lynx, 15, 186, 192

- Maasai, 160
- management, 2
 - hen harrier-grouse, 195
 - integrated, 35
 - invasion, 130
 - spatial, 35
 - wildlife, 1, 5
 - management actions, 48, 131
 - management model, 22
 - management strategies, 132
 - management strategy evaluation, 6, 10, 15, 19, 20, 158, 198, 202, 211, 214
 - mandates
 - jurisdictional, 39
 - marine protected areas, 117
 - Marine Spatial closures, 31
 - Marine Trophic Index, 200, 203, 205
 - mathematical modelling, 3
 - matrix model, 165
 - MaxEnt, 136
 - maximizing the sustainable harvest, 183
 - Maximum Economic Yield, 28
 - spawning stock, 30
 - Maximum Sustainable Yield, 3, 28
 - metapopulation model, 15, 133
 - microcredit, 159, 179
 - micro-credit schemes, 172
 - minimum realistic models, 23
 - mining, 38
 - Mixed methods, 109
 - mobile phones, 122
 - model facilitator, 79
 - model take-up, 14
 - model uptake, 68, 79
 - monitoring, 1, 7, 8, 10, 15, 47, 49, 60, 98, 105, 117, 125, 133, 135, 140, 145, 148, 151, 165, 166, 168, 188, 193, 197, 211, 214, 218, 228
 - monitoring budgets, 167
 - moose, 15, 183, 185, 191
 - MSE. *See* management strategy evaluation
 - MSE operating model, 21
 - MSY. *See* Maximum Sustainable Yield
 - multi-criteria decision analysis, 230
 - multi-dimensional, 14

 - national parks. *See* protected areas
 - natural resource management, 3, 13, 47, 66, 98
 - Necedah National Wildlife Refuge, 56
 - negotiations, 116

- nesting, 57
 Ngorongoro Conservation Area, 160
 Nicaragua, 110
 norms, 69, 225
 social, 81
 Northern Ireland, 110, 111
 Northern Prawn Fishery, 13, 23
 Norway, 182, 185, 192, 217, 219
 NRM. *See* Natural Resource Management
- objectives, 48, 54, 55, 58, 61, 98, 113, 125, 131, 138, 146, 151, 154, 168, 175, 183, 186, 188, 196, 217, 222
 balancing scientific and management, 152
 fundamental, 50
 observation model, 166
 occupancy model, 135
 oil and gas extraction, 38
 operating model, 30, 31
 opportunities, 158
 opportunities and barriers, 162
 optim
 Pareto, 230
 optimal allocation, 133, 135, 139
 optimal solution, 229
 optimization, 50
 Ostrom, 170
 outcomes, 66, 108, 117, 179, 196
 scoring and ranking, 107
 overexploitation, 3
 ownership, 39, 170
- participation, 32, 180, 215
 participatory, 13, 19, 43, 44, 76, 81, 104, 118, 214, 219
 participatory approaches, 39, 107
 participatory model, 65, 174
 participatory monitoring, 231
 PAs. *See* protected areas
 patrolling, 172
 payment for ecosystem services, 102, 118
 perceived behaviour control, 69
 Peru, 110
 poaching, 160, 165, 187
 policy, 168, 177, 196, 200, 211
 political instability, 158
 political segregation, 187
 population model, 183
 post-conflict, 119
 poverty, 99, 106, 119, 158, 162, 180
 poverty alleviation, 122
 power, 223
 power dynamics, 218
 precision, 167
 predators, 186
 predictive, 225
 predictive model, 61, 197
 preliminary model, 133
 prioritisation, 114
 priority setting, 175
 protected area, 4, 118, 125, 201
 protection
 aquatic, 4
 land, 4
 natural resources, 4
 prototype
 diagnostic phase, 53
 refining, 53
 prototyping, 214
 psychology, 225
 psycho-social model, 106
 public viewing, 57
 purposive approach, 66
- qualitative approaches, 110
 qualitative outcomes, 171
 Quality of Life survey, 106
 quantitative methods, 110
 quantitative model, 60, 61, 182, 183, 198, 213
 quantitative process-based model, 196
 questioning techniques, 167
 questionnaires, 104
 individual and structured, 107
 quota, 1, 188, 192, 194
- Ranked Outcomes approach, 108
 Ranked Outcomes method, 107
 rapid prototype, 47
 rapid prototyping, 14, 51, 52, 61, 227
 expertise, 58
 information gap, 61
 iterative, 55
 outcomes, 56
 participants, 54
 rational utility maximisation, 225
 recreational fisheries or hunting, 183
 Red List Index, 199, 208
 Red List of Threatened Species, 208
 reductionist approach, 173
 Reflections, 145

- reindeer
 - semidomestic, 186
- reintroduction, 57
- Relational Dimension of Wellbeing, 109
- research
 - qualitative, 104
- research-implementation gap, 233
- resource allocation model, 151
- resource profiling*, 111
- resource use, 176
- resource user behaviour, 176
- resource user model, 176
- revenue, 183, 185
- Reykjavik Declaration on Responsible Fisheries in Marine Ecosystems, 20
- rhino horn, 218
- Rio Summit. *See* Convention on Biological Diversity
- roe deer, 15, 185, 191
- rural, 187

- sampling
 - snowball, 68
- satisfaction
 - hunter, 191
- Scandinavia, 187
- scenario model, 199, 202
- scenario-based analysis, 166
- science-practice linkage, 171
- Serengeti, 164, 171, 218
- Serengeti Ecosystem, 158
- sheep, 186
- shifting baseline, 208
- shipping, 38
- simulation models, 39
- small game, 183
- SMART, 222
- social benefits, 112
- social desirability bias, 167
- social development, 99
- social sciences, 40, 216, 233
- social-ecological, 2, 6, 44, 156, 219
- social-ecological system, 20, 23, 156, 158, 162, 170, 184, 194, 213, 228
- society, 2
- socio-political setting, 187
- software, 228
- sources of error. *See* uncertainty
- South-East Shark and Scale Fishery, 13, 23, 32
- Southern and Eastern Scalegfish and Shark Fishery, 10
- spatial allocation model, 141
- spatial conservation priority, 7
- spatially explicit mechanistic model, 145
- species abundance, 200
- species-area curves, 200
- stakeholder, 32, 33, 36, 39, 40, 43, 46, 104, 162, 164, 171, 178, 194, 195, 215, 220
 - commitment, 52
 - relationships, 174
 - representation and engagement, 175
- stakeholder participation, 65
- state-space harvesting model, 193
- statistical and mathematical model, 188
- statistical models, 38
- stochastic, 3
- stock assessment model, 30
- strategies, 98
- structured approach, 214
- structured decision-making, 46, 47, 214
- subsistence, 119, 158
- sustainability, 13
- Sustainable Development Goals, 2, 232
- sustainable resource management, 2
- synergies, 2
- systematic conservation planning, 7
- Systematic Reconnaissance Flight surveys, 160

- Taboo, 115
- Tanzania, 107, 158
- Tanzania National Parks, 175
- Tanzania Wildlife Research Institute, 173
- targets, 175, 182
 - global conservation, 15, 197
- technical requirements, 173
- theories of change, 114
- theory of planned behaviour, 69, 95, 225
- threat, 159
- Tibetan Buddhists, 102
- tiger
 - Sumatran, 230
- timber, 185
- tools
 - analytical, 53
- topi, 165
- Total Allowable Catches, 24, 37
- total allowable effort, 27
- tourism, 38, 106, 158, 162, 170, 175
- trade-off, 2, 5, 6, 7, 19, 23, 33, 46, 49, 50, 55, 61, 86, 113, 114, 115, 156, 164, 170, 174, 175, 176, 177, 179, 180, 183, 184, 186, 188, 199, 217, 222, 230
- tragic, 217

- Tragedy of the Commons, 3
- training, 58
- transboundary management, 187
- transects, 166
- transparency, 85, 87
- trophic level, 205
- trophy hunting, 171, 222
- Trust*, 65, 75, 84, 90, 92, 96, 215, 220, 232
- in automation, 76
 - interpersonal, 76
 - in models, 76
- ultralight aircraft, 57, 62
- uncertainty, 1, 7, 10, 11, 16, 23, 46, 49, 54, 56, 62, 66, 87, 114, 117, 126, 134, 139, 154, 155, 157, 159, 162, 164, 166, 168, 183, 192, 194, 197, 199, 213, 219
- ecological, structural, 183
 - environmental stochasticity, 184
 - implementation, 4, 10, 23, 42, 44, 157, 168, 177
 - indicator biodiversity link, 199
 - linguistic, 49
 - measurement, 157
 - monitoring, 4, 10
 - observation, 159
 - parameter, 139
 - parametric, 23
 - partial controllability, 184
 - partial observability, 184
 - process, 10, 157
 - structural, 10, 23, 157
- ungulates, 185
- unintended consequences, 115
- United Nations Convention on the Law of the Sea, 20
- United Nations Food and Agriculture Organisation, 20
- United States Geological Survey, 137
- unmatched-count technique, 167
- urban, 187
- US Fish and Wildlife Service, 59
- value 48, 55, 65, 217, 223
- cultural, 183
 - value judgements, 61, 146
 - value of information, partial 63
 - value of information analysis, 63, 139, 145, 155
 - vehicle accidents, 185
 - versatility, 85
 - virtual ecologist, 166
 - virtual population reconstruction, 193
 - virtual truth, 203
 - Voices of the Poor, 107
- well-being, 2, 5, 14, 97, 156, 175, 179, 222, 230
- non-material, 102
 - objective, 99
 - social dimension, 99
 - socially and culturally, 100
 - subjective, 99
- Wellbeing & Poverty Pathways project, 106
- wetlands, 57
- whooping cranes, 14, 57, 62
- wicked problem, 40, 213, 216, 220, 221, 233
- wildebeest, 158
- wildlife, 5, 158, 217, 219
- overabundant, 171
- Wildlife Conservation Society, 118
- wildlife management areas, 159
- willingness* to adopt the model, 65, 72
- willow, 217, 230. *See Salix cinerea*
- grey sallow, 127
- willow ptarmigan, 15, 187
- win-win, 5
- wolf, 185, 192
- wolverine, 15, 186, 191, 192
- workshop, 51, 53, 55, 59, 61, 62, 137, 151, 152, 175, 180, 214, 218
- World Bank
- Voices of the Poor, 102
- World Summit on Sustainable Development, 20
- Zambia, 106