Index

adapting
to change 187–9
knowledge for, as challenge 184–6
adaptive decision-making 157, 167–8, 170–172
adaptive management 57, 98, 101, 191, 238, 296
ADR see Alternative Dispute Resolution (ADR)
agency building 85–6
agency-initiated collaborative governance 237–9
agency mission 84–7
agency power 91
agency turf 86
Alternative Dispute Resolution (ADR) 199–203
Australia
  collaboration challenges for natural resource management 176–92
collaborative processes and problem scale 63
funding for interdisciplinary research 375
Indigenous people of northern 355–66
interdisciplinary collaboration in research, principles for 310
salinity within 133–45
authority
  blueprint approach based on 297
  as factor affecting success of collaboration 278, 280, 286
  as form of power 250, 252, 256, 261
government 58–9, 70

Best Alternative to a Negotiated Agreement (BATNA) 298
“Big P” politics 13, 83, 89–90
blueprint approach 297
boundary spanning 83, 113–15, 117–18, 120–123, 271, 381
Bureau of Land Management (BLM) 45, 226, 238–9
bureaucracies
  hierarchical structure of 199, 223
  networks in shadow of 82–3, 98–9
  and politicians 235–9, 377–8
bureaucratic autonomy 86–7
CALFED experience
  clash of cultures 92, 94, 98
  collaborative leadership 41
  as experiment in mandated collaboration 205
formal and informal systems 84
insights from
  prompting of mandate to collaborate 207–8
  wicked problem defying resolution 206–7
instilling voluntary qualities
  perceptions of procedural fairness 213–14
recognition of collaboration as preferred alternative 212–13
recognition of interdependence and need to work together 209–12
sense of urgency 209
lessons learned from 216–18
location and description 205–6
as multi-party collaborative process 200
political context 39, 89
research methods 205
some successes 100
as unique case situation 204–5
unique challenges of
  managing home agency resistance 215–16
  sustaining mandate 214–15
capacity
  adaptive 112
  building 134, 140, 143, 201, 203, 216, 276, 309
  collaborative 89, 102
  collaborative leadership 41–2
  collaborative network 33, 44
  collective 33, 42
  community 37
  coping 292
  decision-making 89, 110
  discharge 299, 301
  institutional 143, 201, 334, 365
  for joint action 68–9, 158
  and power 250, 252
  problem-solving 203
  relational 111, 122
  response 94
  cartwheel analogy 122–3
  catalytic actors 269–70
challenges of collaboration
  in addressing natural resource
  management 181–90
  defining 9–10, 28–9
  and dispute resolution strategies
  351–3
  for floodplain management in
  Netherlands 306–8
  future research requirements 46–7
  in Indian Forest Service 281–2
  interdisciplinary 46
  literature on 31–5
  of power, in environmental 258–60
  review of 372–4
  risks of failing to explore 27–8
  themes related to
    capacity 33, 41–2
    costs and benefits 35, 45–6
    participant factors 34, 43–4
    policy and political context 32, 38–9
    power 32–3, 39–41
    problem and context 30–31, 36–7
    research methods 29–30
    support 34, 44
    unique, of compulsory collaboration
    214–16
    variety of perspectives on 2–3
  Clean Water Act (CWA) 225, 232
climate change adaptation
  challenges for governance 156–7, 172
  characteristics of 154–6
  and collaborative governance
    contribution 152–3, 165–6,
    170–172
    expectations 159–60
Dutch Delta Programme
  analysis of 164–9
  description, approach and results
  153, 161–4
  research methods 160–161
  coherent decision-making 157, 167,
  170–171
collaboration
  as alternative to government 65
  cross-cultural 361–5
  defining 7–9
  effective, as environmentally urgent
  144–5
  emergence of 3–4
    in Europe 5–6
    globally 6–7
    in United States 4–5
  environmental, and power 246, 248,
  250, 254, 256–61
  increased engagement in 1–2
  Indian Forest Service
    across boundaries in 267
    challenges to 281–2
    factors for successful 278–80
    negative consequences of 280–281
    and people 282–5
    perceptions of 273, 275, 276
    use of 275–8, 285–6
  for natural resource management
    in Australia 177–80
    building and maintaining, as
      challenge 182–3
    in wicked problem situations
      176–7, 191–2
    paradox of 92
    processes encompassing 81–2
    rationale behind 1
    scale and level of, in research agenda
      384–5
    theoretical pedigree of 1
    and trust 95, 119–20
    why it might or should occur, as
      based on literature 268–70
see also challenges of collaboration; compulsory collaboration; inclusive collaboration

collaboration research agenda

collaborative practice
  art and nuance of 378–9
  scale and level of 384–5
  community and public, role of 379–80
  current challenge 386
  current trends 385–6
  external pressures 382–3
  individual participants, role of 380–381
  longitudinal research 376–7
  management relationships 383–4
  politics and governance 377–8
  refining 374–5
  science and problem complexity 381–2

  collaborative approach to decision-making 164–71

  collaborative environmental governance
    as both old and new 54–5
    challenges for scientists, stakeholders and leaders 69–71
    community-based management 58–60, 66, 70
    ecosystem management 55–8, 70
    future research areas 72–3
    as interdisciplinary topic 71–2
    partnerships
      first generation scholarship 60–62, 374–5
      second generation scholarship 62–6, 374–5
    public management 66–70
  see also collaborative governance; governance; interactive governance

Collaborative Forest Landscape Restoration Program (CFLRP)
  236

  collaborative governance
    characteristics of 158
    chief promise of 233–4
    and climate change adaptation challenges for 156–7, 172
    contribution 152–3, 165–6, 170–171
    expectations 159–60
    and compulsory collaboration 199–200, 203, 216–18
    difference with governing collaborations 268
    emergence of, in Europe 5–6
    first generation scholarship
      perspective 61
    origin of 4
    place-based 224, 226–8, 230–232, 234–41
    and politicians
      bureaucracies and discretion 235–9
      conservative, opportunities for 227–31
      liberal 226–7
      support for 239–41
      US officials’ views on 224
      and power 246–61
      problems relating to maintaining multi-functional floodplains 291
    research agenda 376–86
    salinity science in relation to 132–3, 137–44
    shift from commanding to steering 68
    stakeholder role in 11
  see also collaborative environmental governance; governance; interactive governance

collaborative leadership 33, 41–2

  collaborative partnerships
    challenge for leaders of 71
    effectiveness 61–2
    environmental
      first generation scholarship 60–62, 374–5
      second generation scholarship 62–6, 374–5
    public management 66–70
    future research areas 375
    Indigenous people 362, 364–6

  collaborative practice
    art and nuance of, in research agenda 378–9
    challenge to 324
    inclusive 331–2
    vague language of 338–9

  collaborative public management 66–70, 199
collaborators, skillsets 282–5
collective capacity 33, 42
common pool resources
management 59–60, 118, 248, 260
self-governance of 58–60, 65
common purpose 269, 284–5
community
change 343–4
role of, in collaboration research agenda 379–80
source of legitimacy 256
community-based collaborative efforts
action-level 9
environmental management 58–60, 66, 70
favoring resource-dependent interests 41
forest management 273, 279
Indigenous people 356, 361–4
limiting policy choices for 225–6
marginalized populations 318–20, 324–34
place-based 224, 235
preference for leaders 46
community capacity 37
community capture 223, 236
community context 31, 37
community engagement, incorporating 189–90
community logic 256, 259
community participation 133–4, 139–40, 143
complexity theory 101–2, 180
compulsory collaboration for Australian NRM 178, 180, 182
central role played by convener of process 216
challenging voluntary tenet 203–4
incentives prompting voluntary engagement 202–3
within Indian Forest Service 272, 277, 279
influencing collaborative dynamics 204–5
insights from CALFED experience 205–8
instilling voluntary qualities in process 209–14
as main research theme 383
need for, in collaborative governance processes 217–18
public management and ADR 199–200
unique challenges of 214–17
voluntary prescriptions but mandated realities 201–2, 217
configurational approach 120–121, 123, 381
conflict management 302–3
crystallization of literature 11, 36, 39, 382
consensual decision-making 157, 159, 162, 166, 170–171
conservation interests v. water users 92–4
conservative politicians 15, 227–31
constructive dialogue 115–16, 121
continuous improvement (CI) practices 98–102
costs and benefits 35, 45–6
cross-cultural collaboration 361–4
CSIRO (Commonwealth Scientific and Industrial Research Organisation) 184–5
cultural theory (CT) 92–3
decision-making
capacity 89, 110
collaborative approach to 164–71
Delta Decisions 153, 163–72
example of limits on 226
fairness in 213
formal, and informal networks 114, 122
and interactive governance 109–10, 112
types of 156–7, 171
working knowledge into 382
deliberation 115–16, 122–3, 165–6, 296, 299
deliberative approach 297
deliberative power 92
Des Moines, Iowa see Iowa experience
Deschutes River Basin 228–30, 233–4
dialogue
collaborative governance based upon 158
constructive 115–16, 121
vs. debate 352
Index

in Delta Programme 162, 165–7, 169, 171–2
inclusive, constructing 332–5
transformative potential of 321–2
use of formats and locations to engage in 331–2
discretion
agency 44, 223, 225
politicians and bureaucracies 234, 235–9
discursive power 251–3
disempowered populations see marginalized populations
dispute resolution strategies
co-generating profiles of practitioners 348–51
and collaboration
challenges of 351–3
research method for 338–9, 348–51
practice story
interpretation 341–7
from urban environment 340–341
see also Alternative Dispute Resolution (ADR)
Diversity, Interdependence, Authentic Dialogue (DIAD) theory of collaborative rationality 320
dugong 356, 358, 360–361, 363–5
Dutch Delta Decisions 153, 163–72
Dutch Delta Programme
analysis of 164–9
collaborative approach 161–2, 172
contribution to climate change adaptation 170–171
description 153, 161
important factor for success 172
research methods 160–161
results 163–4
see CALFED experience
Dynamic Framework for Watershed Management 65
ecological and political timeframes, mismatched 186–7, 191–2
ecosystem management 55–8, 70
Endangered Species Act (ESA) 5, 40, 206, 225–7, 229–30, 232, 241
environmental change
adapting to 187–9
local collaborative efforts to respond to 131–45
environmental collaboration
challenges of power in 258–60
principles relevant to understanding power in 248–9
environmental governance
as interactive in nature 122
multi-directional accountabilities 260
recent influence on 6
see also collaborative environmental governance
Environmental Protection Agency (EPA) 5, 85–6, 90, 94–5, 203, 207, 232
environmental superstructure 225–8, 230–232
episodic power 246–7, 250–253, 257
Eugene and Medford, Oregon
collaborating with undocumented populations 323–4
emerging stakeholder groups 330
outreach starting with grasstops 331
participatory workshops 324–6, 332
Europe
development of collaborative practice 5–6
public participation 298
resilience thinking in 6
watercourse standards 293
European Union (EU)
more systematic approaches to water issues due to 178
Natura 2000 302–3
Water Framework Directive 6, 237
exchange theory 30–31, 269
fatalism 93
floodplain management in Netherlands
application of joint maintenance approach 309–10
background to 290–291
further implications 308–9
introduction of Joint Planning Approach (JPA) 295–306
main problems concerning collaborative governance 291
main research questions 291–2
river basin agency-led efforts 6
river planning and policy-making 292–3
The challenges of collaboration in environmental governance

Saeftinghe 293–5
tensions and opportunities 306–8
forest management
in India see Indian Forest Service
(IFS)
in United States 5

Goulburn-Broken area, Victoria
180–182, 184, 188

government
defining 10–11
and politics, in collaboration
research agenda 377–8
problem and context 30, 36–7
of resources, approaches to 247–9
see also collaborative environmental
governance; collaborative
governance; interactive
governance

Governmental Impacts Framework 65

grasstops and grassroots 330–331
gridlock era 233–5
groundwater systems see salinity

Healthy Waterways 180, 182–4, 186,
188–90
Het Zeeuwse Landschap (HZL) 293–5
home agency resistance, managing
215–16

Home and Community Based Services
(HCBS) 82, 85, 88

hunting activities 355, 357–8, 360, 363,
365

hurting stalemate 32, 39–40

IFS see Indian Forest Service (IFS)
impactful decision-making 157, 169–71
implementation flexibility 38
inclusive collaboration
case studies
Iowa experience 326–9
Oregon experience 323–6
constructing inclusive dialogue
332–5
with marginalized populations
diverse participation 320
mandate for inclusion 318–19
planning for neighborhood
change 326–9
stakeholder-based efforts 319–20

undocumented people 323–6
use of research to learn about 330
metaphor
finding more inclusive 320–323
street 317–18, 322–3, 333–4
table 317–18, 320, 322, 324, 333–4
steps to increased
identify emerging stakeholder
groups 329–30
start with grasstops 330–331
use formats and locations to
engage in dialogue 331–2
use research to learn about local
groups 330

inclusive dialogue 332–5

Indian Forest Service (IFS)
collaboration
across boundaries 267
challenges to 281–2
negative consequences of 280–281
senior leadership views on 278–80
unsuccessful collaborators 282–5
use as leadership and management
strategy 285–6
description 272–3
forest management in India 270–272
study
collaboration across boundaries 267
data and method 274–5
findings 275–8
research questions 273–4

Indigenous people
advisory structures 139
beach colonisation 359–61
in coastal areas of Australia 355–6
in collaboration research agenda 382
colonialism 355–6, 359–60, 362,
364–5
cross-cultural collaboration
challenges 365
moving towards 361–4
partnerships 362, 364–6
hunting activities 355, 357–8, 360,
363, 365
legal recognition of rights 355
‘looking after’ country 356–9
power 257–8, 380
individual participants
and capacity 46
role of, in research agenda 380–381
informal settings 112–13, 115
informed decision-making 156–7, 164–5, 170–171
institutional capacity 143, 201, 334, 365
institutional history 342–3
institutional logics 15, 247, 254–5, 259–60
institutional oppression 322
institutional orders 15, 254–60
institutional vacuum 156
institutionalized relational arrangements 118–20
interactive governance
Dutch municipalities study 84–5
future research challenges 122–3
interplay between conditions 120–121
networks
challenges faced by 108–9
potential of 108, 110
vitality of 111–20
significance in modern society 109–10
see also collaborative environmental governance; collaborative governance; governance
interdependence
networks as structures of 82
recognition of, as voluntary quality 209–12
sources of 240–241
Iowa experience
engaging grassroots through direct outreach 331–2
identifying emerging stakeholder groups 329–30
planning for neighborhood change 326–8
taking meeting to public 328–9, 331
Joint Maintenance Approach (JMA) 307, 309–10
joint maintenance, examples see Munnikenland case study; Rijnwaarden Uiterwaarden case study
Joint Planning Approach (JPA) background to 292–3

collaborative element (puzzling) 303, 305–6
conflict management 302–3
history and reconfiguration of actors 299–301
location 304
Saeftinghe 293–5, 306–7
top-down vs. bottom-up (powering) 301–2
elements of joint planning 299
events leading up to 290–291
introduction to 295–9
problems relating to maintaining multi-functional floodplains 291
recommendation 307, 309–10
knowledge
areas for future research 72–3
challenges involving 372–3, 382
co-production of 113, 132, 344, 364, 379, 382
Indigenous 356–8, 362–4, 382
in informed decision-making of Delta Programme 165, 170
for learning and adapting, as challenge 184–6, 191
local 63, 72, 113, 134, 137, 292, 301, 318, 382
of marginalized groups 320–321
networks 94
scientific 30–31, 59, 72, 94, 134, 143–5, 250–251, 257, 382
situated 321
tacit 379
as theme of collaborative environmental management scholarship 70
knowledge-based power 92, 246–7
knowledge-based trust 117
Ladder of Participation 298
Lake Eyre Basin (LEB) 179–83, 185, 187, 190
land-use change 139–40
land-use planning approaches to 296–8, 309–10
and conflict 298
openness to collaborative efforts in 295
land-use policy 290–291
The challenges of collaboration in environmental governance

Landcare 133–4, 137, 139–42, 178, 189–90
leaders
- agency building 85–6
- catalytic actors 269–70
- challenges for 69–71
- common purpose 269
leadership
- in collaboration research agenda 381
- collaborative 33, 41–2
- displaced 95
- of IFS officers 274–6, 278, 280, 283–6
- for neighbourhood planning in Des Moines 328
in network 100
learning
- about marginalized groups 330, 333
- and decision-making in Delta Programme 165–7, 169
- and interactive governance 112, 117
- knowledge for, as challenge 184–6
- mutual 132, 158
- organizational 99
- situated 320
- social 259–60, 296–7, 325
- transformational 341–4, 350–351
LEB see Lake Eyre Basin (LEB)
legitimacy
- as challenge related to collaboration 33
- discursive 251
- as factor affecting success of collaboration 280
- of inter-institutional systems 254–8
- network 34
- power determined by 247
- requiring goal congruence 44
- throughput 113, 122
liberal politicians 15, 225–7, 231
local collaboration
- challenges at salinity science-collaborative governance interface 137–44
- community participation 133–4
- importance of 132, 144–5
- research challenges 132
- salinity and salinity science 134–7, 142–3
watershed planning efforts enabling 131–2
local participation, incorporating 189–90
longitudinal research 376–7
management relationships 383–4
managing
- home agency resistance 215–16
- in multi-level context
- adapting to change 187–9
- four components of 191
- incorporating community engagement and local participation 189–90
- in networks see networks
- wicked problems 217
mandated collaboration see compulsory collaboration
marginalized populations see inclusive collaboration
meaning, construction of 94
mission incompatibility (network) 87–8, 90
Munnikenland case study 291, 299–301, 303–4, 307–8
Murray-Darling Basin case study 133–43
National Action Plan for Salinity and Water Quality (NAP) 133–4, 137–8, 140–142
National Heritage Trust (NHT) 133–4, 141–2
National Oceanic and Atmospheric Administration (NOAA) 203, 236–7
natural resource management (NRM) background, in Australian context 177–8
- case studies and methods 178–80
- challenges and limitations
- building and maintaining collaboration 182–3
- entrenched wicked problems 181–2
- knowledge for learning and adapting 184–6, 191
- managing in multi-level context 187–91
mismatched timeframes 186–7, 191–2
collaboration as main option for 191–2
external powers and pressures 39–40
regional
collaboration as main option for 191–2
external powers and pressures 39–40, 143–4
community participation through 133–4, 139–40, 143
salinity taken off planning table 145
science different from ecosystem management science 56–7
in United States 5
wicked problems in 175–7, 181–2, 191–2, 237–8
Need-Attitude-Skillset 267, 284–5
neighborhood change, planning for 326–8
neighborhood meetings 328–9
Netherlands see floodplain management in Netherlands networks
agency mission 84–7
behavior, need for examination of 102–3
classification of 88
collective capacity 33, 42
continuous improvement practices 98–102
costs 42, 45, 93–4, 96–7
interactive governance 108–10
vitality of 111–20, 123
managerial behavior 87
managing in 81–3, 102
mission incompatibility 87–8
political perils of operational localism 96–8
politics 89–90
power within 90–93
process fatigue 95–6
processing barriers 93–5
New Zealand 178, 237
NGOs (non-governmental organizations)
to be viewed as empowered actors 110
and consensual decision-making in Delta Programme 166
Het Zeeuwse Landschap as 293
involvement in Indian forest management 270, 278–9
mission incompatibility 87–8
network action and agreements 97
operations by 82
as traditionally adversarial policy watchdog 224
understanding mission when working collaboratively 84
as usually aligned with community logic 256, 259
NRM see natural resource management (NRM)
Ohio
Darby Partnership 87–8
factors in successful watershed management 307
grant programs in support of collaborative efforts 62
Metro study 101
Ohio Forestry Association 54, 61, 71, 73
operational localism 83, 96–8
operational power 91–2
operations
four types of internal power of 92
by NGOs 82
organizational 34
as participant factor 43–4
Oregon
Deschutes River Basin 228–30, 233–4
Eugene and Medford 323–6, 330–332
forest-based collaboratives 239
Oregon Watershed Enhancement Board (OWEB) 238
participant factors 34, 43–4
participants, individual see individual participants
participatory workshops 324–6, 332
partnership fatigue 95
partnerships see collaborative partnerships
persistence, as challenge 186–7
place-based collaborative governance 224, 226–8, 230–232, 234–41
The challenges of collaboration in environmental governance

policy context 32, 38
policy watchdog roles 224, 231–3
political and ecological timeframes, mismatched 186–7, 191–2
political context 32, 38–9
political contracting framework 30, 42
political interests 269
politicians
and bureaucracies 235–9
certainty, passage of time and policy watchdog roles 231–3
and collaborative governance
conventional preference for hierarchical structures 223–4, 239–40
existence of power imbalances 240
new logic of support for 224–5, 240–241
offering opportunities to conservative 227–31
role of discretion 235–9
federal “environmental superstructure” decreasing political risks for liberal 225–7
public interest solutions and gridlock era 233–5
politics
“Big P” 89–90
and governance, in collaboration research agenda 377–8
within networks 89–90
and operational localism 96–8
“Small P” 90–93
power
approaches to governance of resources 247–9
challenges of, in environmental collaboration 258–60
and collaborative governance 246–7, 260–261
episodic aspects of 246–7, 250–253
external power and pressure 32, 39–40
imbalance 240, 249–50, 322, 363, 373, 382
nature of 249
within networks 90–93
play 36, 116
within process 32–3, 40–41
sharing 8, 39, 95, 113
structural aspects of 247, 253–8
types of 91–2, 250–253
‘powering’ process 297, 299, 301–2, 310
practice stories
assessing as project-focused oral histories 344–7
benefits of examining 339, 351–4
collecting and presenting for analysis in research and teaching 348–51
lessons and implications from 341–4
from urban environment 340–341, 353
problem complexity 31, 381–2
procedural fairness, perceptions of 213–14
process approach see Joint Planning Approach (JPA)
process fatigue 95–6
processing barriers 93–5
public interest solutions 233–5
public management
conservative collaborative 66–70, 199
mandated collaboration in challenges to 214–16
more research needed 217
and networking 103
public role, in collaboration research agenda 379–80
‘puzzling’ process 297, 299, 303, 305–6, 310
Qualitative Comparative Analysis (QCA) method 121, 123
relational arrangements, institutionalized 118–20
relational capacity 111, 122
relational contract theory 119–20
resilience thinking 6
resources
approaches to governance of 247–9
as factor affecting success of collaboration 276–7, 280–284
as form of power 250–253
Rijnwaardense Uiterwaarden case study 291, 299–301, 304–6, 308
Sacramento-San Joaquin Delta case study see CALFED experience
sage grouse 227, 233, 239
salinity
  current situation 142–3
  dryland 135–7, 139, 141–3
  at Goulburn-Broken and Wheatbelt 182–5, 188–90
  management 135–7, 141–2
  and salinity science 134–7, 143–4
  science-collaborative governance interface
  challenges 137–42
  recommendations 142–5
  workshop 133, 137–8, 140, 142
salmon recovery efforts 36, 236–7

scholarship
  first generation 60–62
  second generation 62–6

science
  challenges for scientists 69–71
  collaborative governance-salinity science interface
  challenges at 137–42
  recommendations 142–5
  and ecosystem management 55–8
  and Healthy Waterways 184, 188
  to inform risk assessments 131
  knowledge 30–31, 59, 72, 94, 134, 143–5, 250–251, 257, 382
  and LEB community 185
  prevailing in determining species listings 232
  and problem complexity, in research agenda 381–2
  role for science advisors 100
  salinity 134–7
  street 318
  sense of urgency 209
  shared beliefs 269
  “Small P” politics 90–93
  societal context 31, 37
  stakeholder groups
    identifying emerging 329–30
    limitations of 36
    and power 40–41
    representation 29
  stakeholders, challenges for 69–71
  stories see practice stories
  street metaphor 317–18, 322–3, 333–4
  structural power 247, 253–8

support
  new logic of 224–5, 240–241
  as participant factor 34, 44

table metaphor 317–18, 320, 322, 324, 333–4
theoretical perspectives on challenges of collaboration
  defining 28–9
  future research requirements 46–7
  related themes 30–46
  risks of failing to explore 27–8

Three Sisters Irrigation District (TSID) 229–30
time, passage of 231–3
timeframes, mismatched 186–7, 191–2
tragedy of the commons 58–9, 352–3
transaction costs
  of collaboration 45–6
  high, involved in science management 139–40, 143
  literature on challenge of 35
  as processing barrier 93–4
transformative learning 341–4, 350–351

trust
  in collaboration research agenda 380–381
  and collaborative public management 67–9
  in fatigue-related perspective 95
  IFS officers’ view of 278, 280–282
  and institutional arrangements 118–20
  mistrust in marginalized populations 319, 328, 330, 334
  in societal context 33, 37
  as source of legitimacy for community order 256
  as vitality increasing condition 116–18
  turf protection 86
turtle 356, 358, 360–361, 363–5

TV A v. Hill 226, 232

unions 247

United Kingdom (UK)
  agency-led basin initiatives 6
  market capitalism as significant force 255
  public-private partnerships 5
**The challenges of collaboration in environmental governance**

United States (US)
- collaborative approach of FERC 252
- development of collaborative practice 4–5
- federal environmental superstructure 225–8, 230–232
- Fish and Wildlife Service (USFWS) 227, 238–9
- Forest Service 5, 45, 55, 203, 236
- managing on ecosystem basis 55–6
- market capitalism as significant force 255
- National Park Service 45, 55, 238
- networks in context of 82–3
- see also politicians
- unsuccessful collaborators 282–5
- urgency, sense of 209
- user-pays principle 153, 165

Vital interactive governance networks 111–12, 121–3
Vitality, concept of 109
Vitality increasing conditions
- boundary spanning activities 113–15
- constructive dialogue and deliberation 115–16
- informal settings 112–13
- institutional relational arrangements 118–20
- trust 116–18

Voluntary engagement
- centrality of 199–200
- in collaborative governance process, as ideal 216
- incentives prompting 202–3
- instilling qualities of, in mandated process 209–14
- mandates challenging tenet of 203–4
- voluntary prescriptions 201–2
- see also CALFED experience

Water buffalo 356, 358, 360–361, 363–5
Water conservation project see Deschutes River Basin
Water governance networks 116–17
Water management
- consequences of climate change on 153–5
- in Mekong Delta and Uzbekistan 37
- policy context 38
- watershed-based collaborative approach to 237
- see also CALFED experience; Dutch Delta Programme
- water quality, addressing risks to see Healthy Waterways
- water users v. conservation interests 92–4
- watershed approach 5
- boundaries 55
- partnerships 63–4
- place-based collaborative governance 238
- planning efforts 132
- watershed management literature on 64–5
- participatory 277
- report reflecting collaborative environmental governance themes 54–5
- research 62
- risk and uncertainty as characteristics of 131
- successful collaborative 307
- whaling 258–9
- Wheatbelt NRM 179–80, 182–3, 185–6, 188–90
- Whychus Creek restoration 229–30, 233

Wicked problems
- challenge of entrenched 181–2
- climate change as “super-wicked” 152, 154–7
- as cross-cutting and relentless 237–8
- management requirements 217
- in Sacramento–San Joaquin Delta 206–7
- wildfires 88, 236
- wildlife conservation agencies 232–3, 239, 360–361, 363
- wildlife management 55–6, 272, 355, 362