

Contents

.....

Contributors	xiii
1 Introduction	1
Riki Therivel and Graham Wood	
1.1 <i>Environmental and Social Impact Assessment (ESIA) and the aims of the book</i>	1
1.2 <i>The ESIA process</i>	2
1.3 <i>The broader context for ESIA</i>	12
1.4 <i>Book structure</i>	16
2 Water	20
Andrew Brookes, Katy Kemble and Sally-Beth Betts	
2.1 <i>Introduction</i>	20
2.2 <i>Definitions and concepts</i>	21
2.3 <i>Key legislation, guidance and standards</i>	34
2.4 <i>Scoping</i>	35
2.5 <i>Baseline</i>	40
2.6 <i>Impact prediction and evaluation</i>	42
2.7 <i>Mitigation</i>	56
2.8 <i>Monitoring</i>	57
2.9 <i>Conclusions</i>	59
3 Soils, land and geology	63
Chris Stapleton, Hugh Masters-Williams and Martin J. Hodson	
3.1 <i>Introduction</i>	63
3.2 <i>Definitions and concepts</i>	63
3.3 <i>Key policy and legislation</i>	76
3.4 <i>Scoping and baseline studies</i>	80
3.5 <i>Impact prediction</i>	87
3.6 <i>Mitigation</i>	93
3.7 <i>Monitoring</i>	96
3.8 <i>Conclusions</i>	96

4	Air	102
	David P. Walker, Hannah Dalton, Graham Harker and Kiri Heal	
	4.1 <i>Introduction</i> 102	
	4.2 <i>Definitions and concepts</i> 103	
	4.3 <i>Key international guidelines and standards</i> 105	
	4.4 <i>Scoping and baseline studies</i> 114	
	4.5 <i>Impact prediction and evaluation</i> 119	
	4.6 <i>Mitigation and enhancement</i> 128	
	4.7 <i>Monitoring</i> 130	
	4.8 <i>Conclusions</i> 130	
5	Climate and climate change	134
	Elizabeth Wilson and Phill Minas	
	5.1 <i>Introduction</i> 134	
	5.2 <i>Definitions and concepts</i> 136	
	5.3 <i>Key legislation, guidance and standards</i> 137	
	5.4 <i>Scoping and baseline studies</i> 140	
	5.5 <i>Impact prediction and evaluation</i> 147	
	5.6 <i>Mitigation and monitoring</i> 158	
	5.7 <i>Conclusions</i> 159	
6	Ecology	164
	Roy Emberton, Richard J. Wenning and Jo Treweek	
	6.1 <i>Introduction</i> 164	
	6.2 <i>Definitions and concepts</i> 165	
	6.3 <i>Key legislation, guidance and standards</i> 175	
	6.4 <i>Defining the baseline – scoping</i> 180	
	6.5 <i>Defining the baseline – desk studies and surveys</i> 182	
	6.6 <i>Detailed surveys and evaluation of baseline conditions</i> 187	
	6.7 <i>Impact prediction and evaluation</i> 201	
	6.8 <i>Mitigation</i> 211	
	6.9 <i>Monitoring</i> 221	
	6.10 <i>Conclusions</i> 224	
7	Coastal ecology and geomorphology	234
	Sian John, David S. Brew and Richard Cottle	
	7.1 <i>Introduction</i> 234	
	7.2 <i>Definitions and concepts</i> 235	
	7.3 <i>Key legislation, policies and guidance</i> 249	
	7.4 <i>Scoping and baseline studies</i> 253	
	7.5 <i>Impact prediction and evaluation</i> 264	
	7.6 <i>Mitigation</i> 283	
	7.7 <i>Monitoring</i> 285	
	7.8 <i>Conclusions</i> 288	

8	Ecosystem services	298
	Jo Treweek and Florence Landsberg	
	8.1 <i>Introduction</i> 298	
	8.2 <i>Definitions and concepts</i> 300	
	8.3 <i>Key policy, legislation, guidance and standards</i> 305	
	8.4 <i>Scoping and baseline studies</i> 310	
	8.5 <i>Impact prediction and evaluation</i> 319	
	8.6 <i>Mitigation and enhancement</i> 322	
	8.7 <i>Monitoring</i> 324	
	8.8 <i>Conclusions</i> 325	
9	Noise	330
	Graham Wood and Riki Therivel	
	9.1 <i>Introduction</i> 330	
	9.2 <i>Definitions and concepts</i> 332	
	9.3 <i>Key legislation, guidance and standards</i> 339	
	9.4 <i>Scoping and baseline studies</i> 347	
	9.5 <i>Impact prediction and evaluation</i> 352	
	9.6 <i>Mitigation</i> 359	
	9.7 <i>Monitoring</i> 362	
	9.8 <i>Conclusions</i> 363	
10	Transport	365
	Chris Ferrary and Polash Banerjee	
	10.1 <i>Introduction</i> 365	
	10.2 <i>Definitions and concepts</i> 366	
	10.3 <i>Key guidance</i> 370	
	10.4 <i>Scoping and baseline studies</i> 372	
	10.5 <i>Impact prediction and evaluation</i> 376	
	10.6 <i>Mitigation</i> 388	
	10.7 <i>Monitoring</i> 396	
	10.8 <i>Conclusions</i> 397	
11	Landscape and visual	399
	Rebecca Knight and Riki Therivel	
	11.1 <i>Introduction</i> 399	
	11.2 <i>Definitions and concepts</i> 399	
	11.3 <i>Key legislation and guidance</i> 404	
	11.4 <i>Scoping and baseline studies</i> 406	
	11.5 <i>Impact prediction and evaluation</i> 413	
	11.6 <i>Mitigation and enhancement</i> 425	
	11.7 <i>Monitoring</i> 428	
	11.8 <i>Conclusions</i> 428	

12 Cultural heritage	432
Amanda Chisholm and Júlio Jesus	
12.1 Introduction	432
12.2 Definitions and concepts	433
12.3 Key legislation, guidance and standards	444
12.4 Baseline studies	449
12.5 Impact prediction and evaluation	457
12.6 Interactions	464
12.7 Mitigation and enhancement	464
12.8 Monitoring	469
12.9 Conclusions	471
 13 Socio-economic impacts 1: Overview and economic impacts	 475
John Glasson	
13.1 Introduction	475
13.2 Definitions and concepts	476
13.3 Key legislation, guidance and standards	477
13.4 Scoping and baseline studies	484
13.5 Impact prediction and evaluation: direct and indirect employment impacts	499
13.6 Mitigation and enhancement	508
13.7 Monitoring	509
13.8 Conclusions	510
 14 Socio-economic impacts 2: Social impacts	 515
Andrew Chadwick and John Glasson	
14.1 Introduction	515
14.2 Definitions and concepts	516
14.3 Key legislation, guidance and concepts	516
14.4 Scoping and baseline studies	520
14.5 Impact prediction and evaluation	526
14.6 Mitigation and enhancement	535
14.7 Monitoring	540
14.8 Conclusions	541
 15 Land acquisition, resettlement and livelihoods	 546
Eddie Smyth and Frank Vanclay	
15.1 Introduction	546
15.2 Definitions, concepts, key guidance/standards	548
15.3 Outline of the resettlement process	555
15.4 Scoping and initial planning	556
15.5 Profiling and baseline data collection	558
15.6 Development of the Resettlement Action Plan (RAP)	560
15.7 Implementation and handover	567
15.8 Livelihood restoration and enhancement	568

15.9	<i>Monitoring and evaluation</i>	571
15.10	<i>Conclusions</i>	572
16	Health	577
	Marla Orenstein	
16.1	<i>Introduction</i>	577
16.2	<i>Definitions and concepts</i>	578
16.3	<i>Key legislation, guidance and standards</i>	583
16.4	<i>Screening and scoping for HIA</i>	585
16.5	<i>Assessment for HIA</i>	592
16.6	<i>Mitigation/enhancement and monitoring for HIA</i>	594
16.7	<i>Human Health Risk Assessment</i>	599
16.8	<i>What capabilities are needed to undertake HIA?</i>	600
16.9	<i>Conclusions</i>	601
17	Resource efficiency	603
	Riki Therivel	
17.1	<i>Introduction</i>	603
17.2	<i>Definitions and concepts</i>	603
17.3	<i>Key legislation, guidance and standards</i>	609
17.4	<i>Scoping and baseline studies</i>	611
17.5	<i>Impact prediction and evaluation</i>	611
17.6	<i>Mitigation</i>	618
17.7	<i>Conclusions</i>	620
18	Risk and risk assessment	623
	Garry Middle	
18.1	<i>Introduction</i>	623
18.2	<i>Definitions and concepts</i>	625
18.3	<i>Prediction and evaluation</i>	629
18.4	<i>Mitigation</i>	642
18.5	<i>Beyond QRA and qualitative risk assessment?</i>	643
18.6	<i>QRA and ESIA</i>	644
18.7	<i>Conclusions</i>	646
19	Cumulative effects	649
	Martin Broderick, Bridget Durning and Luis E. Sánchez	
19.1	<i>Introduction</i>	649
19.2	<i>Definitions and concepts</i>	650
19.3	<i>Key legislation and guidance</i>	655
19.4	<i>Scoping and baseline</i>	660
19.5	<i>Prediction and evaluation</i>	664
19.6	<i>Mitigation</i>	670
19.7	<i>Monitoring and management</i>	673
19.8	<i>Conclusions</i>	673

20 Environmental and social management plans	678
Bridget Durning and Martin Broderick	
20.1 <i>Introduction</i>	678
20.2 <i>Definitions and concepts</i>	679
20.3 <i>Key legislation, policy and guidance</i>	684
20.4 <i>Developing an ESMP</i>	694
20.5 <i>Conclusions</i>	698
 Glossary	 703
 Index	 714