

Annexes

Annex I List of contributing authors and organisations

Name	Institutional affiliation	Country	Field of work
Authors			
Arkady V. Alekseev	Presidium of Far East Branch of the Russian Academy of Science	Russia	Environmental protection
Fedor F. Khrapchenkov	Pacific Oceanological Institute, Far East Branch of the Russian Academy of Science	Russia	Physical oceanography
Peter J. Baklanov	Pacific Geographical Institute, Far East Branch of the Russian Academy of Science	Russia	Nature management
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Anatoly N. Kachur	Pacific Geographical Institute, Far East Branch of the Russian Academy of Science	Russia	Nature management
Irina A. Medvedeva	Pacific Geographical Institute, Far East Branch of the Russian Academy of Science	Russia	Natural science
P.A. Minakir	Institute of Economic Forecasting, Far East Branch of the Russian Academy of Science	Russia	Economy
Galina D. Titova	Laboratory of Natural Resources Management Economics, Research Center of Environmental Safety, Russian Academy of Science	Russia	Environmental economy
Aleksandr Fedorovsky	Far Eastern National University	Russia	Economy
Hiroyuki Ishitobi	Special Monitoring & Coastal Environmental Assessment Regional Activity Centre, Northwest Pacific Action Plan	Japan	Natural science
Regional GIWA Task team			
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Tatiana A. Belan	Far Eastern Regional Hydrometeorological Research Institute	Russia	Pollution monitoring

Annex II

Detailed scoring tables

I: Freshwater shortage

Environmental issues	Score	Weight	Environmental concern	Weight averaged score
1. Modification of stream flow	0	N/a	Freshwater shortage	0
2. Pollution of existing supplies	0	N/a		
3. Changes in the water table	0	N/a		

Criteria for Economics impacts	Raw score	Score	Weight %
Size of economic or public sectors affected	Very small Very large	0	N/a
Degree of impact (cost, output changes etc.)	Minimum Severe	0	N/a
Frequency/Duration	Occasion/Short Continuous	0	N/a
Weight average score for Economic impacts		0	
Criteria for Health impacts	Raw score	Score	Weight %
Number of people affected	Very small Very large	0	N/a
Degree of severity	Minimum Severe	0	N/a
Frequency/Duration	Occasion/Short Continuous	0	N/a
Weight average score for Health impacts		0	
Criteria for Other social and community impacts	Raw score	Score	Weight %
Number and/or size of community affected	Very small Very large	0	N/a
Degree of severity	Minimum Severe	0	N/a
Frequency/Duration	Occasion/Short Continuous	0	N/a
Weight average score for Other social and community impacts		0	

N/a = Not applied

II: Pollution

Environmental issues	Score	Weight	Environmental concern	Weight averaged score
4. Microbiological	0	N/a	Pollution	0
5. Eutrophication	0	N/a		
6. Chemical	0	N/a		
7. Suspended solids	0	N/a		
8. Solid wastes	1	N/a		
9. Thermal	0	N/a		
10. Radionuclides	0	N/a		
11. Spills	1	N/a		

Criteria for Economics impacts	Raw score	Score	Weight %
Size of economic or public sectors affected	Very small Very large	0	N/a
Degree of impact (cost, output changes etc.)	Minimum Severe	0	N/a
Frequency/Duration	Occasion/Short Continuous	0	N/a
Weight average score for Economic impacts		0	
Criteria for Health impacts	Raw score	Score	Weight %
Number of people affected	Very small Very large	0	N/a
Degree of severity	Minimum Severe	0	N/a
Frequency/Duration	Occasion/Short Continuous	0	N/a
Weight average score for Health impacts		0	
Criteria for Other social and community impacts	Raw score	Score	Weight %
Number and/or size of community affected	Very small Very large	0	N/a
Degree of severity	Minimum Severe	0	N/a
Frequency/Duration	Occasion/Short Continuous	0	N/a
Weight average score for Other social and community impacts		0	

N/a = Not applied

III: Habitat and community modification

Environmental issues	Score	Weight	Environmental concern	Weight averaged score
12. Loss of ecosystems	0	N/a	Habitat and community modification	0
13. Modification of ecosystems or ecotones, including community structure and/or species composition	1	N/a		

Criteria for Economics impacts	Raw score	Score	Weight %
Size of economic or public sectors affected	Very small Very large 0 1 2 3	0	N/a
Degree of impact (cost, output changes etc.)	Minimum Severe 0 1 2 3	0	N/a
Frequency/Duration	Occasion/Short Continuous 0 1 2 3	0	N/a
Weight average score for Economic impacts		0	
Criteria for Health impacts	Raw score	Score	Weight %
Number of people affected	Very small Very large 0 1 2 3	0	N/a
Degree of severity	Minimum Severe 0 1 2 3	0	N/a
Frequency/Duration	Occasion/Short Continuous 0 1 2 3	0	N/a
Weight average score for Health impacts		0	
Criteria for Other social and community impacts	Raw score	Score	Weight %
Number and/or size of community affected	Very small Very large 0 1 2 3	0	N/a
Degree of severity	Minimum Severe 0 1 2 3	0	N/a
Frequency/Duration	Occasion/Short Continuous 0 1 2 3	0	N/a
Weight average score for Other social and community impacts		0	

N/a = Not applied

IV: Unsustainable exploitation of fish and other living resources










Environmental issues	Score	Weight %	Environmental concern	Weight averaged score
14. Overexploitation	1	N/a	Unsustainable exploitation of fish	1
15. Excessive by-catch and discards	0	N/a		
16. Destructive fishing practices	1	N/a		
17. Decreased viability of stock through pollution and disease	0	N/a		
18. Impact on biological and genetic diversity	0	N/a		

Criteria for Economics impacts	Raw score	Score	Weight %
Size of economic or public sectors affected	Very small Very large 0 1 2 3	0	N/a
Degree of impact (cost, output changes etc.)	Minimum Severe 0 1 2 3	0	N/a
Frequency/Duration	Occasion/Short Continuous 0 1 2 3	0	N/a
Weight average score for Economic impacts		0	
Criteria for Health impacts	Raw score	Score	Weight %
Number of people affected	Very small Very large 0 1 2 3	0	N/a
Degree of severity	Minimum Severe 0 1 2 3	0	N/a
Frequency/Duration	Occasion/Short Continuous 0 1 2 3	0	N/a
Weight average score for Health impacts		0	
Criteria for Other social and community impacts	Raw score	Score	Weight %
Number and/or size of community affected	Very small Very large 0 1 2 3	1	N/a
Degree of severity	Minimum Severe 0 1 2 3	1	N/a
Frequency/Duration	Occasion/Short Continuous 0 1 2 3	1	N/a
Weight average score for Other social and community impacts		1	

N/a = Not applied

V: Global change

Environmental issues	Score	Weight	Environmental concern	Weight averaged score
19. Changes in the hydrological cycle	2	N/a	Global change	1
20. Sea level change	0	N/a		
21. Increased UV-B radiation as a result of ozone depletion	0	N/a		
22. Changes in ocean CO ₂ source/sink function	1	N/a		

Criteria for Economics impacts	Raw score	Score	Weight %
Size of economic or public sectors affected	Very small  Very large 0 1 2 3	1	N/a
Degree of impact (cost, output changes etc.)	Minimum  Severe 0 1 2 3	1	N/a
Frequency/Duration	Occasion/Short  Continuous 0 1 2 3	1	N/a
Weight average score for Economic impacts		1	
Criteria for Health impacts	Raw score	Score	Weight %
Number of people affected	Very small  Very large 0 1 2 3	0	N/a
Degree of severity	Minimum  Severe 0 1 2 3	0	N/a
Frequency/Duration	Occasion/Short  Continuous 0 1 2 3	0	N/a
Weight average score for Health impacts		0	
Criteria for Other social and community impacts	Raw score	Score	Weight %
Number and/or size of community affected	Very small  Very large 0 1 2 3	0	N/a
Degree of severity	Minimum  Severe 0 1 2 3	0	N/a
Frequency/Duration	Occasion/Short  Continuous 0 1 2 3	0	N/a
Weight average score for Other social and community impacts		0	

N/a = Not applied

Comparative environmental and socio-economic impacts of each GIWA concern

Concern	Types of impacts								Overall score	Rank
	Environmental score		Economic score		Human health score		Social and community score			
	Present (a)	Future (b)	Present (a)	Future (b)	Present (a)	Future (b)	Present (a)	Future (b)		
Freshwater shortage	0	0	0	0	0	0	0	0	0	5
Pollution	0	0	0	0	0	0	0	0	0	4
Habitat and community modification	0	0	0	0	0	0	0	0	0	3
Unsustainable exploitation of fish and other living resources	1	1	0	0	0	0	1	1	0.5	2
Global change	1	1	1	1	0	0	0	0	0.5	1