

Annexes

Annex I List of contributing authors and organisations

Name	Organization/Institution	Country	Field of work
Authors			
Arkady V. Alekseev	Presidium of Far East Branch of the Russian Academy of Sciences	Russia	Environmental protection
Peter Baklanov	Pacific Geographical Institute, Far East Branch Russian Academy of Sciences	Russia	Nature resource management
Ivan S. Arzamastsev	Pacific Geographical Institute, Far East Branch Russian Academy of Sciences	Russia	Nature science
Yury Blinov	TINRO-Centre	Russia	Fish ecology
Alexander V. Vlasov	Pacific Geographical Institute, Far East Branch Russian Academy of Sciences	Russia	Natural science
Boris A. Voronov	Institute for Water and Environmental Problems, Far East Branch Russian Academy of Sciences	Russia	Ecology
Anatoy Kachur	Pacific Geographical Institute, Far East Branch Russian Academy of Sciences	Russia	Nature management
Irina A. Medvedeva	Pacific Geographical Institute, Far East Branch Russian Academy of Sciences	Russia	Natural science
Pavel A. Minakir	IEI, Far East Branch Russian Academy of Sciences	Russia	Economy
Galina D. Titova	Laboratory of Natural resources amngement economics research centre of environmental safety, Russian Academy of Sciences	Russia	Environmental economy
Alexander S. Fedorovsky	Far East State University	Russia	Economy
Hiroyuki Ishitobi	The special monitoring and coastal environmental assessment regional activity centre, Action plan for the protection, management and development of the marine and coastal environment of the Northwest Pacific region; CEARAC NOWPAP	Japan	Natural science
Task Team			
Elina Rautalahti-Miettinen	Coordinator Northern Hemisphere Global International Waters Assessment, (UNEP/GIWA)	Sweden	
Ye Chun	Coordinator Global International Waters Assessment (UNEP/GIWA)	Sweden	
Anond Snidvongs	Southeast Asia START Regional Center Research Building Number 2, Director	Thailand	
Kirn Song Gun	Vice-Chairman of DPRK MAB, President of Biological Branch, Academy of Sciences of DPRK	North Korea	
Choc Kwang Hun	Division of international Organizations, Bureau for international Cooperation of Science and technology Academy of Sciences of DPRK, Officer	North Korea	
Pak Yong Ho	Centre for Nature Conservation, Biological Branch, Academy of Sciences of DPRK, Researcher	North Korea	
Fan Zhijie	Phillips China Inc., Environment Specialist, HES	China	
Hunting Yu	China Institute for Marine Affairs, State Oceanic Administration	China	
Arkady V. Alekseev	Deputy Chairman	Russia	
Peter Baklanov	Pacific Geographical Institute, Far East Branch, RAS, Director	Russia	
Anatoy Kachur	Pacific Geographical Institute, Far East Branch, RAS, Deputy Director	Russia	
Pavel A. Minakir	Research Economic Institute, Far East Branch, RAS, Director	Russia	
Boris A. Voronov	Water and Ecology Problems Institute, Far East Branch, RAS, Director	Russia	

List of contributing authors and organisations (continued)

Task Team			
Galina D. Titova	Laboratory of Natural Resources Management Economics Research Center of Environmental Safety, RAS, Scientific Consultant, (UNEP/GIWA)	Russia	
Evgeniya V. Terekhova	Head, Cathedra of foreign languages, FEBRAS	Russia	
Fedor F. Khrapchenkov	Pacific Oceanological Institute, Far East Branch, RAS, Leading Research Fellow	Russia	
BlinovYury	Pacific Institute of Fisheries and Oceanography (TINRO-CENTRE), Deputy Director	Russia	
Nikolay Bortin	Far Eastern Research Institute of Complex Using and Water Resources Protection, Director	Russia	
Ki-Suk Lee	Department of Geography Education Seoul National University	South Korea	
Aleksandr S. Fedorovsky	Far East State University	Russia	
Ivan S. Arzamashev	Pacific Geographical Institute, Far East Branch RAS, Senior Researcher	Russia	
Vladimir M. Shulkin	Head of Laboratory Pacific Geographical Institute Far East Branch RAS	Russia	
Anatoly V. Moshkov	Leading Research Fellow, Pacific Geographical Institute, Far East Branch RAS	Russia	
Gennady P. Skrilnik	Senior Researcher, Pacific Geographical Institute, Far East Branch RAS	Russia	
Alexander V. Tkalin	Leading Researcher, Far Eastern Regional Hydrometeorological Research Institute	Russia	
Tatiana A. Belan	Senior Researcher, Far Eastern Regional Hydrometeorological Research Institute	Russia	
Dmitry L. Pitruk	Deputy Director, Institute of Marine Biology, FEB RAS	Russia	
Irina A. Medvedeva	Researcher, Organizing Committee, Pacific Geographical Institute, Far East Branch RAS	Russia	
Galina D. Dimova	Organizing Committee, Pacific Geographical Institute, Far East Branch RAS	Russia	

Annex II

Detailed scoring tables

I: Freshwater shortage

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

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

N/a=Not applied

II: Pollution

Environmental issues	Score	Weight	Environmental concern	Weight averaged score
4. Microbiological	1	N/a	Pollution	1
5. Eutrophication	1	N/a		
6. Chemical	1	N/a		
7. Suspended solids	1	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	N/a	N/a
Degree of impact (cost, output changes etc.)	Minimum Severe	N/a	N/a
Frequency/Duration	Occasion/Short Continuous	N/a	N/a
Weight average score for Economic impacts			2
Criteria for Health impacts	Raw score	Score	Weight %
Number of people affected	Very small Very large	N/a	N/a
Degree of severity	Minimum Severe	N/a	N/a
Frequency/Duration	Occasion/Short Continuous	N/a	N/a
Weight average score for Health impacts			2
Criteria for Other social and community impacts	Raw score	Score	Weight %
Number and/or size of community affected	Very small Very large	N/a	N/a
Degree of severity	Minimum Severe	N/a	N/a
Frequency/Duration	Occasion/Short Continuous	N/a	N/a
Weight average score for Other social and community impacts			1

N/a=Not applied

III: Habitat and community modification

Environmental issues	Score	Weight	Environmental concern	Weight averaged score
12. Loss of ecosystems	1	N/a	Habitat and community modification	1
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	N/a	N/a
Degree of impact (cost, output changes etc.)	Minimum Severe	N/a	N/a
Frequency/Duration	Occasion/Short Continuous	N/a	N/a
Weight average score for Economic impacts		2	
Criteria for Health impacts	Raw score	Score	Weight %
Number of people affected	Very small Very large	N/a	N/a
Degree of severity	Minimum Severe	N/a	N/a
Frequency/Duration	Occasion/Short Continuous	N/a	N/a
Weight average score for Health impacts		1	
Criteria for Other social and community impacts	Raw score	Score	Weight %
Number and/or size of community affected	Very small Very large	N/a	N/a
Degree of severity	Minimum Severe	N/a	N/a
Frequency/Duration	Occasion/Short Continuous	N/a	N/a
Weight average score for Other social and community impacts		1	

N/a=Not applied

IV: Unsustainable exploitation of fish and other living resources

Environmental issues	Score	Weight %	Environmental concern	Weight averaged score
14. Overexploitation	3/2*	N/a	Unsustainable exploitation of fish	2/3*
15. Excessive by-catch and discards	2/0*	N/a		
16. Destructive fishing practices	2/1*	N/a		
17. Decreased viability of stock through pollution and disease	2/0*	N/a		
18. Impact on biological and genetic diversity	1/1*	N/a		

*Amur River Basin sub-system/Okhotsk Sea sub-system

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

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

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	1	1	1	1	1	1	1	1	1	3
Pollution	1	1	2	2	2	2	1	1	2	1
Habitat and community modification	1	1	2	2	1	1	1	1	2	4
Unsustainable exploitation of fish and other living resources	2	2	2	2	1	1	1	1	2	2
Global change	1	1	2	2	2	2	1	1	1	5

