

モニタリング項目一覧

別表

(1) Monitoring items implemented by relevant government agencies

No.	Monitoring item	Evaluation item corresponding to monitoring item
1	Observation of water temperature and chlorophyll-a using satellite remote sensing	I The productivity of a unique ecosystem is being maintained. IV Conservation of marine ecosystems within the heritage site is being balanced with stable fishing through sustainable use of fisheries resources. VIII Effects, or potential effects of climate change are being tracked early.
2	Fixed-point observation of water temperature using marine observation buoys	I The productivity of a unique ecosystem is being maintained. IV Conservation of marine ecosystems within the heritage site is being balanced with stable fishing through sustainable use of fisheries resources. VIII Effects, or potential effects of climate change are being tracked early.
3	Seal habitation survey	I The productivity of a unique ecosystem is being maintained. III Biodiversity is being maintained at the same level as when the site was inscribed on the World Heritage List. IV Conservation of marine ecosystems within the heritage site is being balanced with stable fishing through sustainable use of fisheries resources. VIII Effects, or potential effects of climate change are being tracked early.
4	Marine flora and fauna and habitation survey (periodic shallow-sea survey)	I The productivity of a unique ecosystem is being maintained. II The interaction between marine and terrestrial ecosystems is being maintained. III Biodiversity is being maintained at the same level as when the site was inscribed on the World Heritage List.
5	Shellfish quantitative survey in shallow seas	I The productivity of a unique ecosystem is being maintained. II The interaction between marine and terrestrial ecosystems is being maintained.
6	Survey of spectacled guillemot, black-tailed gull, slaty-backed gull, and Japanese cormorant populations, nesting site distribution, and number of nests	II The interaction between marine and terrestrial ecosystems is being maintained. III Biodiversity is being maintained at the same level as when the site was inscribed on the World Heritage List. IV Conservation of marine ecosystems within the heritage site is being balanced with stable fishing through sustainable use of fisheries resources. VII Recreational utilization of the site and other human activities are being balanced with conservation of the natural environment.
7	Survey of recovery of vegetation from sika deer impact (Forestry Agency 1ha enclosure)	III Biodiversity is being maintained at the same level as when the site was inscribed on the World Heritage List. VI Excessive influence of high sika deer population density on the ecosystem of the heritage site is not occurring.
8	Survey of recovery of vegetation from sika deer impact (Ministry of the Environment enclosure at Shiretoko Cape)	III Biodiversity is being maintained at the same level as when the site was inscribed on the World Heritage List. VI Excessive influence of high sika deer population density on the ecosystem of the heritage site is not occurring.
9	Survey of sika deer browsing pressure in experimental density manipulation zones	III Biodiversity is being maintained at the same level as when the site was inscribed on the World Heritage List. VI Excessive influence of high sika deer population density on the ecosystem of the heritage site is not occurring.
10	Wide-area vegetation survey to gauge sika deer feeding pressure	III Biodiversity is being maintained at the same level as when the site was inscribed on the World Heritage List. VI Excessive influence of high sika deer population density on the ecosystem of the heritage site is not occurring. VII Recreational utilization of the site and other human activities are being balanced with conservation of the natural environment. VIII Effects, or potential effects of climate change are being tracked early.
11	Periodic growth and distribution surveys of <i>Viola kitamiana</i>	III Biodiversity is being maintained at the same level as when the site was inscribed on the World Heritage List. VI Excessive influence of high sika deer population density on the ecosystem of the heritage site is not occurring.
12	Wide-area aerial count of wintering sika deer populations	VI Excessive influence of high sika deer population density on the ecosystem of the heritage site is not occurring.

モニタリング項目一覧

別表

13	Survey of habitation of terrestrial invertebrates (primarily insects) (including survey of alien species)	III Biodiversity is being maintained at the same level as when the site was inscribed on the World Heritage List. VI Excessive influence of high sika deer population density on the ecosystem of the heritage site is not occurring.
14	Survey of habitation of land birds	III Biodiversity is being maintained at the same level as when the site was inscribed on the World Heritage List. VI Excessive influence of high sika deer population density on the ecosystem of the heritage site is not occurring.
15	Survey of habitation of large, medium-sized and small mammals (including survey of alien species)	III Biodiversity is being maintained at the same level as when the site was inscribed on the World Heritage List. VI Excessive influence of high sika deer population density on the ecosystem of the heritage site is not occurring.
16	Preparation of wide-area vegetation map	II The interaction between marine and terrestrial ecosystems is being maintained. III Biodiversity is being maintained at the same level as when the site was inscribed on the World Heritage List. VI Excessive influence of high sika deer population density on the ecosystem of the heritage site is not occurring.
17	Monitoring of number of salmon running upstream, spawning grounds, and number of spawning beds in rivers	II The interaction between marine and terrestrial ecosystems is being maintained. IV Conservation of marine ecosystems within the heritage site is being balanced with stable fishing through sustainable use of fisheries resources. V Impact of river constructions has been lessened so as to maintain river ecosystems that can support salmonid species reproduction.
18	Survey of habitation of freshwater fish, in particular the Dolly Varden ( <i>Salvelinus malma</i> ) that characterizes the freshwater fish fauna in Shiretoko (including survey of alien species)	III Biodiversity is being maintained at the same level as when the site was inscribed on the World Heritage List. V Impact of river constructions has been lessened so as to maintain river ecosystems that can support salmonid species reproduction. VIII Effects, or potential effects of climate change are being tracked early.
19	Site utilization survey	VII Recreational utilization of the site and other human activities are being balanced with conservation of the natural environment.
20	Survey of sighting and encounters with brown bears, including any damage incurred	VII Recreational utilization of the site and other human activities are being balanced with conservation of the natural environment.
21	Meteorological observation	VIII Effects, or potential effects of climate change are being tracked early.
22	Survey of wintering population of sea eagles	II The interaction between marine and terrestrial ecosystems is being maintained.
23	Survey of population, breeding status, reproductive rate and number of fledglings, and food sources of Blakiston's fish-owl. Tracking of migration and distribution through tagging and attachment of transmitters. Number of dead, sick and injured and investigation of causes	III Biodiversity is being maintained at the same level as when the site was inscribed on the World Heritage List.
24	Tracking of project implementation status through preparation of annual reports	III Biodiversity is being maintained at the same level as when the site was inscribed on the World Heritage List. VII Recreational utilization of the site and other human activities are being balanced with conservation of the natural environment.
25	Tracking of social environment through preparation of annual reports	III Biodiversity is being maintained at the same level as when the site was inscribed on the World Heritage List. VII Recreational utilization of the site and other human activities are being balanced with conservation of the natural environment.

モニタリング項目一覧

別表

(2) Monitoring items implemented in cooperation with local governments, related bodies, experts, and other government agencies besides those men

No.	Monitoring item	Grounds for selection *Evaluation item corresponding to monitoring item
①	Aerial observation of sea ice distribution	I The productivity of a unique ecosystem is being maintained. IV Conservation of marine ecosystems within the heritage site is being balanced with stable fishing through sustainable use of fisheries resources. VIII Effects, or potential effects of climate change are being tracked early.
②	Biological survey of ice algae	I The productivity of a unique ecosystem is being maintained. IV Conservation of marine ecosystems within the heritage site is being balanced with stable fishing through sustainable use of fisheries resources.
③	Tracking of changes in fish catches compared to Hokkaido Suisan Gensei [Statistics on Fisheries in Hokkaido]	I The productivity of a unique ecosystem is being maintained. III Biodiversity is being maintained at the same level as when the site was inscribed on the World Heritage List. IV Conservation of marine ecosystems within the heritage site is being balanced with stable fishing through sustainable use of fisheries resources.
④	Ascertainment and assessment of walleye pollock stock (survey used to set total allowable catch [TAC])	I The productivity of a unique ecosystem is being maintained. IV Conservation of marine ecosystems within the heritage site is being balanced with stable fishing through sustainable use of fisheries resources.
⑤	Walleye pollock spawning survey	I The productivity of a unique ecosystem is being maintained. IV Conservation of marine ecosystems within the heritage site is being balanced with stable fishing through sustainable use of fisheries resources.
⑥	Survey of number of Steller sealions migrating to Japan seacoast, number killed due to human actions (by gender), characteristics	I The productivity of a unique ecosystem is being maintained. III Biodiversity is being maintained at the same level as when the site was inscribed on the World Heritage List. IV Conservation of marine ecosystems within the heritage site is being balanced with stable fishing through sustainable use of fisheries resources. VIII Effects, or potential effects of climate change are being tracked early.
⑦	Survey of damage caused by Steller sealions	IV Conservation of marine ecosystems within the heritage site is being balanced with stable fishing through sustainable use of fisheries resources.
⑧	Status of reproduction at white-tailed eagle nesting sites and monitoring of fledglings	II The interaction between marine and terrestrial ecosystems is being maintained. III Biodiversity is being maintained at the same level as when the site was inscribed on the World Heritage List.
⑨	Survey of total wintering population of sea eagles throughout Hokkaido	II The interaction between marine and terrestrial ecosystems is being maintained.
⑩	Analysis of oil, cadmium, mercury, etc. in seawater	IV Conservation of marine ecosystems within the heritage site is being balanced with stable fishing through sustainable use of fisheries resources.
⑪	Ground population count survey at major sika deer wintering grounds (including habitation surveys of other mammals)	III Biodiversity is being maintained at the same level as when the site was inscribed on the World Heritage List. VI Excessive influence of high sika deer population density on the ecosystem of the heritage site is not occurring.
⑫	Qualitative survey of sika deer population through observation of body weight, pregnancy rate etc. among culled and naturally deceased sika deer	VI Excessive influence of high sika deer population density on the ecosystem of the heritage site is not occurring.

(3) Other surveys and research

No.	Monitoring item	Grounds for selection *Evaluation item corresponding to monitoring item
(1)	Observation and prediction of changes in sea ice volume	*Surveys and research which provide evidence of heritage site's value by clarifying workings of site's ecosystem, or contribute to the formulation of specific external measures, are to be proactively pursued in collaboration and cooperation with local governments, related bodies, experts, and other government agencies
(2)	Capture, reproduction, population estimates, migration and distribution patterns, and damage caused by brown bears	
(3)	Survey on current status and changes to genetic diversity of salmonid species	
(4)	Survey of seasonal migration of wintering sea eagle populations and consumption of human-provided and naturally occurring food resources	
(5)	Survey of damage caused by seals	