

**State of Conservation Report of Shiretoko  
(Japan) (N1193)**

In Response to the Decision at the 43th Session of the World Heritage Committee

**Japan  
November 2020**

## 1. Executive summary of the report

In collaboration with the Ministry of the Environment, Forestry Agency, Agency for Cultural Affairs, Hokkaido Prefectural Government, and other related organizations, and based on scientific reviews at the Shiretoko Natural World Heritage Site Scientific Council, Japan reports as below in response to the issues raised in World Heritage Committee Decision 43 COM 7B.10.

- Regarding Paragraph 3 of the Decision, joint monitoring of Steller sea lions (*Eumetopias jubatus*) with Russia has been conducted in the Kuril Islands and there is a plan to develop a population dynamic model using the monitoring results. The analysis results will be submitted to the World Heritage Centre as soon as they become available.
- Regarding Paragraph 4 of the Decision, the combined use of capturing and non-lethal measures has mitigated the level of damage caused by Steller sea lions and helped avoid a rapid deterioration of fishery. However, since the non-lethal methods currently used are effective only at a low level, the combined management with culling at the current level will be maintained, while continuing the scientific monitoring data accumulation and the analysis stated in the paragraph 2.1, to eventually review the level of culling.
- Regarding Paragraph 5 of the Decision, the monitoring of Steller sea lions is normally conducted by direct counting from onshore spots. This means that the data obtained are clearly too small to make an estimate of the overall population level of Steller sea lions migrating to the Nemuro Strait that inhabit the vast sea area including the southern part of the Kuril Islands. Due to this situation, the mark-recapture method has just been introduced to estimate the population level. After obtaining the results using this method, a management model of Steller sea lions is to be developed. The plan or process to develop the management model will be stated in the Multiple Use Integrated Marine Management Plan (which is reviewed once every five years).
- Regarding Paragraph 6 of the Decision, the IUCN Advisory mission was invited in 2019. The recommendations made in the report of the Advisory mission have been discussed.
- Regarding Paragraph 7 of the Decision, the monitoring of the impact of climate change in Shiretoko has been conducted. Efforts will be made to promptly detect its impact. In addition, there will be accelerated efforts to examine and develop adaptive management strategies.

There are no other conservation issues identified nor development projects which may impact on Outstanding Universal Value of the property.

Public access to the conservation report is acceptable.

## 2. Response to the Decision of the World Heritage Committee

Regarding the issues raised in Decision 43 COM 7B.10 of the 43<sup>rd</sup> session of the World Heritage Committee, Japan sincerely reports as follows:

### 2.1. Response to Paragraph 3 of the Decision

**Paragraph 3:** Welcomes the joint surveys undertaken by the States Parties of Japan and the Russian Federation concerning the Western Steller Sea Lion rookeries in Russia and their plans to develop a population dynamic model of this subspecies to inform management, and requests the States Parties to submit the findings to the World Heritage Centre once they are available;

- a) According to a research conducted by Japan, the resighting of brandings made it clear that Steller sea lions migrate to the Nemuro Strait almost exclusively originated in the Kuril Islands. Furthermore, the satellite tracking of Steller sea lions migrating to the Nemuro Strait showed that they inhabit the area including the southern part of the Kuril Islands, except during the breeding period.
- b) This research on the origin of the migrating Steller sea lions indicates a possibility that they are forming a subgroup within the Kuril Islands. Currently, Japan is studying the population level by applying the mark-recapture theory based on the results of the resighting of brandings.
- c) In addition to the joint monitoring conducted in the Kuril Islands with Russia, biological data such as the age and sexual maturity of Steller sea lions captured in the Nemuro Strait are being collected. It is planned to develop a population dynamic model using these data.
- d) The results of the above research and analysis will be submitted to the World Heritage Centre as soon as they become available.

### 2.2. Response to Paragraph 4 of the Decision

**Paragraph 4:** Noting the reported ongoing damage caused by pinnipeds to coastal fisheries and the conclusion that the non-lethal measures used have not yet been effective in reducing the damage, also requests the State Party to provide justification for the need to continue culling in terms of its effectiveness in reducing the damage to fisheries and urges the State Party to reconsider the current level of culling of the Western Steller Sea Lion based on a precautionary approach considering that accurate and comprehensive data on this subspecies continues to be lacking and until such data is available to inform management;

#### a) Damage to fisheries

- To achieve the sustainable use of fishery resources, local fishers have adopted voluntary management measures such as establishing an upper limit on the number of ships they operate, setting a non-fishing period or non-fishing days during their operation periods, reducing operation hours, restricting fishing gears and methods that can be used, and regulating sizes of their catches. In addition, to secure stable fisheries livelihoods, they are working on raising the unit price of their catch through the maintenance of their freshness and reducing production costs.
- The combined use of capturing and non-lethal measures such as relocating fishing nets depending on the situation of Steller sea lions' migration and driving Steller sea lions away using non-lethal bullets from

shot guns has controlled the damage to the current level and helped avoid a rapid deterioration of fishery.

Table 1. Damage caused by Steller sea lions to fisheries

(million yen)							
2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
209	357	212	175	177	213	213	170

(Hokkaido Prefectural Government)

Table 2. Number of captured Steller sea lions in Nemuro Strait

(number of individuals)								
2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
10	14	13	15	15	15	14	15	15

(Hokkaido Prefectural Government)

b) Non-lethal mitigation measures for the damage to fisheries

- In addition to capturing, measures such as relocating fishing nets depending on the situation of Steller sea lions' migration and driving Steller sea lions away using non-lethal bullets from shot guns have so far been used to reduce the damage to fisheries. Furthermore, as an effort to prevent the damage to nets, a verification test was conducted in 2018 and 2019 using reinforced gill nets in the fishing of walleye pollock, *Gadus chalcogrammus*, using fixed gill nets practiced in Nemuro Strait. In comparison with normal gill nets, reinforced gill nets have several challenges such as higher costs and difficulties in operating. However, there have been reductions in the damage to gill nets and experiments will be continued on the wider use of reinforced gill nets.
- The national and local governments are supporting measures adopted by local fishers against fishery damage, such as driving away Steller sea lions and introduction of modified fishing gear, including reinforced gill nets and the use of non-lethal bullets from shot guns.

c) Conclusion

- The combined use of capturing and non-lethal measures such as relocating fish nets depending on the situation of Steller sea lions' migration and driving Steller sea lions away using non-lethal bullets from shot guns has controlled the damage to the current level and helped avoid a rapid deterioration of fishery.
- Given that the non-lethal methods currently used are only having a low level of effectiveness, however, above-mentioned scientific data accumulation and analysis in response to Paragraph 3 of the Decision will be continued, while maintaining the current level of culling, to eventually review the level of culling.
- While monitoring Steller sea lions migrating to the Nemuro Strait and continuing efforts to mitigate the damage they cause to fisheries, efforts will be made to achieve both the stable fisheries livelihoods through the sustainable use of fishery resources and conservation of the marine ecosystems.

**2.3. Response to Paragraph 5 of the Decision**

**Paragraph 5:** Notes with concern the lack of detail on the monitoring and management of the Western Steller Sea Lion in the Management Plan and the Multiple Use Integrated Marine Management Plan, and further requests the State Party to ensure that these documents are further strengthened and reflect such a precautionary approach towards management of the Western Steller Sea Lion population;

- a) The direct counting from onshore spots has been used to monitor Steller sea lions. Specifically, the number of Steller sea lions swimming in the coastal area is counted from a few fixed points along the coast. This method is designed to comprehend the number of Steller sea lions that use the coast of the Shiretoko Peninsula like a snapshot image. This means that the data obtained are clearly underestimated the overall population level of Steller sea lions migrating to the Nemuro Strait that inhabit the vast sea area including the southern part of the Kuril Islands.
- b) Accordingly, the estimation of the population level using the mark-recapture method has been started as stated in 2.1 above. There is a plan to develop a management model of Steller sea lions migrating to the sea area around the Nemuro Strait after obtaining the results from this method.
- c) While there is a plan to develop a management model of Steller sea lions, changes in the capturing management method are not considered at this stage. Until the above-mentioned management model is completed, its development process will be stated in the Multiple Use Integrated Marine Management Plan (which is currently reviewed every five years).

#### 2.4. Response to Paragraph 6 of the Decision

**Paragraph 6:** Also welcomes the State Party's commitment to restore the Rusha River to its most natural state possible, including the progress made in assessing options for the removal of three check dams and alternatives to the bridge, and notes with appreciation the State Party's invitation for an IUCN Advisory mission in Autumn 2019 to provide further advice on this matter;

As for the Advisory mission, Dr. Peter Rand, the chair of the IUCN Species Survival Commission's Salmonid Specialist Group, was invited to conduct field inspections from September 23 to 25, 2019, and made recommendations on further actions necessary to restore the Rusha River to the most natural state possible.

A report of the field inspections of the mission was presented to Japan in March 2020. The following is our response to the recommendations made in the report.

**Recommendation 1:** Enhance the simulation modelling for the Rusha River restoration to include biological variables such as the role of large woody debris and measures of spawning habitat quality, before deciding on how the dam will be modified.

- Dam modifications are progressing pursuant to the improvement policy developed based on the results of hydraulic model experiments and numerical simulations. We plan to conduct these works under a six-year plan while confirming and verifying the impact of modifications.
- We understand the role of large woody debris including the expansion of the habitat of fish.

- Unfortunately, there is no simulation modelling that factors in large woody debris. However, model experiments have confirmed that dam modifications would not make any change to the area of suitable spawning beds and the trap area of woody debris. It is expected that the river channel splitting and restoration of subsurface flows would improve the spawning habitat.

**Recommendation 2:** Adopt an adaptive management approach with periodic evaluation for dam removal and the physical and biological monitoring of the river system, working in close collaboration with the River Construction Working Group and other relevant stakeholders.

- The national and local governments discuss and examine the dam improvement plans with the River Construction Working Group and local groups, including stakeholders. Based on the monitoring results, we conduct evaluations on partial removal of check dams and implement the adaptive management approach that reviews the plan and revises practices as needed.

**Recommendation 3:** Assess the feasibility of the use of booms at the river mouth to capture large woody debris as a way to balance river restoration needs and the fishery stakeholder concerns.

- The results of hydraulic model experiments and numerical simulations showed that three check dams would maintain their function of stabilizing slopes at the flanks of the dams even after modifications and river channel splitting would appear only within the 40-meter sections of each dam where its body would be removed. It is therefore unlikely that any woody debris would be produced within these sections.
- Booms cannot be installed due to safety and technical concerns such as their potential destruction by strong waves around the Shiretoko Peninsula and the consequent difficulty in obtaining understanding from local fishers.
- With regard to woody debris flow from the upstream of the River, it has been confirmed that they are trapped at river flooding in broad riverbed area at a river bend about 300 meters upstream of the third dam. The situation of woody debris flows after the partial removal of the dams will be closely monitored and the effect of the bent terrain in trapping woody debris will be examined as needed. (Refer to the map below for the conditions of the meander reaches where a wide riverbed develops.)

Sedimentary area at river bend (200-380 meters upstream of No.3 dam)

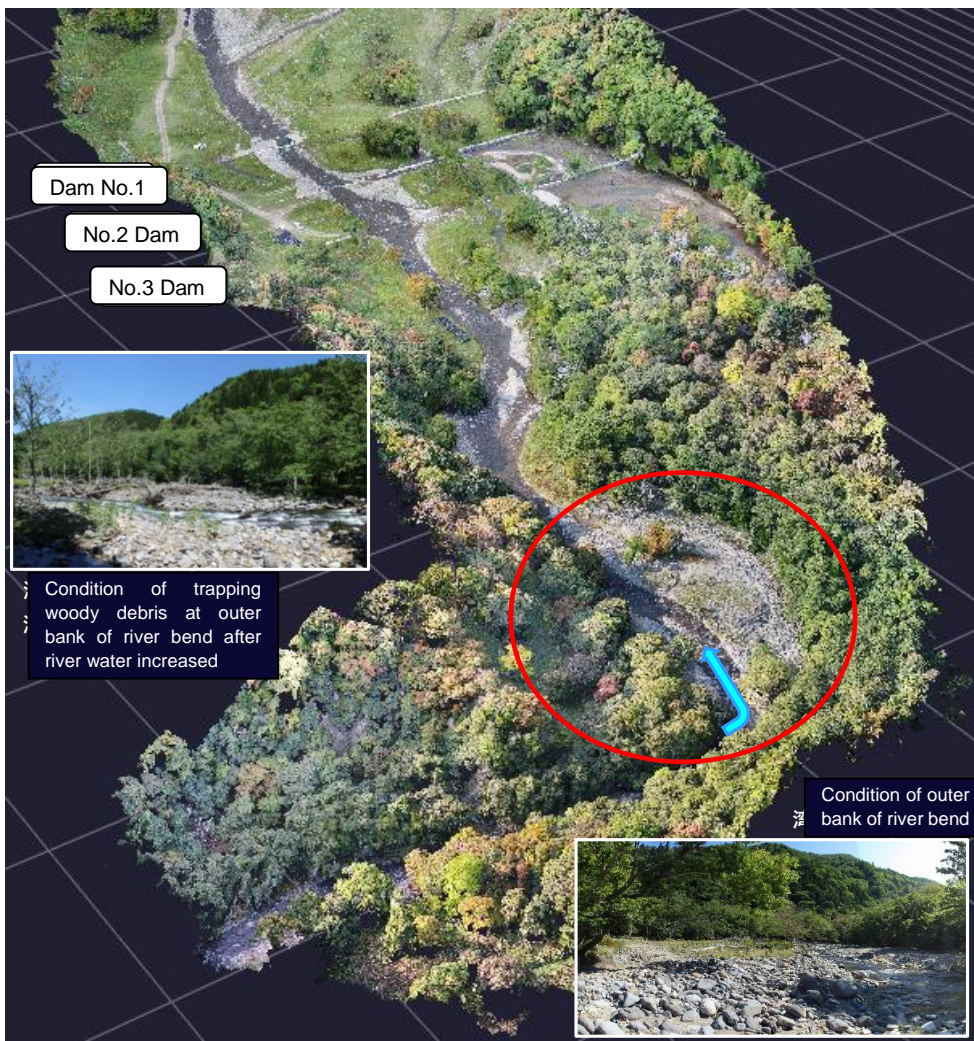
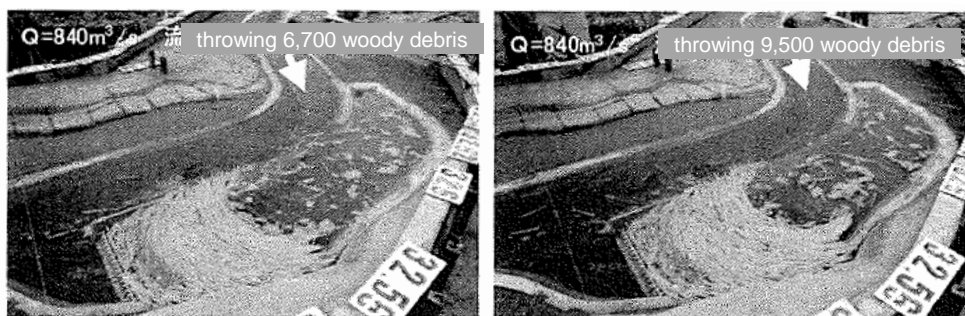


Image of trapping woody debris at river flooding



Source: picture 6.5.6, page 211, Woody debris and disaster

**Recommendation 4:** Closely monitor the impacts of the riverbed path pilot project, especially in relation to erosion, fish passage and disturbance to the benthic habitat, and take prompt remedial actions as necessary based on solid scientific understanding. This pilot project should not be replicated until there is sufficient evidence to support that there will be no impact on the ecosystem or that its impact can be satisfactorily mitigated.

- With respect to the upstream migration of fish, monitoring will be conducted to check if riverbed path does not prevent the upstream migration of salmonids. Based on the monitoring results, improvement measures will be taken as needed.
- The project will not be replicated until the monitoring results confirmed that there is sufficient evidence to support that there will be no impact on the ecosystem or that its impact can be satisfactorily mitigated.

**Recommendation 5:** Organize periodic meetings for all relevant stakeholders and with invited specialists to exchange ideas and concerns, and to highlight the on-going efforts on river restoration.

- The Shiretoko Natural World Heritage Site Regional Liaison Committee established in 2005 to liaise and coordinate with local concerned bodies and stakeholders has meetings regularly with the participation of the members of the Shiretoko World Natural Heritage Site Scientific Committee, who are specialists. The Liaison Committee will continue to invite specialists on the river restoration.

## 2.5. Response to Paragraph 7 of the Decision

**Paragraph 7:** Encourages the State Party to continue monitoring the impacts of climate change on the property and to develop adaptive management strategies to minimize any impacts of climate change on its Outstanding Universal Value (OUV);

### a) Monitoring

Following consideration by the Scientific Council, the Kushiro Nature Conservation Office, Hokkaido Regional Forest Office, and the Hokkaido Prefectural Government developed the Long-Term Monitoring Plan for Shiretoko Natural World Heritage Site in 2012 (as reported in the previous state of conservation report submitted in November 2018). It is a plan on monitoring activities that are necessary for maintaining the value of the property. Based on the Plan, monitoring of the impact of climate change on Shiretoko focuses on sea ice, vegetation, ichthyofauna, water temperature, weather information, and so on. The monitoring of each of these items has been conducted continuously.



In 2019, the results of past monitoring activities were compiled, and survey methods, evaluation implementation structures and so on were reviewed to revise the Plan and to improve monitoring activities concerning climate change (the revised Plan is attached). As an example, to accurately comprehend the impact of climate change on alpine vegetation, which is thought to be vulnerable to the impact of climate change, surveys and analyses were started to estimate long-term changes in alpine vegetation using aerial photos. Monitoring will be continued with advice from the Scientific Council to promptly detect the impact of climate change on the value of the heritage site.

b) Adaptive management strategy

The actions taken so far include: collecting information on research by academic and research institutions, including future predictions; examining experimental adaptive measures for component elements of forest ecosystems; and gathering information on the adaptive strategies developed overseas for the natural world heritages. Furthermore, Japan recently established a basic policy and other measures for promoting adaptation measures for climate change. Specifically, the Climate Change Adaptation Act was established in 2018 and the Climate Change Adaptation Plan was approved by the cabinet. Based on the Plan, the “Guidelines for Considering Climate Change Adaptation Measures in Protected Areas such as National Parks” were developed in 2019.

Based on the above knowledge and policies, examinations for the development of adaptive management strategy in Shiretoko will be accelerated, referring to “Climate Change Adaptation for Natural World Heritage Sites - A Practical Guide (2014)” published by the World Heritage Centre. Since sufficient knowledge has not been obtained concerning the major impact of climate change on the OUV from a long-term viewpoint, selection of evaluation indicators, and future prediction of evaluation targets, further efforts will be made to collect and analyze basic data and to facilitate research, and the monitoring plan may be revised as needed.

The existing property management measures that are considered to increase the resilience of ecosystems in Shiretoko, such as those contributing to the recovery of vegetation through the management of the population of sika deer and improvements of the habitat of salmonids through modifications to river constructions, will be positioned as important adaptive measures.

**3. Other current conservation issues identified by the State Party which may have an impact on the property’s Outstanding Universal Value**

There are no other conservation issues identified by Japan which may impact the Outstanding Universal Value of the property.

4. **In conformity with Paragraph 172 of the *Operational Guidelines*, describe any potential major restorations, alterations, and/or new construction(s) intended within the property, the buffer zone(s) and/or corridors or other areas, where such developments may affect the Outstanding Universal Value of the property, including authenticity and integrity.**

There are no development projects in and around the property which may affect the Outstanding Universal Value of the property.

5. **Public access to the state of conservation report**

Japan accepts upload of full reports for public access on the World Heritage Centre's State of Conservation Information System.

## 6. Signature of the Authority

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