

意見提出者	該当ページ	意見の内容	対応方針
帰山委員	表紙(題名)	The <u>Multiple Use</u> ("versatile" でよいのではないですか?) Integrated Marine Management Plan for Shiretoko World Natural Heritage Site	Multiple UseはIUCNが使っていた言葉で、今までIUCNとの連絡に使ってきた表現でもあり、変更したくないと考えます。
帰山委員	表紙(機関名)	Ministry of the Environment Hokkaido Government (これでは「北海道の環境省」と誤解されませんか?)	変更しました。
帰山委員	P1	「サケ類」は“salmonids”でよいと思います。	修正・統一
帰山委員	P1 1(1) 1ポツ目	<ul style="list-style-type: none"> In this management plan, “Shiretoko” refers to the Shiretoko World Natural Heritage Site (hereinafter referred to as “heritage site”) and its surrounding sea areas. Shiretoko is situated at the lowest latitude among the world’s seasonal sea ice in the northern hemisphere, and is featured by the (interrelationship を削除) <u>interaction</u> between (a を削除) terrestrial (ecosystem を削除) and a contiguous (必要ですか?) marine ecosystems with (?) unique seasonal sea ice characteristics, and salmonids (species swim upstream in を削除) <u>running up</u> the rivers. 	「the interrelationship between a terrestrial ecosystem and a contiguous marine ecosystem with unique seasonal sea ice characteristics.」は推薦書からの引用なので、そのままにしました。 runnin up に修正しました。swim upstream は推薦書で使った表現です。
帰山委員	P1 1(1) 2ポツ目	<ul style="list-style-type: none"> Shiretoko is an important area for a large number of marine and terrestrial species. There are a wide variety of marine life inhabiting, including sea eagles and many other rare species, a large number of salmonids (species swim upstream in を削除) running up the rivers, and marine mammals such as Steller sea lions and cetaceans. In addition, the area is internationally important as a habitat of globally threatened seabirds and a stopover point for migratory birds.1 	running upに修正しました。
永田委員	P1 1(1) 2ポツ目	<p>サケマスに関するところで、やや直訳的表現が多いので一部修正した内容を添付しますので、参考にしてください。 なお、サケマス研究者(カナダ)に一部表現アドバイスを受けたことを申し添えます。</p> <p>salmonids species swimming upstream in the rivers ↓ Anadromous salmonids return from the sea.</p>	帰山委員の修正とどちらがよろしいでしょうか。
帰山委員	P1 1(1) 3ポツ目	<ul style="list-style-type: none"> In this management plan, “the waters surrounding Shiretoko” refers to the marine component of the heritage site (hereinafter referred to as the “marine component of the heritage site”) and its surrounding sea area. The waters surrounding Shiretoko is rich (? <u>abundant</u>) in biological production (? <u>productivity</u>) and for many years, fisheries activities have been conducted in harmony with the marine life. 	The waters surrounding Shiretoko have a high productivity と修正しました。
帰山委員	P1 1(1) 4ポツ目	<ul style="list-style-type: none"> Taking advantage of the opportunity of inscription on the World Heritage list as a natural heritage, it was decided to formulate an integrated marine management plan in order to keep ensuring both the conservation of an ecosystem of the marine component of heritage site (<u>よく分かりません。components in the Shiretoko marine ecosystemのことでしょうか?</u>) and the proper use (?) for human activities (of を削除) in the area, such as fisheries and marine recreation, in the future. 	「marine component of heritage site」はIUCNの評価書等で用いられているので使いましたが、生態系の構成要素と混乱が生じるので、「遺産地域内海域」の訳をmarine section of the heritage siteに修正しました。 use については検討します。
帰山委員	P1 1(2) 1ポツ目	<ul style="list-style-type: none"> The objective of this plan is to ensure the balance between (<u>satisfy both of</u>) conservation of the marine ecosystem and (stable fisheries through を削除) the sustainable (use of fishing resources in the marine component of を削除) fisheries in the heritage site 	satisfy both of に修正しました。 後半は修正していません(意識ではなく原文に合わせています)。
桜井座長	P1 1(2) 1ポツ目	「fishery resources」→「marine living resources」	全部統一、変更しました。
服部委員	P2 図1	英文の図内の文字は英文または番号にして図の題目内に説明を入れた方がよいと思います。また、Fig. 1 ...が図の上に示されていますが、一般的には図の下側に示します。	図のタイトルは下にしました。凡例等はなるべく原図を修正する方向で対応しました。
帰山委員	P2 2(2)	2(2) Overview of Marine Ecosystem in Shiretoko and Concept of Conservation and Management (<u>Overview of Marine Ecosystem and Concept of conservation Management in the Shiretoko (World Natural Heritage Area?)</u>)	in Shiretokoを挿入しました。 「保護管理」はconservation management、「資源管理」はresource management、「保護管理等」はmanagementに修正・統一しました(法令名を除く)。
帰山委員	P2 2(2)	<p>(2) Overview of Marine Ecosystem (in shiretoko を削除) and Concept of Conservation Management <u>in the Shiretoko</u></p> <p>* すみません。以下ほとんど理解できませんでした。 < Ecosystem of the heritage area > (? “Shiretoko Ecosystem”?)</p>	知床の位置を修正しました。 Ecosystemについては修正していません。

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婦山委員	P2~3 2(2) 1ポツ目	<ul style="list-style-type: none"> The marine component of the heritage site is the southernmost region of the seasonal sea ice that is found in the northern hemisphere. The area is under the influence of both the East Sakhalin cold current and the Soya warm current. These two currents together with the intermediate cold water from the Sea of Okhotsk create a complex marine environment. As a result, the area forms a marine ecosystem with diverse marine life including both sedentary and migratory species. (* 上文は、"The Shiretoko locates the southernmost region of the seasonal sea ice in the northern hemisphere, and is affected by the East Sakhalin cold current and the Soya warm current. This area has a complicated marine character for these two currents and "intermediate cold water" (?) derived from the Okhotsk Sea, and forms the marine ecosystem where welter of organisms migrate and live." というようなことを言いたいのでしょうか？ 以下もそのように英文にする必要があるように、私には思えます。以下は、自分に関連のありそうなところのみみることにします。) 	<p>ほぼご指摘どおりに修正しました。 「中冷水」は推薦書でintermediate cold waterという用語で使用しています。</p>
婦山委員	P3 2(2) 2ポツ目	<ul style="list-style-type: none"> The heritage site is an outstanding example of the interaction of marine and terrestrial ecosystems.1 (?) 	<p>oustanding exampleは世界遺産独特の表現です。引用でもあり、修正していません。</p>
婦山委員	P3 2(2) 3ポツ目	<ul style="list-style-type: none"> In early spring, when sea ice melts earlier than in other areas, Shiretoko sees the bloom of ice algae and other phytoplankton. As shown in Figure 2, diverse marine life, including a wide variety of fish, live in the waters surrounding Shiretoko based on a food web that starts from phytoplankton, seaweeds and sea grass, and detritus.1 (?) 	<p>検討中</p>
婦山委員	P3 2(2) 4ポツ目	<ul style="list-style-type: none"> In the heritage site, massive salmonids fish come back from sea to rivers for spawning. Wild salmon (including those that were originally released from hatcheries but subsequently succeeded in natural successive reproduction) that swim upstream constitute important food resource for terrestrial mammals including brown bears and birds of prey such as Blakiston's fish-owls, thus, they contribute to the biodiversity of the terrestrial ecosystem as well as transportation of material.1 Salmon and trout are also important in the region as fishery resources, and artificial incubation and fry release programs are conducted for chum salmon and pink salmon. ↓ (全文修正) A lot of salmonids return to rivers in the Shiretoko for spawning. Wild salmonids (including hatchery-derived chum and pink salmon which reproduce naturally in the rivers) are important food resource for terrestrial mammals (e.g., brown bear) and birds (e.g., Blakiston's fish-owls), and contribute the biodiversity and the transportation of material to the terrestrial ecosystem.1 Salmonids are also important as fishery resources in the region, where the hatchery programs of chum and pink s 	<p>永田委員の修正と合わせて、修正しました。</p>
永田委員	P3 2(2) 4ポツ目	<ul style="list-style-type: none"> In the heritage site, massive salmonids fish come back from sea to rivers for spawning. Wild salmon (including those that were originally released from hatcheries but subsequently succeeded in natural successive reproduction) that swim upstream constitute important food resource for terrestrial mammals including brown bears and birds of prey such as Blakiston's fish-owls, thus, they contribute to the biodiversity of the terrestrial ecosystem as well as transportation of material.1 Salmon and trout are also important in the region as fishery resources, and artificial incubation and fry release programs are conducted for chum salmon and pink salmon. ↓ (全文修正) High amount of anadromous salmonids return from the sea to spawn in streams within the heritage site where they were naturally born including those from hatchery-origin. Returning salmonids serve as an important source of food for terrestrial mammals including brown bears and birds such as Blakiston's fish-owls. They also provide valuable marine origin nutrients used by lower tropic levels in the ecosystem. Anadromous salmonids are an important regional fishery resource, and for hatchery programs for chum and pink salmon are carried out. 	<p>婦山委員の修正をベースに、永田委員の修正も加えて修正しました。(永田委員の修正は意訳が多いので、そのまま採用してはけません。)</p>
婦山委員	P3 2(2) 5ポツ目	<ul style="list-style-type: none"> In the waters surrounding Shiretoko, fisheries activities have long been carried on in a way to coexist with marine life.(?) 	<p>検討中</p>
松田委員	P3 図2	<p>以前私の院生に作ってもらったときの和名と英名の対応表(別添1)です。食物網、漁獲量の分類群名は英名を書き、和名、(できれば学名)との対応表を作ってはどうでしょうか？(たいへんなら、対応表は科学委員会の公開サイトに載せればよいでしょう)</p>	<p>図2に直接英名を書き込むことにしました。</p>
松田委員	P3 図2	<p>(食物網図について)矢印が太すぎて種名がみえません。矢印を細くすべきでしょう。</p>	<p>細く、円の背後にしました。</p>
服部委員	P3 図2	<p>知床の生態系の特徴の一つに、アイスアルジーの存在があることは間違いないし、自然遺産指定の前のIUCN視察の時も、アイスアルジーの生産が氷海域の生態系にとり重要であることは認めてもらっています。そのため、図1の食物網の図において、単に植物プランクトンと記するのではなく、カッコ付けでもして植物プランクトン(アイスアルジー)と示した方が、知床の食物網の特徴を表すでしょう。このことは、以前の委員会のときにもお願いしたと思いますが、再度お願いします。</p>	<p>対応しました。</p>

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服部委員	P3 図2	松田さんの意見に賛成します。どこかで対応表があると、科学委員会の存在意義が出ますよね。 そこで、 3-1) 一行目のphytoplanktonをphytoplankton (ice algae)とする。 3-2) 動物プランクトン(かい脚類、オキアミ類)となっているのも、動物プランクトン(カイアシ類、オキアミ類) zooplankton (copepods, euphausiids)にする。 松田さんの「かい脚類」は、私たちコペの専門分野の研究者間でも、かいあし類またはカイアシ類にするか決まっています。しかし海洋生物コード(水路部)や日本産海洋プランクトン(東海大学出版会)を作る際に、カイアシ類とカタカナ表記にすることになっています。	対応しました。
婦山委員	P3 図2	魚介類以外の動物Animals other than fish and shellfish (?)	魚介類をfishesに修正しました。
婦山委員	P3(P4) 図2	Figure 2. Food web in the Shiretoko	修正しました。
婦山委員	P4 2(2)	< Adaptive management (of を削除) in the Shiretoko marine ecosystem >	修正しました。
婦山委員	P4 2(2) 6ポツ目	• In general, an ecosystem is a non-constant, uncertain, and complex system, and has a structure and function reflecting the interaction between the abiotic environment and (its を削除) organisms.	修正しました。
婦山委員	P4 2(2) 7ポツ目	• Shiretoko's marine ecosystem consists of a wide variety of organisms. Such a complex ecosystem, with its future prospects being so uncertain, requires management based on the concept of adaptive management (see note). ↓ (全文修正) • The management of Shiretoko marine ecosystem, which has welter of organisms and unpredictable system, needs the adaptive management (see the note).	修正しました。
婦山委員	P4 2(2) 8ポツ目	• For this purpose, based on a variety of currently acquired knowledge, this Plan positioned some species that characterize the marine ecosystem in Shiretoko as indicator species. They are selected from the keystone species, predators of higher trophic levels that have a great impact on ecosystems, threatened species from a viewpoint of biodiversity, and other characteristic species, from among constituent species of the food web in the waters surrounding Shiretoko. Together with the conservation of a marine environment, the conservation and management of the ecosystem based on the concept of adaptive management should be continuously implemented. (?)	検討中
婦山委員	P4 2(2) 9ポツ目	• Understanding the state of the ecosystem in the Japan-Russia border region is also important for adaptive management, cooperation between Japan and Russia such as information sharing, should be promoted in the field of conservation and sustainable use of the regional ecosystem.	外務省提案で修正しました。
婦山委員	P4 2(2) Note	(Note)(?)	検討中(永田委員の修正あり。)
永田委員	P4 2(2) Note	In artificial incubation and fry release program of chum salmon and pink salmon, a systematic seed release plan and voluntary catch restrictions in shortage of reproductive adult fish have been implemented. ↓ (全文修正) River-specific hatchery targets for escapements, eggs, and juveniles of pink and chum salmon are forecast, while voluntary catch restrictions result in adequate numbers of adults returning.	ほぼご指摘どおりに修正しました。
佐野委員	P5 2(2) Note	スケトウダラの英名は walleye pollock 古い文献では Alaska pollack も使われてますが最近では、walleye pollockです。 walleye のときは pollack でなく pollock です。	全部統一、変更しました。
桜井座長	P5 2(2) Note	スケトウダラの英名 「Walleye Pollack」→「Walleye Pollock」	全部統一、変更しました。
婦山委員	P5 2(3)	2(3) Concept of Conservation (and を削除) Management of Each Component in the Marine Ecosystem	原文にはありませんが、in the Marine Ecosystemを挿入しました。「保護管理等」修正。
婦山委員	P7 2(3) c	2(3)c.Fish and Shellfish("Nekton"あるいは単に"Fishes"でよいのではないのでしょうか。Fishesは魚類(fin fish)以外にすべての魚介類を含みます。)	「魚介類」は全体をfishesで統一しました。
婦山委員	P7 2(3) c	< Current situation (of the component を削除) >	原文に合わせて残っています(「構成要素の」がない項目もあるため)。
婦山委員	P7 2(3) c 1ポツ目	• The number of fish species that appear in the waters surrounding Shiretoko is a total of 223 species that belongs to 74 families in 26 orders, of which 150 species are identified in the marine component of the heritage site. ↓ (全文修正) • The number of fin-fish species observed in the waters surrounding the Shiretoko Peninsula has totally counted 223 species that belongs to 74 families in 26 orders, of which 150 species are identified in the heritage site.	修正しました。ただし「知床周辺海域」は最初に定義しているので、その表現にしています。

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婦山委員	P7 2(3) c 2ポツ目	<ul style="list-style-type: none"> • A large number of fishes including salmon and trout, walleye pollack, arabesque greenlings, rockfish, cods, flatfish, and cephalopods, live in the marine component of the heritage site. The area serves as a part of a migration route for the salmon and walleye pollack that migrate through a wide area. Their major prey includes copepods and krills. ↓ (全文修正) • A large number of fishes including salmonids, walleye pollack, arabesque greenlings, rockfish, cods, flatfish, and cephalopods, live in the heritage site. The area serves as a part of a migration route for the salmonids and walleye pollack that widely migrate and mainly feed on copepods and krill in the sea. 	修正しました。ただし「遺産地域内海域」は最初に定義しているので、その表現を残しています。
婦山委員	P7 2(3) c 3ポツ目	<ul style="list-style-type: none"> • In the waters surrounding Shiretoko, fisheries activities have long been actively conducted with the support of rich biological production, and the area was historically developed by the fishing industry as key industries. (?) 	修正してみました。
婦山委員	P7 2(3) c 4ポツ目	<ul style="list-style-type: none"> • For the major fishery resources, there have been strenuous efforts made to maintain a balance between the state of the resources and catch and to realize the sustainable use. For example, surveys on trends of resources have been conducted, and regulations concerning the management and use of resources and propagation of resources have been implemented through fishery-related legislations and voluntary initiatives by fishery operators and fishery organizations. (?) 	修正してみました。
婦山委員	P7 2(3) c 5ポツ目	<ul style="list-style-type: none"> • Catch of the major fish species utilized in the fishing industry has been continuously monitored, and the results have been organized and published as statistical data since 1935. (?) 	検討中
婦山委員	P7~8 2(3) c 6ポツ目	<ul style="list-style-type: none"> • Keystone species include Salmonid species (chum salmon, pink salmon, masu salmon), walleye pollack, arabesque greenling, and Pacific cod. ↓ (全文修正) • Salmonids (e.g., chum, pink, and masu salmon), walleye pollack, arabesque greenling, and Pacific cod are keystone species in the Shiretoko marine ecosystem. 	原文が「などが挙げられる」なので keystone species include の表現を残しました。括弧内の表現は修正しました。
婦山委員	P8 2(3) c 7ポツ目	<ul style="list-style-type: none"> • Major species used by the fishing industry include salmonid species, walleye pollack, Pacific cod, arabesque greenling and sagittated calamary. Among them, the catch of salmonid species and walleye Pollack, which is fished only in Rausu side, are overwhelming. (?) 	修正してみました。
佐野委員	P8 2(3) c 8ポツ目	英文7ページの下から11行目、イカ類が sagittated calamary になってますが、ヤリイカ類を意味するので squids に訂正を!	原文は「スルメイカ」なので common squid としました。
婦山委員	P8 2(3) c 9ポツ目	<ul style="list-style-type: none"> • Therefore salmonid species and walleye pollack are positioned as indicator species because they are keystone species in the marine ecosystem of the heritage site, fished in large volume, and are characteristic species that connect the marine and terrestrial ecosystems. ↓ (全文修正) • Therefore salmonids and walleye pollack are defined as indicator species because they are high abundant, keystone species, important fisheries species, and characteristic species connecting between marine and terrestrial ecosystems in this area. 	原文とやや異なりますが、修正しました。
婦山委員	P8	< Conservation (and を削除) management strategy > (好きな言葉ではありませんが、ここで strategy は適切でしょうか？日本語を直訳すれば、"Concept of the conservation management" となりますが。)	他の項目の「対応方針」に対応させて strategy としました。
婦山委員	P8 2(3) c 10ポツ目	<ul style="list-style-type: none"> • Monitoring, various surveys, and information gathering in the waters surrounding Shiretoko should be continued. Proper resource management and the sustainable use of salmonid species and walleye pollack should be promoted under the relevant laws, such as the Fisheries Law and the Fisheries Resource Protection Law, while reflecting the voluntary management efforts of the local fishermen and fishery cooperatives. (See Note) (?) 	検討中
牧野委員	P8 2(3) c Note	「水産資源の保存及び管理に関する法律」の英名につきましては、内閣官房作成の水産基本法英訳文章のなかで、Act Concerning Conservation and Management of Marine Life Resources (Act No. 77 of 1996) と記されておりました。ただ、原案のままでも意味は通じるとおもいます。	ご指摘の英訳を使用しました。
婦山委員	P13 3	3 Management Measures (よく分からないのですが。"Method of Conservation Management" ですか?)	「管理措置」の訳ではよく用いられる言い方なので変更していません。
婦山委員	P15 3(3) a	a (Salmon and trout を削除) <u>Salmonids</u>	修正しました。

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婦山委員	P15 3(3) a 1ポツ目	<ul style="list-style-type: none"> • In order to maintain sound interaction between marine and terrestrial ecosystems of the heritage site, the upstream run of naturally spawning fish should be secured, and obstacles caused by river construction should be removed to the extent practicable ↓ (全文修正) • In order to maintain sound (“favourable”あるいは“healthy”の方が自然な感じがするように思います。) interaction between marine and terrestrial ecosystems in the heritage site, wild salmonids should be fully secured their escapement and natural spawning, and should be avoided from those obstacles including the river artificial construction (e.g., dams) to the extent practicable. 	修正しました。
婦山委員	P15 3(3) a 3ポツ目	<ul style="list-style-type: none"> • To maintain a population of naturally spawning fish, regular biological monitoring and intensive surveys on migration, upstream swimming, and spawning of salmonids should be conducted. ↓ (全文修正) • To maintain and protect populations of naturally spawning salmonids, regular biological monitoring and intensive surveys on migration pattern, escapement dynamics, and spawning of salmonids should be conducted 	修正しました。
永田委員	P15 3(3) a 1～3ポツ目	<p>a. Salmon and trout</p> <ul style="list-style-type: none"> • In order to maintain sound interaction between marine and terrestrial ecosystems of the heritage site, the upstream run of naturally spawning fish should be secured, and obstacles caused by river construction should be removed to the extent practicable. • Regarding the fishing of salmonid species, based on the Fisheries Law and other regulations, set net fishing in the surface of ocean is designated as a standard method., and fishing is prohibited in all rivers and near the mouth of some rivers for the protection of resources and some other purposes. In addition, the artificial incubation and fry release program of chum salmon and pink salmon is conducted in some rivers, for the purpose of sustainable fisheries. Proper management and sustainable use of resources of salmonid species should be continued and promoted. • To maintain a population of naturally spawning fish, regular biological monitoring and intensive surveys on migration, upstream swimming, and spawning of salmonids should be conducted. ↓ 4. Salmonids. <p>To maintain healthy linkages among marine, freshwater, and terrestrial ecosystems within the heritage site, adequate numbers of naturally spawning salmonids can be secured by removing obstacles caused by river construction and installing fish ladders where needed. Based on legislation including the Fisheries Act, surface trap nets are designated as the standard marine fishing gear, and fishing is prohibited in all rivers and near the mouths of certain rivers to improve success of natural spawning and hatchery programs. Hatchery chum and pink salmon programs, combined with continued fishery restrictions should ensure the sustainable use of salmon resources. Scientific research, including monitoring during various life history phases, will help to ensure enhancement and fishery management programs are successful.</p>	婦山委員の修正をベースに、永田委員の修正も加えて修正しました。