

## WHC Nomination Documentation

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**UNESCO Region:** EUROPE AND THE NORTH AMERICA

**SITE NAME:** **Central Sikhote-Alin**

**DATE OF INSCRIPTION:** 16<sup>th</sup> December 2001

**STATE PARTY:** RUSSIAN FEDERATION

**CRITERIA:** N (iv)

### **DECISION OF THE WORLD HERITAGE COMMITTEE:**

*Excerpt from the Report of the 25<sup>th</sup> Session of the World Heritage Committee*

The Committee inscribed Central Sikhote-Alin on the World Heritage List under criterion (iv):

**Criterion (iv):** The nominated area is representative of one of the world's most distinctive natural regions. The combination of glacial history, climate and relief has allowed the development of the richest and most unusual temperate forests in the world. Compared to other temperate ecosystems, the level of endemic plants and invertebrates present in the region is extraordinarily high which has resulted in unusual assemblages of plants and animals. For example, subtropical species such as tiger and Himalayan bear share the same habitat with species typical of northern taiga such as brown bear and reindeer. The site is also important for the survival of endangered species such as the scaly-sided (Chinese) merganser, Blakiston's fish-owl and the Amur tiger.

This serial nomination consists of two protected areas in the Sikhote-Alin mountain range in the extreme southeast of the Russian Federation:

NAME	LOCATION	AREA
Sikhote-Alin Nature Preserve	Terney District	401,428 ha
Goralij Zoological Preserve	Coastal zone on the Sea of Japan, N of Terney	4,749 ha

The Committee encouraged the State Party to improve management of the Bikin River protected areas (Bikin Territory of Traditional Nature Use and Verkhnebikinski zakaznik) before nominating it as an extension.

### **BRIEF DESCRIPTIONS**

The Sikhote-Alin mountain range contains one the richest and most unusual temperate forests of the world. In this mixed zone between taiga and subtropics, southern species such as the tiger and Himalayan bear cohabit with northern species such as the brown bear and lynx. The site stretches from the peaks of Sikhote-Alin to the Sea of Japan and is important for the survival of many endangered species such as the Amur tiger.

**1.b State, Province or Region:** Ternejski, Krasnoarmejski, Dalnegorski, and Pozharski Districts Primorski Region.

### **1.d Exact location:**

<b>Park</b>	<b>Location</b>	<b>Size</b>
Sikhote-Alin Nature Preserve	Terney district	401,428 ha
Goralij Zoological Preserve	Coastal zone on the Sea of Japan, N. of Terney	4,749 ha

**UNESCO-  
World Natural Heritage  
Nomination**

***Central Sikhote-Alin***

**Worked up by:**

- ? ? Greenpeace Russia**
- ? ? Pacific Institute of Geography  
Far East Branch of the Russian Academy of Sciences, Vladivostok**
- ? ? Faculty of Biology, Moscow State University**
- ? ? Ecological group "Taiga", Primorski region**
- ? ? Bureau of the regional social campaigns, Vladivostok**

**In assistance with:**

- ? ? Administration of the Primorski Region**
- ? ? Sikhote-Alin State Biosphere Nature Preserve**
- ? ? State Committee for environment protection of Russia**

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## 1. Identification of the Property

a) **Country** – Russian Federation;

b) **State, Province or Region** – Primorski Region, Ternejski, Krasnoarmeyski and Dalnegorski districts;

c) **Name of Property** – Natural complex “Central Sikhote-Alin”

The territory, proposed for the inclusion into the World Heritage List consists of:

- 1) Sikhote-Alin State biosphere Preserve;
- 2) State Zoological Reserve “Goralij”.

The total area of the natural Complex territory constitutes 394 933 ha.

d) **Exact location on map and geographical coordinates** (map 2)

The object is situated in the Northeast part of the Primorski Region in the limits of West and East of the Central Sikhote-Alin macroslopes in the Amur-Primorie physic-geographical country. The territory is closely connected by the united natural processes.

The Sikhote-Alin Nature Preserve and Goralij Reserve are situated in the eastern part of the province of the humid golets-forested middle height range of Sikhote-Alin on the territories of Terneyski, Krasnoarmeyski and Dalnegorski Districts. Sikhote-Alin Nature Preserve occupies the middle and lower flows of the Columbe River (tributary of the Bolshaya Ussurka River), upper and middle flows of the rivers of Serebrianka, Djigitovka, and upper flow of Taiozhnaia River (Japanese Sea basin) and comes out to the Japanese Sea coast from the Jigit Bay till the Upolnomotchennaia Bay with the rupture near Terney settlement. Goralij Reserve have been extended along the Japanese Sea coast by narrow strip from the Upolnomotchennaia Bay till the City of Zhelezniak excluding all the bays and the valley of Taiozhnaya River. The description of the exact Preserve borders (including the sea water surface) is attached. (Appendix 2).

The territory is limited by the geographical coordinates: the extreme North point: 45° 40' North Latitude, 136° 10' East Longitude; the extreme South point: 44° 48' North Latitude, 136° 30' East Longitude; the extreme West point: 45° 07' North Latitude, 135° 48' East Longitude, the extreme East point: 45° 11' North Latitude, 136° 48' East Longitude (see map 2)

e) **Maps and Plans** (Appendix A)

1. Object position on the Far East Region map.
2. Physical-geographical map of the “Central Sikhote-Alin” territory.
3. Forest taxation map of the “Central Sikhote-Alin” territory.
4. Specially protected areas of the Primorsky region

f) **Area of Property proposed for inscription and its buffer zone**

Total area, comprising:	394 933 ha
Sikhote-Alin Nature Preserve	390 184 ha
Goralij Reserve	4 749 ha
Nature Preserve buffer zone constitutes 65 250 ha. (see map 2).	

## 2. Justification for Inscription

a) **Statement of significance**

### Natural Importance.

The geographical position of the Far East, which had ancient ties with the North American continent, from one side and with the Central and Southeast Asia. From the other side, caused the transition of the Far East southern part (where the Central Sikhote-Alin is situated) into the unique center for the ancient "Turgai" fauna and flora species conservation.

One of the main motives of the Natural complex "Central Sikhote-Alin" creation is the possibility to secure the conservation of the Amur tiger *Panthera tigris* population. The creation of the Sikhote-Alin Nature Preserve the temporary prohibition of the Manchurian deer (the main feeding object of the Amur tiger) hunting and the full prohibition for the tiger killing have led to the situation, when from 1930<sup>th</sup> till 1980<sup>th</sup> the number of tigers increased several times, but already at the beginning of the 1990<sup>th</sup> the situation with tiger has been aggravated again. That led to the necessity not only of the fully conserved regions creation, but also to the whole systems, where tiger population management combines with the economic activity of man.

The Central Sikhote-Alin territory is a unique region with the virgin cedar-broad-leaved, dark coniferous, bright coniferous forests and high mountain plots (with the *Betula ermanii*, *Pinus pumila*, *Rhododendron sp.* and *Rhodococcum vitis-idaea*, *Cassiopeia*). The "mutual" existence of the North and South species of plants and animals is characteristic for this region. Nearly 1200 species of high plants grow there. Among rare and disappearing species for this territory their largest number in comparison with any other regions of Russia is marked there. Moreover for many of them the vulnerable populations are supported in the limits of the proposed territory of the World Heritage. More than 400 species of vertebrates (among them there are nearly 342 bird species) live in the limits of the Central Sikhote-Alin. The actuality of rare species (such as Japanese and black storks, *Ciconia boyciana* and *Ciconia nigra*, *Mergus sguamatus*, *Ketupa blakistonni*, tiger population, *Panax ginseng*, *Rhodiola rosea* and others) conservation in the natural ecosystems has no doubt.

Central Sikhote-Alin region has a huge world importance as a unique natural object, that meets simultaneously several criteria of the World Heritage List. Not leaving the territory of the Central Sikhote-Alin one can see the examples of different ecosystems, such as spruce-fir forests, the most varied types of larch forests and, of course, cedar-broad-leaf forests, that are most characteristic for the south of the Far East. The richness and importance of all those natural complexes is hard to overestimate.

The complex of cedar-broad-leaf forests (the Manchurian complex of forest formations) includes 30-40 species of wood and bush types and more than 70 representatives of grass plants, that combines a complicated multi-layer structure (5-6 layers). The complex includes several different types of cedar forests and a large number of transit formations of smaller scale. The Sikhote-Alin Nature Preserve include those complexes in undisturbed form with the characteristic types of flora and fauna.

It is possible to say the same about broadly represented in the region Okhotsk taiga complex that includes different types of spruce-fir forests populated by the northern Okhotsk fauna complex. As it was marked the Central Sikhote-Alin region as a whole is representative by all main ecosystems that are found on its territory. The most important thing is that the majority of plant formations are conserved in undisturbed and standard condition, the traditional food and energy connections are maintained. Significant region dimensions as well as the existence of a Nature Preserve and other protected territories give a possibility of independent and integrated existence of those ecosystems.

### **b) Comparative Analysis**

- Central Sikhote-Alin is one of the key parts of biosphere where rich bio-informational resources are concentrated on the genetic, population and ecosystem levels. Its species composition diversity and peculiarities of natural ecosystems' structure make the natural complex of Central Sikhote-Alin unique with no direct analogues in the rest of the world.
- In its geographic location, natural history and biodiversity, Central Sikhote-Alin is very close

to the southern Appalachian mountains in North America where one of the world's richest flora provinces have developed. However, in spite of a smaller area Central Sikhote-Alin occupies, its flora and fauna are no less diverse than those of the 'Appalachian forest'. Moreover, Central Sikhote-Alin differs from the Appalachian mountains, and it is one of the area's greatest advantages, in that human induced impact on the area is a lot milder.

- In the relatively small area of Central Sikhote-Alin, which is a part of the Sikhote-Alin mountain system and its ridges, an extremely high number of varying species, ecosystems and landscapes can be found. All this diversity can be observed in a very wide transition area where representatives of the Manchuria and Sea of Okhotsk-Kamchatka floristic provinces intermix. Both to the north and to the south from Central Sikhote-Alin we find flora that is much poorer both in taxonomic diversity and number of species.
- Contrasting landscapes and their internal structure make the Ussuri taiga so unique. The landscape diversity is multiplied by contrasting function regimes of local ecosystems conditioned by distinct monsoon climate and significant fluctuations in the qualities of abiotic environment (temperature, air humidity, amount of precipitation, and etc.).
- The Sikhote-Alin Biosphere Nature Preserve, which has had a ban on all land and resources exploitation for 60 years, is situated far from large industrial centers and agricultural areas. The high degree of preservation of local landscapes and ecosystems is conditioned not only by the legal status of the area, but also by the peculiarities of its geographical location, mountain and rugged country terrain, lack of roads and a significant size of the Nature Preserve.
- The whole area nominated for inclusion into the World Heritage List is situated right in the very heart of the habitat of the almost extinct Amur tiger.

### **c) Integrity**

The Central Sikhote-Alin represents a unique natural object, where due to the bio-geographical and historical peculiarities there are presented different ecosystems in the limits of a united integral territory. The region is located in the limits of two geo-botanical regions: East Asian coniferous-broad-leaf, South Okhotsk dark coniferous forested and two floristic regions of the Far East: (Manchurian and Okhotsk); on its territory there is detached the Okhotsk taiga oceanic and Manchurian moderate continental complexes. The borders of the different natural zones and sub-zones near the coast and along the mountain ranges in some cases acquire practically meridian position and the latitudinal one that is normal for them. That fact together with the combination with the brightly expressed mountain belt zoning that is caused by the mountain relief leads to one of the key peculiarities of the Central Sikhote-Alin, to the deep mutual penetration of flora and fauna of the different natural zones. Simultaneously the region territory includes also and large integrated plots of the standard ecosystems.

The mountain fir-spruce forests conserved in a slightly changed form the appearance and species combination of the mountain before glacier forests of the East Asia and are the peculiar genus formations of nearly all the class of the dark coniferous taiga forests of the North Hemisphere. The cedar broad-leaved forests of the region are nearly the analogs of the before-glacier forests on the Eurasian space from the Pacific till the East European plain. On the territory of the proposed natural complex in the time of Tertiary and Quaternary periods there existed the energetic species-generating processes and formation of the vegetation types. Recently these traces are seen clearly in the abundance of relic and endemic species. The development of the vegetation was uninterrupted in comparison with the vast regions of the North Europe and Northwest Siberia considerably affected by glaciating.

The central Sikhote-Alin presents the united natural complex with the next main components: mountain and valley taiga, sea coasts that are connected by the integrity of their origin, by their historical destiny and by the dynamics of the natural development.

#### **d) Criteria under which inscription is proposed**

“Central Sikhote-Alin” is nominated on a base of the next criteria:

**?? N (iv) contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation**

One of the reasons of the natural complex “Central Sikhote-Alin” creation is the possibility of ensuring the additional conservation of the Amur tiger population. There are located the main lands of a tiger *Panthera tigris*, that are settled by this predator with a high density. In the river Bikin valley there are conserved 30-35 heads of tiger and in the lands of the neighbor rivers of Khor, Great Ussurka (Iman) as well as on the Japanese Sea coast there lie the ways of the predator and its potential victims migrations. Under the data of the registration that was made on February 1995 in the limits of Sikhote-Alin Nature Preserve (the largest in the world Preserve for Amur tiger) and on the neighboring plots there are more than 40 tigers. The territory of the Nature Preserve serves as a reproductive center of the Northeast group of the Amur tiger (nearly 100 heads).

The landscape diversity defines the biocenotic ties with the 38 rare bird species that find here favourable conditions. In the lower flow of the river they are *Grus japonensis* and *Grus monacha*, *Ciconia boyciana* and *Ciconia nigra*, *Turnix tanki*, *Numenius madagascariensis*, *Butastur indicus*. The valley forests consisted of *Ulmus sp.*, *Fraxinus sp.*, *Tilia sp.*, *Chosenia sp.* on the banks of the middle flow of the river provide excellent nesting and stern conditions for *Pandion haliaetus*, *Aix galericulata*, *Mergus squamatus*, *Ketupa blakistoni*, *Ninox scutulata*. The upper reaches of the river covered by larch, dark coniferous and stone birch forests are the settlements of *Tetraourallogoides* and *Falciipennis falciipennis*.

Considerable region dimensions give the possibility to support the existence of the natural ecosystems in the undisturbed state. That is one of the main reasons for the creation of the natural complex “Central Sikhote-Alin” as the object of the world significance. The combination here of the territories with different protection status from Sikhote-Alin biosphere Nature Preserve with the regime of strict protection till the territory of the traditional nature use (TTNU) of the indigenous small by number peoples in the river Bikin basin can ensure the high effectiveness of the environment protection measures. Coordination of nature use policy with the Khabarovsk Region, where the analogous TTNU exist in the basins of Khor and Anuj rivers ensure the inter-region importance of this territory.

The territory includes the next rare vegetation societies that need conservation:

Geomorphologic complex of valley cedar-broad-leaf forests associations - Pineto koraiensis - Nemoreta vallibus;

Group of the broad-leafed-cedar associations with Betuleto costatae - Pineta koraiensis taxosa cuspidatae;

Group of cedar forests associations with Fraxineto mandshuricae - Pineta koraiensis coniogrammosa intermediae;

Group of spruce forests associations with Piceeta ajanensis caricosa schmidtis;

Formation of larch forests - Lariceta kajanderis.

The territory includes the next rare and protection needed species of plants and animals:

Vascular plants :

*Pyrrosia lingua*;

*Selaginella tamariscina*;

*Coniogramme intermedia*;

*Taxus cuspidata*;

*Symplocarpus renifolius*;

*Lilium distichum*;

*Lilium pensilvanicum*;

Lilium buschianum;  
Lilium;  
Lilium pumilum;  
Dioscorea nipponica;  
Cypripedium guttatum;  
Cypripedium macranthon;  
Cypripedium calceolus;  
Ephyppianthes sachalinensis;  
Pogonia japonica;  
Lichnis fulgens;  
Euriala ferox;  
Nuphar minor;  
Paeonia lactiflora;  
Paeonia obovata;  
Schizandra chinensis;  
Bergenia pacifica;  
Panax ginseng;  
Rhododendron mucronulatum;  
Abelia coreana;  
Popoviocodonia stenocarpa;  
Microbiota decussata;  
Calipso bulbosa;  
Galium paradoxum;  
Fritillaria ussuriensis.

Lichens:

Cetraria komarovii, C. laureri, Coccocarpia cronia, C. rytroxili, Hypohymnia hypotripella, Leptogium hildenbrandii, Lobaria mplissima, L.pulmonaria, L.retigera, enegazzia terebrata, Phytoconis viridis, Asahinea scholanderi.

Insects:

Forficula vicaria,  
Diestrammena unicolor,  
Carabus schrenckii,  
Calasoma maximowiczi,  
Callipogon relictus,  
Pyrocaelia rufa,  
Bombus muscorum,  
Bombus schrenckii,  
Bombus modestus,  
Bombus sporadicus,  
Bombus unicus,  
Bombus czerskii,  
Liometopum microcephalum,  
Actias artemis,  
Epicopeia mencia,  
Brahmae tancrei,  
Nossa palaeartica,  
Ophideres tyrannius,  
Dermaleipa juno,



Iotaphora admirabilis,  
Catocala fraxini,  
Papilio maackii,  
Papilio,  
Parnassius evermanni,  
Coenonympha hero,  
Euthalia schrenckii,  
Apatura iris,  
Kaniska canace.

Birds:

Ciconia nigra,  
Aix galericulata,  
Mergus sguamatus,  
Pandion haliaetus,  
Butastur indicus,  
Pernis ptilorhyncus,  
Grus monachus,  
Falcipennis falcipennis,  
Ketupa blakistoni.

Mammals:

Panthera tigris,

All those species are included into the Red Book of the Russian Federation, and Panthera Tigris, Mergus Sguamatus, Ketupa Blaki-stoni - into the Red Book of the IUCN.

**?? N(ii) is an outstanding example representing significant ongoing ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals.**

- Central Sikhote-Alin is an outstanding and unique example of a long lasting and, since approximately the late Neogene, undisturbed development of ecosystems. The influence of a unique combination of different factors and its peculiar geological history have predetermined the originality of the area.
- Climate changes during the Pleistocene have played a great part in new species development, enrichment of the gene pool of populations and, in the long run, growth of biodiversity in Central Sikhote-Alin. The area lies in the latitudes that land cover ice reached coming from the north during the periods of severe cooling of climate. In the Sikhote-Alin of that time, glaciation took place only in the mountains; periglacial processes were activated and numerous valleys became shelters for heat-loving non-moral species that dominated the area in the previous epochs. Severe cooling of climate changed the environment in which local species lived, however because there was no ice cover in Sikhote-Alin these species did not die out.
- Some of the factors and conditions that had so much effect on developing ecosystems of Central Sikhote-Alin in the past, still remain very important for further evolution of local ecosystems, as well as for modern natural dynamics and transformation processes. The geographic location of the area in the zone of transition from Asia to the Pacific Ocean is among the most important of these factors. This is why the area has a typical monsoon climate with characteristic abundant precipitation in warmer time of year and significant influence of the winter anticyclone developing over the central regions of Siberia. As a consequence of this, the physiogeographical area, Central Sikhote-Alin belongs to, is the coldest area in these latitudes of the northern hemisphere. Average annual temperature in Central Sikhote-Alin is 6 to 8 Centigrade, and in wintertime – 12 to 15

- Centigrade, lower than in the same latitudes on the Black or Mediterranean Seas.
- Central Sikhote-Alin is the area of exceptionally contrasting morphostructural and landscape conditions causing development of a great diversity of ecotopes. This was facilitated by such factors as medium-high mountain split landscape, location of the region in an area with significant climate gradients directed from the mainland to the Sea of Japan and monsoon climate. For example, the difference in the amount of solar radiation received by different slopes of one and the same valley is similar to the difference in solar radiation received by horizontal surfaces in different climate zones from polar to sub-tropical. The spatial heterogeneity of the environment significantly widens the range of conditions in which landscapes processes take place and increases the set of natural resources essential for survival of a large number of species. The habitat and biotope diversity created in such a peculiar way, provides acceptable living conditions for over 1,200 vascular plant species, 65 mammal species, 241 bird species, 7 species of amphibious animals and 10 reptile species.
  - Central Sikhote-Alin is an outstanding example of an area where a high level of biodiversity has developed due to certain optimal combination of different factors and conditions. Among these are location of the region in temperate latitudes and close to a large sea; distinct seasonal climate fluctuations; great spatial fluctuation of physical (altitude above the sea-level, terrain inclinations, lithology of bedding rocks, and etc.) and geo-chemical characteristics of habitats; optimal inclemency of the environment (low air temperatures and frigidness of soils in winter, long lasting and abundant precipitation, weather regimes in summer similar to those of the tropics).
  - Central Sikhote-Alin has lots of examples of how local ecosystems have adapted to contrasting and very often unfavorable effects of the abiotic environment such as forest fires, abundant precipitation, windfalls, floods and etc. Self-organization of ecosystems in the course of their evolution has facilitated development of different mechanisms to withstand such natural phenomena. For example, the region is characterized by heavy showers in summer. However, water erosion of soils in the mountains is disproportionately low compared to energy producing capacity of the precipitation and water outflow it forms, due to the vegetation cover, the blossoming of which begins with the rain season.
  - The main peculiarity of the nature of Central Sikhote-Alin and the basis of this unique natural phenomenon called Ussuri taiga is Siberian Pine-deciduous forests. These forests occupy habitats with most favorable climate and soil conditions in river valleys, foothills and lower mountain slopes.
  - Siberian Pine-deciduous forests are characterized by rich flora and complex structure. One forest type can be formed by up to 40 tree and bush species and over 70 species of herbaceous plants. The vegetation forms 5 to 6 canopies of different height and tree species form separate tree groups under influence of varying habitats and intraspecific relations. A characteristic feature of such forests is their non-layer vegetation consisting of numerous lianas and epiphytic cryptogams, which signifies the peculiarity of vertical density of forest stands and forms a forest resembling sub-tropical forests.
  - A great amount of endemic and rare species is a characteristic feature of the complex structure of ecosystems of Siberian Pine-deciduous forests. Their unique combination of flora and fauna elements conditions peculiarity and, very often, very narrow specialization of an ecosystem's internal ties. For example, Siberian Pine-deciduous forests provide acceptable conditions for survival of 31 mammal species that directly or indirectly depend on one of the main forest products – cedar nuts. An example of another locally specified trophocenotic dependence is the fishing owl (*Ketupa blakistoni*) and its prey species, grayling (*Thymallus arcticus*) and lenok (*Brachymystax lenok*). Such a dependence and survival of its components are possible only in appropriate natural regime and rivers with water of appropriate quality, which, in its turn, is

possible only with virgin vegetation cover and soils in watershed areas.

**?? N(iii) contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance**

The worldwide value of the territory of the proposed natural complex depends in particular on its exceptional natural attractiveness that includes picturesque landscapes of the medium mountains and Pacific coast, natural monuments, such as caves, rocks, waterfalls, rapids, sources of the mineral waters, as well as rare and valuable representatives of flora and fauna, for example, herds of *Cervus nippon*, roe deer, wild boars, *Nemorhaedus caudatus*, places of inhabitancy of Amur tiger, *Mergus squamatus*, hazel-grouse (*Falciennis falciennis*), *Ketupa blakistoni* etc.

### **3. Description**

#### **?) Description of Property**

##### **Natural-territorial division.**

In the natural landscapes classification the Central Sikhote-Alin it is possible to count as the complex of different taiga and unmoral (broad-leaved) ecosystems. The golets and Middle Mountains with the fragments of mountain tundra, overgrows of spread and alpine meadows change by dark coniferous taiga and larch forests on the mountain slopes and plateau. The Korean cedar appears in the lower part of the strip of fir-spruce forests and then transition strip of the cedar-spruce and spruce-cedar forest forms. The participation of unmoral elements is increased in the formation of the plant groupings. The vast marsh, humid and dry meadows are located in the flood plains of the lower flow of the river.

##### **Geology.**

The Sikhote-Alin range located along the Japanese Sea coast has Northeast extension. Its formation is connected with the ancient tectonic structures of the same direction and with the coastal volcanic belt of the Cretaceous time. The role of the morphostructural movements of the Neogene-Quaternary time. The connection of the relief forms with the tectonics is precise. Studying territory was subject to the influence of the Quaternary ice age and its south border lies right there. As a result describing natural complex has a rather peculiar combination of different types of the relief formation in comparison with southern and northern parts of the range. And actually there are acute stored traces of the valley glaciation there. The consequences of the partial glaciation together with the existed settling and mutual penetration of species are the fundamental reasons of such peculiar flora and fauna composition.

Geological-geomorphologic variety is defined there by the existence of a considerable difference of heights between the highest marks of the watersheds and the Japanese Sea coast (1900-0 m); by the neighborhood of high quantities of vertical and horizontal erosion break-out on the largest part of the area; by mixed rock composition and considerable thickness of break breaches. River basins represent natural complexes consisting of several height levels that connect in unite system by the metabolism and energy exchange. Every level is characterized by the unity of a height position and geomorphologic composition, by prevailing type of vegetation and soils, by species composition of the animal world and executes the definite function in a system.

##### **Hydrography.**

The general drawing of the hydrographic network is caused by the fact that the modern river valley formation took place on the phone of the general raising of the territory. That attaches the compound character to the rivers. The watersheds timed for the mountain middle belt (300 – 800 m below sea level) are characterized with the highest density of the river network. The basins of small rivers with the valleys of straits that don't exceed in the width several dozens of meters with the sharp fall of the main course combine the largest part of the area in the upper part. Lower than 300 m the thickness of the river

network lowers together with the sharp growth of the flood plain and the flow slowing down. As a whole the natural regularity of the flow, the considerable amplitude of its inter-seasonal fluctuations and high amount of water in the warm time is characteristics.

### **Climate.**

Climatic conditions of the Central Sikhote-Alin are defined by the regularities of the typical monsoon climate of the Primorski Region, but differ from the lying to the South territories by a much higher severity. The absolute air temperature minimum in the region of watershed plateau in the source of Zeva River is equal to  $-40^{\circ}\text{C}$ . The average duration of a period without frosts on the sea shore fluctuates from 122 till 150 days; in the inner continental regions it decreases and on the western outskirts it constitutes less than 100 days. The annual quantity of atmospheric precipitation distributes by the territory unevenly having sharp fluctuations. The average annual precipitation quantity in the upper mountain belt it can reach 1000 mm and even 1500 mm. The share of winter precipitation constitutes 15-20%.

### **Vegetation.**

Due to the scheme of the Far East geobotanical regions given territory relates to the Terney district of the Far East Province of cedar-broad-leaved and oak forests of the East Asian coniferous-broad-leaf Region and to the Sikhote-Alin District of the Amur-Sikhote-Alin Province of the South Okhotsk dark coniferous forest sub-region. The considerable height difference caused the expressed height belts existence. The limits of the vegetation height belts are very meandering and depending on exposition, steepness, slope shape, massiveness of the mountain constructions, liability to the winds and moistening rather often deviate from the middle position to a large size. Closeness to the sea defines a number of specific peculiarities of the general regularities of the height vegetation belts distribution. Their limits on the eastern marine slopes practically always are located lower than on the western continental slopes independently from the exposition of the mountain slopes.

Specific combination of the natural factors has determined the contact of the typical fir-spruce forests with the boreal appearance, the broad-leaved cedar and the valley mixed forests with the considerable participation of unmoral elements in all the layers of the forest phytocenosis in this region.

On a part of the territory the virgin forests were partly changed by fires that had as the natural as the anthropogenic reasons. As a result the secondary forests with the predominance of pioneer species, such as larch, birch and aspen arose on the burnt down spaces. Those forests are very ununiform by their composition, structure and all the other indicators that depend on remoteness, type and season of fire as well as on a great number of other factors. The meadow vegetation is developed in the lower parts of the river valleys and on the coast.

The species flora diversity is large on the territory of the Central Sikhote-Alin. At present there is marked more than 1200 species of high vascular plants. Many relic species of the Tertiary Period, such as *Pinus koraiensis*, *Taxus cuspidata*, *Picea ajanensis*, *Quercus mongolica*, *Fraxinus mandshurica*, *Onoclea sensibilis*, *Osmunda asiatica* grow on the territory.

The only one on the continent population of *Rhododendron fauriei* is marked on the territory of the Sikhote-Alin Nature Preserve. It is necessary to mark that on the territory there are areas of habitat of many rare and disappearing plant and animal species. The protected territories organization as well as the World Heritage status in this region from the point of view of the high mountain flora protection of the Sikhote-Alin gives the possibility to organize the conservation of 127 species of vascular plants that grow in the high mountain ecotops (Appendix 3). It is desirable to organize the protection of 7 more species that are found here on the limit of their growth. Moreover the habitats of 3 species (*Draba mongolica*, *Rhodiola atropurpurea*, *Calamagrostis ajanensis*) are for the present the only in Sikhote-Alin and 2 more species (*Saxifraga cernua* and *Juncus woroschilowii*) are known only from two points situated in Sikhote-Alin. The kind composition of the lichens of the given territory can count not less than 400 species.

### **World of animals.**

## Mammals

Fauna of the Central Sikhote-Alin is rather rich and specific. The existences of a number of habitats that ensure the needs as of the widely spread as of endemic species are explained by the specific of the vegetation cover and landscape combination. Here constantly live the mammals of 52 species (including acclimatized species: *Mustela vison* and *Ondatra zibethica*). The total number of species from the Mammals which representatives can be found in the region including *Chiroptera* and those species that were registered (*Nemorhaedus caudatus*, *Cuon alpinus*, *Rangifer tarandus*) compile till 65.

31 species of mammals are concentrated in the cedar-broad-leaved forest belt. Among them there are *Cervus elaphus*, *Sus scrofa*, *Ursus thibethanus*, *Martes zibellina* and *Sciurus vulgaris* that are counted as the main objects of hunting. The main hunting lands of tiger *Panthera tigris*, settled by this predator with a high density, are also there. There exist the ecological corridors for the predator and its potential victim's migrations to the basins of the neighbor rivers Khora, Bolshaya Ussurka (Iman) and to the Japanese Sea coast. Recording the data of the calculation, that took place on February 1995, in the limits of Sikhote-Alin Nature Preserve and on the adjacent plots there live more than 40 tigers. Nature Preserve territory is a core of the Northeast grouping of the Amur tiger (nearly 100 heads) and is also vulnerably important district of the Amur tiger habitat as a reproductive center.

The valleys of larger rivers and valley vegetation complexes contain the considerable number of species. There are observed the maximum densities of the habitats for many of them. The natural phenomenon, high mountain (golets) landscape with the accompanying complex of narrow area and "Northern" animal species, that is typical for its height belt, is expressed good on the watersheds of the ranges. Those territories have a status of specially protected plots.

Among the species that live constantly on the territory and included into the Red Book of the Russian Federation the most actual is the preservation of tiger. Their sub-populations in the limits of the Central Sikhote-Alin support the integrity of the habitat areas. *Felis euptylura* and *Mogera wogura* settle there on the periphery of the areas.

*Panthera tigris* is included into the Red Books of the IUCN and Russia. Wild boar is the main object of its hunting, because the number of boar is stable even in the bad years for cedar nut harvest due the abundance of the wintering *Equisetum*.

*Ursus thibetanus* settles the broad-leaved forests with the density about 1 specimen per 10 square km. Hunting for the Himalayan bear is easier than for the brown bear and its number decreases because of the poaching and despite the whole prohibition of hunting until 1999.

*Ursus arctos* is a fur-bearing species. It settles the cedar-broad-leaved and cedar forests with the highest density. The correlation between Himalayan and brown bears constitutes about 1:1.

*Canis lupus* is rare.

*Martes zibellina* is a fur-bearing species. The main sable population core of the middle Sikhote-Alin is located in the limits of NP. The density of inhabitancy is about 10 heads per 10 square km.

The number of *Lutra lutra* has decreased sharply due to the reduction of the fish resources and because of the poaching.

*Mustela sibiricus* is a numerous species with the density of inhabitancy till the 15 heads per 10 square km.

*Mustela vison* is a numerous fur-bearing species. Its density of inhabitancy reaches 40 heads per 10 square km.

*Martes flavigula* is a common species for the given territory but not numerous with the density of inhabitancy not more than 0,3 units per 10 square km.

*Lynx lynx* is a fur-bearing but not numerous species.

*Alces alces* is a fur-bearing species. In the region of NP there passes its southern limit of its inhabitancy. Its density is not high (about 0,3 heads per 10 square km), though stable.

*Cervus elaphus* is a fur-bearing species with the density of inhabitancy equal to 6-8 units per 10 square km.

*Sus scrofa* is a fur-bearing species with the density of inhabitancy equal to 6-7 heads per 10 square km. Boars from the surrounding territories migrate to the local *Equisetaceae* in the cases of general bad harvests for cedar nuts and their density grows.

? *apreolus capreolus* is distributed with the density of inhabitancy equal to 4-6 units per 10 square km.

*Moschus sibiricus* is a common fur-bearing species with the density of inhabitancy till 30 heads per 10 square km.

*Lepus timidus* and *Ochotona alpina*. Those representatives of the *Lagomorpha* order have there the density of inhabitancy equal to 2-3 units per 10 square km.

*Sciurus vulgaris* is the only fur-bearing species from the Rodent order. It is common for the cedar-broad-leaved forests. Two more representatives of this order are spread with the stable number. They are *Eatomias sibiricus* and *Pteromis volans*. There are also some species of the *Rodentia Muridae* rodents.

From the *Insektivora* order there are spread *Erinaceus europaeus ussuriensis*, *Mogera robusta*, and several species of *Soricinae*.

#### Ornitofauna.

Ornitofauna of this territory by its species composition and ecological structure is very unusual. It is known for the Nature Preserve approximately 130 nestling bird species. The main ornithological associations are distributed in the next way: in the cedar-broad-leaved forest complex there are 40-45 nestling species, in the cedar-spruce forest complex - nearly 40 species, in the fir-spruce forest complex - 35-30 species. The ornithological associations of the secondary forests are very variable and inconstant by the content of nestling bird species. They count from 25 till 15 species. In golets, where bird fauna was studied insufficiently completely, there should settle about 15 species of the nestling birds. *Mergus sguamatus* and *Ketupa blakistoni* are included into the red Book of the IUCN.

#### Amphibians and reptiles.

Totally on the given territory one can meet 7 species of amphibians and 10 species of reptiles. The rare and endemic species (*Takydromus wolteri*, *Upupa epops*, *Elaphe schrenki*, *E. rufodesata*, *Agristrodon blomhoffi* and *A. Saxatilis*) are met even among reptiles, which number is not so large as a whole.

#### Ihtiofauna.

The natural originality of the Central Sikhote-Alin is equally spread to its ihtiofauna as well. Due to the testimony of the first travelers (Venjukov, Przhevalsky, Arseniev) and to the later data the rivers and lakes of the region were abundant with the valuable and endemic fish species. The peculiarity of the given region is the fact that the river system creation took place in the deep antiquity – in Miocene. The ancient age of the Terney district river associations, their evolution in relatively stable environmental conditions have contributed to the formation of the specialized conservative fishing populations and associations with very weak self-regulation attribute.

#### Enthomofauna

There are 27 species of insects included into the Red Book of the RSFSR or into the Red Book of the USSR on the territory (Appendix 3). There are presented in the fauna of *Lepidoptera* many southern species as endemic as widely spread *Papilio*, a number of large *Actias*, *Apatura*, *Limemtis*. Among beetles there are spread *Cerambycidae*, *Ipidae* and *Chrysomelidae*.

#### Landscapes.

The original combination of the natural landscapes is characteristic for the territory. There are high mountain areas with golets and alpine meadows that are replaced consistently by dark coniferous taiga and larch plateaus there. Korean cedar appears in the lower part of the fir-spruce forest strip. With the

further lowering of the absolute country height the share of its participation grows and transitional strip of the cedar-spruce and spruce-cedar forest forms together with the growth of a role and number of unmoral elements in the plant grouping composition. Multi-species mixed forests of the low hills and powerful virgin broad-leaved forests of the river valleys; the spots of moss marshes and forest lakes. The vast mari, damp and dry meadows, agricultural lands on the banks of the wide river flood plains. It is possible to consider the Central Sikhote-Alin as a complex of different taiga and unmoral ecosystems that form combination. The region differs profitably from the northern taiga and southern maritime regions by the richness of flora, its diversity and unique combination of the vegetation. The unusual combination of two floristic regions (Manchurian and Okhotsk) as well as the coexistence of the representatives of the Amur, Okhotsk-Kamchatka, East Siberian cedar-broad-leaved forests fauna give the inimitable appearance to this region. Their state and conservancy on the examined territory allow offering it as the world heritage of mankind.

More than 1,500 plant species, 65 animal species and 342 bird species are registered on the object territory. There are their own peculiarities in ihtiofauna: existence of the passing by fishes of the Salmon family and settled species that are characteristic as for the Southeast as for the North Asia. *Ketupa blakistoni* can serve as one of the model species for observation of the mutual ties among the indigenous cedar-broad-leaved and valley forests from one side and their unique inhabitants from the other side. The condition of its main food objects (*Thymallidae* and *Brachymystax lenok*) that is caused by the hydroregime peculiarities and by the man's influence gives the opportunity to consider the conventionally closed contour of the ecosystem with the aim of a constant monitoring and preservation. The biologic diversity of all levels is maintained on a specially protected territory of the Sikhote-Alin Nature Preserve. The genetic fund of the mammals and birds of the whole Far East Region (57 birds or 55,8% of all the existing ground Far East mammals and 56% of birds) is Preserved there in a large scale.

#### **b. History and Development**

Opening up of this territory by man has begun in a deep antiquity. Hunter's Ilou that arrived from Zabaikalie in the process of interaction with the local tribes at the VII Century created a new Tungus-language society (Mukri). Their further development flew in an uninterrupted connection with the history and culture of the neighbor countries (ancient Turk and ancient Mongol peoples). Finally that led to the formation of the modern ethnoses of the southern Tungus language group (Manchurians, Udege, Orochi, Nanai, Ulchi). In the middle of the XIX Century, when the Ussuri Region finally moved away to Russia, the aborigines covered the vast territory from the Tatar straight in the North till the southern tributaries of Ussuri.

In the Twenties Udege had four territorial groups consisted from the representatives of different families. Every family covered the definite territory, but the land privacy didn't exist. The collectivization among the Bikin Udege has begun at the second half of the Thirties. The population from 13 camping-grounds was brought down to the 2 settlements with the names Olon and Krasny Yar, where the agricultural artels were arose. Later on they were united into the producers' artel "Hunter". The same process took place with the Iman group, that was concentrated in the Sanchikheza settlement (later – Ostrovnoye). Besides the aborigines there lived and used the similar way of living such peoples as Russians, Ukrainians, Belorussian and the representatives of the other nationalities. Russian Old Believers presented a special group. They were Church exiles that were hidden from the persecutions of the Soviet regime and Orthodox Church in the most remote taiga urotshistshes and valleys, that is exactly in the places of the traditional economic activity of the aborigines. Together with the penetration of the Chinese-producers to taiga at the end of the XIX – beginning of the XX Centuries, the organized introduction of the European culture bearers to the aborigines' culture and way of life has organized on the nomination territory absolutely unique and rarely met anywhere in the world synthetic culture of the relation to taiga

and to the use of its biologic and spiritual energies, as well as the system of faiths with odd interlacing of the elements of Udege pagans, early out-of-church Christianity and Chinese naiv daosism.

In essence the Central Sikhote-Alin at the XX Century boundary became such a place on the Earth where two eternal antipodes of the Earth civilization, West and East in reality vitally met, founded the common language and merged together. Great Kipling foretold “They will never gather”. The economic activity of the Europeans was able not to turn from its aggressive side against the not urgent and lazy for the European aborigines. It was able to absorb also the Chinese pragmatics and energy that are not characteristic even to some Europeans and to dissolve all that in the eternal harmony of the Great taiga full of riddles and pagan symbols. Exactly leaning on that deep cultural-ethic and ethic-ecological synthesis and on that harmony of taiga way of life, that were divided by the inhabitants of every nationality on the nomination territory at the first half and in the middle of the XX Century, the Primorie lawyers in 1993 were able to develop and to approve the ideology and status of the Sikhote-Alin Ethnic territory. Those ideology and status were based not on ethnic sign, but on the character of the prevailing relation of a man to the taiga nature. The unique status of this model was marked more than once by the international community on the highest level. It still remain the priceless heritage of the mankind, the beloved and hardly reaching norm for a lot of territories, where the interests of the indigenous peoples and of the energetic new settlers are crossed.

The reasonable and sparing use of the nature resources is characteristic for the indigenous peoples as well as for the early migrants of the Russian Far East from the ancient times. Traditional activities or hunting, fishing and, in smaller scale, gathering were directed mainly to satisfy the local needs. The indigenous taiga inhabitant even till now will not raise his hand to the mother deer, will never shoot the tiger, to kill more game than he can take with him from taiga or more then it is necessary for his family. The original culture, customs and relation to the nature took shape. However they are found under the threat of a serious transformation or even the full disappearance. Their preservation and reanimation on a base of the local initiatives presents a task that is probably more important than simple ensuring of the physical protection of the nominated territory. The creation or rebirth of a strong ethnic-cultural complex is the more reliable mechanism of nature and man protection from all the negative influences that are possible from both sides.

### **c) Form and Date of most recent records of Property**

- ? ?Forest fund registration of 01.01.1999 (characteristics and condition of the forest fund on the object territory).
- ? ?Annual reports of the Nature Preserve and forest farms, where Preserves and TTNU are located, 1999.
- ? ?Information materials of the nature Preserve headquarters as well as of the administrations of Krasnoarmeyski districts about the visits of tourists, 1999.
- ? ?Information materials about the social-economic condition of the object.

1999 publications that reflect the state of the natural complex in the Sikhote-Alin Nature Preserve and on the adjoined territories:

- ? Smirnov E.N., Miquelle D.G. Population dynamic of the Amur tiger in Sikhote-Alin State Biosphere Reserve. In *Riding the tiger; Meeting the need of people and wildlife in Asia*. Eds. Seidensticker J.S., Cristie and P.Jackson. Cambridge University Press, Cambridge, 1999.
- ? Miquelle D.G., Smirnov E.N., Merrill W.T., Myslenkov A.I., Quegley H.B., Hornocker M.G., Schlaeyer B. Hierarchical spatial analysis of Amur tiger relationship to habit and prey. *Ibit*.
- ? Miquelle D.G., Merrill W.T., Dunishenko Y.M., Smirnov E.N., Quegley H.B., Pikunov D.G., Hornocker M.G. A habitat Protection plan for Amur tiger: Developing political and ecological criteria for aviable land – use plan. *Ibit*.



1998 publications that reflect the state of the natural complex in the Sikhote-Alin Nature Preserve and on the adjoining territories:

?? I.Voloshina, P/Sagdieva. Ticks (Ixodidae) of mammals in the Middle Sikhote-Alin. In: Euro-American Mammal Congress, Santiago de Compostela, July 19-24, Spain, 1998.

?? Voloshina I.V., Myslenkov A.I., Alexeeva E.A. Osteology of Amur Goral *Nemorhaedus caudatus raddeanus*. In: Proceeding of the 2nd World Conference on Mountain Ungulates. Italy, 1998.

?? Myslenkov A., Voloshina I. Sexual behavior of Amur Goral. Ibit.

?? Miquelle D.G., Smirnov E.N., Merrill W.T., Myslenkov A.E., Quigley H.B., Hornocher M.G., Schleyer. Hierarchical spatial analysis of Amur tiger relationships to habitat and prey. In: Riding the tiger; Meeting the need of people and wildlife in Asia. Eds. Seidensticker J.S., Christie and P.Jackson. Cambridge University Press, Cambridge, 1998.

?? Smirnov E.N., Miquelle G.G. Population dynamics of the Amur tiger in Sikhote-Alin State Biosphere Preserve. Ibit.

?? Miquelle D.G., Merrill W.T., Dunishenko Y.M., Smirnov E.N., Quigley H.B., Pikunov D.G., Hornocher M.G. A habitat Protection Plan for Amur tiger: Developing political and ecological criteria for a viable land-use plan. Ibit.

#### **d) Present state of conservation**

Territorial natural complexes as a whole are not the subjects to as direct as indirect (atmospheric and hydrological pollution from the adjoining territories) anthropogenic influence. The main factor that lead to the vital changes in the forest ecosystems is fires. Only on the Nature Preserve territory in the period from 1994 till 1998 there were 15 forest fires with a square from 5 till 1800 ha. In the Oak Forest belt they are provoked by the agricultural burnings that come from the neighbor territories. They don't affect considerably to the wood layer. The original appearance restores in several years, if the fire don't repeat. Fires in the ecosystems of cedar-spruce and spruce-fir forests cause the most considerable changes. They were affected by fire most strongly in 1998. Hot and dry beginning of summer contributed to the formation of 5 fire seats caused by thunderstorm discharges. Three of them were in the cedar-spruce and spruce-fir forests and two - on the fumes of 1978 and 1980. Secondary forests composed by birch and larch form on the place of the fumes.

Revisions and registrations didn't show changes in the biota structure in those forest ecosystems, that weren't affected by forest fires. There were registered only annual fluctuations in the terms of the beginning of the determined phytocenosis development stages that are connected with the climatic peculiarities of a specific year.

#### **e) Policies and programs related to the presentation and promotion of the Property**

Information-propaganda and advertising activities are realized by publishing and distributing of brochures, booklets, guides, calendars; through the Nature Preserve information center; by giving lectures, conducting excursions with school-children, organizing of school forest farms; with the help of publications in mass-media (radio, TV, newspapers). Recently the information and rich illustrated Internet site devoted to the "Central Sikhote-Alin" as the World Heritage object is created.

Among the foreign organizations a number of non-governmental foundations and scientific institutes of Germany, WWF of Germany, Odubon Society (USA), Global Security Network (GSN, USA), Russian Nature Preserve Travel Company (Massachusetts, USA), Japanese Fond for Global Environment, Friends of the Earth – Japan, Taiga Rescue Network, IUCN, Canada National Park Service and others show the great interest to the development of scientific and ecological-cognitive tourism on the territory of Udege economic activity that was included into the nomination. Every this organization for the present provide its own independent publicity campaign of the named territories in its region. At the same time

there exist the tendencies that lead to the consolidation of those efforts. In 1998 in Primorie under the initiative of the Regional Committee of tourism attached to the Administration and the Association of tourism agencies there was conducted a series of conferences and exhibitions dedicated to the development of exotic and adventure tourism mainly on the territories of nomination and adjoining to them. On a base of the worked out proposals and stored scientific information regarding recreational capacity of the territories the Regional program of the ecological tourism development is working out.

The activity directed to the rebirth of the indigenous population's traditional crafts on the nomination territories is developing. Due to the Region undeveloped infrastructure the interaction between three main groups of the Primorie Udege (rivers Bikin, Samarga and Middle Ussurka (Iman) was always weak the more so, that from the point of view of the modern market approaches. OO BROOC, Friend of the Earth - Japan and Association of not-wood forest products from Khabarovsk have initiated a large project for the decision of the questions of quality, volumes of cuttings, technology of processing and methods of production conveyance. That project consists in development of small communal enterprises, in support of every kind of their activity in mastery of non-wood taiga products and in consolidation of efforts for exit to the modern market.

#### 4. Management.

##### ?) Ownership

Territories and water surfaces of all the specially protected territories included into the composition of the natural complex "Central Sikhote-Alin" serve as the property of the Russian Federation. The state grant for use to Nature Preserve and Reserves the lands, waters, depths, plant and animal world that are situated on the object territory. They fix constructions, historical-cultural and other objects of real estate located in the limits of SPT in the capacity of operative management. On behalf of the State the management of Nature Preserve and Reserves is fulfilled by their administrations.

Russian Federation

Moscow, Krasnopresnenskaya nab.

Government House

Prime-Minister

Russian Federation

Primorski Region

690110, Vladivostok

ul.Svetlanskaia, 20

Head of the Administration

##### b) Legal Status –

The object consists of 2 parts with different status of specially protected natural territories:

1. Sikhote-Alin State biosphere Nature Preserve. Documents and legal acts, that determine the status:

☞☞All-Russia Central Executive Committee's and Council of People's Commissars of the RSFSR Decree "About the approval of the network of full Nature Preserves with the whole-state importance" from 10.02.1935;

☞☞Primorski Regional Council of the Workers' Deputies Decision "About the border regulations of the Sikhote-Alin State Nature Preserve" ? 376 from 14.04.1976.;

☞☞Resolution of the 20th Session of the UNESCO General Conference about appropriation to the Sikhote-Alin State Nature Preserve the status of biosphere Preserve, 1978.

☞☞Decree of the Head of Administration of the Primorski Region "About the widening of the Sikhote-Alin State biosphere Nature Preserve", ? 344 from 12.07.1994;

☞☞Order of the Government of the Russian Federation from 29.02.1996 ? 298-? "About the growth of the territory of the Sikhote-Alin State Nature Preserve to 40232 ha";

☞☞Decree "About the widening of the territory the Sikhote-Alin State biosphere Nature

Preserve" ? 621 from 10.06.1999.

2. Goralij Zoological Reserve. It was established by the Decision of the Primorski Regional Council of the Workers' Deputies "About the regulation of the boundaries of the Sikhote-Alin State Nature Preserve" ? 376 from 14.04.1976.

Copies of all the documents are presented in the Appendix 2.

Control on the maintenance of the legal acts by the Nature Preserve is accomplished by the State Committee of the RF for environment protection and by Primorski Regional Committee of environment protection.

Control on the maintenance of the legal acts by the National Park and Preserves is accomplished by the Federal Forestry Service of Russia and by Primorski Regional Committee of nature protection.

### **c) Protective measures and means of implementing them**

They were defined by the Federal Law of the RF "About specially protected natural territories", 1995 (articles 9, 33, 34 – Nature Preserves; 24, 35 - Preserves), and by a number of regulations:

"Regulations about the Sikhote-Alin biosphere State Nature Preserve", approved on the 09.06.1997 by the State Committee of the Russian Federation for environment protection;

"Regulations about the protecting zone of the Sikhote-Alin biosphere State Nature Preserve" approved on the 05.03.1997 ? by the Decree of the Primorski Regional Governor;

"Regulations about Goralij Reserve in Terney District", approved on 21.04.1977 by Ministry of Agriculture of the USSR;

#### Protection of natural complexes and objects on the territories of Nature Preserve

1. The special state inspection, whose workers are included in the staff of Nature Preserve accomplish protection of natural complexes and objects.

2. Directors of Nature Preserve and their assistants are accordingly the Main State inspectors and their assistants for the protection of the territory of Nature Preserve.

#### The rights of the State inspectors for the protection of the territories of Nature:

1. The workers of Nature Preserve that are the State inspectors for the protection of these territories in accordance with the RF legislation have right:

to check the documents for the right of staying on that territory of persons that stay on the territories of Nature Preserve;

to arrest persons violated the RF legislation about the specially protected natural territories on the territories of Nature Preserve and its buffer zone and to deliver those offenders to the low protecting bodies;

to withdraw from the offenders of the RF legislation about the specially protected natural territories the production and the tools of illegal nature use as well as means of transportation and the corresponding documents;

to carry out on the territories of Nature Preserve and its protecting zone the inspection of the means of transport and of the private things;

to visit unhindered any objects, situated on the territory of Nature Preserve and its protecting zone for the inspection of the maintenance of the regularities of the RF legislation about specially protected natural territories;

to stop the economic or other activity that doesn't correspond to the regime of special protection of the Nature Preserve and its protecting zone.

2. The main State inspectors and their assistants for the protection of the territories of Nature Preserve and its protecting zone are granted also with the right:

to prohibit the economic and other activity that doesn't correspond with the stated regime of the

Nature Preserve and its protecting zone;

to lay on the administrative penalties for the violation of the RF legislation about the specially protected natural territories;

to produce the suits to the physical and juridical persons regarding the penalty of the financial means in favor of Nature Preserve for the compensation of damage carried to the natural complexes and objects of the Nature Preserve and its protecting zone as a result of violations of the stated regime;

in the cases envisaged by current legislation to send the materials about the violations of the RF legislation about the specially protected natural territories to the right protective bodies.

3. The State inspectors also utilize all the rights of the official persons of the State forest protection and of the other special representative for that bodies of the RF in the field of environment protection.

4. The State inspectors in the process of the execution of their official responsibilities have a right to apply under the stated order the special means such as handcuffs, gum sticks, watering gas, arrangements for the compulsory stop of transport, secondary dogs.

5. The State inspectors in the process of execution of the tasks placed on them by the present Federal Law are allowed to carry the official firearm during the execution of their official responsibilities.

In 1990 in Krasnoarmeyski District of the Primorski Region there was created the Committee for environment protection. It received the function of control for the observance of the regime of specially protected natural territories (SPNT).

Beginning from 1994 the detachment of the Primorski department of "Tiger" works in the district. Its main task is to provide the protection of the Red Book representatives of flora and fauna including Amur tiger.

The Krasnoarmeyski District Committee for environment protection together with the "Tiger" detachment conducts the regular raids with the aim of nature conservation in the district. In the raids the workers of the District department of inner affairs, representatives of the hunting society and of fish protection take part besides the inspectors of nature protection.

Protection of the territories of the State natural Preserves and other specially protected natural territories is carried out by the State bodies that have those territories in their disposal in the order that is envisaged by the normative legal acts of the RF as well as by the normative legal acts of the RF subjects. Measures for the protection of the Preserve and Reserve are marked in the management plans given in the Appendix 2.

? ?The administrations of Nature Preserve and Reserve as well as their protection services carry the direct responsibility for the preservation of natural and cultural values of the SPNT;

? ?The conservation is carried out daily in the rounds by the forest guard and on the territory as a whole by organizing of the raid patrols;

? ?The anti-fire protection of the forests is carried out by the anti-fire service, which includes fire-chemical stations ensured by techniques and equipment in accordance with the stated standards.

#### **d) Agency with management authority**

The State Committee of the RF for environment protection realizes the leadership of the Sikhote-Alin Nature Preserve and Goralij Reserve.

Russian Federation  
Goskomecologii  
123812, Moscow  
B.Gruzinskaya, 4/6

#### **e) Level at which management is exercised**

“Sikhote-Alin” Nature Preserve and Goralij Reserve

Administration address:

Russian Federation,

Primorski Region

Terneyski District

692150, Terney settlement

Director: Anatoli Astafiev

**f) Agreed plans related to Property**

- ? ?Long-term program of nature protection and rational use of nature resources of the Primorski Region till 2005 (Ecological Program) has been worked out with the initiative of the scientists from Far East department of the Russian Academy of Sciences with the participation of a number of branch institutes. It was approved in 1992 by the body of the legislation power of the Region (Kraisovet). Among all the program foresees the replenishment of the existing SPNT network with the including of National Park.
- ? ?Federal special-purpose program for support of the State Nature Preserves and National Parks for the period till 2000 established by the Decree of the President on 10.10.95 ? 1032 which contains the given territory as well.
- ? ?Order of the RF Government from 23.04.94 ? 572-?, "About the creation till 2005 of three new national parks “Kega-Amginski”, “Upper Ussuri” and “Middle Ussuri” on the territory of Primorski Region.
- ? ?Regulations about the Sikhote-Alin biosphere Nature Preserve. Approved on the 09.06.1997 by State Committee of Russian federation for environment protection;
- ? ?Regulations about the protecting zone of the Sikhote-Alin biosphere Nature Preserve. Approved on the 05.03.1997 by the Decree ? 93 of the Primorski Regional Governor;
- ? ?Regulations about Goralij Reserve in the Terneyski District approved by Ministry of agriculture of the USSR on 21.04.77;

**g) Sources and levels of finance**

**Sikhote-Alin Nature Preserve**

<i>Financial sources</i>	<i>1999, US \$/Rbl.</i>
<i>Federal budget</i>	2423,4/84439
<i>Own means</i>	56,3/1961
<i>Regional budget</i>	-
<i>International sources</i>	4744,0/165296
<i>Total:</i>	7223,7/251696

Month salary in 1999 was equal to:

Protection department - 743 Rbl./26 US \$.

Scientific department - 639 Rbl./24 US \$.

Department of ecological education – 709,5 Rbl./25 US \$.

Department ensuring of the main activity - 381 Rbl./13 US \$.

Administration and accounts department - 922 Rbl./32 US \$.

The additional financing for the infrastructure creation of the territory, for the monitoring realization and anti-fire measurements, for the management plan working out are necessary.

**h) Sources of expertise and training in conservation and management techniques**

Sikhote-Alin Nature Preserve.

Main specialists from the department of conservation, scientific department, department of the ecological education and Preserve direction have the high or middle special education and length of service in the system of specially protected natural territories of 10 and more years.

#### **i) Visitor facilities and Statistics**

##### **Sikhote-Alin Nature Preserve.**

Nature Preserve is accessible for the visitors through the Plastun airport that accept flights from Khabarovsk and Vladivostok, and by the asphalt automobile road Vladivostok-Plastun that passes along the coast.

There are 8 excursion routes in the Preserve with the extent from 3 to 120 (automobile) km. During 1999 the Preserve was visited by 85 persons with the 1-day excursion, 16 persons were in the Preserve during 4 days (with the accommodation on the Preserve cordons). From the 1<sup>st</sup> of July till the middle of September daily the tourist base in the Blagodatnoye urotshistshe was visited by from 10 to 200 persons per day bathing on Japanese Sea coast. During summer period on the Preserve territory there were organized two changes of the ecological camp for children from the adjoining to the Preserve settlements. Besides 304 school children have passed through the Preserve with the special excursions. All the excursions were guided by the qualified Preserve workers.

#### **j) Management plan and statement of objectives**

The main direction of activity of the **Sykhote-Alin Nature Preserve** is the preservation of the natural reproduction of typical and unique complexes of Preserve and region together with the whole aggregate of their components (genetic fund), monitoring for the natural processes in them, working out and realization of the principles and methods of control of the wild nature condition.

In the Preserve development plan for the period till 2000 there are envisaged the next measures:

- ?? Growth of the core of the Preserve territory and water surface; growth of the protected zone territory
- ?? Organization of the biosphere range
- ?? Mutual measures for conservation and management of the forest resources in the Preserve protected zone and adjoining territories together with Federal forestry service and wood industrial enterprises
- ?? Growth of the protecting staff and reorganization of the system of the protection of Preserve territory and water surface
- ?? Working out and introduction of a system of measures for control at forest fires and for the preventing the catastrophic forest fires on the Preserve territory
- ?? Creation of the Regional center of ecological education, fostering and teaching of the population
- ?? Creation of GIS for the Preserve and adjoining territories.

To support this activity and to ensure it with the newest methodologies the large attention is given to the organization and development of monitoring and scientific researches, first of all such as:

- ?? Research of the structural organization, functioning and dynamics of the natural ecosystems of the Preserve
- ?? Studying of background and rare species of flora and fauna
- ?? Development of the methodologies and systems of control and watching on the condition of the natural systems (geosystem monitoring including cosmic)
- ?? Creation of new data bases about the Preserve natural components, replenishment of the existing GIS
- ?? Preparation and training of the staff

#### **k) Staffing levels** (real number at 1999)

The total staff of the Sikhote-Alin Nature Preserve and Goralij Reserve compiled 154 persons including:

- Leadership - 4
- Department of accountant calculation and staff - 8
- Department of Preserve zone protection - 74
- Scientific department - 23
- Department of the ecological enlightenment - 6
- Department of the main activity ensuring - 39

### **5. Factors Affecting the Property**

#### **?) Development Pressures and b) Environmental Pressure**

Economic activity on the territory of **Nature Preserve** in fact is absent and its scale on the adjoining territories is extremely limited. Only the facts of the Preserve regime violation by the poachers that illegally kill the wild animals and collect the valuable plant raw materials present a small anxiety. At present scale of cuttings of the main use is relatively small. Those cuttings are connected mainly with the functioning of the "Terneyles" wood industrial enterprise. Forest fires represent a large danger. The degree of their dispersion possibility has been grown considerably. It is connected with the sharp reduction of the Federal means for the anti-fire measures. The similar situation is characteristics for the Goralij Reserve.

Totally the economic activity doesn't influence much to the clusters of the natural system suggested for conservation (excluding the problem with the anti-fire activity).

#### **c) Natural disasters and preparedness**

There weren't marked avalanches, landslides and other displays of natural chaos on the site.

The catastrophic floods can happen. They occur with regularity of 2-3 times in a century. On the east slopes, where the Nature Preserve is situated, the danger of floods is even more less. The pyrogenic ecosystems breaching and danger of new fires appearing as one of its consequences. This factor can be taken under control only under condition of execution of the full complex of the State forest protection. Danger of landslides, avalanches, mud flows and other natural disasters arising is insignificant for the whole territory.

#### **d) Visitor / tourism pressure**

At the present time the low recreational activity is characteristic for the given territory. As a total not more than 10-12 groups of foreign tourists visit the whole territory annually. Attendance of taiga lands for spending of holidays and days off and by hunters and fishermen is much higher. The influence to the natural complexes is perceptible only in the skirts of not numerous settlements where the local pollution with the products of vital activity and everyday rubbish occurs. There can be observed a certain lowering of the river fish Preserves during a mass uncontrolled visits by fishermen.

#### **e) Number of inhabitants within property and its buffer zone**

Region as a whole is characterized by low (even for Siberia) share of territory settlement. There is no constant population on the territory of the **Sikhote-Alin Nature Preserve**. On its southern boundary there are located the settlements of Terney (3123 persons) and Plastun (1009 persons). The Preserve territory is constantly controlled by forest guard with the total number of 12-15 persons that is accommodated in the temporary guard-posts and huts.

## 6. Monitoring.

### ? ) Key Indicators for measuring state of conservation

#### **Sikhote-Alin Nature Preserve.**

Relief: linear denudation speed under modern exogenous geologic processes.

Climate: (by the data of meteorological stations of Terney, Melnichnoye and meteorological post of Tcheremshany):

- ?? average monthly temperatures;
- ?? absolute maximum and minimum;
- ?? sum of active temperatures;
- ?? monthly precipitation by every ten days during a year (in warm and cold periods);
- ?? duration of warm and cold periods.

#### Soils:

- ?? structure of the soil profile;
- ?? thickness of the genetic layers and of the near-root inhabited layer;
- ?? contents (%) and Preserves of humus (by layers and in sum);
- ?? Preserves of chemical elements-biogens in the near-root inhabited layer;

#### Characteristics of the structural and functioning dynamics of biota.

Inner-annual rhythms:

- ?? climatogenic rhythms (number of seasons);
- ?? seasonal and inner seasonal rhythms connected with biota development;
- ?? seasonal dynamics of number and biomass of flora and fauna (of mass and rare species);

Year by year changes:

- ?? fluctuations of flora and fauna abundance;
- ?? changes of dominants in the plant cover and among the mass animal species.

Perennial cycles:

- ?? cycles connected with changes in number of main (mass) animal species (periodicity - years, representative per square km, head per square km);
- ?? cycles connected with the rhythmic of development of the plant cover including fruit-bearing;
- ?? perennial climatogenic cycles (duration of periods in years, assessment of fluctuations in Preserves of phyto and zoo-mass, changes in the species diversity of biota - mass species, dominants, number of species per square m et cetera);

#### Natural successions of biota:

- ?? tendencies in biota development;
- ?? number of stages of exogenesis and their continuance;
- ?? assessment of succession rate;
- ?? structural- functional characteristics of biota main stages.

Characteristics of biota and ecosystem as a whole reactions to the anthropogenic transformation.

Forms of anthropogenic influence.

#### Contemporary condition of ecosystems subject of influence:

- ?? degree of transformation of ecotope and its components (change of thermal, water, salt regime), transformation of relief, soil (distraction of cover integrity, chemisme, abiothic regimes);
- ?? degree of biota transformation in total and of its separate components such as plant cover (changes in variability, structure and productivity) and animal population (changes in variability, structure and productivity);
- ?? speed and stages of digressions under different forms of transformation;
- ?? speed and stages of the starting biota reconstruction.



## **b) Administrative arrangements for monitoring property**

Monitoring of the condition of Nature Preserve and Goral Reserve is conducted on the 11 field research stations inside the Preserve and on 2 stations in the protecting zone. There on the constant testing areas, on transects and on topoecological profiles (among them 33 - for the research of higher vegetation, 47 - for animals, 2 - geologic, 8 - soil and 2 - the research of the anthropogenic influence) with different periodicity (from monthly till once in five years) there are received indicators that characterized the ecosystem organization and dynamics.

At present any special measures for the maintenance of the natural state of the Preserve ecosystems are not required. Current measures for the Preserve conservation (struggle against poaching, maintenance check-up and liquidation of fires) allow to prevent the radical changes in its natural complexes.

## **c) Results of previous reporting exercises**

Analysis of the received characteristics of the Preserve ecosystems gives the grounds to assert that the fluctuations of the indicators of the state of ecotop and biota do not leave the limits of the natural perennial cycles of development.

The density of mammals in the Preserve main forest formations during winter period of 1998-1999 was equal to (specimen per 1 square km).

Oak forests: sable - +; *Mustela sibirica* - 0,2; wild boar - 0,5; Manchurian deer - 1,4; roe deer - 1,0; *Moschus moschiferus* - 0,1.

Cedar and cedar-broad-leaved forests: sable - 0,1; *Mustela sibirica* - 0,1; wild boar - 0,1; Manchurian deer - 1,0; roe deer - 0,3; *Moschus moschiferus* - 1,4.

Birch forests: sable - +; *Mustela sibirica* - 0,1; wild boar - 0; Manchurian deer - 0,6; roe deer - 0,7; *Moschus moschiferus* - 0,6.

Spruce-fir and cedar-spruce forests: sable - 0,1; *Mustela sibirica* - 0; wild boar - +; Manchurian deer - 0,4; roe deer - 0,3; *Moschus moschiferus* - 0,9.

Larch forests - sable - 0,1; *Mustela sibirica* - 0; wild boar - 0; Manchurian deer - 0,2; roe deer - 0; *Moschus moschiferus* - 0,9. + - less than 0,1 specimen per square km.

The traces density of mink and otter along the main Preserve water flows in the winter period of 1989-1990 (traces per 10 km)

River Djigitovka basin: mink - 0,6; otter - 0,5.

River Serebryanka basin: mink - 2,2; otter - 1,2.

River Zabolochennaia basin: mink - 0,6; otter - 0,6.

River Tayozhnaya basin: mink - 0,6; otter - 0,6.

River Columbe basin: mink - 1,5; otter - 1,6.

River basins of the Japanese Sea coast: mink - 1,4; otter - 0,3.

Calculation of fish in the Preserve rivers do not conduct. In 1998 ? there was marked the unusual for the last years arrival for spawning of a large number of humpbacked salmon. But only not more than 10% of salmon fish that entered the rivers, reached the spawning places located in the Preserve.

The dynamics of the Amur tiger size in the Preserve and on adjoining territory was equal to:

1994 - 33-40 specimen

1995 - 33-49 specimen

1996 - 40-46 specimen

1997 - 46-52 specimen

1998 - 33-36 specimen

1999 - 26-33 specimen.

Epizootias and flashes of reproduction of the mass species of phytophagia in the Preserve are not

marked.

## **7. Documentation**

### **?) Photos, Slides, Video**

Collection of slides represented all the main natural complexes of the territory in the different year seasons and video were included in the package of documents presented to the Center of World Heritage in June 1995. Appendix D contain the additional photos.

**b) Copies of property management plans and other documents relevant to the property** contained in the appendix B:

2.1 Extract from the Federal Law of Russian Federation "About the specially protected natural territories".

2.2 Recommendation Letter of the Primorski Region Governor responsibilities executor V. Doubinine.

2.3 Decrees and Decisions:

2.3.1 Decree of the All-Russia Central Executive Committee and Council of People's Commissars of the RSFSR "About the approval of a network of the full Nature Preserves of the whole-state significance" from 10.02.1935;

2.3.2 State Act about the granting of a part of lands of the Ternej District to the indefinite use of the Sikhote-Alin Nature Preserve, ? 236 from 29.04.1994;

2.3.3 State Act about the granting of a part of Japanese Sea water surface to the indefinite use of the Sikhote-Alin Nature Preserve, ? 97 from 22.03.1990;

2.3.4 Decree of the Primorski Region Administration Head "About widening of the Sikhote-Alin State biosphere Preserve", ? 344 from 12.07.1994;

2.3.5 Resolution of the 20<sup>th</sup> Session of UNESCO General Conference about the appropriation to Sikhote-Alin State Preserve the status of a biosphere Preserve, 1978;

2.3.6. Decree "About widening of the territory of the Sikhote-Alin State biosphere Preserve", ? 621 from 10.06.1999;

2.3.7. Resolution of the Primorski Regional Governor "On protective belt of Sikhote-Alin Biosphere State Nature Preserve", ? 93 from 05.03.1997;

2.4 Management plans and regulations

2.4.1 Regulations about the Sikhote-Alin State Nature Preserve approved 09.07.1997 by State Committee of the Russian Federation on environmental protection;

2.4.2. Provision on protective zone of Sikhote-Alin State Biosphere Nature Preserve;

2.4.3 Regulations about the Goralij Reserve in the Ternei District approved on the 21.04.1977 by the Ministry of Agriculture of the USSR;

### **c) Bibliography**

In the appendix E there are kept more than 100 most important publications about the object mainly during the last 10 years.

### **d) Address where inventory, records and archives are held**

#### **Sikhote-Alin Nature Preserve and Goralij Reserve:**

Russian Federation

State Committee of environment Protection (Goskomecologii)

123812, Moscow

B. Gruzinskaya, 4\6

Nature Preserve Administration:  
Russian Federation  
Primorski Region  
Terney District  
692150, Terney District  
Director: Anatoli Astafiev

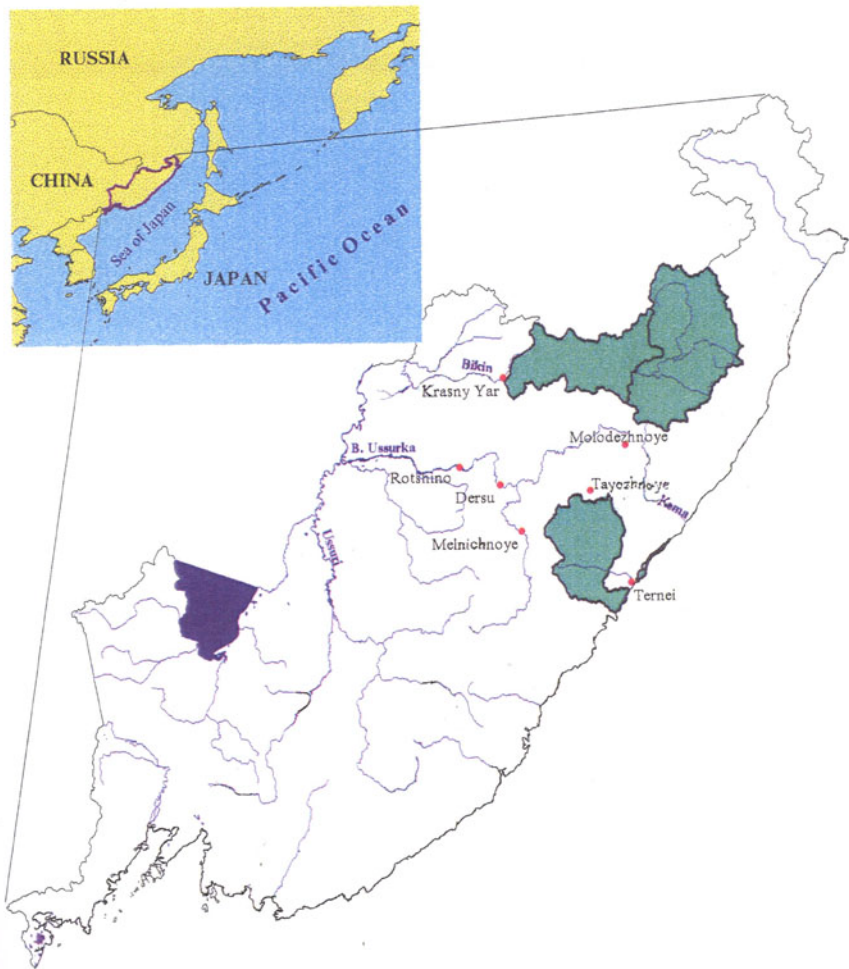
e) **Appendix C:** Lists of Plants and Animals were included in the package of documents presented to the Center of World Heritage in June 1995.

**8. Signature on behalf of the State Party**

**State Committee of the  
Russian Federation  
for environment protection**

**Chairman**

**V.I.Danilov-Danilyan**



**Fig.1 World Heritage Site "Central Sikhote-Alin".**

Location of the Primorye Krai in the Northern Pacific and position of the World Heritage Site "Central Sikhote-Alin" in general.

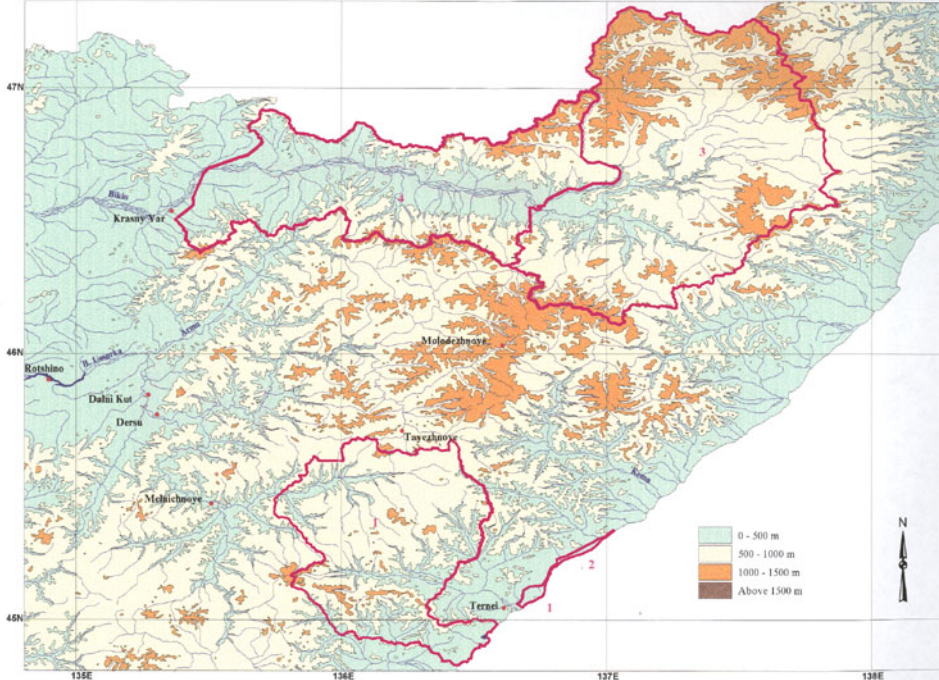


Fig.2 World Heritage Site "Central Sikhote-Alin" Geographical Map.

1. Sikhote-Alinskii Zapovednik; 2. Zakaznik "Goralyc"; 3. Zakaznik "Verkhnebikinskiy"; 4. Territory of Traditional Use "Bikin";

- Khingan Fir - Yeddo Spruce Forests
- Pine-Spruce Forests
- Broadleaved-Korean Pine Forests
- Dahurian Larch Forests
- Larch-Spruce Forests
- Needle Fir Forests
- Japanese Oak Forests
- Linden Forests
- Birch and Aspen Forests
- Valley's Willow, Chozenia, Poplar and Alder Forests
- Ash-Elm Forests

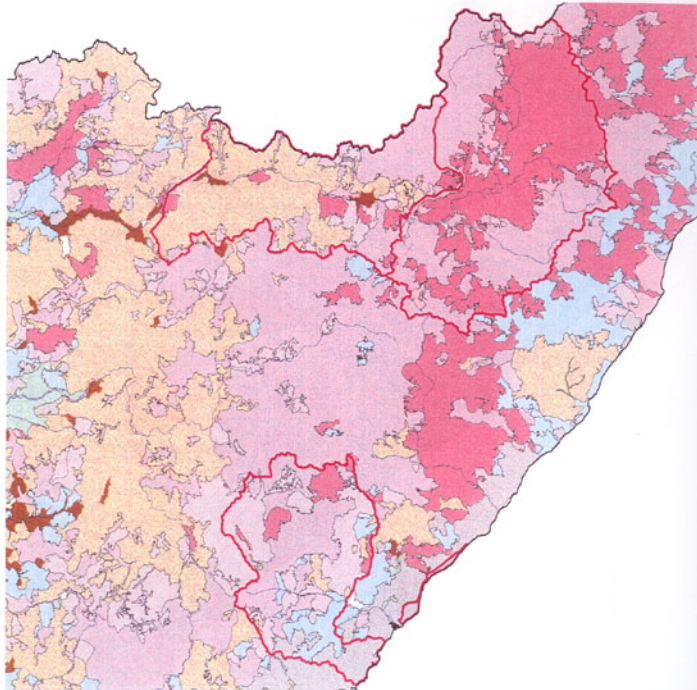


Fig.3 World Heritage Site "Central Sikhote-Alin" Forest Cover Map

# Specially protected areas of the Primorsky krai

- Natural state reserves
- Game reserves (existent)
- Planned specially protected areas
- National parks and natural parks
- Projected national and natural parks
- Territories of traditional nature management
- Ethno-natural parks

## Height above sea level

- 0 - 100 m
- 101 - 200 m
- 201 - 400 m
- 401 - 600 m
- 601 - 800 m
- 801 - 1000 m
- 1001 - 1200 m
- 1201 - 1400 m
- 1401 - 1600 m
- 1601 - 1800 m
- 1801 - 2000 m

## Borders

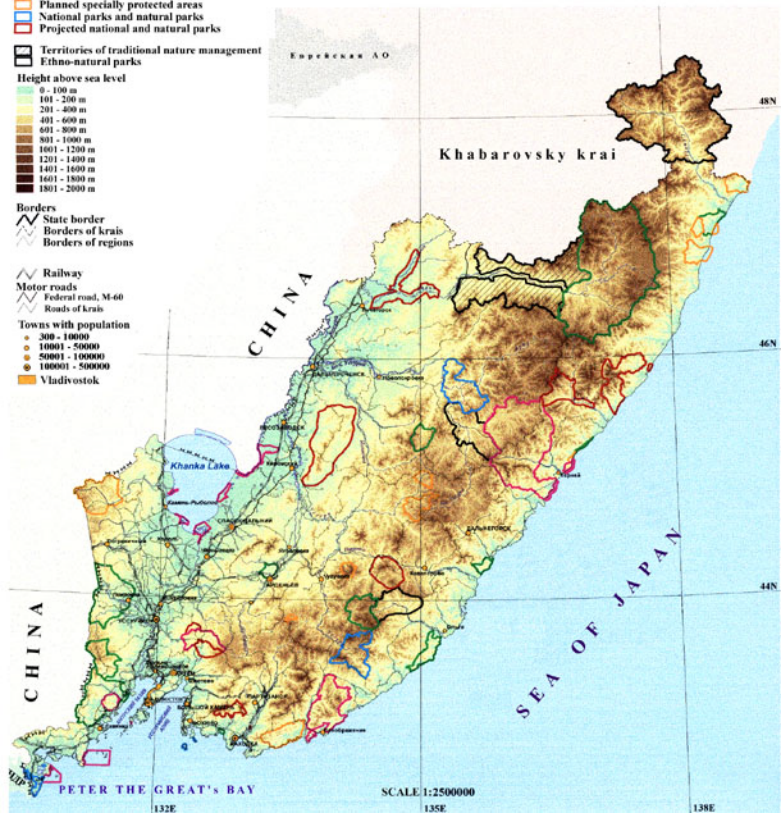
- State border
- Borders of krajs
- Borders of regions

## Railway

- Motor roads
- Federal road, M-60
- Roads of krajs

## Towns with population

- 300 - 100000
- 10001 - 50000
- 50001 - 100000
- 100001 - 500000
- Vladivostok



SCALE 1:2500000

132E

135E

138E

## **APPENDIX A**

### **Maps and Plans**

- 1. Object position on the Far East Region map.**
- 2. Physical-geographical map of the “Central Sikhote-Alin” territory.**
- 3. Forest taxation map of the “Central Sikhote-Alin” territory.**
- 4. Specially protected areas of the Primorsky region**



## **APPENDIX B**

### **Copies of Decrees and Plans, Extracts from Other Documents**

- 1. Extract from the Federal Law of Russian Federation "About the specially protected natural territories".**
- 2. Recommendation Letter of the Primorski Region Governor responsibilities executor V.Doubinine.**
- 3. Decrees and Decisions:**
  - 3.1 Decree of the All-Russia Central Executive Committee and Council of People's Commissars of the RSFSR "About the approval of a network of the full Nature Preserves of the whole-state significance" from 10.02.1935;**
  - 3.2 State Act about the granting of a part of lands of the Ternej District to the indefinite use of the Sikhote-Alin Nature Preserve, ? 236 from 29.04.1994;**
  - 3.3 State Act about the granting of a part of Japanese See water surface to the indefinite use of the Sikhote-Alin Nature Preserve, ? 97 from 22.03.1990;**
  - 3.4 Decree of the Primorski Region Administration Head "About widening of the Sikhote-Alin State biosphere Preserve", ? 344 from 12.07.1994;**
  - 3.5 Resolution of the 20<sup>th</sup> Session of UNESCO General Conference about the appropriation to Sikhote-Alin State Preserve the status of a biosphere Preserve, 1978;**
  - 3.6. Decree "About widening of the territory of the Sikhote-Alin State biosphere Preserve", ? 621 from 10.06.1999;**
  - 3.7. Resolution of the Primorski Regional Governor "On protective belt of Sikhote-Alin Biosphere State Nature Preserve", ? 93 from 05.03.1997;**
- 4. Management plans and regulations**
  - 4.1 Regulations about the Sikhote-Alin State Nature Preserve approved 09.07.1997 by State Committee of the Russian Federation on environmental protection;**

**4.2. Provision on protective zone of Sikhote-Alin State Biosphere Nature Preserve;**  
**4.3 Regulations about the Gorali Reserve in the Ternei District approved on the**  
**21.04.1977 by the Ministry of Agriculture of the USSR;**

## **APPENDIX C**

### **Components of nature complexes characterised by Amursko-Ussurisky type altitude performance (Sochava, 1958), seldom, endemic and most value species of plants and animals.**

#### **Vegetation type-Tundra montana; Geomorfological associated complex- Nemoreto- Pineta**

Koraiensis vallisus; Formation Betuleta lanatae; Formation Lariceta Kajanderi; Formation Pinetapumilae; Formation Aineta fruticosae; Formation Tunipereta sibiricae; Formation Weigeleta Middendorf fianae; Formation Altoherbeta altomontanae; Formation Cariceta sehmidtis; Formation Leyrmeta moll is; Subformation Betuleto lanatae, Piceefca ajanensis; Subformation Laviceto-Pineta kovaieiisis; Subformation Quevceto mongolicae, Betuleta lanatae; Association of Laricetum festucosum; association Querceto mongolicae, Pineta koraiensis festucosum. *Abelia coreana*; *Bergenia pacifica*; *Cypripedium macrarithon*; *Cypripedium calceolus*; *Cypripedium guttatum*; *Aconitum sichotense*; *Pogonia japonica*; *Trapa natans*; *Bupleurum enphorbioides*; *Dioscorea nipponica*; *Panax ginseng*; *Iris ensata*; *Pentaphylloides manchuriensa*; *Lilium pensilvancium*; *Lilium distichum*; *Schisandra chinensis*; *Larix olgensis*; *Lychnis fulgens*; *Lychnis cognata*; *Epipogon aphyllum*; *Oreorchis patens*; *Paeonia oreogeton*; *Paeonia oborata*; *Selaginella tamariscina*; *Galium paradoxum*; *Popoviocodonia stenocarpa*; *Rhodiola rosea*; *Rhododendron fauriei*; *Rhododendron mucronullatum*; *Sorbaria rhoifolia*; *Fritillaria ussuriensis*; *Ephippianthus sachalinensis*; *Symplocarcarus renifolia*; *Saussurea porcelanea*; *Taxus cuspidata*; *Hieracium coreanum*.

#### **Mammal**

*Panthera tigris altaica*; *Nemorhedus caudatus*; *Cervus nippon*;  
*Ursus thibethanus*; *Mogera wogura*; *Felis euphilura*.

#### **Birds**

*Ciconia nigra*; *Ciconia boyciana*; *Aix galericulata*; *Mergus squamatus*; *Pandion haliaetus*; *Haliaeetus albicilla*;  
*Butastur indicus*; *Spizaetus nipalensis*; *Grus monachus*; *Galinago hardwiskii*; *Ketupa blakistoni*; *Ninox*

scutulata; *Anthus cervina*; *Laiscopus collaris*; *Prunella montanella*; *Egretta alba*; *Cygnus cygnus*; *Pernis ptilorhynchus*; *Haliaeetus pelagicus*; *Aquila chrysaetos*; *Falco peregrinus*; *Milvus korschun*; *Circus melanoleucus*; *Grus japonensis*; *Grus vipio*;

*Charadrius placidus*; *Himantopus himantopus*; *Haematopus ostralegus*; *Calidris acuminata*; *Lumicola falcinellus*; *Numenius madagascariensis*; *Gallinago solitaria*; *Limnodromus semipalmatus*; *Bubo bubo*; *Nuctea scandiaca*; *Eurystomus orientalis*; *Brachyramphus marmoratus*; *Monticola solitarius*; *Sturnia philippensis*; *Egretta intermedia*; *Egretta eulophotes*; *Anser cygnoides*; *Anser erythropus*; *Anser fabalis*; *Aythya baeri*; *Aegypius monachus*; *Antropoides vigro*; *Otis tarda*; *Eurynorhynchus pygmaeus*; *Calidris bairdii*; *Glareola maldivarum*; *Sphenurus sieboldi*.

## **Fishes**

*Ancipenser medirostris*.

## **Insects**

*Callipogon relictus*; *Cryptocercus relictus*; *Carabus sichotensis*; *Nossa palearctica*; *Papilio machaon*; *Papilio Maackii*; *Parnassius eversmanni*; *Luedorfia puziloi*; *Danaus berenicae*; *Apatura achrenckii*; *Parnassius nemion*; *Seokia eximia*.

## **APPENDIX D**

### **Slides and photos**

- 1. The valley of Bikin river - one of the last remaining areas of virgin Ussuri taiga (V. Kantor).**
- 2. A sable. Southern and northern fauna intermingle here (G. Shaulsky)**
- 3. Larga is a seal specie most widely spread in the Far East (G. Shaulsky)**
- 4. Sea stones are the best rookeries (V. Kantor)**
- 5. A narrow stripe of coastal grass and bush vegetation (V. Kantor)**
- 6. The coast of the Sea of Japan (V. Kantor)**
- 7. Sika deer (G. Shaulsky)**
- 8. The valley of Bikin river (V. Kantor)**
- 9. A foreland of oak forests replaces the coastal vegetation (V. Kantor)**
- 10-11. Traditional holyday of local small people - Udege - in the village of Krasny Yar (Bikin river valley). Colorful national clothes and traditional house - yurt - are still popular. (A. Butorin)**
- 12-13. The Udege carefully maintain ancient ceremonies of shamans dance and evil spirits conjuration. (A. Butorin)**
- 14-15. Traditional udege games. (A. Butorin)**
- 16. Dwelling house in the village of Krasny Yar - unofficial capital of the udege people. More than 700 out of 2000 world's the Udege people living in the village. (A. Butorin)**
- 17. Panorama of the last virgin Ussury taiga forests, providing the Udege with all necessary subsistence. (V. Kantor)**

18. Bikin river valley. (E. Usov)
19. One of rare butterfly species inhabiting the Bikin river valley. (E. Usov)
20. Blossoming rhododendron. (V. Kantor)
21. Rhododendron on a rocky shore of the Sea of Japan. (V. Kantor)
22. Stone gates. Sea of Japan coast. (V. Kantor)

## APPENDIX E

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**Annex**  
**to resolution of the smaller Council of the Regional Council of**  
**People's Deputies**  
**#316 of 25 August 1993**

**Temporary Instruction**  
**on the area of traditional nature management**  
**of small peoples of the Primorye Region.**

The following legal acts and by-laws serve as a legal foundation for development of this Instruction:

- Constitution of the Russian Federation, Article 11;
- Russian Federation Land Code, carried into effect by a Resolution of the Supreme Council of the Russian Federation of 25 April 1991; Article 4;
- Resolution of the Congress of People's Deputies of the Russian Federation 'On Social and Economic Situation in Northern Territories and Similar Areas' #2707-1 of 21 April 1992;
- Decree of the President of the Russian Federation 'On Immediate Measures to Protect Places of Settlement and Activity of Small Indigenous Peoples of the North' #197 of 22 April 1992;
- Resolution of the Nationalities Council of the Supreme Council of the Russian Federation 'On Conservation of Natural Complexes in Places of Settlement of the Udege, Nanaytsi, Orochi Peoples in the Pozharsky District of the Primorye Region' #4537-1 of 24 February 1993;
- Basics of the Russian Federation Forest Legislation enacted by the Supreme Council of the Russian Federation; 6 April 1993;
- Resolution of the Primorye Regional Council 'On the System of Protected Natural Areas' #145 of 28 June 1991.

Section 1. Terms.

Ethnos life support – satisfaction of vital material and spiritual needs of an ethnos (ethnic group) through adaptation to the natural and socio-cultural environment, ensuring ethnic reproduction and functioning of this ethnos (ethnic group) as a system.

Tradition-bound economy – a complex of economic branches historically developed in a particular area as a result of interaction between man (ethnos, ethnic group) and the nature. In case of the Primorye Region, among traditional activities of small indigenous peoples of the North are hunt, fishery, as well as procurement of edible, medical and technical plants and herbs.

Traditional nature management – a system of activities designed to ensure most efficient mode of non-exhaustive exploitation and reproduction of natural resources for the benefit of ethnic and cultural development of small indigenous peoples of the Primorye Region, as well as other groups of population whose living is based on traditional economic activities.

Traditional nature management areas – forests, water bodies and other types of lands with their biological resources suitable for tradition-bound economy fixed for exploitation by small indigenous people of the Primorye Region. The legal regime of exploitation of a traditional nature management area shall be defined by this Instruction.

Community – a number of families of small peoples of the region, including members of these families with other nationality, living in one or several settlements united by one traditional economy and way of living. A community is registered by regional administrations upon recommendations of village councils or the regional Association of Small Indigenous Peoples. A community shall have its Charter, it shall be a legal entity and a full participant of economic relations in this traditional nature management area. A meeting of all adult members of the

community shall be its highest steering body. To address all current affairs and represent the community, it establishes a Community Council or any other body headed by a Chairperson. In village councils where local small indigenous peoples make up a majority, the general meeting of the community can charge the village council or any other local authority with the functions of the Community Council.

## Section 2. General Provisions.

2.1. A traditional nature management area is established in places of residence and economic activities of small peoples of the Primorye Region to secure their legitimate rights and interests, conserve and develop their unique way of life, traditional economies at the time of transition to the market economy, as well as to create additional mechanisms to ensure local and regional environmental safety.

2.2. The traditional nature management area is an essential property of small indigenous peoples of the Primorye Region and shall not be withdrawn for industrial development not related to traditional economy, without their consent.

2.3. The traditional nature management area (TNMA) shall be included into the corresponding district of the Primorye Region and shall be a part of its economic community. The Russian Federation Constitution, other legal acts and by-laws of representative and executive authorities of the district and region shall be applied to this traditional nature management area.

2.4. In the TNMA, the main priority shall be given to development of traditional branches of economy and correspondent types of production to satisfy all basic needs of small indigenous peoples taking into consideration the population's consumption interests and needs of commodity production. Companies, organizations and agencies operating in the TNMA, regardless of their field of activity and ownership types, shall take into consideration the interests and needs of national revival of small indigenous peoples.

2.5. The subjects of TNMA management shall be territorial associations (communities), families and individual representatives of small indigenous peoples of the region adhering to the traditional way of life and interconnected with one another through a single type of traditional nature management.

Organizational and legal types of economic activities in the TNMA shall be defined by the subjects of TNMA management, for the benefit of which this TNMA has been established.

2.6. The Community Council or any other body with similar functions may give the privilege to use renewable natural resources of the TNMA to individual families or representative of small indigenous peoples of the region permanently residing in the place of settlement of this community. People of other nationalities permanently settled in the community at the time of approval of this Instruction, for whom traditional economy is the main source of means of subsistence, shall enjoy an equal right.

2.7. Individuals belonging to small indigenous peoples of the region and living in local towns may be given a right to use natural resources of the TNMA only if they move to the place of settlement of the Community.

2.8. Individuals belonging to small indigenous peoples of the region shall enjoy a privilege to work for companies, organizations and agencies operating and situated in the TNMA, activities of which relate to traditional economic activities.

2.9. Natural resources production programs, including mineral deposits, that have any effect on the interests of the TNMA, shall be developed with consent of the Community Council or any other body with similar functions, Association of Small Indigenous Peoples of the region and other organizations representing the interests of small indigenous peoples and shall be subject to state environmental assessment. The approved projects of natural resources production in the TNMA shall facilitate improvement of living and working conditions of small indigenous peoples according to their priorities and values. Communities using the TNMA shall have their

share of income from such projects and are entitled to recovery of any damage the community may suffer from implementation of such projects.

### Section 3. Principles of Nature Management.

3.1. In the TNMA, a non-exhaustive sustainable management and extended reproduction of biological resources that maintain the existing model of life support of small indigenous peoples of the region and ensure an appropriate level of their modern social and economic development shall be carried on.

3.2. Operation of existing and establishment of new companies using natural resources of the TNMA can be possible only if the nature management regime set up for this area is maintained and the companies have received permission from the state environmental assessment agencies.

3.3. The use of natural resources of the TNMA to satisfy personal needs of small indigenous peoples in food, clothing and home shall be free of charge and according to the established procedure.

3.4. Game preserves and grounds shall be fixed to individual owners by the Community Council or any other body with similar functions in compliance with scientific recommendations specified for this particular area. Leasing or alienation of game preserves and grounds or any part of them for the benefit of third parties is forbidden.

3.5. In compliance with scientifically established recommendations, a regime-territorial zoning should be carried on in the TNMA, including appointing rehabilitation reservations, economic activities zone, recreation and other areas.

3.6. Amateur hunting permits, as well as fishing and hunting licenses to scientific and research expeditions and surveying parties operating in the TNMA, and permits on hunting and fishing for messing purposes shall be issued by the territorial authority according to the established procedure.

3.7. In the TNMA, the Primorye Regional Council of People's Deputies in agreement with local authorities shall establish borders of forest fund territories with a special forest management regime.

3.8. Application, storage, reprocessing and disposal of toxic, radioactive and other hazardous substances and waste in the TNMA are forbidden.

### Section 4. Defining a TNMA, Fixing the TNMA to Managing Entities and Temporary Instruction Application Procedure.

4.1. TNMA shall be established in regions declared by the Russian Federation Government as areas of settlement of small indigenous peoples of the North.

4.2. A TNMA shall include all categories of lands excluding:

- agricultural lands;
- plots degraded or exhausted by the mining industry or wood-logging activities, lands where industrial activities are still underway, as well as lands under operating industrial facilities;
- lands actually under the transportation network, communication and power producing grids, lands used for defense and other specific purposes;
- lands of settlements not belonging to the traditional activities of small indigenous peoples of the region;
- lands of nature preserves and other categories of lands where any activity not related to conservation and study of natural complexes and sites is forbidden by the existing legislation.



4.3. The size (area) of the TNMA shall be defined according to the size of the population, for which the TNMA is being established, recommended limits on withdrawal of renewable natural resources taking into consideration their productivity, and prospects of social and economic development. The TNMA borders shall be outlined over natural tracks: rivers, brooks, water divides and etc.

4.4. The TNMA borders shall be defined based on historic, ethnographic, socio-economic and ecosystem analysis initiated by the regional and district authorities and Associations of small indigenous peoples of the North. If territorial associations of small indigenous peoples of the region are being established (state farms, cooperative fur farms and etc.), the TNMA borders shall be defined based on existing land-forest-game grounds planning papers and a feasibility study.

4.5. The draft paper defining the TNMA borders should contain the following:

- description of the TNMA borders;
- environmental feasibility study for the TNMA taking into consideration the actual and optimal biological and industrial productivity of natural resources, as well as social and economical efficiency of their use;
- description of ecosystem, social and economic ties of natural complexes appointed TNMA, as well as suggestions on how to manage these ties taking into account the peculiarities of local population;
- an explanatory note describing the borders and nature management regime.

4.6. Fixing game plots within the borders of the TNMA to individuals shall be done according to the procedure specified in the Russian Federation Law 'On Farming' and other regulations of the Russian Federation and the Primorye Region.

4.7. This Temporary Instruction is valid on the territory of the Primorye Region commencing on the date of approval by the Primorye Regional Council. All amendments to the Temporary Instruction shall be introduced after enactment of national laws and legal acts regulating relationship in specific fields.

A. Lebedev  
Vice-Chairperson  
Permanent Committee for Environment and Efficient Nature Management.

**CONFIRMED by  
Decree of Governor  
Of Maritime Territory**

**REGULATIONS  
FOR TERRITORIAL STATE NATURE LANDSCAPE ZAKAZNIK  
“VERHNEBIKINSKY”**

**General states**

- 1.1. The present Regulations is developed on a base of Standard Regulations for State Nature Zakazniks in RF, confirmed by an Order of Minpriroda of RF from January, 16 1996, <sup>1</sup> 20; a Federal Law “About natural areas of preferential protection”, Law of RSFSR “About environment protection” and a Decree of Governor of Maritime Territory from January, 23 1996 <sup>1</sup> 106 “About procedure of organisation of natural areas of preferential protection in Maritime Territory”.
- 1.2. Territorial State Landscape Nature Zakaznik “Verhnebikinsky” (further - the Zakaznik) is an area of preferential protection of the Territory value and belongs to category of landscape Zakazniks, its size and boundaries are shown in enclosed scheme and description.
- 1.3. The Zakaznik includes nature landscapes of Central Sikhote-Alin (within a part of Okhotnichje forestry of Verkhne-Perevalnenskiy leshoz), as unique nature system of world-wide aesthetic and scientific value as well as an area of dying species of animals and plants of great importance for their preservation.
- 1.4. The Zakaznik is organised for conservation of unique nature complexes in native conditions whereas limited economic activity for use of some of its resources and objects.
- 1.5. Changing boundaries, reorganisation and management of the Zakaznik are being made in the same order as its organisation.

**II. Purposes for organisation of the Zakaznik**

Purposes for organisation of the Zakaznik are:

- 2.1. Conservation and renewal of valuable nature landscape of environmental, ecological, aesthetic and recreation importance;
- 2.2. Maintenance of ecological balance in Central Sikhote-Alin;
- 2.3. Having a role of experimental model site for plant and animal species renewal and enrichment as well as environment preservation in Central Sikhote-Alin;
- 2.4. Organisation of ecological monitoring and scientific research for conservation and renewal of Central Sikhote-Alin ecosystems;
- 2.5. Organisation of recreation activity, controlled tourism and excursions.

**The Zakaznik legal status**

- 3.1. The Zakaznik territory is an area of preferential protection of the Territory value;
- 3.2. Substance of state ownership for lands of the Zakaznik including nature complexes and units located here is established due to the articles 129,209 and 214 of Civil Code of Russian Federation, article 2 of Federal Law of Russian Federation “About natural areas of preferential protection”, articles 5,7,8,12,18,19

of Forest Law of Russian Federation, articles 89, 94,100 101, 107, 125, 126 of Code of Land Laws of RF.

- 3.3. Land users and owners within the Zakaznik get privileges in land taxing according an order established by Russian Federation legislation and legislation of Maritime Territory.
- 3.4. The Zakaznik is under the direct jurisdiction of Maritime wood department, as local department of Federal Body for forest culture management.

#### IV. The special guard mode of the Zakaznik

4.1. Within the Zakaznik there is forbidden any activity making worse its condition, such as:

- ?? ploughing lands up,
- ?? widespread commercial wood cutting resulting in decreasing environmental, water protecting, defending and other functions of woods, making worse hydrological regime of river system,
- ?? pasturing cattle (except ones belonging personally to employees of Okhotnichje forestry, gamekeepers, as well as native population, constantly living within the Zakaznik in places coordinated with regional committee for environment protection,
- ?? all types of commercial use of accessory forest resources (except necessity of life and traditional economic activity for people living here,
- ?? hunting and fishing (except sport and game ones as well as for needs of local population in established places and according to normative base currently in force in the Territory,
- ?? giving land plots for building up, as well as for collecting gardening and farming, except an area within administrative boundaries of rural settlements;
- ?? irrigation and drainage construction;
- ?? construction of buildings and other structures which are not connected with the Zakaznik purposes;
- ?? use and storage of toxic chemicals, mineral fertilisers and other chemicals except those intended for forest treatment;
- ?? tourist station and camp arrangement, making fires out of special places;
- ?? environment pollution with factory and consumer wastes and waters, making dumping sites;
- ?? any other economic activity, preventing conservation of the natural complex and reproduction of nature resources.

4.2. Within the Zakaznik the following is permitted:

- ?? Forest fund management in compliance with "The general provisions on special regime and ways of forest fund management in places of settlement and economic activity of small peoples and ethnic groups in the Primorsky Krai", approved by the Decision of the Minor Council of the Regional Council of people's deputies.
- ?? Commercial logging of secondary forest resources and products auxiliary forest management.
- ?? Planting of trees, bushes and grasses in compliance with the project).
- ?? Scientific research not disturbing natural complex.
- ?? Anti-epizooty measures approved by Sanitary and Epidemic Control Service.

?? Controlled tourism.

4.3. In the territory of the Zakaznik the following activity must be approved by the Primorsky krai forest administration:

?? Exploration work; mineral deposits development; organization of specially protected geological objects; collecting of mineral, pale ontological and other collectibles.

?? Provision of land as well as any possible withdrawal of lands inconsistent with the purposes of the Zakaznik (except the expropriation of lands for the needs by the Government).

?? In case of activity that disturb or can disturb natural complexes of the Zakaznik the Primorsky krai forest administration is entitled to suspend, limit or stop the activity.

4.4. Preferential protection order of the Zakaznik should be obeyed by all juridical and physical persons, including owners, users and lessees of land sites and aquatory of water bodies within the Zakaznik.

4.5. Offence against the established order entails administrative, financial or another type of responsibility according to the legislation.

4.6. The Zakaznik area is signed on the place with notice and information marks along its boundaries.

4.7. The Zakaznik area is being taken into the account in working out perspective programs of economical and social development of the Territory and Territorial complex and land management schemes in obliged order.

#### V. The Zakaznik guard

5.1. Guard of the Zakaznik is done by Verkhne-Perevalnenskiy leshoz, the general control is made by Maritime wood department.

5.2. Special inspections, services and other units of enterprises, organisation and people associations, making department and popular ecological monitoring and control for established order maintenance as well as users and lessees could be recruited to guard of the Zakaznik.

#### VI. Financing

Expenditures for organisation and guard of the Zakaznik are made from means of federal budget for financing forestry according to list of staff and expense estimate of Maritime wood department, budgets of the Territory and Pozharskiy region as well as extra-budget funds and other legal sources.

#### VII. Control for maintenance of preferential protection order of the Zakaznik

Control for maintenance of an established order is made by administrations of Maritime Territory and Pozharskiy region as well as special representatives of state bodies of Russian Federation for environment protection.













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## WORLD HERITAGE NOMINATION - IUCN TECHNICAL EVALUATION

### CENTRAL SIKHOTE – ALIN (RUSSIAN FEDERATION)

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#### 1. DOCUMENTATION

- i) **IUCN/WCMC Data Sheet:** (4 references)
- ii) **Additional literature consulted:** Newell, J. & Wilson, E., 1996. **The Russian Far East: Forests, Biodiversity hotspots, and Industrial developments.** FOE, 200pp.; Bocharnikov, V.N., 1996. **The Sikhote-Alin Nature Complex as an object of the World Heritage list.** *Vestnik DVO RAN* (5), 43-53.; Zhuravlev, Yu.N., (Ed.) 2000. **A Biodiversity Conservation Strategy for the Sikhote-Alin.** Russian Academy of Sciences (Far Eastern Branch), Vladivostok, 135pp.; Matthiessen, P., 2000. **Tigers in the Snow.** Harvill Press, London. 185pp.
- iii) **Consultations:** 8 external reviewers contacted. Local experts; officials from the Russian Ministry of Natural Resources, the Committee on Natural Resources of Primorskii Krai, and the local administrations of Terney and Bikin; Udege leaders in Krasny Yar.
- iv) **Field visits:** J.Thorsell and J.Cassils in September 1996; L.F.Molloy and R.Hogan in July 2001.

#### 2. SUMMARY OF NATURAL VALUES

The nominated site lies within the Sikhote-Alin mountain range in the extreme south-eastern corner of the Russian Federation, a region with a climate and biodiversity entirely different from the rest of Russia. The Sikhote-Alin is not a major mountain range (1,100km in length and up to 1830m in altitude) but a vast unmodified temperate forest wilderness lying within northern latitudes (44-49° N). Elsewhere, at these latitudes, the mixed coniferous/deciduous forests of western Europe and North America have largely been removed or severely modified. Lying between the coastline of the Sea of Japan in the east and the valleys of the Amur and Ussuri rivers in the west, the Sikhote-Alin is subject to both maritime and continental climatic extremes. Summers are warm and wet because of the rain-bearing south-eastern monsoon winds (up to 85% of precipitation can fall in summer); in winter, the icy north-westerly Siberian winds bring snow to the mountains and temperatures can drop as low as -50° C in the Bikin valley (with less than 100 frost-free days per annum in the western valleys). The large Bikin River freezes over from October until March.

The nominated Central Sikhote-Alin site in Primorskii Krai consists of two units separated along the crest of the range by a distance of 70km (see Map 2):

- The southern unit consists of two protected areas separated from each other by the town of Terney:
  - 1) **Sikhote-Alin Nature Preserve** (401,428ha) on the eastern maritime slopes near the town of Terney (including a marine protected zone of 2,900ha, extending 1km out from the coastline); This is a 'Zapovednik' or IUCN Category 1a (Strict Nature Reserve) and has also been designated a UNESCO Man and the Biosphere Reserve; and
  - 2) **Goralij Zoological Preserve** (4,749ha) an IUCN Category IV (Habitat/Species Management Area) is a coastal zone north of Terney.
- The second, or northern unit, consists of two contiguous areas located on the **Bikin River** catchment upstream of the town of Krasny Yar:
  - 1) **Bikin Territory of Traditional Nature Use (TTNU)** (407,764ha) for the Udege people in the middle Bikin, this area has no IUCN designation; and the

- 2) **Verkhnebikinski zakaznik** (746,482ha) covering the entire upper Bikin catchment above the river junction at Ushaia). This is an IUCN Category IV protected area (Habitat/Species Management Area).

The total area of the nominated site is approximately 1,560,000ha.

The Sikhote-Alin protected areas are considered to contain the greatest plant and animal diversity on the north-western coastline of the Pacific Ocean. The region lies at the junction of the Eurasian continent and the Pacific plate, a biogeographic 'mixing zone' which largely escaped the rejuvenating impacts of the last glaciation and allowed the development of the ancient '*Turgai*' biota during the Tertiary and early Quaternary periods. This unique assemblage of biota contains elements from Manchuria, Okhotsk-Kamchatka (Bering), eastern Siberia and Dauria-Mongolia. The unique combination of its severe climatic characteristics, physical isolation, and traditional resource use by the Udege and other indigenous peoples, has meant that 80-90% of the region's vegetation still remains as dense temperate forest and taiga.

The site lies within the 'Primorye' Centre of Plant Diversity identified by IUCN and WWF; it also lies partly within WWF's 'Russian Far East temperate broadleaf and mixed forest' ecoregion 71 (Global 200). Forests cover 95% of the site, with alpine tundra, coastal shrublands, meadows and bogs accounting for the rest of the area. More than 180 tree and woody shrub species occur in these forests; the most characteristic large trees are: Korean pine, Jeddo spruce, needle fir, several species of larch, Manchurian ash, white-barked elm and Mongolian oak. At higher altitudes, the forests have a higher proportion of conifers and small-leaved deciduous trees, typically birches, Koyama spruce and Siberian larch. Along the banks of the Bikin River, there is a preponderance of white-barked elm, Korean pine and Maximovitch poplar. Korean pine is a prolific 'nut' (seed) producer, essential to the survival of at least 30 mammal species, and important as a food source (rich in edible oils) for the indigenous people. In total, almost 1200 vascular plant species are present, including many of medicinal value and importance to the indigenous people; the best-known plants in this category are ginseng and Siberian ginseng.

More than 400 vertebrates have been recorded, including 241 bird species, 65 mammals, seven amphibians, 10 reptiles and 51 fish. The site is renowned in international conservation circles as the largest intact habitat for the extremely rare Siberian (or Amur, or Ussuri) tiger. In addition, it is the habitat of brown bear, Himalayan black bear, lynx, goral, sika deer, yellow-throated marten, Manchurian hare, scaly-sided merganser and other endemic and/or endangered species. Seals are a feature of the Sikhote-Alin coastline.

### 3. COMPARISON WITH OTHER AREAS

The region of Ussuriland in which the nominated area occurs is one of the world's most distinctive natural regions. Ussuriland extends southwards from the mouth of the River Amur to the border with China and Korea. It is bounded on the west by the Ussuri River and on the east by the Sea of Japan. No other area has this particular mix of flora and fauna and, combined with glacial history, this has helped to make the Ussuri region a priority for conservation in Russia. For example, the WWF report by Krever *et. al.* (1994) for the World Bank states that "the bioregion is critical to global biodiversity conservation because it contains some of the richest and most unusual temperate forests anywhere in the world. Compared to other temperate ecosystems, the level of endemic plants and invertebrates present in the region is extraordinarily high which, together with the region's unique biogeographic history, has resulted in unusual assemblages of plants and animals."

The Sikhote-Alin nomination lies within Udvardy's '*Manchu-Japanese Mixed Forest*' biogeographic province. There are currently no other natural World Heritage sites listed within this province. The Russian Federation has nine other protected areas within this biogeographic province (including the Lazovsky zapovednik, 120,000ha, which is also Amur tiger habitat) but Sikhote-Alin is by far the largest and most important. Within the Sikhote-Alin Range, the Bikin cluster of the nomination is considered to be the only intact large-scale watershed on the western slopes of the Sikhote-Alin. A report by the Russian Academy of Sciences notes that the Bikin is "one of the last intact, large scale watersheds not only in the Russian Far East but also in the Northern Hemisphere." The Bikin catchment also includes one of the most expansive mountain plateau systems of the Sikhote-Alin range.

The biogeographic province extends across Heilongjiang and Jilin provinces of north-eastern China, but the only protected area approaching Sikhote-Alin in significance is the Changbai Mountain Nature Reserve of 190,582ha (originally established as a category IV protected area in 1961 but re-classified by IUCN as category Ia in 1986). Like Sikhote-Alin, Changbai is a Biosphere Reserve of long-standing. Although the Changbai Mountains are

higher (2,691m), they lack any lowland forest (below 300m) or any coastal landforms and biota. The Changbai Mountain protected area, and the adjacent Tumen and Yalu rivers forming the border with North Korea, were Amur tiger habitat in the 19<sup>th</sup> Century but relentless forest clearance and tiger hunting has eliminated the last populations.

Hokkaido, the northernmost of Japan's main islands, also lies within the Manchu-Japanese Mixed Forest province. However, there are no sites equivalent to Sikhote-Alin in Hokkaido: the two IUCN category Ia protected areas in Hokkaido are very small (674ha and 1,895ha) and the two main forested national parks (Daisetsuzan and Shiretoko) are IUCN category IV and extensively developed. Shiretoko does have many of the maritime forest characteristics of Sikhote-Alin and it has the advantage of being among the most natural of Japan's 28 national parks. However, the combined area of Shiretoko 'Special Protected Area' and adjacent Mount Onnebetsu Wilderness Area is 25,460ha – only about 1.6% of the area of the Sikhote-Alin nomination.

There are two comparable large continental/maritime natural World Heritage sites at these latitudes in North America – Olympic National Park bordering the Pacific Ocean in Washington state and Gros Morne National Park on the western Atlantic seaboard in Newfoundland & Labrador province of Canada. Olympic National Park (Oregonian biogeographic province) is an outstanding temperate rainforest but its climate is very different (much wetter and warmer) than Sikhote-Alin and its forest is more coniferous. Olympic is not listed for its biodiversity value or endangered species (criterion iv). Gros Morne National Park, likewise, is not listed under criterion (iv); it is wetter and cooler (in summer) than Sikhote-Alin and it lacks the latter's forest community diversity. Gros Morne is listed primarily for its geological history (especially glaciation in an island setting).

The sites of Giants Causeway (UK) and Miguasha (Canada) are not comparable because of their very small size and specialist geological character. Two other maritime sites are also not comparable with Sikhote-Alin – Redwood National Park on the Pacific slopes of the Coast Range in northern California (lower latitude and fragmented protected area units) and the island of St Kilda in the Atlantic Ocean off the western coast of Scotland (small size and higher latitudes). The Redwoods site is not listed under criterion (iv). There is no forest on St Kilda but it is listed under criterion (iv) because of its outstanding sea bird populations. Sikhote-Alin also has a number of species in common with Shirakami-Sanchi in Japan which was inscribed for the importance of its cool-temperate ecological processes. However, the beech forest is considered to be low in species diversity and endemics. For example, it has approximately 500 plant species compared to the 1,200 species found in the nominated area. The Western Caucasus is at similar latitude to Sikhote-Alin but shows a much greater variation in altitude. Though this site has a higher diversity of plants (almost 1,600 species) it has a lower diversity of vertebrates than Sikhote-Alin.

Two Pacific coastal World Heritage sites are found further north: Russia's Volcanoes of Kamchatka and Tatshenshini-Elsek/Kluane National Park/Wrangell-Saint Elias National Park and Reserve and Glacier Bay National Park. Both of these sites include important glacial and volcanic features which are not present in Sikhote-Alin. Both sites also have biodiversity values. In the case of the 3.7 million hectare Kamchatka site, biodiversity is high relative to other areas at the same latitude and includes the world's greatest diversity of salmonoid fish as well as important populations of seabirds and marine mammals. The Tatshenshini-Glacier Bay complex covers some 10 million hectares and includes tundra and Sitka spruce forests. It is important for natural processes such as glacial activity, plant succession and animal migration. The area is also important for wildlife, including endangered species such as the humpback whale. While the nominated area is smaller in area it is clearly richer in biodiversity.

## **4. INTEGRITY**

### **4.1. Boundaries**

When Sikhote-Alin zapovednik was established in 1935 it comprised 1,800,000ha, and was at that time the largest zapovednik in Russia and one of the largest strictly protected areas in the world. In 1951 it was reduced to about one sixth of its original size, although subsequent additions have increased it to its present size of 405,000ha. When the Sikhote-Alin site was first nominated for World Heritage in 1996, it then comprised 2,680,000ha but, in its evaluation, IUCN pointed out that only 14% of the nomination had a legal status as protected area. The nomination was subsequently deferred, with a recommendation that it be resubmitted once:

- protected status was conferred on the Bikin catchment and the Sikhote-Alin zapovednik was extended to the north, and

- consultation was undertaken with the government of Primorskii Krai and the local indigenous people (in the Bikin and Iman valleys).

The present nomination has made significant progress in fulfilling the 1996 recommendations, in that:

- the entire middle and upper catchments of the Bikin River (a vast area of more than 1,154,000ha) is now protected from the exploitative commercial forestry and mining which has depleted the natural resources of much of the Sikhote-Alin region (especially the coastal slopes), and
- the government of the Primorskii Krai and the Udege people have expressed their support for the nomination and for continued protection of the landscapes and biota contained within the two main areas.

However, there are still some outstanding integrity issues which need to be addressed. The first is the need for a protected area along the 70km of the crest of the Sikhote-Alin Range, linking the zapovednik with the Bikin catchment. The second is the desirability of linking the headwaters of the Bikin with the coast around the town of Svetlaya, to give a contiguous west-east corridor of largely unmodified forest. An aerial inspection of this watershed between the upper Bikin and the coastal slopes above Svetlaya revealed the unsustainable nature of the forest clear-cutting carried out by a joint Russian/South Korean forestry venture. A major logging road is currently being built from Svetlaya to Khabarovskii Krai through this forested upland around the head of the Bikin watershed, so there is an urgent need to develop a network of protected areas and sustainably-managed forests (which are still suitable as wildlife habitat) to buffer the Bikin and provide a forest corridor to the coast.

There is a sound strategic framework for the entire nominated area (and surrounding forest 'buffers') in the prescriptions (until 2005) contained in "A Biodiversity Conservation Strategy for the Sikhote-Alin" (Zhuravlev et al), published in 2000 and approved by a decree from the Governor of Primorskii Krai. The strategy sets out a plan for "A System of Territories to Conserve the Amur Tiger Population" along the length of the Sikhote-Alin Range in Primorskii and Khabarovskii Krai. The plan is comprised of existing and proposed protected areas and traditional/multiple use zones linked by ecological corridors. This system of territories would conserve the territory's biodiversity and provide the minimum essential area for the short-term conservation for the Amur tiger (conserving the territories of 50 mature females). However, for the long-term conservation of the Amur tiger population, habitat must be secured for a further 250 females. The plan proposes the development of a zoning process and special management regimes for the most important habitat outside of protected areas.

Despite the size of the Bikin, the management of surrounding areas has an impact on the population of mammals within it. An adequate buffer zone or regulation of activities in these areas is essential to the long-term protection of the site. The northern boundary of the nominated area coincides with the administrative boundary between Primorskii and Khabarovskii Krai but logging activities have been approved in some of the adjacent lands in Khabarovskii.

#### **4.2. Management**

The management plan for the Sikhote-Alin zapovednik expired in 2000 and a revised plan is currently being prepared. There is no management plan for the Bikin TTNU or Verkhnebikinskiy zakaznik and this is a planning challenge for the government of Primorskii Krai.

The Bikin TTNU is an area of traditional use set up to maintain the way of life of the Udege indigenous people. The sustainable use of the area's natural resources is permitted under the responsibility of the Primorskii Krai Department of Wildlife Resources. Economic activities include hunting, the collection of NTFP's and some timber harvesting. The commercial rights to the areas are currently leased to the '*AO Bikin*' enterprise which is responsible for the management of the NTFP resources. In the past there were hunting and fishing inspectors to monitor use of the area but there is no longer any effective field monitoring. A report from the 'Bikin Project' (see below) notes that 'official data and expert opinion conclude that the harvest of wild game is already near its maximum, and for the majority of species current harvest rates are not sustainable. And in view of an absence of data on illegal take of these species, especially poaching from surrounding regions, there is little doubt that there has been a dramatic reduction in the population numbers of native animal species.'

In the Bikin TTNU the Udege have the right of veto on activities if the community considers them to be detrimental to their traditional values. During the field mission the Bikin residents noted that they were not involved adequately in the management of the area and that their access to their traditional hunting lands is

subject to a complex licensing system. The designation of the Verkhnebikinskiy zakaznik on the Upper Bikin which was formerly an Ethnic Territory of the Bikin residents has also caused insecurity about future access to this land by the Udege for commercial and subsistence use.

The management of the Verkhnebikinskiy zakaznik is under the responsibility of the “Maritime Wood Department” which is a regional branch of the Federal department of forestry. The Zakaznik has a set of regulations which outlines activities which are prohibited or sanctioned in the area. The regulations allow for “commercial logging of secondary forest resources” as well as hunting and collection of NTFPs.

In conclusion the management regime in the Bikin is far from satisfactory. The Udege have few rights on commercial harvest of NTFPs and feel that they do not have adequate control over their own resources. The Udege are also under pressure from illegal hunting which is contributing to the unsustainable harvest of many animal species - especially ungulates. In addition, there is a problem with the unsustainable use of areas adjacent to the Bikin which are important for maintaining the populations of animal species hunted in the Bikin. IUCN is also concerned about the impact of small-scale logging on the ecology of the area.

#### **4.3. Threats**

Poaching and illegal logging currently threaten the ecology of the entire Sikhote-Alin range and are the main threats to the integrity of the nominated site. Logging and hunting in adjacent lands can impact heavily on protected areas – reducing animal populations and severing important biological corridors. A major international research and management programme is attempting to secure the future integrity of the population of Amur tiger, in particular, its protection from poaching and careful regulation of the hunting of its ungulate prey species. Sikhote-Alin zapovednik benefits from an enforcement programme which has received financial assistance from WWF and has proved to be quite effective.

### **5. ADDITIONAL COMMENTS**

The Sikhote-Alin site has been nominated under both natural and cultural criteria. IUCN believes that there is a very close relationship between the natural ecosystems of the Sikhote-Alin and the hunting culture of the Udege indigenous people. The protection of the natural landscape is an essential pre-requisite for the continuation of the Udege culture.

In the 1990s the US State Department and US Forest Service funded the “Bikin Project” which carried out extensive socio-economic and biodiversity research in the Bikin watershed and developed proposals for biodiversity conservation and local economic development of the Bikin. However, the project was not continued and many of these proposals have not been implemented.

### **6. APPLICATION OF CRITERIA/STATEMENT OF SIGNIFICANCE**

The site has been nominated for consideration under natural criteria (ii), (iii) and (iv).

#### **Criterion (ii): Ecological processes**

The site is a large temperate forest wilderness, with very little human habitation or disturbance. However, no convincing evidence was presented to establish that there were on-going ecological processes of “outstanding universal value” within the site. Central Sikhote-Alin is primarily climax forest, with little evidence of natural perturbation, except for occasional fires from lightning strikes and the inundation of the floodplain of the Bikin River. The Sikhote-Alin zapovednik coastline shows geomorphological evidence of progressively uplifted marine terraces but these are not considered to be linked to outstanding ecological processes. IUCN does not consider that the site meets this criterion.

#### **Criterion (iii): Superlative natural phenomena or natural beauty and aesthetic importance**

Although the expanse of wilderness in the nominated area is impressive, the landscapes and scenery of the site are not exceptional. The forest is very difficult to penetrate on foot, the topography is subdued and the natural waterways intricate and subtle, and insect pests are aggressive and ubiquitous during spring and summer (constituting a major disincentive to human settlement and tourism development). IUCN does not consider that

the site meets this criterion.

#### **Criterion (iv): Biodiversity and threatened species**

The nominated area is representative of one of the world's most distinctive natural regions. The combination of glacial history, climate and relief has allowed the development of the richest and most unusual temperate forests in the world. Compared to other temperate ecosystems, the level of endemic plants and invertebrates present in the region is extraordinarily high which has resulted in unusual assemblages of plants and animals. For example, subtropical species such as tiger and Himalayan bear share the same habitat with species typical of northern taiga such as brown bear and reindeer. The site is also important for the survival of endangered species such as the scaly-sided (Chinese) merganser, Blakiston's fish-owl and the Amur tiger. IUCN considers that the site meets this criterion.

### **7. RECOMMENDATION**

That the Bureau note that Central Sikhote-Alin is considered by IUCN to meet natural criterion (iv) but that the management of the Bikin River protected areas (Bikin Territory of Traditional Nature Use and Verkhnebikinski zakaznik) need to be improved before this area is inscribed on the World Heritage List. Therefore the Bureau should recommend the **inscription** of the Sikhote-Alin Nature Preserve and Goralij Zoological Preserve but **defer** the inscription of the Bikin River protected areas and request that the State Party:

- develop an effective and integrated collaborative management regime for the entire Bikin catchment with the full involvement of indigenous peoples in this process;
- regulate activities in areas adjacent to the Bikin catchment in both Primorskii and Khabarovskii Krai; and
- improve the physical linkages between the Bikin and the Sikhote-Alin Nature Preserve by urgently developing a comprehensive network of protected areas which can both link the Bikin to the Sikhote-Alin zapovednik and provide a natural corridor to the coastal regions near Svetlaya. This should be carried out within the framework of the system of interlinking protected areas proposed by the '*Biodiversity Conservation Strategy for the Sikhote-Alin*' and fully involve indigenous people in this process.

Once these activities have been completed, the State Party may wish to submit the Bikin protected areas for consideration as a second phase of the nomination.

The Bureau may wish to commend the State Party for responding to the request of the 1996 Bureau and encourage the State Party to request International Assistance from the Committee to fund the necessary technical work to fulfil the above request.

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## CANDIDATURE AU PATRIMOINE MONDIAL - ÉVALUATION TECHNIQUE UICN

### SIKHOTE-ALIN CENTRAL (FEDERATION DE RUSSIE)

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#### 1. DOCUMENTATION

- i) **Fiches techniques UICN/WCMC** (4 références)
- ii) **Littérature consultée:** Newell, J. & Wilson, E., 1996. **The Russian Far East: Forests, Biodiversity hotspots, and Industrial developments.** FOE, 200pp.; Bocharnikov, V.N., 1996. **The Sikhote-Alin Nature Complex as an object of the World Heritage list.** Vestnik DVO RAN (5), 43-53.; Zhuravlev, Yu.N., (Ed.) 2000. **A Biodiversity Conservation Strategy for the Sikhote-Alin.** Russian Academy of Sciences (Far Eastern Branch), Vladivostok, 135pp.; Matthiessen, P., 2000. **Tigers in the Snow.** Harvill Press, London. 185pp.
- iii) **Consultations:** huit évaluateurs indépendants. Experts locaux ; fonctionnaires du ministère russe des Ressources naturelles ; Comité des ressources naturelles de Primorskii Krai et administrations locales de Terney et Bikin ; chefs Udege de Krasny Yar.
- iv) **Visite du site:** J. Thorsell et J. Cassils, septembre 1996 ; L.F. Molloy et R. Hogan, juillet 2001

#### 2. RÉSUMÉ DES CARACTÉRISTIQUES NATURELLES

Le site proposé se trouve dans la chaîne de montagnes Sikhote-Alin, à l'extrémité sud-est de la Fédération de Russie. C'est une région au climat et à la diversité biologique entièrement différents de ceux du reste de la Russie. Le Sikhote-Alin n'est pas une grande chaîne de montagnes (1100 km de long et 1830 m d'altitude au maximum) mais une vaste zone de forêts vierges tempérées intactes située sous des latitudes septentrionales (44 à 49° N). Ailleurs, à ces mêmes latitudes, les forêts mixtes de conifères et d'essences décidues, d'Europe de l'Ouest et d'Amérique du Nord, ont été en grande partie détruites ou gravement modifiées. Située entre le littoral de la mer du Japon à l'est et les vallées de l'Amour et l'Oussouri, à l'ouest, la chaîne de Sikhote-Alin est soumise à des extrêmes climatiques à la fois maritimes et continentaux. Les étés sont chauds et humides à cause des vents de mousson du sud-est chargés de pluies (jusqu'à 85% de précipitations en été); en hiver, les vents sibériens glacés du nord-ouest apportent la neige et les températures peuvent chuter jusqu'à -50° C dans la vallée du fleuve Bikin (il y a moins de 100 jours sans gel par année dans les vallées de l'ouest). Le grand fleuve Bikin est gelé d'octobre à mars.

Le Complexe naturel Sikhote-Alin central, dans la Primorskii Krai se compose de deux unités le long de la crête, séparées par 70 km (voir Carte 2):

- L'unité méridionale comprend deux aires protégées séparées l'une de l'autre par la ville de Terney:
  - 1) **la Réserve naturelle Sikhote-Alin** (401 428 ha) sur les pentes maritimes orientales près de la ville de Terney (elle comprend une zone protégée marine de 2900 ha, qui s'étend jusqu'à un 1km du littoral); il s'agit d'une «Zapovednik» qui correspond à la Catégorie Ia de l'UICN (Réserve naturelle intégrale) et qui est aussi une Réserve de biosphère de l'UNESCO; et
  - 2) **la Réserve zoologique Goralij** (4749 ha) correspondant à la Catégorie IV de l'UICN (Aire de gestion des habitats/espèces) dans la zone côtière nord de Terney.
- La deuxième, ou unité septentrionale, se compose de deux aires contiguës situées dans le bassin versant du fleuve Bikin, en amont de la ville de Krasny Yar:
  - 1) **le Territoire d'utilisation naturelle traditionnelle (TUNT) du Bikin** (407 764 ha) pour la population Udege du moyen Bikin; ce site n'a pas de catégorie UICN; et

- 2) **la Zakaznik Verkhnebikinskiy** (746 482 ha) qui couvre tout le bassin supérieur du Bikin au-delà du confluent, à Ushaia). Il s'agit d'une aire protégée de Catégorie IV de l'UICN (Aire de gestion des habitats/espèces).

Le site proposé a une superficie totale d'environ 1 560 000 ha.

On considère que les aires protégées du Sikhote-Alin contiennent la plus grande diversité végétale et animale du littoral nord-ouest du Pacifique. La région se trouve à la jonction du continent eurasiatique et de la plaque du Pacifique, une «zone de fusion» biogéographique qui a, pour l'essentiel, échappé aux effets rajeunissants de la dernière glaciation, ce qui a favorisé l'évolution de l'ancien biote «*Turgai*» durant le Tertiaire et le début du Quaternaire. Cet assemblage unique, faunique et floristique contient des éléments de Mandchourie, d'Okhotsk-Kamchatka (Béring), de l'est de la Sibérie et de Dauria-Mongolie. L'association unique des caractéristiques climatiques rigoureuses, de l'isolement physique et de l'utilisation traditionnelle des ressources par les Udege et autres populations autochtones, a favorisé le maintien de 80 à 90% de la végétation de la région sous forme de forêt tempérée dense et taïga.

Le site se trouve dans le Centre «Primorye» de diversité des plantes, identifié par l'UICN et le WWF. Il se trouve aussi, en partie, dans l'écorégion 71 (des 200 écorégions mondiales) : «forêt mixte et forêt de feuillus tempérée de l'extrême-orient russe» décrite par le WWF. Les forêts couvrent 95% du site qui comprend une toundra alpine, des formations arbustives côtières, des prairies et des tourbières dans les 5% restants. Les forêts contiennent plus de 180 espèces d'arbres et de buissons ligneux; les grands arbres les plus caractéristiques sont: le pin de Corée, l'épicéa de Jeddo, le sapin, plusieurs espèces de mélèzes, le frêne de Mandchourie, l'orme argenté et le chêne de Mongolie. Plus haut, la proportion de conifères et d'arbres à petites feuilles décidus – généralement des bouleaux, des épicéas de Koyama et des mélèzes de Sibérie – est plus élevée. Le long des berges du fleuve Bikin, on trouve de manière prépondérante des ormes argentés, des pins de Corée et des peupliers de Maximovitch. Le pin de Corée est un producteur prolifique de pignons (graines), qui jouent un rôle essentiel pour la survie de 30 espèces de mammifères au moins et qui sont une source de nourriture importante (riche en huile comestible) pour la population autochtone. Au total, près de 1200 espèces de plantes vasculaires sont présentes. Beaucoup ont une valeur médicinale et sont importantes pour la population autochtone; les plantes les plus connues de cette catégorie sont le ginseng et le ginseng de Sibérie.

On a recensé plus de 400 vertébrés, y compris 241 espèces d'oiseaux, 65 espèces de mammifères, sept amphibiens, 10 reptiles et 51 poissons. Le site est renommé dans les cercles internationaux de la conservation comme le plus grand habitat intact pour une espèce extrêmement rare, le tigre de Sibérie (ou tigre de l'Amour). En outre, il offre un habitat à l'ours brun, à l'ours noir de l'Himalaya, au lynx, au goral, au sika, à la martre à gorge jaune, au lièvre de Mandchourie, au harle de Chine et à d'autres espèces endémiques et/ou en danger. Les phoques fréquentent communément le littoral Sikhote-Alin.

### 3. COMPARAISON AVEC D'AUTRES SITES

La région de l'Oussouri, où se trouve le site proposé, est une des régions naturelles les plus originales du monde. Elle s'étend, en direction du sud, depuis l'embouchure du fleuve Amour jusqu'à la frontière de la Chine et de la Corée. Elle est limitée à l'ouest par le fleuve Oussouri et à l'est par la mer du Japon. Aucune autre région ne présente ce mélange si particulier de flore et de faune. Associée à l'histoire glaciaire, cette caractéristique fait de la région de l'Oussouri une priorité pour la conservation en Russie. Le rapport du WWF rédigé par Krever *et al.* (1994) pour la Banque mondiale déclare: «La biorégion est d'importance critique pour la conservation de la diversité biologique à l'échelle mondiale parce qu'elle contient certaines des forêts tempérées les plus riches et les plus particulières du monde. Le taux de plantes et d'invertébrés endémiques présents dans cette région, si on le compare à celui d'autres écosystèmes tempérés, est extraordinairement élevé ce qui, avec l'histoire biogéographique unique de la région, a donné un assemblage exceptionnel de plantes et d'animaux.»

Le site proposé se trouve dans la Province biogéographique de la «forêt mixte mandchou-nippone d'Udvardy». Il n'y a actuellement aucun autre bien naturel du patrimoine mondial dans cette province. La Fédération de Russie, possède neuf autres aires protégées dans cette province biogéographique (y compris la zapovednik Lazovsky, 120 000 ha, qui est aussi un habitat pour le tigre de Sibérie) mais Sikhote-Alin est, de loin, la plus grande et la plus importante. Dans la chaîne de montagnes de Sikhote-Alin, l'unité Bikin du site proposé est considérée comme le seul grand bassin versant intact sur le versant occidental de la chaîne Sikhote-Alin. Dans un rapport de l'Académie des sciences de Russie, il est noté que le Bikin est «un des derniers grands bassins



versants intacts non seulement de l'extrême- orient russe mais aussi de l'hémisphère nord». Le bassin versant du Bikin comprend aussi l'un des plus vastes systèmes de plateaux montagneux de la chaîne Sikhote-Alin.

La province biogéographique s'étend sur les provinces d'Heilongjiang et de Jilin, dans le nord-est de la Chine, mais la seule aire protégée dont l'importance soit plus ou moins comparable à celle du Complexe naturel Sikhote-Alin est la Réserve naturelle des montagnes Changbai qui couvre 190 582 ha (établie comme une aire protégée de Catégorie IV en 1961 mais reclassée par l'UICN dans la Catégorie Ia en 1986). Comme Sikhote-Alin, Changbai est, depuis longtemps, une réserve de biosphère. Bien que les montagnes de Changbai soient plus hautes (2691 m), elles n'ont pas de forêts de plaine (au-dessous de 300 m) ni de formes de relief et de biotes côtiers. L'aire protégée des montagnes de Changbai et les fleuves limitrophes, Tumen et Yalu, qui tracent la frontière avec la Corée du Nord, étaient un habitat pour le tigre de Sibérie au 19e siècle mais le déboisement incessant et la chasse au tigre ont éliminé les dernières populations.

Hokkaido, la plus septentrionale des îles principales du Japon, se trouve aussi dans la Province de forêt mixte mandchou-niponne. Toutefois, on n'y trouve pas de site équivalent à Sikhote-Alin: les deux aires protégées de la Catégorie Ia de l'UICN d'Hokkaido sont très petites (674 ha et 1895 ha) et les deux principaux Parcs nationaux boisés (Daisetsuzan et Shiretoko) sont dans la Catégorie IV UICN et fortement développés. Shiretoko présente nombre des caractéristiques des forêts maritimes de Sikhote-Alin et l'avantage d'être parmi les plus naturels des 28 parcs nationaux du Japon. Toutefois, la superficie combinée de l'«Aire protégée spéciale» de Shiretoko et de l'Aire de nature sauvage du mont Onnebetsu adjacent est de 25 460 ha – c'est-à-dire environ 1,6 % de la superficie du site proposé du Complexe naturel Sikhote-Alin.

Il y a deux grands biens du patrimoine mondial naturel continentaux/maritimes comparables, à cette même latitude, en Amérique du Nord: Le Parc national Olympique qui est limitrophe de l'océan Pacifique, dans l'État de Washington et le Parc national de Gros Morne sur la côte atlantique occidentale du Canada, dans la province de Terre-Neuve et Labrador. Le Parc national Olympique (province biogéographique de l'Orégon) est une forêt ombrophile tempérée exceptionnelle mais son climat est très différent (beaucoup plus humide et plus chaud) de celui de Sikhote-Alin et sa forêt contient davantage de conifères. Le Parc national Olympique n'est pas inscrit pour la valeur de sa diversité biologique ou pour les espèces en danger qu'il contient (critère (iv)). Le Parc national de Gros Morne n'est pas non plus inscrit au titre du critère (iv); il est plus humide et plus frais (en été) que Sikhote-Alin et ne présente pas la diversité forestière de ce dernier. Gros Morne est essentiellement inscrit pour son histoire géologique (en particulier de glaciation dans un milieu insulaire).

Les sites de la Chaussée des Géants (Royaume-Uni) et de Miguasha (Canada) ne sont pas comparables car ils sont très petits et présentent un caractère géologique spécialisé. Deux autres sites maritimes ne sont pas non plus comparables à Sikhote-Alin – le Parc national Redwood sur le versant pacifique de la chaîne côtière dans le nord de la Californie (latitude plus basse et unités d'aires protégées fragmentées) et l'île de St. Kilda dans l'océan Atlantique, au large de la côte ouest de l'Écosse (petites dimensions et latitude plus haute). Le Parc national Redwood n'est pas inscrit au titre du critère (iv). Il n'y a pas de forêt sur St. Kilda mais le site est inscrit au titre du critère (iv) en raison de ses populations d'oiseaux marins exceptionnelles. Sikhote-Alin possède aussi plusieurs espèces en commun avec Shirakami-Sanchi, au Japon, qui a été inscrit pour l'importance de ses processus écologiques tempérés froids. Toutefois, la forêt de hêtres est considérée comme pauvre en diversité des espèces et espèces endémiques. Par exemple, elle contient environ 500 espèces de plantes tandis que le site proposé en possède 1200. Le Caucase de l'Ouest se trouve à une latitude semblable à celle de Sikhote-Alin mais présente une variation altitudinale beaucoup plus grande. Bien que ce site ait une diversité végétale plus élevée (près de 1600 espèces), sa diversité d'invertébrés est plus faible que celle de Sikhote-Alin.

On trouve, plus au nord, deux biens du patrimoine mondial du littoral pacifique: les volcans du Kamchatka en Russie et Kluane/ Wrangell-St. Elias/ Glacier Bay/ Tatshenshini-Alsek, bien transfrontière des États-Unis et du Canada. Ces deux biens comprennent d'importantes caractéristiques glaciaires et volcaniques que l'on ne trouve dans le site Sikhote-Alin. Tous deux ont une grande importance pour la diversité biologique. En ce qui concerne le Bien des volcans du Kamchatka, qui couvre 3,7 millions d'hectares, la diversité biologique est élevée par rapport aux autres régions se trouvant à la même latitude et comprend la plus grande diversité au monde de poissons salmonidés ainsi que d'importantes populations d'oiseaux de mer et de mammifères marins. Le Complexe Tatshenshini-Glacier Bay couvre quelque 10 millions d'hectares et comprend de la toundra et des forêts d'épicéas Sitka. Il est important pour les processus naturels tels que l'activité glaciaire, la succession végétation et la migration des animaux. Il est également important pour la faune sauvage qui compte quelques espèces en danger telles que les mégaptères. Le site proposé est beaucoup plus petit en superficie mais clairement plus riche en diversité biologique.

## 4. INTÉGRITÉ

### 4.1. Délimitation

Lorsque la zapovednik Sikhote-Alin a été créée, en 1935, elle couvrait 1 800 000 ha et était, à l'époque, la plus grande zapovednik de Russie ainsi que l'une des plus grandes aires intégralement protégées du monde. En 1951, elle a été réduite à environ un sixième de sa taille d'origine mais des ajouts ultérieurs ont augmenté sa superficie jusqu'à celle qu'elle occupe aujourd'hui: 405 000 ha. Lorsque le site Sikhote-Alin a été proposé pour la première fois pour inscription sur la Liste du patrimoine mondial, il couvrait alors 2 680 000 ha mais, dans son évaluation, l'UICN soulignait que 14% seulement du site proposé était au bénéfice du statut juridique d'aire protégée. La proposition a donc été différée avec, pour recommandation, qu'elle soit soumise à nouveau:

- lorsqu'un statut de protection serait conféré au bassin versant du Bikin et que la zapovednik de Sikhote-Alin serait agrandie vers le nord et
- lorsque des consultations auraient été entreprises avec le gouvernement de Primorskii Kraï et la population autochtone locale (dans les vallées du Bikin et de l'Iman).

La présente proposition illustre les progrès importants qui ont été faits pour appliquer les recommandations de 1996, à savoir:

- le bassin versant moyen et supérieur du Bikin (une vaste région de plus de 1 154 000 ha) est aujourd'hui protégé contre l'exploitation forestière et minière commerciale qui a dévasté les ressources naturelles d'une grande partie de la région de Sikhote-Alin (en particulier les versants côtiers) ;
- le gouvernement de Primorskii Kraï et la population Udege ont exprimé leur appui à la proposition de protection permanente des paysages et des biotes contenus dans les zones principales.

Il y a cependant encore des questions d'intégrité en suspens qui doivent être résolues. La première concerne la nécessité de créer une aire protégée le long de la crête de 70 km de la chaîne Sikhote-Alin afin de relier la zapovednik et le bassin versant du Bikin. La deuxième est qu'il serait souhaitable de relier les sources du Bikin au littoral, autour de la ville de Svetlaya, afin de préserver un corridor est-ouest d'un seul tenant, formé de forêts quasi intactes. Une étude aérienne du bassin versant, entre le Bikin supérieur et les versants côtiers au-dessus de Svetlaya, a révélé la nature non durable des coupes claires réalisées par une entreprise de foresterie russo-sud-coréenne. Une grande route d'exploitation est en train d'être ouverte entre Svetlaya et Khabarovskii Kraï à travers le bassin supérieur boisé du Bikin, près des sources, de sorte qu'il faut de toute urgence créer un réseau d'aires protégées et de forêts gérées de manière durable (qui conviennent encore en tant qu'habitat de la faune sauvage) pour créer une zone tampon pour le Bikin et fournir un corridor forestier vers la côte.

Il existe un cadre stratégique rationnel pour tout le site proposé (et les «zones tampons» forestières environnantes) dans les dispositions (jusqu'en 2005) contenues dans «Une stratégie de conservation de la diversité biologique pour Sikhote-Alin» (Zhuravlev *et al.*), publiée en 2000 et approuvée par un décret du gouverneur de Primorskii Kraï. La stratégie énonce un plan pour «un réseau de territoires de conservation de la population du tigre de Sibérie» tout le long de la chaîne Sikhote-Alin dans les Primorskii Kraï et Khabarovskii Kraï. Le plan concerne des aires protégées existantes et proposées et des zones à utilisation traditionnelle/multiple reliées par des corridors écologiques. Le réseau de territoires conserverait la diversité biologique et fournirait l'espace minimal essentiel à la conservation à court terme du tigre de Sibérie (en conservant les territoires de 50 femelles adultes). Toutefois, pour la conservation à long terme de la population du tigre de Sibérie, c'est l'habitat de 250 femelles qu'il faut mettre en sécurité. Le plan propose de créer un processus de zonage et des régimes de gestion spéciaux pour les habitats les plus importants en dehors des aires protégées.

Malgré les dimensions du Bikin, la gestion des régions environnantes a une incidence sur les populations de mammifères dans le bassin versant. Il est essentiel de créer une zone tampon adéquate ou de réglementer les activités dans ces régions pour assurer la protection à long terme du site. Les limites septentrionales du site proposé coïncident avec les frontières administratives des Primorskii Kraï et Khabarovskii Kraï mais les activités d'exploitation du bois ont été approuvées dans certaines des terres limitrophes, dans le Khabarovskii Kraï.

### 4.2. Gestion

Le plan de gestion pour la zapovednik de Sikhote-Alin est venu à terme en 2000 et un plan révisé est en train d'être préparé. Il n'y a pas de plan de gestion pour le territoire du Bikin ou pour la Zakaznik Verkhnebikinskiy et il s'agit là d'une tâche de planification qui incombe au gouvernement de Primorskii Krai.

Le TUNT du Bikin est une région d'utilisation traditionnelle créée afin de maintenir le mode de vie des populations autochtones Udege. L'utilisation durable des ressources naturelles de la région est autorisée, sous la responsabilité du Département des ressources naturelles de Primorskii Krai. Les activités économiques comprennent la chasse, le prélèvement de produits forestiers non ligneux et un peu d'exploitation du bois. Les droits commerciaux sont actuellement octroyés à l'entreprise «AO Bikin» qui est chargée de la gestion des ressources forestières non ligneuses. Autrefois, des inspecteurs de la chasse et de la pêche surveillaient l'utilisation de la région mais il n'y a plus de surveillance réelle sur le terrain. Un rapport du «projet Bikin» (voir ci-après) note: «Les données officielles et les avis d'experts concluent que le prélèvement d'espèces sauvages atteint pratiquement son maximum et, pour la majorité des espèces, le taux de prélèvement actuel n'est pas durable. En raison de l'absence de données sur les captures illicites de ces espèces, et en particulier sur le braconnage dans les régions environnantes, on peut craindre que les effectifs des populations d'espèces animales indigènes aient été réduits de manière radicale.»

Dans le TUNT du Bikin, les Udege peuvent exercer un droit de veto sur les activités s'ils considèrent qu'elles portent préjudice à leurs valeurs traditionnelles. Durant la mission sur le terrain, les résidents du Bikin ont noté qu'ils ne participaient pas de manière adéquate à la gestion de la région et que leur accès à leurs terres de chasse traditionnelles est soumis à un régime de licence complexe. La désignation de la Zakaznik Verkhnebikinskiy, dans le Bikin supérieur, qui était autrefois un territoire ethnique des résidents Bikin, a également entraîné une certaine insécurité quant à l'accès futur des Udege à cette terre pour leurs besoins commerciaux et de subsistance.

La gestion de la Zakaznik Verkhnebikinskiy est placée sous la responsabilité du «Département des bois maritimes» qui est une branche régionale du Département fédéral des forêts. La Zakaznik dispose d'un ensemble de règlements qui soulignent les activités interdites ou autorisées dans le site. Les règlements autorisent «l'exploitation commerciale des ressources forestières secondaires» ainsi que la chasse et le prélèvement de produits forestiers non ligneux.

En conclusion, le régime de gestion du Bikin est loin d'être satisfaisant. Les Udege ont peu de droits sur le prélèvement commercial des produits forestiers non ligneux et estiment qu'ils n'ont pas suffisamment de contrôle sur leurs propres ressources. Ils subissent également les pressions de la chasse illicite qui contribue au prélèvement non durable de nombreuses espèces animales – en particulier les ongulés. En outre, l'utilisation non durable des zones limitrophes du Bikin qui sont importantes pour le maintien des populations d'espèces chassées dans le Bikin pose également un problème. L'UICN constate aussi avec préoccupation les effets de l'exploitation à petite échelle sur l'écologie de la région.

### **4.3. Menaces**

Le braconnage et l'exploitation illicite menacent actuellement l'écologie de toute la chaîne Sikhote-Alin et sont les principales menaces pour l'intégrité du site proposé. L'exploitation du bois et la chasse dans les terres limitrophes peut avoir un impact marqué sur les aires protégées – réduisant les populations animales et sectionnant d'importants corridors biologiques. Un grand programme international de recherche et de gestion tente de garantir l'intégrité future de la population du tigre de l'Amour et d'assurer en particulier sa protection contre le braconnage ainsi que la réglementation rigoureuse de la chasse des ongulés qui lui servent de proies. La zapovednik Sikhote-Alin est dotée d'un programme de surveillance qui bénéficie de l'aide financière du WWF et s'est révélé très efficace.

## **5. AUTRES COMMENTAIRES**

Le site de Sikhote-Alin est proposé au titre de critères naturels et culturels. L'UICN estime qu'il existe une relation très étroite entre les écosystèmes naturels du Sikhote-Alin et la culture des populations de chasseurs autochtones que sont les Udege. La protection du paysage naturel est une condition préalable, essentielle à la pérennité de la culture des Udege.

Dans les années 1990, le Département d'État des États-Unis et le Service américain des forêts ont financé le «projet Bikin» qui a mené une recherche importante sur l'aspect socio-économique et la biodiversité du bassin

versant du Bikin et élaboré des propositions de conservation de la diversité biologique et de développement de l'économie locale du Bikin. Toutefois, le projet ne s'est pas poursuivi et nombre de ces propositions n'ont pas été appliquées.

## 6. APPLICATION DES CRITÈRES/DÉCLARATION D'IMPORTANCE

Le site est proposé au titre des critères naturels (ii), (iii) et (iv).

### Critère (ii): processus écologiques

Le site est une grande zone de forêts sauvages tempérées où l'on trouve très peu d'habitations humaines ou de perturbations. Toutefois, aucune preuve convaincante n'est proposée pour établir qu'il y a des processus écologiques en cours «d'importance universelle exceptionnelle» dans le site. Le Sikhote-Alin central est avant tout une forêt climacique présentant très peu de perturbations naturelles à l'exception d'incendies occasionnels provoqués par des éclairs et les crues dans la plaine d'inondation du fleuve Bikin. Le littoral de la zapovednik Sikhote-Alin présente des preuves géomorphologiques de terrasses marines progressivement relevées mais celles-ci ne sont pas considérées comme étant liées à des processus écologiques exceptionnels. L'UICN considère que le site ne remplit pas ce critère.

### Critère (iii): phénomènes naturels éminemment remarquables ou de beauté exceptionnelle

Bien que l'étendue des espaces sauvages du site proposé soit impressionnante, les paysages du site ne sont pas exceptionnels. La forêt est très difficile à pénétrer à pied, la topographie est abaissée et les cours d'eau naturels difficiles à trouver. Les insectes sont agressifs et omniprésents au printemps et en été (ce qui constitue un facteur décourageant les établissements humains et le développement du tourisme). L'UICN considère que le site ne remplit pas ce critère.

### Critère (iv): diversité biologique et espèces menacées

Le site proposé est représentatif de l'une des régions naturelles les plus particulières du monde. L'association de l'histoire glaciaire, du climat et du relief a favorisé le développement des forêts tempérées et les plus originales du monde. Le taux de plantes et d'invertébrés endémiques, comparé à celui d'autres écosystèmes tempérés, est extrêmement élevé et a donné des assemblages inhabituels de plantes et d'animaux. Par exemple, des espèces subtropicales telles que le tigre et l'ours de l'Himalaya partagent le même habitat avec des espèces typiques de la taïga du nord telles que l'ours brun et le rennes. Le site est également important pour la survie d'espèces en danger telles que harle de Chine, l'aigle pêcheur de Blakiston et le tigre de l'Amour. L'UICN considère que le site remplit ce critère.

## 7. RECOMMANDATION

Que le Bureau note que l'UICN considère que le Sikhote-Alin central remplit le critère naturel (iv) mais que la gestion des aires protégées du fleuve Bikin (Territoire d'utilisation naturelle traditionnelle du Bikin et Zakaznik Verkhnebikinskiy) doit être améliorée avant que cette région puisse être inscrite sur la Liste du patrimoine mondial. En conséquence, le Bureau devrait recommander **l'inscription** de la Réserve naturelle Sikhote-Alin et de la Réserve zoologique Goralij mais **différer** l'inscription des aires protégées du Bikin et demander à l'État partie:

- d'élaborer un régime de cogestion efficace et intégré pour tout le bassin versant du Bikin avec la participation pleine et entière des populations autochtones au processus;
- de réglementer les activités dans les zones adjacentes au bassin versant du Bikin dans les Primorskii Kraï et Khabarovskii Kraï; et
- d'améliorer les liens physiques entre le Bikin et la Réserve naturelle Sikhote-Alin en créant de toute urgence un réseau complet d'aires protégées qui puisse à la fois relier le Bikin à la zapovednik Sikhote-Alin et servir de corridor naturel vers les régions côtières autour de Svetlaya. Cela devrait être fait dans le cadre du réseau d'aires protégées reliées proposé par la «*Stratégie de conservation de la diversité biologique pour Sikhote-Alin*» et avec la participation pleine et entière de la population autochtone au processus.

Lorsque ces activités seront terminées, l'État partie pourrait envisager de soumettre à nouveau les aires protégées du Bikin comme deuxième étape de la proposition.

Le Bureau pourrait féliciter l'État partie qui a répondu à la demande formulée en 1987 par le Bureau et encourager l'État partie à demander l'aide internationale du Comité pour financer le travail technique nécessaire afin de remplir la demande énoncée ci-dessus.

## Sikhote-Alin (Russian Federation)

No 766rev

### Identification

<i>Nomination</i>	Natural complex «Central Sikhote-Alin»
<i>Location</i>	Ternejski, Krasnoarmejski, Dalnegorski, and Pozharski Districts, Primorski Region
<i>State Party</i>	Russian Federation
<i>Date</i>	27 June 2000

### Justification by State Party

Archaeological monuments include late Palaeolithic sites with material analogues on Hokkaido Island (Japan), a reminder that, as with the natural history, the property occupies a key location in the study of the interface between Eurasia and further east including, ultimately, North America. Bronze Age and medieval sites also exist on the property.

The traditions, language, and material culture of the present-day Udege and their ancestors have been preserved and are respected. Special words are in use for various types of building: for example, *kumirmi* used as both birthing huts and mortuaries. Traditional clothes are retained for ceremonies, festivals, and ritual occasions.

### Notes

i The dossier specifies no criteria under which this nomination is proposed: the most appropriate cultural criteria, should the nomination be approved, would appear to be iii and v (and only those two on present evidence).

ii This property is nominated as a *mixed site* under both natural and cultural criteria. IUCN will provide a complementary evaluation of the natural qualities.

iii In 1996 a nomination of this property for World Heritage status was deferred by the Bureau on the grounds that the boundary of the nomination was not justified, that a legal basis was provided for only 14% of the nominated area, and that the Regional Government wished to be involved in a revised nomination. The last of those conditions has been met and the second one may have been, but the nomination contains no statement specifically on this matter.

### Category of property

In terms of the categories of cultural property set out in Article 1 of the 1972 World Heritage Convention, this

is a *site*. It should also be considered a *cultural landscape*, as defined in paragraph 39 of the *Operational Guidelines for the Implementation of the World Heritage Convention*.

### History and Description

#### History

People were active in the area in prehistoric times. In the 7th century AD arrivals from Zabaikalie created a new Tungus-language society, the Mukri, who developed under Mongol and Turkish influence. In the mid-19th century, the Ussuri region became part of Russia, and thereafter various "Western" influences affected local culture to some degree. Despite the remoteness, traditional clothing materials, for example, were replaced by woven cloths in the 19th century for everyday use. About 1900 Chinese migrants brought with them naive Taoism to mix with Udege paganism. A further addition was given to local culture by the arrival of Russian Old Believers, devout ultra-orthodox Christians fleeing persecution and seeking refuge in the remote valleys and mountains that were the hunting and collecting territories of the indigenous peoples.

The process of collectivization reached even as far east as Central Sikhote-Alin. In the later 1930s the population in the nominated area was brought together in just two settlements, one of which, Krasny Yar, continues as the main settlement today. In 1993, the Sikhote-Alin Ethnic territory was formalized around the concept of man in relation to the taiga (pine forest) environment, itself representative of the principle, admirably expressed by the nomination, of "the reasonable and sparing use of the nature resources," so characteristic of the indigenous peoples of this area in former times as well as the present. The continuance of the indigenous way of life is now, however, under severe threat, both because of the small size of the population (c 2000) and from external influence.

#### Description

The nominated property lies on the eastern coast of Asia between extreme north-eastern China and the Sea of Japan. The total area of the nomination is 1,549,179ha, made up of five blocks of land. Only 2000 people live within it, a low number even by Siberian standards of population density. It is a unique region with locally dominant woodland such as virgin, broad-leaved Korean pine forests on either side of the Bikim valley to the north-west and, to the south in the Sikhote-Alin Nature Reserve and along the coast, discrete areas of larch and Japanese oak. Overall, the environment is remarkably stable and unpolluted.

Reference is made in the nomination dossier to the existence of Bronze Age and medieval sites on the property, but it does not enlarge on their number or significance.

The territory is home to the remaining indigenous Udege people, 700 of whom live in one village, Krasny Yar, in the Bikin valley immediately west of one of the nominated areas. Hunting and fishing are their traditional and basic activities, combined with collecting fern, berries, mushrooms, and seeds. Their ability to manage the game animals and the habitat by the effective use of non-wood resources is critical to the survival of the Udege. A particular habitat of

outstanding importance and fragility is in the middle and upper reaches of the Iman River, where the species range from ginseng to the Amur tiger in association with 122 people of the Iman group of the Udege.

## **Management and Protection**

### *Legal status*

The whole of the nominated area is the property of the Russian Federation.

The nominated property area consists of four discrete statutorily designated areas (here numbered to accord with the map, Figure 2, not as in the text of the nomination):

1. Sikhote-Alin State Biosphere Nature Reserve;
2. Goralij Zoological Reserve;
3. Verkhnebikinski Landscape Reserve;
4. The territory of traditional land-use by the indigenous peoples of the Pozharski District on both sides of (but divided by) the Bikin River.

### *Management*

Management is delegated from the Federation to various agencies, notably the Nature Reserve. Funding of the Nature Reserve is currently self-generated, Federal, and international, with nothing from the Region. In 1999, international sources provided more than twice the Federal budget and 65% of the total (\$72,237). Of the 154 employees, six work for the Department of Ecological Enlightenment. Eleven field research stations inside the Reserve carry out monitoring. Economic activity in the Nature Reserve is nil, and its scale on adjoining territories extremely limited. Only poaching causes some anxiety. Fire is the main threat.

Figure 1 in the nomination dossier purports to show a buffer zone around Sikhote-Alin State Biosphere Nature Reserve (1. above) but it seems, at least at the scale of the map (not stated), to be coterminous with the boundary of the Nature Reserve. None of the other territories in the nomination claims a buffer zone.

Essentially, though supported by different regulations, all four territories are collectively seeking to protect the environment, conserve habitat, and maintain the indigenous human population as a viable society. Only No 4 is of direct concern to ICOMOS, and its detail in the nomination shows a growing concern throughout the 1990s, as expressed in statutory documents, for the well-being of the small Udege community.

In response to a request from the World Heritage Centre, a management plan was added to the nomination dossier (4 September 2000). The document concerned is entitled *A Biodiversity Conservation Strategy for the Sikhote-Alin (2000)*, its primary purpose being "as a pre-planning document that limits the kinds and conditions of land-use, determines a system of ecological, economic and social goals and potential ways of achieving them." It is not a management plan in a form familiar to ICOMOS and so judgement must await the joint mission report;

moreover, its main thrust is concerned with the natural aspects of the nomination.

The Strategy nevertheless contains in its Chapter 7 discussion of a system of protected territories and territories having special resource-use restrictions, with various proposals for extending the protected areas and reducing modern-style activities such as logging. Part of the purpose of these proposals is to provide for indigenous peoples. A major proposal concerning the headwaters of the Bikin, for example, is to exclude commercial timber harvesting altogether, a proposal which, if implemented, would have implications for the inhabitants. The Strategy specifically acknowledges that this is so, seeking a merging of the boundaries of areas identified as important for nature conservation with those of "Ethnic Territories."

The traditional way of life in the area is now under considerable threat of collapse. Its reinforcement presents a task probably more important than simply ensuring the physical protection of the nominated territory. Faced by all the negative influences from man and nature, the existence, even rebirth, of a strong ethnic-cultural complex is a more reliable mechanism for integrated management of people and nature than all the laws that government can provide.

## **Conservation and Authenticity**

### *Conservation history*

No direct information is provided on this score (eg early efforts at protection, dates of founding National Parks, etc).

Fire, natural and man-made, is the principal agent of change and is a regular feature of the nominated area. Its effects are not necessarily either disastrous or long-term.

Currently a considerable effort, backed by international funds, is being made to promote nature conservation and tourism, especially in the upper and middle Bikin River area, with an emphasis on aspects of the traditional culture of the indigenous people. Programmes of reviving traditional crafts and ecological tourism are in hand. During 1999, the Nature Reserve was visited by 85 people on the one-day excursion, while 10–200 visitors per day bathed from the tourist base on the coast. Tourism is more developed, though numbers are still low, in the Bikin region. Currently ten to twelve groups of foreign tourists visit the whole territory per year.

### *Authenticity*

The remoteness of and difficulty of access to the area mean that cultural contact is difficult and of limited influence. Despite superficial changes, for example in clothing, culturally the most significant point is that the small indigenous population continues to live within a sustainable hunter-gatherer economy which, as well as keeping people alive, maintains the natural diversity of flora and fauna. Authenticity and integrity are, in cultural terms, respectively relatively undiminished and reasonably intact, but both could well succumb to the early 21st century.

## **Evaluation**

### *Action by ICOMOS*

For climatic and logistic reasons the joint ICOMOS-IUCN mission will not be able to visit the property until July 2001.

### *Qualities*

The heritage qualities of this property derive from its remoteness, unpolluted environment, nature/people sustainability, and small remnant population in danger of disappearing.

### *Comparative analysis*

No comparative cultural data are supplied in the nomination dossier. The earliest archaeology on the property finds its material analogues in Japan rather than mainland Asia.

### *ICOMOS comments*

This property is nominated as a mixed site, under both natural and cultural criteria. However, there is a very close relationship between the natural environment and the cultural element. This is in fact a cultural landscape, in which part of the natural environment has been, and continues to be, subtly modified by the small Udege hunter-gatherer society.

This raises an important issue: that of the need for consideration in a global perspective of "preserving" small, essentially non-Westernized indigenous populations in their "natural" habitats, as exemplified by peoples like the Udege characteristically living in a non-agricultural, or non-mechanized agricultural, economy within a significantly non-monumental lifestyle with minimal material culture. ICOMOS therefore recommends that such a study be initiated.

## **Brief description**

The Natural complex "Central Sikhote-Alin" nomination is of a huge and very important area in terms of natural history, consisting of several separate blocks of largely forested landscape. It contains a small population of hunter-gatherer people whose activities exploit the natural environment in a sustainable way and simultaneously have a significant effect upon flora and fauna.

## **ICOMOS Comments**

ICOMOS was informed unofficially after the joint mission had taken place that the State Party was withdrawing its nomination of this property under the cultural criteria. Official confirmation had not been received when this evaluation was sent for printing.

ICOMOS, August 2001



## Sikhote-Aline (Fédération de Russie)

No 766rev

### Identification

<i>Bien proposé</i>	Ensemble naturel du Sikhote-Aline central
<i>Lieu</i>	Districts de Ternejski, Krasnoarmejski, Dalnegorski et Pozharski, Région de Primorski
<i>État partie</i>	Fédération de Russie
<i>Date</i>	27 juin 2000

### Justification émanant de l'État partie

Parmi les monuments archéologiques, il y a des sites datant de la fin du paléolithique qui recèlent des matériaux analogues à ceux trouvés sur l'île de Hokkaido (Japon), rappelant ainsi que le bien occupe une situation géographique clef dans l'étude des relations entre l'Eurasie et les régions plus à l'est, y compris l'Amérique du Nord. Le bien comporte également des sites datant de l'âge du bronze et du Moyen Âge.

Les traditions, la langue et la culture matérielle du peuple udege d'hier et d'aujourd'hui sont préservées et respectées. Un vocabulaire particulier désigne les différents types de constructions : *kumirni* par exemple désigne à la fois les cabanes mortuaires et les maisons où les femmes donnent naissance. Les vêtements traditionnels sont réservés aux cérémonies, festivals et événements rituels.

### Remarques

i Le dossier de proposition d'inscription ne précise pas les critères selon lesquels le bien est proposé pour inscription : les critères culturels les plus appropriés, si la proposition d'inscription était approuvée, seraient iii et v (et ces deux critères seulement selon le matériel actuel).

ii Ce bien est proposé pour inscription en tant que *site mixte* au titre des critères naturels et culturels. L'UICN fournira une évaluation complémentaire des caractéristiques naturelles.

iii En 1996, une proposition d'inscription de ce bien sur la Liste du patrimoine mondial a été différée par le Bureau aux motifs que les limites du bien n'étaient pas justifiées, qu'une base juridique ne concernait que 14 % de la zone du bien et que le gouvernement régional souhaitait participer à une révision de la proposition d'inscription. La dernière de ces conditions a été remplie et la seconde l'a peut-être été, mais la proposition ne contient pas de déclaration spécifique à cet égard.

### Catégorie de bien

En termes de catégories de biens culturels telles qu'elles sont définies à l'article premier de la Convention du patrimoine mondial de 1972, le bien proposé est un *site*. Selon le paragraphe 39 des *Orientations devant guider la mise en oeuvre de la Convention du patrimoine mondial*, c'est aussi un *paysage culturel*.

### Histoire et description

#### Histoire

Le peuplement de la zone remonte à la préhistoire. Au VIIe siècle de notre ère, l'arrivée de populations de Zabaikalie créa une nouvelle société parlant une langue Tungus, les Mukri, qui se développa sous la double influence turque et mongole. Au milieu du XIXe siècle, la région d'Ussuri fut intégrée à la Russie. A partir de ce moment-là, des influences « occidentales » atteignirent la culture locale dans une certaine mesure. Ainsi, malgré l'isolement, les matières des vêtements traditionnels furent remplacées par des tissus dès le XIXe siècle pour l'usage quotidien. Une population d'environ 1900 chinois s'installa, apportant avec elle la pratique d'un taïisme naïf qui se mêla au paganisme des Udeges. Il faut aussi rappeler l'arrivée de croyants russes, chrétiens ultra-orthodoxes fuyant les persécutions, qui trouvèrent refuge dans les montagnes et les vallées reculées qui constituaient les territoires de chasse et de cueillette de la population indigène.

La collectivisation n'épargna pas la région de Sikhote-Aline centrale. À la fin des années 1930, la population vivant dans la zone proposée pour inscription fut regroupée en deux établissements seulement, dont l'un d'eux, Krasny Yar, est toujours l'établissement principal. En 1993, le territoire ethnique de Sikhote-Aline a été formé autour du concept de l'homme dans sa relation avec la taïga (forêt de conifères), qui relève du principe, admirablement exprimé dans le dossier de proposition, « de l'utilisation raisonnable et économe des ressources naturelles » si caractéristique des peuples indigènes de cette région dans les temps anciens comme aujourd'hui. La poursuite du mode de vie indigène est cependant en grand péril actuellement, à la fois à cause de la taille réduite de la population (environ 2000 personnes) et de l'influence extérieure.

#### Description

Le bien proposé pour inscription est situé sur la côte est de l'Asie, entre l'extrême nord-est de la Chine et la mer du Japon. Sa superficie totale est de 1 549 179 ha, répartie en cinq zones. Il est peuplé de 2000 habitants seulement, soit une densité faible, même par rapport à la densité moyenne de la population de la Sibérie. Il s'agit d'une région exceptionnelle, avec localement des régions essentiellement boisées, des forêts de pins coréens à feuille large des deux côtés de la vallée du Bikim au nord-ouest et, au sud dans la réserve naturelle de Sikhote-Aline et le long de la côte, des forêts de mélèzes et de chêne japonais. Globalement, l'environnement est remarquablement stable et non pollué.

Dans le dossier de proposition d'inscription il est fait référence à l'existence de sites datant de l'âge du bronze et du Moyen Âge, mais aucun renseignement n'est fourni sur leur nombre et leur importance.

Le territoire abrite les derniers représentants du peuple udege, 700 d'entre eux vivant dans un seul village, Krasny Yar, dans la vallée du Bikin, immédiatement à l'ouest d'une des zones proposées pour inscription. La chasse et la pêche sont la base de leur activité, de même que le ramassage des fougères et la cueillette des baies, des champignons et des graines. La survie des Udeges dépend de leur capacité à gérer les ressources en gibier et à préserver leur habitat en évitant d'entamer les forêts. Le cours moyen et supérieur du fleuve Iman est le territoire de 122 habitants appartenant au groupe Iman des Udeges. Il recèle un habitat particulier, d'une importance considérable et d'une très grande fragilité. Il abrite une grande variété d'espèces, du ginseng au tigre de l'Amour.

## **Gestion et protection**

### *Statut juridique*

La totalité de la zone proposée pour inscription est la propriété de la Fédération de Russie.

La zone proposée pour inscription consiste en quatre zones définies statutairement (numérotée ici comme sur la carte n°2, mais pas comme dans le dossier de proposition d'inscription) :

- 1 Réserve naturelle de la biosphère de l'État de Sikhote-Aline ;
- 2 Réserve zoologique de Goralij ;
- 3 Réserve du paysage de Verkhnebikinski ;
- 4 Territoire voué à l'utilisation traditionnelle par les peuples indigènes du district de Pozharski sur les deux rives du fleuve Bikin.

### *Gestion*

La gestion est déléguée par la Fédération à plusieurs agences, notamment celle de la Réserve naturelle. Cette agence est financée actuellement par des fonds fédéraux et internationaux, aucun financement ne provient de la région. En 1999, les ressources internationales fournissaient plus du double du budget fédéral et 65% du total (72 237 USD). Sur les 154 employés, six d'entre eux travaillent pour le département de l'Écologie. Onze stations de recherche sur le terrain, implantées dans la réserve, effectuent le suivi. L'activité économique dans la réserve naturelle est nulle, et très limitée dans les zones voisines. Seul le braconnage cause quelques inquiétudes. L'incendie est la menace principale.

La figure n°1 du dossier de proposition d'inscription prétend montrer une zone tampon autour de la réserve naturelle de la biosphère de l'État de Sikhote-Aline, mais il semble, au moins à l'échelle de la carte, (non mentionnée), qu'elle correspond à la limite de la réserve naturelle. Aucune zone composant le bien proposé ne présente de zone tampon.

Malgré les différentes réglementations, les quatre zones cherchent globalement à protéger l'environnement, préserver l'habitat et maintenir la population indigène en place comme une société viable. Seule la zone 4 intéresse directement l'ICOMOS, et les renseignements donnés dans le dossier la concernant font état d'une inquiétude croissante au cours des années 1990, comme exprimée dans les documents statutaires, pour l'avenir de la petite communauté Udege.

En réponse aux demandes du Centre du Patrimoine mondial, un plan de gestion a été ajouté au dossier de proposition d'inscription (4 septembre 2000). Le document en question est intitulé *A Biodiversity Conservation Strategy for the Sikhote-Alin (2000)* ; son premier objectif « en tant que document préparatoire à la gestion est de définir les conditions d'utilisation des terres, déterminer un ensemble d'objectifs sociaux, économiques et écologiques et les moyens potentiels d'y parvenir ». Ce n'est pas un plan de gestion comme on l'entend habituellement à l'ICOMOS. Il faudra donc attendre le rapport de la mission conjointe pour l'évaluer. Par ailleurs, ce document traite surtout les aspects naturels du bien proposé pour inscription.

La stratégie comporte néanmoins dans son chapitre 7 la présentation d'un système de territoires protégés et de territoires soumis à des restrictions spéciales pour l'utilisation des ressources, assortie de diverses propositions d'extension des zones protégées, de réduction des activités modernes telles que l'exploitation forestière. L'objectif de ces propositions est en partie d'assurer un cadre de vie approprié au mode de vie des indigènes. Une des principales propositions concernant les sources du Bikin, par exemple, est de supprimer l'exploitation commerciale des bois, proposition qui, si elle est appliquée, aurait des répercussions sur les habitants. La stratégie reconnaît officiellement la volonté de fusionner les limites des « Territoires ethniques » et ceux de la zone reconnue comme importante pour la préservation de la nature.

Le mode de vie traditionnel des habitants de cette région est actuellement en grand danger de disparaître. Son sauvetage est probablement une tâche plus importante que la simple protection physique du territoire proposé pour inscription. Face à tous les dégâts causés par l'homme sur la nature, l'existence d'un ensemble culturel et ethnique fort et d'un mécanisme de gestion intégré est plus fiable que toutes les lois que le gouvernement pourrait voter.

## **Conservation et authenticité**

### *Historique de la conservation*

Aucune information n'est fournie à cet égard (par exemple les premiers efforts de protection, les dates de fondation des parcs nationaux, etc.).

L'incendie, accidentel et criminel, est la principale cause de changement pour la zone proposée pour inscription. Ses effets ne sont pas nécessairement désastreux ou de longue durée.

Actuellement, un effort important, soutenu par des fonds internationaux, est fourni pour promouvoir la préservation de la nature et le tourisme, en particulier sur le cours moyen et supérieur du fleuve Bikim, l'accent étant mis sur la culture traditionnelle indigène. Il existe des programmes pour faire revivre les artisanats traditionnels et encourager le tourisme écologique. En 1999, 85 personnes ont fait une excursion dans la réserve tandis que 10 à 200 visiteurs par jour se baignaient à la station touristique de la côte. Le tourisme se développe, bien que les chiffres restent très faibles dans la région de Bikin. Actuellement, dix à douze groupes de touristes étrangers visitent la région chaque année.

#### *Authenticité*

L'éloignement et les difficultés d'accès à la zone signifient que les contacts culturels avec l'étranger sont difficiles et leur influence, limitée. Malgré des changements superficiels, par exemple dans l'habillement, la petite population indigène vit toujours culturellement dans une économie durable de chasseur-cueilleur qui préserve la diversité naturelle de la flore et de la faune. L'authenticité et l'intégrité sont, d'un point de vue culturel, relativement inchangés et raisonnablement intacts, mais risquent de succomber au début du XXI<sup>e</sup> siècle.

#### **Évaluation**

##### *Action de l'ICOMOS*

Pour des raisons climatiques et logistiques, la mission conjointe ICOMOS-UICN ne pourra pas visiter le bien avant juillet 2001.

##### *Caractéristiques*

Les caractéristiques de ce bien principal sont l'éloignement, l'environnement non pollué, la relation durable homme/nature et un petit reste de population en danger de disparition.

##### *Analyse comparative*

Aucune information culturelle comparative n'est fournie dans le dossier de proposition d'inscription. Les fouilles archéologiques des plus anciens vestiges du bien mettent à jour des matériaux analogue à ceux du Japon plutôt qu'à ceux du continent asiatique.

##### *Commentaires de l'ICOMOS*

Ce bien est proposé en tant que site mixte, à la fois sur la base des critères naturels et culturels. Toutefois, il existe une relation très étroite entre l'environnement naturel et l'élément culturel. Il s'agit en fait d'un paysage culturel, dans lequel une partie de l'environnement naturel a été et continue d'être subtilement modifié par la société des chasseurs-cueilleurs Udege.

Cela pose une question importante : doit-on envisager, dans une perspective globale, la nécessité de « préserver » les petites populations indigènes, essentiellement non occidentales, dans leur environnement « naturel », comme c'est le cas des Udeges qui vivent dans une économie non agricole, non mécanisée, selon un mode de vie non monumental et une culture matérielle minimale. L'ICOMOS recommande donc que l'on commence cette étude.

#### **Brève description**

L'ensemble naturel du Sikhote-Aline central proposé pour inscription est une immense zone très importante du point de vue de l'histoire naturelle, composée de plusieurs zones distinctes en grande partie boisées. Il abrite une population restreinte de chasseurs-cueilleurs dont les activités consistent à exploiter l'environnement naturel d'une manière durable et ont en même temps un impact non négligeable sur la flore et la faune.

#### **Observations de l'ICOMOS**

L'ICOMOS a été officieusement informé, après la mission conjointe, que l'État partie retirait la proposition d'inscription de ce bien sur la base des critères culturels. La confirmation officielle n'avait pas encore été reçue à la date d'envoi de cette évaluation pour impression.

ICOMOS, août 2001