

Mt. Kuwol Biosphere Reserve, DPR Korea-Development of Public Awareness Materials for Conservation and Management

Mt. Kuwol is one of the five most celebrated mountains in Korea. It is located in north-west of South Hwanghae Province, not far from the country's western sea coast. In October 2004, Mt. Kuwol Natural Park was nominated as an International Biosphere Reserve as part of the World Network of Biosphere Reserve (WNBR) and the East Asia Biosphere Reserve Network (EABRN).

Mt. Kuwol Biosphere Reserve is a site of significant value for vegetation research. Moreover, dozens of rare and endangered, as well as endemic, species have been identified: 32 species of animals, 158 species of birds, 9 species of reptiles, 10 species of amphibians and 14 species of fresh water fishes. Western Mt. Kuwol Biosphere Reserve is the main transit area for the endangered Black faced spoonbill (*Plata minor*), the Chinese Egrets (*Egrete eulophotes*). In addition, the area is also important for agriculture. Mt. Kuwol Biosphere Reserve is one of the major grain producing areas of DPR Korea, other important cultivated crops include rice and maize. Finally Mt. Kuwol Natural Park is also a popular tourist site connected to nearby towns and cities by road and is equipped with nice amenities. Mt. Kuwol BR has such historical relics as temples, temple sites, grave stones, stupa and a fort which demonstrate the national wisdom and talents.

The Korean National Commission for UNESCO agreed on its significance of taking this biosphere reserve as a learning site to raise public awareness. They have developed public awareness materials about Mt. Kuwol including publication of brochure on the landscape, ecosystem, species of animal and plant and cultural heritage, production of multi-media (DVD) on the Mt. Kuwol Biosphere Reserve and its dissemination. These materials have help to raise both local and foreign public awareness about the sustainable management and conservation of the biosphere reserve and also to encourage eco-tourism sustainable with the reserve under the WBRN and EABRN.

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Mt. Kuwol Biosphere Reserve



PYONGYANG DPR KOREA
JUCHE97(2008)



Core area of Mt. Kuwol BR

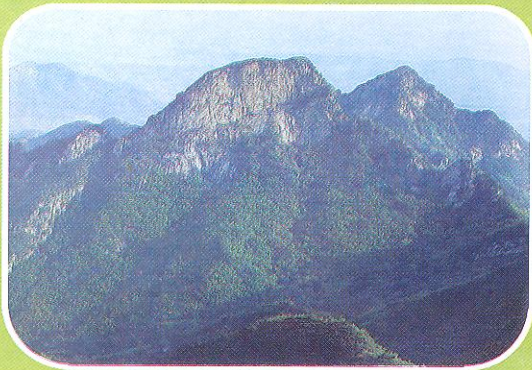
SIZE:
1 245 ha

The core area is the area which needs strict protection of the native natural ecosystem of the reserve.

The core area of the Mt. Kuwol Biosphere Reserve is established in the forest area which is preserved without human impact for a long time. It covers the areas of Asa Peak, Tak Peak and Samhyongje Peak, and belongs administratively to the Woljong-ri of Anak County and Talchon-ri of Samchon County.

The core area which includes Sahwang Peak, Juga Peak and Asa Peak, the main peaks of the reserve, is topographically formed in pyramid and cone shapes.

The forest ecosystem, representative in the core area, is composed of mixed forests of *Pinus densiflora*, *Quercus mongolica*, *Quercus acutissima*, *Acer mono* and *Acer pseudo-sieboldianum*.



Biodiversity and the Day of Biodiversity

Biological diversity is the variety of all living organisms on the earth. It includes ecosystem diversity, species diversity and genetic diversity.

Every 22nd of May is the Day of Biodiversity. "Convention on Biological Diversity" was adopted of UNCED in 1992 after hot discussing the global environment and highlighting the climate change and biodiversity as the main challenges for the 21st century.

The 55th (2001) UN General Assembly designated 22nd of May as the Day of Biodiversity, the day when the convention was adopted.



Buffer zone of Mt. Kuwol BR

SIZE:
2 940 ha

The buffer zone surrounds the core area and plays the function of mitigating the negative impacts on the core area from the outside.

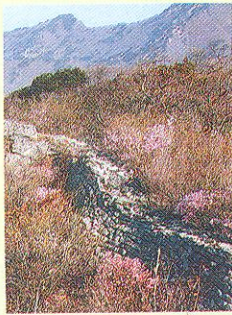
Mt. Kuwol Biosphere Reserve has such historical relics as temples, temple sites, grave stones, stupa and a fort which demonstrate the national wisdom and talents. The representative temples are Woljong, Samsong and Phaeoyob Temples.



Woljong Temple

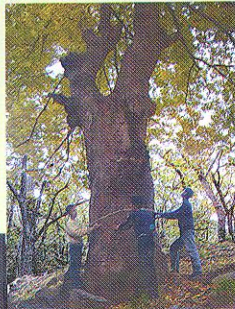
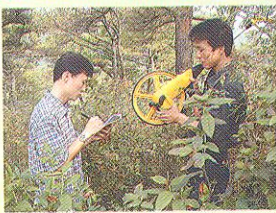


Grave stones and stupa group



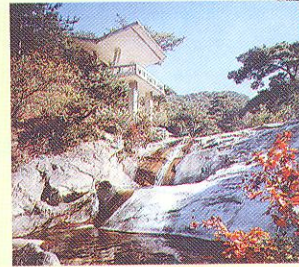
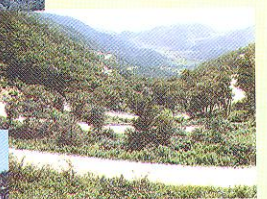
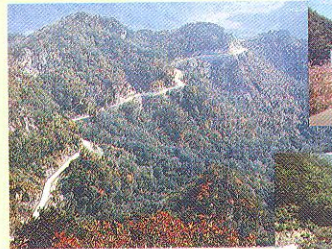
Mt. Kuwol castle

Regular investigation and monitoring with regard to the ecosystem and research on the protection of endangered species have been promoted in the buffer zone.



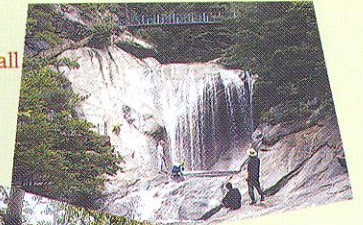
The main shrub, Royal azalea (*Rhododendron Schlippenbachii*) of the reserve

A ring road, a rest center and other facilities are available for tourism at the scenic spots of Sansong, Jonggok and Tanphung inside the buffer zone.

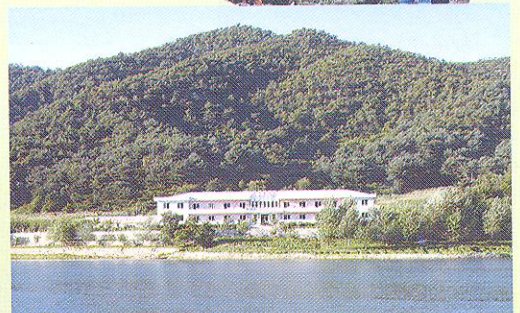


The crystal-clear streams and waterfalls in the valleys add beauty to the forest scenery, and tourists enjoy themselves at the recreation grounds.

Ryongyon Water Fall



Idan Water Fall



Resting Center on the Ayon Reservoir inside the reserve



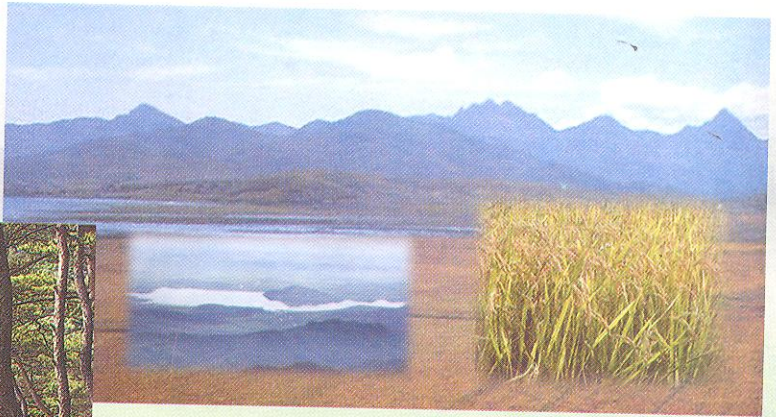
Transition area of Mt. Kuwol BR

SIZE:
48 530 ha

The transition area is the outer district of the reserve, in which biodiversity conservation and sustainable development including the reasonable natural resource development are promoted.

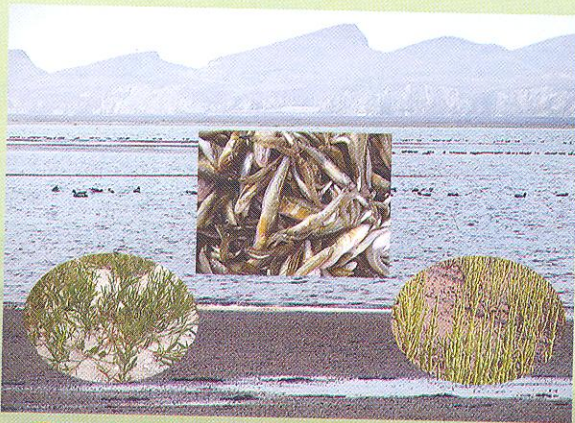
The main ecosystems in the transition area are the agricultural ecosystem and wetland ecosystem.

As it is the main economic area for the local people, interaction between man and nature are undertaken in conformity with the objectives of the reserve.

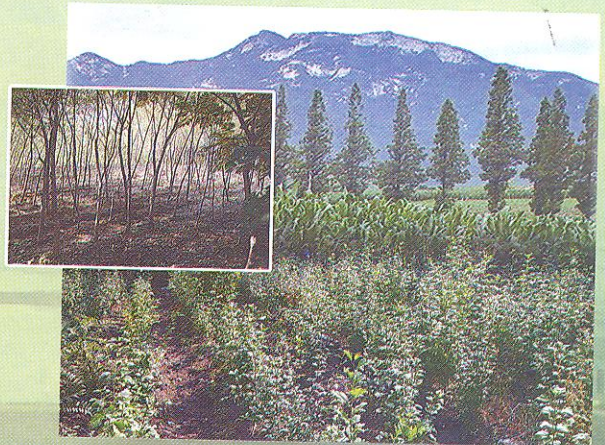


Many chestnut trees can be found on the hills of Ryul-ri, Unryul County, hence its name.

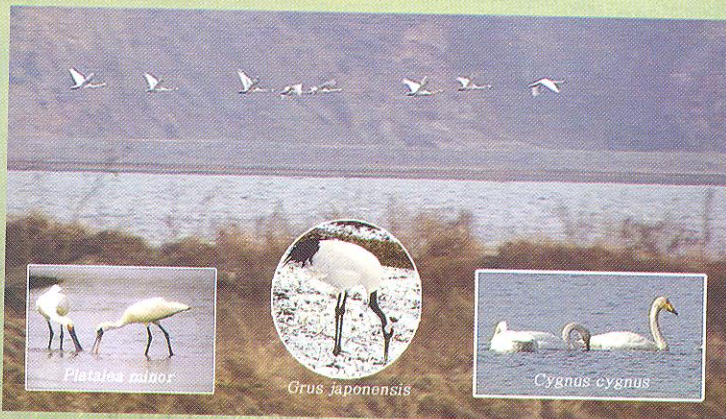
Socio-economic activities for sustainable development, which encourage the participation of scientists and officials from the relevant agencies as well as the managing staff and local people, are undertaken in this transition area.



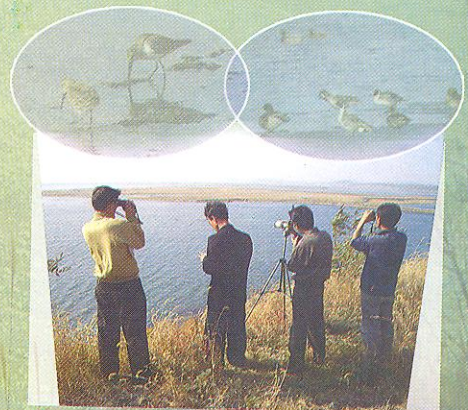
The main halophyte and fishes in the tideland of the coastal area of the reserve.



The tree nurseries inside the reserve.



The wetland of Kumsanpo, Unryul County, is an important transit area of the world protected species of migratory birds.



Researchers investigating the migratory birds at Kumsanpo, Unryul County.

Biosphere Reserve

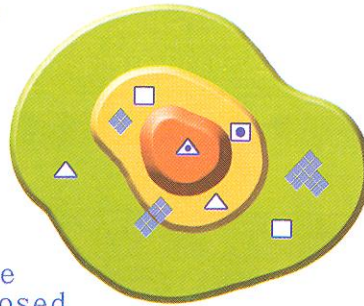
Biosphere reserves are the terrestrial and coastal ecosystems promoting solutions to reconcile the conservation of biodiversity with its sustainable use.

Biosphere reserves promote biodiversity conservation, scientific research, sustained development of natural resources based on scientific methods, education, training, information and tourism.

Biosphere reserves are organized into three interrelated zones, known as the core area, the buffer zone and the transition area, and it is called zonation of biosphere reserve.

Biosphere reserves have the both functions of closed reserve which is strictly protected, and of open reserve, where conservation is combined with its sustainable use, and this is the difference between biosphere reserve and nature reserve.

Biosphere reserves form a World Network and include 507 sites in 102 countries.



- Core area
- Buffer zone
- Transition area
- ▲ Monitoring
- △ Research station or experimental research site
- Education and training
- Tourism and recreation
- ◆ Human settlements

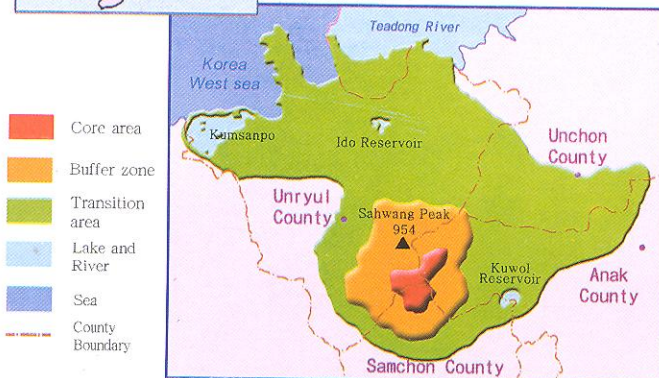
Mt. Kuwol, one of the six famous mountains in the DPR Korea, is located in the central part of the coastal area on the West Sea of Korea.



Mt. Kuwol was established as a nature reserve in October 1976 by Decision No.55 of the Administrative Council, and Mt. Kuwol Biosphere Reserve was designated as an international biosphere reserve to UNESCO MAB Program in 2004.

The Mt. Kuwol Biosphere Reserve has rich biodiversity with various ecosystems such as forest ecosystem, agricultural ecosystem and wetland ecosystem.

Found in the reserve are 184 species, 126 genera, 67 families of vertebrates and 5 metamorphosis, 39 varieties, 742 species, 430 genera, 129 families of vascular plants.



It includes the forests, agricultural lands of 4 Counties; Unryul, Anak, Samchon and Unchon and the coastal area of Unryul County.

The total area of the Mt. Kuwol Biosphere Reserve is 52 715 ha.

Figure Zonation of Mt. Kuwol Biosphere Reserve



Main animal and plant in the Mt. Kuwol



Cygnus cygnus



Rana temporaria ornativentris



Hydropotes inermis



Tetrastes bonasia



Ancistrodon halys



Sus scrofa



Parus major



Takydromus amurensis



Garrulus glandarius



Asarum heterotropoides



Clerodendron trichotomum



Philadelphus Schrenckii



Euphorbia sieboldiana



Corydalis turtschaninowii
var. *linenans*



Acer mono



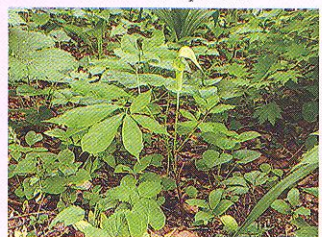
Sedum telephium



Viburnum sargentii



Weigela subsessilis



Arisaema japonicum



Sambucus coreana