

Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

1. Name and address of the compiler of this form:

Zamir Dedej
Director of Nature Protection Directorate
Ministry of Environment
Rr. Durrresi, Nr. 27
Tirana – ALBANIA
Tel: + 355 4 270624
Fax: + 355 4 270 627
E-mail: zamir@cep.tirana.al

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Designation date

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Site Reference Number

Taulant Bino
Museum of Natural Sciences, Rr. e Kavajes 132,
Tirana, Albania
Tel/Fax : 00 355 42 29028
E-mail : tao@albmail.com

2. Date this sheet was completed/updated:

20th of March 2003

3. Country:

Albania

4. Name of the Ramsar site:

Butrint

5. Map of site included:

Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps.

a) hard copy (required for inclusion of site in the Ramsar List): *yes* -or- *no*

b) digital (electronic) format (optional): *yes* -or- *no*

6. Geographical coordinates (latitude/longitude):

39°50'N/20°00'E

7. General location:

Butrint is located in the south west corner of Albania, some 8 km to the south of the town of Saranda (pop. est. 20,000). The area is part of Vlora district. The site borders with Greece in the south and the Ionian Sea in the west. Seven small villages occur within the area of the proposed RAMSAR site: Blerimasi (pop. est. 400), Pllaka (pop. est. 600) and Dritasi (pop. est. 300) situated in the northern part. Shen Delli (pop. est. 300), Vrina (pop. est. 500), Xarra (pop. est. 800) and Mursia (pop. est. 800) in the southern part. In addition the larger village of Ksamili (pop. est. 4,000) is located on the coast in the west of the area.

8. Elevation: (average and/or max. & min.)

Min: 0 m Max: 845 m (Mile Mountain)

9. Area: (in hectares)

13500 ha (*see map attached*)

10. Overview:

Butrint is a wetland complex in the southern part of Albania, famous for its archaeological monuments, historical significance and natural richness. The core area is composed by a tectonic lagoon of 1600 ha,

known as Lake Butrint, that is surrounded by forested hills and mountains and complimented by saltwater and freshwater marshlands. The main activities are fishing, mussel farming, stock raising, vineyards and cultural tourism, focused on the southern part of Lake Butrint (Greek, Roman, Byzantine, Venetian and Ottoman sites associated with *Buthrotum*), designated also as an UNESCO World Heritage Site in December 1999.

11. Ramsar Criteria:

Circle or underline each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11).

1 • 2 • 3 • 4 • 5 • 6 • 7 • 8

12. Justification for the application of each Criterion listed in 11. above:

Criterion 1

Butrint represents a unique blend of cultural and historic landscapes, which house a wide variety of habitats and species and offer an outstanding landscape value. The area is covered by a high diversity of natural, semi-natural and artificial habitats such as oak forests, typical Mediterranean maquis, the brackish lake of Bufi (Rreza), the saltwater lagoon of Lake Butrint, saltmarshes of Alinura, rocky coast, outlets of Bistrice and Pavlo, open halophytic lands, arable lands etc. The lake itself divides in two distinct layers and has a very particular hydrology (*see* Physical features). All these habitats shelter a high diversity of flora and fauna and make Butrint the most diverse site in Albania.

Within this environmentally important area there are 10 major archaeological monuments/sites dating from the middle Paleolithic to the 19th century. The most important of which is that of the ancient port of *Buthrotum*, which has been an archaeological park and focus for school and college groups since the early 1970s. *Buthrotum* was first designated as a Cultural Monument in 1948. In 1992, it was also declared a UNESCO World Heritage Site. In recent years the cultural importance of the landscape setting of the archaeology was recognised by the enlargement of the UNESCO World Heritage Site designation to incorporate an area of 2900 ha. (Dec. 1999). This enlargement was complimented by the establishment of the Butrint National Park (April 2000), which covers a large section of the Vrina plain, Ksamili peninsula, Lake Bufi, Alinura lagoon, the saltwater and fresh water marshes and the southern part of Lake Butrint.

Criterion 2

Butrint supports 14 Globally Endangered Species - 2 Critically Endangered, 2 Endangered and 10 Vulnerable (*see* below point 18, Table 3).

Criterion 3

Butrint supports plants and/or animal species important for maintaining the biological diversity of a particular biogeographic region. The site shelters a high proportion of biodiversity in Albania. Its role is particularly important for certain group of species such as birds, reptiles, amphibians and mammals.

Table 1. Biological richness of Butrint

Biological groups	Nb. of species	National %
Plants	800-900	27%
Insects	1500-2000	12,5%
Fish	105	34%
Amphibians	10	67%
Reptiles	25	69%
Birds	246	75%
Mammals	39	55%
Total	2725-3325	17%

Butrint has the highest number of species of amphibians and reptiles ever recorded on an Albanian site. Besides the high number of species it is also the only site in Albania to support the Epirote Frog *Rana*

epeirotica, the Margined Tortoise *Testudo marginata*, the Sand Boa *Eryx jaculus* and the Balkan Wall Lizard *Podarcis taurica jonica*. Comparisons done with the other wetland areas in Albania have shown that Butrint also registers the highest number of bird species ever recorded on an Albanian site. The complex is also one of the most diverse sites for mammals in Albania.

Criterion 8

Butrint's habitats offer an important food source for fish, a spawning ground, nursery and migration path on which fish stocks, either within the wetland or elsewhere, depend. Butrint has a high diversity of fish species related with the diversity of its water resources (fresh water, brackish, saline and marine waters). 105 species of fish, representing 34% of all the ichthyofauna of Albania, occur in the area. For some species such as Flathead Grey Mullet *Mugil cephalus* and Sea Bream *Sparus aurata*, the area is an important spawning ground, the lagoon waters serving as a nursery for their young.

13. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:

Mediterranean region

b) biogeographic regionalisation scheme (include reference citation):

Eastern Mediterranean Region (according to *Waterbird Population Estimates 3rd Edition* (2002))

14. Physical features of the site:

The proposed Ramsar area has a surface of 13500 ha (*see* attached map). The territory comprises a wide variety of landscape features from mountain to plain and from freshwater marsh to saltwater lagoons and rocky coast.

The main wetland area comprises Lake Butrint, Lake Bufi and the areas of the Vurgu plain in the north (including reed beds) and Vrina-Mursia plain in the south (including a shingle bank and temporary freshwater marsh). This part represents a tectonic graben of the plioquaternary, with descending movements still in progress. Riverbeds are shallow and wide. The soil is mainly grey brown, with subtypes of pasture grey brown, alluvial and saline silts.

Lake Butrint makes up the core area. It has surface of 1600 ha (*see* Table 2 for other details). Its catchment area is defined by Bistrica River in the North, Mile Mountain in the west and the Pavlo River in the south.

Table 2. Physical parameters of Lake Butrint

Total water surface	1600 ha.
Total water volume	211 x 10 ⁶ m ³
Greatest depth	21.5 m
Mean depth	11 m
North-south dimension	7.1 km
East-west dimension	3.2 km

The lake has a tectonic origin while its water regime is typical of coastal lagoons. It joins the Ionian Sea through the natural channel of Vivari (3600 m long, 60-100 m wide and up to 5-6 m deep). During high tides (approx. 15-20 cm), the sea level rises and as a consequence the saline water penetrates into Lake Butrint. The opposite phenomenon happens during low tide. A small amount of continental water, deriving from Bistrica and Kalasa rivers, enters the lagoon in its northern side.

Lake Butrint has mesotrophic waters with eutrophic tendencies in certain risky areas. The limnology of the lake is divided into two distinct layers. The upper layer (approx. 8 m in depth) is rich in oxygen. Its concentration is about 8-9 mg/lit on the surface and reduces to zero by the depth of 7.5-8m. Salinity fluctuates with seasons: from 15.00 gr./l in winter till 33.00 gr./l in summer. The values of pH oscillate

between 6.5 and 9.5. The organic matter is about 2–10 mg/l. Water temperature fluctuates from 14°C in winter till 25°C in summer.

The lower layer is rich on sulfuric gas. Its concentration increases with depth and reaches the highest level at the bottom of the lake (>5.0 mg/lit). Salinity remains nearly the same throughout the year (35.00 gr./l). Temperature has a relative homothermy of 18°C throughout the whole year. No animals are found in the lower layer

Lake Butrint is surrounded by different ranges of mountains and hills: *Mile* mountain range to the east (845 m), Sotira to the west (240 m) and Stillo to the south (240 m). This higher terrain compliments the lower wetland areas by providing environmental corridors and areas where there is less human disturbance for wildlife.

The coastline is very refracted, with many peninsulas, islands and small deep bays. From a morphological point of view it is divided into two main types: (i) high abrasive coast and (ii) low accumulating coast.

Butrint is characterised by mild Mediterranean climate. The annual average temperature is 17.1°C. Temperatures fluctuate from 9.7°C in January to 25.1°C in August. Rain precipitation is relatively high, over 1,500 mm per year.

15. Physical features of the catchment area:

The catchment area of the proposed Ramsar Site is extremely large (information not available for the surface of the catchment area) compared to the surface of the proposed site itself. It is similar to the one of the rivers pouring in the area, i.e., Bistrice, Kalasa and Pavlo.

The upper part of the catchment area of Bistrice and Kalasa is characterized by mountainous terrain, continues further down with hills and ends in Vurgu Plain. Pavlo springs are located in the mountainous part of Greece (very near to the Albanian border). Its catchment area is again mountainous in its upper parts. It goes through a very narrow gorge and it ends in Murrusia plain. The upper part of the catchment area is covered by meadows and mixed forests (Beech, Pine, Oak etc..)

Soils are calcareous in the upper part of the catchment area and it changes in grey brown, with subtypes of pasture grey brown, alluvial and saline silts in the plain of Vurgu and Murrusia.

The population is thought to be between 20-50,000 inhabitants. The main towns in the region are Saranda (pop. est. 20,000) and Delvina (pop. est. 7,000). The main activities are tourism-related services (hotels, restaurants and transport) and agriculture (crop production, livestock raising). Tourism services are focused in Saranda with a maximum of 1,800 beds.

The climate of the area is typical mediterranean, with dry and hot summer, and wet and mild winters. The mean annual temperature is 17.1°C. The average rainfall in Saranda is 1509 mm/year, with an important precipitation period in winter (about 70%).

16. Hydrological values:

Butrint plays an important role in flood control and sediment trapping.

Flood control

Lake Butrint and the Pavlo River prevent heavy flooding on their respective upstream areas. Lake Butrint serves as a retention basin for surplus waters from the Vurgu plain and reduces the risks of flooding. Pavlo River, in the southern part of the complex, plays the role of a drainage channel evacuating the surplus waters from the Vrina-Murrusia area.

Sediment and nutrient retention

Lake Butrint and Lake Bufi serve as retention basin for sediments and nutrients that are used by wetland vegetation. Different domestic animals and fish use the vegetation as a major food resource. Pavlo River, by bringing sediments down from the neighboring mountain region, helps in the advancement of the shoreline and the retreat of seawaters. This retreat reduces the influence of seawaters on inland aquifers and helps in the de-salinization of the agricultural area.

17. Wetland Types

a) presence:

Marine/coastal: **A** • B • C • **D** • **E** • **F** • **G** • **H** • I • **J** • K • Zk(a)

Inland: L • **M** • N • O • P • **Q** • R • Sp • **Ss** • Tp • **Ts** • U • Va •
Vt • W • Xf • Xp • Y • Zg • **Zk(b)**

Human-made: 1 • **2** • **3** • **4** • 5 • **6** • 7 • 8 • **9** • Zk(c)

b) dominance:

1. Coastal brackish/saline lagoons;
2. Permanent shallow marine waters
3. Permanent saline/brackish/alkaline lakes;
4. Seasonal/intermittent saline/brackish/alkaline marshes/pools;
5. Intertidal mud, sand or salt flats.
6. Intertidal marshes;
7. Seasonal/intermittent freshwater marshes/pools on inorganic soils;
8. Rocky marine shores;
9. Estuarine waters;
10. Permanent rivers/streams/creeks;
11. Seasonally flooded agricultural land
12. Irrigated land;
13. Sand, shingle or pebble shores;
14. Water storage areas;
15. Canal and drainage channels, ditches
16. Ponds;
17. Karst and other subterranean hydrological systems;

18. General ecological features:

The vegetation of the area is rich and very diverse with 800-900 plant species. The different habitats identified include: woodland, Mediterranean maquis, dry pastures and freshwater and saltwater marshes.

Woodland

There is only a small area of dense woodland remaining at Butrint, located on the southern and eastern slopes of Sotires mountain and within the main archaeological site of *Buthrotum*. The woodland is characterised by a vertical structure composed of 3 vegetation levels were the main association is Elm *Ulmus minor* – Ash *Fraxinus angustifolia*. The dominant species are the Elm *Ulmus minor*, Ash *Fraxinus angustifolia*, Valonian Oak *Quercus robur* and White Poplar *Populus alba*. In specific cases, Laurel Tree *Laurus nobilis* and Holm *Quercus ilex* prevail over the other plants. The understorey varies from dense shrubby tree heath to an open herb.

Mile Mountain and the peninsula of Stillo are covered by sparse formations of Holm oak *Quercus ilex*, although the damages induced by successive burnings.

Mediterranean maquis

Mediterranean maquis is located mainly on the Ksamili peninsula (including the Ksamili islands) and in the hills to the southeast of Lake Butrint. It is dominated by the association of *Quercetea ilicis*. The most common species is *Quercus coccifera*, that covers 50 –60% of the total area. Other species present include *Q. ilex* (well preserved on Ksamili islands), *Fraxinus ornus*, *Pistacia lentiscus*, *Phlomis fruticosa*, *Colutea arborescens*, *Phillyrea media* etc.

Dry pastures

Such areas occur mainly on the southern part of the complex, especially on the Vrina plain. The vegetation is adapted to high concentrations of salt, the continuous presence of water in winter, summer drought etc. The *Arthrocnemum* sp. followed by *Juncus* sp. and *Tamarix* sp. dominates the halophytic vegetation.

Freshwater marshes

Typical marsh vegetation is found in the northern part of Lake Butrint (northern reed beds) and in the western part of Lake Bufi. The dominant species are *Phragmites australis* followed by *Typha angustifolia*. Other species adapted to water are *Scirpus lacustris* and *S. maritimus*.

Saltmarshes

Saltmarshes occur as a narrow fringe along the south shore of lake Butrint, at the mouth of Vivari channel and River Pavlo. The vegetation is dominated by glassworts with patches of tamarisk and sea aster.

Introduced plant species

In some parts of Butrint (Manastiri) the Mediterranean maquis was replaced by the introduced species of *Agave americana*, which was cultivated for industrial purposes. Due to the presence of overgrazing, *A. americana* has won the competition with native vegetation that is now replaced from the above mentioned sites.

19. Noteworthy flora:

The Albanian Red Data Book lists 32 plants found at Butrint as having an unfavorable conservation status. 16 of these are considered as Endangered, 12 as Rare and 4 species are insufficiently known. The presence of 1 Endemic and 11 Subendemic species should also be stressed.

Endangered species

1. *Agrimonia eupatoria*
2. *Aristolochia sempervirens*
3. *Capparis spinosa*
4. *Colchicum autumnale*
5. *Desmazeria marina*
6. *Ephedra distachya*
7. *Hypericum perforatum*
8. *Laurus nobilis*
9. *Lotus cytisoides*
10. *Mathiola tricuspidata*
11. *Origanum vulgare*
12. *Prunus webbii*
13. *Quercus ilex*
14. *Salvia officinalis*
15. *Satureja montana*
16. *Viburnum tinus*

Rare species

1. *Alkana corcyrensis* - **Subendemic** (Albania & Greece)

2. *Alissum smolikanum* - **Subendemic** (Al. & Gr.)
3. *Colchicum cupanii*
4. *Crocus boryi* - **Subendemic** (Al. & Gr.)
5. *Daphne gnidium*
6. *Euphorbia dendroides*
7. *Galium intricatum* - **Subendemic** (Al. & Gr.)
8. *Galium procurrens* Erben. – **Subendemic** (Balkans)
9. *Limonium anfractum* Salmon. - **Subendemic** (Al. & Yougoslavia.)
10. *Pterocephalus perennis* coult. subsp. *bellidifolius* - **Subendemic** (Al. & Gr.)
11. *Stachys decumbens* – **Subendemic** (Al. & Gr.)
12. *Teucrium fruticans*

Insufficiently known

1. *Centaurea spruneri* subsp. *guicciardii* - **Subendemic** (Al. & Gr.)
2. *Scabiosa epirota* – **Subendemic** (Al. & Gr.)
3. *Stachys sericophylla* - **Endemic** (Al.)
4. *Thymus teuroides* - **Subendemic** (Al. & Gr.)

20. Noteworthy fauna:

Butrint shelters many noteworthy species of animal. These include threatened animals and species of biogeographical and economic value.

Threatened animals

A large number of animals registered in Butrint are considered as having an unfavorable conservation status either nationally or internationally. A detailed analysis of the major groups of animals has shown that Butrint shelters 33 species of Global Conservation Concern (14 Globally Endangered), 109 species of National Conservation Concern and 136 species of European Conservation Concern (Table 3).

Table 3. Summary of species with an unfavorable National and International Conservation Status

Fauna groups	Species of National Conservation Concern	Species of Global Conservation Concern
Insects	20	2
Fish	1	-
Amphibians	3	2
Reptiles	14	5
Birds	56	9
Mammals	15	15
Total	109	33

Since the list of species is too extensive, full details are only given for species included in the IUCN Red List of Threatened Animals (Baillie & Groombridge 1996):

Insects

1. *Cerambyx cerdo* – VU (vulnerable)
2. *Lycaena dispar* – LRnt (Lesser Risk nearly threatened)

6. *Aquila clanga* - VU
7. *Falco naumann* - VU
8. *Gallinago media* - LRnt
9. ***Numenius tenuirostris*** – CR (Critically Endangered)

Amphibians

1. *Triturus cristatus* – LRcd (Lesser Risk conservation dependent)
2. *Hyla arborea* - LRnt

Reptiles

1. *Caretta caretta* – EN (Endangered)
2. *Dermochelys coriacea* - EN
3. *Testudo marginata* – LRLc (Lesser Risk less concern)
4. *Testudo hermani* - LRnt
5. ***Emys orbicularis*** - LRnt
6. *Elaphe situla* – DD (Data Deficient)

Birds

1. *Phalacrocorax pygmaeus* - LRnt
2. *Pelecanus crispus* – VU
3. *Aythya nyroca* - VU
4. *Oxyura leucocephala* - VU
5. *Haliaeetus albicilla* - VU

Mammals

1. *Rhinolophus blasii* – LRnt
2. *Rhinolophus euryale* – VU
3. *Rhinolophus ferrumequinum* – LRcd
4. *Miniopterus schreibersi* – LRnt
5. *Myotis capaccinii* - VU
6. *Myotis emarginatus* - VU
7. *Myotis myotis* – LRnt
8. *Sciurus vulgaris* - LRnt
9. *Glis glis* – LRnt
10. *Microtus (Pitymys) felteni* – LRnt
11. *Microtus thomasi* – LRnt
12. *Mus spicilegus (abbotti)* – LRnt
13. *Canis lupus* -VU
14. *Monachus monachus* – CR
15. *Stenella coeruleoalba* - LRcd

21. Social and cultural values:

Lake Butrint is surrounded by hills and mountains covered by Mediterranean maquis, oak woodland, olive groves and fruit orchards, and is complimented by saltwater and freshwater marshlands. The southern part of Lake Butrint, together with its surrounding historic landscape, was designated as a UNESCO World Heritage Site in December 1999.

The World Heritage Site of Butrint represents the single most important cultural asset of the Saranda region and arguably Albania's only world class cultural asset. The social and cultural values associated with the site are:

- *Butrint is a source of cultural identity and national pride.* A place where one is traditionally taken as a child or as a reward for winning a competition or sporting event; the local radio station is called 'Radio Butrint'.
- *Butrint is a magical place, full of atmosphere.* The unspoiled landscape setting of Butrint possesses a unique combination of archaeology and nature.
- *Butrint is a place of outstanding natural beauty and natural bounty.* A richness of wildlife and flora; the woods of Butrint; the water of Butrint; fresh fish and mussels.
- *Butrint is a site of great archaeological and historical importance.* It is special for the longevity of the history represented in the monuments, as well as the wide variety of cultures represented.
- *Butrint is an important economic resource as a focus for tourism.* It is the primary attraction for visitors to the region and potential gateway to other archaeological and natural sites in southern Albania.
- *Butrint is an educational resource for schools and the general public.* Over 5,000 school children visit the site each year.

The Butrint National Park receives over 20,000 visitors a year and is the most important visitor attraction for the region. The Park directly employs 60 people and indirectly sustains the hotel and restaurant trade in Saranda and Ksamili (est. at 2,000 beds), various Corfu-Saranda ferry services and travel agents in both Corfu and Saranda.

22. Land tenure/ownership:

(a) within the Ramsar site:

The majority of the territory proposed for Ramsar is the property of the state with some private ownership. Commune and provincial land tenure has yet to be decided by the Albanian Government for this region but it is likely that a small amount of territory will be held by civic authorities for the provision of village facilities etc in the future.

All the wetlands are used for fishing. The agricultural land is used for stock breeding, cereals, olive grooves, citrus, vineyards and vegetables.

(b) in the surrounding area:

The surrounding areas are characterized by the same patterns of land use. The majority of the agricultural land is exploited for stock breeding.

23. Current land (including water) use:

(a) within the Ramsar site:

There are 7 small villages (Blerimasi, Dritasi, Pllaka, Vrina, Mursia, Shen Deli, Xarra) within the proposed Ramsar area and 1 large village (Ksamili). The estimated total population is 7,700 people with more than half based in Ksamili. The principal activities are tourism (hotels and restaurants), agriculture (subsistence farming, crop production, olive tree plantation, orchards, vineyards, and livestock raising), fishing and mussel cultivation. Tourism is the main economic activity.

Agricultural and arboricultural activities, although less intensive than in the past, still remain important sectors of the local economy. Stock raising and grazing (sheep and goats) represent one of the main activities in the Butrint area.

Fishing and mussel cultivation is an important economic activity for the local population. Fishing is applied in the lakes as well as in the littoral. A fish trap is permanently installed in Vivari Channel. This

takes about 60% of the annual catch of the whole lake. The catches fluctuate between 570-1100 kg/year. Mussels *Mytillus galloprovincialis* have been exploited since 1968 but their proper cultivation started in 1970 with production arriving to 1000–6000 kg/year and after technological improvements the product increased to a maximum of 50,000 kg in 1990.

(b) in the surroundings/catchment:

The population of surrounding areas is thought to be between 20-50,000 inhabitants according to a World Bank report (Anon 1995). The main town in the region is the port of Saranda (pop. est. 20,000) which acts as a gateway to the area.

The main activities are tourism-related services (hotels, restaurants and transport) and agriculture. Tourism services are focused in Saranda with a maximum of 1,800 beds.

Agriculture (subsistence farming, crop production, livestock rearing and production of olives, citrus, vineyards and vegetables) occurs in the areas to the north and south of the proposed Ramsar area. The Bistrica River in the north and Pavlo in the south are used for the irrigation of Vurgu plain (north) and Vrina-Mursia plain (south).

24. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

(a) within the Ramsar site:

Butrint experienced enormous changes in the 1950s through the instigation of a marshland reclamation scheme and the expansion of agricultural land into woodland. These actions resulted in (i) loss and fragmentation of habitats and (ii) degradation of habitats and impoverishment of flora and fauna. Since the collapse of the Communist regime in 1991, a second phenomena has occurred with the collapse of administrative structures leading to overgrazing, illegal practices and uncontrolled development.

The impacts on the ecological character of the area (inside and outside of Ramsar area) are:

Land reclamation and the intensification of agriculture

Land reclamation covered a surface area of more than 3000 ha and was completed in 1959. The wetlands of Vurgu (1000 ha) in the north and Vrina (300 ha) in the south were drained and cleared of associated woodland. The loss of wetlands was accompanied with extinction of certain species.

The new agricultural lands were used for both crop production and grazing. The pressure from overgrazing is still very high. The impact of this activity on the biological richness of the area has also increased. It has critically damaged the terrestrial habitats of the area by impoverishing the plant community and all the biota related with it.

Artificial fires are also a problem and result in the destruction of reed beds in the northern part of Lake Butrint, a habitat of particular importance for many nesting birds.

Hydrological works

As part of the reclamation work the Bistrica River was diverted into the sea and the Vivari Channel was deepened. This has resulted in changes of the physical-chemical parameters of Lake Butrint and a negative influence over the diversity of flora and fauna. Further increases of salinity will bring the reed beds to the north of Lake Butrint towards extinction.

Deforestation

A large surface area of oak woodland was destroyed as part of the reclamation works and through the development of agricultural terraces around the village of Ksamili.

Artificial fires are a new cause of destruction in recent years. Shepherds wanting new growth for grazing usually initiate these. The damage caused includes deterioration of the structure of soil and grassland as well as the loss of woodland. This negative practice damages not only the flora and fauna but also destroys soil nutrients and increases erosion.

Fishing and mussel cultivation

If fishing is developed in a sustainable way it does not have a negative impact on the area. In recent years illegal fishing methods, use of dynamite and poison, have heavily damaged the fishing resources.

It is also likely that mussel cultivation has had a large contribution to the eutrophication of Lake Butrint (*see below*).

Eutrophication

Butrint is today a mesotrophic lake with eutrophic tendencies. Eutrophication is expressed in dystrophic crises that have been observed especially between 1979-1983, resulting in a decrease of food resources, fish and mussel production. Eutrophication was stimulated by hydrological interventions such as the deviation of the Bistrica and Pavllo rivers and the over development of aquaculture (mussel cultivation). The reduction of fresh water entrances and the introduction of increased mussel production resulted in a lack of diluted oxygen and an increase in the decayed organic matter and sulfobacteria activity.

Uncontrolled development

Uncontrolled development is one of the main causes of habitat destruction and increased human disturbance. Its impact is stronger in the coastal area, particularly Ksamili, where constructions have been built without any legal permission. Proposed plans for the construction of new tourist settlements in ecologically sensitive areas are still a great risk for many species of conservation concern in the Butrint area.

Hunting

Illegal hunting methods (usage of automatic guns, no respect for hunting seasons and hunting bags, hunting of protected species) are a problem of great conservation concern. Hunting disturbance is also another factor having an indirect impact on animals.

Human disturbance

Human disturbance is very high and is a contributing factor to the reduction of biodiversity values. It is expressed through the overall presence of humans in every natural and semi-natural habitat. It has largely increased in the recent years by uncontrolled development (a good example is the abandonment of Ksamili islands by its nesting birds following the construction of a bar on the main island). Illegal methods of fishing and hunting are also a major source of disturbance.

Introduced species

Another negative phenomenon has been the planting of non-native species. For example *Agave americana*. Its distribution area has now increased because this species, in the presence of overgrazing, wins the competition with native Mediterranean maquis.

Absence of environmental education

Like all the wetlands and protected areas of Albania, the protection of biodiversity is made difficult through the lack of public awareness to environmental issues. Many habitats and species are destroyed due to a lack of knowledge and appreciation of their importance to the overall environmental wellbeing of the area and their importance to future tourism.

(b) in the surrounding area:

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

The critical actions necessary to reverse the damages highlighted above and prevent further damages are:

- 1) the re-establishment of institutional structures to manage the natural resources of the area *and*
- 2) the restoration of habitats were possible.

1) The enlargement of the World Heritage Site of Butrint (December 1999) and the creation of the Butrint National Park (April 2000) have made a great contribution to the re-establishment of institutional control over the territory. A local authority has been established for the national park area and a management plan for the protection of the cultural and natural resource has been prepared and edited in 2001. The main objectives of the Management Plan are:

- to preserve the character and qualities of Butrint for future generation
- to promote sustainable forms of agriculture, educational use and tourism in and around the Park and thereby contribute to the regional economy and the community
- to unite the local community and local stakeholders involved with the Park in a single programme of action

Several projects and decisions that are crucial to accomplishing the long-term objectives are already underway.

These include:

- the creation of a Park ranger service,
- the development of the Park's infrastructure for eco-tourism (footpaths, sign posting, entrance arrangements etc.),
- staffing and institution building. Consultants in conservation (monument), environment, environmental education and public awareness and tourism are being sponsored by a World Bank IDF grant to the Ministry of Culture, Youth and Sports,
- a habitat assessment and species analysis was undertaken within the territory of Butrint National Park,
- a new legislative framework for the protected area has been drafted and will be presented to the Albanian Government in Autumn 2001,
- fund raising for environmental projects has successfully raised income for small-scale environmental interventions (restoration of the freshwater channels to Lake Butrint, feasibility study for the restoration of the Vrina plain wetlands),
- the licensing of grazing rights have passed to the Park allowing the prevention of overgrazing within its territory.

26. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

In 1999 Albania produced its first Biodiversity Strategy and Action Plan (BSAP). One of the goals of the BSAP was the enlargement and enforcement of the network of Protected Areas. Under this strategy it was also proposed to declare :

- Lake Butrint (circa 4000 ha) as a zone of Multiple Use (VI IUCN Category).
- Pagane - Stillo Peninsula as a Strict Nature Reserve (Marine and Terrestrial)
- Cuka – Ksamili as a Landscape/Seascape Protected Area

The Albanian Government has not yet approved this proposal.

A Coastal Zone Management Plan was produced in 1996 and only recently approved by the Albanian Government. The proposal was prepared by a group of experts working under a World Bank project. The

zonation of Butrint and management actions have not yet been implemented. The proposed interventions are:

- creation of Butrint Biosphere Reserve,
- deviation of Bistrice to its former riverbed and Lake Butrint,
- restoration of wetlands in the southern part of Butrint (Vrina marshes),
- reconstruction of an artificial wetland near Saranda
- creation of a National Marine Park in Stillo Peninsula,

Under the existing Butrint Management Plan 2000 - 2005 short- and medium term actions have been set out but have not yet been implemented.

27. Current scientific research and facilities:

e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

Current scientific research is concentrated in the field of archaeology, geomorphology, geophysics, hydrology, botanic and zoology.

Archaeology

The first excavations at Butrint were undertaken by an Italian Archaeological Mission between 1928-1943. The Italian Mission made extensive excavations, conserved many of the monuments that they exposed, created a small museum and archaeological store, left a detailed archive of their work and published monographs and reports. Since World War II, archaeological research at Butrint has been conducted by Albanian archaeologist in collaboration with the Institute of Monuments carrying out a campaign of monument restoration. The results of their excavation work were published in the scientific journal *Iliria*, as well as a number of other journals. Since 1990, the Institute of Archaeology has continued excavations in collaboration with foreign research teams. Recent work has led to the discovery and investigation of a further 30 hectares of *Butbrotum*, the villa site of Diaporit and the mapping of a further 8 sites within the Butrint National Park. The main thrust of the archaeological research is the settlement and environmental transition of *Butbrotum* and its hinterland under Roman occupation and in the post-Roman period.

Archive research has led to the rediscovery of the excavation notes, drawings and photographs of the Italian archaeological mission, plus their unpublished manuscripts. A new programme of work will see this material, together with the Communist period material, put on to a GIS system for the Butrint National Park.

Geomorphology

A study on the history of the Holocene sedimentation of the Lake Butrint area was undertaken by a post-graduate from Sheffield University's Geography Department. This study looked at the formation of the Vrina plain and Lake Butrint and led to the discovery that Lake Butrint once formed part of a sea inlet.

Geophysics

Research is underway by a team from the University of East Anglia's School of Environmental Sciences into the recent development of the Vrina plain and the geophysical mapping of the archaeological and natural features, which have been buried by recent sedimentation. This work is also focused on developing geophysical techniques towards 3D modeling.

Hydrology

The Albanian Institute of Hydro-Meteorology since its creation in the 1950s has undertaken hydrological studies. The results of their research programmes are the basis of the hydrological description in this document. Scientific results have been published in monographs, reports and different scientific articles (see bibliography attached).

Botany and Zoology

Studies in the botany and zoology of the area are numerous. They have been conducted mainly by Albanian institutions such as Museum of Natural Sciences, Faculty of Natural Sciences, Institute of Biological Research and Institute of Fishery Research. Studies have been focused on phyto-planctons, zooplankton, mussels, fish, insects, amphibians and reptiles, birds and mammals. Results are published in different scientific papers, reports and University dissertations (*see* bibliography attached).

28. Current conservation education:

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

Butrint has been recognised as an important educational resource since the 1960s. Over 5,000 children visit the area each year. Little environmental or conservation education can be offered on site but the formation and recent training of a ranger service is aimed at providing an environmental education and public information service in the future. UNESCO has recently accepted a grant bid for the development of an education programme for the Butrint National Park.

Under-graduate training programmes in archaeology are now underway and are run through the University of East Anglia in collaboration with Tirana and Gjirokastra Universities. This programme has been running since 1999. Under-graduate landscape architecture courses have also been run at Butrint for the UK universities of Greenwich and SouthEast London.

It is a stated aim of the Management Plan to expand school and under-graduate activities within the Butrint National Park.

29. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

The Butrint National Park currently has an annual visitor number of c. 20,000 people. 70% of the visitors come between April and October, though weekend visitors are common throughout the winter months. Three quarters of the visitors are Nationals with the remaining visiting on day-trips from Corfu or as internationals living and working in Albania.

Currently the focus for visits is the main archaeological area of *Butbrotum*. Future Park development plans (2001) aim to develop this cultural tourism and encourage greater use of the landscape and wetlands through the development of small-scale boat rides, signed walks and nature tours. Likewise the Park wishes to encourage winter visitors for bird watching and activity-based holidays (bird watching etc). These developments will be implemented in 2002.

30. Jurisdiction:

The area of Butrint is under the territorial jurisdiction of the Vlora Prefecture and the Saranda District Council.

Like other Albanian wetlands the functional jurisdiction is divided between different institutions. Coastal wetlands are considered as a political/administrative unit rather than as an ecological one. The so-called management is done according to different sectorial politics (Table 5).

Table 5. Institutions responsible for the management of Butrint

Sectors	Institutions
Forests	General Directorate of Forests and Pastures (Ministry of Agriculture and Food)
Fishing	Department of Fishery Resources (Ministry of Agriculture and Food)
Tourism strategies	Ministry of Territorial Planning and Tourism

Environmental Legislation and approval of Management Plans	Ministry of Environment
Territorial Planning	Council of Territorial Planning
Waters	National Water Council
Butrint National Park	Ministry of Culture, Youth and Sport (MCYS)
Archaeology	Institute of Archaeology (Academy of Sciences)
Monument conservation	Institute of Monuments, (MCYS)

Different Albanian institutions are directly implicated in the activities concerning the administration of the Butrint area. Forests, Mediterranean maquis and pastures are managed by the General Directorate of Forests and Pastures, fishing by the General Directorate of Fisheries (both under the Ministry of Agriculture and Food). The National Tourism Agency is responsible for tourism strategies. The Ministry of Environment is the main public institution responsible for environmental protection and takes responsibility for protective legislation.

The highest consultative bodies at national level are the Council of Territorial Planning (KRT) and the National Water Council, both chaired by the Prime Minister of Albania.

31. Management authority:

There is no proper management authority of the Ramsar Site. Only the Butrint World Heritage Site (Butrint National Park) has a management structure.

The Director of the Butrint National Park has an advisory committee made up of a representative group of the different authorities outlined in Table 5 and an office of co-ordination. For ease of management some duties have been passed to the Butrint National Park Office (e.g. licensing of grazing rights, formally the General Directorate of Forests and Pastures).

The responsibilities of the office of co-ordination are:

- The implementation and monitoring of conservation, development, research and management programs approved by the Advisory Board.
- The establishment of contacts and working relations with regional, national and international bodies for the development of BNP.
- The management of income generated by visitors to the Park and other activities associated with the Park.
- The implementation of BNP regulation.

A new legislation establishing the authority of the office of co-ordination has been prepared and will be presented to the Albanian Government in autumn 2001.

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Please return to: **Ramsar Convention Bureau, Rue Mauverney 28, CH-1196 Gland, Switzerland**
 Telephone: +41 22 999 0170 • Fax: +41 22 999 0169 • e-mail: ramsar@ramsar.org