

SIBILOI/CENTRAL ISLAND NATIONAL PARKS

KENYA



WORLD HERITAGE NOMINATION-IUCN TECHNICAL EVALUATION

SIBILOI/CENTRAL ISLAND NATIONAL PARKS (KENYA)

1. DOCUMENTATION

- (i) IUCN/WCMC Data Sheet (4 references)
- (ii) Additional Literature Consulted: Feibel, C.S. 1988. Paleoenvironments of the Koobi Fora Formation, Turkana Basin. PhD Dissertation. University of Utah, Department of Geology; **Koobi Fora Research Monographs**. 1976-97. 5 Vols. Clarendon Press; Leakey, M. and J.M. Harris. 1994. Past Biodiversity in the Turkana Basin. *in Conservation of Biodiversity in Africa*; Graham, A. and P. Beard. 1975. **Eyelids of Morning**; Norton-Griffiths, M. 1974. Ecological Survey and Monitoring Project in East Rudolph National Park. 33p.
- (iii) Consultations: 5 external reviewers, Kenya Wildlife Service and National Museum staff.
- (iv) Field Visit: J. Thorsell, January, 1997

2. SUMMARY OF NATURAL VALUES

Sibiloi National Park (SNP) is 157,085ha in size and is situated on the east shore of Lake Turkana in northern Kenya near the border with Ethiopia. The region is at the western edge of the Somali arid climatic zone. It receives unreliable seasonal rainfall of 25cm per year mostly during March and April. Temperatures range from 26° - 37° with strongly south-easterly winds a persistent feature. The low precipitation and high temperatures combine to produce moisture deficit resulting in a net evaporation from the lake of 2.5-3m per year. Watercourses in SNP typically flow on the surface for only a few days in the year. The region is part of the East African Rift System with gently sloping hills and volcanic cones. A large petrified forest is also included in the park. Lake Turkana (formerly Lake Rudolph) is a closed basin lake which receives 80% of its water from the Omo River in Ethiopia. The park extends 1km offshore into the lake. An abundant avifauna of 350 species has been recorded. Desert wildlife include Oryx, Grant's gazelle and Grevy zebra. Elephant, rhino and buffalo all disappeared from the region in the early part of this century. Hippos and crocodiles are common in Lake Turkana and at Central Island National Park - a volcanic island located some 10km from SNP in Lake Turkana. Prior to the establishment of the SNP the area was intermittently used by pastoralists including the Gabbra, Borana and Dasanetch.

In addition to protecting a range of desert habitats and fauna and part of Lake Turkana, the main impetus for the establishment of SNP was the diverse fossil deposits found in a part of the park known as Koobi Fora. Remains of early man have been found here along with many thousands of specimens of fossil vertebrates, mainly mammals. These findings have allowed a "reconstruction" of the Quaternary Lake Turkana basin, its human, animal and geological evolution over the past four million years.

Criteria under which the site has been nominated were not specified but it is presented as a mixed Cultural/Natural site on the basis of natural criteria (i) and (iii) and the relevant cultural criteria.

3. COMPARISON WITH OTHER AREAS

SNP is one of the many protected areas in the Somali Biogeographical Province. It is the only protected area, however, which includes a part of Lake Turkana which is one of Africa's most important breeding areas for the Nile crocodile. Its avifauna are shared with a number of other rift valley lakes in the region

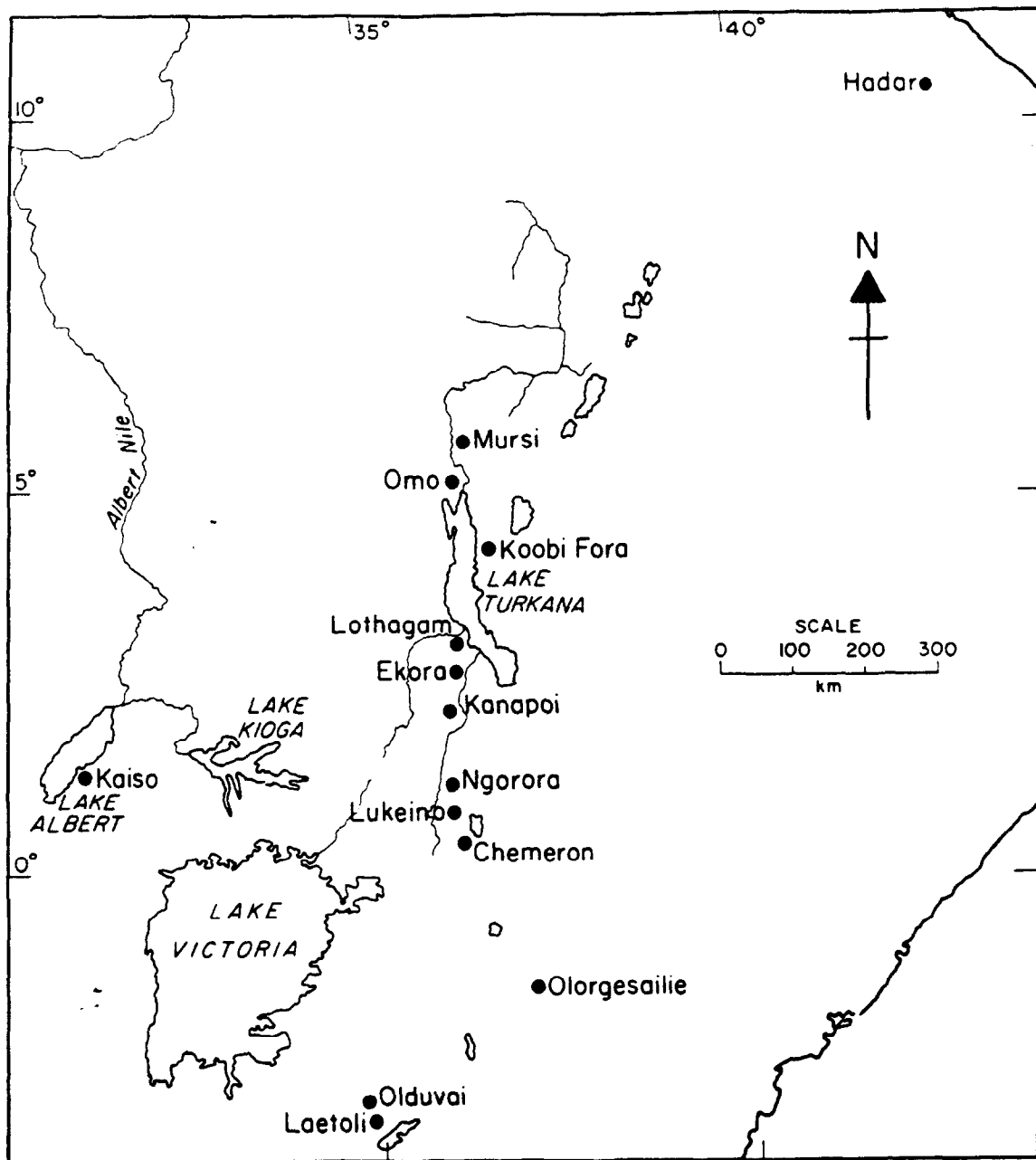


FIG. 1.1. Major Pliocene and Pleistocene fossiliferous localities in eastern Africa.

such as Bogoria to the south and Abijatta-Shalla to the north. Its desert fauna is also shared with other parks in the region such as Samburu, Mago and Awash. Central Island is a major concentration area for flamingos but in recent years they have not returned in former numbers. SNP is the only park in the region with a petrified forest although it is not of the extent or importance as other such sites in Namibia, Argentina and Arizona.

Another distinguishing feature of SNP, is that it is the locality for the largest and richest site for hominoid and other fossil vertebrates in the region. Although other similar sites exist, (see attached map) the Koobi Fora deposits in SNP have been arguably the most productive and have led to intensive multi-disciplinary research allowing a reconstruction of the lake basin of Turkana in Quaternary times. It is the most studied lake basin in Africa for geology as well as human and animal evolution. Along with the Karoo in southern Africa, the Koobi Fora fossils have contributed more to understanding paleoenvironments than any other locale on the continent.

4. INTEGRITY

The boundaries of SNP are large enough to encompass the main area of the fossil deposits although some excavations are being made just to the south and on the western shore of Lake Turkana. Most of the park is still used during the dry season by pastoralists who bring many thousands of domestic stock to graze in the park. This displaces the already low wildlife populations but does not affect the portion of the park (about 50%) where the fossil deposits are. Park management facilities are very basic but may soon be upgraded through a project with the Government of Italy. This project would provide watering points outside the park in an attempt to provide alternative grazing for the pastoralists. There is no management plan but one is in preparation.

5. ADDITIONAL COMMENTS

As the site consists of two National Parks it would be more accurate to refer to it as Sibiloi/Central Island National Parks.

The applicability of cultural criteria for this property will be separately reviewed by ICOMOS.

6. APPLICABILITY OF WORLD HERITAGE NATURAL CRITERIA

The hominoid fossil finds at SNP gave rise to an international interdisciplinary research effort that led to no less spectacular discoveries of mammalian, molluscan and other fossil remains. A total of 350 fossil taxa had been recorded from Koobi Fora within the first 20 years of the initial prospecting in 1968. This has provided an extensive palaeontological basis for reconstructing an entire Quaternary lake basin paleoenvironment. The importance of the wide spectrum of research done in SNP presents a clear and convincing case for natural criterion (i). IUCN also feels that the desert habitat and the Lake Turkana ecosystem with its abundant bird life and crocodiles also justifies criterion (iv). Situated in the arid edge of the sub-Sahel, SNP offers an ideal laboratory for studies of plant and animal communities adapted to a harsh environment.

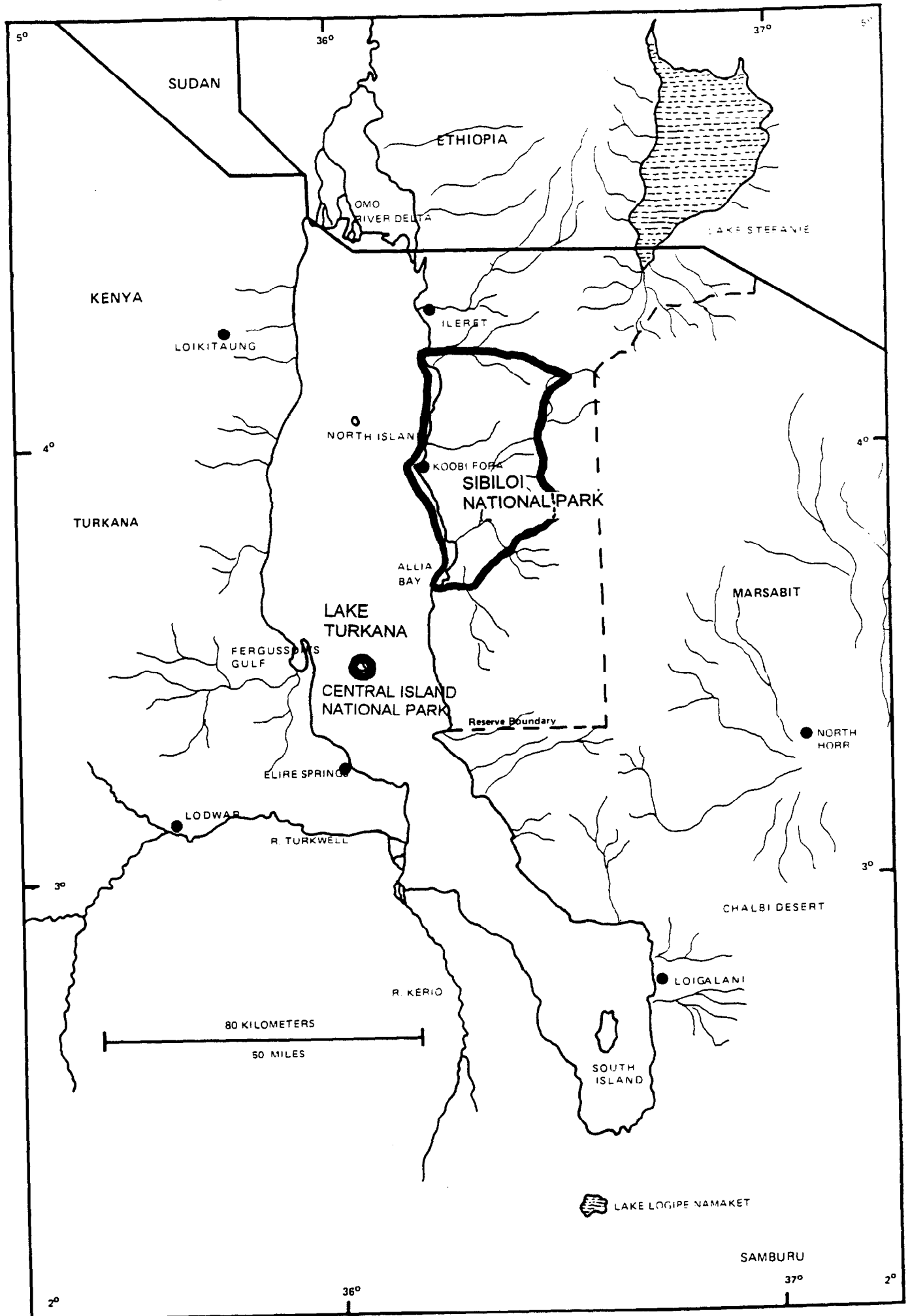
The conditions of integrity for those two criteria are met but the Committee may wish to encourage the Government of Kenya to implement the proposed project with funding from Italy which would provide a stronger management structure as well as the provide alternative water and grazing opportunities outside the park boundaries for local pastoralists.

7. RECOMMENDATION

The Bureau recommended that SNP be inscribed on the World Heritage List as a natural property on the basis of criteria (i) and (iv). The Bureau also encouraged completion of the management plan and expressed concern over impacts of pastoral activities on the desert habitat.

FIG. 4.

MAP OF LAKE TURKANA



COUNTRY Kenya

NAME Sibiloi National Park

IUCN MANAGEMENT CATEGORY

II (National Park)

Natural World Heritage Site (proposed): Criteria: ii
Cultural World Heritage Site (proposed) - Criteria: ii

BIOGEOGRAPHICAL PROVINCE 3.14.07 (Somalian)

GEOGRAPHICAL LOCATION Located in the Eastern Province, Marsabit District, on the eastern shores of Lake Turkana (formerly Lake Rudolf), 720km north of Nairobi. 4°00'N-36°20'E

DATE AND HISTORY OF ESTABLISHMENT Gazetted as a National Park in 1973; Central Island National Park was established in 1985.

AREA Sibiloi: 157,085ha; Central Island National Park: 500ha.

LAND TENURE Government

ALTITUDE 340m to 550m

PHYSICAL FEATURES The area is characterized by a semi-desert habitat. The open plains are flanked by volcanic formations including Mount Sibiloi, the site of the remains of a petrified forest possibly 7 million years old. The Central Island, in the middle of Lake Turkana is a volcanic island (500ha). The lake shore is mostly rocky or sandy, with little aquatic vegetation (Fitzgerald, 1981). The park extends 1km from shore into Lake Turkana.

CLIMATE The climate is hot, with strong winds. The peak of rainfall is in April-May. The total rainfall is less than 500mm per year on average (Republic of Kenya, 1985).

VEGETATION Grassy plains with yellow spear grass and *Commuphera* and *Acacia sp.* predominate. Scrubby salvadora bush is found on Central Island. The north-eastern shore of the lake is mostly rocky or sandy, with little aquatic vegetation.

FAUNA Mammals include Burchell's and Grevy's zebras *Equus burchelli* and *E. grevyi* (T), Grant's gazelle *Gazella granti*, Beisa oryx *Oryx gazella beisa*, hartebeest *Alcelaphus buselaphus*, topi *Damaliscus lunatus*, Lesser Kudu *Tragelaphus imberbis*, lion *Panthera leo*, and cheetah *Acinonyx jubatus* (T). A population of about 12,000 crocodiles breeding on Central Island was estimated by Fitzgerald (1981), but no recent figures are available. Lake Turkana is an important flyway for north-bound migrants. A total of over 350 species of aquatic and terrestrial birds have been recorded in Lake Turkana. Central Island has a breeding population of African skimmer *Rhyncops flavirostris* which nests in banks. It is also an important staging post for migrating birds including warblers, wagtails and little stints *Calidris minuta* (Cunningham Van-Someren, 1981).

CULTURAL HERITAGE At Koobi Fora to the north of Alia Bay, extensive

palaeontological finds have been made, including the evidence of the existence of a relatively intelligent hominid two million years ago (reflecting the change in climate from that supporting moist forest grasslands to present day desert). These human fossils include the remains of *Australopithecus robustus*, *Homo habilis*, *Homo erectus* and *Homo sapiens*. Other findings include a wide diversity of ancestors of modern animal species. There are over 100 archaeological sites (KWS, 1996).

LOCAL HUMAN POPULATION There are no residents in the park, but Gabbra, Rendille and Turkana pastoralists are allowed to bring cattle and goats into the park during the dry season.

VISITORS AND VISITOR FACILITIES There are very few visitors. A total of 75 visitors came to Sibiloi in 1996, visiting the palaeontological museum of Koobi Fora. Central Island National Park received 200. There are camping facilities at the museum and at Rocodoni facing Mount Sibiloi, but visitors must bring their own supplies. There are some tracks to and from the archaeological sites.

SCIENTIFIC RESEARCH AND FACILITIES An extensive archaeological work has been carried out by Richard Leakey and many others and is still ongoing (KWS, 1996). The most important ancestral human fossils have been recorded from this area, including the remains of *Australopithecus robustus*, *Homo habilis*, *Homo erectus* and *Homo sapiens*. Fossil of other African mammals are also found in the area, such as those of black and white rhino, extinct giant otter, pygmy hippo, hippo, african elephant, wild camels, the lion, etc. A survey of birds was done in 1981 (Cunningham Van-Someren, 1981)

CONSERVATION VALUE Considered as the most remote of Kenya's national parks (KWS, 1996). It has a low carrying capacity but surprisingly a distinctive avifauna and a large number of adapted small mammals and reptiles.

CONSERVATION MANAGEMENT The Park has no management plan at moment, a new management plan is under development (KWS, 1996). Local people are allowed to use the area during the dry season (December-March).

MANAGEMENT CONSTRAINTS The salvadora bush on Central Island National park has been cut by wandering fishermen for firewood.

STAFF The Park is managed through a work force of forty-three members of staff: one warden, 22 rangers, and 12 support staff (KWS, 1996)

BUDGET US\$50,000 in 1996

LOCAL ADDRESSES

Warden, Sibiloi National Park, Box 219 Lodwar.

REFERENCES

- Cunningham Van-Someren, C. R. (1981). Lake Turkana Biological Survey: Birds. Report to the National Museum of Kenya, Nairobi.
- Fitzgerald, M. A. (1981). Sibiloi: The Remotest Park in Kenya. *Africana* 8(4): 22.
- KWS (1996). Nomination Forms for Maasai Mara World Heritage Site, Mount Kenya World Heritage Site and Sibiloi World Heritage Site. Submitted to the World Heritage

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DATE April 1997