UPPER
BLUE MOUNTAINS
CONSERVATION
SOCIETY
INC

A PROPOSAL FOR WORLD HERITAGE NOMINATION

LAND ACQUISITION OF BLUE MOUNTAINS GREAT SOUTHERN ESCARPMENT

ISSUE: [1] Preservation of Blue Mountains Escarpment
[2] TM Centre Development on Radiata Plateau

SYNOPSIS: Southern Escarpment Preservation Plan

This proposal initiates the last major opportunity for preservation of the remaining natural lands of the Blue Mountains in the near urban environment, and the completion of the conservation of the Upper Blue Mountains system of reserves.The total plan is for the preservation of the entire escarpment and adjacent plateaux between Lithgow and Katoomba. That requiring the most urgent action is herein documented for your consideration.

The area of greatest concern and requiring reservation, is the Southern [Western] Escarpment between Katoomba and Blackheath. While some of this is Crown Reserve, the areas in most need of protection remain in private tenure.These lands should be acquired and added to the crown reserves to form Stage 1 of the Scenic Rim of the Blue Mountains National Park.

Development on these lands poses a significant threat to the integrity of the conservation resources and limits their effective management. It also prevents use by the rest of the community for education, scientific study and recreation.

The intervention by your Government in this matter is requested.

This submission provides data on the Stage 1 area particularly the Elphinstone[Radiata] Plateau land.As will be seen this locality is unique for nature conservation and from an historical perspective and is an invaluable contribution to the World Heritage Criteria of this part of the Blue Mountains.

NOTE:Radiata Plateau will be refered to as Elphinstone Plateau in the remainder of this submission.Mt. Elphinstone is the highest and most dominant feature of the plateau and is a more appropriate name for the area centred on it as it commemorates a man who contributed significantly to conservation of the Blue Mountains National Park.

LOCATION: The total area under consideration is immediately west of Katoomba and south of the transport corridor along the main ridge.It consists of the entire escarpment between Peckmans Plateau and Mt. Victoria, thence north to Bell and to Hassans Walls.

Stage 1 consists of that area from Katoomba to Shipley from the points at Cahills Lookout and Megalong Valley where the National Park boundary is at present.Geographically it is a natural extension of the Park as it forms the giant amphitheatre at the upper reaches and headwater valleys of the Megalong Valley.It is a large green belt of land at present affected by small pockets of development at Medlow Bath, Shipley and Pulpit Hill.

The most significant land mass in Stage 1 is the Elphinstone(Radiata) Plateau which forms a peninsula extending into the Megalong Valley.It is in fact the only peninsula of its type in the area and is located uniquely with respect to climate and historical elements.

To the east is Nellies Glen and the Six Foot Track ,and, further upslope the Bonnie Doon Valley also a critical area requiring addition to the Park.

DESCRIPTION OF THE AREA:

Topography and Landforms:

The cliff structure contains the best examples of untouched areas of microstructure on the Southern Escarpment as well as massive vertical cliffs.The intricate clifflines produce a habitat mosaic as a result of the differential sheltering effect.A similar landform occurs at Leura Falls but is not as extensive as that in the Bonnie Doon - Elphinstone Plateau locality.

The major aspect is south-west.Significant areas of cliffs also face east to south-east these being the finely structured cliffs.Hence the sheltering effect is enhanced by this unique orientation.

The proposal extends to the main Blue Mountains Ridgeline at many points thus providing a large degree of protection to the headwater catchments.

Geology and Geomorphology:

The rocks of the area are mainly of sedimentary origin representing the Narrabeen sandstones of Triassic age ,underlain by Permian stratas of the Illawarra coal measures at the cliff bases. The valley footslopes are comprised of surface debris derived from the higher Triassic and Permian cliffs and outcropping at lower altitudes are Permian strata of the Shoalhaven Group.

There are some small areas of Lower Carboniferous rocks in the valley along the Six Foot Track and in the Shipley area.

This particular combination of geologies is poorly represented in the park even though there are extensive areas of each individual type.This combination is clearly different from its nearest comparison, the Jamison Valley which contains no carboniferous layer.

So too is the landform in contrast to that of the Jamison with the long valley footslope extending out into a wide flat valley.The erosional processes are however identical to those in other areas of the Park.Undercutting has played a major part in the formation of the particular morphology of the cliffs.Cliff types vary from overhung bluffs,straight vertical masses to the finely textured sculptured domes

and pagodas remniscent of the Wollemi country.This suggests considerable local variation in the original sedimentary processes causing differential erosion rates under the same climate regime.

The upland valleys appear to be partly related to block faulting in the sandstone.The major catchments of the Elphinstone Plateau seem to be derived from a block fault that extends from Narrow Neck to the main ridge.The pattern is noticeably different to that occurring on the north side of the main ridge where the plateau creeks are much longer and entrenched.

This area provides further variation of the types of weathering in the sandstone environment, and is in contrast to that already reserved in the Park.It warrants further study and is a valuable demonstration of weathering and landforms.

Climate:

The general climatic pattern of the escarpment is typical of the upper mountains with mild to warm summers and cold winters. Rainfall is evenly distributed with occasional snowfalls.The Stage 1 area has several features peculiar to it which modify the climate in a way different to nearby localities. Rainfall decreases from Wentworth Falls to Mt. Victoria so this area recieves about 1200mm, midway between these two extremes.

Temperatures are affected by the south-westerly aspect.This results in colder winters on the plateau and ridges and warmer summers in the valley than in the more sheltered Jamison Valley.Hence there is a large temperature differential at any one time from the escarpment to the valley footslope.

This further enhances the orographic effect and produces heavy and frequent mists of long duration.Observation has regularly shown that mists over Shipley and the Elphinstone-Bonnie Doon areas still hang heavy long after that in the Jamison has cleared.

Hydrology:

The main ridge and plateaus drain via waterfalls to three main tributury creeks into Megalong Creek and thence to the Cox's River.The escarpments contain extensive ground water storages in swamps and rock acquifers.In Nellies Glen and Blackheath Glen such ground water produces considerable permanent seapage which augments the already moist and protected environment to supply the rainfoest and most sclerophyll forest which occurs there. In several sites on the plateau , ground water seapage-lines occur even in the upper contours,often surfacing on the ridge.This modifies the soil environment sufficiently to allow the growth of Eucalyptus oreades and moist understory species on sites normally occupied by dryer more open vegetation types.

On areas such as Bonnie Doon and Elphinstone Plateau there may be cross connections between the subsurface drainage basins.In these locations the ridge is very narrow and acquifers probably flow in both directions depending on the lie of the rock strata.Since the sandstones generally tilt slightly down to the east it is likely that subsurface drainage on Elphinstone Plateau occurs cross ridge to the south-east cliffs.This is confirmed by observation of the seapage on that site.

At Bonnie Doon groundwater could well be shared between that valley and the valleys of Katoomba Falls Creek and the Water Board area of Cascades catchment.

There is no doubt that the upland swamps,wet heaths waterfalls and rainforests depend largely on the permanent water from the

acquifers.Disturbance by building, drainage,road construction could alter the interconnections between acquifers, their size and recharge characteristics.

The surface water catchments are variously affected by development.The three main creeks Pulpit Hill,Back and Megalong are relatively clean but could not be classed as potable.All are affected by runoff from road,rail ,septic seapage and to a lesser extent farming.For example the Hydro-majestic disposes some effluent directly into a swamp,septic is discharged from private houses on Shipley and the Council picnic ground in Blackheath Glen.So too in Bonnie Doon, clearing and septic seapage causes temporary pollution of the otherwise potable creek after rain.

Most importantly there are several catchments in which no development occurs at all at present, even though there has been minor disturbance in the past.One of these is the north-western catchment of Bonnie Doon Falls and the other is the Elphinstone Plateau upland creek system flowing both south-east and north-west.

These are probably the last of the truly potable water,unpolluted catchments flowing off the Southern Escarpment and would serve as permanent scientific reference sites as standards.

Fire History:

Fire frequency is highly variable over the area. Most land adjoining residences has been control burnt regularly for the past 20 years.The Bonnie Doon - Elphinstone locality by contrast has one of the longest unburnt periods of any plateau site.The aerial photos reveal that no wildfire has occured there since living memory.The western side of the Plateau was burnt only once since 1944. There appears to be some natural protection provided by the climate and topography.

Vegetation:

The area has been mapped by Keith & Benson [1988] on a scale of 1:100,000.More detailed work has been done on specific plant communities in particular for rare and endangered plants by Jones[1987] and also subsequently.Previous work on rare plants was also carried out by McCrae[unpublished]for the NPWS.Blue Mountains City Council carried out a survey of the significant and sensitive vegetation through the consultants Smith and Smith [EMP 1;1989].A previous survey of the rainforests of the Blue Mountains by Floyd[NPWS 1984 unpublished] contains relevant records of rare plants and a survey of the Pulpit Hill Creek, Blackheath area.

The results of these studies are used to discuss the significance of the vegetation.

The Stage 1 area contains a wide range of vegetation communities.Those of the sandstone complex are well represented but under closer field analysis some interesting variations become apparent.Even previously disturbed areas such as the old Brick Pit at Bonnie Doon,the failing radiata pines on the Elphinstone Plateau and the "old" stands of Eucalyptus oreades at Medlow Bath are of value as reference and study sites for future rehabilitation management.

Equally important are the more subtle local differences in communities which were not observed on specific sites in the broad scale mapping of Keith and Benson.These details have not been noted by the Councils Environmental Study for EMP 1 or by the consultants for the TM Centre proponents.

The area includes the following vegetation communities after Keith and Benson[1988];

Benson Map Unit		
6h	Escarpment Complex	_Eucalyptus cypellocarpa Syncarpia glomulifera Angophora costata E.piperita,E.punctata Ceratopetalum apetalum Doryphora sassafras

These communities occur to a limited extent in the area in a typical position below the cliffs .Small in areas compared to occurences elsewhere,they are mostly unlogged and undisturbed.There is considerable intergrading of the major species between these types including locally disjunct pockets of E.punctata ,E. cypellocarpa and E. piperita.

The coachwood -sassafras rainforest forms several large stands with the following community 8c occuring upslope in protected gullies

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This combination i.e. the 8c and 6h units form a large area of moist forest on the south-east of Elphinstone Plateau and in the same relative place in Pulpit Hill Creek , Shipley.The Shipley forest is however slightly disturbed. These are the two westernmost patches of this type of rainforest in the Blue Mountains, and are important representative stands.

Benson Map Unit 8c	Montane Rainforest	Ceratopetalum apetalum Doryphora sassafras Quintinia sieberi

The occurence of this community at Nellies Glen and on the east side of the Elphinstone Plateau is most significant as it is undisturbed and contains a number of rare and threatened species including the dwarf mountains pine Microstrobos fitzgeraldi.These are the two most westerly sites of this species.

Benson Map Unit 9i	Sandstone Plateau Forest	E.sieberi,E.piperita ssp.piperita and variants e.g.with E. oreades,E.radiata, E. blaxlandii,E.mannifera

This unit is well represented on the plateau areas with the E.oreades sub community forming a boundary with E.cypellocarpa at the second main cliff level at about 800 -850 m.On the dryer sites the E. mannifera forms transitional communities with the heathlands on western aspects.

On the Elphinstone Plateau this group of communities have slowly regenerated in a neglected P. radiata plantation.In many places the natives are outcompeting the pines and the area is largely weed free as well.Given time and low key selective pine removal the native forest will return to a natural condition.

The area is also the easterly edge of the distribution of E. blaxlandii.

The typing by Benson of this area as "cleared" because of the old pines is a misinterpretation of the ecological conditions on the plateau and the most likely final outcome of the regeneration of the native forest species.

Benson Map Unit 9m	Megalong Forest	Angophora costata E. punctata E. sieberi

There is an extensive belt of this type of forest in the proposal.Together with the E. cypellocarpa forests it is an excellent arboreal mammal habitat.

N.B. There is also a small amount of E.fastigata occurring on the better soils below the cliffs in small pockets.

Benson Map Unit 10	Yellow Box Woodland	E. melliodora -E. viminalis

The area contains a small amount of this type in the lowest topographic position.

Benson Map Units 20a [variant]

This community occurs on various parts of the plateau areas. . Although the 20a unit reputedly occurs only at Newnes it clearly occurs in an unmodified state on Elphinstone Plateau.It is ecologically related to other swamp vegetation such as the 26a community.In places there are monospecies swamps e.g. Hakea teretifolia and Gymnoschoenus sphaerocephalus.

Benson Map Units 21c & 21f "Open Heath"

There are so many variants of this complex that it is preferable to consider them as a mosaic.Structure can vary from single

species stands of Allocasuarina nana closed heath to open sedge communities of Lepidosperma viscidum.

The mallee variants can form low closed woodland or savannah.

The areas of heath at the cliff edge and ledge includes the second highest number of rare plants of the escarpment communities.This includes in this area;

Darwinia fascicularis spp. oliganthema
Eucalyptus rupicola
Epacris muelleri
Pseudanthus divaricatissimus
Eriostemon obovalis

In the undercliff areas as part of this compex other rare plants occur;e.g.

Sprengelia monticola
Allania endlicheri
Epacris apiculata

*In very moist undercliff"heath" the following rare plants occur

Adenochilus nortonii
Melaleuca squamea
Leptospermum sp, nov.'R'

Benson Map Unit 21d Pagoda Rock Complex

This is a highly specialised community confined to the narrow bands of moist rock and in the upper Blue Mountains contains the highest number of rare plants of this habitat anywhere in the Sandstone ecosystems.

The area contains the southern-most location of the pagoda rock formation at Megalong Head in both dry west facing and moist forest-tall heath.The main difference to that described by Keith and Benson is that Eucalyptus sp. nov.'MOK11'is absent suggesting that this occurence is probably an easterly variant of the 21d type.

Significance of the Vegetation Communities of Stage 1;

The mosaic nature of the communities in this area is closely related to their position in the climatic cline from Wentworth Falls to Bell. The valley vegetation is a distinct change from the moist forests of the Jamison Valley.

Importantly the rainforest is at the limit of its distribution.

Also the floristic compositions of the heath and swamp communities are distinct from those of Kings Tableland or Newnes Plateau.The above mentioned mosaic nature of the upland vegetation is indicative of the unique position of this area along the cline. In particular the merging boundaries between heath, swamp , eucalyptus forests and rainforests is significant in this regard.

Disturbance;

Much of the area is relatively undisturbed even though it has been close or adjacent to development since first settlement.The largest scar on the landscape is the failed Nellies Glen road of 1968 which remains to this day unrehabilitated.Grazing of the valley lands has been minor due to the poor soil, and good plant cover remains.

The small pine plantation on the Elphinstone Plateau has gradually yeilded to native regeneration over the years otherwise the site is undeveloped.

Rare Plants:

According to Keith and Benson[1988] and Briggs[1989] the upper Blue Mountains area contains 47 species of rare, threatened and signficant plants. The number likely to occur in this Stage 1 area is about 38.

The Elphinstone Plateau and nearby land is estimated to contain 30 species. To date very few surveys have been conducted in the area.All have been confined to the plateau and cliffs between 1070 aand 800m asl.There are probably a few rare plants specific to the Megalong Valley footslopes in a dryer ,warmer habitat.To date the limited surveys have revealed the following list of significant plants for the area.

SPECIES	STAGE 1	ELPHINSTONE PLATEAU	ENDEMIC
Microstrobos fitzgeraldii	+	+	+
Xanthosia dissecta		+	
Epacris apiculata	+	+	
Epacris muelleri	+	+	
Sprengelia monticola	+	+	
Pseudanthus divaricatissimus	+	+	
Acacia asparagoides	+	+	+
Acacia ptychoclada	+	+	+
Pultenaea echinula		+	+
Pultenaea incurvata	+	+	+
Darwinia fascicularis spp. oligantha	+	+	+
Eucalyptus ligustrina	+	+	
Leptospermum sp.nov.'R'	+		+
Melaleuca squamea	+		
Persoonia acerosa	+	+	+
Eriostemon obovalis	+	+	
Phebalium lachnaeoides	+	+	+
Allania endlicheri	+	+	
Adenochilus nortonii	+	+	
Total of 19	17	17	11

Significance;

This number of rare plants compares favourably with other reserved areas in the Blue Mountains. In fact it is second only to any other area on in the entire sandstone ecosystem.Wentworth Falls contains probably the highest number of species at approximately 25,but this includes a larger area than that of Elphinstone.

The species combinations at both locations are similar,as would be expected from the site analysis.

The Elphinstone site is unique in that it is the:

* Western limit of the distribution of Microstrobos fitzgeraldii and that population is unaffected by development.
* Contains the largest population of the recently rediscovered Phebalium lachnaeoides.
* Western most limit for the rainforest plant Fieldia australis at this latitude
* Contains an undisturbed rainforest
* Most significant easterly population of Acacia asparagoides and Persoonia acerosa.

Bushland of a similar type in the Katoomba-Wentworth Falls city area has been substantially degraded by comparison and reduced in total area.Consequently that Eucalypt forest and woodland is reduced in diversity and particularly the rare plants.

There is a strong possibility that the Nellies-Elphinstone axis will yeild further rare plants.

It is clearly a site of National Conservation Significance,and, considering the two rare plants Microstrobos and Phebalium for which distribution and their combination is unique world-wide, the site is clearly of International Conservation Significance.

The climate-topographic juxtaposition adds to the significance referrd to above.

**Note on the surveys by the TM proponents:

These have not revealed the true conservation significance of the Plateau as they were confined to the proposed development area i.e. the building site and immediate environs.

However as the WPECA claim to manage the entire area they should have conducted a comprehensive survey of their land and produced a Plan of Management appropriate to the conservation needs of the habitat and the rare and endangered species.

Fauna:

The fauna of the area have not been studied extensively.It is known from work by Jones and Smith [unpublished] that a rich arboreal fauna exists particularly in the Megalong Forests.This includes

* Greater glider
* Feather tail glider
* Sugar Glider
* Squirrel glider
* Cercatetus nanus
* Ring tail possum
* Brush tail possum

* Sooty owl rare and endangered
* Powerful owl also rare and endangered
* Boobook owl
* Tawny frogmouth

Terrestrial mammals recorded are

* Red necked Wallaby
* Swamp Wallaby
* Grey Kangaroo. The only record of this species on the developed plateau occurs at Elphinstone Plateau [1990 and previously noted separately by Smith, Jones and others].

An invertebrate of note is the Silky Hairstreak a butterfly ,which was recorded in Nellies Glen and which is known only from one other location at Mittagong. Following the disturbance by the failed road construction it may have retreated to the Elphinstone area.

Birds;

Probets [unpublishedland others have recorded the birds of Nellies Glen and Elphinstone Plateau.A total of fifty two species has been noted for the area with the following ones of particular interest;

* Peregrine Falcon, Rare and endangered

* Superb Lyrebird, on the Plateau in the vicinity of the proposed TM centre

* Scaly thrush, also on the building site of the TM centre.

* Rock Warbler, a bird of the sandstone cliffs

The area of pines on the Elphinstone Plateau does not interfere with the integrity of the native birds as it is too small and well buffered by native plants.

Historic Features;

The area of the proposal is straddled by the oldest routes west and to the Megalong Valley. Three roads are still evident in the Bonnie Doon -Pulpit Hill area. This was also the site of the first settlement in the Katoomba area and includes some convict graves.The unsolved riddle of the Explorers Tree, continues to this day attracting not only historians but many interested and simply curious, visitors.

Bonnie Doon was the original way into the Megalong and later, Blacks Ladder on the Elphinstone Plateau,which is still passable.

Nellies Glen the original "tourist" route to Jenolan Caves is now popular once again. All but destroyed by the council in 1968 it is slowly returning to a new "equilibrium" but could do with substantial reconstruction. Parts of the original Six Foot Track are still visible having been rediscovered in 1987 by W.Jones.Many old tourist walking tracks are still useable, the problem being that they are often on private land such as the TM centre, and the Lovers Walk from the Hydro-Majestic.

These tracks are a permanent community asset and should be maintained.

The area contains several sites of the original collections of plant species, adding to World Heritage Value.

Zoning of the Land of the Proposal:

Much of the land in the proposal is zoned 7e and is unavailable for development[EMP 1].A large portion is crown land of one class or another suitable for aquisition by the NPWS. The areas of highest conservation value are owned privately .Notably both locations of the two rarest plants are in private land.

The WPECA land dominates the proposal area and would need to be acquired to complete the proposal and provide effective managemaent of the resources.A crown water reserve adjoins the WPECA land to the south and a council reserve to the north.

**To maintain the land-between-towns concept of an uninterrupted green belt it will be nescessary to prevent any further development on this escarpment.The TM centre would create a precedent, spreading development and pollution outside the current city boundaries,which only World Heritage or other special legislation could prevent.

This Society's proposal is that the land be acquired for conservation under the protection of the National Parks and Wildlife Service.The following action is needed to achieve this end :

* All present crown land be transferred to NPWS.
* Immediate purchase of all critical land as below-
  - -all of the Elphinstone Plateau land of the WPECA
  - -the Bonnie Doon catchment
  - -the remaining areas of escarpment not owned by WPECA
* long term aquisition of the remaining land
* Enactment of special legislation to prevent development on the escarpment and nearby plateaux
* Use of Interim Protection Orders or similar measures to protect the resources of the area until it is secure.

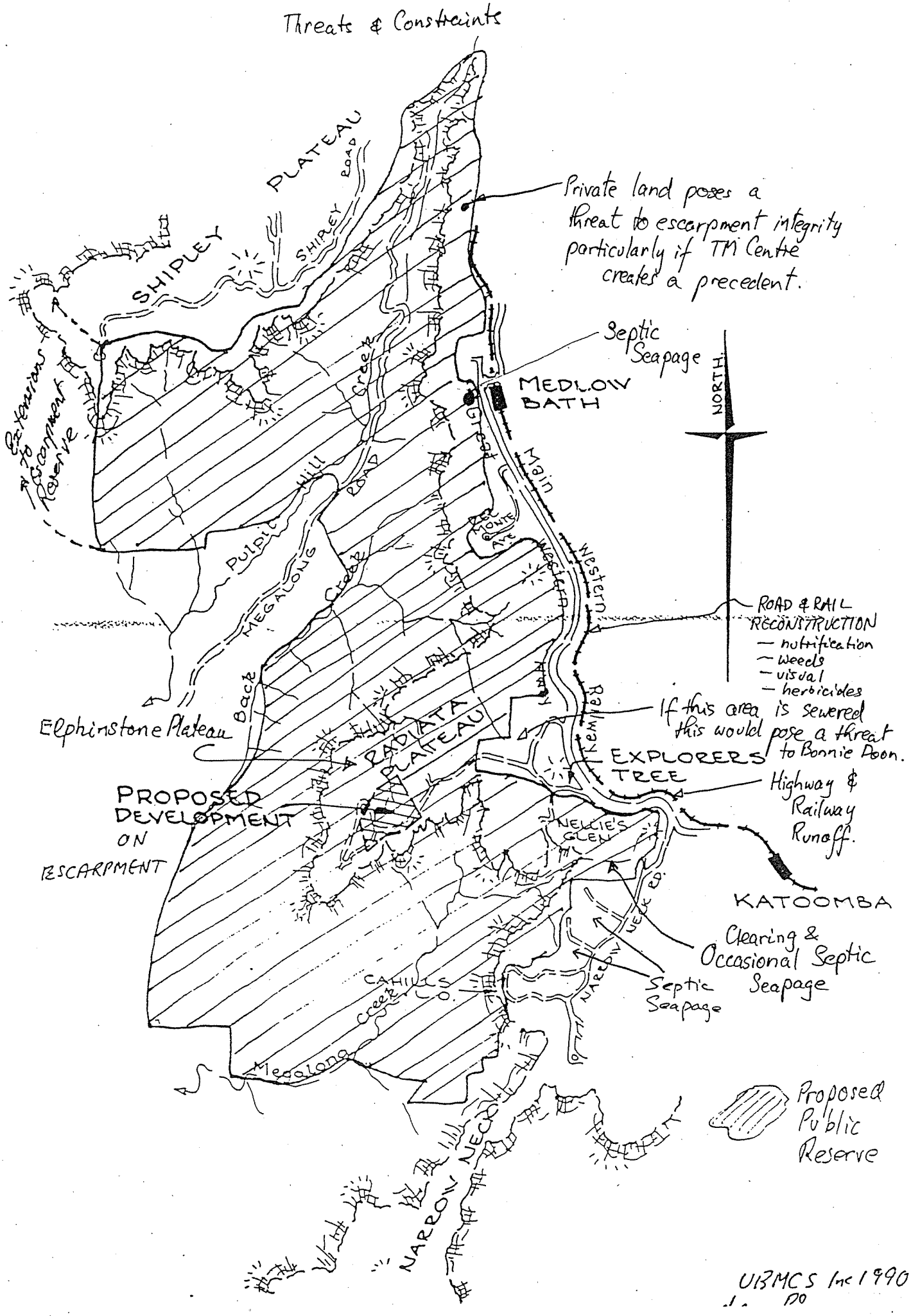
The Society believes that the resource is vital to scientific,cultural and educational pursuits of the local and wider community.To this end it is proposed that an Environmental Education Field Centre be established on a cleared , non sensitive site in the vicinity.

** The Society proposes that this area be added to the nomination of the Blue Mountains Parks for World Heritage.

Recommendation:

That your Government consider this proposal for Acquisition of the Highly Significant Southern Escarpment to the Blue Mountains National Park and accept this Society's offer of funding to assist that purpose.

UBMCS Inc. WORLD HERITAGE AREA OF THE GREAT SOUTHERN (WESTERN) ESCARPMENT



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