

PUPIL INITIATIVES IN URBAN NATURE TRAIL DEVELOPMENT: PMB MOSS AND THE FOXHILL SPRUIT

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A brief background to Greenbelt and urban nature trail development in Pietermaritzburg is provided. Negotiations and procedures initiated by standard 9 pupils in stimulating authorities and the public to recognise the need for urban trail development and metropolitan open space (MOSS) are outlined. Long-term considerations and general recommendations, based on the development of a model trail along the Foxhill Spruit, are presented.

INTRODUCTION

Pietermaritzburg has within its boundaries a considerable diversity of indigenous vegetation types ranging from *Podocarpus* climax forest in the north west to *Acacia* thornveld and grassland in the south. It is traversed by thirteen streams and rivers, many of which are relatively undisturbed, despite being close to developed urban and industrial areas. The potential for the development of public open space and urban nature trails has recently been recognised by a group of secondary school pupils who are now in the process of developing a model trail along one of the city's streams.

BACKGROUND TO THE PRESENT SITUATION

In March 1973 the Wildlife Society of Southern Africa proposed such development at a Greenbelt symposium. It was suggested then that the city be encircled by areas of relatively undeveloped land which would protect examples of the various vegetation types and within which trails could be developed for public recreational and educational use.

Consequently certain forested north-western escarpment areas were proclaimed as Greenbelts, partly as a public amenity, and partly as a means of keeping the prominent northern skyline in pristine condition (R. Abbott, pers. comm.). The areas which were proclaimed are however characterised by steep slopes and unstable soil and, being unsuitable for either urban or industrial development, were comparatively unthreatened and did not perhaps require this protection as much as certain other areas at that time. Trails were developed here and plans made to link them to the city's rivers and streams (Levy, 1982). These trails have subsequently proved to be inaccessible to most of the city residents. This, together with a lack of maintenance, publicity, educational value and the fact that the trails were routed largely through exotic plantations (which after felling operations rendered some of the trails unattractive), detracted considerably from their value as a public amenity.

Equivalent Greenbelt status was not given to the southern grassland and thornveld areas. These were being increasingly threatened by developers because of their relative flatness, geological stability and easily removed natural vegetation. Trails were however never constructed here and, while certain

south-eastern areas such as Darville sewage works (the proposed Hollingwood industrial development) were saved by the intervention of concerned members of the Pietermaritzburg community and city council, extensive urbanisation did occur in Oribi, Westgate and Bisley.

Although the need for such development must be acknowledged, it appears that in 1973 the opportunity to integrate public open space and urban trails into those then undeveloped areas was lost, and along with it much of the remaining thornveld and grassland within the city boundaries.

After the initial Greenbelt trail development, public interest faded and no further noteworthy progress was made for twelve years.

Pupil initiatives

Early in 1985 interest in the development of urban nature trails in Pietermaritzburg was revived as a direct result of action by a group of standard nine boys, the Maritzburg College Conservation Group (MCCG). Their involvement in the issue was stimulated by the 1985 'Symposium for the conservation of nature and our environment', an annual event coordinated by the Natal Education Department. The criteria for papers presented at this symposium required *inter alia* that projects reported on should involve positive *action* by the pupils in a field related to environmental conservation. An urban nature trail development project was regarded as ideal.

As the concept of trails had evolved considerably since 1973 it meant that such trails would differ both in their position and their objectives from those of the original Greenbelt areas. The MCCG had decided, as part of their aim, "to motivate Pietermaritzburg's public into creating and maintaining a system of natural open space trails within the city's boundaries." (MCCG, 1985). The pupils believed that the most effective way to approach this objective and to "educate the public and explain the needs and values of such trails" (MCCG, 1985) would be by

- a. creating a model trail to serve as an example for the development of other similar trails in the proposed system, and by
- b. presenting an informative lecture on the topic to as many influential people as possible within the community.

PLANNING THE DEVELOPMENT OF THE MODEL TRAIL

Selection of area

Areas suitable for the development of model trails in Pietermaritzburg include the valleys of at least four tributaries to the uMsunduse River. One of these, the Foxhill Spruit, was selected on the basis of the following considerations:

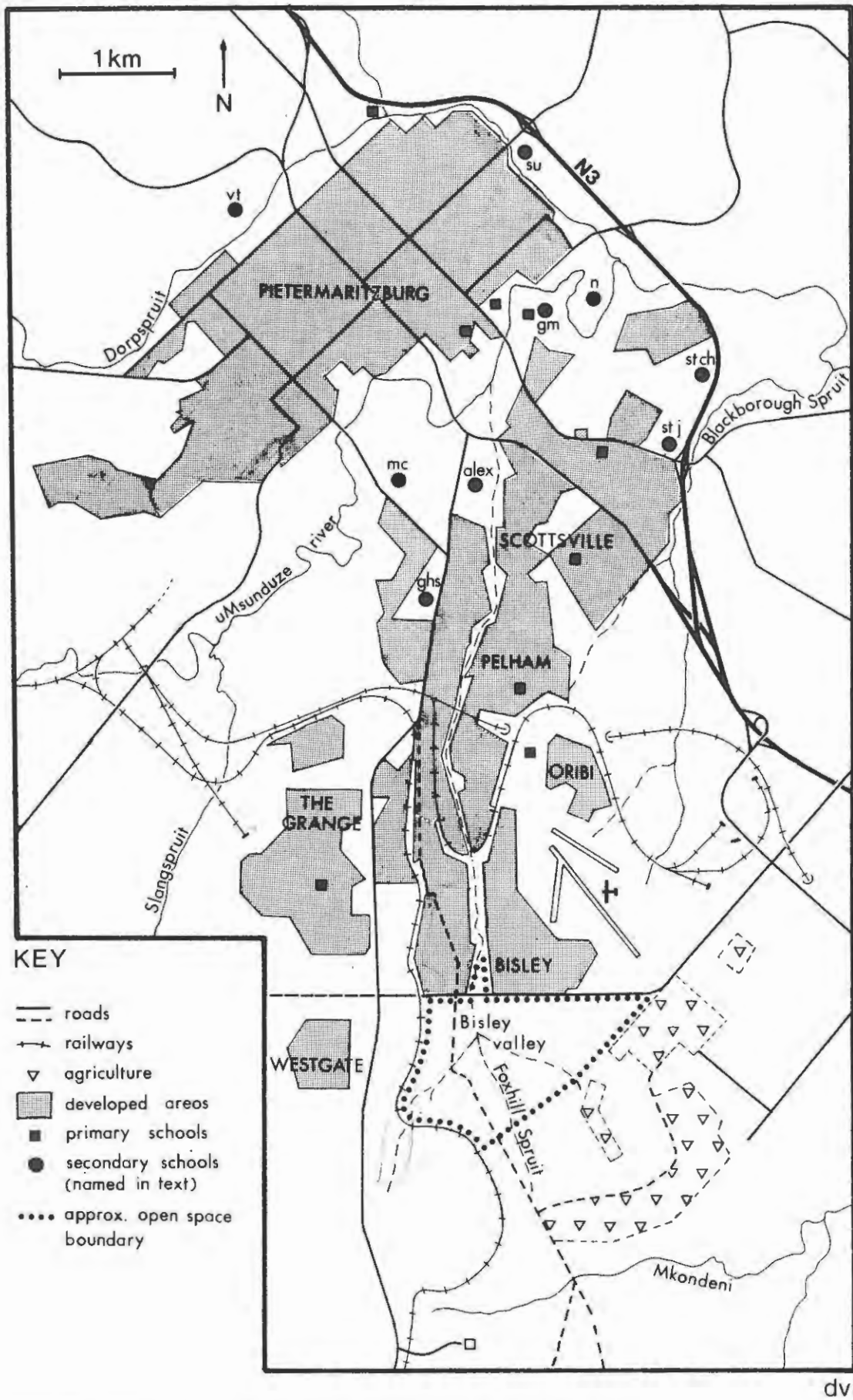


FIGURE 1 The positions of schools in relation to the Foxhill Spruit.

- *Ownership:* The course of the Foxhill Spruit is not intersected at any point by private property; it flows through a corridor of undeveloped land with the closest houses being approximately 10 metres from the riverbank. A trail planned here would not be subject to problems relating to ownership and access rights.
- *Trail length:* When complete the trail would be a maximum of 7 km long. While this would provide a total walking time somewhat longer than the 1 - 1½ hours recommended by Levy (1985), the existence of many easy access points would allow trail users to walk many shorter variations.
- *Proximity to southern suburban areas:* The Foxhill Spruit flows through the major southern suburban areas of Bisley, Pelham and Scottsville. In a public opinion survey conducted in these areas, 98% of the residents questioned supported the need for urban nature trails more accessible to them than those of the north-western Greenbelt.
- *Proximity to schools:* The relatively easy access to the Foxhill spruit from Maritzburg College (mc), Alexandra High School (alex) and Girls' High School (ghs) is important both for physically constructing the trail and for future environment-based educational activities. (Refer to Figure 1).
- *Ecological value:* The Foxhill Spruit has its source at the head of Bisley Valley, an area of

relatively undegraded mixed thornveld and grassland. The significance of this is that the Bisley Valley forms a 'species reservoir' where many bird and mammal species that have become scarce in the southern suburban areas in recent years continue to breed. If protected, the spruit may eventually provide an ecological corridor along which such species could migrate to repopulate other river valleys in the city. It is in fact this connection which the Foxhill Spruit forms between Bisley Valley and the other streams of Pietermaritzburg that gives it its major ecological value and which ranks it as an urban conservation priority. (Pietermaritzburg Environmental Committee, 1985a).

Having thus selected to develop a model trail along the Foxhill Spruit, the pupils proceeded to gather information which would help to provide support and motivation for their proposals. Strong public support had already become apparent in an opinion survey, and what remained was a considerable amount of negotiation with the controlling authorities in order to obtain permission for the project to proceed.

Negotiation with controlling authorities

The MCCG began by meeting with the Pietermaritzburg Parks and Recreation Department. This led to many interviews and meetings with other interested parties, including local environmentalists, city councillors, the Natal Parks Board, the Wildlife Society of Southern Africa and the Scottsville Ratepayers Association. At these meetings the



FIGURE 2 A section of the Foxhill Spruit in the Pelham area showing the proximity of houses to the river.

objectives and implications of the project were discussed and sufficient support was gained to enable MCCG to draft a letter to the Town Clerk requesting permission to proceed with the development of a trail. A copy of the letter was sent to the Parks and Recreation Department.

At a meeting convened in the interim by the Town and Regional Planning Commission (and attended by the Wildlife Society of Southern Africa, the City Engineer's Department, the City Parks and Recreation Department and the Natal Bird Club), it was decided that a Pietermaritzburg Metropolitan Open Space System (Pmb MOSS) be created and that the Environmental Committee of the City Council be asked to act as the Pmb MOSS Steering Committee. Within the MOSS suitable vacant land owned by the Pietermaritzburg City Council would be zoned for non-consumptive utilisation. More specifically, the goals and objectives of the Pmb MOSS include the biological conservation of natural habitats, the development of trails, recreation, education, visual amenity and river protection. (Pietermaritzburg Environmental Committee 1985b). The MCCG was consequently invited to address a meeting of the Environmental Committee on their proposals with a view to possible integration of the model trail into the Pmb MOSS (Pietermaritzburg Environmental Committee 1985c). At this meeting the Wildlife Society of Southern Africa proposed that the uMsunduse River system be linked to the Greenbelt trail system (Hurt, 1985).

Up to this point the role of the school pupils in the establishment of open space and trails had been one of a catalyst, creating awareness and interest among decision-makers and controlling authorities. A consequence of their action was the declaration, at the end of September 1985, of a relatively large area of thornveld in Bisley Valley as public open space.

Long-term considerations

Detailed planning is a prerequisite to any trail development project (van Rensburg, 1983a) and therefore, while awaiting official permission to commence groundwork, several practical long-term issues were considered. These included:

- *Routing of the trail:* The inclusion of varied gradients and a variable distance of the path from the river were regarded as important in making the trail interesting and allowing the precise route which is followed to be subjectively determined. The model trail may also be zoned, such that short easy walks are provided in park-like surroundings nearer the city, while more demanding walks are constructed in the south, grading ultimately to a state of 'urban wilderness' in the protected Bisley valley thornveld.
- *Re-establishment of indigenous vegetation:* While the many exotic plants such as syringa, gum, mulberry, wattle, bugweed, lantana and bramble which have invaded the Foxhill Spruit are regarded as a serious threat to the indigenous vegetation, their eradication would be both extremely costly and time-consuming (Alexandra High School Ecology Research Group, 1985). The tenacity of many of these exotics also renders unrealistic any plans for complete re-vegetation with indigenous species. To avoid soil degradation the removal of exotics must be preceded, or at least accompanied, by the planting of *locally* indigenous seedlings. In the case of the Foxhill Spruit these would include *Acacia sieberana*, *Ziziphus mucronata* and *Maytenus heterophylla*.

The acquisition of sufficient numbers of seedlings is in itself a large undertaking. For



FIGURE 3 Pupils of Alexandra High School collecting litter along a section of the Foxhill Spruit near the school.

the Foxhill Spruit it was begun by seed-collecting in the Bisley Valley to ensure that plants used would be preadapted to local environmental conditions. Local nurserymen agreed to germinate the collected seeds and some of the seedlings may be of plantable size by September 1986. At the same time it may be worthwhile maintaining small populations of the above-mentioned exotics for the purpose of increasing public awareness of them.

- *Dumping and littering:* The public habits of littering, and more seriously, of dumping loads of waste on undeveloped land represent a major problem to urban nature trail developers. The only effective solution appears to be in large-scale organised clean-ups, repeated at intervals on a smaller scale and accompanied by appropriate publicity. One such clean-up undertaken by boys of Alexandra High School yielded 89 large plastic garbage bags of small litter, as well as an assortment of larger items, all from a stretch of the Foxhill Spruit only 1,5 km in length. The positive action of an educated public in promoting anti-litter and anti-dumping campaigns and legislation, based on an assessment of the sources of litter, may also be effective in the long term. (van Rensburg, 1983b). Further clean-ups have been planned involving the co-operative efforts of pupils from several Pietermaritzburg schools.
- *Funding:* Funds had not been a problem during 1985 since the relatively limited physical labour involved was done by pupil volunteers and transport provided by teachers and parents. In the case of the river clean-up equipment was borrowed and the cost of plastic litter bags was borne by the school Wildlife Society. It is inevitable though that greater funding will become necessary at some stage. Appropriate fund-raising efforts would then have to be undertaken by the pupils, and may include requests for financial assistance from interested commercial concerns.
- *Publicity:* Increasing public awareness of the plans, achievements and value of the project and its ideals was part of the original aim. The role of newspaper coverage was regarded as important and considerable support was obtained from the *Natal Witness* in this regard. In terms of future plans, continued news coverage is essential since previous trail development projects, such as those of the 1973 Greenbelt areas, lacked effectiveness because they lacked on-going publicity and informative advertisement. The MCGG has tentatively planned to produce a brochure providing information on all aspects of the Foxhill Spruit trail, possibly as a first step towards the establishment of an interpretive centre at Bisley Valley. Ultimately public relations efforts similar to those described for the Braamfontein Spruit (in the Johannesburg area) may be considered. These would include an annual 'spruit day' when guided walks, lectures and various other activities would be arranged to increase public awareness. (Hoogervorst, 1983).
- *Involvement of schools:* Since the Foxhill Spruit trail would be intended as a model it is envisaged that other schools may eventually become involved in the development of a larger system of river trails, which would link the southern thornveld to the north-western forests. As can be seen on the accompanying map (Figure 1), most Pietermaritzburg schools are situated close enough to streams or rivers to enable them to develop and use such trails.

Some of the high schools that will hopefully become involved include on the Dorpspruit: Sultan (su) and Voortrekker (vt) (the latter already undertaking a project of this nature); on the uMsunduse river: Gert Maritz (gm) and Newton (n); on the Blackborough spruit: St. Johns (stj) and St. Charles (stch); on the Foxhill spruit: Maritzburg College (mc), Alexandra (alex) and Girls' High School (ghs).

The activities of these schools would be co-ordinated by the Midlands Schools Wildlife Association (MSWA), a pupil body which was established in mid-1985 by pupils of Girls Collegiate in an attempt to unify and direct the conservation efforts of schools' wildlife societies and outdoor clubs in the area. The co-operative development of urban nature trails was subsequently adopted by the MSWA as its major project for 1986.

CONCLUSION

While it may at first appear that a project of this nature could be undertaken without direct reference to authorities outside the school, this is not necessarily the case. It has become evident during the course of this project that the more impact the project is to carry with respect to educating the public environmentally, the greater the amount of planning and negotiation that will be required to achieve meaningful results.

It is hoped that this report will serve two major purposes. Firstly, to demonstrate what can be achieved by the dedicated action of secondary school pupils. Secondly, to enlighten and encourage anyone who has the interest and potential to become involved in such a venture.

Amongst the factors contributing most to the success of this project so far has been the positive attitude of members of the Environmental Committee of the Pietermaritzburg City Council. Indeed, the role of pupils in the project, apart from that of initiating it, has been primarily one of a catalysing influence on such authorities and decision-makers who share a common interest in the development of a Pietermaritzburg Metropolitan Open Space System. A further consequence of the pupils' activities has been the interest generated in other schools, amongst parents, the ratepayers association and the wider community, all of which may serve to promote the aims of urban environmental conservation.

Persons willing to offer any further comment or recommendations are invited to contact the authors at their given addresses.

REFERENCES

- ALEXANDRA HIGH SCHOOL ECOLOGY RESEARCH GROUP 1985: *Bugweed: Friend or Foe? A preliminary study of the ecological status of Solanum mauritianum in the Pietermaritzburg area*. Paper presented at the Symposium for the Conservation of Nature and our Environment, Pietermaritzburg.
- HOOGERVORST A. 1983: Braamfontein Spruit Day. *Environment RSA* Vol.10 No.10 p.2.
- HURT C.R. 1985: *Preliminary proposals for the management of the uMsundusi River system within the Pietermaritzburg Municipal boundaries*. Paper presented on behalf of the Wildlife Society of Southern Africa to Pietermaritzburg Environmental Committee, 20/9/1985.

LEVY J. 1982: *Everyone's Guide to Trailing and Mountaineering in Southern Africa*. Struik. Cape Town.

LEVY J. 1985: *Practical Trail Design*. Ciskei Tourist & Holiday Trust. Bisho.

MARITZBURG COLLEGE CONSERVATION GROUP (MCCG) 1985: *How Green are our Valleys?* Paper presented at the Symposium for the Conservation of Nature and our Environment, Pietermaritzburg.

PIETERMARITZBURG ENVIRONMENTAL COMMITTEE 1985a: Minutes of meeting held in the Supper Room of the City Hall on Friday 10/5/1985.

PIETERMARITZBURG ENVIRONMENTAL COMMITTEE 1985b: Memorandum: Pietermaritzburg Metropolitan Open Space System. 17/9/1985.

PIETERMARITZBURG ENVIRONMENTAL COMMITTEE 1985c: Agenda of meeting 20/9/1985.

VAN RENSBURG T. 1983a: The conservation value of hiking trails. *Environment RSA* Vol.10 No.10 p.4-5.

VAN RENSBURG T. 1983b: Littering is a dirty word! *Environment RSA* Vol.10 No.12 p.4-5.

TERMIET OORBeweIDING

Cornelia Hougaard

Oorbeweiding is wanneer die grondbedekking so weggevreet en vertrap word dat erosie eindelijk intree. Baie faktore kan lei tot oorbeweiding en dit word baie keer verk-eerdelik aan termiete toegesê, omrede daar nie erken wil word dat te veel wild aan-gehou word nie. Sodoende word die skuld dan toegeskryf aan termiete. Daar is egter 'n duidelike verskil tussen die manier waarop wild gras benut en wanneer termiete die gras vreet.

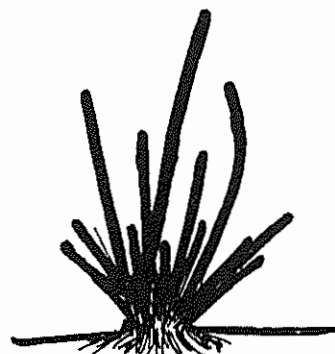
Wanneer die graspolle eweredig afgevreet word is dit wild en wanneer die graspolle se stingels egter oneweredig afgevreet word is dit termiete. Die verskil is baie

eenvoudig; wild vat 'n bevol gras en so-doende word 'n klomp stingels gelyk afge-breek teenoor termiete wat stingel vir stingel wegdra.

Hierdie waarneming sal egter nie op baie kort gras sigbaar wees nie. Nog 'n verskil waarna opgelet moet word is dat die punt van gras-stingels wat deur termiete afge-vreet is 'n konvekse vorm het, terwyl die wat deur wild benut is is versplinter.



Wild



Termiete