Proposal to make Table Mountain National Park Safe for Visitors

Louis Liebenberg

www.cybertracker.org
Crime on Noordhoek Beach

From 2000 to 2004 the Noordhoek wetlands and beach in the Table Mountain National Park suffered ongoing criminal attacks on visitors. Criminal attacks included armed robbery, assault of visitors and rape. Due to the remoteness of the area, the police and park rangers were unable to apprehend suspects. Only by tracking suspects and using the CyberTracker to plot their movements, was it possible to plan successful operations to catch the criminals. The CyberTracker monitoring programme has proven very successful in reducing and preventing attacks on visitors. After several arrests in 2004, there have been no reported attacks on visitors. A number of attempted attacks have been prevented during the period of 2005 to 2007.

In the past a spate of criminal attacks started up again following a quiet period after the arrest of suspects. To prevent this from happening in the future, ongoing training has been provided to ensure the integrity and safety of the area.

A number of field rangers in Noordhoek are being trained in the use of the CyberTracker and as part of the ongoing monitoring programme also records observations on animals and endangered plants in the area. Species not known to occur in the area have been discovered, including the Cape Fox and Yellow Mongoose. Movements of otters are also closely monitored.

The successful methods developed in Noordhoek can be used to make other parts of the Table Mountain National Park safe for visitors.
An essential part of the strategy is to get to know the area, to gather information on criminals by studying their tracks, their movements and where they hide.

Knowing the movements of criminals makes it possible to plan strategic observation posts to monitor their movements.

Tracking and plotting the movements of criminals on a map makes it possible to plan operations to catch them and collect enough information to convict them.
Detailed maps are essential to coordinate operations. Distinctive landmarks need to be labeled to ensure good communication between Observation Posts and the Specialist Reaction Unit.

To avoid miss-communication rangers in Observation Posts and members of the Specialist Reaction Unit need to get to know the area and the landmarks on the map, so that everyone knows exactly where they are. Valuable time can be waisted if the Observation Post cannot explain to the Reaction Unit on the ground exactly where the suspect may be hiding. Rangers in the Observation Posts also need to get to know the area very well so that they can spot suspects hiding in the bush. To spot someone hiding in the bush requires considerable skill in detecting signs in the landscape.
Individual criminals are monitored by their tracks. Tracks also make it possible to establish associations between criminals by comparing groups of individuals who walk together on different days.

Criminals who got away from the crime scene have been arrested later and connected to the crime scene with footprint evidence. Footprint evidence can be as effective as fingerprints.
Trackers can sometimes identify a potential suspect by the way they walk. For example, criminals often loiter and drag their heels in a way that hikers do not. They may also wear worn-out shoes, while hikers usually wear hiking boots.

The context of tracks may also indicate potential suspects. For example, suspects may hide behind a bush away from the path, from where they wait and watch for potential victims. It is also important to establish where suspects came from and where they were going to, in order to plan operations.
Trackers can discover hiding places that rangers may not be able to detect. This hiding place was so well hidden that someone walking a few meters past it would not have seen it.

Only by following tracks was it discovered that the tracks disappeared into the bush. Inside the bush suspects had cleared a hiding place where they made fire and were able to watch the Kakapo to wait for potential victims.
CyberTracker Handheld Computer

The CyberTracker icon interface was originally designed for trackers who cannot read or write. However, scientists and conservationists benefit from the icon interface enabling significantly faster data collection than text interfaces or written methods.

CyberTracker is the most efficient way to gather large quantities of geo-referenced data for field observations, even by non-literate users, at a speed and level of detail not possible before.

Screen designs can combine text and icons for the optimum efficiency. Number and text fields can also be entered by means of conventional key pads or keyboards. Icons can be designed and customized for the user’s specific needs and imported into CyberTracker.
Effort of Patrol

The automatic GPS Timer Points records the path followed by the observer and makes it possible to measure the Effort of Patrol.

Patrol paths shown on a map makes it possible to ensure the area integrity of a park. Efficiency Graphs show the number of observations, the distance covered and the time spent on patrol each day.

A Grid View of the map calculates the Cell Count as well as a spatial visualization of the Effort of Patrol.
Kruger National Park

The largest and one of the most successful CyberTracker projects is in the Kruger National Park (KNP) in South Africa. This project is now generating more than a million records per year. Each of the 22 management sections throughout KNP uses 5 CyberTracker units, and 5 units are used by the Conservation Services Department.

There is no reason why the Table Mountain National Park should not use the same methods as the Kruger National Park.

The database was customized as an icon-based interface with English and Shangaan descriptions for the collection of the following geo-referenced data:

- Daily field ranger patrol information
- Species distribution
- Tracks of illegal human activities
- Tracks of rare animals
- Availability of surface water
- Location of carcasses
- Poaching activities
- Fence line breakages
- Distribution of invasive species
- Fire mapping
- Vegetation surveys
- Collaborative research projects
- Annual veld condition assessments
- Location of diseased or injured animals
- Impact of elephants on sensitive tree species

The CyberTracker field data benefit both the management and scientific research of KNP through:

- Planning of section patrols for area-integrity management
- Acting as an early warning system for disease outbreaks
- Identify trends in the entry and exit points of poachers
- Managing the control of invasive species
- Reporting fence breaks to the Veterinary Dept for animal health purposes

The CyberTracker system has proven to be an indispensable tool for field data collection in the Kruger National Park. The easy-to-use icon-based interface has the potential to all but eliminate the time consuming practice of data capture, allowing more time for scientific research. This research, which is fed into the KNP’s adaptive management practices and policies, leads to a better understanding by KNP managers and scientists of the facets and fluxes of the diverse ecosystems of the national park.
CyberTracker data on Patrol Distribution for one month in the Kruger National Park
CyberTracker data on Patrol Distribution for one year in the Kruger National Park
CyberTracker data on Poaching Activities and illegal Trans-migrant Tracks in the Kruger National Park
Proposal: Operational Plan to make Table Mountain National Park Safe for Visitors

Louis Liebenberg

Problem Identification

Apart from the moral responsibility towards individuals who are raped, a failure to deal with crime in the Table Mountain National Park could have far-reaching economic implications. The nature of the crime, including rapes and stabbings, could have a severe impact on tourism in Cape Town, with far-reaching implications for the whole tourism industry of Cape Town. Failure to address the situation could result in huge losses in tourism revenue. This issue should therefore enjoy the highest priority.

The SA Police is understaffed and over-worked and cannot give priority to park areas that they are not familiar with. High levels of crime in other parts of Cape Town will always enjoy a higher priority than crime in the National Park. The Table Mountain National Park must therefore take responsibility for the safety and integrity of the Park.

Infrequent and unpredictable attacks on visitors, remote areas, open access to the park and the variety of terrain requires an adaptable strategy that works for a number of specific conditions. Experience in Noordhoek over the last five years have also shown that criminals adapt their own strategies to counteract law enforcement strategies.

What is required is an Adaptive Monitoring System with specialised teams of highly motivated professionals who can deal with a unique crime situation that changes over time and may move from one area to another. At present no such system exist. The Table Mountain National Park will have to create such a system to deal with a unique situation.

Adaptive Monitoring System

The Adaptive Monitoring System would consist of a Specialist Reaction Unit (SRU) and a number of Specialist Surveillance Units (SSU’s).

The primary objective of these units are to deal with criminal activities such as serious assault, including robbery, armed assault, rape and murder. They should not be deployed to deal with minor crime, such a car break-in or theft that does not pose a threat to the safety of visitors. Minor crimes should be dealt with by regular rangers.
The SSU’s should gather data required for intelligence driven operations that should be coordinated by the SRU. A secondary objective of the SRU and SSU’s will be to gather ecological data.

The SRU and SSU’s have specialised functions and members should not be employed to do other ranger duties.

**Reporting**

The Head of the SRU should report to the Head of Department, Corporate Investigation Services (CIS). The SSU’s should report to the Head of the SRU. However, the SRU should work in close cooperation with the Area Managers and Section Rangers of the Table Mountain National Park.

Monthly electronic reports should include:

- Efficiency Graphs, showing number of observations, distance covered and time spent on patrol
- Patrol Routes on map
- Effort of Patrol map, showing where patrols spent most of their time
- Index of Abundance maps, showing where criminal activity is concentrated
  Spoor analysis, showing group composition and associations amongst potential suspects

Note that once the CyberTracker software has been customised, most of these graphs and maps can be produced automatically. It would therefore not take very long to produce these reports.

The Table Mountain National Park should provide the budget for the SRU and SSU’s. Where possible, members of the SRU and SSU’s should be recruited from current Table Mountain National Park rangers. To minimise the need for new funding, rangers already employed should be transferred to the SRU and SSU. If qualified persons are not available amongst current employees, they must be recruited from outside the park.

**Specialist Reaction Unit**

The Specialist Reaction Unit would consist of five persons:

- Head of the SRU
- Second in Command of the SRU
- Senior Tracker
- Tracker (who should also be a Runner)
- Special Runner (the fastest available Runner)
The Head of the SRU would be in charge of both the SRU as well as the SSU. The Head of the SRU will also be responsible for strategic planning, coordinating the gathering of intelligence and data analysis. This person should have a good understanding of tracking and observation posts. This person should have the required management and field skills and be able to apply stealth techniques to lead the SRU team into a position where criminals can be caught. This person should also have a keen understanding of ecology. The Head of the SRU should spend at least 80% of the time working on foot in the field and not more than 20% of the time in an office or in meetings (this can be measured by the Efficiency Graph).

The Second in Command of the SRU should be able to manage and analyse data and run an operation when the Head of the SRU is on leave or not available.

The Senior Tracker and Tracker should be able to follow up tracks and signs to establish the movements and habits of suspects. This data is crucial in strategic planning of operations. On Noordhoek beach, for example, successful operations have been based on tracking data. In areas where tracking conditions are more difficult, such as Newlands Forest, strategic Track Traps can be used to monitor movements of suspects.

The Runners should be chosen for speed and fitness in order to catch criminals in a variety of terrain and circumstances. The most crucial is the ability to sprint about 200m to catch criminals before they get away, or sustain a fast running pace for up to 5 km when they do get away. They should wear light running shoes and clothing. In Noordhoek criminals have been able to get away by throwing away their shoes and running barefoot, while the rangers (wearing heavy boots and uniforms) could not catch up with them.

(Note that for a number of reasons horses are not the most practical option to catch criminals. Horses are expensive and labour intensive to stable and maintain. They can only be deployed for a limited number of hours under limited conditions. They cannot follow criminals up or down steep mountain slopes. In flat areas, like Noordhoek beach and wetlands, they are too visible to use in stealth operations. Runners, who can stalk and hide in strategic positions, are the most flexible and practical way to catch criminals.)

Specialist Surveillance Units

The primary objective of the Specialist Surveillance Unit is to gather information that can be used by the SRU to arrest suspects and ensure that enough evidence has been obtained to secure a conviction. The secondary objective of the SSU is to gather ecological data if and when no criminals are active in their designated areas.

A Specialist Surveillance Unit would consist of three members, with at least two employed in the field (if one is on leave). The SSU should be equipped with a digital camera, handheld computer with GPS, radio, cell phone and binoculars. At least one member should be a qualified Track & Sign Specialist.
It is recommended that at least four SSU’s should be established, giving a total of 12 members. To cover the whole park may require at least 15 SSU’s, giving a total of up to 45 members. Ideally the park should have up to 25 SSU’s, for a total of 75 members.

Data gathering would include:

1. Observations of potential suspects, including footprint evidence. In areas where tracking conditions are difficult, Track Traps should be created in strategic locations to gather spoor information.
2. Data on visitors, including numbers and frequency of movements in different areas. Criminals tend to avoid areas where there are large numbers of people (because they may be caught) or areas where there are no people (because it would not be worth while). The optimum target areas for criminals are remote enough to make an easy escape, but with enough visitors to make it worth targeting. Gathering geo-referenced data on visitor numbers may help to identify high risk areas.

The SSU should also conduct ongoing ecological monitoring. This will help to keep them alert during quiet times when there are little or no criminal activity, while improving their tracking skills over time. It will also provide invaluable ecological data for the management of the park, including Red Data species and alien plants.

The SSU must have daily access to a PC with email so that data can be fed into a centralised computer managed by the Head of the SRU. This will make it possible to coordinate operations on a park-wide basis. The SSU should fall under the authority of the Head of the SRU, and not be used for other ranger duties. They should only be used for monitoring and data gathering. If SSU’s are placed under Section Rangers, they will be used for other ranger duties and the whole Adaptive Monitoring System will come to nothing.

**Minimum Qualifications**

Physical Fitness: All members of the SRU and SSU (including the Head of the SRU) should be physically fit. They should be able and willing (when necessary) to walk 20 to 30 km in a day, over terrain that includes soft sand, wetlands and mountains. They must be prepared to walk at least 12 to 15 km every day.

Speed: Runners must be selected for speed over 200m in soft sand. They should also be able to maintain a fast running pace for up to 5 km.

Tracking Skills: The SRU should have at least one (preferably two) qualified Senior Tracker. Each SSU should have at least one (preferably two) Track & Sign Specialist.

Computer Skills: The Head of the SRU and the Second in Command should have required computer skills to manage and analyse data collected by SSU’s.
Equipment

5 Motor Bikes for SRU (for rapid response they need to get through traffic).
6 Radios: 2 for SRU, with head phones for silent communication. 1 for each SSU. If possible, 1 police radio (to communicate with police helicopter or police units).
9 Cell Phones: 5 for SRU (each member must be in contact for rapid deployment). 1 for each SSU.
6 Binoculars
6 Digital Cameras
6 PocketPC/GPS with customised CyberTracker software
1 Desktop Computer, but SSU should have access to PC with email to send data to SRU.
1 Photo Quality Printer (to print detailed spoor charts)
6 (minimum) to 12 (maximum) Fire arms (concealed hand guns for self defence)
Boots with smooth rubber soles (to hide tracks when monitoring)
Light running shoes for Runners
Camouflage uniforms for stealth
Back packs, first aid kits and basic essentials for field work.

Operational Strategy

Given the remoteness and large areas that needs to be covered, it is proposed that the most cost-effective way to deal with attacks in Table Mountain National Park would be a two-level approach.

The Level 1 Operation should be in place when there is a high frequency of attacks in a particular area, while the Level 2 Operation should be maintained during quiet periods when there have been no attacks. The objective of Level 1 would be to arrest the attackers, while the objective of Level 2 would be to monitor the situation in case there is another spate of attacks.

The SRU and SSU’s should work on a flexitime basis, since attacks often happen after regular work hours (after 5pm to before sunset) and on weekends.

Level 1 Operation: Pre-emptive Action

Where possible, the SSU could arrest a criminal if they have the opportunity and capacity to do so (for example, if there is only one suspect, or possibly two suspects). If there is enough time, or if there are more than two suspects, the SRU should be called in to conduct the operation.

Apart from opportunistic crime, criminals often get to know an area over a period of time, and may commit repeated attacks in a selected area. By gathering data on their movements and strategies (by tracking and/or observation), the SRU can anticipate the movements of criminals and act pre-emptively. For example, on Noordhoek beach tracking criminals made it possible to identify the routes they used and exactly where
they hide when attacking tourists. This information was then used to develop a strategy to capture the criminals.

A member of the SSU should be placed in a strategic Observation Post, with the SRU on stand-by (the other SSU member/s should join the SRU). The Head of the SRU (or if not available, the Second in Command of the SRU) should be in charge of the operation. When the OP sees the suspects, the SRU should move into position before an attack happens. Once the attack happens, they may have less than 10 minutes to get into position.

Where possible a decoy should be used so that you do not have to wait for an attack on a civilian. The decoy should only move into range of the suspects once you have established that suspects are hiding in their chosen ambush position and once the SRU has moved into position. The Decoy should be skilled in self-defence and the responsible use of a concealed fire arm. In Noordhoek, for example, a police officer has been employed as a decoy. Using a decoy is better than risking a member of the public. Without an attack, it would not be possible to secure a conviction. However, legal opinion should be obtained to establish the legality of using a decoy. For example, it could be considered as a form of entrapment.

**Level 2 Operation: Ongoing Monitoring**

During quiet periods of no criminal activity, the SRU should operate in two teams to conduct ongoing monitoring, along with the SSU’s.

Even when ongoing monitoring seems to suggest that these areas have experienced no crime for an extended period, the SSU’s should not be moved to another area. Experience in Noordhoek has shown that after an arrest criminals usually lie low for months before attacks suddenly flair up again. After a long period of no criminal activity on Noordhoek beach, signs of criminal activity were discovered on 17 June 2004. Spoor evidence linking specific individuals to reported attacks suggest that several suspects that have committed these crimes have not yet been apprehended. Analysis of spoor data have identified at least 6 suspects who can be positively linked to four reported attacks (only three were arrested). In addition, another 12 potential suspects (who cannot be linked to specific attacks) may have been active on Noordhoek beach. At least 8 of these suspects can be associated as belonging to one group, who moved in smaller groups of three to five. When we finally managed to employ a tracker team on 16 July 2004 (after a mutilated body was found in the wetlands), three criminals (involved in two separate attacks) were arrested within four days. After the arrest on 19 July 2004 is was quiet for ten months before the first signs of potential suspects were found on 9 May 2005.

It is important to note that the real crime rate may be much higher than reported. It is known (from doctors who have treated rape victims), that a number of women have been raped on Noordhoek beach and in the wetlands, but that they did not report it to the police. Research conducted at centres for abused women suggest that only one in every 30 rapes is reported. As long as there are criminals active in Masi-phumelele and Ocean
View, Noordhoek beach will never be safe. Once criminals are satisfied that the coast is clear, a sudden spate of attacks may flair up, catching law enforcement off guard. Contant vigilance is therefore essential to ensure the safety of visitors.

The SRU and SSU’s should initially concentrate on four areas of known criminal activity: (1) Noordhoek beach; (2) Signal Hill, Lion’s Head, and the Pipe Track; (3) Newland’s Forest; (4) Hout Bay and Sandy Bay. The SRU and SSU’s should get to know the terrain so that the team can make rapid assessments of new situations as they arrise. Even the Head of the SRU should conduct monitoring patrols to develop an understanding of the terrain and conditions on the ground (even if time needs to be allocated for data analysis and strategic coordination). While no signs of criminal activity is found, the SSU should gather ecological data.

SSU’s should not be moved when their area of responsibility seems to be safe and crime flares up in a new area. Rather, ongoing training and capacity building should make it possible to establish new SSU’s as crime becomes a problem in new areas. The long term objective should be to make the entire Table Mountain National Park safe for visitors.

**Communications with Police**

It is important that better communications with the SA Police be established. A number of times park rangers have been unaware of attacks reported to the police.

If possible a police radio should be obtained. Whenever the police helicopter was called in to Noordhoek, the suspects got away because park rangers could not communicate with the helicopter.

Recently some suspects were seen in the dunes on Noordhoek beach and were chased away by the park rangers. However, these suspects should have been arrested. The two suspects arrested last year did not appear in court and jumped bail, so a warrant has been issued for their arrest. The suspects in the dunes may not have been the same two, but if they were, they could have been in jail. Now they are still at large.

A serial rapist from Ocean View currently in jail may soon come out on parole. Park rangers should be made aware of this so that they can monitor the area. If possible they should have photos of him so that they can identify him. If they do find him in the area they should take photographs of his footprints (without him knowing) for ongoing monitoring.

**Continuity**

Over the last five years there has been no continuity in Noordhoek. Every time a new spate of attacks start, the section ranger who was involved in the previous attacks have been moved to another section, and a new section ranger has been employed who has no experience of the previous attacks. This means that time that I invested in training
trackers and developing an effective strategy has come to nothing. Every time we must start all over again with a new team that has no experience.

This not only results in a waste of time and resources, but it takes time to get a new team up and running. During these periods a number of attacks have occurred that should have been avoided.

In addition, it appears that other parts of the park are not learning from the experience we have gained in Noordhoek. Effectively each section seems to re-invent the wheel whenever crime becomes a problem in a new area.

To solve this problem one person should be in charge of security for the whole park and be committed to build a professional team for at least three to five years.

Salaries and Equipment

Several rangers based in Noordhoek have complained that their salaries are very low and that they have no motivation to risk their lives for what they are being paid. Some are so demoralised that they are actively looking for alternative employment. To develop a highly motivated team of professionals, members need to be paid appropriate salaries and be provided with the equipment they need (including fire arms) to do their job.

Conclusion

Over the last five years attacks on Noordhoek beach have been reduced from two to three attacks every week during 2001, to sporadic attacks every six to ten months. This shows that it is possible to bring crime under control. In spite of apparent success, however, Noordhoek beach is still not safe. And other parts of the park, such as Lion’s Head, Signal’s Hill and Newlands Forest are not safe. Only a specialised team of highly motivated professionals can make Table Mountain National Park safe for visitors.

The experience gained at Noordhoek shows conclusively that crime can be brought under control. There is simply no excuse for not doing something about it. The Table Mountain National Park is responsible for the integrity of the park and has a duty of care towards visitors.

12 June 2005

REFERENCE:

For more information on the Noordhoek beach operations, please phone Insp. Hein Smith of the Fish Hoek Police at (021) 7826 333. Insp. Smith was directly involved in all the successful arrests on Noordhoek beach over the last five years.
Appendix A: Analysis of Alternative Strategies Proposed for Noordhoek Beach

Visible Foot Patrols and Mounted Patrols

It is important to understand that visible patrols do not act as a deterrent. By being visible, the patrols make it obvious when and where they are active. Conversely, visible patrols make it obvious to criminals when they are NOT active. For example, at present the “visible patrols” on Noordhoek beach start at 8am and finish at 3.30pm. From 3.30pm to sunset there are no patrols on the beach. In the past, most attacks have occurred between 4pm and sunset, when most visitors go for walks on the beach. The current patrols, conducted by inexperienced temporary “safety officers” with very little training, will not make Noordhoek beach safe.

Visible foot patrols and mounted patrols do not stop attacks; they only delay attacks or displace them to other areas. When a patrol come up the beach, attackers simply hide and wait until the patrol has passed and then attack the next victim who comes along. While hiding in the dunes behind groups of criminals, I have observed them doing this a number of times. By delaying attacks, visible patrols will in fact make it more expensive to run an operation, since it will only take longer to catch them. A foot patrol will also not be able to do anything if an attack happen a few hundred metres down the beach.

Visible patrols can be employed strategically to complement the work of SRU. For example, a visible patrol can be used to delay an attack until the SRU is in position to act, and then withdrawn so that the SRU can make an arrest. But by themselves they are of very little or even no value at all.

Cameras

Cameras will be extremely expensive to install on Noordhoek beach. Sea mist will fog up the lenses. Salty sea air and wind-blow sand will result in corrosion and high maintainence costs. Furthermore, cameras in remote locations will simply be vandalised by criminals (leaving only video evidence of unidentifiable hooded individuals approaching the camera with a hammer).

Volunteers

Employing volunteers to protect visitors from serious assault and rape is unprofessional and irresponsible. Volunteers are never available when you need them and often require a lot of time to manage for minimal benefit. If anything, inexperienced volunteers may jeopardise a professional operation that is in process.

On one occasion we spent more than three hours monitoring a group of criminals hiding in the dunes on Noordhoek beach, who eventually targeted a couple who sat down on the
beach in front of them. As they stalked the couple, we stalked up from behind and had them surrounded, ready to arrest them when they attack the couple. As they got up to attack the couple, a group of horse riders came galloping down the beach. At this point the suspects simply walked past their intended victims and casually walked away, leaving us with nothing to show for hours of work.

**4x4 Patrols up and down Beach**

We do not want this, since it will not work (same as above) and will disturb nesting Black Oystercatchers. It will also disturb people who come to Noordhoek to walk in peace and quite.

**Telescope on Chapman’s Peak**

You may not be able to see criminals hiding in the bush. If you only see them when they move onto the beach to attack someone, it is already too late to do something about it. You will not be able to help the victim(s) if stabbed or raped. And unless you can get stopper groups into place within 10 minutes, you will not catch them. An Observation Post is only of value when used to assist a team on the ground. By itself it is of no use at all, other than recording the fact that you were unable to stop an attack from happening when it was happening.

**Helicopter**

Unless a helicopter can be over the area within 10 minutes, it will be of no use. If it arrives too late, it will simply spook the attackers. They will lie low for a few weeks and then start again. Weeks of manpower could be wasted until the next spate of attacks.

A major problem with police helicopters is the fact that Park Rangers cannot communicate with police, since they use different radio frequencies. Everytime a police helicopter has been called in to assist in Noordhoek, they failed to catch the criminals because the Park Rangers or trackers could not tell them where to look for the criminals.

**Stake-outs in the Dunes**

This needs to be done by highly professional people who know how to hide themselves. People who simply sit on top of the dunes and give themselves away will simply make it more difficult to catch them.

Louis Liebenberg
12 May 2005