Assessment of Bettys Bay Baboon Management Options after Initial Implementation of Baboon Monitors

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Contents

Executive Summary

The only long-term solution to the Bettys Bay baboon problem is to keep all baboons out of residential areas. This helps the baboons since their welfare and survival is negatively impacted with time spent in residential areas. This removes the concerns of resident safety, damage to property and sense of wellbeing and it removes the conflict between residents with different ideological stand points. For the municipality it avoids the threat of litigation and reputational damage from litigants and lobbyists going to the press and claiming lack of protection for residents and their property on one hand and lack of protection of baboons and their welfare on the other hand.

The current issues of major concerns are:

Is keeping baboons out of residential areas feasible with the current strategies? - If not, what is needed?

- Baboons were in town 24 of the 30 days in June with the majority of the troop being in town in 13 out of 30 days with 70 reported incidents. This is not compatible with reliably keeping baboons out residential areas.
- The inability to stop the baboons from entering the residential area after leaving their favoured sleeping sites in Disa and Leopard Kloofs is together with the splitting of the troop in subgroups are major issues undermining the success of the baboon monitoring.

What changes are needed?

- A strategic baboon-proof fence across the top (north side) of the formal beds of the gardens would be essential for increasing monitors effectiveness.
- Access for monitors to the Botanical Gardens.
- Prioritise keeping the troop together and maintaining troop cohesion and moving the troop with minimal force and pressure necessary, using paintball guns sparingly and as a last resort and as an instrument to extend baboon monitors influence rather than to cause pain.
- Removal of BBM1 given his independent movement into residential areas might ease the situation as he spends about twice the amount of days (22 days as opposed to 12 days in June) in town as the majority of the troop and is involved in 10 times the incidents involving break-in and damage to property during raiding than any other baboon in the troop. Without him the troop might not be so strongly attracted to spend time in town and there would be less opportunity for baboons to learn and be rewarded for raiding residential houses for human food. With fewer house raiding attempts and baboons learning this behaviour the conservation outcome for the troop may be better as a whole, justifying his removal. But this would have to be thoroughly documented and if this does not appear to be the case this approach will have to be re-evaluated.
- A long-term plan to extend a baboon-proof fence would eventually mean the Bettys Bay troop does not get into residential areas and no baboons need to be removed from the troop.

Can baboons be kept out of residential areas without resorting to removing the worst raiders who expose the troop to raiding and possibly split the troop making it harder to control the movement of baboons?

- In the short-term the worst habitual raiders might have to be removed, but this will cease at the point when all baboons of the troop are able to be reliably kept out of residential areas, which will be achieved with the extension of the baboon-proof fence network or if and when we have developed methods to rehabilitate habitual raiders.
- In the immediate time frame BMM1 seems to be an outlier, he is involved in 10 times the amount of break-ins into houses as any other baboon in the troop and spends twice as much time in residential areas and weighs 42kg as opposed to the average weight of 28kg for adult male baboons in Fynbos. He appears to have specialised in raiding houses by breaking window

frames and forcing open doors. His potential to pull the Bettys Bay troop into residential areas and expose them to raiding by breaking into doors and windows suggest that the prognosis for the Bettys Bay troops coexistence with humans may be better if he is removed or try to test the potential of rehabilitation by using training shock collars.

- No conservation manager wants to kill baboons. A win-win situation would be for animal rights advocates to raise money for a sanctuary for baboons that would otherwise be euthanised. The sanctuary will have achieved a good objective for everyone at the end of the lethal protocol.
- Spending money on a monitor program that does progress in the medium term to reliably keeping baboons out of residential areas and continuously removes problem baboons would need to be re-evaluated in terms of what value it brings.

Have the current management strategies lead to the split up of the baboon troop hampering the attempts to get the troop out of residential areas? – If so, what changes can be made?

- There appears to be a broad consensus that the Bettys Bay troop is less cohesive and splits into different sub-groups and this happened with the introduction of baboon monitors. It is plausible that a strategy of aggressively moving a previously unmonitored troop led to splitting up of the troop.
- Whatever the cause, it is not the norm for a wild troop of 19 baboons to regularly split into independently moving sub units and monitoring should be adapted to the priority of trying to keep the baboons as one unit and to move as a single unit.

Is "herding" baboons by baboon guardians in the residential areas a viable alternative strategy to monitors current strategy?

- Herding, moving baboons gently along by gesture and body pressure is feasible and is often used by the baboon monitors who are familiar with working with baboons, but the idea of herding baboons through a residential area allowing them to forage in green belts, while maintaining enough control and even being able to keep track of all baboons in a troop and all their potential raiding and conflicts and being able to intervene and avoid them is just not feasible, especially given the difficulties offered by fenced properties, roads and buildings.

What can be done to maximise the broadest community support and minimise reputational damage for keeping baboons out of residential areas?

- The municipality must realize that they are entering an environment of complete lack of trust and an environment where opposing factions will question every management decision or bit of data put forward. Opposing factions will be fighting to gain the support of as many residents for their different positions. It is important for the municipality not to ignore this as it has to maintain the trust of the public that they are doing their best to solve the problem and don't have a hidden agenda eg. the removal of baboons under the guise of a monitor program.

The answer to operating in an environment where trust has broken down is:

- **Complete transparency**, even when difficult decisions are about to be made. Lack of transparency will confirm the narrative that distrust in the authorities is warranted.
- **Involve the community**, a program like baboon monitors can only survive with the support of residents and the public. If the community is not meaningfully involved or its inputs ignored, then even conservation supporters in the community will lose trust in the process and become critics of the process and the authorities.
- **Verifiable data and statistics**: disseminate, rely on and insist that service providers the public and critics providing verifiable data and statistics or evidence of wrong doing. In an environment of distrust on all sides the only meaningful discussions are ones where facts can be corroborated.

- **Limit discussions to incidences and situations that are no older than 3 months**: the baboon monitor program is evolving and through adaptive management trying to solve a problem in the current time frame and make a difference on the ground now and in the future. It is not trying to justify or explain what happened in the past, focussing the discussions on the current timeframe will save time and energy and move the debate to what can be practically done to improve the situation now.
- **Daily records of all individuals in each troop,** presence, births, deaths, injuries and incident listed by individual identity must be a requirement from any service provider. Management decisions are based on behaviour of known individuals in a troop, arguments with the public and activists are based on which specific individual was where and when. Assessment of the impact of the project is based on birth rates of individuals, interbirth intervals and death rates. Expecting monitors and area mangers to record these at a daily and individual level should be non-negotiable. Service providers have monitors on baboons the whole day 365 days a year, have qualified graduate area managers and are paid a lot of money to manage baboons at an individual level they should keep verifiable daily records of all animals at an individual level. Having these verifiable records can only increase the public's trust in the process.
- **Direct and immediate communication with community:** The deployment of baboon monitors to help a community with human baboon conflict creates an expectation that the situation will improve for the community. A large part of the expected advantages of having monitors out with the baboons all the time is access to a situational awareness of what is happening with the baboons. This is easily facilitated by a Telegram account where the monitors inform the residents where the baboons slept, where they are during the day and how successful they are in moving the baboons out and warning where baboons might be raiding, and recording even by a simple picture (of say a public dustbin being raided) what are problem areas that need to be addressed. This would also be a good single channel for the public informing monitors where individual baboons are and what is happening there. A good efficient direct channel of communications with the monitors and reporting of what the situation is an effective way to build trust in the process. This requirement should be non-negotiable with the service provider. It would help the public understand the context within which management decision are made. In the vacuum of a direct and immediate communication with the community other groups fill this instant messaging vacuum and take control of the narrative to their own ends.
- **Keep all people at the table, be inclusive**: Excluding people or groups that have a different viewpoint or make things difficult for the process and refusing to engage them does not help. They don't magically disappear. Excluding people justifies in their mind the distrust in the process and authorities. Excluded from the process they have no other options to influence the process but by negative publicity, social media campaigns, lobbying and legal litigation, often damaging the reputation of well-intended interventions and changing the narrative from a positive one to a negative one with all the costs and reputational damage that goes with that.

The best long-term outcome is to get to a point where baboons are kept out of residential areas humanely and without having to resort to the removal of habitual raiders because there are no opportunities for habitual raiding when all baboons are kept out of residential areas. At that point almost all of the conflict disappears and the baboon monitoring program is truly a success. In the long-term the municipality's best investment is spending a bit of budget every year on baboon - proof fencing. That investment every year will make the task of keeping baboons out of residential areas, a little easier a little more effective and will result in less conflict and the need for fewer baboon monitors per troop, who because of this success could cover more troops in different areas. Most of all for the municipality conflict would incrementally get less and less and the narrative around baboon monitors would turn to a positive narrative. Getting to the stage where baboons can be reliably kept out of residential areas pays a large dividend as conflicts between different groups of residents disappear. Investment in baboon proof fences would be an investment in a virtuous circle of improvement, as opposed to a simple reoccurring cost with not much scope for improvement.

Figures

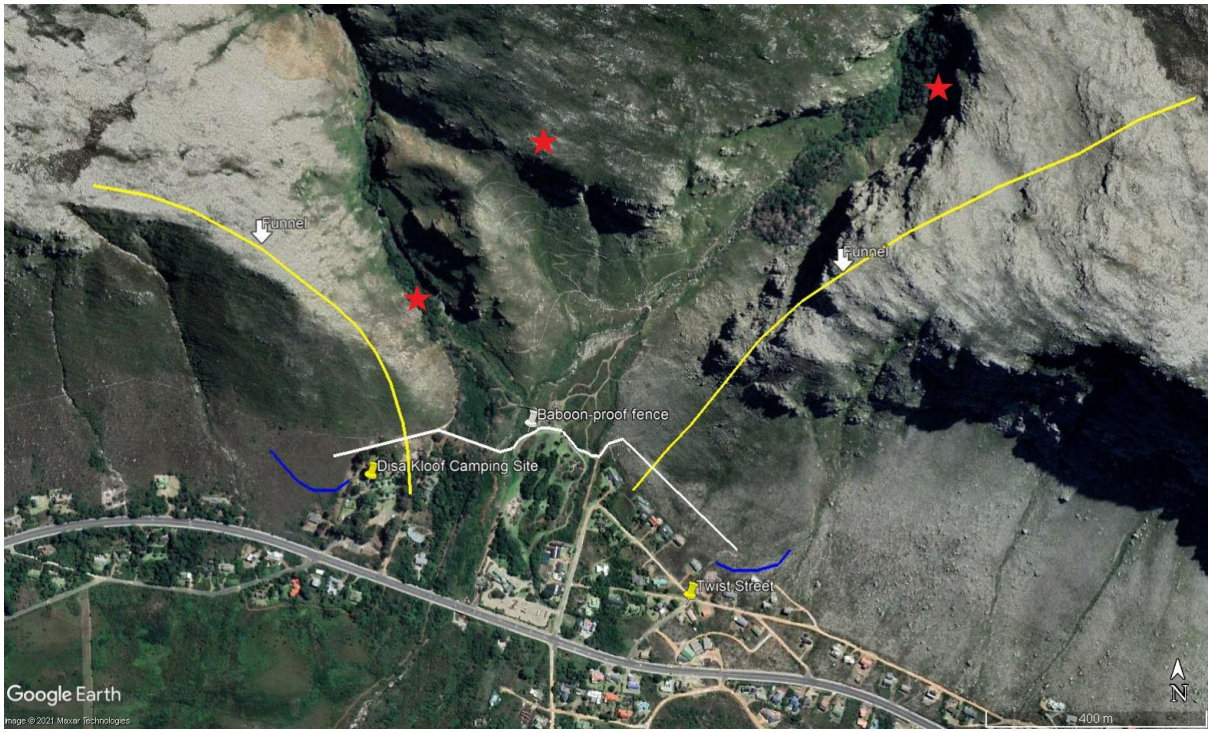

Figure 1. Location of the main sleeping sites and major access route of baboons into the residential area of Betty's Bay. Red Stars are the sleeping sites. The yellow line indicates how the steep topography together with the rich food and cover channels baboons wanting to enter the residential area through Harold Porter Botanical Gardens and the adjacent properties up to Disa Kloof Camping Site to the west and Twist Street to the east. The blue lines indicate the area that the baboons will get past the fence and from where baboon monitors would be able to operate effectively in a relatively open habitat.

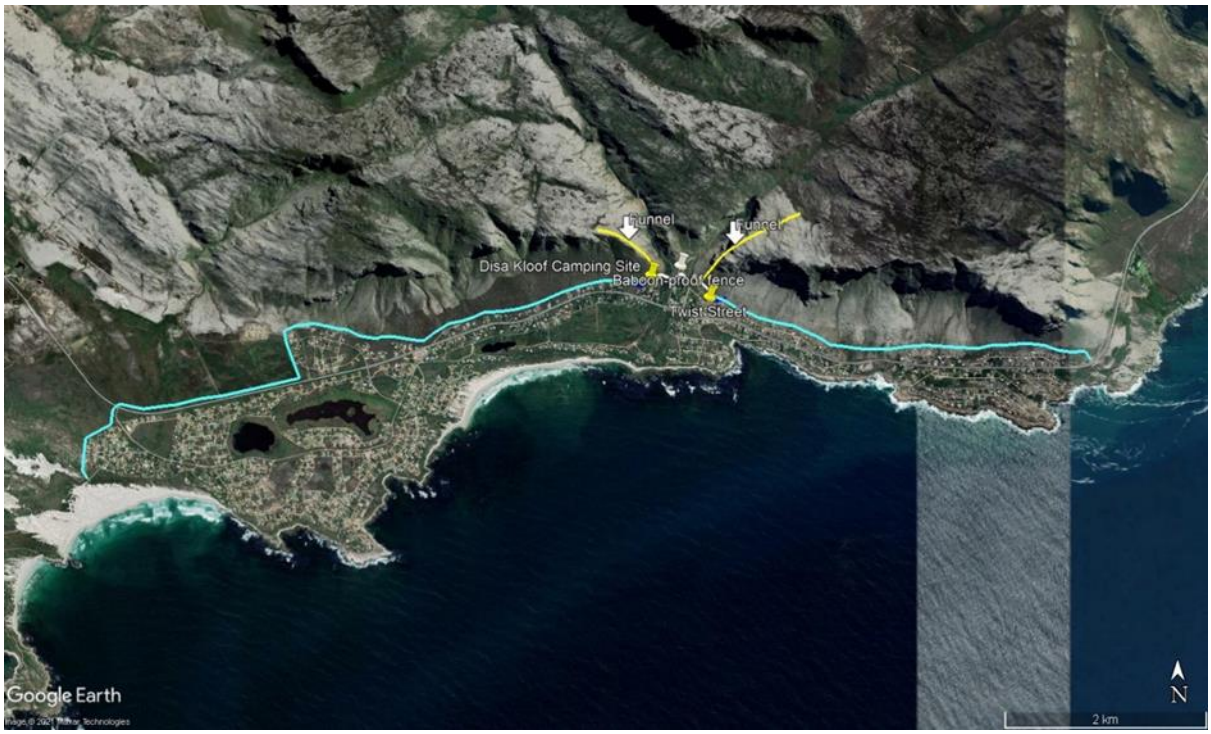

Figure 2. The blue line indicates the urban edge along Bettys Bay where eventually a baboon proof fence would keep baboons out of residential areas. This is ~12km long and could be built in strategic sections each year, dependent on it proving its success at mitigating baboon human conflict.

Figure 3. Because of the steep topography adjacent to the urban edge and the narrow undeveloped area between the urban edge and the mountain baboons will need to be moved by monitors to forage over the mountain to avoid incursions into the residential areas. There are only six feasible routes that baboons could be moved to forage naturally away from the urban edge. These are marked in red. A baboon-proof fence along the urban edge would change this as the baboon could then forage on the coastal slopes right to the baboon-proof fence because the fence would prevent them getting in.

Is keeping baboons out of residential areas feasible with the current strategies? - If not, what is needed?

Are monitors keeping baboons out of residential areas?
Currently monitors are not keeping baboons out of residential areas. In June[1] baboons were in town 24 out of 30 days and the majority of the troop (>50%) were recorded in the town on 12 out of 30 days. In the 24 days baboons were in town there were 70 incidents reported averaging at 3 incidents a day. So the current strategy and deployment of 5 monitors and 1 manager on site is not effective at keeping baboons out and stopping incidents which are the primary cause of baboon wildlife conflict.

What are the problems?

Inability of monitors to stop baboons entering town after descending from their main sleeping in in Disa and Leopard Kloof above Harold Porter botanical gardens

- The lack of ability to stop baboons entering after descending from their sleeping sites in above Harold Porter Botanical Gardens which they used in 28 of 29 nights in June is the most challenging problem.

Why can't monitors stop baboons entering Bettys Bay after descending from their sleeping site?

- The lack of access of baboon monitors to Harold Porter Botanical Gardens. This severely hampers the chance of baboon monitors turning the baboons away from heading into the residential area.
- The local topography around Harold Porter Botanical Gardens with high and steep slopes either side of the stream valleys of Disa and Leopard gorge funnels the baboons down into the riverbed and the wooded and thickly vegetated area bounded by Disa Kloof Camping Site to the west and Twist street to the east. This forested mosaic of clumped trees and riverbed does not present a defendable boundary from which baboons can be moved away from the urban edge.
- Lack of access to the fenced properties adjacent to the Harold Porter Botanical Gardens prohibits baboon monitors from being able to effect baboons movements while there (already in the residential area).
- The splitting up into separate sub-groups before the monitors can access the baboons. As long as this happens you probably cannot get away without having 2 monitors on every sub-group if one has to have a chance of keeping baboons out of residential areas at the moment this means 4-6 monitors. Reducing sub-group formation at the start of the day by influencing the movement of baboons as close to the sleeping site as possible is essential if the goal of keeping baboons out of residential areas is to be achieved. At the moment this can't be done because baboon monitors don't have access to the sleeping sites because a lack of agreement on an operating protocol of the monitors Harold Porter Botanical Gardens.

The lack of opportunity to drive baboons some distance away from the residential area edge because of the narrow coastal plain bounded by high and steep topography, which is hard to chase baboons over.

- Development of residential areas above the R44 leaves generally only 300-500 of land before rocky cliffs which provide little opportunity to monitors to move baboons over simply because they are too steep.
- Confining the troop to this narrow band of slopes above the houses and between the cliffs keeps baboons in a zone that they are always in striking distance of residential areas and research in

[1] according to the June 2021 HWS report submitted to the municipality

the Peninsula has shown that baboons utilise this area to not practice intensive foraging but to monitor residential areas and attempt raids.

- There are only 6 corridors marked in red 2-4 km apart where monitors can move the troop up to forage up on the plateaux away residential areas.

The longitudinally dispersed development pattern of Bettys Bay resulting in a 13km urban edge from where baboons can enter the residential area.

- The longitudinal development pattern of Bettys Bay gives such a large front over which baboons can enter a contiguous residential area. This makes the work of the baboon monitors much harder.
- The nature of green belts with interspersed houses with no clear easily definable corridors to the sea precludes baboons having access to the sea if the aim is to reliably keep baboons out of residential areas. (Reliably keeping baboons out of residential areas is the only way to avoid baboons learning to become habitual raiders, and necessitating ongoing removal of problem baboons).
- The longitudinal development pattern of Betty means that for monitors to move baboons to where they have access to the coastal plain and sea they will have to move them from their central sleeping sites in Disa and Leopards Kloof 4 km east to the Kogelberg coastal plain or 4km to the coastal plain north of the R44 opposite Rondevlei or 7km to access the sea at Sea Farm Private nature reserve.

Splitting up of the Bettys Bay troop into separately foraging sub-groups

- The Bettys Bay troop is splitting up into several subgroups. It is plausible that this is a response to a previous unmonitored troop being put under hard pressure to move out of residential areas. Both supporters of baboon monitors and people critical of baboon monitor report this change in behaviour of the normally more cohesive troop.
- Splitting into subgroups moving independently and at different times obviously makes monitoring harder. Baboons are harder to detect and one needs 2 monitors for each sub-group to reliably keep baboons out of town.

Level of Habituation of the Bettys Bay troop

- The Betty Bays baboons are very habituated to people[2]. The more habituated baboons are the more tolerant they are of human presence close to them resorting in short flight distances[3]. This means that monitors have to be closer to individuals to get them to move. About 50% of the troop have a flight distance of less than 2m and 5 of the adults have a flight distance of less than 1m. This makes it harder for baboon monitors to move the baboons from a distance.
- The level of habituation means that baboons are less easily disturbed by the presence of humans giving them more time and opportunities to interact with human artefacts such as dustbins, doors and window and by trial and error break in to dustbins, houses and cars.

Habitually raiding baboons

- The Bettys Bay troop has several habitually raiding baboons, but raiding incidents are not evenly distributed in number or intensity. BBM1 accounted for almost half 28 (45%) of the total raiding incidents for June[4] and almost all, 11 of the 13, breaking and entering/damaging property. The other two breaking and entering/damaging property incidences were single incidences more in line with rates in the Cape Peninsula. Obviously having an individual who breaks and enters is problematic because by breaking into houses the nutritional rewards are consistently higher and the baboon is more driven to return to raiding in residential areas.

[2] but no more so than troops on the Cape Peninsula
[3] The distance at which they move of on the approach of a human
[4] Where known individuals were recorded

- A habitual raider will pull either the troop, a subset of the troop or individuals into residential areas potentially splitting the troop between bold and less bold baboons.
- There is also a learning and reward opportunity for baboons accompanying a habitual raider that can start a cycle of having to constantly remove habitual raiders who tend to be adult males.
- The issue of habitual raiding baboons can be handled by reliably keeping all baboons out of residential areas which is the aim of the baboon monitoring program, but failing that the long term damage of not breaking systemic raiding behaviour of baboons in a troop with all the risks that entails for baboons, might actually outweigh the removal of a habitual raiding baboon[5].

The current baboon monitoring is not effective at reliably keeping baboons out and stopping raiding incidents – So what can be done to make it more effective?

- Reinstate access to Harold Porter Botanic gardens so monitors can access the baboons near their main sleeping sites. This will need a compromise not to interfere with the garden's main functions – conservation and cultivation of floral biodiversity and environmental education. They are the most key landowner and a good relationship need to be cultivated by the service provider. Baboon monitors access to sleeping sites underpins the ability to keep baboons out of residential areas.
- Place a strategic baboon-proof electric fence along the fire-break/furthermost beds of Harold Porter Botanic Gardens and extend it 290 along fence line of Disa Kloof Camping Site and 200m to the east to opposite Twist Street[6]. This will provide a barrier that baboon monitors can work from and allow baboons to utilise the natural forest up to the formal beds while still allowing the baboon monitors to be effective in their efforts to keep baboons out of Bettys Bay residential area. This will be the single most effective intervention, however it will only work if baboon monitors regain access to the gardens. It will also help again splitting into sub-groups as the baboons will be funnelled either to the east or west along the barrier minimising opportunities for splitting.
- Efforts at moving baboons should prioritise keeping the troop together and maintaining troop cohesion and moving the troop with minimal force necessary over pain aversion, using paintball guns sparingly and as a last resort and as an instrument to extend baboon monitors influence rather than to cause pain.
- Identify areas (red lines on Figure 2) where the baboon troop can be moved a reasonable distance away from the urban edge this may entail pushing them till they get into an area where they can settle down and start foraging away from the urban edge, rather than holding a line on the urban edge. (If one had the capital one could fence the whole urban edge with a baboon-proof fence and then one could comfortably allow the baboons to forage immediately on the urban edge).
- Use part of the yearly budget to increase the length of the baboon proof fence along the perimeter of Bettys Bay to incrementally increase the effectiveness of the baboon monitors at keeping baboons out of Bettys Bay so that over time it becomes easier and more effective and there is less conflict with baboons and between residents about baboons. Self-closing Baboon-proof gates can be used to maintain access to the mountains and they will be designed to allow movement of other wildlife.
- The hope of introducing baboon monitors was to reliably keep baboons out of residential areas in order to stop raiding and retaliation by residents. Given the lack of success of

[5] This is by applying the balance of good in terms a population's welfare as opposed to every individual rights of every animal.

[6] The baboon proof fence would make it harder to get the baboons out of the botanic gardens and back into the Kloof sleeping sites, however they could be herded along the fence or access gates could be opened. The best but more costly solution would baboon proof the whole area, or the gardens only, this would circumvent a lot of problems and has precedents like the baboon-proof fencing of SANP's table mountain new offices in Tokai.

reliably keeping the Bettys Bay troop out of residential areas and thereby stopping raiding which at the moment is primarily carried out by BBM1, it might be necessary to remove BBM1 from the troop. The main reason for this is to limit the exposure of the other members of the troop to his raiding behaviour of the forcing doors and windows of houses to get to human food. The rate that he consistently does this[7] and gets high calorific human food as a reward for doing this risks this becoming a regular part of the behavioural repertoire of the Bettys Bay troop, which if learnt by other baboons will put them at future risk, and continue the cycle of human baboon conflict.

- As for habituation of the baboons, the genie is out of the bottle no amount of scaring or pain aversion will make this generation of baboons wary of people or the urban edge or residential areas, but an effective baboon monitoring program with strategic fencing keeping baboons out of residential areas will mean the next generation will not include raiding in their behavioural repertoire and they won't be exposed to human food and will push less hard to enter residential areas and live a more natural life on the urban edge.

[7] He breaks into houses at a rate 10x higher than any other baboon in the troop

Can baboons be kept out of residential areas without resorting to removing the worst raiders who expose the troop to raiding and possibly split the troop making it harder to control the movement of baboons?

- The short-answer is in the short-term no, in the long term yes. When baboon monitors can reliably keep the whole troop out of the residential area there is no need to remove any baboons.
- The aim of the baboon monitors program is to improve the outcomes for baboons on the urban edge and reduce human baboon conflict. If baboon monitors are reliably successful at keeping baboons out of residential areas which is the ultimate aim of the program then there is no need to resort to removing any baboons from the population. In the medium to long-term the Bettys Bay troop can be kept out of residential areas with the help of strategic baboon fencing and effective monitoring. But getting to this stage is a process and managing every troop is about finding solutions to a unique situation. It is totally unrealistic to expect (or raise the expectations) that deploying baboon monitors will immediately keep baboons out of the residential area and avoid all conflict. It can take months and years of constant trial experience and improvement to get to a situation that the baboon are reliably, humanly and without resorting to removing baboons from the population are kept out of residential areas.
- In the short-term it may be necessary to remove individuals if their behaviour prevents the baboon monitors from being reliably able to keep the whole troop out of residential areas and thus avoid human-baboon conflict. The long-term goal for the baboons should always be kept in mind – we want a situation where there is a healthy, naturally functioning Bettys Bay troop going into the future that continues to live naturally in the immediate wild habitat of Bettys bay, and contributes to the conservation of the wider Kogelberg baboon population without coming into human baboon conflict. A troop that does not reside in residential areas living off human food and being chased by people and dogs and constantly in conflictual situation. Removal of individuals can only be justified if we genuinely make progress to the larger aim of conservation of the Bettys Bay troop where human baboon conflict is largely minimised by keeping baboons out of the conflictual zone – residential area.

Rehabilitation of habitual raiders

- An alternative approach to removing problematic habitual raiders from the troop is rehabilitation of these habitual raiders. This has been proposed as alternative to removal of these individuals.
- I don't believe it is possible in situ in Bettys Bay to rehabilitate these raiders by personal intervention. This approach would be to have a vhf collar on a habitual raider and have a dedicated monitor following the raider who would intervene at each and every raid resulting only in costs and no rewards. In theory this would have to be done long enough that the raiding individual realises that this is not a worthwhile foraging strategy and gives up the strategy for good. There are several potential flaws. The baboon would realise the cost and lack of reward is related to the presence of the intervening monitor. Any withdrawal of the monitor would see the baboon raiding again. Practically physical intervention in most break-in raiding attempts by monitors is impossible because many houses are surrounded by fences, entry points are on second stories and many residents forbid monitors from entering their property, so often one does not have recourse to stop a raid.
- The other approach is to ensure that every door and window in Betty Bay is baboon-proof so a baboon would never get a reward and the behaviour would disappear. This could work in theory but is practically unattainable.
- It is worthwhile testing shock-collars similar to those used in dog-training to see if this approach of negative reinforcement training could be used to rehabilitate baboons as an alternative to

removing habitual raiders from a troop[8]. The idea is to have a remote control operated by a researcher who would activate the collar that would give the baboon a brief audible signal (a buzz) for two seconds followed immediately by a mild electric shock as soon as a baboon makes contact with a door or window and as soon as the baboon moves away from the door or window the monitor stops the shock. The researcher would repeat the procedure each time the baboon touches a door or window. The idea is for the baboon to associate the sound and the anticipated shock with trying to touch doors or windows and to associate leaving the door and window with the ending of the mildly aversive stimulus (the shock). The first stage of the training is to anticipate the sound that will be followed by a shock so the baboon will withdraw from the window or door on hearing the sound because he anticipate the shock and wants to avoid it. This minimises the application of the electric shock. The second stage of the conditioning is for him to anticipate that all doors and windows will generate this aversive stimulation and avoidance of doors and windows will result in avoidance of the negative stimulus. If this works then the baboon will avoid the behaviour (interacting with doors and windows) and one would have rehabilitated a raiding baboon. We don't know if this would work, how many trials the baboon would need to go through to be conditioned to avoid house doors and windows and how long the affect would work. Would one get away without a collar after training? Would one only need a collar that gave the audible signal? Would one have to supplement the audible signal with occasional aversive shocks to maintain the training? If successful at this level would it work at a spatial level where one could trigger the collar on crossing a spatial boundary? Without testing we will never know whether shock collars could be a useful tool. I would recommend testing the efficacy of shock collars before removing a habitual raider from a troop. We would regret all the removals of habitual raiders if shock collars proved an effective tool in rehabilitating raiders. I think it is important to note that this would be a research trial and not a management option and would be conducted with oversight of an animal welfare authority.

[8] Shock collars have been used with some success in wolves in USA

Alternatives to euthanizing habitual raiders

- Conservationists don't like killing individual animals and try to minimise any killing of wild animals but can reluctantly sanction the killing of individuals if on balance it aids the long-term conservation of a group, population, conserves biodiversity or ecological processes. Animal rights advocates make the stand that no wild animal should be killed because of a situation humans have created. So no baboon should be killed because people cannot baboon proof their bins, have baboon-proof doors and windows. Herein lies the fundamental conflict between conservation managers and animal rights advocates. Conservationists argue that some animals might have to be removed to achieve the long-term goal of maintaining a natural population of baboons that is not involved in long-term chronic animal human wildlife conflict and that this is much better than the norm of removing whole troops in the vicinity of residential areas when conflict arises which has been the norm in the past and remains the norm in most of the world. There is an undeniable logic to animal rights advocates argument and there is more common ground than appears at first – no conservationist likes to kill animals. The abhorrence of killing a wild animal resonates with conservationists and they are only willing to do it to pursue a larger conservation objective.
- Conservationists would like to have an alternative to the so called "lethal protocol' the protocol whereby baboons that can't be managed by the baboon monitors and continue raiding are euthanised. They are removed from the troops because they threaten the long-term goal of having non-raiding baboons living adjacent to residential areas playing their role in the local baboon population's sustainability. Unfortunately, there at the moment is no easy alternative. Habitual raiders can't be moved to other areas because of the concerns that they will turn to raiding wherever they are released, in rest camps if released in reserves, raiding farmsteads in farming areas if released in rural areas, in picnic sites if released into wilderness area, in urban areas if released into areas with adjoining towns. One has to have the permission of the landowner for the release of a wild animal particularly a former habitual raiding baboon on their land. There are not may landowners willing to do that and authorities that give the permission for the relocation are at risk of legal liability if that baboon injures, kills or causes damage to property – they after all have legally sanctioned the movement a habitual raiding baboon. So relocation is not an option.
- There is an alternative and an opportunity for animal rights advocates and that is to create a world class sustainably funded sanctuary and education centre for the baboons that would have been the victims of the lethal protocol. This would immediately be an investment which aligns with their calls to ending the lethal protocol and could be an educational vehicle where they give the message that all these animals were removed from their troops, because humans could not organise their life to remove human food access from baboons. It could be a platform to advocate for humans to be more tolerant of baboons and take measures to avoid baboons raiding. It would be a good outcome for everyone. No conservation manager likes to condemn a baboon to death. Everyone can be united in a call for humans to manage their own waste, and be more tolerant of wildlife.

Have the current management strategies lead to the split up of the baboon troop hampering the attempts to get the troop out of residential areas? – If so, what changes can be made?

- Having spoken to many correspondents during my field visit there was an overwhelming consensus both from people strongly supporting the current baboon monitors and people strongly against the current baboon monitors and people I randomly interviewed that the Bettys Bay Baboon troop was more split up, less cohesive and were moving in separate sub-groups, often 2-3 km apart since the baboon monitors started. It is highly plausible that if one puts a lot of pressure to get baboons out of residential areas or stop them from entering that the response of a troop is to split up, not necessary as a strategy but simply because a number of the baboons get passed the monitors and others get stopped, thus creating to sub-groups. However in the days I was in Bettys Bay the sub-groups were in town 2-3km apart. One morning there was 1 sub-group at a burnt house near Coves Crescent, 1 sub-group at Plateau road and 1 sub-group on High Level road above Jock's Bay, this was before the baboon monitors had started engaging with them suggesting that the baboons split that day was not initiated by interactions with the baboon monitors but rather sub-groups moving independently as they approach town.

What changes can be made to current management strategies to stop troop splitting?

- The main thing is to prioritise keeping the baboons together in a coherent troop.
- Connect with the troop at the sleeping site and try and prevent sub-groups moving off early and independently. Keep the troop together till in a position with enough open ground to move the troop as a whole.
- Move the baboons less aggressively (The monitors were already doing this on the morning I joined them).
- Move away from pain aversion to using paintball guns as a way to extend a monitors sphere of influence. Pushing hard and causing pain or fear is more likely to split troops.
- Prioritise coalescing the groups in a single group before trying to move them out of town.
- Access to Harold Porter Gardens essential in trying to stop baboons moving off from sleeping sites in independent groups.
- A baboon-proof fence at the top of the formal beds as indicate on the map would help immensely.

Is "herding" baboons through residential areas and rehabilitating raiding baboons a viable alternative to monitors keeping baboons out of residential areas?

Retaining baboons' access to residential areas, the green belts and vleis within them and the sea shore while "herding" them through the village and stopping raiding events and interactions with dogs has been suggested as an alternative to avoiding human wildlife conflict by keeping baboons totally out of residential areas. This is predicated on being able to avoid all negative interactions between humans and all raiding an acquisition of human foods and being able to rehabilitate habitual raiders. Although a superficially attractive idea it is not feasible for a number of reasons:

- It assumes in the residential area one is able to see and monitor all individuals in the troop. This while already a challenge outside town in the open countryside is impossible in town with its separate houses fences gardens roads. It is impossible to keep an eye on what all baboons of the troop are doing and where attempted raids are taking place.
- It assumes conflict points or raiding points will be accessible so monitors would be able to effectively intervene. This is not possible because off fenced properties, lack of permission to enter properties etc.
- It assumes that you have a large sphere of influence from where you can effect baboon movement. In reality with baboons as habituated as Bettys Bay troop if a baboon wants to stay in a place you have to be 1 -2m within that baboons vicinity to move them off with only clapping and body gestures, jumping over a property fence or climbing up to a tree removes the baboon from the distance where you can influence its behaviour.
- It assumes that residents will cooperate and there won't be conflict around baboons moving through the residential area which is unrealistic.

What can be done to maximise the broadest community support and minimise reputational damage for keeping baboons out of residential areas?

Managing baboons on the urban edge to minimise human baboon conflict rather than responding to increasing number of complaints by removing whole troops or taking a laissez-faire attitude that inevitably leads to troops being killed by increasingly disgruntled residents has received a bad press for something that actually is progressive and is an attempt to solve a difficult human wildlife problem in a better way.

The baboon monitor program is something that needs and deserves community support and a supportive environment while trying and attempting to find better solutions to minimise conflict and have better outcomes for baboons. Unfortunately as the history of baboon management and baboon monitors has unfolded an environment of distrust has arisen between environmental activists, animal rights advocates and authorities and researchers and it all revolves around lethal protocols and methods of managing baboons. All participant actually share the same goal - the conservation of baboons for future generations. They all find the death of baboons as distasteful, but they disagree about the right of the individual baboon versus the possible impacts that a habitual raider might have on the program to retain wild baboons that don't raid and won't get into human conflict in the future.

This conflict all disappears once we find a way to humanely and reliably keep all baboons of a troop out of residential areas but we are not there yet. In the meantime, one has to deal with an environment of distrust of authorities and scientists and one has to make sure that one does not lose the support of the vast majority or residents who lie somewhere between the spectrum of baboon haters and animal rights advocates.

Ignoring the ability of the radical sides of the spectrum to recruit the middle ground to their cause and change the narrative that this program is good for baboons to a narrative that this program is bad for baboons is not an option as the authorities and the program need the support of the community for this program to be a success.

Authorities need to allow the program to communicate rapidly, accurately and transparently about what is happening and what management actions are taking place or what challenges the monitors are facing and why management decisions are being made. In the vacuum created by the delay of communications or the "gagging' of service providers to communicate the narrative is taken up by sceptics, distrustful of the authorities to propagate a narrative of the program causing harm to baboons.

The answer to operating in an environment where trust has broken down is:

- **Don't oversell what is possible**, bringing in baboon monitors as a well tried and tested solution is really dangerous. It raises resident's expectations and breaks trust when these expectations are met. In Cape Town after 20 years of the baboon monitor program we don't have a complete solution yet. We need residents to have evidence that we are making progress and confidence in our efforts and intentions and that we are making progress to the final goal.
- **Complete transparency**, even when difficult decisions are about to be made. Lack of transparency will confirm the narrative that distrust in the authorities is warranted.
- **Involve the community**, a program like baboon monitors can only survive with the support of residents and the public. If the community is not meaningfully involved or its inputs ignored, then even conservation supporters in the community will lose trust in the process and become critics of the process and the authorities.
- **Verifiable data and statistics**: disseminate, rely on and insist that service providers the public and critics providing verifiable data and statistics or evidence of wrong doing. In an

environment of distrust on all sides the only meaningful discussions are ones where facts can be corroborated.

- **Limit discussions to incidences and situations that are no older than 3 months**: the baboon monitor program is evolving and through adaptive management trying to solve a problem in the current time frame and make a difference on the ground now and in the future. It is not trying to justify or explain what happened in the past, focussing the discussions on the current timeframe will save time and energy and move the debate to what can be practically done to improve the situation now.
- **Daily records of all individuals in each troop,** presence, births, deaths, injuries and incidents listed by individual identity must be a requirement from any service provider. Management decisions are based on behaviour of known individuals in troop, arguments with the public and activists are based on which specific individual was where and when. Assessment of the impact of the project is based on birth rates of individuals, interbirth intervals, and death rates. Expecting monitors and area mangers to record these at a daily and individual level should be non-negotiable. Service providers have monitors on baboons the whole day 365 days a year, have qualified graduate area managers and are paid a lot of money to manage baboons at an individual level they should keep verifiable daily records of all animals at an individual level. Having these verifiable records can only increase the public's trust in the process.
- **Direct and immediate communication with community:** The deployment of baboon monitors to help a community with human baboon conflict creates an expectation that the situation will improve for the community. A large part of the expected advantages of having monitors out with the baboons all the time is access to a situational awareness of what is happening with the baboons. This is easily facilitated by a Telegram account where the monitors inform the residents where the baboons slept, where they are during the day and how successful they are in moving the baboons out and warning where baboons might be raiding, and recording even by a simple picture (of say a public dustbin being raided) what are problem areas that need to be addressed. This would also be a good single channel for the public informing monitors where individual baboons are and what is happening there. A good and efficient direct channel of communications with the monitors and reporting of what the situation is, is an effective way to build trust in the process. This requirement should be non-negotiable with the service provider. It would help the public understand the context within which management decision are made. In the vacuum of a direct and immediate communication with the community other groups fill this instant messaging vacuum and take control of the narrative to their own ends.
- **Keep all people at the table, be inclusive**: Excluding people or groups that have a different viewpoint or make things difficult for the process and refusing to engage them does not help. They don't magically disappear. Excluding people justifies in their mind the distrust in the process and authorities. Excluded from the process they have no other options to influence the process but by negative publicity, social media campaigns, lobbying and legal litigation, often damaging the reputation of well-intended interventions and changing the narrative from a positive one to a negative one with all the costs and reputational damage that goes with that.
- **Don't ignore or rebuff residents who want to volunteer their time or money to help baboons:** Huge environmental initiatives and impacts have been initiated and completed by community volunteers. It is easy to turn these motivated environmentally conscious supporters into opponents by ignoring their pleas to become part of the process, not acknowledging their potential or fobbing them off to do unpleasant work. If you do ignore them they will become your greatest critics.
- **Don't avoid taking the hit upfront for a making a decision you know will be controversial and opponents might take direct action and try block:** by acting without informing the public you may avoid direct action in the immediate time frame, but you will confirm in the public eye that you are trying to do something secretly and underhandedly, you will still get the negative press and publicity but now you will also get legal action and a more sustained pushback, as the Kataza incident and the Blood Wine incident in Cape Town illustrates.

- **Don't take a management decision that you are not 100% confident that it is the best decision at the time:** It is only these actions that you will successfully be able to defend before a critical public in the current environment of distrust
- **Don't have reports or performance indices that can be misinterpreted by the public:** this can only create mistrust in the current environment. The best example is time spent out of town by the troop in a month. When reading in a monthly report that Bettys Bay Troop was kept out of town 91.3% in June one might forgive a resident for being sceptical if his residence was visited by BBM1 often in the company of other baboons on the 24 days he entered the village in the month where the service provider reported a 90.3% success rate.
- **Don't have SOPs that are not practical in the field.** For example without a baboon proof fence, allowing baboons to come within 300 or 400 metres of the urban edge is incompatible with keeping the troop out of an urban area. You might have to move the troop 1km away from the urban edge. If your protocol does not include this contingency then when monitors have to do it the service provider will be criticized for going against their own protocol and trust will be lost.