Project: Deer cull restoration
File: SFM01-2008

2008 FINAL REPORT

Initial workplan

May 2008: completed

- installation and testing of cameras / completed

- test of various baits and attractants at camera equipped bait stations / completed

- If successful with baiting organise a test hunt / baiting completed but did not allow test hunt as there were no predictable visits of animals. One reason is that baiting should probably be done for long periods prior to hunting and funds available did not allow for it (see initial proposal).

June 2008: completed

- monitoring of cameras and baiting continued and hunting if baiting works / completed (but see hunting above)

October 2008: completed

- If needed use of cameras and of attractants designed for rutting season to attract both sexes to specific sites with cameras. Monitoring. If effective organize hunting / Completed, cameras and baiting used but stalking proved the most effective hunting method considering time and number of personnel available (see report).

Report on May-June 2008 operation :

From May 17 to June 8th 2008 8 automatic cameras were deployed on Reef Island in 7 localities:

1 - near plot 6 (west end of Reef);

2 - near plot 4 (north western slope of Reef);

3 - in camp;

4 - near camp outhouse;

5 - near plot 14 (central plateau);

6 - between plot 14 and 15 (central plateau, 2 cameras)

7 - near plot 16 (2 cameras); with or without baits to look for predictable deer movement that would facilitate deer culling.

In two localities (6 and 4) cameras were placed on main deer trails but without baiting.

At all other sites baits were used (apple flavor; corn surge licks; food supplements).

Localities 3, 5, and 7 were equipped with cameras for the whole period.

Localities 1 and 2 had cameras for less than a week

Locality 6 for a little over a week.

In the two localities (1 and 2) that consisted of cameras placed along a major deer trail but without baits the cameras were repeatedly triggered but no picture of deer were taken. The analysis of the events from sites with baits suggests that at least some of these pictures without deer could have been triggered by animals moving too fast to be within camera range. Others might have been caused by foliage moving in the wind (although cameras were set up in a way to minimize that risk).

In one locality (6), which had two baited cameras placed near a moderately marked deer trail no picture was taken.

The 4 remaining localities, all were equipped with baited cameras, yielded pictures of 25 different deer visits. Because of the limited capacity of the memory card of some of these cameras this number of visits is a conservative figure as the cameras will not be triggered once their memory card is full. These cards were emptied at regular intervals (2 to 5 days) by downloading the information onto a computer.

One characteristic picture is provided for each event as an attachment to this report (the cameras were set to take up to 3 pictures at one second intervals once triggered) and an excel file attached describes the different events recorded.

Where baits were used most pictures show the animal sniffing or consuming the bait/attractant.

The same animals were seen repeatedly at the same sites and sometimes during the same day. Early morning and evening visits were most common but visits could occur at any time of day.

Up to 4 (or more?) different animals were seen at plot 16 suggesting that ambushing animals at such "crossroads" could be a possible way to reduce the population.

Over the whole period at least 8 different animals could be identified on the pictures.
Howeer, as in the vicinity of camp at least 4 different animals were seen, while the pictures allow to unambiguously distinguish only 2, we actually observed at least 10 animals in these 3 sites (camp plus outhouse; plot 14 and plot 16).
In addition at least one of the females seen in camp gave birth to a fawn (tracks identified), bringing this total to 11.

As only a small fraction of the island was covered by this investigation a guesstimate of 30 or more animals seems realistic.

This result suggests, as suspected, that the deer population on Reef is thriving on the abundance of forage that has resulted from its successful reduction between 1997 and 2004. The combination of rich food supply, limited resources for culling and bad luck with weather when the last hunts were done, played all in favor of population recovery.

Based on the results of the spring/summer campaign the remainder of the funds available went towards a hunt using baits and ambush during October 2008. As only a small fraction of the funds needed for a full fledged hunt was available this effort was necessarily limited. The hope was that with some luck we would at least be able to reduce browsing pressure in order to buy a little time to bring resources together for an attempt to achieve deer eradication.

Report on Reef Island Deer Cull Oct 20-31, 2008
(based on report submitted Jan 7 by Jake Pattison)

Field Staff
The individuals involved in the cull where: Jake Pattison- project supervisor & hunter (Oct 20-31), Carita Bergman- hunter (Oct 20-27) and Malcolm Hyatt- assistant (Oct 20-31).

Transport
Parks Canada transported the crew to Reef on Oct 20 via Moresby Camp, and picked up Carey on Oct 27 (m/v YO-DANG, Dave Martynuik). Transport out on Oct 31 was via Moresby Explorers.

Results
Of the 12 days spent on the island, 2 where dedicated to transport and camp set-up/take-down, as well as one stormy day spent on cutting firewood. This resulted in a total of 9 days of actual hunting, or 15 hunter-days of effort. Hunting days varied between 6 and 13 hours depending on weather, resulting in approximately 133 hunter hours over this time period. This does not include Malcolm's approx 82 assistant hours (carrying deer etc) over the same time period. Weather was variable over the 11 day period, with approx 4 rainy/stormy days, 6 overcast/squally days, and 2 sunny/calm days. Overall, we judged the weather to be better than average for this time of year (Oct generally being the rainiest month of the year).
Hunting resulted in 9 deer being shot and retrieved, and one shot but not retrieved (was hit and fell, but managed to make it into dense blowdown/regen – presumed dead). Of the 9 retrieved, 4 where female, and 5 male. Five of these where fawns (ie this year's offspring, based on overall small size) and 4 adults. The one that was not retrieved is presumed to be a female (too large to be a fawn of this year and no antlers). Measurements and tissue samples were collected as per protocol for previous culls (see attached data sheets), and additionally, full necropsy samples were collected from each individual based on protocol outlined by Carey. In addition to those deer that were shot, we kept track of sightings when we were unable to shoot: a total of 7 instances over the 9 hunting days.

Strategy
Attempts were made to test several different hunting strategies during the cull. Motion activated cameras borrowed from parks where deployed at several different locations (near plots 1, 10 and 12) where there where deer trails that appeared heavily used. These stations were also baited with cut apples with the hope of drawing in deer. However, these cameras did not prove useful, partly due to the archaic nature of the equipment (heavy to carry, slow to trigger, limited storage capacity), but also because the short duration of the cull did not allow enough time to effectively use them to deduce deer

movement patterns. The cameras did not get any photos of deer, and apparently the deer where not very interested in the apples. Salt licks were put out at a number of locations, but it was unclear whether the deer were attracted to them. Again, the short duration of the cull limited the effectiveness of this as a strategy. Another idea was to try ambushes, ie pick a well used deer trail and sit quietly at a good vantage point hoping that a deer might pass by. We tried this near the major deer trail running on the south side of the island near plot 16. The hunters installed themselves before dawn (7:00) at ambush sites chosen the previous day and waited until 9:30 am (light by 8:00). However, no deer passed by and waiting in the cold proved less than enjoyable. On two other occasions we tried to drive deer towards hidden hunters (on the main south point and again on the west point), but this did not return any results. Taking this into account we began to realize that the deer were likely bedded down in the centre of the island during the day and active on the more exposed points and promontories during the evening, early morning, and presumably night as well. These exposed areas, particularly on the south points and west point, were characterized by abundant huckleberry regrowth and extensive deer sign (browsing, fresh droppings, tracks, and trails). Taking this into account the strategy that we began using was to walk slowly through these areas in the early morning, leaving camp in the dark so as to be in likely areas for first light. This proved to work well, particularly as the hunt progressed and the deer apparently became more wary (sightings became less frequent as the hunt progressed). The remainder of the day in this case was used both to continue hunting, but also to scout out likely areas for the following morning, ie paying close attention to the location of fresh droppings, tracks, beds, and freshly browsed huckleberry for the following morning's effort.

Recommendations for future strategy

While the cameras did not prove useful as used during the spring operation or during the actual cull, we believe that this strategy has considerable potential with new equipment and a different approach. Equipment needs to be upgraded to cameras that 1) have fast trigger time 2) have considerable storage capacity 3) have long battery life, and 4) are easy to operate and download. If, say, 10 of this type of camera were deployed (perhaps with bait) a month prior to the cull on the major deer trails/bottlenecks, then this would give sufficient time to accumulate considerable information on deer movement. Upon arrival of the hunting team, these cameras could be downloaded and the frequency and predictability of deer being in certain locations determined before any hunting takes place, at which point it would be possible to locate hunters in the most likely ambush sites, or simply walk very quietly in the areas that are most active.   Added to this could be the use of wireless motion detectors placed at suitable locations along the trail to either side of a hidden hunter in order to detect the presence of an approaching deer (important in cases where the deer will pass through a relatively limited window of view, as it is very difficult to stay alert for long periods of time). This could also allow one hunter to potentially monitor several deer trails within an area. The setup could consist of, say, 4 motion detectors (eg 4 channel Dakota Alert system) communicating with a receiver that the hunter listens to via an earphone. The detectors would be deployed by the hunter prior to going into ambush, each one recognizable by a different ring tone. We experimented with one of these units on Reef (single channel 1000m range), but did not have time to apply it to our situation. A strategy like this is could be very effective, given that the cameras collect data well in advance of any hunting. A potential problem is that movement patterns are bound to change once hunting begins, and the question will be how many days can one hunt before the data is no longer valid. This may indicate several short (perhaps week long) culls through the late summer and/or fall, with the cameras reset at the end of each cull (would be interesting to see how long it takes for regular movement patterns to become established once the hunters leave, and what impact the hunting does have on timing of movement etc). It would be

particularly interesting to determine what proportion of activity occurs at night, and it would be important to have cameras capable of this. If there is substantial activity at night, as we assume there is, it would be worthwhile to consider night hunting as an additional strategy.

In addition the hunting strategies, It would also be interesting to test various trapping methods and determine if it is possible to lure deer into traps with bait...the advantage being that once traps were in place it would require relatively few people to bait them and periodically check them.

Lessons learned

The last culls have only been able to slow down deer recovery on Reef Island. The nevertheless allowed the test of different approaches and a learning process that provided insights on the different approaches that could be integrated to control and possibly eradicate deer from that island. To this end contact has been made with the Island Conservation Group an organization that has specialized in eliminating introduced mammals from islands.

No doubt however, that the level of funding we were able to gather to this end is inadequate. Such an attempt indeed would indeed mean a serious up scaling of funding and funding that can be spent over a prolonged continuous period of time and set up in such a way that there is no risk of running out of funds before the last animal is killed (a guesstimate of order of magnitude would be 150 000 CA$).

In the current situation the prospects, however, are not too bright to achieve that end without serious commitment from outside the academic circles. Deer might therefore soon be able to rule again on Reef Island.

Other deliverables:

Photos: were sent to GFS office with interim report

Observer article on project

ACKNOWLEDGEMENT OF GWAII FOREST SOCIETY FUNDING SUPPORT