

CITIZENS' GROUP ON DEER MANAGEMENT
November 5, 2007
Conservancy Classroom

The meeting was well attended by citizenry and Council members. Village Manager Calvin Peck and Council members Larry Lammert, Andy Sayre, John Pitera and Dr. Douglas were all present.

Suzanne Dorsey began the meeting by noting the Conservancy has provided two recommendations to Village Council based on the results of their 2007 deer count:

- 1) They have recommended against culling this season. Their counts show the lowest density since 1999 (50.7 per sq mile this year, 50.5 in 1999), and the current drought is predicted to continue until summer. Therefore, conditions appear to be optimal to proceed with a radio collar study to determine the potential effectiveness of a non-lethal management plan (see #2).
- 2) They have recommended the Village of BHI fund the UNC-W proposal Dr. Snider submitted to the Village Council on Friday, November 2 for consideration.

Dr. Anthony Snider was then introduced. He is a Professor of Environmental and Estuarine Studies at UNC-W and has been Manager of the Bald Head Woods for NC Coastal Reserve.

He noted that in all the venues he's worked on this issue, it is generally agreed that deer, in absence of predatory control, will become subject to starvation and disease. The question for each community is how to manage this – either by some combination of lethal/non-lethal management, or by letting nature take its course.

The proposal he has submitted to the Village outlines a study using radio collaring of deer to determine their migration patterns and habitat uses. If deer migrate off the island, it would be very challenging to make the non-lethal management option work here, not to mention cost inefficient (since the vaccinated deer would be going to other communities).

He noted that non-lethal management has been used successfully in a variety of areas, citing the National Institutes of Science & Technology in Maryland, the Johnson Space Center in Houston, and of course the ongoing study in Fripp Island where they have established that individual fertility of deer is going down through immuno-contraceptive methods. He noted this study should be watched particularly closely because of how similar the conditions are on this island compared to BHI.

The process would work as follows. Fifteen female deer would be selected over a diverse geographical range. Dr. Douglas mentioned the 18 bait sites that are spread out and already established, with the further plus that they are located away from home sites. The deer will be tranquilized and fitted with the radio collars. They would also be fitted with a numbered large red ear tag in both ears. They have found that this allows citizens help the study between telemetry sessions by reporting sightings and behavior of particular deer. When they are tranquilized, the staff will take body measurements and blood samples to determine the health of the deer and if there is the presence of Lyme Disease. The tranquilizer dart does have a tracking mechanism that allows them to follow the deer that might bolt after being shot with the dart.

Dr. Snider then introduced Paula Gillican, who is the Rachel Carson Reserve Manager. They are using the immuno-contraceptive method there. She also has done telemetry work with Fripp Island, and has the experience to handle the radio collaring process if the Village wishes to pursue the study proposal.

The primary reason for the study is to allow BHI to make an informed decision as to whether non-lethal management is a viable choice. However, even if the decision is against that option, the study data is useful for evaluating the health of the herd, migration patterns and where the deer can be located (preferred environment/habitat use).

Radio collaring/monitoring is one of the cheaper ways to achieve this goal if there is access to graduate students to handle the labor-intensive portion of the process. GPS is much more expensive. He noted that NC State has agreed to provide two graduate students, which will save \$75,000. UNC-W's graduate program won't come on line until 2008, but they have committed some resources now.

At the end of the study, the deer will be tranquilized and the collars will be removed. They will keep the ear tags throughout their lives, and on the back will be a contact phone number and a warning "Do not consume – this is an experimental animal".

The following questions were posed:

- 1) If the Village decides to pursue the non-lethal management technique of immuno-contraceptives, can the deer be inoculated with this when they are tranquilized to remove the collars? Answer: If the timeline works out, yes, but it is doubtful that things will happen that quickly.
- 2) How did you arrive at 15 female deer? Answer: Dr. Snider went through the animal care committee at UNC-W and it was determined that was the number needed to have a plausible study, and would further give the graduate students enough information to allow them to publish.
- 3) Discuss the mortality rate/stress on deer tranquilized. Answer: Mortality is relatively low. Before a deer is darted, Paula Gillican will make a judgment on the health of the deer and whether the surroundings are optimal to take the shot. For example, Fripp had several die out of several hundred, but mostly this was due to the fact the deer bolted and then succumbed to the sedative in a nearby body of water and drowned. Dr. Snider noted that they have a protocol that if a deer goes into respiratory distress during the tranquilizer process, they put the animal down and do not let the deer suffer. Paula Gillican noted she has not had this happen to date.
- 4) How can citizens help? Answer: The tagging will involve only the professionals because of the danger of tranquilizing a large wild animal. However, they will need people on telemetry runs to help with the tracking. Ideally, the telemetry phase would be about two years.
- 5) What is the budget for the second year? Answer: While they have not costed out that figure yet, it will be significantly lower, because the second year is only the telemetry, not the darting and set up for the study.
- 6) Will the state (NC WRC) grant a permit for doing non-lethal management on BHI? Answer: Dr. Snider has spoken with Darren Barnes at NC WRC and he has said the

proposal looks good and they would entertain the option if the data supports it. Paula noted that while NC has less experience with non-lethal management there are two herds of feral horses in the state on a contraceptive program (Cape Lookout and Rachel Carson).

- 7) Do we need two years for the study? Answer: The scientific community would look more favorably on it, which means the state and its permitting requirements would look more favorably on it. Of course, on the other hand, the Village could add one year of data in with the ongoing data from Fripp to make a decision the scientific community and state might support.
- 8) What is the timeline on getting the study up and running? Answer: Dr. Snider has already submitted a permit request to the state to do the study. If the Village approves the proposal, they will order the collars, and these take a month to build. The optimal start time for the study would be in January. If they miss January, it would be delayed another year due to resources available to do the collaring as well as the fact warmer weather changes the animals' metabolism and throws off the study, etc.
- 9) What is the usual average cost of the annual culling? Answer from Village – approximately \$50,000 (\$300 per deer, plus study costs, etc.).
- 10) What is the cost of the proposal? Answer: The cost to the Village would be \$50,000. NCSU is contributing an additional \$75,000 in graduate student labor, and UNC-W is providing \$2700. It was pointed out that citizen involvement can help reduce that by providing transportation and housing assistance. Also, if the Village decides not to pursue culling in 2008, the \$300/deer committed to that might be available.
- 11) Can the study and culling occur in the same year? Answer: No. There can be no culling the first year of the study. Culling would be possible in the second year if it was deemed needed, but the first year it can disrupt all the work to collar the deer, establish normal migration and habitat use patterns, etc.
- 12) What is the cost of the immunocontraceptive method? Answer: Immuno-contraception is much cheaper than annual culling. It is \$15,000-\$20,000 in the first year, then drops down to \$5,000-\$10,000 annually after that.
- 13) Will the sedatives hurt foxes if they consume a fawn? Answer: No, fawning occurs much later, when the drugs will already be metabolized by the mother.
- 14) Is the Fripp herd healthier since the onset of the study? Answer: Paula noted that data is not yet available. Fripp does not have a goal for the herd size and did not include a test for disease in their initial darting phase. The purpose of the project was to test several different variations of the immuno-contraception vaccine. They are also not certain of the effectiveness of the vaccine over the life cycle of the animal yet.
- 15) What needs to happen to get this proposal approved and up and running? Answer: Calvin Peck explained that they are expecting the final information from the Westervelt camera study. When the Village gets this, they will compare that to the Conservancy study, but he noted the two studies are typically compatible. (Dr. Dorsey added the Conservancy study count tends to be lower than Westervelt because the Conservancy count occurs during a time period when the fawns are less active.) After that review, the Council will make a decision of how to proceed this year

(culling or no culling, proposal or no proposal). The next Council meeting is November 16.

Miscellaneous Comments:

Mayor Lammert noted that the female count is higher than the male count this year, and they've noted a tendency for twin fawns in a healthy herd. As such, the deer count could increase by as much as 120 deer in a year. However, Dr. Snider pointed out that the Village has proven culling works as a method of reducing numbers, so they do not lose anything by taking a year to establish the study. They can always cull a greater number in the second year if they need to do so. It was also noted the Village currently has an increasing fox population which may be impacting fawn mortality rate.

Dr. Dorsey noted that it is very likely that the Village will have to cull again before a non-lethal management method is implemented. It is possible that the eventual solution will involve immunocontraception and periodic culling. Therefore, she advised the attendees to view the non-lethal management methods as something BHI may be adding to the deer management package, not as a complete replacement of existing methods.

Mayor Lammert then pointed out the 50.7 deer per square mile is still 10 deer per square mile higher than the WRC recommended density rate of 30-40 deer per square mile. However, Dr. Dorsey pointed out the recommendation by the WRC is a very broad number based on a huge number of habitat types - this is a very general calculation which does not take into account the specific barrier island environment.

The audience was reminded that Dr. Stephen Brewer would have a 5pm presentation on his study of the deer impact on the maritime forest. However, briefly he noted that he hasn't seen a lot of the browsing that would indicate the deer herd is at an unhealthy level for the maritime forest. But he does have concerns about the level of "regeneration" (number of seedlings he sees growing). This can be deer related but it also can be drought related. Dr. Dorsey noted the drought is having a more significant effect on our forest right now than deer.