

STUDIES OF QUAIL HUNTING EFFICIENCY

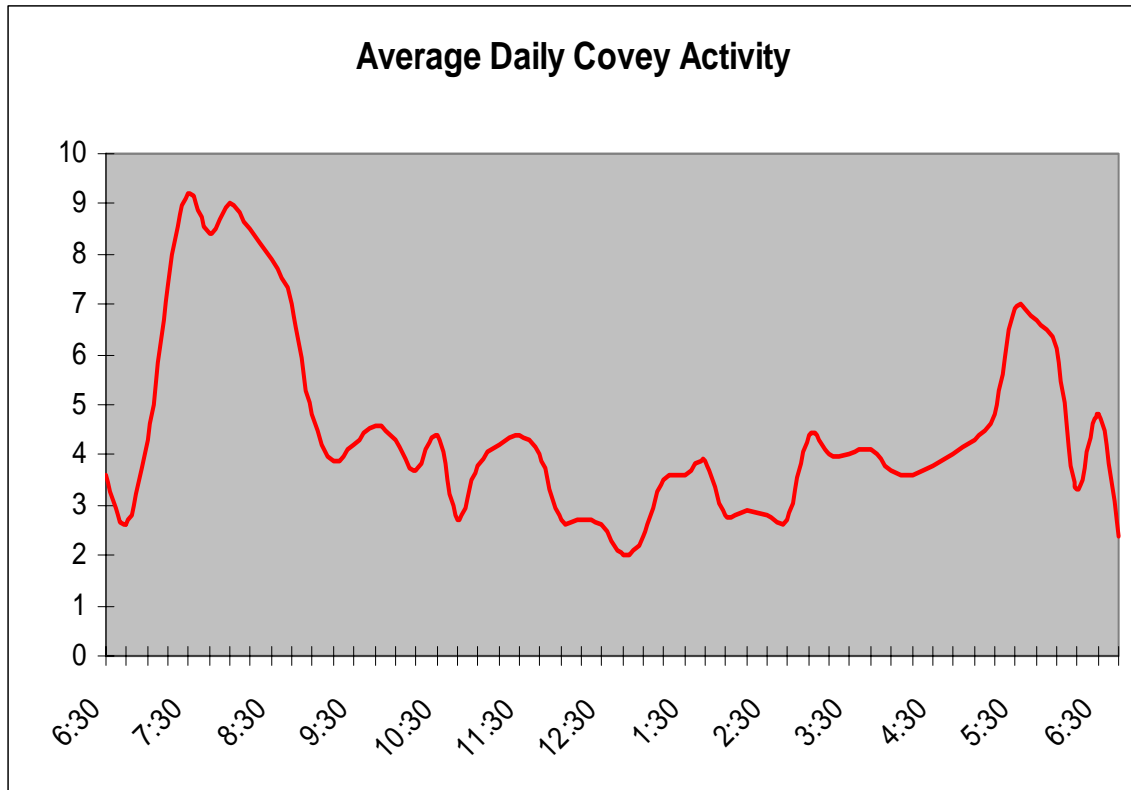
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Since the spring of 1992 personnel from Auburn University's School of Forestry and Wildlife Sciences have been studying wild quail on private plantations in southwest Georgia. Many issues have been studied by monitoring year round samples of radio-tagged quail on several properties. Now in our 13th year, our cumulative sample of radio-tagged quail is well over 7,000. Issues that have been addressed include: annual survival, causes of mortality, habitat use, supplemental feeding, and the effects of nest predator removal. In addition to the habitat management and population ecology questions addressed, an important part of our work over the years has been the study of quail hunting efficiency on these properties. This work has taken several forms which include the following: 1) patterns of covey activity during the hunting season, 2) the efficiency of pointing dogs in locating bobwhite coveys, and 3) the effects of supplemental feeding on covey activity and hunting success. This paper will address each of these topics and conclude with recommendations to improve quail hunting success.

PATTERNS OF BOBWHITE COVEY ACTIVITY

Understanding the behavior of wild quail coveys and their patterns of activity is the first step to more efficient hunting. A few years ago, we conducted a study in which we radio-tracked 4 coveys of quail six days a week for an entire hunting season. Each day one of the coveys was tracked continuously, recording their location and activity level every 15 minutes from daylight until dark. This produced data for 86 days of continuous tracking and totaled more than 4,200 readings on location and activity levels. During the same time period, the nearby Albany airport was collecting weather data on the same 15 minute time intervals. The most significant information collected was on the activity levels over the course of a day. These results were really about what you would expect, but interesting nonetheless. The highest level of activity occurred early in the morning, usually during the second hour of daylight. This peak level of activity would last for an hour or hour and a half and then taper off until midday when there was usually a three to four hour period of very little activity. Activity levels would then start to pick up some around 3:00, with a second shorter and less pronounced peak later in the day. This same pattern was seen over and over, where a covey would come off the roost and be very active early in the morning, show moderate activity through late morning, and very little activity through midday, with coveys often moving to heavier cover during that time to loaf. Activity did not pick up again until late in the afternoon with another period of movement associated with late afternoon feeding and going to roost. Long distance movements during the course of a day were uncommon with most

coveys moving no more than 200 to 300 yards all day and having ranges of only 10 to 15 acres for the whole season. Following is a graph showing this typical movement pattern.



Quail covey movements were influenced by weather. There were some relationships with the movement data when compared to the weather data from the Albany airport. Basically, what we found was that coveys were more active in cold weather, high relative humidity, and light winds. Decreased activity levels were associated with hot weather, low humidity, high winds, and rain. The strongest correlation to a weather variable was very little activity any time an east wind was blowing. While we are not sure why this is, apparently the old saying “wind out of the east...find birds the least” has some merit. Another interesting occurrence was that activity levels tended to increase the day before a change in the weather, suggesting that quail can sense an approaching weather event. In general, the best days for quail activity were cold and overcast with a light wind. Bright, sunny, low humidity “bluebird” days are pleasant to be out in, but are not especially good for quail activity. Likewise, warm weather or rainy/windy days will decrease activity levels. We suspect that some of these effects of weather would have been more pronounced had not these coveys been receiving supplemental feed. Studies on other species such as deer have shown a reliable food source will moderate the effects of weather on activity patterns and make

animals more predictable. The following table shows the general relationships we found.

HOW WEATHER EFFECTS QUAIL ACTIVITY	
QUAIL ARE INACTIVE	High Temperature
	Low Humidity
	Rain
	East Wind
QUAIL ARE ACTIVE	Low Temperature
	High Humidity
	Light Wind

EFFICIENCY OF POINTING DOGS IN LOCATING BOBWHITE COVEYS

Another way to increase hunting efficiency is to understand the interactions between coveys of quail and the bird dogs trying to find them. There are a number of factors that work together to influence a dog's ability to find quail. The weather not only affects quail activity levels but scenting conditions for dogs as well. In an effort to better understand these interactions, we spent 8 hunting seasons radio-tracking wild quail coveys as they were being hunted on South Georgia Plantations. During this time, we collected data during over 200 hunts which resulted in over 1100 "encounters" between radio-tagged coveys, bird dogs, and hunters. This information is presented in the table below.

EIGHT SEASONS OF QUAIL HUNTING “ENCOUNTERS”							
Coveys Seen By Hunters 591 Coveys (53%)				Coveys Not Seen By Hunters 515 Coveys (47%)			
Pointed And Shot	Wild Flushes		Wild Flushes	Passed By		Pointed	
	Pointed	Not Pointed		Ran	Held	Ran	Held
31%	9%	13%	7%	7%	25%	7%	1%

Over the course of these 8 seasons and 1106 encounters, hunters averaged seeing just over half (53%) of the encountered coveys. Most instances of coveys being missed were simply because they were passed by and not smelled by the dogs or moved by a member of the hunting party; they simply held their ground and let the hunting party pass by. Many of these coveys were not out feeding, and therefore it was hard for the dogs to scent. It was not unusual for coveys to hold tight and be passed by within only a few yards. The next most common reason coveys were not seen was because they were running away; some of these ran as they heard the hunt coming and some ran away from the dogs after being pointed. Additionally, some coveys were not seen because they flushed wild ahead of the hunting party. Both of these behaviors (running and wild flushing) became worse as the hunting season progressed. Overall, bobwhite coveys showed a remarkable ability to evade hunting parties, with some coveys seeming to be better at it than others. Individual coveys seem to develop their own personality and learn over the course of the season the best way to survive a hunt. No data was recorded for encounters with single birds but some general observations were made. Single birds that have already flown once and “wingwashed” themselves can be very hard for dogs to find as well as very hard to flush. They seem to know they would be more vulnerable to a predator or gun alone than flushing amidst the confusion of a covey rise. Many single birds are left behind undetected.

About 12% of all encounters with radio-tagged coveys ended with a “false point”. There was a lot of interest during these studies as to what was responsible for these false points. These studies revealed that the majority of times a high quality and experienced dog pointed and no birds were seen was not because they were false pointing; but rather they were pointing where quail

had been but had left undetected. Most of this was due to coveys running away from pointing dogs followed by unseen wild flushes that were pointed and an occasional covey that was pointed and held tight during the attempt to flush them. Not long into the study, we stopped calling these “false” points and began calling them “unproductive” points. The table below shows the number of incidences and percentages of these “false” points on radio-tagged coveys.

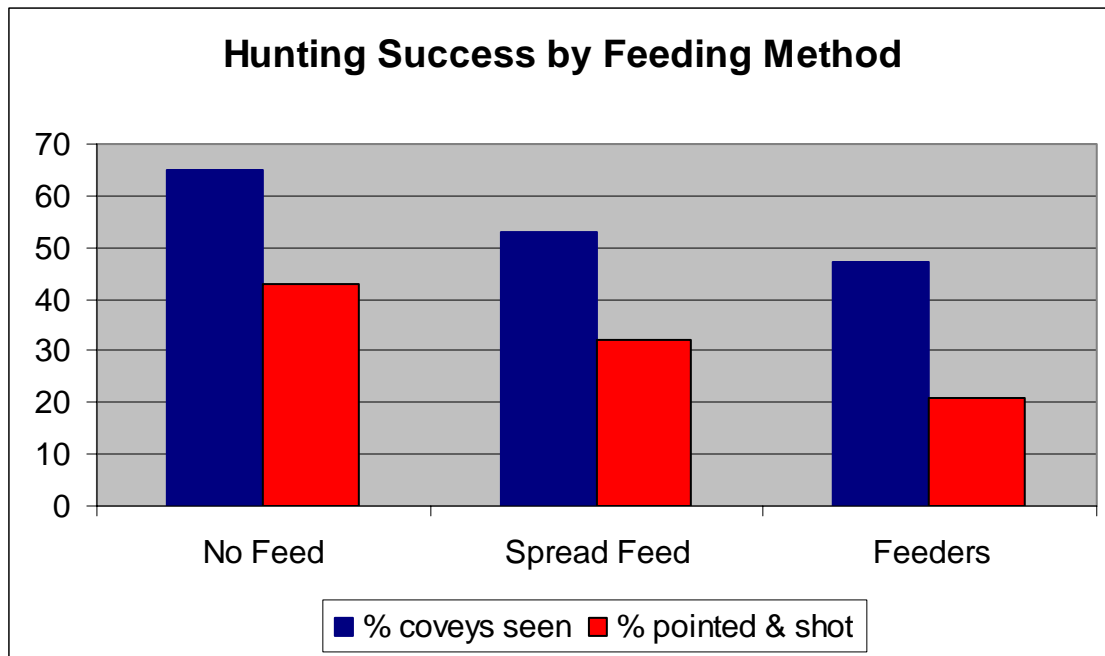
INCIDENCES OF “FALSE” OR UNPRODUCTIVE POINTS		
POINTED & RAN	POINTED & FLUSHED WILD	POINTED & HELD
74	39	14
58%	31%	11%

EFFECTS OF SUPPLEMENTAL FEEDING

We conducted a series of studies on the effects of supplemental feedings over the years. Initially, we looked at the effects of broadcast spread grain on covey movements, home range size, and survival. These studies were some of the first to demonstrate positive impacts from supplemental feeding on quail. What they showed was that coveys fed through the winter and spring could have smaller home ranges, reduced daily movements, greater survival, better body condition, and an earlier start of the nesting season. This was especially true in years when native foods and cover were scarce, such as following drought summers. This abundant and reliable food (usually corn and Milo) allowed birds to fill up quickly so they were not exposed to predators for very long. Birds relying on native feeds in years when it was scarce did not have this luxury and thus had larger home ranges, increased daily movements, lower survival, deteriorating body condition, and a later start to the nesting season.

The next phase of this work was to examine how all these interactions affected hunting success and hunting quality. We conducted a series of field experiments looking at how feeding and different feeding methods effected the interactions between radio-tagged coveys and hunters. These studies lasted 4 years and resulted in over 500 “encounters” with radio-tagged coveys. What we found was that the unfed coveys actually had a greater chance of being found by hunters (65%) than did the fed coveys (50%). This occurred for the same reasons that made unfed coveys more vulnerable to predators – increased daily

movements and larger home range size. This information contributed to GA DNR's policy of not considering hunting quail that were being supplementally fed as baiting. The comparison between broadcast spreading verses ground feeders revealed no significant difference in home range size, survival, or hunting success between these two feeding methods. There was a difference in the hunting quality however as coveys tended to be wilder around feeders and the percentage that was pointed and shot was very low. The figure below shows these relationships.



TIPS FOR SUCCESSFUL QUAIL HUNTING

As a result of the above combined work, we have developed a list of recommendations to improve quail hunting efficiency with pointing dogs.

- 1) GET OUT EARLY – most afternoon hunts overlap periods of increasing quail activity and improving scenting conditions while the opposite is true in the morning unless you get out early
- 2) TRUST YOUR DOGS – their noses tell them things we have no way of knowing
- 3) BE PERSISTENT – most coveys are where they are supposed to be or very near to where you found them before
- 4) GET TO THE POINT – many coveys go unseen or are missed being shot at from hesitation getting to the pointing dog; get there quick

- 5) MAKE A GOOD FLUSHING ATTEMPT – especially for single birds, some that are pointed are never flushed
- 6) RELOCATE FOR RUNNERS – if your flushing attempt fails take plenty of time to relocate, most false points are a result of birds running away from a dog
- 7) THINK LIKE A QUAIL – put yourself in their place and look for a likely escape route or try and remember how they evaded you last time
- 8) BE UNPREDICTABLE – don't always hunt the same route the same time of day; try to catch them off guard by mixing things up
- 9) SUPPLEMENTALY FED BIRDS ARE HARDER TO FIND – but you can have more of them; if you do so, we recommend spreading feed year round
- 10) DON'T TAKE IT PERSONAL – they're only trying to survive long enough to breed and provide a crop of birds for next season

