



Bald Head Island 2011 White-tailed Deer Population Estimate

Fall deer population surveys, funded by the Village of Bald Head Island and the Bald Head Island Conservancy, were made from mid-August through mid-November. The spotlight count surveys followed the 1999 established protocol by Ray and Bolen. These counts follow the set route of South East Beach Drive, Cape Creek Road, Station House Road, Federal Road, Muscadine Wynd, Golf Course, and South Bald Head Wynd. The South Bald Head Wynd route was introduced in the summer of 2004 by Phillip Doerr. Summer and fall surveys for 2011 were combined to assess population trends for the year.

The 2011 summer surveys estimated approximately 87 deer/square mile or 160 deer total. The fall counts did not increase the population estimates showing a similar number of approximately 84 deer/square mile or 155 deer total. The fawn population did increase as expected, however, the amount of bucks observed decreased by about 10%. The gender frequencies of the adult deer recorded was approximately a 1:2 male to female ratio. The most deer that were physically observed were on the Golf Course and South Bald Head Wynd; however, it can be assumed that the large areas of the maritime forest where visibility is low due to dense vegetation may hold a high number of deer.

SUMMER 2011									
Count	Males		Females		Fawns		Unknown		Total
SBHW Freq.	84	24.0%	176	50.3%	39	11.1%	51	14.6%	350
Original-Bolen Rts.	168	36.8%	166	36.4%	46	10.1%	76	16.7%	456
Total (28 counts)	252	31.3%	342	42.4%	85	10.5%	127	15.8%	806

Fall 2011									
Count	Males		Females		Fawns		Unknown		Total
SBHW Freq.	19	17.4%	50	48.9%	34	31.2%	6	5.5%	109
Original-Bolen Rts.	43	23.4%	75	40.8%	42	22.8%	24	13.0%	184
Total (14 counts)	62	21.2%	125	42.7%	76	25.9%	30	10.2%	293

Reasons are unclear as to why the population has not increased more rapidly from the summer to fall of 2011. Fawn populations did become more active increasing observations by 15%. Speculations as to why we saw less bucks this fall could be that spotlight surveys are a technique that is best designed for estimating deer density and not necessarily the most accurate for collecting herd composition information. However, spotlight surveys are the most commonly used technique for assessing population trends even though they are slightly biased towards females as bucks tend to be more secretive. Bucks could also simply be taking more refuge in the forested areas where visibility is low, and are often seen alone where females and fawns are seen more commonly in groups.

South Bald Head Wynd densities are not included in the resulting total number to represent the most long term population index. They are evaluated separately from overall counts because there is overlap

with the Federal Road route and habitat allocations intersect (Doerr 2005). At the time of 2004 estimates of Federal Road and the combined Federal Road and South Bald Head Wynd route were similar, however, now the data is beginning to skew further from the similarity. It is suggested that the protocol from Ray and Bolen from 1999 be re-examined to assess how the deer populations use the current habitat after island changes over the past 10 years. Maritime forest growth and density affects visibility during spotlight counts, significant amounts of development change habitat particularly near the shoals and South Bald Head Wynd, and route can be redone to alter the overlap of South Bald Head and Federal Road. Since 1999, the 1,180 acres of habitat may have decreased and subsequently change how the habitat is used by the deer populations. Possibilities of taking more refuge in the forest where spotlight surveys are only assessing deer along edge habitats could possibly skew numbers; however, that fact is taken into account with calculations. It would be beneficial to compare maps of Bald Head Island from 1999 to present and make assessments from that information on where the most suitable deer habitats are now. A transition period of using multiple routes may be necessary to deem what would prove to be the most accurate counts of our island populations. **Incidental deer observations may be necessary to collect additional data for even more accurate composition; this could be done in the early morning hours running two surveys total per day for once or twice a week.**

Recommendation:

Bald Head Island Conservancy recommends that the Village of BHI cull approximately 25-50 deer in the winter of 2011/12. A small scale cull will keep the deer population within the ideal carrying capacity of 88-186 suggested by Ray and Bolen (1999).

