WILDLIFE SESSION

DEER TRAPPING COORDINATED WITH WEATHER

FRANK B. BARICK, Leader, NC PR-21-D, Big Game Restoration

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Something new has been added to deer trapping and transplanting in North Carolina which has resulted in considerable saving in time and money. This state has been actively engaged in big game restoration through trapping and transplanting since 1945, and until last year trapping was on a "continuous" basis through the trapping season. Last year, however, traps were set only on certain days selected on the basis of weather forecasts, and the result was a higher catch, with less work than was experienced in former years.

The idea for the new system originated while the writer was stationed on the Mt. Mitchell Wildlife Management Area, when it was observed that on some days many more deer were seen in the open fields and along the roads than on others. These days of increased activity were commonly ascribed to changes in the weather. It was further noted that in a large proportion of cases these days of increased feeding and activity were followed by rain or snow storms.

On the basis of these observations, it was decided to set the traps on a falling barometer with a forecast of rain or snow within 24 hours. Since newspaper forecasts are usually based on the previous day's weather observations, and since storm centers do occasionally deviate from prescribed routes, it was decided to work with the nearest weather bureau office where daily weather maps are plotted. The Asheville office of the U. S. Weather Bureau performed in a most cooperative manner by keeping track of low pressure systems and contacting us by telephone whenever a particularly "good" storm was headed over the trapping area.

The trapper can keep track of potential storms in a general way by consulting the weather map in the daily paper. Nearly all of the high and low pressure systems influencing the weather in this part of the United States originate in the west and move eastward. In some cases storm centers will move across the country in two or three days; in other cases it may take nearly a week. The average rate is about 500 miles per day but storm centers often travel at faster than average rates in the winter. Since the maps in the newspapers are plotted from data recorded at 7:30 A. M. the previous day, the storm is probably about 500 miles farther along its way when it is observed in the daily paper. Thus, in order to get the traps set at least six hours before the storm hits, the weather bureau should be contacted when the newspaper weather map shows the storm to be from 700 to 1,000 miles west of the trapping area. A further refinement (planned for this year in our operations) would be to keep track of barometric pressure at the trapping area and to set the traps when the pressure starts to fall prior to a forecast storm.

Another factor which may influence the success of the trapping is moon phase. It is our observation that deer appear to feed more heavily on clear moonlit nights. However, it is possible that seeing more deer on these nights may be due to better visibility if not more deer activity.

A comparison between trapping by the continuous method and the weather method is presented in Fig. 1 and Table 1. Fig. 1 shows success of continuous trapping on the Mt. Mitchell Area in 1949 - 50 plotted against barometric pressure.

Table 1. Deer catches by trap dates, 1951 - 52 [a]

Date	Number of deer caught on each area		
	Mt. Mitchell	Daniel Boone	Bent Creek
12/14/51	24		
20	14		2
30		22	
1/ 9/52	23		
16		8	
20			4
26			1
2/ 2/52		10	1
3	7		
13		5	
14		2	
19			1
20			1
26		0	
Totals	68	47	10

[a] A larger number of catches was made this year (125) as compared to last year (89) with much less effort (14 trap sets this year as compared with continuous trapping for about two and a half months last year). In spite of setting "on the weather" the largest catches were still made at the first part of the trapping season and trapping success dwindled as the season progressed.

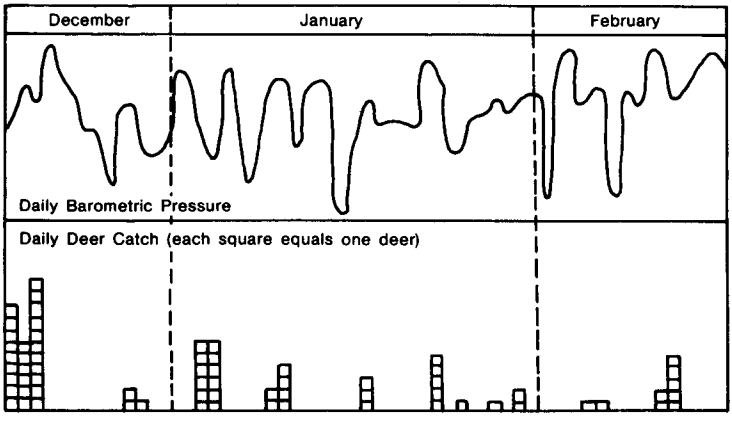

Fig. 1. Deer catch in relation to barometric pressure fluctuation, 1950 - 51, on the Mt. Mitchell Management Area. Trapping was on a continuous basis, i.e., traps set Monday morning through Saturday afternoon. Note that after the initial large catch the bulk of the catches were made in periods of low or falling barometric pressure. In the light of subsequent developments, it would seem that the initial catch might have been even larger if trapping had been postponed about three days.

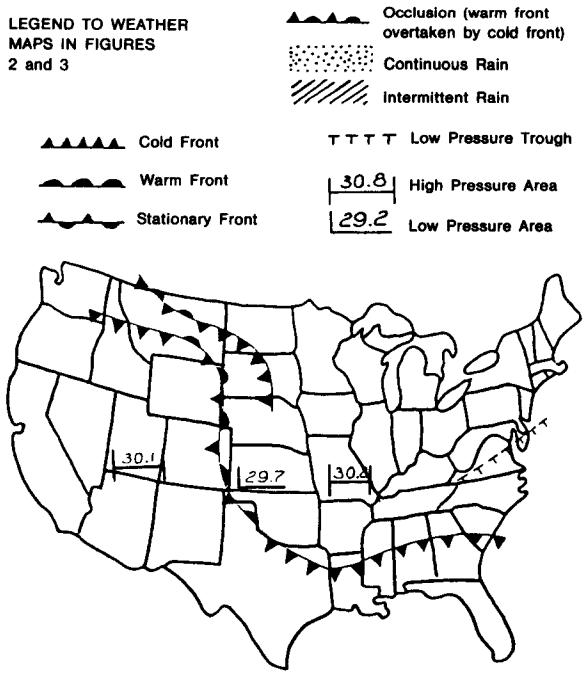

Fig. 2. Weather map of December 13, 1951, 0730 EST. The isobars from which this map was plotted indicated that the high in Missouri would move into the Great Lakes area and that the Kansas low would approach the trapping area in western North Carolina. The forecast was for a falling barometer and rain. The traps were set on the Mt. Mitchell area this day.

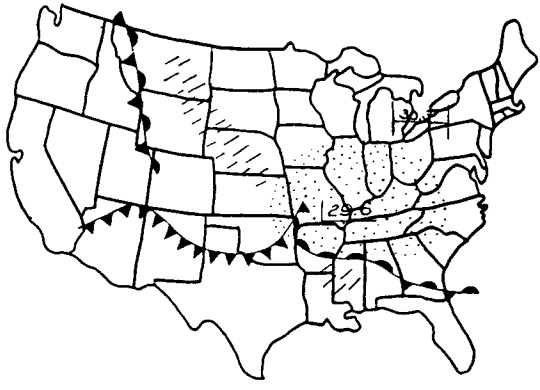

Fig. 3. Weather map of December 14, 1951, 0730 EST. There was much deer activity last night just prior to the extended period of heavy precipitation. Twenty-four deer were caught in the 52 box traps for a success of 46 per cent.

The fact that after the initial heavy catch most of the remaining catches were made during periods of low or falling barometric pressure lends support to our observation that deer feed more heavily just prior to low pressure storms.

Table 1 shows a total of 125 catches made in 14 nights of trapping on three different trapping areas the following year. On the Mt. Mitchell Area 68 catches were made in only four nights of trapping. This compares with a total of 65 catches over a ten week period the previous year. (Although the number of days of actual trapping in the earlier year was less than ten weeks due to week-ends, holidays, and other interruptions, the time spent in checking traps was still several times more than was required by the weather method.)

There was a similar contrast in efficiency between the two systems on the Daniel Boone Area. In this case, two and a half months of continuous trapping during 1949 - 50 yielded only 21 deer, whereas 22 deer were caught on the first day of trapping on the weather the following year, plus an additional 25 deer in five more nights of trapping. Data from the Bent Creek Section of the Pisgah National Game Preserve are not entirely comparable due to the very small number of deer on the refuge; however, there was at least one catch every time the traps were set on storm forecasts.

The weather maps in Fig. 2 and 3 show a representative storm progression before and after a typical trap-set of the 1950 - 51 trapping season. The upper map was plotted from 7:30 A. M. data on December 13 at the Asheville office of the U. S. Weather Bureau. The trappers were contacted by phone and instructed to set the traps, with a resulting catch of 24 deer in 52 traps the following day for a success of 46 per cent. The lower map shows a heavy rain over the trapping area the day that the traps were checked and the deer loaded. It was apparently in anticipation of this storm that the deer fed so heavily. Since this system results in handling deer on the days of the very worst weather during the year, it calls for heavy rain-proof clothing consisting of rubberized overalls, jacket and hat.

It should be noted that although it proved to be considerably more efficient, the new system did not overcome the development of trap shyness on the part of the deer as the season progressed. As the more gullible deer were caught, the remaining deer appeared to become increasingly shy of the traps. Another factor that modifies our results to some extent is the poor mast crop the past three years, which usually improves trapping. However, the new system could mean the difference between a small catch and no catch at all in good mast years.

In conclusion, the principal advantage of the "weather system" is the saving of time. Continuous trapping calls for daily visits by the full force of handlers. On the other hand, when trapping with the weather, the daily baiting of the traps can, in many cases, be done by only one man, and the full force of handlers is necessary only on trap-set days. Using this method, the person in charge of the trapping project can coordinate his time to better advantage and perform other necessary tasks while waiting on the weather.