

WILD TURKEY PROGRAM REVIEW
1987

SARATOGA NATIONAL HISTORICAL PARK

PREPARED BY MICHAEL FOBES

4-13-88
DATE

RECOMMENDED BY

Robert J. Lynch
RESOURCE SPECIALIST

4-15-88
DATE

APPROVED BY

William Gibbons
SUPERINTENDENT

4-15-88
DATE

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INTRODUCTION

This report is a first year annual summary/review of the Saratoga National Historical Park Wild Turkey Program. This is the end of the first year of a ten year project. Saratoga park staff and volunteers took part in the survey by going out every morning for 34 consecutive days and record gobbles and groups at seven different listening stations located throughout the park. The survey ran from April 21st through May 24th.

GOALS AND OBJECTIVES

- To cooperate with and support the S.U.N.Y. in its ten year statewide research of the wild turkey and associated habitat.
- To determine where the "hot spots" of the wild turkey are located in the spring and throughout the rest of the years.
- To determine what type of vegetation turkeys use as roosting habitat.
- To determine if existing soil and vegetation types have similarities with turkey "hot spots".
- To determine what time of the day is the best for sighting a wild turkey at Saratoga NHP.

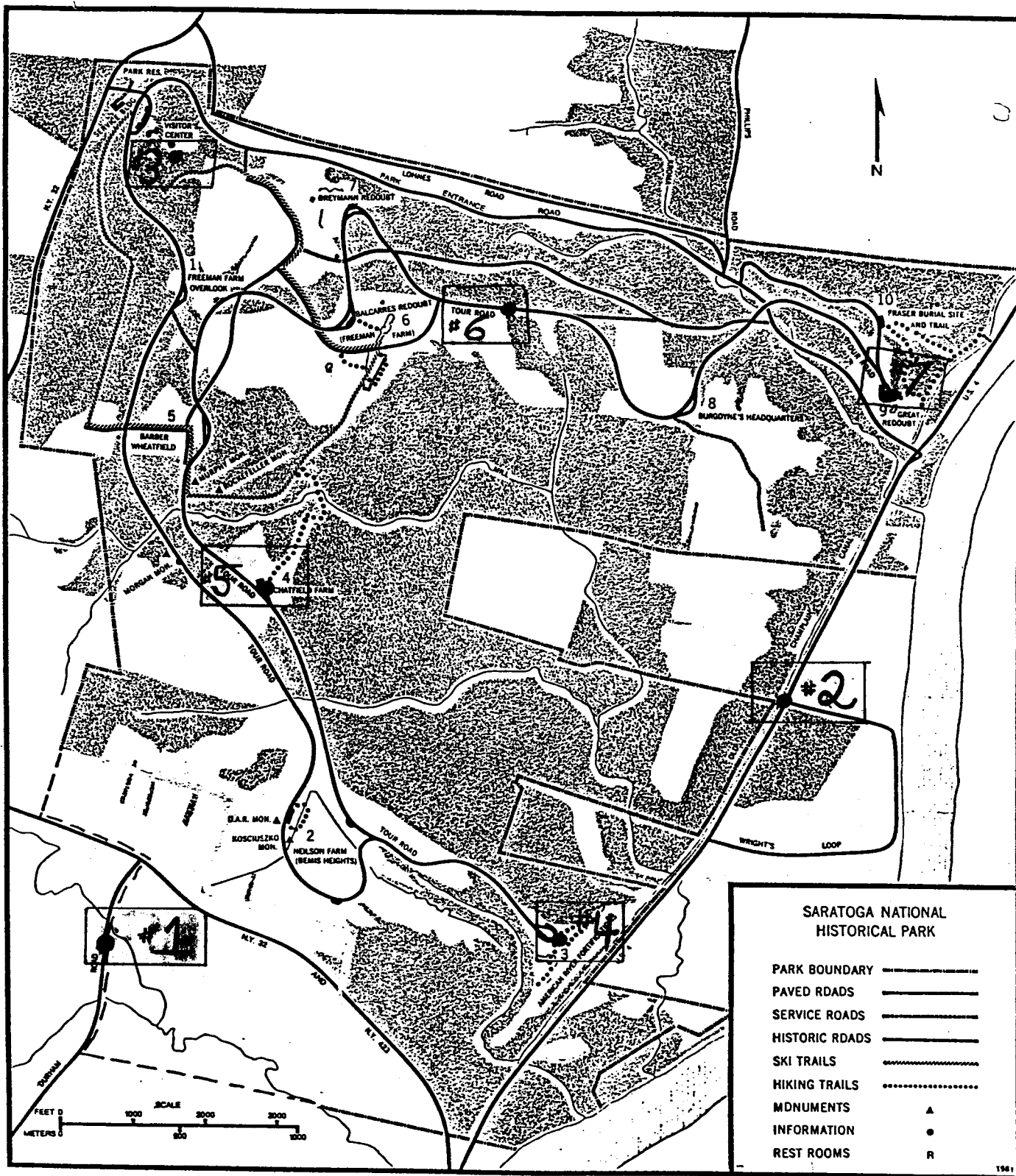
SAMPLE TIMES, LOCATIONS AND PROCEDURES

The Wild Turkey Gobble Count Survey commenced on April 21, 1987. The field survey was stopped May 24, 1987 due to nine straight days of not hearing a gobble. This totaled 34 consecutive days of listening. The only requirement as to the location of each listening station is a one-half mile radius around each station. (one mile between stations) This is so the same gobbler cannot be heard from two separate listening stations. The listeners followed these instructions:

1. Arrive at Ranger Station at least 10 minutes prior to sunrise. Gather the equipment and check for working conditions.
2. Outside the Ranger Station take the weather data and record on the data sheet before and after you finish your gobble route.
3. Proceed to station #1 (The little rise between the two forks of Devils Hollow Creek on Durham Road, adjacent to Burdyl farm.) Turn off truck engine, get out of vehicle and fill in the blanks of the data sheet (one sheet will cover one days route). In case of rain make sure your data sheet is covered by plastic.

4. Refer to the "Gobble Survey Data" section of the Data sheet.
 - a) At each station you will listen for exactly four (4) minutes and record the total number of distinct individual gobbles heard, as well as the total number of groups heard. There will be seven (7) stations on your route.
 - b) Record at each station the time interval in hours and minutes. For example, if you started the listening period at three minutes before 5:00 and ended that period at one minute after 5:00, record in the space provided "4:57-5:01."
 - c) Fill out the remainder of the lines and also on the "UTM" Map provided, put an "X" in the area and/or direction that the gobbles came from.
5. Proceed to station #2 (the second intersection of Wrights Loop and Route 4 heading north, see map). Again, turn off vehicle and climb up on the Champlain Canal Bank across the road. Fill out only the gobbles survey data section.
6. Station #3 is the grassy hill area behind the park visitor center. Proceed as before.
7. Station #4 is at the small pedestrian sign at stop #3 on the tour road. Proceed as before.
8. Station #5 is the visitor display at stop #4. Proceed as before.
9. Station #6 is the six and one half mile marker on the tour road between stops #7 and #8. Proceed as before.
10. Station #7 is in the middle of the grassy turnaround at stop #9 on the tour road.
11. Proceed back to the Ranger Station and take the weather data and record on the data sheet.

(Map of seven listening stations is on page #3)



LOCATION OF SEVEN LISTENING STATIONS
SARATOGA NATIONAL HISTORICAL PARK
WILD TURKEY GOBBLE SURVEY
SPRING, 1987.

ORDER OF LISTENING STATIONS AND NUMBER OF GOBBLES AND GROUPS HEARD AT EACH STATION:

<u>Listening Station</u>	<u>Gobbles</u>	<u>Groups</u>
Station 1	00	00**
Station 2.	29	12
Station 3.	01	01
Station 4.	35	15
Station 5.	16	07
Station 6.	04	02
Station 7.	04	03
	<u>TOTAL 88</u>	<u>TOTAL 40</u>

(see graph on pages 6-8)

THE DATE AND NUMBER OF GOBBLES HEARD

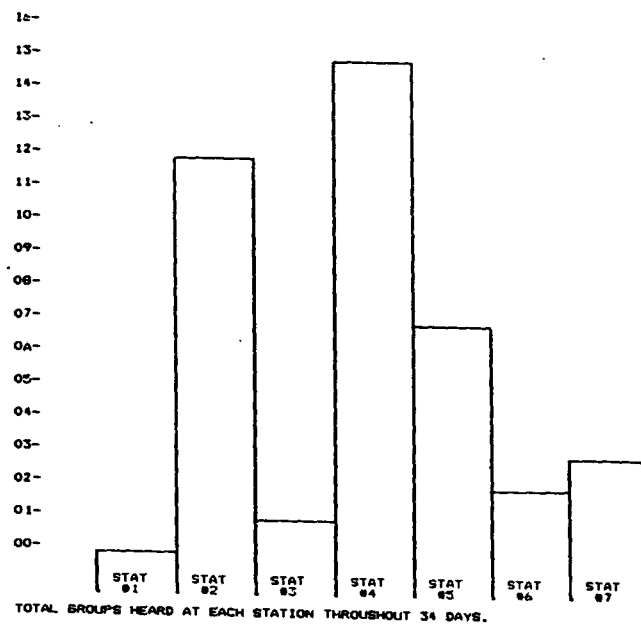
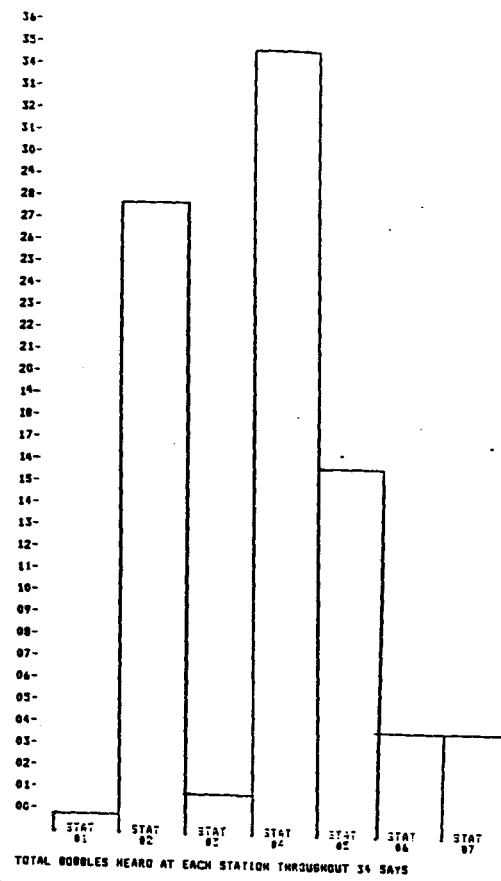
<u>Date-#Gobbles</u>	<u>Date-#Gobbles</u>	<u>Date-#Gobbles</u>
4-21 03	5-2 12	5-13 00
4-22 00	5-3 02	5-14 00
4-23 08	5-4 01	5-15 02
4-24 00	5-5 05	5-16 00
4-25 15	5-6 00	5-17 00
4-26 03	5-7 01	5-18 00
4-27 04	5-8 11	5-19 00
4-28 00	5-9 12	5-20 00
4-29 02	5-10 03	5-21 00
4-30 00	5-11 01	5-22 00
5-01 01	5-12 02	5-23 00
		5-24 00
		<u>Total= 88 Gobbles</u>

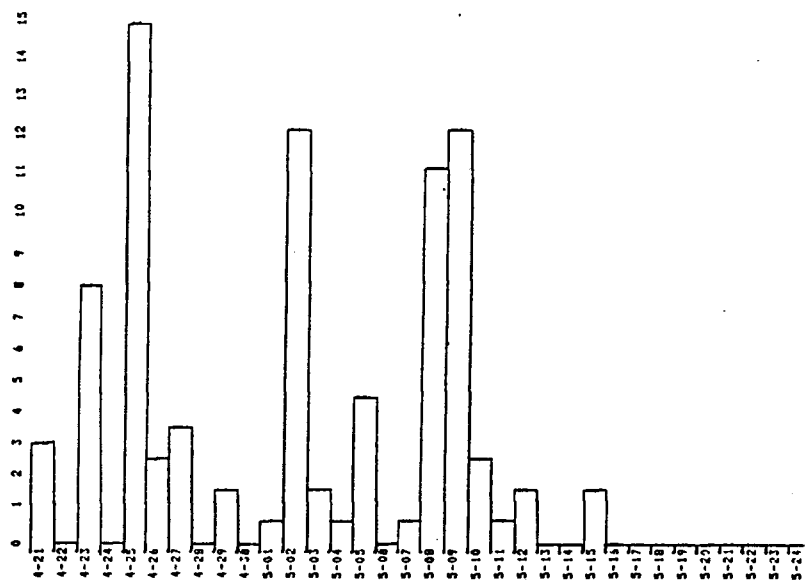
THE DATE AND NUMBER OF GROUPS HEARD.

<u>Date-#Groups</u>	<u>Date-#Groups</u>	<u>Date-#Groups</u>
4-21 01	5-02 04	5-13 00
4-22 00	5-03 02	5-14 00
4-23 03	5-04 01	5-15 02
4-24 00	5-05 02	5-16 00
4-25 04	5-06 00	5-17 00
4-26 02	5-07 01	5-18 00
4-27 01	5-08 05	5-19 00
4-28 00	5-09 05	5-20 00
4-29 02	5-10 01	5-21 00
4-30 00	5-11 01	5-22 00
5-01 01	5-12 02	5-23 00
		5-24 00
		<u>Total= 40 Gobblers</u>

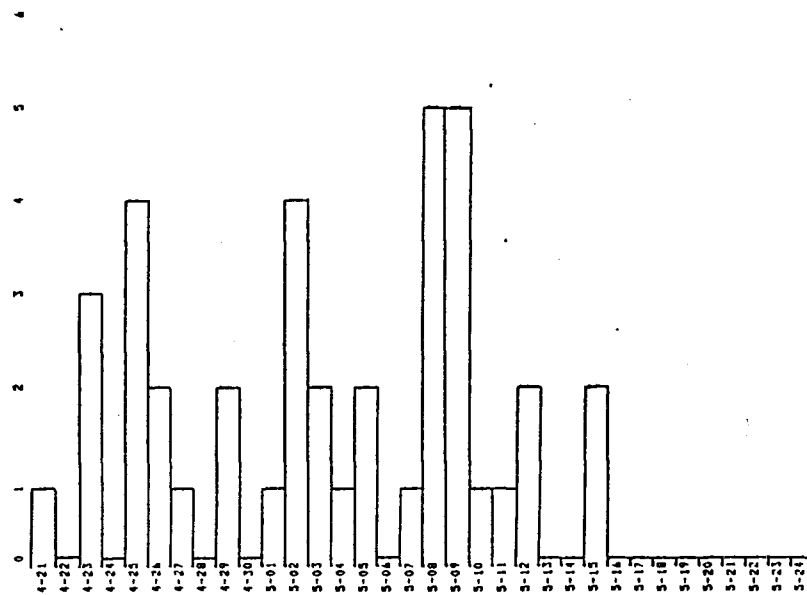
*see graph of gobbles and groups heard per day on page 5)

*NOTE: There is no individual graph of listening station #1. Since there is no recorded gobbles or groups from that area.

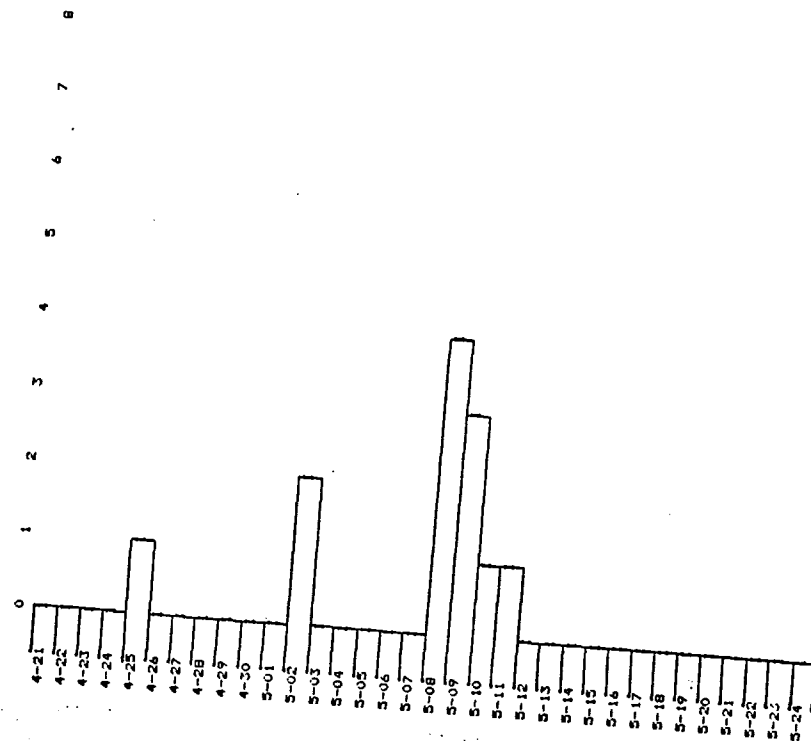




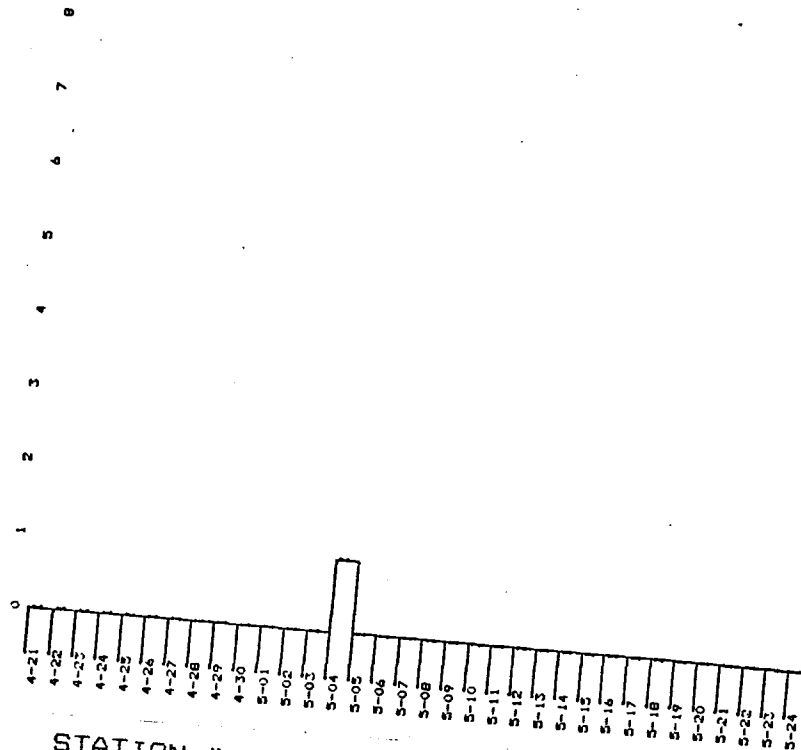
TOTAL GOBBLES HEARD THROUGHOUT 34 DAYS = 88



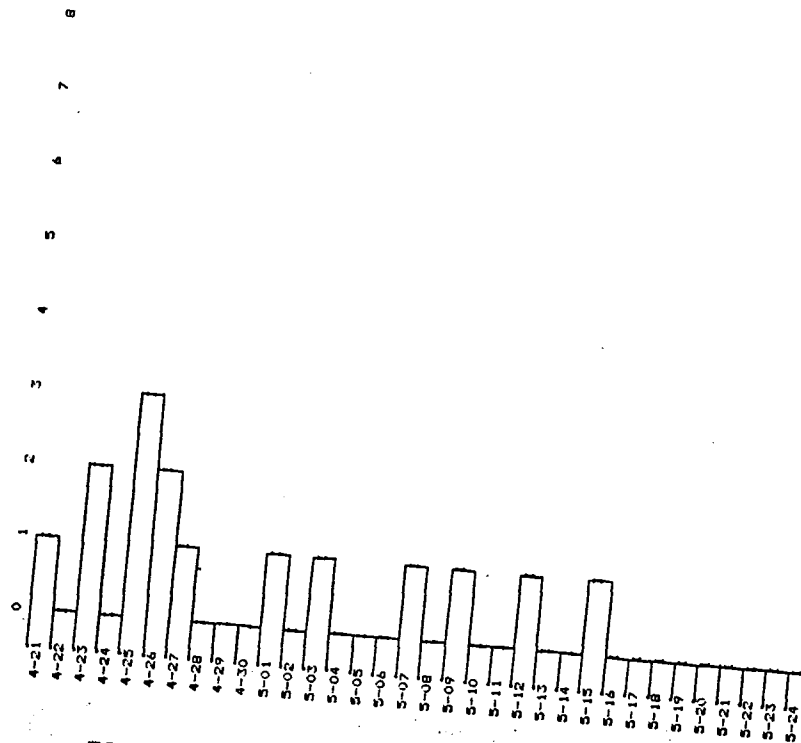
TOTAL GROUPS HEARD THROUGHOUT 34 DAYS = 40



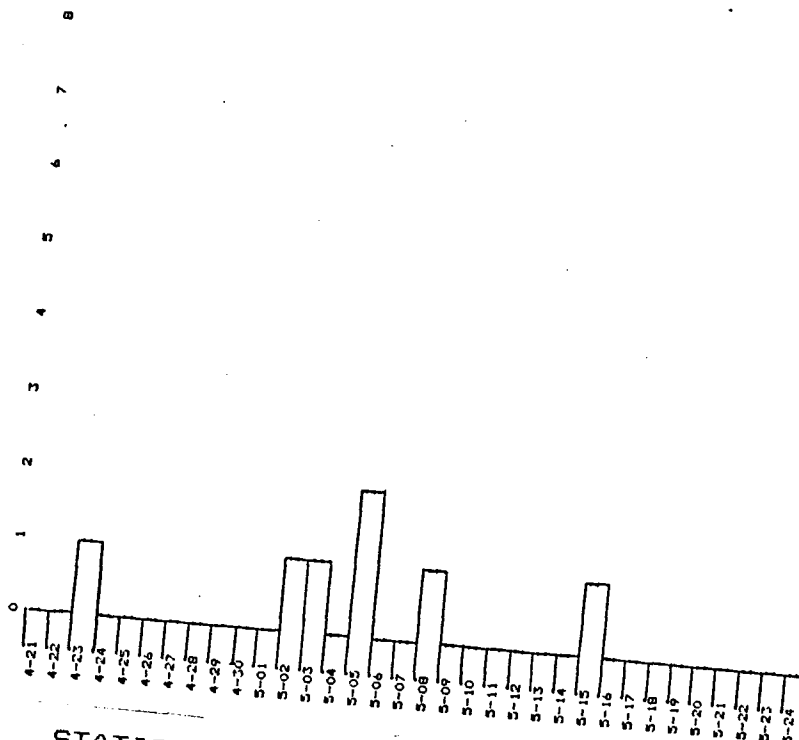
STATION #2. TOTAL GROUPS HEARD= 12



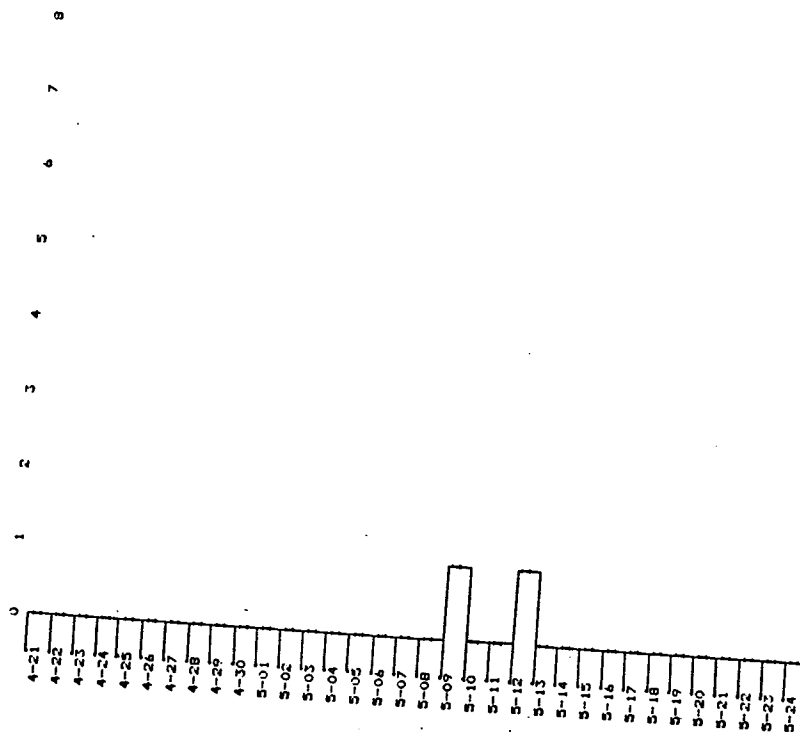
STATION #3. TOTAL GROUPS HEARD= 1



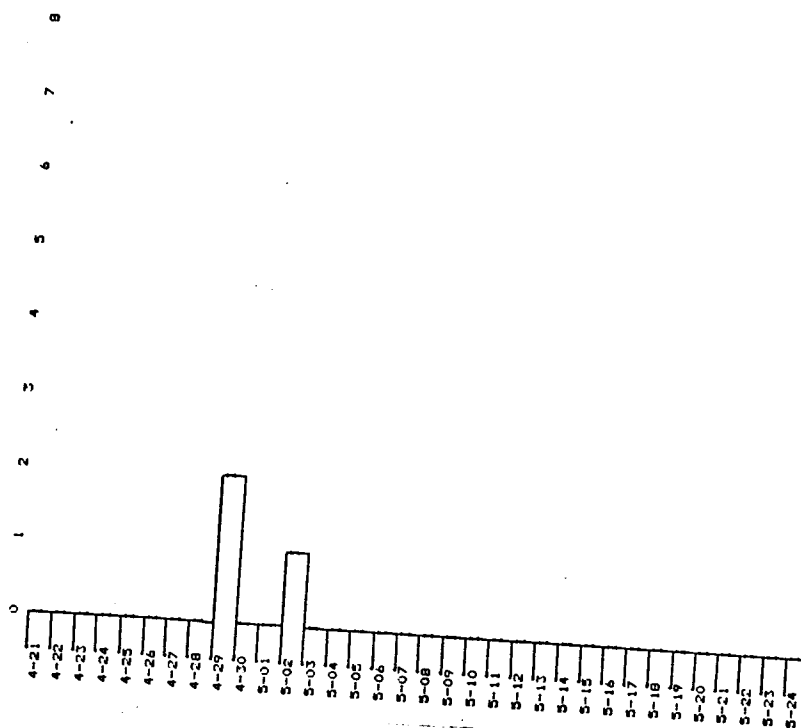
STATION #4. TOTAL GROUPS HEARD= 15.



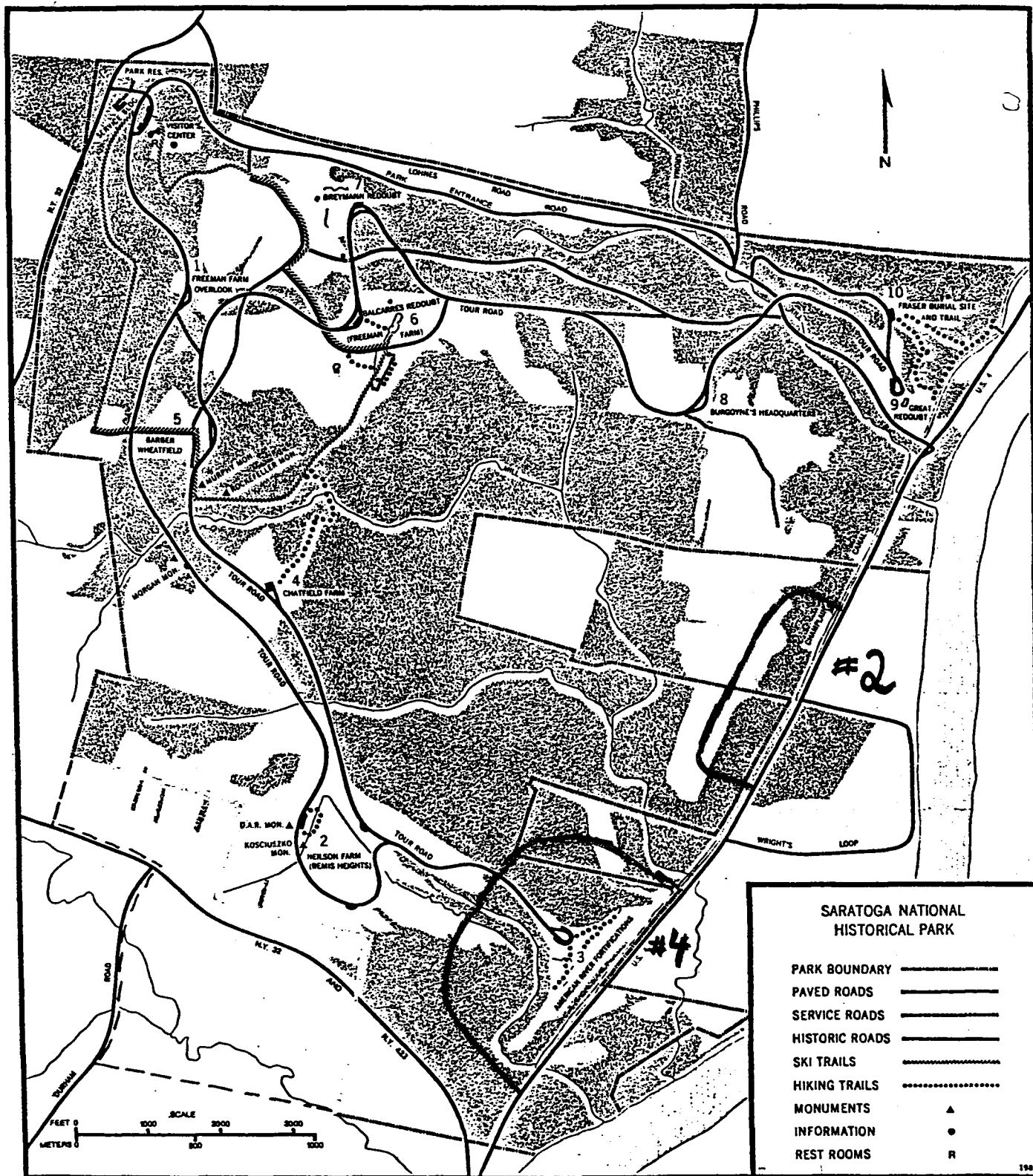
STATION #5. TOTAL GROUPS HEARD= 7



STATION #6. TOTAL GROUPS HEARD= 2



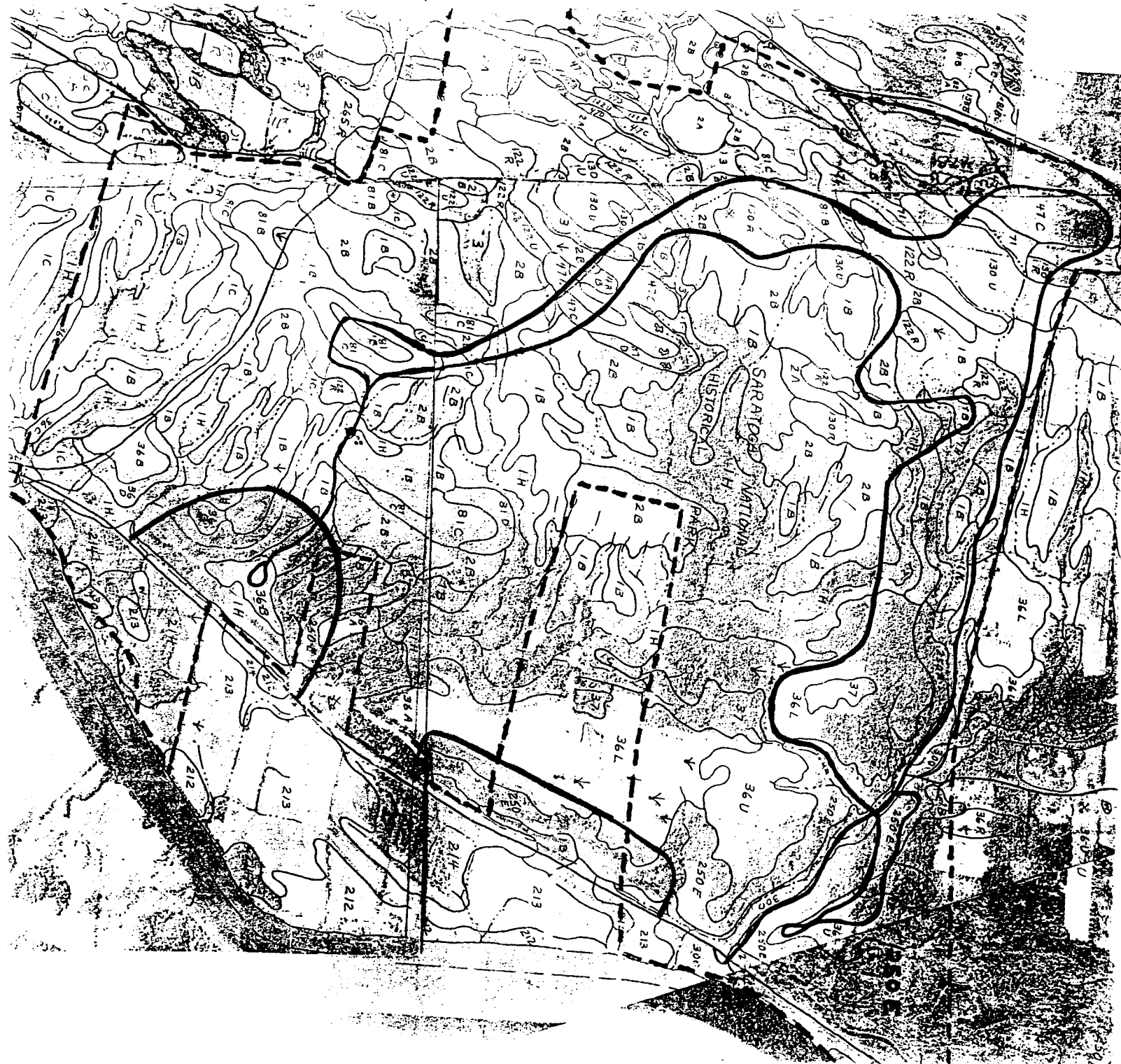
STATION #7. TOTAL GROUPS HEARD= 3



LOCATION OF SPRING 1987, GOBBLER "HOT SPOT"
 LISTENING STATION #4
 LISTENING STATION #2

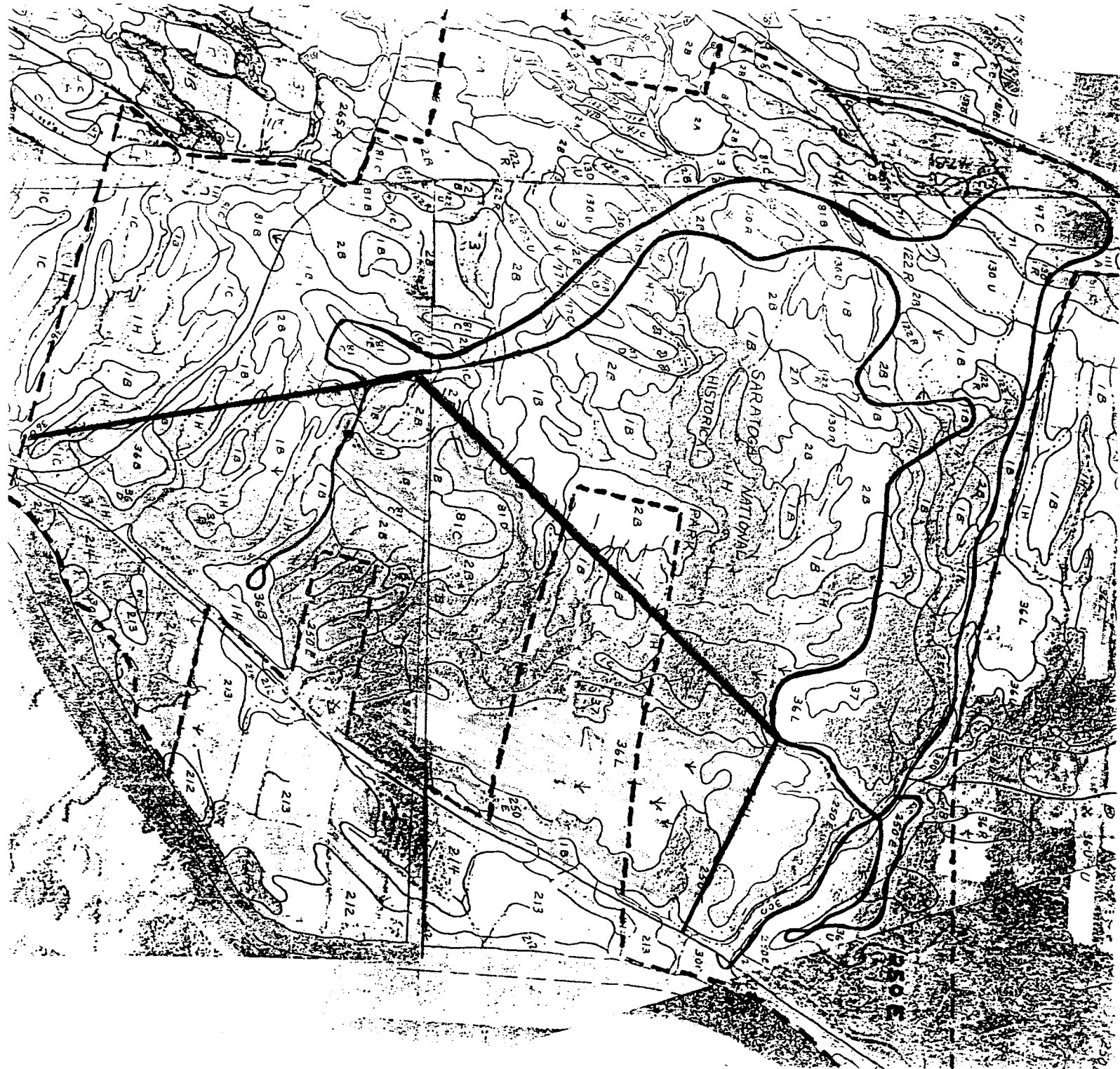
SOIL SURVEY MAP OF SARATOGA NATIONAL HISTORICAL PARK
MAJOR SOIL TYPES FOUND IN TURKEY GOBBLING "HOT SPOTS"

1B HUDSON SILT LOAM, 03 TO 08 PERCENT SLOPE
1H HUDSON SILT LOAM, 10 TO 30 PERCENT SLOPE
250E HUDSON SILT LOAM, 25 TO 35 PERCENT SLOPE
36L OAKVILLE VERY FINE SANDY LOAM, 00 TO 03 PERCENT SLOPE
36B OAKVILLE VERY FINE SANDY LOAM, 03 TO 08 PERCENT SLOPE
36D OAKVILLE VERY FINE SANDY LOAM, 15 TO 25 PERCENT SLOPE



SOIL SURVEY MAP OF SARATOGA NATIONAL HISTORICAL PARK
 FIVE MAJOR SOIL TYPES FOUND IN TURKEY HOT SPOTS THROUGHOUT THE YEAR

- 1B HUDSON SILT LOAM, 03 TO 08 PERCENT SLOPE
- 1H HUDSON SILT LOAM, 10 TO 30 PERCENT SLOPE
- 250E HUDSON SILT LOAM, 25 TO 35 PERCENT SLOPE
- 36L and 36A OAKVILLE VERY FINE SANDY LOAM, 00 TO 03 PERCENT SLOPE
- 36U and 36B OAKVILLE VERY FINE SANDY LOAM, 03 TO 08 PERCENT SLOPE
- 36D OAKVILLE VERY FINE SANDY LOAM, 15 TO 25 PERCENT SLOPE



EASTERN WILD TURKEY (*Meliagris gallopavo silvestris*) DESCRIPTION

The male turkey: The average length of a male (tom) turkey is fifty (50) inches from the beak to the tip of the tail. The average "tom" weighs twenty (20) pounds at maturity. Although birds of well over twenty (20) pounds have been recorded. The male can be identified by a bald, bluish-white head. Below their beak, gobblers develop wattles (folds of skin below the beak) and caruncles (wartlike growths on the neck) and a dewbill or snod. These growths may also be developed in hens, but will not be as pronounced. It can have a tuft of bristles near the base of the neck that lengthens with age. The tips of the breast feathers are black. A gobbler can have a spur on the back of each leg that lengthens with age. The overall color of a gobbler gives the appearance of glossy black. The average length of the foot is five (5) inches. (Hanbour, 1975)

The female turkey: The average female length is thirty-six (36) inches from the beak to the tip of the tail. The average hen weighs ten (10) pounds. The hen can be identified by the brownish color of the tips of their breast feathers. Most, but not all, lack the tuft of bristles near the base of the neck. The spurs on the back of their legs do not lengthen with age. The average track is four (4) inches in length. The overall color of a hen gives the appearance of a brownish-blackish color. (Hanbour, 1975)

GENERAL DESCRIPTION OF THE EASTERN WILD TURKEY HABITAT

Roosting Habitat

A turkey sleeps on the ground just after hatching and about two weeks thereafter. From the time a poult is 10 days to two weeks old, he can fly enough to gain some altitude. From this time on, except the spring nesting season, the wild turkey sleeps in a tree. (Rhodes, 1986)

Turkeys will roost in a variety of trees. Where available, they seem to prefer pine trees. Probably because there are plenty of open spaces between the limbs of a large pine. This prevents them from hitting their wings on limbs as they fly up. The pine also offers excellent visibility, so once on the roost, danger can be spotted earlier.

Where there are no pines, the turkey opts for hardwood trees, dead snags, or other trees. Large oaks make good roost trees, but during the time that foliage is still on the tree, the turkeys visibility is cut considerably. Turkeys will usually roost on limbs that are completely parallel to the ground. The limb chosen is about three (3) inches in diameter. Once night falls, the turkey squats on a limb. His toes are automatically locked around the limb because the tendons in the leg are drawn tightly over the bones in the turkey's toes while he is in this squatting position. The curve of the breast bone is hooked over the limb and the turkey is locked in place. (Rhodes, 1986)

Although some subspecies of the wild turkey are known to roost in the same tree night after night, this is not true with the Eastern wild turkey. (Rhodes, 1986) They seem to wander around all day and as night falls find a tree to roost in. This may or may not be in the same area as the roost the night before. The only time that the Eastern wild turkey seems to roost in the same area is during the spring. The gobblers roost in the same general area because the hens are nesting on the ground nearby.

The roost is used for sleeping, preening, socializing and as a high perch where gobblers keep a sharp look out for hens. (Rhodes, 1986)

Food

During the winter, turkeys need high-energy foods, especially where the winters are long and the ground may be covered with snow for extended periods. Acorns, beechnut, pine seeds and other sources of hard mast are preferred winter foods, but if they are unavailable, turkeys in grain growing areas will forage for waste grain. Turkeys are forced to move when their natural winter foods fail. When this happens they often suffer increased losses to predators and poaching. (Rue, 1986)

As spring approaches, wild turkeys move from their winter habitat to areas that provide nesting and brood-rearing habitat. These winter-to-spring shifts occur mainly because hens need a diet high in Vitamin A. These foods are usually found near preferred nesting and brood habitat. Green forage makes up a high percentage of the turkey hen's diet prior to the onset of egg laying and nesting. (Restoring America's Wildlife, 1937-1987)

Late summer brood range often includes old fields, pastures, savannahs and timbered roads right-of-ways. Insects such as grasshoppers, beetles, millipedes, walking sticks and other, and grass seeds plus fruits and soft mast are the principle food items for turkeys at this time. (Williams, 1986)

In the fall turkeys eat a variety of acorns that have fallen from trees. Insects are also a main food source during this time.

Breeding and nesting habitat

Nests of the hen wild turkey have been found near old logging roads, old fields, hay fields and cut-over areas. Although nesting locations would appear to be selected at random, some common denominators are usually involved. Nests are usually fairly close to water, and often at the base of a tree. Normally the nest is screened by shrubby vegetation ranging from two to four feet high. Wild turkey hens lay an average of eleven eggs per clutch in a process which takes about two weeks to complete. They then spend another four weeks incubating. Only about 30 percent of the hens are successful in bringing off a brood. (Williams, 1986)

SUMMARY

The Wild Turkey Program for the 1987-88 year was very successful. The spring gobble count survey ran from 4-21-87 to 5-24-87 for a total of thirty-four (34) consecutive days. The survey was implemented every day between 5:00am and 7:00am. Park staff and V.I.P's at Saratoga National Historical Park took turns going to the seven different listening stations and recorded the number of gobbles and groups heard. This part of the study involves only the male Eastern wild turkey. The gobble survey by its self cannot be used to figure out a total population in the park. It can only give a rough estimate of the total population. (Scott and Baker, 1972) The information derived from the survey can be used in the figuration of other objectives which are listed in the introduction of this paper.

A total of forty (40) groups were recorded throughout the Thirty-four (34) days. Eighty-eight (88) gobbles were heard during the same time span. The most productive listening stations were #4 and #2 (see map for location). Out of forty (40) groups recorded, twenty-seven (27) came from these two listening stations. Fifteen (15) at listening station #4 and twelve (12) at listening station #2. The least productive listening station was #1. There is no recorded incidents of groups heard gobbling in this area.

The location of the spring gobble "hot spots" for hearing a "gobble" and stop #3 on the tour road and the second intersection of Wrights Loop and Route 4, heading north.

It was found that no groups were heard on Sixteen (16) of the thirty-four (34) days. The largest percentage of groups were heard between 5-01-87 and 5-12-87. During this twelve (12) day span, twenty-five (25) groups were heard. This amounts to sixty-two (62) percent of the groups being heard on thirty-five (35) percent of the days.

There is no correlation between wind speed, wind direction, temperature, or fog, and total gobblers or total groups. It's unlikely that any one of these variables would account for the variation that was encountered in gobblers and number of birds. (Gefell, 1987)

Most of the groups heard were located on steephills close to a open field. They seemed to like to stay on the edge of a hill with a field near by. At this location their gobblers could be heard from a longer distance. The field provides open space for the ceremonial strut of the Gobbler. This area between the field and the woodlands is called the ecotone/edge. The turkey activity is much greater in the ecotone than either the field or the woodland. This is because there is a wider variety of food available in the ecotone.

The "hot spots" two main soil types are Hudson Silt Loam and Oakville Very Fine Sandy Loam in various degrees of slope. Hudson Silt Loam soil is deep, steep, moderately well drained, medium or high lime, clayey soil formed in lake-laid deposits. The available water capacity is high. Permeability is slow or very slow. Hudson Silt Loam soil is the most dominant soil located within the park. Oakville Very Fine Sandy Loam is deep, undulating, well drained, medium lime, sandy soil formed in deltas or stream terraces. The available water capacity is low to very low. Permeability is very rapid. (see map pp. 11 and 13)

Case incident reports were filled out on turkey sightings throughout the year. These case incident reports provide the time the birds were observed, approximate location and the number that was observed. Rangers and V.I.P.'s at Saratoga NHP filled out these reports. Through these case incident reports it was found that the size of the "hot spot" increased in size. This could be due to the time of the year that the survey is run. The gobbler survey was conducted only in the spring. During this time, the hens are in the mood to nest. They probably will not wonder a great distance from the nest. The "Tom" turkey will stay in the approximate vicinity to the hens, hoping to mate.

The "hot spot" for viewing wild turkeys in abundance is the area between stop #8 heading south, past stop #3, to the edge of the Old School House Road. This area would range from Route 4 heading west, to the stop #2 area on the tour road. (see map) Nine (9) case incident reports were filled out as viewing turkeys in that "hot spot". These case incident reports amounted for a total of one-hundred and fifteen (115) birds being sighted in the "hot spot". The largest flock reported had a total of twenty-one (21) turkeys in it. The smallest flock reported had a total of five (5) turkeys in it. This area has ideal habitat. Numerous roosting sites have been found along Mill Creek. The roosts that have been located are in the "hot spot" for turkeys throughout the year. See the map of the wild turkey "hot spot" throughout the year on page 12 for locations of roost. It is a mature woodland forest. There is open fields, water, and plenty of roosting trees in the area.

The wild turkey can be viewed anytime during the daylight hours. But out of the eleven (11) turkey sightings recorded, six (6) were recorded between 7:15am and 9:25am. The time between sunrise and 12:00 noon seems to be the best time to view a turkey. Seventy-eight (78) turkeys have been reported during this time. In the afternoon only forty-nine (49) turkeys have been reported. This can be explained in two ways. This is the time of day when turkeys are most active. Second, more visitors are in the park during the afternoon. This could keep the turkeys from feeding in the fields during the afternoon.

Recommendations

I would recommend forwarding the starting date of the survey by one week. The 1987 gobbler survey report showed that a "tom" gobbled on the first day of the survey. If the time span of the study is lengthened, perhaps more "toms" could be reported as gobbling. This could give a clearer picture as to the highs and lows of the gobbling cycle.

It would be my recommendation to leave the locations of the seven (7) listening stations the same for 1988 survey. Reports of turkeys are becoming more numerous throughout the park. I feel that the chances of turkey activity increasing at all the listening stations is very good. If after the 1988 survey, listening stations #1, #3, and #6 do not show more turkey activity in the data sheets, a move should then be considered. I suggest that a method of relocation be used so the stations that produce a lot of turkey activity do not get relocated.

REFERENCES

- Baily, Wayne. Hunting Wild Turkey. Delmont, Pa: Penn's Woods Product, Inc, 1983. pp. 29-63.
- Bull, John L. Birds of New York State. 1st ed. Garden City, New York. Double Day, 1974. pp. 63.
- Hanbour, Dave. Hunting the American Wild Turkey. Harrisburg, Pa. Stackpole Books, 1975. pp. 48-59
- Hefell, Dan. State University of New York, College of Environmental Science and Forestry. 1987
- Restoring America's Wildlife 1937-1987 1st ed. Government Printing Office
- Rhodes, Charles. "The Roost Tree-Forest Highrise." Turkey. Oct/Nov 1986 pp. 20-23.
- Rue, Leonard L. "Turkeys in the Snow-Part One". Turkey. May 1986 pp. 20-22.
- "Turkeys in the Snow-Part One". Turkey. June 1986 pp. 15-18.
- Scott, Virgile E. and Becker, Erwin L. An Evaluation of Wild Turkey Call Counts in Arizona. J. Wildl. Manage. 36:628-630.
- Shaffer C.H. "Turkey Cafeterias." Turkey. Oct/Nov, 1986. pp16-18.
- Sweeney, James M. Fourth National Wild Turkey Symposium. Little Rock, Arkansas. March 2-5, 1980.
- Williams, Lovett. "Turkey Summer." Turkey. May 1986, pp. 20-22.
- "The Life of the Wild Turkey." Turkey. Oct/Nov 1986. pp. 20-23.