

**BALDWIN LAKE ECOLOGICAL RESERVE
BIOLOGICAL MONITORING REPORT
1993**

SUBMITTED TO:

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**BALDWIN LAKE ECOLOGICAL RESERVE
BIOLOGICAL MONITORING REPORT
1993**

Prepared for:
California Department of Fish and Game
and The Nature Conservancy

Prepared by:
Julie A. Greene

October 15, 1993

SUMMARY

In 1989 a management plan, and an operations and maintenance schedule was completed for the Department of Fish and Game's Baldwin Lake Ecological Reserve in San Bernardino County, California (Barrows, 1989). This plan called for a monitoring program for the two federal and state listed endangered species, the bird-footed checkerbloom (*Sidalcea pedata*), and the slender-petaled thelypodium (*Thelypodium stenopetalum*).

The following reports detail the monitoring program and results for the two species. Included are details of the design and layout of monitoring plots and transects on the site. The format used is adapted from The Nature Conservancy's, biological monitoring reports from the California Regional Office.

Three transects were established to monitor *Thelypodium stenopetalum*. A total of 1561 plants were recorded, of which 415 were flowering, and 1146 were non-flowering rosettes. 1992/1993 had above average rainfall, which continued improving conditions from past years of drought. Individual plants have been mapped and measured for long-term demographic monitoring of this species.

66 one meter-square plots were monitored for *Sidalcea pedata*. A total of 1183 plants were recorded, of which 198 were first-year plants, 466 were non-flowering, and 519 were flowering. For demographic monitoring one plant in each plot was marked in 1990, and is measured every year for reproductive and vegetative characters.

The entire area is surveyed for both species and the distribution of plants outside the monitoring plots is mapped each year.

Recommendations are to continue the monitoring program, adjust THST monitoring, study SIPE rootstock viability, study longevity and reproductive output, study seed viability and longevity, and collect seed for long term storage. The continuation of this monitoring program will build a data baseline for evaluating population trends for these two species, which is necessary to establish and evaluate management and protection goals at the Baldwin Lake Ecological Reserve.

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BALDWIN LAKE ECOLOGICAL RESERVE
BIOLOGICAL MONITORING REPORT
Sidalcea pedata
1993

ELEMENT: *Sidalcea pedata*
COMMON NAME: Bird-footed Checkerbloom
SITE NAME: Baldwin Lake Ecological Reserve
RANK: G1 S1.1 FEDERAL LISTING: E STATE LISTING: E
DATA STORAGE: California Department of Fish and Game,
Natural Heritage Division;
Big Bear Ranger Station, USFS; and
The Nature Conservancy, California.
PREPARED/UPDATED: Julie A. Greene, October 15, 1993

Bird-footed checkerbloom, *Sidalcea pedata* (SIPE) is endemic to Big Bear Valley in the San Bernardino Mountains. It is listed as sensitive by the U.S. Forest Service (USFS), and endangered under both federal and California Endangered Species Acts. One significant population is protected within the boundaries of the Baldwin Lake Ecological Reserve, owned and managed by CDFG.

The SIPE monitoring program at Baldwin Lake Ecological Reserve began in 1989 (Barrows 1989, Stephenson 1989). 1989 monitoring attempted to census the SIPE populations throughout its range by counting all flowering and non-flowering plants at all known occurrences. However, at Baldwin Lake the size of the population and time/personnel constraints did not permit a complete count of all individuals. Instead, two subpopulations were monitored in two groups (the use of the term sub-population is for descriptive purposes only as these sub-populations are not discrete or isolated areas but are rather concentrations of SIPE within the larger population.); flowering individuals and non-flowering individuals (Stephenson, 1989). Permanent plots were established in several subpopulations of SIPE at Baldwin Lake and at other locations in the Big Bear Valley, including Metcalf Bay, Eagle Point, Bluff Lake, Ski Beach, and Pan Hot Springs. Of these permanent plots, only Baldwin Lake was monitored. Methods and results of monitoring at CDFG's Baldwin Lake Ecological Reserve are reported here.

Figure 1 illustrates the location of the Baldwin Lake Ecological Reserve and the general area where *Sidalcea pedata* occurs within its boundaries. Precise location of known SIPE sub-populations are shown in Figure 2. These maps are from the management plan for the reserve (Barrows 1989). In 1993 an extension of the population was discovered (Figure 2, shading); these new plants were not monitored in 1993. Two other subpopulations (Figure 2, asterisks; sites reported by CNDDDB), have been checked annually since 1989 but SIPE plants have not been observed there during this monitoring program began.

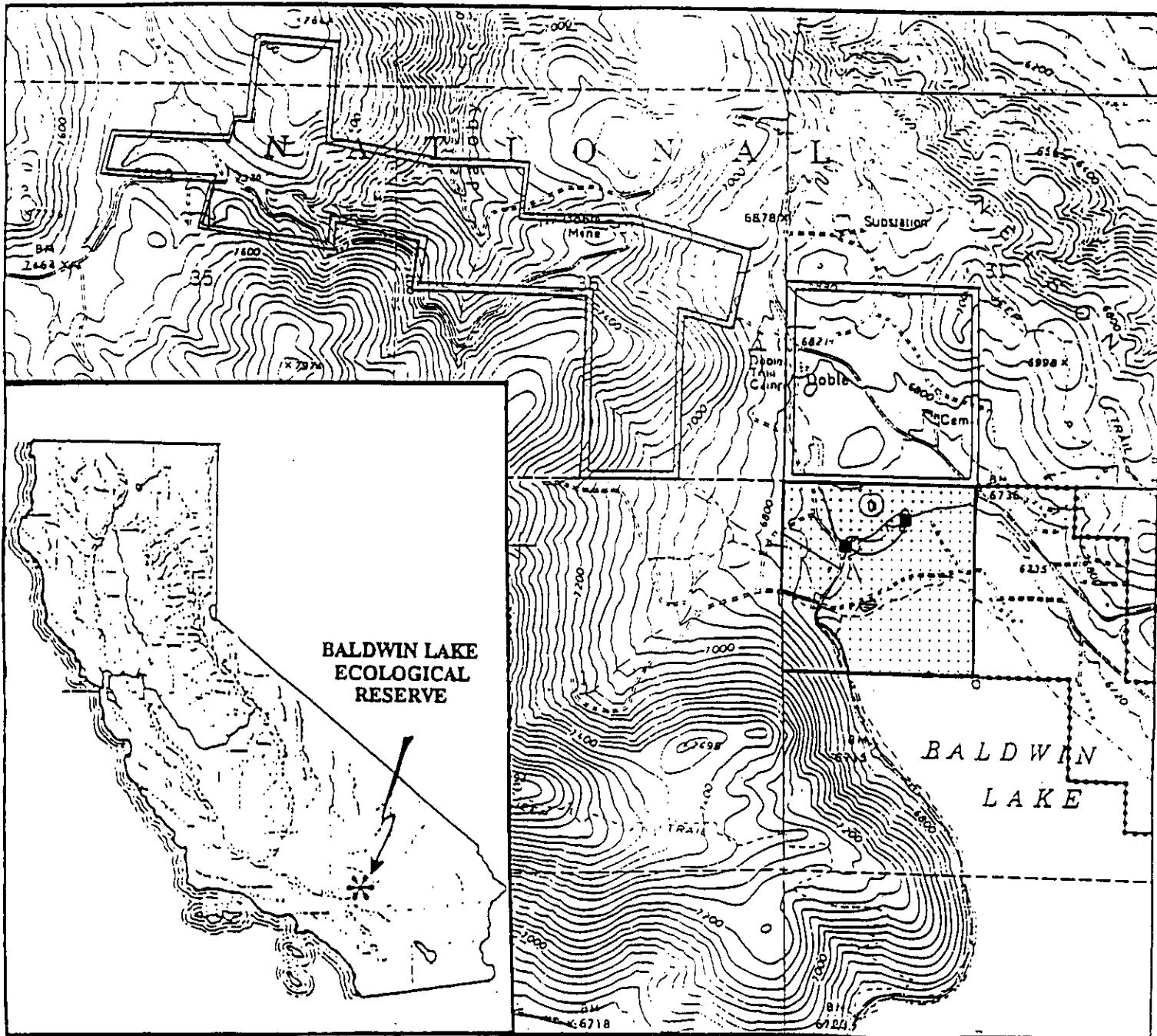
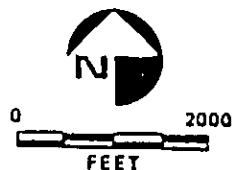


Figure 1. Location of the Baldwin Lake Ecological Reserve in the San Bernardino Mountains of San Bernardino County, CA. Map is from USGS 7.5 minute Big Bear City quad.

- [Dotted Box] = Baldwin Lake Ecological Reserve
- [Black Square with White Dot] = General location of rare plant populations
- [Outline Box] = U.S.F.S. land
- [Outline Box] = Other private lands



Baldwin Lake Ecological Reserve

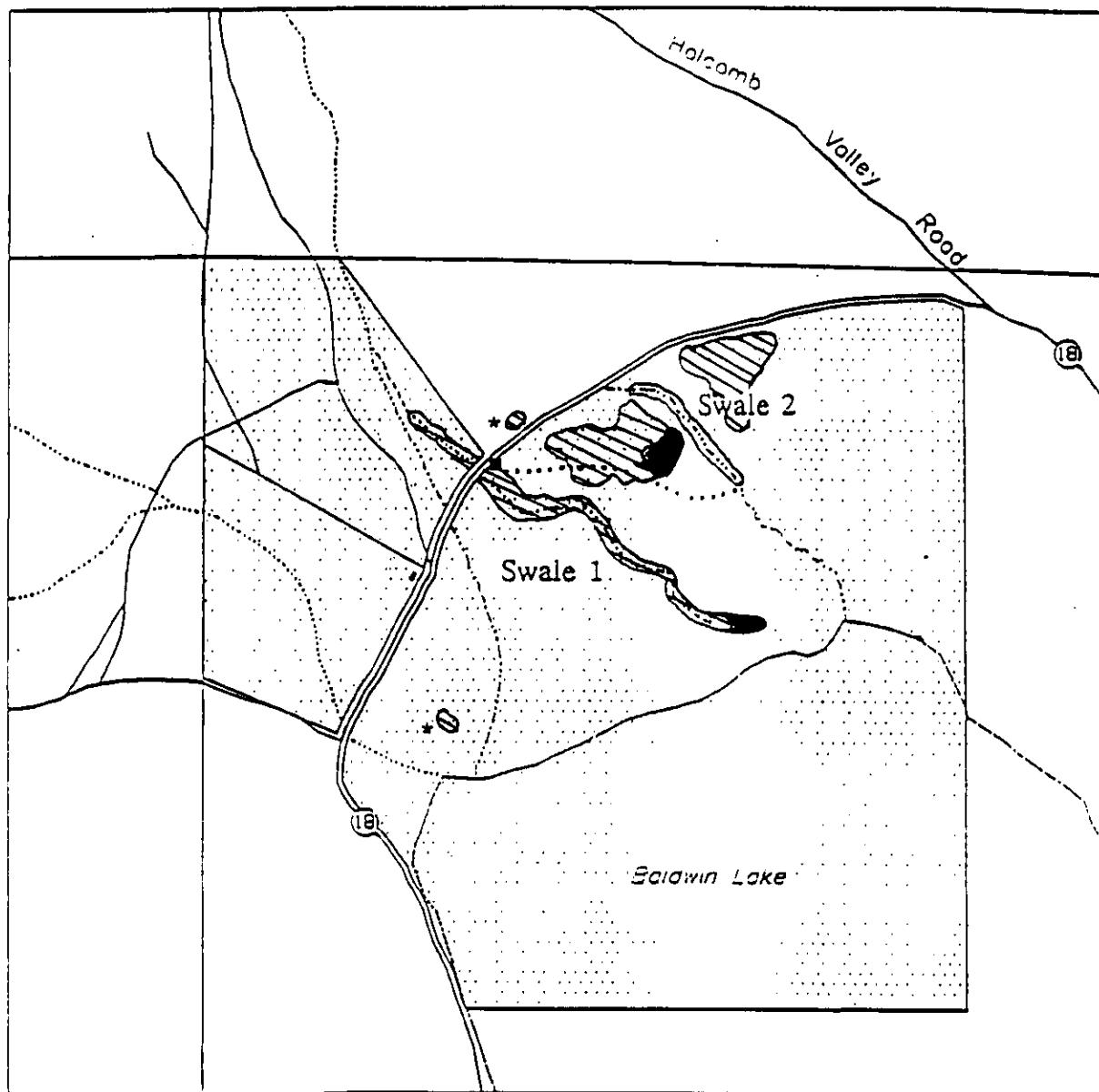


Figure 2. Location of *Sidalcea pedata* populations on the Baldwin Lake Ecological Reserve, San Bernardino County, Ca. Location of trail and swales and historical subpopulations not observed in 1993 are shown.

= *Sidalcea pedata*

= Swale or Drainage Area

..... = Foot Trail

* = No Plants Present in 1993

■ = Fencepost reference point

= Additional plants observed in 1993

0 1000
Feet



GOALS:

Monitoring of SIPE populations on the Baldwin Lake Ecological Reserve was initiated to provide baseline information on the annual population fluctuations and life history characteristics using seedling survival as an indicator (Barrows, 1992). Another important aspect of the monitoring program is evaluation of present or future disturbances that could pose a threat to the long-term protection of the species. Management actions to avoid such disturbance could then be implemented. The specific goals of the monitoring program are:

1. Establish a baseline to assess the annual variation in the SIPE population.
2. Determine the SIPE population trend at this site (i.e., is it increasing?)
3. Determine, what, if any, threats to the SIPE population are present.
4. Locate and document additional sub-populations.

MONITORING OBJECTIVES AND PARAMETERS MEASURED:

To meet these goals, the following objectives will be pursued:

1. Obtain baseline map information on location of the SIPE subpopulations.
2. Obtain basic life history data on seedling survival, vegetative growth, and fruit production (as an index of reproductive output).
3. Establish baseline information on population density and estimated population size.
4. Track population fluctuations.
5. Identify potential threats to plants.

The following parameters will be tracked for each subpopulation of SIPE within the boundaries of the North Baldwin Lake Ecological Reserve:

1. Areal extent of the sub-populations and the total known population (mapped).
2. Density of SIPE plants in three groups; first year (2 leaves only), flowering and non-flowering, within 1 m² plots.
3. On one marked individual per plot; a series of measurements are recorded as an indication of its maturity and vigor.

Of these goals and objectives, mapping (objective #1) has been accomplished, all others are ongoing.

METHODS:

In 1990 66 permanent 1 m² circular plots were established within known subpopulations of SIPE at the Baldwin Lake Ecological Reserve. Subpopulation locations were determined from three sources: 1) mapped element occurrences from the California Natural Diversity Data Base (CNDDB, 1990); 2) Tim Krantz, author of the Checklist of Plants of the Baldwin Lake Ecological Reserve; 3) surveys of potential SIPE habitat on the Reserve. The location of each subpopulation is shown in Figure 3. Subpopulations are described with a code using the letters NB (North Baldwin) and a number.

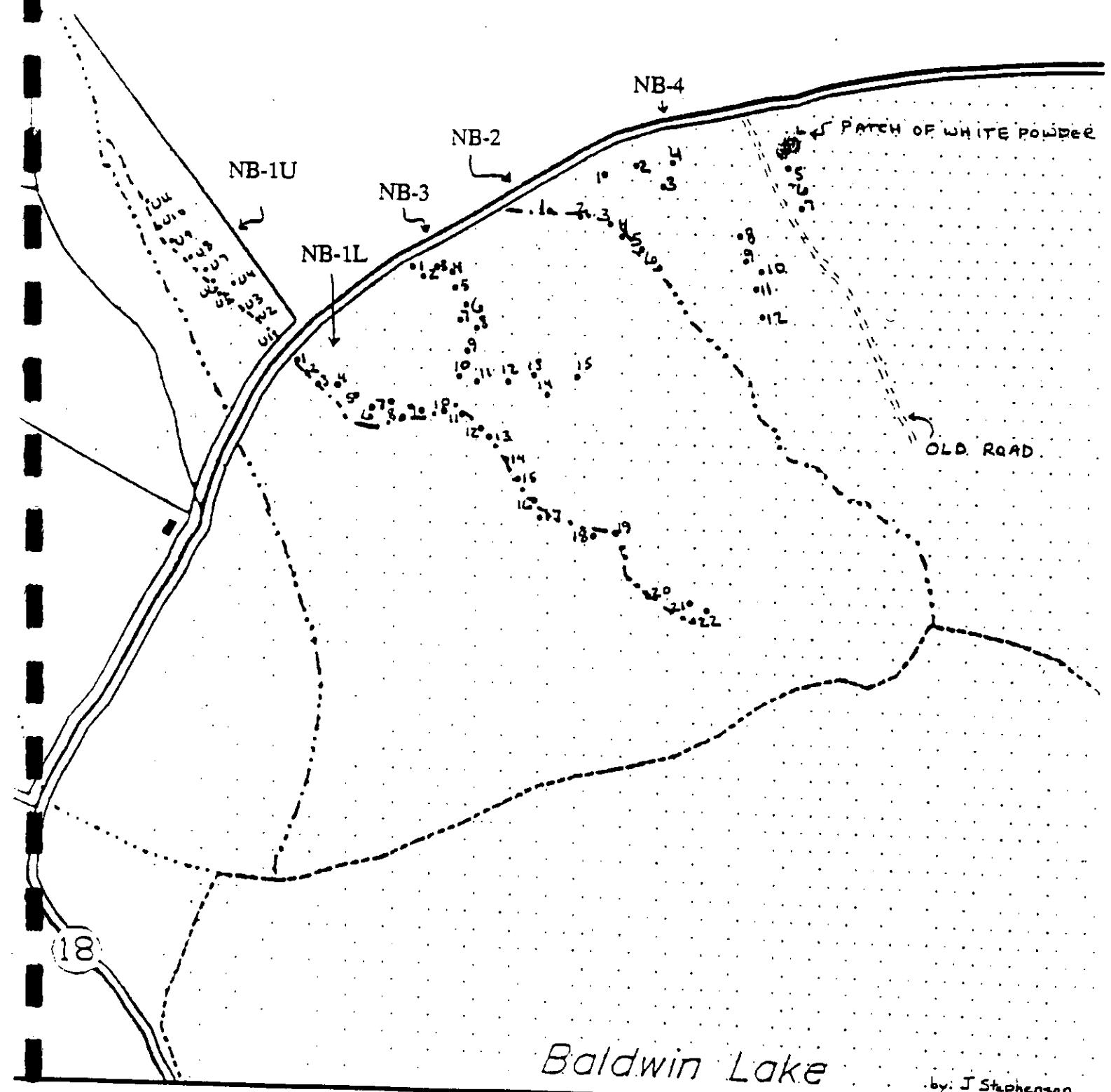


Figure 3. Location of monitoring data plots for *Sidalcea pedata* at Baldwin Lake Ecological Reserve, San Bernardino County, Ca. in 1993.

- - - = Drainage or Swale

U1, 1... 22 = Monitoring plot

The location of each subpopulation of *Sidalcea pedata* is shown in Figure 3, as described in the 1990 report (Barrows 1990) and briefly summarized here:

- 1.NB-1U = northwest of Hwy. 18 on the upper (U) side of the road in the largest swale.
- 2.NB-1L = southeast of Hwy. 18 on the lower (L) side of the road in the same swale.
- 3.NB-2 = southeast of Hwy. 18, in the second swale, northeast of the above described swale.
- 4.NB-3 = southeast of Hwy. 18, plants occurring between the two swales.
- 5.NB-4 = southeast of Hwy. 18, plants occurring east of swale #2 in an area characterized by chalky white soil.

Annual surveys of potential SIP habitat on the reserve involve walking overlapping transects through potential or previously occupied habitat. I monitored the 66 circular 1 m² plots described by Barrows, 1990. Plots are permanently marked with a rebar stake and metal tag indicating the subpopulation and the plot number (e.g. NB1-1, NB1-2 etc.). I censused three plant categories in each plot: 1) flowering, 2) non-flowering, 3) first-year seedlings (cotyledons are only leaves present). The third category was not censused in 1990.

One individual SIPE plant in each plot, randomly selected and marked by an aluminum tag in the 1990 survey, was re-sampled each year. In 1990 the individual plant selected was flowering or non-flowering in alternating plots. Parameters recorded for this individual include the number of vegetative stems, number of flower-bearing stems, number of buds, flowers, and fruits present, the length of the longest leaf-bearing stem and the length of the longest flowering stem. All measurements were made in centimeters. A sample data sheet (prepared by Maile Neel of the U.S. Forest Service) is shown in Figure 4. When marked plants were missing in 1991, the marker was moved to a new non-flowering plant. In 1992 and 1993, markers were left at locations of missing plants to test the hypothesis that the non-sprouting rootstocks might resprout in subsequent years; and a second marker was placed on a new plant.

Sampling within 1m² plots at North Baldwin Lake followed the same methodology used at other sites in the Big Bear Valley (Eagle Point, Bluff Lake, Metcalf Bay/Presbyterian Conference Center). Plot locations at North Baldwin Lake were not determined randomly, however, and results reported here cannot be statistically compared to the other SIPE population locations (Barrows, 1990).

SCHEDULE

Data were collected in June during the latter part of the blooming period when most plants were in late-flowering and fruiting stages. The intent of this timing was to avoid damaging plants during monitoring. Future monitoring would require one person about four days. On July 24, most SIPE plants were fully desiccated.

<u>Monitoring Dates</u>	<u>Site</u>	<u>Personnel</u>
June 14, 1993	NB-1U, NB-1L, NB-3	M. Meyer, K. Barrows J. Greene
June 15 1993	NB-2, NB-4	J. Greene
July 24, 1993	all sites	J. Greene

site:	stratification:	Length:	Width	Date:				
Observers:	Dir:			Dir:				
Individuals								
Plot #	Coord- inates	# of plants	# veg. stems	# flrng. stems	# flng.	# fr	# fl	# fr
		1st yr. (2 lvd.)	N/P	P	length	length	B	fl

Figure 4. Sample data sheet for *Sidalcea pedata*.

SITE/FIELD CONDITIONS:

The Big Bear Valley, like much of southern California, was affected by drought from 1987 through 1990. The Valley received average rainfall in 1990-91 and 1991-92, and more than twice average in 1992-93. The nearest rainfall data available are collected by BBCSD at the district office monitoring station, near the southwest end of Baldwin Lake (approximately 2.5 air miles from the Baldwin Lake Ecological Reserve, at 6,760 ft. elevation). Data are recorded from July to June of a given year.

Annual precipitation data from Big Bear City (recorded since 1955) show a 38 year average of 14.58 inches. Below average precipitation was recorded from 1986 to 1990, reaching a low of 7.24 inches in 1990. Annual precipitation recorded by the BBCSD from 1986 to 1993 is shown in Table 1:

Table 1. Annual precipitation at Southwest Baldwin Lake

Year	Inches of Precipitation
1986/1987	12.59
1987/1988	10.43
1988/1989	8.15
1989/1990	7.24
1990/1991	15.14
1991/1992	15.42
1992/1993	30.52

RESULTS

A total of 1183 plants were counted in the 66 plots. 519 were adult, flowering plants, 466 were non-flowering plants, and 198 were first year plants.

Monitoring results are given in the following tables and graphs. Figures 5 and 6 (separated into swale and upland sub-populations) show the number of first-year, non-flowering and flowering plants in each of the years 1990 - 1993. First -year plants were not monitored in 1990 and sub-populations NB-2,3 and 4, were not monitored in 1992. Table 2 summarizes total number of plants and mean number per 1 m² plot in each subpopulation (for comparative purposes the values for 1992 are also included). Data on reproductive parameters, including number of buds, flowers and fruits, are summarized in Table 3. Vegetative characteristics are summarized in Table 4.

In addition to quantitative data presented in the following tables, an extension to the known population of SIPE was observed on the Baldwin Lake Ecological Reserve. The location of these additional plants is shown on Figure 2. These plants are an extension of subpopulation NB-1L and NB-3 which consists of scattered occurrences of SIPE distributed throughout this area of basin sagebrush (*Artemisia tridentata*) scrub. The newly mapped plants occur at the eastern edge of both subpopulations.

BALDWIN LAKE: *Sidalcea pedata* type totals

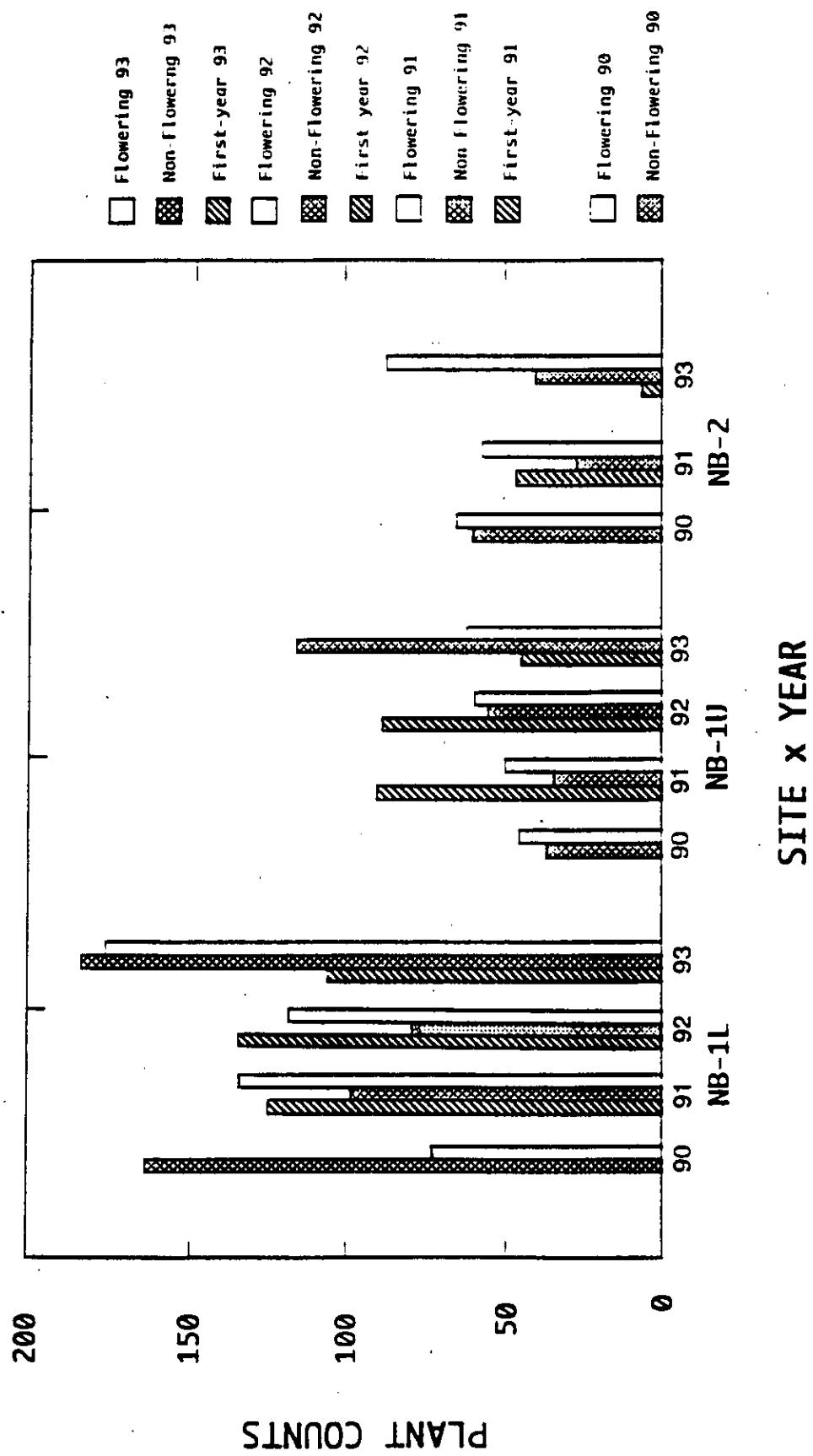


Figure 5. Type totals for "swale" sub-populations NB-11, NB-10, and NB-2.

BALDWIN LAKE: *Sidalcea pedata* type totals

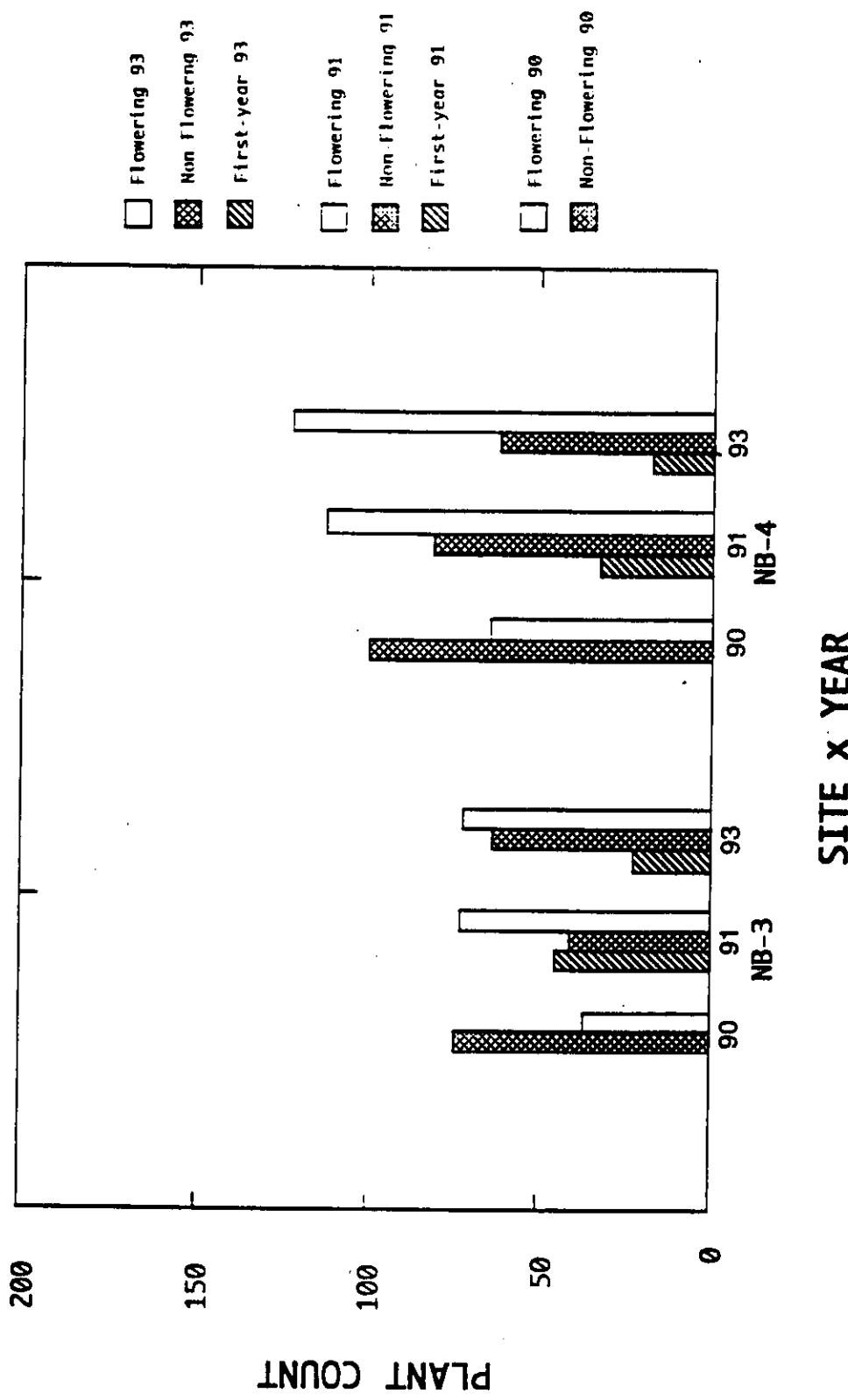


Figure 6. Type totals for "upland" sub-populations NB-3, and NB-4.

Table 2. Summary of the number of *Sidalcea pedata* plants counted in five subpopulations at North Baldwin Lake Ecological Reserve for the years 1992 and 1993. Plants were counted in three categories, first-year, non-flowering, and flowering.

SITE POPULATION	PLOTS PER SUB- POPULATION	FIRST YEAR PLANTS						NON- FLOWERING PLANTS						FLOWERING PLANTS					
		1992			1993			1992			1993			1992			1993		
		N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
NB-1L	22	144	6.5	6.8	106	4.8	5.0	87	4.0	4.1	184	8.4	8.2	133	6.0	5.3	176	8.0	7.6
NB-1U	11	88	8.0	8.4	45	4.1	4.4	55	5.0	6.8	116	10.5	7.9	59	5.4	3.6	62	7.6	5.6
NB-2	6	*			6	1.0	1.3	*			40	6.7	3.8	*			87	14.5	14.4
NB-3	15	*			23	1.5	2.4	*			64	4.3	4.2	*			72	4.8	4.8
NB-4	12	*			18	1.5	2.9	*			62	5.2	4.0	*			122	10.1	7.3
TOTAL PLOTS	66	232	7.3	198	2.6	142	4.5	466	7.0	5.7	192	5.7	5.0	519	9.0				

* , No data collected; N, sample size; Mean, average number of plants/plot; S.D., standard deviation.

Table 3. Summary of reproductive parameters for *Sidalcea pedata* at North Baldwin Lake Ecological Reserve in 1993.

SITE	NUMBER OF FLOWERING PLANTS PER SUB-POPULATION	BUDS 1993			FLOWERS 1993			FRUITS 1993		
		N *	N	Mean	S.D.	N	Mean	S.D.	N	Mean
NB-1L	16/22	53	3.3	7.3		135	8.4	23.8	297	18.6
NB-1U	8/11	34	4.3	5.2		28	3.5	4.5	209	26.1
NB-2	3/6	3	1.0	1.2		4	1.3	1.6	35	11.6
NB-3	11/15	0				0			79	7.2
NB-4	9/12	31	3.4	8.1		16	1.8	2.8	83	9.2
TOTAL	47/66	121	2.6			183	3.9		703	15.0

N*, the number of marked plants flowering per total plots in the sub-population

N, sample size; S.D., standard deviation.

Table 4. Summary of vegetative characteristics for flowering and non-flowering plants of *Sidalcea pedata* at North Baldwin Lake Ecological Reserve in 1993.

SITE	VEGETATIVE STEMS			FLOWERING STEMS			VEGETATIVE STEM LENGTH		FLOWER STEM LENGTH	
	N ¹	Mean ¹	S.D.	N ²	Mean ²	S.D.	Mean ³	S.D.	Mean ⁴	S.D.
NB-1L	243	11.5*	7.6	70	4.7	4.5	9.0	3.9	40.0	23.6
NB-1U	137	12.5	6.9	43	6.1	3.9	10.1	3.8	41.0	21.0
NB-2	51	8.5	4.3	7	2.3	1.5	7.2	1.8	44.3	25.2
NB-3	208	13.9	7.9	61	1.0	4.5	16.0	28.9	31.0	16.8
NB-4	65	5.4	0.9	23	2.9	1.7	7.1	2.7	43.3	25.5
TOTAL	704	10.8		204	5.2		9.9		39.9	

N¹, number of total vegetative stems in the sub-population (from the tallest vegetative plant in plot)

Mean¹, average number of vegetative stems on tallest plant in each plot per sub-population.

N², number of total flowering stems in the sub-population (from the tallest flowering plant in the plot)

Mean², average number of flowering stems on tallest plant in each plot per sub-population.

Mean³, average vegetative stem length from the tallest plant in each plot per sub-population.

Mean⁴, average flowering stem length from the tallest plant in each plot per sub-population.

*, only 21 vegetative plants in sub-population NB-1L; N, sample size; S.D., standard deviation.

Stem length measured in centimeters.

DISCUSSION

Due to missing data from 1992, 1990-93 non-flowering and flowering comparisons could only be made for two of the sub-populations, NB-1L and NB-1U. The 1993 count represents a density of 9.0 flowering plants/1 m², 7.0 non-flowering plants/1m² and 2.6 first year plants/1m²; compared to 1992 data of 5.7 flowering/1m², 4.5 non-flowering plants/1m² and 2.6 first year plants/1m².

There is a drop in the number of first year plants, which may be explained by the NB-1U sub-population remaining under water for a longer period than in previous years. Almost half of 1992/1993's rainfall (14.5 inches) fell in January alone and may have resulted in improved conditions for germination and growth of the plants in dryer areas. However, reduced oxygenation of the soil caused by standing water may have reduced germination in the low areas.

NB-1L and NB-1U 1992 flowering plants outnumbered non-flowering plants 1.3:1.0; in 1993 the ratio of flowering plants to non-flowering plants dropped to 0.79:1.0. The total plant number increased by 29% from 1992 to 1993. However, the NB-1U showed dramatic reductions in both first year and flowering plant numbers. Though the number of flowering plants was the same for the two years, the 1993 season showed a 27% drop in flower numbers from 1992, and a 52% drop in fruit numbers from 1992. In 1992, individually marked plants in the demographic monitoring in sub-populations NB-1L and NB-1U, had 224 flowers on 21 plants, with an average of 21 flowers per plant. In 1993, the same marked individuals had 163 flowers on 21 plants, dropping to an average of 7.6 flowers per plant.

The demographic monitoring results for four years shows the following:

33% (22 plants) of the marked individuals have flowered all four years.

19% (13) were vegetative only in 1990 and have flowered every year since.

18% (12) flowered 1990-1992 and were not flowering this year.

12% (8) were vegetative in 1990-1991, and flowered 1992-1993.

6% (4) were vegetative for all four years, 1990-1993.

4% (3) did not flower 1990-1992 and were flowering this year.

One plant was flowering, then non-flowering, and is flowering again this year.

One plant alternated, vegetative, flowering, vegetative, and flowering.

One plant was vegetative, then dead, and there is no plant this year, 1993.

Of note is:

One plant was vegetative only in 1990, then in 1991 and 1992, there was no evidence of the plant (the marker was not moved), and this year the plant had 4 - 0.5 cm vegetative stems. This could indicated the rootstock has resprouted, as there was no first year plant recorded there last year.

Since 1991, browsing has been recorded when a stem has been nipped cleanly off. Browsing may be by non-native burros or rabbits. In 1992 there were 28 (15%) flowering stems in sub-populations NB-1L and NB-1U, that showed signs of herbivore browsing. In 1992 no insect damage was recorded. In 1993 there were 88 (13%) flowering stems in all sub-populations, that showed signs of herbivore browsing. In 1993 there were only two plants that showed signs of insect damage. I found no evidence of burro trampling this year.

PROGRESS TOWARD GOALS: In this fourth year of quantitative monitoring of SIPE populations at North Baldwin Lake, the number of plants counted has increased; most likely due to above average rainfall. The ability to set management goals relative to the population numbers would best be accomplished after a complete rain cycle (drought-average-drought), and by following the recommendations outlined below. Since droughts are not predictable, I would recommend at least 10 years of data be collected, which will occur after the 1999 sampling season.

INTERPRETATION OF TRENDS: After four years of quantitative data on SIPE within sample plots the population trend appears to be stable, with 710 plants (non-flowering and flowering) counted in 1990, 718 plants in 1991, (population totals not available for 1992), and 985 plants in 1993. This data reflects the population status in a drought year, 1990, average years in 1991 and 1992, and an above average year in 1993. Demographic monitoring indicates a significant increase in fruit production in 1991-93 when compared to 1990. This increase of fruit production may be related to the increased precipitation in 1991. The number of first-year plants has continuously dropped since 1991. This may be due to a reduction in the seed bank since the first year of average rain occurred in 1991, as well as other unmet germination requirements such as temperature, light, timing of rain/snow, etc. The results of monitoring in future seasons will be very important to compare years of above average rainfall to those of average rainfall.

Known distribution of SIPE within this population at North Baldwin Lake has increased each year, and efforts during the monitoring season to locate additional plants should be continued.

RECOMMENDATIONS:

1. CONTINUE MONITORING: Monitoring of established transects should be continued in 1994, and through to the end of the next drought cycle. Data collected for an entire drought cycle would be invaluable and necessary for future management decisions.
2. ROOTSTOCK VIABILITY STUDY: Of specific interest is whether *Sidalcea pedata* has a rootstock that may repropout after appearing dormant. Germination and growth should be studied under simulated natural growing conditions with only one plant per container to follow rootstock activity throughout the life of the plant.
3. LONGEVITY AND REPRODUCTIVE OUTPUT: It is necessary for managers to know how long and at what volume the average plant will contribute to the seed bank.
4. SEED VIABILITY AND LONGEVITY: What percentage of those seeds produced are viable and how long they will remain so, could be essential information in years of continued low fruit production. This data is essential for management if nursery propagation and outplanting on the preserve may be needed.
5. SEED COLLECTION AND STORAGE: 5% of seed produced should be collected and stored every year at a storage facility, such as Ranch Santa Ana Botanic Garden in Claremont, California, for possible future use if propagation is needed to preserve the species.
6. SOIL MOISTURE: Soil moisture data at different times of the year and at all sites would be useful in determining trends per site. For example, NB-1 produced less this year than last, which is the opposite of the other sites. Soil moisture data may provide microclimate insights.

REFERENCES

- Barrows, K. 1992. Biological Monitoring Report, Sidalcea pedata, 1991. Unpublished report to the California Department of Fish and Game and the Nature Conservancy.
- Barrows, K. 1990. Biological Monitoring Report, Sidalcea pedata, 1990. Unpublished report to the California Department of Fish and Game.
- Barrows, K. 1989. Operations and Maintenance Schedule for Baldwin Lake Ecological Reserve (and adjacent lands). Report to California Department of Fish and Game, Endangered Plant Program. August 1989.
- CNDDB. 1990. California Natural Diversity Data Base records for Sidalcea pedata. Big Bear City 7.5'quad. Natural Heritage Division, California Dept. of Fish and Game, Sacramento, CA.
- Stephenson, J. 1989. Monitoring Report, 1989, Sidalcea pedata. Unpublished report to the Nature Conservancy.

BALDWIN LAKE ECOLOGICAL RESERVE
BIOLOGICAL MONITORING REPORT
Thelypodium stenopetalum
1993

ELEMENT: *Thelypodium stenopetalum*
COMMON NAME: Slender-petaled mustard
SITE NAME: Baldwin Lake Ecological Reserve
RANK: G1 S1.1 FEDERAL LISTING: E STATE LISTING: E
DATA STORAGE: California Department of Fish and Game,
Natural Heritage Division; Big Bear Ranger Station,
USFS. The Nature Conservancy, California.
PREPARED/UPDATED: Julie A. Greene, October 15, 1993

Slender-petaled mustard, *Thelypodium stenopetalum* (THST) is endemic to Big Bear Valley in the San Bernardino Mountains. It is listed as sensitive by the U.S. Forest Service (USFS) and endangered under both federal and California Endangered Species Acts. One significant population is protected within the boundaries of the Baldwin Lake Ecological Reserve, owned and managed by CDFG (Figure 1).

The THST monitoring program began in 1989 (Stephenson 1989, Barrows 1989), through the cooperative efforts of the CDFG, the Nature Conservancy and the USFS. In 1989 a single transect was established in a subset of the population along the southeastern edge of Swale #1. In 1990 two more transects were established in the same general area. In 1990 and 1991 the first-year (rosette) or second year (flowering) individuals not present within the transects were counted. In 1992 and 1993 only flowering plants were counted, due to the high number of plants and time constraints. Each year the known extent of the population is mapped and previous location records of the species reported by the California Natural Diversity Data Base (CNDDB) are checked. The location of THST populations are shown in Figure 2.

GOALS :

1. Obtain baseline information on distribution and abundance of THST at this site.
2. Obtain baseline information on population size and density.
3. Obtain basic life history data on individuals within permanent plots.
4. Determine potential threats or impacts to THST populations.
5. Locate additional populations.

All of the above goals are ongoing.

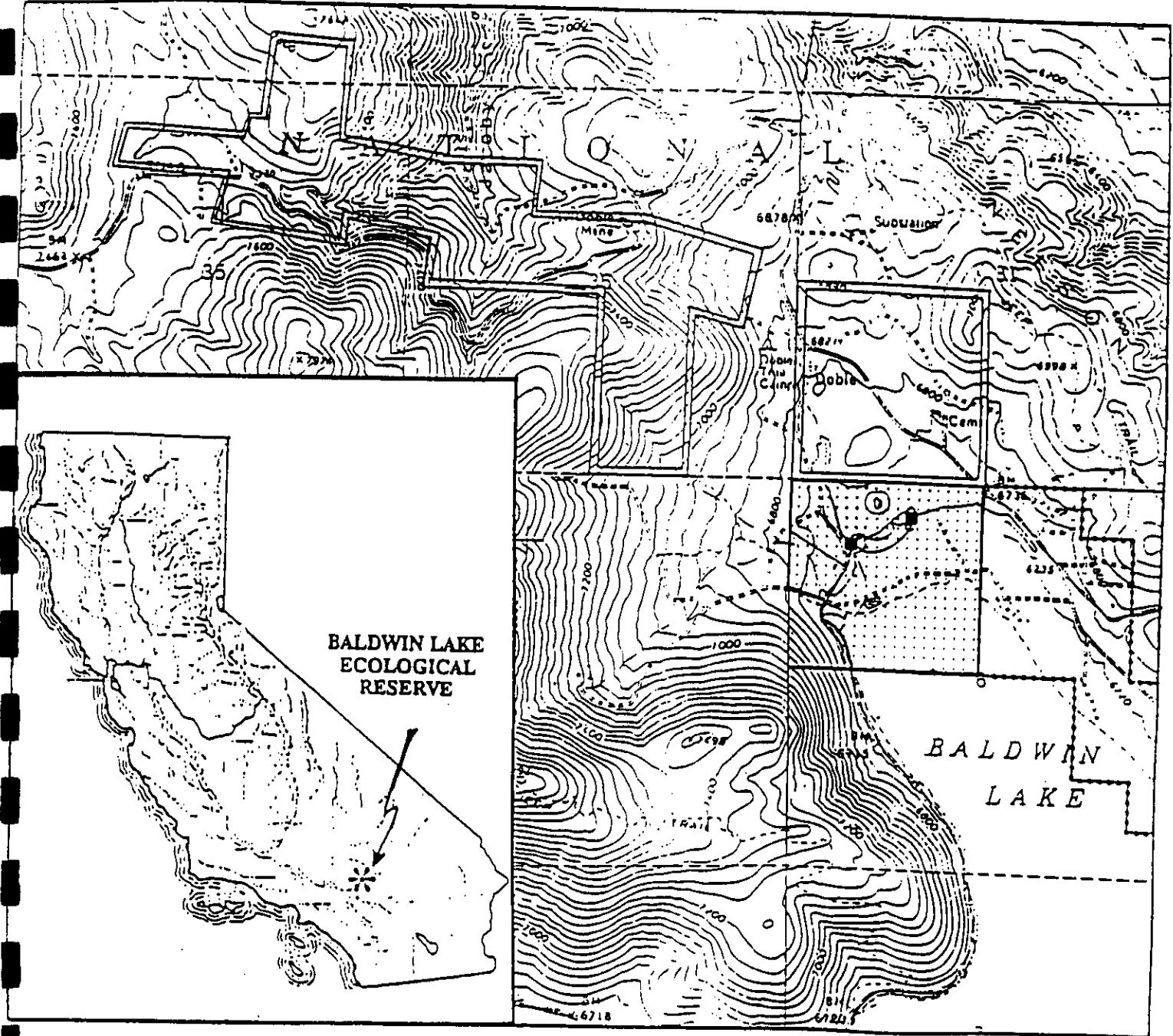
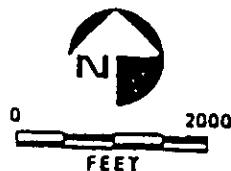


Figure 1. Location of the Baldwin Lake Ecological Reserve in the San Bernardino Mountains of San Bernardino County, CA. Map is from USGS 7.5 minute Big Bear City quad.

- [Dotted pattern] = Baldwin Lake Ecological Reserve
- [Square with circle] = General location of rare plant populations
- [Solid rectangle] = U.S.F.S. land
- [Hatched rectangle] = Other private lands



Baldwin Lake Ecological Reserve

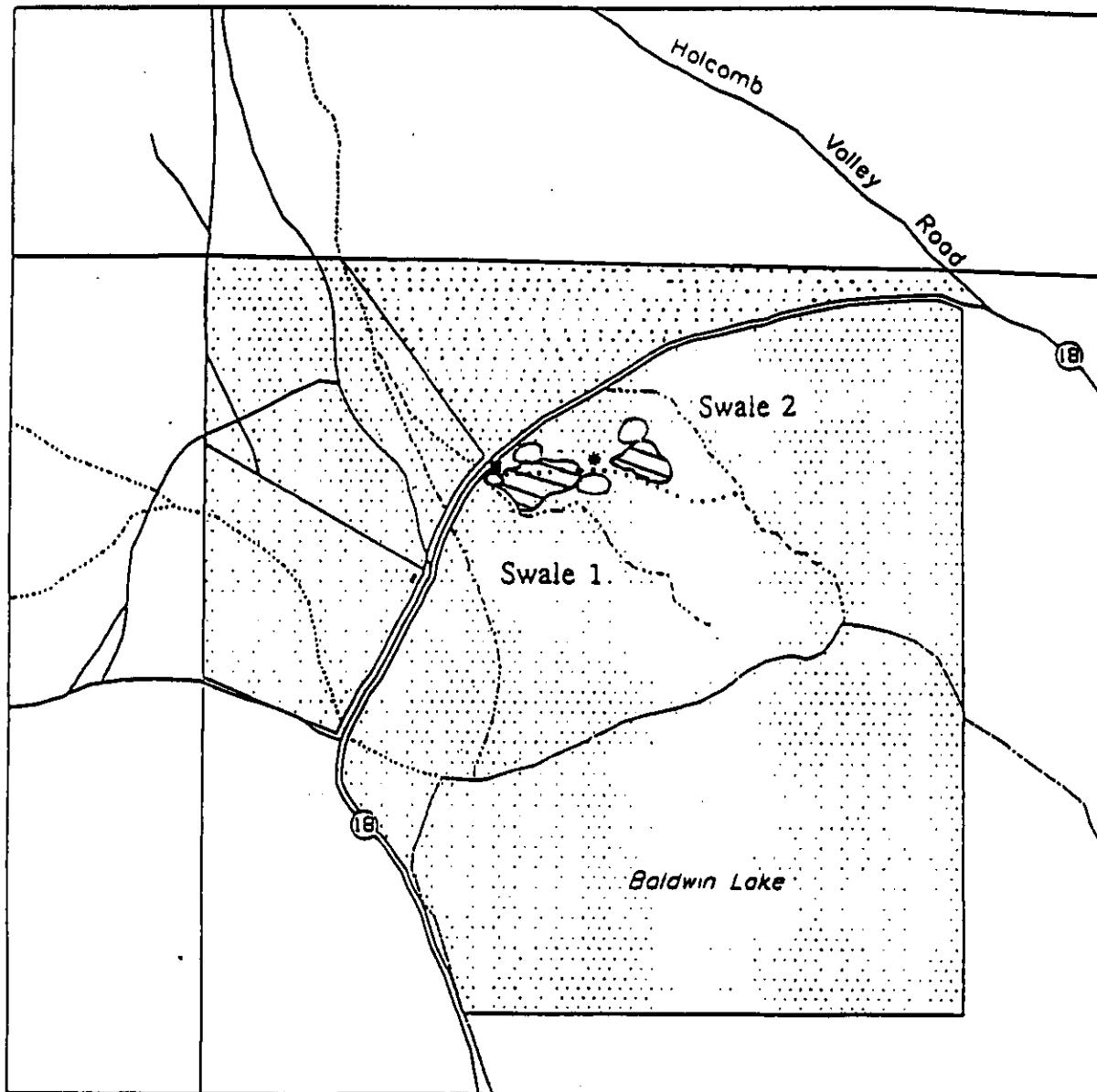


Figure 2. Location of *Thelypodium stenopetalum* populations on the Baldwin Lake Ecological Reserve, San Bernardino County, CA. Location of trail, swales, and monitoring reference points are also shown.



= *Thelypodium stenopetalum*

.... = Foot Trail

■ = Fencepost reference point

---- = Swale or Drainage Area

● = Juniper tree reference point

() = Additional plants observed in 1993

0 1000
Feet



PARAMETERS MEASURED:

1. Areal extent of THST populations (mapped).
2. Position of each individual is mapped according to its position along transect
3. For each plant within belt transect:
 - a. life history stage = rosette or flowering.
 - b. number of buds, flowers, fruits.
 - c. height of plant, diameter of basal rosette.
 - d. number of vegetative stems, number of flowering stems.

METHODS:

The focus of the monitoring effort for THST was to obtain distribution, life history, and survivorship information about this rare species. This information was accomplished by a two-step process:

- 1) General surveys of all known and potential habitat for THST were made on several days during the flowering/fruiting season. The location and number of plants observed was recorded and mapped. This survey did not include complete mapping and counting of non-flowering individuals.
- 2) Belt transects, established in 1990, were monitored to record life history and survivorship information on THST plants.

Three belt transects were established in areas where plants were concentrated. Each belt transect is 15 meters long and 2 meters wide. The location of each belt transect is shown in Figure 3. The transects are marked with a rebar or steel stake at each corner; aluminum tags on these stakes give the transect number, date, and position (e.g. NE corner, SW corner) of each stake. The compass direction and distance from the starting point of each transect to a reference point was also recorded. Also indicated in Figure 3 are reference points for transects #1 and #2 (located on the fenceline along Hwy. 18; the fence post is marked with an aluminum tag at the base) and for transect #3 (a very large juniper tree located along the trail, Barrows, 1990).

Within each belt transect, the position of each plant was recorded according to "x" and "y" coordinates. The "x" and "y" coordinates express the distance in meters that each plant occurs from the southwest baseline. An example of this data sheet is shown in Figure 4. Consistency in future monitoring can be accomplished by following the guidelines below:

1. The plant is designated as adult if it has flowering stalks; seedling plants consist of a basal rosette of leaves.
2. The height in centimeters is measured from the ground to the uppermost point of the inflorescence.
3. The diameter of the basal rosette of leaves is measured across the longest axis from the tip of one leaf to the tip of the leaf opposite it.
4. The number of buds are counted. Buds include all flowers which have not opened enough to reveal the stigmas and stamens.
5. The number of flowers are counted. Flowers include all those which are open enough to reveal stigmas and stamens or where petals remain attached to the sepals, though they may be dry.
6. The number of fruits are counted. Fruits are counted as aborted if the siliques are shriveled and without obvious seeds.

Baldwin Lake Ecological Reserve

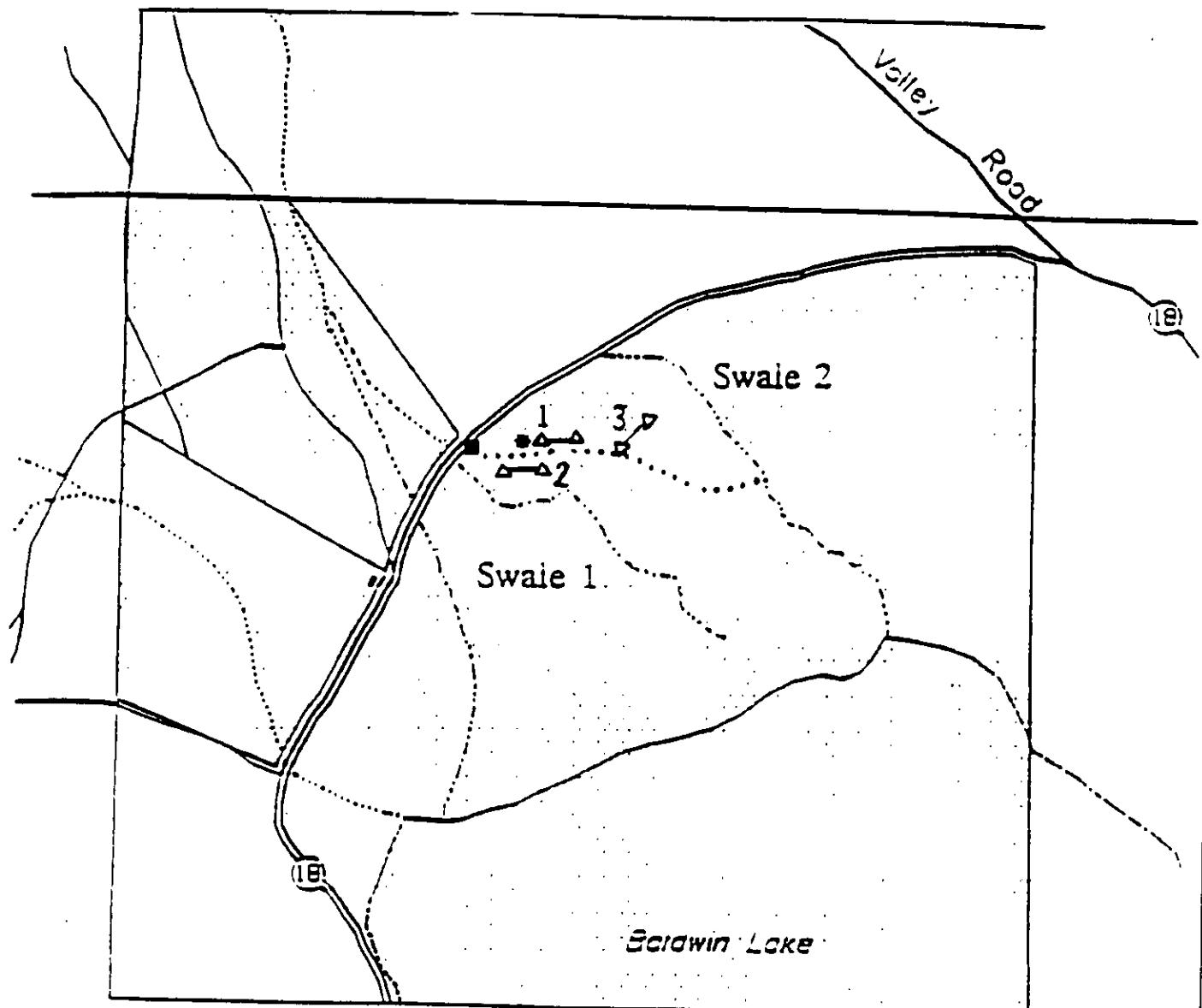


Figure 3. Location of monitoring transects for *Thelypodium stenopetalum* at Baldwin Lake Ecological Reserve. The area surveyed for general distribution of THST and the extent of the population mapped in 1993 are also shown.

= Monitoring transect

= Foot trail

= Fencepost reference point

= Juniper tree reference point

0 1000
Feet



Date: _____
Transect No. _____
Site: _____

Transect No.

5102:

ect No. _____ Date: _____

observers: Length: Dir: Length:

Figure 4. Sample data sheet for *Thelypodium stenopetalum* monitoring.

To assess survivorship of first-year non-flowering and flowering plants the location of mapped plants are compared. No individual THST plants were marked within the monitoring transects. This individual marking was not done for two reason: 1) Marking individuals would make them more conspicuous and problems with removal of stakes have been experienced in monitoring efforts elsewhere in the Big Bear Valley; 2) no adequate means of marking these small plants without potentially disturbing their root system or soil character has been determined. This year rosette coordinate measurements were reduced on Transect #1 due to the time it was taking relative to the data's usefulness.

SCHEDULE:

Actual transect sampling is carried out when most of the plants are in fruit to assess reproductive output. Data was collected in early June, which was ideal for this year. The area was checked in late July and the all plants were in fruit or had released seed. Future monitoring would require one person about four days.

<u>Monitoring Dates</u>	<u>Personnel</u>
1. June 2, 1993	J. Greene, K. Barrows
2. June 3, 1993	J. Greene
3. June 4, 1993	J. Greene
4. July 24, 1993	J. Greene

SITE/FIELD CONDITIONS:

The Big Bear Valley, like much of southern California, was affected by drought from 1987 through 1990. The Valley received average rainfall in 1990-91 and 1991-92, and more than twice average in 1992-93. The nearest rainfall data available are collected by BBCSD at the district office monitoring station, near the southwest end of Baldwin Lake (approximately 2.5 air miles from the Baldwin Lake Ecological Reserve, at 6,760 ft. elevation). Data are recorded from July to June of a given year.

Annual precipitation data from Big Bear City (recorded since 1955) show a 38 year average of 14.58 inches. Below average precipitation was recorded from 1986 to 1990, reaching a low of 7.24 inches in 1990. Annual precipitation recorded by the BBCSD from 1986 to 1993 is shown in Table 1:

Table 1. Annual precipitation at Southwest Baldwin Lake.

Year	Inches of Precipitation
1986/1987	12.59
1987/1988	10.43
1988/1989	8.15
1989/1990	7.24
1990/1991	15.14
1991/1992	15.42
1992/1993	30.52

RESULTS:

A total of 1561 plants were counted in three transects, with 415 flowering and 1146 non-flowering (rosette) individuals. An additional 530 plants were estimated outside the boundaries of the three transects. A comparison of the number of plants observed on three transects over a four or five year period is given in Table 1. In 1990, non-flowering rosettes were not counted because of the late date of the survey; this lack of data is indicated by a dash in Table 1. The location of THST transects and extent of the population, as well as areas surveyed during 1993 where no THST plants were found are shown on Figure 3.

Table 2. Comparison of results for *Thelypodium stenopetalum* for four years (transects #2 and #3) or five years (transect #1) on 15 m x 2 m belt transects, at Baldwin Lake Ecological Reserve.

Transect #	Year	Number Flowering	Number Non-Flowering	Total
Transect #1	1989	13	9	22
	1990	4	10	14
	1991	6	7	13
	1992	12	18	30
	1993	35	82	117
Transect #2	1990	4	15	19
	1991	8	5	13
	1992	19	8	27
	1993	34	20	54
Transect #3	1990	21	-	21
	1991	5	26	31
	1992	45	117	162
	1993	346	1044	1480
Total	1990	29	25	54
	1991	19	38	57
	1992	76	143	219
	1993	415	1146	1561

Table 3. Summary of the number of plants and measured characteristics of *Thelypodium stenopetalum* on three transects in 1993 at the Baldwin Lake Ecological Reserve.

CHARACTER	TRANSECT #1			TRANSECT #2			TRANSECT #3		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
Basal Rosettes + Basal Diameter /rosette	82	4.61	1.99	20	3.92	2.05	1044	2.75	0.83
Mature Plants *	35			34			346		
Basal Diameter	5.29	2.69		3.55	1.12		3.16	1.95	
Flowering Stems/mature plant	1.43	0.98		1.32	0.73		1.06	0.32	
Height/mature plant	38.61	19.34		28.93	13.35		25.61	12.35	
Buds/mature plant	13.57	18.82		4.74	6.63		3.54	6.68	
Flowers/mature plant	12.11	14.29		4.29	6.60		2.77	4.65	
Fruits/mature plant	24.68	29.02		15.85	17.34		3.14	6.37	
Aborted Fruits/mature plant	1.14	2.17		1.58	2.81		0.97	2.13	
Number Browsed	4			8			49		
Number w/ insect damage	16			25			247		

+ Numbers given in this row are the sample size of first-year, non-flowering plants.

* Numbers given in this row are the sample size of mature, flowering plants.

Mean, is the average per specific plant type, i.e. the mean per rosette plants.

Diameter and height measurements are in centimeters (cm.)

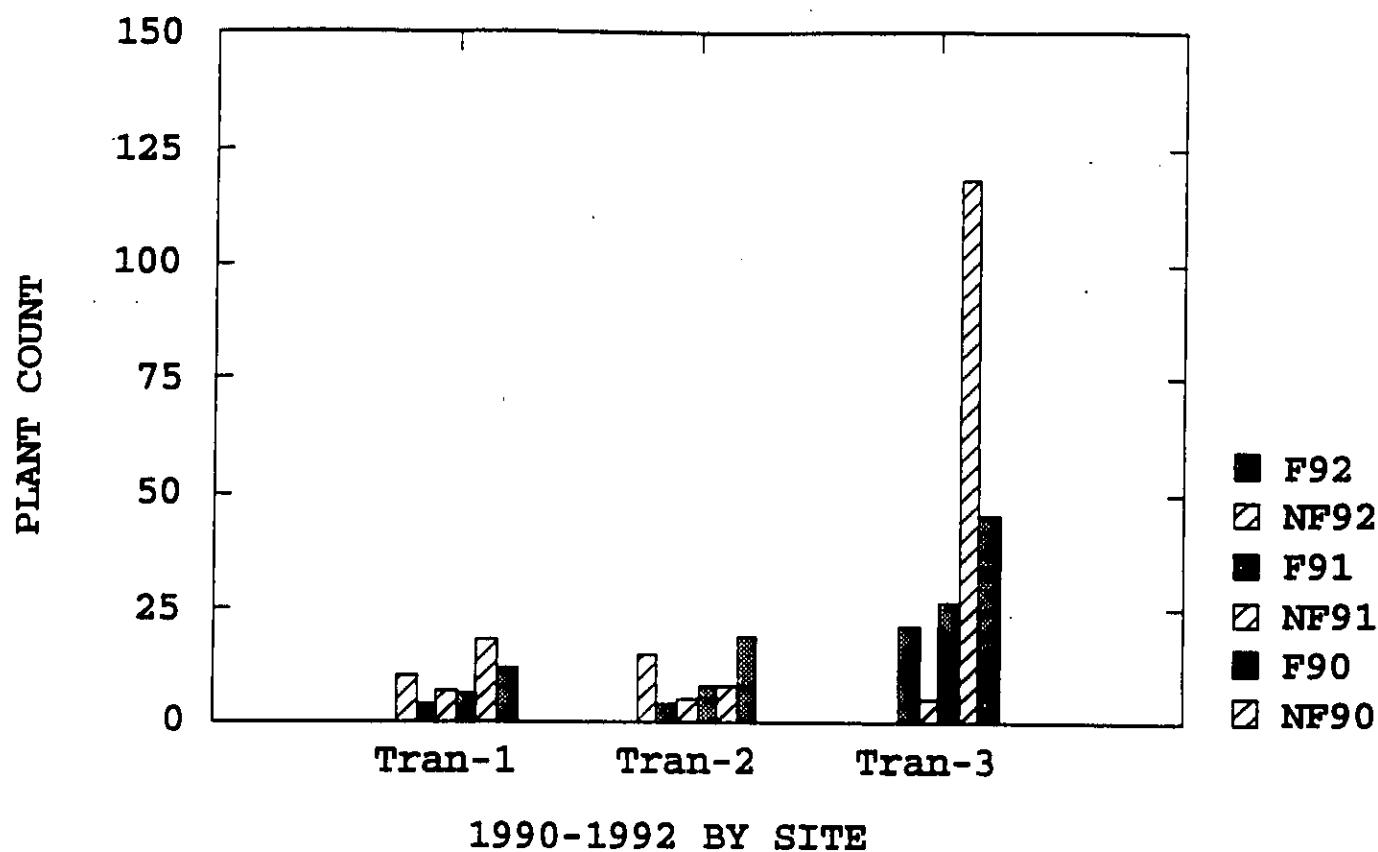
DISCUSSION

The number of THST individuals observed within the three permanent transects at the Baldwin Lake Ecological Reserve increased dramatically, by 74% in 1992, and again in 1993 by 83% (see Figure 6). Both non-flowering rosettes and flowering plant totals increased in all transects. Almost half of 1992-1993 rainfall (14.5 inches) fell in January alone and may have resulted in improved conditions for germination and growth of the plants in dryer areas.

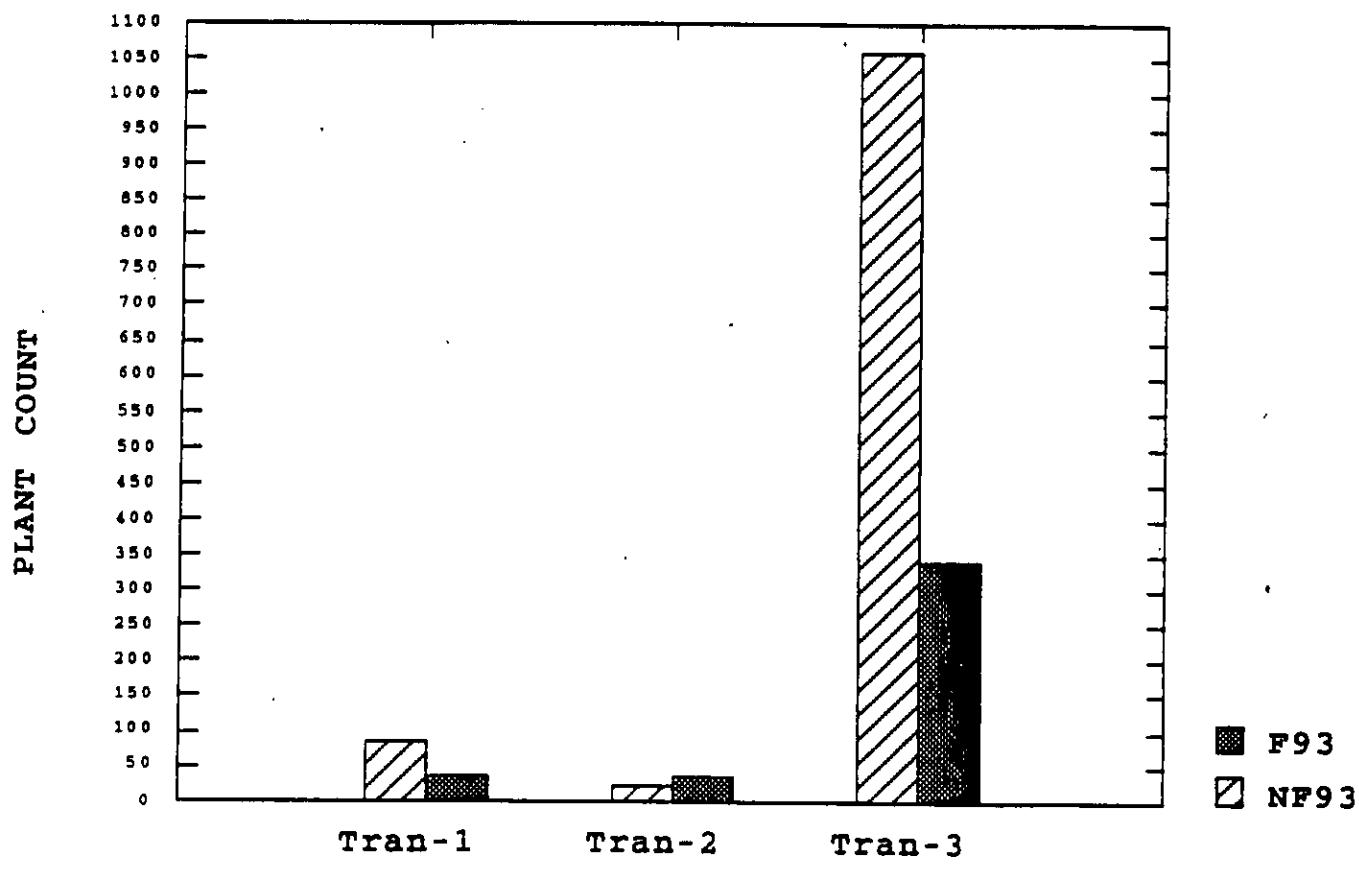
Barrows 1990, discussed the potential impacts of burros. No evidence of Burro trampling was observed while monitoring this year. The data recorded shows that most of the damage to THST plants was caused by insects, rather than by a larger herbivore (burro or rabbit). Continued qualitative monitoring of the impacts of herbivores, should be included in future monitoring programs. On transect #1, insect damage was found on 16 (45%) of the flowering plants and 4 (11%) had browse damage. On transect #2, 25 (73%) of the flowering plants had insect damage, and 8 (23%) had browse damage. On transect #3, 247 (71%) of the flowering plants had severe insect damage, and 49 (14%) showed browse damage. Most of the predation that has occurred on this species in 1993 appears to be the result of chrysomelid beetles, aphids, small caterpillars (possibly of the Andrew's marble butterfly) and rabbits. This damage will impact the population by reducing the number of fruit that are able to reach maturity.

PROGRESS TOWARD GOALS: In this fourth year of quantitative monitoring of THST populations at North Baldwin Lake, the number of plants counted has increased; most likely due to above average rainfall. The ability to set management goals relative to the population numbers would best be accomplished after a complete rain cycle (drought-average-drought), and by following the recommendations outlined below. Since droughts are not predictable, I would recommend at least 10 years of data be collected, which will occur after the 1999 sampling season.

BALDWIN LAKE: *Thelypodium stenopetalum* type counts



1990-1992 BY SITE



1993 BY SITE

Figure 5. Total plant count comparisons for Transects 1, 2, and 3 for years 1990-1993.
 (Data for 1990 non-flowering plants is not available)

INTERPRETATION OF TRENDS: Four years of quantitative data on THST within sample plots shows the population (within the transects) increasing from 13 total flowering plants in 1989 to 415 total flowering plants in 1993. The non-flowering plants increased from 9 total in 1989 to 1146 total in 1993. This data reflects the population status in drought years, 1989-1990, average years 1991-1992, and an above average year in 1993. Demographic monitoring indicates a increase in fruit production in 1992-93 when compared to 1991. This increase of fruit production may be related to the increased precipitation. The results of monitoring in future seasons will be very important to compare years of above average rainfall to those of average rainfall, and also to follow seedling survival.

Known distribution of THST within this population at North Baldwin Lake has increased each year, and efforts during the monitoring season to locate additional plants should be continued.

RECOMMENDATIONS:

1. REDUCTION OF TRANSECT WIDTH: This year due to the high number of individuals, especially in transect 3, it was impossible not to accidentally damage the flowering stalks. I would **strongly** suggest that all transect widths be reduced to 1 meter. This width is used by the U.S. Forest Service and reduces damage by allowing a person to remain outside the transect while taking measurements and counts, which is not currently possible with the 2 meter width.

2. ELIMINATE OR REDUCE X, Y COORDINATE MEASUREMENTS: It takes a lot of time to measure the plant coordinates. This information is of questionable value due to the fact that error (differences in measurements) occurs between persons doing the monitoring. We can never be sure that the plant at the same or closest measurement last year is the same as the following year. Another possible method would be to mark 1 individual per .5 meters with an aluminum nail and tag to follow demographics.

3. CONTINUE MONITORING: Monitoring of established transects should be continued in 1994, and through to the end of the next drought cycle. Data collected for an entire drought cycle would be invaluable and necessary for future management decisions.

4. LONGEVITY AND REPRODUCTIVE OUTPUT: It is necessary for managers to know how long and at what volume the average plant will contribute to the seed bank.

5. SEED VIABILITY AND LONGEVITY: What percentage of those seeds produced are viable and how long they will remain so, could be essential information in years of continued low fruit production. This data is essential for management if nursery propagation and outplanting on the preserve may be needed.

6. SEED COLLECTION AND STORAGE: 5% of seed produced should be collected and stored every year at a storage facility, such as Ranch Santa Ana Botanic Garden in Claremont, California, for possible future use if propagation is needed to preserve the species.

REFERENCES

- Barrows, K. 1992. Biological Monitoring Report, Thelypodium stenopetalum, 1991. Unpublished report to the California Department of Fish and Game and the Nature Conservancy.
- Barrows, K. 1990. Biological Monitoring Report, Thelypodium stenopetalum, 1990. Unpublished report to the California Department of Fish and Game.
- Barrows, K. 1989. Operations and Maintenance Schedule for Baldwin Lake Ecological Reserve (and adjacent lands). Report to California Department of Fish and Game, Endangered Plant Program. August 1989.
- CNDDB. 1990. California Natural Diversity Data Base records for Thelypodium stenopetalum, Big Bear City 7.5'quad. Natural Heritage Division, California Dept. of Fish and Game, Sacramento, CA.
- Stephenson, J. 1989. Monitoring Report, 1989: Thelypodium stenopetalum. Unpublished report to the Nature Conservancy, California Regional Office.

Date: 16-OCT-93

Time: 14:52:35

File: HAL 9000:Personal folders:Julie's Folder:Baldwin Lake All 93:Systat data:SIPE TOTAL
has 13 variables and 6 cases.

OBS	SITE\$	FYR93	NF93	F93	FYR92
1	NB-1L	106.000	184.000	176.000	144.000
2	NB-1U	45.000	116.000	62.000	88.000
3	NB-2	6.000	40.000	87.000	.
4	NB-3	23.000	64.000	72.000	.
5	NB-4	18.000	62.000	122.000	.
6	Total	198.000	466.000	519.000	232.000

OBS	NF92	F92	FY91	NF91	F91
1	87.000	133.000	125.000	99.000	134.000
2	55.000	59.000	89.000	35.000	50.000
3	.	.	47.000	28.000	57.000
4	.	.	45.000	41.000	73.000
5	.	.	33.000	81.000	112.000
6	142.000	192.000	339.000	284.000	426.000

OBS	FY90	NF90	F90
1	0.000	163.000	73.000
2	0.000	37.000	46.000
3	0.000	60.000	65.000
4	0.000	75.000	37.000
5	0.000	100.000	65.000
6	0.000	432.000	286.000

6 cases printed out of

6 cases in the file.

Date: 16-OCT-93
 Time: 14:42:51
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 has 14 variables and 66 cases.

OBS	NOFLWER	FLWER	VEGSTEM	VEGLNGTH	FLWRSTEM
1	17.000	20.000	8.000	9.200	1.000
2	18.000	8.000	16.000	11.100	3.000
3	15.000	13.000	6.000	6.500	1.000
4	2.000	5.000	6.000	4.700	0.000
5	1.000	1.000	14.000	5.000	1.000
6	17.000	1.000	4.000	5.000	0.000
7	6.000	9.000	9.000	7.700	1.000
8	12.000	18.000	20.000	9.800	5.000
9	4.000	3.000	6.000	11.500	1.000
10	2.000	1.000	8.000	6.500	5.000
11	14.000	18.000	16.000	9.000	6.000
12	14.000	26.000	7.000	7.000	0.000
13	5.000	15.000	10.000	15.000	2.000
14	21.000	7.000	26.000	12.000	10.000
15	27.000	13.000	9.000	8.000	1.000
16	2.000	1.000	7.000	4.500	0.000
17	0.000	1.000	31.000	16.000	19.000
18	2.000	9.000	17.000	8.000	7.000
19	0.000	1.000	5.000	15.500	5.000
20	0.000	0.000	0.000	0.000	0.000
21	0.000	5.000	16.000	10.500	2.000
22	5.000	1.000	5.000	6.500	0.000
23	27.000	6.000	24.000	11.000	11.000
24	8.000	5.000	13.000	6.000	0.000
25	15.000	3.000	5.000	10.500	0.000
26	8.000	8.000	14.000	12.000	4.000
27	12.000	4.000	22.000	10.000	9.000
28	16.000	3.000	11.000	14.500	6.000
29	10.000	9.000	17.000	13.000	1.000
30	10.000	2.000	15.000	11.000	8.000
31	2.000	13.000	9.000	12.500	2.000
32	6.000	9.000	3.000	10.000	2.000
33	2.000	0.000	4.000	0.500	0.000
34	0.000	2.000	10.000	6.500	1.000
35	5.000	3.000	4.000	4.500	0.000
36	8.000	19.000	6.000	10.000	3.000
37	10.000	9.000	6.000	7.000	0.000
38	10.000	41.000	16.000	8.000	3.000
39	7.000	13.000	9.000	7.000	0.000
40	7.000	10.000	21.000	120.000	6.000
41	2.000	3.000	13.000	8.000	3.000
42	15.000	10.000	19.000	11.500	4.000
43	2.000	2.000	17.000	10.000	6.000
44	0.000	3.000	12.000	11.500	3.000
45	0.000	3.000	8.000	12.000	2.000
46	7.000	3.000	25.000	8.500	4.000
47	5.000	16.000	16.000	9.500	2.000
48	1.000	2.000	25.000	10.000	9.000
49	1.000	1.000	3.000	6.500	0.000
50	4.000	4.000	24.000	11.000	17.000
51	8.000	12.000	11.000	8.000	5.000
52	9.000	3.000	9.000	5.000	0.000
53	1.000	0.000	2.000	4.000	0.000
54	2.000	0.000	3.000	5.000	0.000
55	1.000	15.000	5.000	11.000	5.000
56	4.000	2.000	6.000	4.500	0.000
57	8.000	23.000	5.000	3.500	2.000
58	1.000	1.000	4.000	7.500	0.000
59	12.000	4.000	5.000	11.000	3.000

60	0.000	5.000	5.000	7.000	0.000
61	0.000	6.000	7.000	11.500	4.000
62	7.000	13.000	5.000	6.000	1.000
63	6.000	14.000	6.000	7.000	3.000
64	10.000	20.000	6.000	6.500	1.000
65	5.000	14.000	4.000	4.000	3.000
66	8.000	5.000	7.000	6.000	1.000
OBS	FLWRLNGT	BUDS	FLOWERS	FRUIT	FIRSTYR
1	11.100	0.000	0.000	3.000	18.000
2	32.500	0.000	0.000	16.000	14.000
3	31.000	0.000	0.000	6.000	11.000
4	0.000	0.000	0.000	0.000	0.000
5	17.300	3.000	4.000	0.000	0.000
6	0.000	0.000	0.000	0.000	6.000
7	12.000	0.000	0.000	0.000	2.000
8	50.500	0.000	0.000	10.000	3.000
9	36.500	0.000	4.000	7.000	2.000
10	51.000	0.000	0.000	5.000	3.000
11	53.000	24.000	14.000	18.000	5.000
12	0.000	0.000	0.000	0.000	13.000
13	38.000	0.000	0.000	13.000	6.000
14	61.000	0.000	1.000	148.000	7.000
15	76.000	2.000	0.000	14.000	6.000
16	0.000	0.000	0.000	0.000	1.000
17	57.000	26.000	112.000	33.000	1.000
18	33.000	0.000	0.000	1.000	1.000
19	39.000	0.000	0.000	7.000	2.000
20	0.000	0.000	0.000	0.000	0.000
21	41.000	0.000	0.000	16.000	2.000
22	0.000	0.000	0.000	0.000	3.000
23	52.000	2.000	13.000	51.000	1.000
24	0.000	0.000	0.000	0.000	5.000
25	0.000	0.000	0.000	0.000	5.000
26	23.500	9.000	0.000	0.000	0.000
27	34.500	0.000	0.000	16.000	3.000
28	51.000	8.000	8.000	58.000	3.000
29	35.000	15.000	6.000	0.000	8.000
30	45.000	0.000	0.000	46.000	15.000
31	46.000	0.000	0.000	14.000	1.000
32	41.000	0.000	1.000	24.000	4.000
33	0.000	0.000	0.000	0.000	0.000
34	33.000	0.000	0.000	3.000	0.000
35	0.000	0.000	0.000	0.000	0.000
36	54.000	0.000	0.000	27.000	1.000
37	0.000	0.000	0.000	0.000	2.000
38	46.000	3.000	4.000	5.000	3.000
39	0.000	0.000	0.000	0.000	0.000
40	32.000	0.000	0.000	21.000	2.000
41	33.500	0.000	0.000	0.000	1.000
42	31.000	0.000	0.000	3.000	0.000
43	31.000	0.000	0.000	0.000	1.000
44	2.000	0.000	0.000	0.000	0.000
45	32.000	0.000	0.000	2.000	0.000
46	44.000	0.000	0.000	0.000	8.000
47	30.000	0.000	0.000	3.000	0.000
48	25.000	0.000	0.000	0.000	0.000
49	0.000	0.000	0.000	0.000	0.000
50	36.000	0.000	0.000	48.000	4.000
51	41.000	0.000	0.000	2.000	1.000
52	0.000	0.000	0.000	0.000	0.000
53	0.000	0.000	0.000	0.000	1.000
54	0.000	0.000	0.000	0.000	5.000
55	58.000	0.000	0.000	12.000	0.000
56	0.000	0.000	0.000	0.000	3.000

57	17.000	0.000	0.000	0.000	0.000
58	0.000	0.000	0.000	0.000	0.000
59	62.500	0.000	0.000	12.000	1.000
60	0.000	0.000	0.000	0.000	0.000
61	62.000	28.000	9.000	16.000	0.000
62	25.000	0.000	0.000	1.000	0.000
63	35.000	0.000	2.000	21.000	3.000
64	48.000	0.000	0.000	5.000	10.000
65	20.000	0.000	0.000	7.000	0.000
66	62.000	3.000	5.000	9.000	1.000
OBS	BROWSE	INSECT	SITES\$	TOTAL\$	
1	0.000	0.000	NB1-L	F	
2	1.000	0.000	NB1-L	F	
3	0.000	0.000	NB1-L	F	
4	0.000	0.000	NB1-L	NF	
5	0.000	0.000	NB1-L	NF	
6	0.000	0.000	NB1-L	NF	
7	1.000	0.000	NB1-L	NF	
8	3.000	0.000	NB1-L	NF	
9	0.000	0.000	NB1-L	NF	
10	3.000	0.000	NB1-L		
11	0.000	0.000	NB1-L		
12	7.000	0.000	NB1-L		
13	0.000	0.000	NB1-L		
14	0.000	0.000	NB1-L		
15	0.000	0.000	NB1-L		
16	0.000	0.000	NB1-L		
17	0.000	0.000	NB1-L		
18	6.000	0.000	NB1-L		
19	3.000	1.000	NB1-L		
20	0.000	0.000	NB1-L		
21	0.000	0.000	NB1-L		
22	0.000	0.000	NB1-L		
23	0.000	0.000	NB1-U		
24	0.000	0.000	NB1-U		
25	0.000	0.000	NB1-U		
26	2.000	0.000	NB1-U		
27	4.000	0.000	NB1-U		
28	1.000	0.000	NB1-U		
29	0.000	0.000	NB1-U		
30	1.000	0.000	NB1-U		
31	0.000	0.000	NB1-U		
32	0.000	1.000	NB1-U		
33	0.000	0.000	NB1-U		
34	0.000	0.000	NB2		
35	0.000	0.000	NB2		
36	0.000	0.000	NB2		
37	0.000	0.000	NB2		
38	0.000	0.000	NB2		
39	0.000	0.000	NB2		
40	2.000	0.000	NB3		
41	13.000	0.000	NB3		
42	4.000	0.000	NB3		
43	6.000	0.000	NB3		
44	3.000	0.000	NB3		
45	0.000	0.000	NB3		
46	4.000	0.000	NB3		
47	1.000	0.000	NB3		
48	9.000	0.000	NB3		
49	0.000	0.000	NB3		
50	4.000	0.000	NB3		
51	4.000	0.000	NB3		
52	0.000	0.000	NB3		
53	0.000	0.000	NB3		

54	0.000	0.000	NB3
55	1.000	0.000	NB4
56	0.000	0.000	NB4
57	2.000	0.000	NB4
58	0.000	0.000	NB4
59	2.000	0.000	NB4
60	0.000	0.000	NB4
61	0.000	0.000	NB4
62	0.000	0.000	NB4
63	0.000	0.000	NB4
64	0.000	0.000	NB4
65	1.000	0.000	NB4
66	0.000	0.000	NB4

66 cases printed out of 66 cases in the file.

SIPE 1993 DATA STATISTICAL ANALYSIS

THE FOLLOWING RESULTS ARE FOR:
SITE\$ = NB1-L

TOTAL OBSERVATIONS: 22

FLWRSTEM	NOFLWER	FLWER	VEGSTEM	VEGLNGTH
N OF CASES	22	22	22	22
22				
MINIMUM	0.000	0.000	0.000	0.000
0.000				
MAXIMUM	27.000	26.000	31.000	16.000
19.000				
MEAN	8.364	8.000	11.182	8.591
3.182				
STANDARD DEV	8.203	7.622	7.563	3.930
4.479				

FIRSTYR	FLWRLNGT	BUDS	FLOWERS	FRUIT
N OF CASES	22	22	22	22
22				
MINIMUM	0.000	0.000	0.000	0.000
0.000				
MAXIMUM	76.000	26.000	112.000	148.000
18.000				
MEAN	29.086	2.500	6.136	13.500
4.818				
STANDARD DEV	23.649	7.327	23.849	31.209
5.011				

	BROWSE	INSECT
N OF CASES	22	22
MINIMUM	0.000	0.000
MAXIMUM	7.000	1.000
MEAN	1.091	0.045
STANDARD DEV	2.045	0.213

THE FOLLOWING RESULTS ARE FOR:
SITES = NB1-U

TOTAL OBSERVATIONS: 11

FLWRSTEM	NOFLWER	FLWER	VEGSTEM	VEGLNGTH
N OF CASES	11	11	11	11
MINIMUM	2.000	0.000	3.000	0.500
MAXIMUM	27.000	13.000	24.000	14.500
MEAN	10.545	5.636	12.455	10.091
STANDARD DEV	7.090	3.802	6.962	3.846
3.909				
3.986				

FIRSTYR	FLWRLNGT	BUDS	FLOWERS	FRUIT
N OF CASES	11	11	11	11
MINIMUM	0.000	0.000	0.000	0.000
MAXIMUM	52.000	15.000	13.000	58.000
MEAN	29.818	3.091	2.545	19.000
STANDARD DEV	20.770	5.186	4.458	22.667
4.091				
4.369				

BROWSE	INSECT	
N OF CASES	11	11
MINIMUM	0.000	0.000
MAXIMUM	4.000	1.000
MEAN	0.727	0.091
STANDARD DEV	1.272	0.302

THE FOLLOWING RESULTS ARE FOR:
SITE\$ = NB2

TOTAL OBSERVATIONS: 6

FLWRSTEM	NOFLWER	FLWER	VEGSTEM	VEGLNGTH
N OF CASES	6	6	6	6
MINIMUM	0.000	2.000	4.000	4.500
MAXIMUM	3.000	10.000	41.000	16.000
MEAN	1.167	6.667	14.500	8.500
STANDARD DEV	1.472	3.777	14.446	4.278

FIRSTYR	FLWRLNGT	BUDS	FLOWERS	FRUIT
N OF CASES	6	6	6	6
MINIMUM	0.000	0.000	0.000	0.000
MAXIMUM	3.000	54.000	3.000	4.000
MEAN	1.000	22.167	0.500	0.667
STANDARD DEV	1.265	25.191	1.225	1.633

	BROWSE	INSECT
N OF CASES	6	6
MINIMUM	0.000	0.000
MAXIMUM	0.000	0.000
MEAN	0.000	0.000
STANDARD DEV	0.000	0.000

THE FOLLOWING RESULTS ARE FOR:
SITES = NB3

TOTAL OBSERVATIONS: 15

FLWRSTEM	NOFLWER	FLWER	VEGSTEM	VEGLNGTH
N OF CASES	15	15	15	15
MINIMUM	0.000	0.000	2.000	4.000
MAXIMUM	17.000	15.000	16.000	25.000
MEAN	4.067	4.267	4.800	13.867
STANDARD DEV	4.448	4.234	4.814	16.033
			7.972	28.874

FIRSTYR	FLWRLNGT	BUDS	FLOWERS	FRUIT
N OF CASES	15	15	15	15
MINIMUM	0.000	0.000	0.000	0.000
MAXIMUM	8.000	44.000	0.000	0.000
MEAN	1.533	22.500	0.000	5.267
STANDARD DEV	2.356	16.777	0.000	12.970

	BROWSE	INSECT
N OF CASES	15	15
MINIMUM	0.000	0.000
MAXIMUM	13.000	0.000
MEAN	3.333	0.000
STANDARD DEV	3.754	0.000

THE FOLLOWING RESULTS ARE FOR:
SITE\$ = NB4

TOTAL OBSERVATIONS: 12

FLWRSTEM	NOFLWER	FLWER	VEGSTEM	VEGLNGTH
N OF CASES	12	12	12	12
MINIMUM	0.000	1.000	4.000	3.500
MAXIMUM	5.000	12.000	23.000	11.500
MEAN	1.917	5.167	10.167	5.417
STANDARD DEV	1.676	4.041	7.272	7.125

FIRSTYR	FLWRLNGT	BUDS	FLOWERS	FRUIT
N OF CASES	12	12	12	12
MINIMUM	0.000	0.000	0.000	0.000
MAXIMUM	10.000	62.500	28.000	9.000
MEAN	1.500	32.458	2.583	1.333
STANDARD DEV	2.908	25.511	8.051	6.917

	BROWSE	INSECT
N OF CASES	12	12
MINIMUM	0.000	0.000
MAXIMUM	2.000	0.000
MEAN	0.500	0.000
STANDARD DEV	0.798	0.000

Date: 15-OCT-93
Time: 18:27:35

File: Baldwin Lake 1993:Systat analysis:SIPE 1992 DATA FILE
has 13 variables and 67 cases.

OBS	SITE\$	FIRSTYR	NOFLWR	FLOWER	VEGSTEM
1	NB1-L	19.000	15.000	9.000	5.000
2	NB1-L	6.000	10.000	5.000	11.000
3	NB1-L	13.000	8.000	8.000	6.000
4	NB1-L	3.000	4.000	3.000	8.000
5	NB1-L	1.000	1.000	0.000	10.000
6	NB1-L	21.000	1.000	3.000	32.000
7	NB1-L	5.000	3.000	6.000	7.000
8	NB1-L	6.000	7.000	10.000	15.000
9	NB1-L	7.000	0.000	3.000	5.000
10	NB1-L	0.000	0.000	2.000	7.000
11	NB1-L	15.000	1.000	17.000	12.000
12	NB1-L	18.000	9.000	16.000	4.000
13	NB1-L	4.000	7.000	10.000	4.000
14	NB1-L	12.000	7.000	8.000	25.000
15	NB1-L	4.000	6.000	17.000	7.000
16	NB1-L	0.000	0.000	0.000	0.000
17	NB1-L	0.000	0.000	1.000	55.000
18	NB1-L	1.000	3.000	7.000	10.000
19	NB1-L	0.000	0.000	1.000	7.000
20	NB1-L	0.000	0.000	1.000	22.000
21	NB1-L	2.000	2.000	3.000	3.000
22	NB1-L	7.000	3.000	3.000	15.000
23	NB1-U	29.000	24.000	6.000	33.000
24	NB1-U	4.000	6.000	3.000	9.000
25	NB1-U	8.000	6.000	6.000	19.000
26	NB1-U	5.000	5.000	9.000	5.000
27	NB1-U	17.000	2.000	6.000	15.000
28	NB1-U	8.000	7.000	2.000	15.000
29	NB1-U	2.000	2.000	11.000	11.000
30	NB1-U	8.000	0.000	2.000	17.000
31	NB1-U	0.000	0.000	10.000	8.000
32	NB1-U	6.000	3.000	4.000	10.000
33	NB1-U	1.000	0.000	0.000	0.000
34	NB2
35	NB2
36	NB2
37	NB2
38	NB2
39	NB2
40	NB3
41	NB3
42	NB3
43	NB3
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OBS	VEGLENTH	FLWRSTEM	FLWRLENT	BUDS	FLOWERS
1	6.200	1.000	22.500	0.000	1.000
2	10.100	2.000	34.000	0.000	0.000
3	5.800	0.000	0.000	0.000	0.000
4	10.000	2.000	34.300	0.000	2.000
5	9.000	2.000	10.700	0.000	0.000
6	15.400	12.000	44.400	0.000	0.000
7	9.000	0.000	0.000	0.000	0.000
8	8.900	4.000	22.900	0.000	0.000
9	9.700	1.000	36.700	1.000	8.000
10	10.000	2.000	37.100	0.000	0.000
11	7.500	7.000	31.100	3.000	41.000
12	7.000	0.000	0.000	0.000	0.000
13	11.200	1.000	29.000	0.000	0.000
14	15.400	5.000	59.000	2.000	12.000
15	10.200	1.000	43.100	0.000	0.000
16	0.000	0.000	0.000	0.000	0.000
17	14.100	20.000	46.600	1.000	28.000
18	8.000	3.000	26.400	0.000	5.000
19	12.900	3.000	29.200	0.000	0.000
20	11.500	10.000	30.600	1.000	25.000
21	9.500	0.000	0.000	0.000	0.000
22	13.100	7.000	0.000	0.000	0.000
23	14.100	25.000	53.300	21.000	81.000
24	5.900	0.000	0.000	0.000	0.000
25	17.200	11.000	0.000	2.000	3.000
26	8.700	1.000	0.500	0.000	0.000
27	9.200	1.000	15.500	12.000	0.000
28	12.400	5.000	35.100	14.000	20.000
29	11.900	2.000	43.200	0.000	1.000
30	10.100	3.000	35.800	0.000	0.000
31	12.000	4.000	36.700	0.000	2.000
32	6.500	0.000	0.000	0.000	0.000
33	0.000	0.000	0.000	0.000	0.000
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OBS	FRUIT	BROWSE	INSECT
1	4.000	0.000	0.000
2	12.000	0.000	0.000
3	0.000	0.000	0.000
4	27.000	0.000	0.000
5	0.000	2.000	0.000
6	77.000	0.000	0.000
7	0.000	0.000	0.000
8	6.000	2.000	0.000
9	9.000	0.000	0.000
10	15.000	0.000	0.000
11	28.000	0.000	0.000
12	0.000	0.000	0.000
13	10.000	0.000	0.000
14	83.000	0.000	0.000
15	16.000	0.000	0.000
16	0.000	0.000	0.000
17	247.000	5.000	0.000
18	8.000	3.000	0.000
19	3.000	3.000	0.000
20	18.000	3.000	0.000
21	0.000	0.000	0.000
22	0.000	5.000	0.000
23	353.000	0.000	0.000
24	0.000	0.000	0.000
25	38.000	4.000	0.000
26	0.000	0.000	0.000
27	0.000	0.000	0.000
28	42.000	0.000	0.000
29	19.000	0.000	0.000
30	16.000	0.000	0.000
31	26.000	1.000	0.000
32	0.000	0.000	0.000
33	0.000	0.000	0.000
34	.	.	.
35	.	.	.
36	.	.	.
37	.	.	.
38	.	.	.
39	.	.	.
40	.	.	.
41	.	.	.
42	.	.	.
43	.	.	.
44	.	.	.
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67 cases printed out of 67 cases in the file.

SIBE 1992 DATA STATISTICAL ANALYSIS

THE FOLLOWING RESULTS ARE FOR:

SITE\$ = NB1-L

TOTAL OBSERVATIONS: 22

	FIRSTYR	NOFLWR	FLOWER	VEGSTEM	VEGLENTH
N OF CASES	22	22	22	22	22
MINIMUM	0.000	0.000	0.000	0.000	0.000
MAXIMUM	21.000	15.000	17.000	55.000	15.400
MEAN	6.545	3.955	6.045	12.273	9.750
VARIANCE	45.879	17.093	28.617	149.827	11.924
STANDARD DEV	6.773	4.134	5.349	12.240	3.453

	FLWRSTEM	FLWRLENT	BUDS	FLOWERS	FRUIT
N OF CASES	22	22	22	22	22
MINIMUM	0.000	0.000	0.000	0.000	0.000
MAXIMUM	20.000	59.000	3.000	41.000	247.000
MEAN	3.773	24.436	0.364	5.545	25.591
VARIANCE	24.184	325.698	0.623	126.260	2961.301
STANDARD DEV	4.918	18.047	0.790	11.237	54.418

	BROWSE	INSECT
N OF CASES	22	22
MINIMUM	0.000	0.000
MAXIMUM	5.000	0.000
MEAN	1.045	0.000
VARIANCE	2.903	0.000
STANDARD DEV	1.704	0.000

THE FOLLOWING RESULTS ARE FOR:

SITE\$ = NB1-U

TOTAL OBSERVATIONS: 11

	FIRSTYR	NOFLWR	FLOWER	VEGSTEM	VEGLENTH
N OF CASES	11	11	11	11	11
MINIMUM	0.000	0.000	0.000	0.000	0.000
MAXIMUM	29.000	24.000	11.000	33.000	17.200
MEAN	8.000	5.000	5.364	12.909	9.818
VARIANCE	70.000	46.400	12.655	74.691	21.306
STANDARD DEV	8.367	6.812	3.557	8.642	4.616

	FLWRSTEM	FLWRLENT	BUDS	FLOWERS	FRUIT
N OF CASES	11	11	11	11	11
MINIMUM	0.000	0.000	0.000	0.000	0.000
MAXIMUM	25.000	53.300	21.000	81.000	353.000
MEAN	4.727	20.009	4.455	9.727	44.909
VARIANCE	55.618	440.417	56.673	593.418	10692.491
STANDARD DEV	7.458	20.986	7.528	24.360	103.405

N OF CASES	11	11
MINIMUM	0.000	0.000
MAXIMUM	4.000	0.000
MEAN	0.455	0.000
VARIANCE	1.473	0.000
STANDARD DEV	1.214	0.000

THE FOLLOWING RESULTS ARE FOR:
SITE\$ = NB2

TOTAL OBSERVATIONS: 6

	FIRSTYR	NOFLWR	FLOWER	VEGSTEM	VEGLENTH
N OF CASES	0	0	0	0	0
MINIMUM
MAXIMUM
MEAN
VARIANCE
STANDARD DEV

	FLWRSTEM	FLWRLENT	BUDS	FLOWERS	FRUIT
N OF CASES	0	0	0	0	0
MINIMUM
MAXIMUM
MEAN
VARIANCE
STANDARD DEV

	BROWSE	INSECT
N OF CASES	0	0
MINIMUM	.	.
MAXIMUM	.	.
MEAN	.	.
VARIANCE	.	.
STANDARD DEV	.	.

THE FOLLOWING RESULTS ARE FOR:
SITE\$ = NB3

TOTAL OBSERVATIONS: 15

	FIRSTYR	NOFLWR	FLOWER	VEGSTEM	VEGLENTH
N OF CASES	0	0	0	0	0
MINIMUM
MAXIMUM
MEAN
VARIANCE
STANDARD DEV

	FLWRSTEM	FLWRLENT	BUDS	FLOWERS	FRUIT
--	----------	----------	------	---------	-------

N OF CASES	0	0	0	0
MINIMUM	.	.	.	.
MAXIMUM	.	.	.	.
MEAN	.	.	.	.
VARIANCE	.	.	.	.
STANDARD DEV	.	.	.	.

BROWSE INSECT

N OF CASES	0	0
MINIMUM	.	.
MAXIMUM	.	.
MEAN	.	.
VARIANCE	.	.
STANDARD DEV	.	.

Date: 16-OCT-93
Time: 15:59:19
File: HAL 9000:Personal folders:Julie's Folder:Baldwin Lake All 93:Systat data:Thst total
has 11 variables and 4 cases.

OBS	SITE\$	NF89	F89	NF90	F90
1	Tran-1	9.000	13.000	10.000	4.000
2	Tran-2	.	.	15.000	4.000
3	Tran-3	.	.	.	21.000
4	Total	9.000	13.000	25.000	29.000

OBS	NF91	F91	NF92	F92	NF93
1	7.000	6.000	18.000	12.000	85.000
2	5.000	8.000	8.000	19.000	20.000
3	5.000	26.000	118.000	45.000	1058.000
4	17.000	40.000	144.000	76.000	1160.000

OBS	F93
1	34.000
2	34.000
3	342.000
4	410.000

4 cases printed out of 4 cases in the file.

Date: 02-SEP-93

Time: 10:12:07

File: Macintosh HD:SystatFolder:THST data 93 tran-1
has 13 variables and 117 cases.

OBS	STATUS\$	LEAVES	BASALDIA	FLWRSTEM	FLWRLNTH
1	F	8.000	9.500	1.000	51.500
2	NF	4.000	2.200	0.000	0.000
3	NF	7.000	5.500	0.000	0.000
4	F	7.000	5.300	3.000	64.500
5	F	11.000	9.000	1.000	30.000
6	NF	6.000	3.800	0.000	0.000
7	NF	3.000	1.700	0.000	0.000
8	NF	6.000	7.400	0.000	0.000
9	NF	4.000	4.000	0.000	0.000
10	NF	3.000	6.000	0.000	0.000
11	NF	4.000	3.000	0.000	0.000
12	NF	4.000	4.500	0.000	0.000
13	NF	3.000	3.500	0.000	0.000
14	NF	5.000	2.500	0.000	0.000
15	NF	5.000	3.500	0.000	0.000
16	F	2.000	9.000	3.000	81.000
17	NF	7.000	5.500	0.000	0.000
18	F	8.000	4.500	1.000	24.000
19	NF	4.000	6.000	0.000	0.000
20	NF	7.000	8.000	0.000	0.000
21	NF	8.000	8.200	0.000	0.000
22	NF	5.000	3.000	0.000	0.000
23	NF	3.000	2.200	0.000	0.000
24	NF	4.000	6.000	0.000	0.000
25	F	10.000	11.500	1.000	45.000
26	F	8.000	10.000	5.000	79.000
27	NF	7.000	7.000	0.000	0.000
28	NF	5.000	2.000	0.000	0.000
29	NF	6.000	2.500	0.000	0.000
30	NF	5.000	2.000	0.000	0.000
31	NF	4.000	2.500	0.000	0.000
32	NF	7.000	6.000	0.000	0.000
33	NF	4.000	3.800	0.000	0.000
34	NF	5.000	3.500	0.000	0.000
35	NF	4.000	3.000	0.000	0.000
36	NF	6.000	6.200	0.000	0.000
37	NF	5.000	3.000	0.000	0.000
38	NF	6.000	5.000	0.000	0.000
39	NF	6.000	5.300	0.000	0.000
40	NF	8.000	10.000	0.000	0.000
41	NF	7.000	4.400	0.000	0.000
42	NF	5.000	3.500	0.000	0.000
43	NF	5.000	2.300	0.000	0.000
44	NF	6.000	3.500	0.000	0.000
45	NF	6.000	4.000	0.000	0.000
46	NF	6.000	8.000	0.000	0.000
47	NF	6.000	6.000	0.000	0.000
48	NF	8.000	2.600	0.000	0.000
49	F	3.000	2.500	1.000	4.500
50	NF	4.000	7.000	0.000	0.000
51	F	7.000	10.500	2.000	12.000
52	NF	6.000	4.000	0.000	0.000
53	NF	3.000	6.000	0.000	0.000
54	NF	2.000	3.000	0.000	0.000
55	NF	5.000	5.000	0.000	0.000
56	NF	5.000	3.000	0.000	0.000
57	NF	3.000	2.500	0.000	0.000
58	NF	5.000	4.000	0.000	0.000
59	NF	7.000	7.000	0.000	0.000

OBS	BUDS	FLOWERS	FRUIT	ABORTED	BROWSE
1	35.000	19.000	27.000	0.000	0.000
2	0.000	0.000	0.000	0.000	0.000
3	0.000	0.000	0.000	0.000	0.000
4	22.000	35.000	78.000	0.000	0.000
5	43.000	13.000	8.000	0.000	0.000

6	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000
9	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000
11	0.000	0.000	0.000	0.000	0.000
12	0.000	0.000	0.000	0.000	0.000
13	0.000	0.000	0.000	0.000	0.000
14	0.000	0.000	0.000	0.000	0.000
15	0.000	0.000	0.000	0.000	0.000
16	86.000	54.000	34.000	6.000	0.000
17	0.000	0.000	0.000	0.000	0.000
18	15.000	0.000	0.000	0.000	0.000
19	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000
21	0.000	0.000	0.000	0.000	0.000
22	0.000	0.000	0.000	0.000	0.000
23	0.000	0.000	0.000	0.000	0.000
24	0.000	0.000	0.000	0.000	0.000
25	58.000	11.000	4.000	0.000	0.000
26	19.000	36.000	136.000	0.000	0.000
27	0.000	0.000	0.000	0.000	0.000
28	0.000	0.000	0.000	0.000	0.000
29	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000
31	0.000	0.000	0.000	0.000	0.000
32	0.000	0.000	0.000	0.000	0.000
33	0.000	0.000	0.000	0.000	0.000
34	0.000	0.000	0.000	0.000	0.000
35	0.000	0.000	0.000	0.000	0.000
36	0.000	0.000	0.000	0.000	0.000
37	0.000	0.000	0.000	0.000	0.000
38	0.000	0.000	0.000	0.000	0.000
39	0.000	0.000	0.000	0.000	0.000
40	0.000	0.000	0.000	0.000	0.000
41	0.000	0.000	0.000	0.000	0.000
42	0.000	0.000	0.000	0.000	0.000
43	0.000	0.000	0.000	0.000	0.000
44	0.000	0.000	0.000	0.000	0.000
45	0.000	0.000	0.000	0.000	0.000
46	0.000	0.000	0.000	0.000	0.000
47	0.000	0.000	0.000	0.000	0.000
48	0.000	0.000	0.000	0.000	0.000
49	0.000	0.000	0.000	0.000	0.000
50	0.000	0.000	0.000	0.000	0.000
51	0.000	0.000	0.000	0.000	2.000
52	0.000	0.000	0.000	0.000	0.000
53	0.000	0.000	0.000	0.000	0.000
54	0.000	0.000	0.000	0.000	0.000
55	0.000	0.000	0.000	0.000	0.000
56	0.000	0.000	0.000	0.000	0.000
57	0.000	0.000	0.000	0.000	0.000
58	0.000	0.000	0.000	0.000	0.000
59	0.000	0.000	0.000	0.000	0.000
60	0.000	0.000	0.000	0.000	0.000
61	0.000	0.000	0.000	0.000	0.000
62	0.000	0.000	0.000	0.000	0.000
63	0.000	0.000	0.000	0.000	0.000
64	0.000	0.000	0.000	0.000	0.000
65	0.000	0.000	0.000	0.000	0.000
66	0.000	0.000	0.000	0.000	0.000
67	0.000	0.000	0.000	0.000	0.000
68	0.000	0.000	0.000	0.000	0.000
69	0.000	0.000	0.000	0.000	0.000
70	0.000	0.000	0.000	0.000	0.000
71	0.000	0.000	0.000	0.000	0.000

72	0.000	0.000	0.000	0.000	0.000
73	0.000	0.000	0.000	0.000	0.000
74	0.000	0.000	0.000	0.000	0.000
75	7.000	0.000	0.000	0.000	0.000
76	0.000	0.000	0.000	0.000	0.000
77	0.000	0.000	0.000	0.000	0.000
78	0.000	6.000	29.000	8.000	0.000
79	17.000	9.000	8.000	0.000	0.000
80	0.000	0.000	0.000	0.000	0.000
81	0.000	0.000	0.000	0.000	0.000
82	0.000	0.000	0.000	0.000	0.000
83	4.000	10.000	16.000	6.000	0.000
84	0.000	7.000	26.000	0.000	0.000
85	0.000	0.000	0.000	0.000	0.000
86	1.000	3.000	40.000	0.000	0.000
87	0.000	0.000	0.000	0.000	0.000
88	1.000	7.000	10.000	0.000	1.000
89	0.000	0.000	0.000	0.000	0.000
90	0.000	4.000	18.000	0.000	0.000
91	0.000	0.000	0.000	0.000	1.000
92	2.000	7.000	8.000	0.000	0.000
93	0.000	0.000	0.000	0.000	0.000
94	7.000	10.000	22.000	3.000	0.000
95	3.000	6.000	26.000	0.000	0.000
96	11.000	26.000	29.000	0.000	0.000
97	33.000	52.000	51.000	3.000	0.000
98	0.000	0.000	0.000	0.000	0.000
99	0.000	0.000	24.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000
101	0.000	0.000	0.000	0.000	0.000
102	0.000	0.000	0.000	0.000	0.000
103	0.000	0.000	0.000	0.000	0.000
104	19.000	2.000	0.000	0.000	0.000
105	0.000	0.000	0.000	0.000	0.000
106	17.000	8.000	0.000	0.000	0.000
107	0.000	0.000	0.000	0.000	0.000
108	0.000	0.000	0.000	0.000	0.000
109	0.000	5.000	18.000	5.000	0.000
110	10.000	2.000	21.000	3.000	0.000
111	0.000	0.000	0.000	0.000	0.000
112	7.000	22.000	54.000	3.000	0.000
113	16.000	30.000	44.000	0.000	0.000
114	28.000	20.000	17.000	0.000	0.000
115	10.000	11.000	20.000	3.000	0.000
116	4.000	9.000	46.000	0.000	0.000
117	0.000	0.000	0.000	0.000	1.000

OBS	INSECT	X	Y
1	0.000	0.850	0.770
2	0.000	1.150	0.175
3	0.000	1.100	0.540
4	0.000	1.230	0.320
5	0.000	1.250	0.320
6	0.000	1.650	0.650
7	0.000	1.620	0.770
8	0.000	1.300	1.360
9	0.000	1.750	0.530
10	0.000	1.900	0.590
11	0.000	1.900	0.770
12	0.000	1.800	0.840
13	0.000	1.820	0.840
14	0.000	1.830	1.060
15	0.000	1.920	0.620
16	1.000	1.920	1.020
17	0.000	2.400	1.500

18	1.000	2.500	1.250
19	0.000	2.150	0.540
20	0.000	2.180	0.440
21	0.000	2.350	0.350
22	0.000	2.370	0.180
23	0.000	2.500	0.100
24	0.000	2.560	0.270
25	0.000	2.600	0.860
26	2.000	2.700	1.000
27	0.000	3.020	0.290
28	1.000	3.120	0.250
29	0.000	3.170	0.230
30	2.000	3.200	0.250
31	0.000	3.510	0.540
32	0.000	3.600	0.120
33	0.000	3.620	0.260
34	1.000	3.570	0.400
35	1.000	3.570	0.500
36	0.000	3.700	0.760
37	0.000	3.700	0.110
38	0.000	3.730	0.110
39	0.000	4.050	0.340
40	0.000	4.050	0.550
41	0.000	4.010	0.370
42	0.000	4.150	0.320
43	0.000	4.150	0.340
44	0.000	4.150	0.360
45	0.000	4.100	0.410
46	0.000	4.200	0.350
47	0.000	4.200	0.360
48	0.000	4.200	0.150
49	0.000	4.450	0.170
50	0.000	4.250	0.770
51	0.000	4.570	0.290
52	0.000	4.700	0.200
53	0.000	4.720	0.200
54	0.000	4.800	0.180
55	0.000	4.800	0.190
56	0.000	4.800	0.300
57	0.000	4.800	0.460
58	0.000	5.000	0.100
59	2.000	5.000	0.140
60	0.000	5.050	0.390
61	0.000	5.100	0.270
62	0.000	5.100	0.390
63	2.000	5.170	0.090
64	0.000	5.170	0.190
65	0.000	5.180	0.260
66	0.000	5.180	0.480
67	0.000	5.200	0.510
68	0.000	5.270	0.090
69	0.000	5.300	0.350
70	0.000	5.300	0.730
71	0.000	5.420	0.220
72	0.000	5.400	0.500
73	0.000	5.600	0.350
74	0.000	6.050	0.550
75	1.000	6.050	0.750
76	0.000	6.110	0.380
77	0.000	6.110	1.150
78	0.000	6.260	0.900
79	2.000	6.350	0.820
80	0.000	6.450	1.000
81	0.000	6.450	0.000
82	0.000	6.550	0.820
83	2.000	6.550	0.950

84	0.000	6.650	0.660
85	0.000	6.670	0.640
86	0.000	6.600	1.330
87	0.000	6.800	0.310
88	0.000	7.050	0.260
89	0.000	7.680	0.290
90	0.000	7.800	1.270
91	0.000	8.130	1.340
92	0.000	8.200	1.230
93	0.000	8.230	0.730
94	0.000	8.250	1.330
95	0.000	8.300	0.750
96	0.000	8.350	1.060
97	0.000	8.500	0.890
98	0.000	8.820	1.550
99	0.000	9.600	0.400
100	0.000	9.850	0.260
101	0.000	9.780	0.500
102	0.000	9.720	0.820
103	0.000	10.050	1.120
104	0.000	10.120	1.120
105	0.000	10.150	1.230
106	0.000	10.150	1.280
107	0.000	10.200	0.430
108	2.000	10.200	0.670
109	0.000	10.230	1.050
110	2.000	11.400	1.750
111	0.000	12.300	0.100
112	2.000	12.350	1.140
113	0.000	12.650	0.870
114	1.000	12.980	1.640
115	0.000	13.020	0.510
116	0.000	13.200	0.600
117	0.000	13.300	0.690

117 cases printed out of

117 cases in the file.

THE FOLLOWING RESULTS ARE FOR:
STATUS\$ = F

TOTAL OBSERVATIONS: 35

	LEAVES	BASALDIA	FLWRSTEM	FLWRLNTH	BUDS
N OF CASES	35	35	35	35	35
MINIMUM	2.000	1.500	1.000	4.500	0.000
MAXIMUM	17.000	11.500	5.000	81.000	86.000
MEAN	6.429	5.294	1.429	38.614	13.571
STANDARD DEV	2.862	2.690	0.979	19.340	18.818

	FLOWERS	FRUIT	ABORTED	BROWSE	INSECT
N OF CASES	35	35	35	35	35
MINIMUM	0.000	0.000	0.000	0.000	0.000
MAXIMUM	54.000	136.000	8.000	2.000	2.000
MEAN	12.114	24.686	1.143	0.143	0.457
STANDARD DEV	14.287	29.024	2.171	0.430	0.780

X Y

	X	Y
N OF CASES	35	35
MINIMUM	0.850	0.170
MAXIMUM	13.300	1.750
MEAN	7.552	0.893
STANDARD DEV	3.757	0.392

THE FOLLOWING RESULTS ARE FOR:
STATUS\$ = NF

TOTAL OBSERVATIONS: 82

	LEAVES	BASALDIA	FLWRSTEM	FLWRLNTH	BUDS
N OF CASES	82	82	82	82	82
MINIMUM	2.000	1.500	0.000	0.000	0.000
MAXIMUM	13.000	10.500	0.000	0.000	0.000
MEAN	5.268	4.605	0.000	0.000	0.000
STANDARD DEV	1.663	1.988	0.000	0.000	0.000

	FLOWERS	FRUIT	ABORTED	BROWSE	INSECT
N OF CASES	82	82	82	82	82
MINIMUM	0.000	0.000	0.000	0.000	0.000
MAXIMUM	0.000	0.000	0.000	0.000	2.000
MEAN	0.000	0.000	0.000	0.000	0.110
STANDARD DEV	0.000	0.000	0.000	0.000	0.416

X Y

	X	Y
N OF CASES	82	82
MINIMUM	1.100	0.000
MAXIMUM	12.300	1.550
MEAN	4.674	0.472

STANDARD DEV

2.395

0.334

Date: 02-SEP-93

Time: 10:48:05

File: Macintosh HD:SystatFolder:THST data 93 Tran-2
has 13 variables and 54 cases.

OBS	STATUS\$	LEAVES	BASALDIA	FLWRSTEM	FLWRLNTH
1	NF	10.000	8.500	0.000	0.000
2	F	7.000	3.500	1.000	37.000
3	NF	4.000	5.000	0.000	0.000
4	F	5.000	6.000	1.000	49.000
5	F	6.000	4.500	1.000	15.000
6	F	6.000	3.000	1.000	27.000
7	NF	7.000	4.000	0.000	0.000
8	F	6.000	1.500	1.000	17.000
9	F	6.000	2.000	1.000	29.000
10	NF	6.000	4.000	0.000	0.000
11	NF	5.000	3.200	0.000	0.000
12	F	10.000	4.000	1.000	26.000
13	F	6.000	2.500	1.000	34.000
14	F	7.000	3.000	1.000	32.000
15	F	10.000	3.000	1.000	25.000
16	F	4.000	2.500	4.000	12.000
17	F	4.000	1.500	1.000	18.000
18	NF	5.000	3.500	0.000	0.000
19	F	7.000	2.600	1.000	22.000
20	NF	8.000	3.000	0.000	0.000
21	F	10.000	5.000	2.000	70.000
22	F	8.000	4.500	3.000	31.000
23	F	10.000	4.200	2.000	39.000
24	NF	3.000	2.500	0.000	0.000
25	F	7.000	3.000	1.000	24.000
26	F	4.000	2.500	1.000	27.000
27	NF	5.000	6.000	0.000	0.000
28	F	9.000	1.800	1.000	23.000
29	F	6.000	3.000	1.000	35.000
30	F	8.000	4.000	3.000	37.000
31	F	8.000	3.800	1.000	20.000
32	NF	3.000	1.000	0.000	0.000
33	NF	4.000	1.500	0.000	0.000
34	NF	4.000	3.000	0.000	0.000
35	F	8.000	3.800	1.000	47.000
36	F	3.000	4.500	2.000	50.000
37	F	7.000	3.000	1.000	42.000
38	F	8.000	5.000	1.000	39.000
39	F	5.000	5.800	1.000	6.500
40	F	7.000	3.000	1.000	21.000
41	F	8.000	4.500	1.000	35.000
42	F	5.000	4.500	1.000	20.000
43	F	9.000	4.300	1.000	21.000
44	F	5.000	3.500	1.000	29.000
45	NF	4.000	2.800	0.000	0.000
46	F	4.000	3.500	1.000	21.000
47	NF	5.000	4.000	0.000	0.000
48	F	6.000	4.000	2.000	3.000
49	NF	8.000	8.500	0.000	0.000
50	NF	6.000	3.000	0.000	0.000
51	NF	5.000	3.400	0.000	0.000
52	NF	5.000	3.000	0.000	0.000
53	NF	5.000	2.000	0.000	0.000
54	NF	6.000	6.500	0.000	0.000
OBS	BUDS	FLOWERS	FRUIT	ABORTED	BROWSED
1	0.000	0.000	0.000	0.000	0.000
2	2.000	6.000	24.000	3.000	0.000

3	0.000	0.000	0.000	0.000	0.000
4	15.000	20.000	27.000	0.000	0.000
5	0.000	0.000	0.000	0.000	1.000
6	0.000	3.000	11.000	9.000	0.000
7	0.000	0.000	0.000	0.000	0.000
8	5.000	0.000	6.000	0.000	0.000
9	1.000	1.000	15.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000
11	0.000	0.000	0.000	0.000	0.000
12	10.000	12.000	2.000	0.000	0.000
13	3.000	3.000	25.000	5.000	0.000
14	0.000	0.000	29.000	0.000	0.000
15	0.000	0.000	3.000	0.000	1.000
16	0.000	0.000	0.000	0.000	4.000
17	4.000	0.000	0.000	0.000	0.000
18	0.000	0.000	0.000	0.000	0.000
19	20.000	10.000	4.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000
21	18.000	25.000	81.000	3.000	0.000
22	21.000	23.000	9.000	7.000	0.000
23	7.000	6.000	45.000	3.000	0.000
24	0.000	0.000	0.000	0.000	0.000
25	7.000	0.000	6.000	11.000	0.000
26	8.000	2.000	23.000	3.000	1.000
27	0.000	0.000	0.000	0.000	0.000
28	0.000	1.000	18.000	0.000	0.000
29	0.000	0.000	21.000	3.000	0.000
30	3.000	1.000	9.000	3.000	2.000
31	0.000	0.000	0.000	0.000	1.000
32	0.000	0.000	0.000	0.000	0.000
33	0.000	0.000	0.000	0.000	0.000
34	0.000	0.000	0.000	0.000	0.000
35	1.000	4.000	38.000	4.000	0.000
36	1.000	6.000	43.000	0.000	1.000
37	1.000	4.000	29.000	0.000	0.000
38	19.000	8.000	5.000	0.000	0.000
39	0.000	0.000	0.000	0.000	1.000
40	0.000	0.000	2.000	0.000	0.000
41	11.000	5.000	16.000	0.000	0.000
42	1.000	2.000	13.000	0.000	0.000
43	3.000	0.000	0.000	0.000	0.000
44	0.000	2.000	20.000	0.000	0.000
45	0.000	0.000	0.000	0.000	0.000
46	0.000	2.000	15.000	0.000	0.000
47	0.000	0.000	0.000	0.000	0.000
48	0.000	0.000	0.000	0.000	2.000
49	0.000	0.000	0.000	0.000	0.000
50	0.000	0.000	0.000	0.000	0.000
51	0.000	0.000	0.000	0.000	0.000
52	0.000	0.000	0.000	0.000	0.000
53	0.000	0.000	0.000	0.000	0.000
54	0.000	0.000	0.000	0.000	0.000

OBS	INSECT	X	Y
1	0.000	0.370	1.320
2	1.000	0.500	1.820
3	2.000	0.310	1.140
4	0.000	0.600	1.690
5	0.000	0.600	1.840
6	1.000	0.900	1.910
7	2.000	0.920	1.820
8	2.000	0.760	1.520
9	0.000	0.640	0.000
10	2.000	0.580	1.440
11	0.000	0.520	1.140

12	0.000	0.750	0.870
13	0.000	0.900	0.760
14	0.000	0.960	0.440
15	0.000	0.940	0.850
16	0.000	1.370	1.860
17	1.000	1.380	1.680
18	0.000	1.370	1.680
19	1.000	1.500	1.600
20	2.000	1.480	1.330
21	0.000	1.510	1.850
22	2.000	1.600	1.580
23	1.000	1.860	1.250
24	0.000	1.870	1.230
25	2.000	1.970	1.580
26	0.000	2.020	1.710
27	0.000	2.370	1.870
28	1.000	3.450	1.710
29	0.000	3.570	1.710
30	0.000	4.250	0.160
31	0.000	4.330	1.480
32	0.000	4.850	1.940
33	0.000	4.860	1.920
34	0.000	4.880	1.890
35	0.000	5.930	1.960
36	1.000	6.470	1.730
37	0.000	9.010	0.760
38	2.000	10.040	0.640
39	2.000	10.100	0.840
40	2.000	9.570	0.800
41	1.000	10.240	1.180
42	1.000	10.290	1.080
43	2.000	10.650	0.870
44	1.000	10.840	0.680
45	0.000	10.800	1.140
46	1.000	10.330	1.020
47	0.000	10.450	0.990
48	2.000	11.150	0.820
49	0.000	11.440	0.870
50	0.000	10.320	1.030
51	0.000	10.700	1.160
52	0.000	10.680	1.200
53	0.000	10.870	1.870
54	0.000	11.770	1.740

54 cases printed out of

54 cases in the file.

111-10-14442

THE FOLLOWING RESULTS ARE FOR:

STATUS\$ = F

TOTAL OBSERVATIONS: 34

	LEAVES	BASALDIA	FLWRSTEM	FLWRLNTH	BUDS
N OF CASES	34	34	34	34	34
MINIMUM	3.000	1.500	1.000	3.000	0.000
MAXIMUM	10.000	6.000	4.000	70.000	21.000
MEAN	6.735	3.553	1.324	28.926	4.735
STANDARD DEV	1.928	1.124	0.727	13.351	6.626

	FLOWERS	FRUIT	ABORTED	BROWSED	INSECT
N OF CASES	34	34	34	34	34
MINIMUM	0.000	0.000	0.000	0.000	0.000
MAXIMUM	25.000	81.000	11.000	4.000	2.000
MEAN	4.294	15.853	1.588	0.412	0.794
STANDARD DEV	6.599	17.345	2.808	0.857	0.808

X Y

N OF CASES	34	34
MINIMUM	0.500	0.000
MAXIMUM	11.150	1.960
MEAN	4.441	1.243
STANDARD DEV	4.062	0.543

THE FOLLOWING RESULTS ARE FOR:

STATUS\$ = NF

TOTAL OBSERVATIONS: 20

	LEAVES	BASALDIA	FLWRSTEM	FLWRLNTH	BUDS
N OF CASES	20	20	20	20	20
MINIMUM	3.000	1.000	0.000	0.000	0.000
MAXIMUM	10.000	8.500	0.000	0.000	0.000
MEAN	5.400	3.920	0.000	0.000	0.000
STANDARD DEV	1.759	2.050	0.000	0.000	0.000

	FLOWERS	FRUIT	ABORTED	BROWSED	INSECT
N OF CASES	20	20	20	20	20
MINIMUM	0.000	0.000	0.000	0.000	0.000
MAXIMUM	0.000	0.000	0.000	0.000	2.000
MEAN	0.000	0.000	0.000	0.000	0.400
STANDARD DEV	0.000	0.000	0.000	0.000	0.821

X Y

N OF CASES	20	20
MINIMUM	0.310	0.870
MAXIMUM	11.770	1.940
MEAN	5.571	1.436

STANDARD DEV

4.666

0.364

Date: 02-SEP-93

Time: 18:15:55

File: Baldwin Lake 1993:Systat data:THST data 93 Tran-3

has 13 variables and 414 cases.

OBS	STATUS\$	LEAVES	BASALDIA	FLWRSTEM	FLWRLNTH
1	NF	10.000	1.900	0.000	0.000
2	NF	6.000	1.100	0.000	0.000
3	NF	3.000	0.800	0.000	0.000
4	NF	7.000	1.700	0.000	0.000
5	NF	5.000	1.800	0.000	0.000
6	NF	5.000	0.900	0.000	0.000
7	NF	6.000	1.300	0.000	0.000
8	NF	5.000	2.800	0.000	0.000
9	NF	6.000	3.000	0.000	0.000
10	NF	6.000	3.200	0.000	0.000
11	NF	6.000	1.800	0.000	0.000
12	NF	3.000	1.600	0.000	0.000
13	NF	3.000	1.600	0.000	0.000
14	NF	6.000	1.800	0.000	0.000
15	NF	10.000	1.400	0.000	0.000
16	NF	6.000	1.500	0.000	0.000
17	NF	8.000	1.800	0.000	0.000
18	NF	5.000	1.000	0.000	0.000
19	F	6.000	2.300	1.000	7.600
20	NF	5.000	2.000	0.000	0.000
21	F	4.000	2.600	1.000	26.400
22	NF	3.000	1.600	0.000	0.000
23	NF	5.000	1.600	0.000	0.000
24	NF	4.000	3.200	0.000	0.000
25	NF	4.000	1.500	0.000	0.000
26	NF	5.000	1.400	0.000	0.000
27	NF	7.000	2.700	0.000	0.000
28	NF	5.000	2.200	0.000	0.000
29	NF	4.000	1.000	0.000	0.000
30	NF	7.000	0.240	0.000	0.000
31	NF	5.000	2.700	0.000	0.000
32	NF	3.000	1.200	0.000	0.000
33	NF	5.000	1.100	0.000	0.000
34	NF	6.000	4.700	0.000	0.000
35	NF	3.000	1.700	0.000	0.000
36	NF	4.000	1.600	0.000	0.000
37	NF	6.000	2.600	0.000	0.000
38	NF	5.000	2.400	0.000	0.000
39	NF	6.000	3.900	0.000	0.000
40	NF	5.000	2.500	0.000	0.000
41	NF	4.000	2.000	0.000	0.000
42	NF	3.000	2.200	0.000	0.000
43	NF	6.000	1.700	0.000	0.000
44	NF	3.000	2.600	0.000	0.000
45	NF	4.000	1.800	0.000	0.000
46	NF	3.000	1.500	0.000	0.000
47	NF	3.000	1.600	0.000	0.000
48	NF	6.000	3.200	0.000	0.000
49	NF	4.000	2.300	0.000	0.000
50	NF	5.000	1.600	0.000	0.000
51	NF	6.000	2.300	0.000	0.000
52	NF	3.000	1.500	0.000	0.000
53	NF	4.000	2.300	0.000	0.000
54	F	5.000	3.700	1.000	15.400
55	NF	3.000	1.800	0.000	0.000
56	NF	5.000	3.100	0.000	0.000
57	NF	5.000	3.700	0.000	0.000
58	NF	5.000	2.500	0.000	0.000
59	NF	4.000	1.700	0.000	0.000

60	NF	7.000	3.700	0.000	0.000
61	NF	4.000	2.000	0.000	0.000
62	NF	5.000	3.000	0.000	0.000
63	F	5.000	3.800	1.000	32.000
64	NF	4.000	3.300	0.000	0.000
65	NF	4.000	2.000	0.000	0.000
66	NF	5.000	2.900	0.000	0.000
67	NF	4.000	1.200	0.000	0.000
68	NF	3.000	1.400	0.000	0.000
69	NF	5.000	2.000	0.000	0.000
70	NF	3.000	1.700	0.000	0.000
71	NF	4.000	3.200	0.000	0.000
72	NF	4.000	2.900	0.000	0.000
73	NF	3.000	2.000	0.000	0.000
74	F	5.000	2.200	1.000	1.800
75	F	5.000	5.200	1.000	42.800
76	F	4.000	3.500	1.000	42.200
77	F	7.000	2.100	1.000	16.700
78	F	8.000	2.700	1.000	38.200
79	F	6.000	1.600	1.000	32.000
80	F	5.000	2.500	1.000	40.000
81	F	5.000	4.400	1.000	32.000
82	F	6.000	5.600	1.000	53.000
83	F	6.000	3.600	1.000	9.100
84	F	6.000	5.300	1.000	27.000
85	F	4.000	3.000	1.000	41.000
86	F	6.000	2.800	1.000	26.000
87	F	5.000	2.500	1.000	18.000
88	F	4.000	1.700	1.000	22.000
89	F	5.000	4.100	1.000	13.500
90	F	5.000	2.500	1.000	22.000
91	F	8.000	4.000	1.000	43.000
92	F	4.000	2.500	1.000	12.000
93	F	1.000	2.000	1.000	21.000
94	F	4.000	1.240	1.000	19.000
95	F	6.000	3.200	1.000	23.000
96	F	5.000	3.500	1.000	31.000
97	F	9.000	4.800	3.000	55.000
98	F	7.000	3.200	1.000	7.000
99	F	7.000	5.000	1.000	70.000
100	F	4.000	3.300	1.000	29.000
101	F	5.000	3.800	1.000	33.000
102	F	4.000	2.300	1.000	20.000
103	F	8.000	2.000	1.000	35.000
104	F	8.000	4.000	1.000	43.000
105	F	4.000	4.000	1.000	38.000
106	F	5.000	2.500	1.000	29.000
107	F	5.000	2.000	1.000	20.000
108	F	6.000	3.000	1.000	29.000
109	F	4.000	2.000	1.000	22.000
110	F	4.000	3.000	1.000	28.000
111	F	4.000	2.500	1.000	18.000
112	F	6.000	2.500	1.000	3.000
113	F	4.000	2.800	1.000	14.500
114	F	1.000	0.500	1.000	22.000
115	F	6.000	1.500	1.000	26.000
116	F	5.000	1.500	1.000	31.500
117	F	4.000	2.000	1.000	25.000
118	F	4.000	2.500	1.000	28.000
119	F	3.000	2.500	1.000	19.000
120	F	5.000	2.500	1.000	23.000
121	F	4.000	4.800	1.000	28.000
122	F	10.000	3.000	1.000	37.000
123	F	5.000	2.500	1.000	27.000
124	F	4.000	2.500	1.000	26.000
125	F	9.000	2.000	1.000	28.000

126	F	6.000	2.500	1.000	23.000
127	FF	7.000	3.000	1.000	31.000
128	FF	4.000	2.000	1.000	21.000
129	FF	5.000	2.500	1.000	35.500
130	FF	5.000	2.300	1.000	35.100
131	FFF	6.000	2.500	1.000	26.200
132	FF	4.000	5.000	1.000	33.000
133	FF	2.000	4.000	1.000	48.000
134	FF	6.000	3.500	2.000	31.200
135	FF	5.000	6.000	1.000	15.000
136	FF	6.000	2.500	1.000	21.000
137	FF	7.000	3.000	1.000	19.000
138	FF	8.000	3.500	1.000	23.000
139	FF	10.000	5.000	1.000	18.000
140	FF	5.000	4.000	1.000	56.000
141	FF	9.000	4.000	2.000	18.000
142	FF	6.000	4.000	1.000	20.000
143	FF	8.000	2.500	1.000	23.000
144	FF	7.000	2.000	1.000	10.000
145	FF	8.000	5.500	1.000	38.000
146	F	7.000	3.000	1.000	26.000
147	F	7.000	2.500	1.000	28.000
148	F	6.000	2.500	1.000	21.000
149	F	5.000	2.500	1.000	14.000
150	F	4.000	2.500	1.000	23.000
151	F	3.000	1.500	1.000	25.000
152	F	5.000	2.500	1.000	27.000
153	F	8.000	3.800	1.000	24.000
154	F	5.000	1.500	1.000	25.000
155	F	7.000	4.000	1.000	13.800
156	F	6.000	2.500	1.000	32.500
157	F	3.000	2.000	1.000	25.000
158	F	8.000	2.900	1.000	43.800
159	F	8.000	4.200	1.000	43.500
160	F	6.000	2.000	2.000	7.000
161	F	7.000	1.500	1.000	34.000
162	F	5.000	1.500	1.000	25.000
163	F	5.000	2.500	1.000	13.000
164	F	4.000	1.700	1.000	17.500
165	F	5.000	3.500	1.000	29.000
166	F	3.000	2.000	1.000	21.000
167	F	5.000	2.000	1.000	26.000
168	F	5.000	3.000	1.000	2.500
169	F	11.000	4.500	1.000	57.500
170	F	4.000	3.500	1.000	33.500
171	F	3.000	4.500	1.000	34.000
172	F	7.000	3.500	1.000	40.000
173	F	8.000	4.500	1.000	54.000
174	F	4.000	3.500	1.000	34.000
175	F	3.000	2.000	1.000	28.000
176	F	5.000	4.500	1.000	27.500
177	F	6.000	6.000	1.000	34.000
178	F	6.000	4.000	1.000	20.500
179	F	4.000	4.000	1.000	11.000
180	F	9.000	5.000	2.000	33.500
181	F	6.000	5.000	1.000	51.500
182	F	5.000	7.000	1.000	8.000
183	F	5.000	3.500	1.000	39.500
184	F	4.000	3.500	1.000	23.000
185	F	4.000	2.500	1.000	42.000
186	F	5.000	3.000	1.000	28.000
187	F	4.000	4.500	1.000	14.000
188	F	5.000	3.500	1.000	22.500
189	F	3.000	1.500	1.000	7.000
190	F	4.000	2.500	1.000	19.000
191	F	6.000	6.000	1.000	39.000

192	F	5.000	2.500	1.000	25.000
193	F	4.000	3.500	1.000	19.000
194	F	3.000	3.500	1.000	29.500
195	F	4.000	4.000	1.000	29.000
196	F	6.000	4.500	1.000	43.000
197	F	5.000	4.000	1.000	31.500
198	F	4.000	3.000	1.000	35.000
199	F	5.000	3.000	1.000	21.000
200	F	7.000	8.000	1.000	63.000
201	F	4.000	3.000	1.000	30.000
202	F	5.000	4.000	1.000	27.000
203	F	6.000	4.000	1.000	31.000
204	F	5.000	5.000	2.000	16.000
205	F	8.000	5.000	1.000	28.000
206	F	5.000	2.500	1.000	26.000
207	F	10.000	6.000	2.000	7.000
208	F	7.000	5.500	3.000	35.000
209	F	5.000	3.000	1.000	36.000
210	F	4.000	3.500	1.000	37.000
211	F	6.000	4.000	1.000	26.000
212	F	0.000	0.000	1.000	17.000
213	F	5.000	2.000	1.000	19.000
214	F	5.000	3.500	1.000	22.000
215	F	7.000	7.500	1.000	43.000
216	F	7.000	5.000	2.000	36.000
217	F	5.000	3.000	1.000	22.000
218	F	6.000	3.500	1.000	25.000
219	F	7.000	5.000	1.000	45.000
220	F	3.000	2.000	1.000	15.000
221	F	4.000	2.500	1.000	15.500
222	F	7.000	5.000	1.000	37.000
223	F	5.000	2.000	1.000	25.000
224	F	4.000	1.500	1.000	16.000
225	F	5.000	2.000	1.000	27.000
226	F	4.000	1.500	1.000	4.000
227	F	4.000	2.000	1.000	15.000
228	F	0.000	0.000	1.000	12.000
229	F	5.000	3.000	1.000	36.000
230	F	7.000	3.000	1.000	36.000
231	F	5.000	2.500	1.000	42.000
232	F	4.000	3.000	1.000	20.000
233	F	4.000	3.000	1.000	15.000
234	F	6.000	3.000	1.000	29.000
235	F	6.000	4.000	1.000	41.000
236	F	4.000	4.000	1.000	33.000
237	F	7.000	6.000	1.000	20.000
238	F	6.000	5.000	1.000	19.000
239	F	6.000	2.500	1.000	16.000
240	F	4.000	6.500	1.000	16.000
241	F	7.000	5.000	1.000	14.000
242	F	4.000	2.500	1.000	20.000
243	F	4.000	3.000	1.000	19.000
244	F	4.000	2.000	1.000	9.000
245	F	5.000	2.500	1.000	10.000
246	F	8.000	2.500	1.000	11.000
247	F	4.000	1.500	1.000	23.000
248	F	5.000	2.000	1.000	25.000
249	F	4.000	2.500	1.000	31.000
250	F	10.000	3.500	2.000	27.000
251	F	6.000	2.500	1.000	22.000
252	F	6.000	4.000	1.000	49.000
253	F	8.000	5.000	1.000	27.000
254	F	1.000	1.000	1.000	33.000
255	F	0.000	0.000	1.000	61.000
256	F	6.000	3.000	1.000	3.000
257	F	2.000	3.500	1.000	23.000

258	F	5.000	2.500	2.000	18.000
259	F	3.000	1.500	1.000	40.000
260	F	5.000	2.000	1.000	46.000
261	F	6.000	5.000	1.000	21.000
262	F	3.000	2.500	1.000	31.000
263	F	3.000	4.000	1.000	34.000
264	F	4.000	3.500	1.000	40.000
265	F	4.000	4.000	1.000	44.000
266	F	3.000	1.500	2.000	18.000
267	F	5.000	2.500	1.000	18.000
268	F	7.000	2.500	1.000	25.000
269	F	4.000	2.500	1.000	25.000
270	F	6.000	2.000	1.000	17.000
271	F	4.000	3.000	1.000	28.000
272	F	5.000	3.000	1.000	23.000
273	F	3.000	2.000	1.000	26.000
274	F	4.000	1.500	1.000	6.000
275	F	0.000	0.000	1.000	21.000
276	F	4.000	3.000	1.000	19.000
277	F	3.000	2.000	1.000	24.000
278	F	6.000	4.000	1.000	30.000
279	F	5.000	1.500	1.000	16.000
280	F	6.000	3.000	1.000	28.000
281	F	8.000	3.000	1.000	40.000
282	F	8.000	2.000	1.000	23.000
283	F	6.000	4.000	1.000	40.000
284	F	10.000	6.000	1.000	57.000
285	F	5.000	2.000	1.000	43.000
286	F	5.000	3.000	1.000	38.000
287	F	2.000	3.000	1.000	40.000
288	F	6.000	6.000	1.000	45.500
289	F	4.000	2.500	1.000	19.500
290	F	5.000	3.000	1.000	11.000
291	F	0.000	0.000	2.000	18.000
292	F	4.000	3.500	1.000	31.000
293	F	5.000	3.000	1.000	26.000
294	F	5.000	3.500	1.000	13.000
295	F	3.000	1.500	1.000	14.000
296	F	5.000	4.000	1.000	43.000
297	F	3.000	2.000	1.000	18.000
298	F	5.000	3.000	1.000	18.000
299	F	2.000	3.000	1.000	8.000
300	F	4.000	2.000	1.000	13.000
301	F	0.000	0.000	1.000	8.000
302	F	6.000	5.000	2.000	32.500
303	F	8.000	11.000	5.000	43.000
304	F	8.000	8.500	1.000	10.000
305	F	4.000	1.500	1.000	11.000
306	F	3.000	1.200	1.000	9.000
307	F	4.000	20.000	1.000	5.000
308	F	5.000	3.500	1.000	17.000
309	F	3.000	1.500	1.000	14.500
310	F	9.000	3.000	1.000	23.000
311	F	4.000	1.000	1.000	8.000
312	F	6.000	2.000	1.000	14.000
313	F	2.000	2.000	1.000	14.500
314	F	7.000	3.000	1.000	27.000
315	F	5.000	1.000	1.000	11.500
316	F	5.000	1.500	1.000	20.000
317	F	6.000	1.500	1.000	17.000
318	F	5.000	1.000	1.000	11.000
319	F	6.000	1.800	1.000	8.000
320	F	6.000	3.000	1.000	19.000
321	F	6.000	4.000	1.000	32.000
322	F	8.000	4.000	1.000	8.000
323	F	7.000	5.000	1.000	15.000

324	F	6.000	2.000	1.000	28.000
325	F	4.000	2.000	1.000	24.000
326	F	6.000	3.000	1.000	14.000
327	F	6.000	2.000	1.000	27.000
328	F	4.000	1.500	1.000	9.500
329	F	4.000	2.000	1.000	13.500
330	F	3.000	2.000	1.000	17.000
331	F	5.000	3.000	1.000	16.000
332	F	4.000	5.000	1.000	38.500
333	F	4.000	1.500	1.000	10.500
334	F	9.000	2.500	1.000	18.000
335	F	6.000	2.000	1.000	13.000
336	F	3.000	3.000	1.000	26.000
337	F	8.000	3.500	1.000	13.000
338	F	7.000	2.000	1.000	23.000
339	F	8.000	3.000	1.000	30.000
340	F	6.000	2.000	1.000	35.000
341	F	3.000	1.000	1.000	7.000
342	F	4.000	3.000	1.000	27.000
343	F	2.000	2.000	1.000	22.000
344	F	4.000	1.500	1.000	13.000
345	F	3.000	1.000	1.000	17.000
346	F	1.000	2.000	1.000	25.000
347	F	4.000	2.000	1.000	20.000
348	F	6.000	2.000	1.000	33.000
349	F	6.000	3.000	1.000	30.000
350	F	6.000	3.000	1.000	23.000
351	F	2.000	1.000	1.000	10.000
352	F	5.000	2.000	1.000	33.000
353	F	4.000	3.000	1.000	37.000
354	F	6.000	6.000	1.000	55.000
355	F	1.000	3.000	1.000	15.000
356	F	0.000	0.000	1.000	10.000
357	F	3.000	4.000	1.000	24.000
358	F	4.000	9.000	1.000	50.000
359	F	3.000	8.500	1.000	37.000
360	F	4.000	4.000	1.000	22.000
361	F	5.000	4.000	1.000	40.000
362	F	4.000	3.000	1.000	33.000
363	F	1.000	1.500	1.000	9.500
364	F	0.000	0.000	1.000	17.000
365	F	0.000	0.000	1.000	45.000
366	F	4.000	3.000	1.000	40.000
367	F	3.000	4.000	1.000	36.000
368	F	9.000	8.000	1.000	50.000
369	F	0.000	0.000	1.000	38.000
370	F	5.000	1.500	1.000	18.000
371	F	0.000	0.000	1.000	18.000
372	F	5.000	1.500	1.000	6.000
373	F	6.000	2.000	1.000	16.000
374	F	5.000	2.000	1.000	23.000
375	F	5.000	3.500	1.000	25.000
376	F	4.000	2.000	1.000	22.000
377	F	6.000	3.000	1.000	29.000
378	F	3.000	1.500	1.000	12.000
379	F	4.000	1.000	1.000	4.000
380	F	0.000	0.000	1.000	8.000
381	F	8.000	2.000	1.000	10.000
382	F	3.000	3.000	1.000	20.000
383	F	4.000	1.500	1.000	12.000
384	F	6.000	1.500	1.000	18.000
385	F	0.000	0.000	1.000	30.000
386	F	6.000	2.500	1.000	19.000
387	F	3.000	1.500	1.000	16.000
388	F	3.000	4.000	1.000	26.000
389	F	5.000	3.500	1.000	23.000

390	F	4.000	3.000	1.000	12.000
391	F	3.000	1.500	1.000	12.000
392	F	6.000	3.000	1.000	29.000
393	F	4.000	3.500	1.000	30.000
394	F	6.000	4.000	1.000	36.000
395	F	4.000	4.000	1.000	27.000
396	F	5.000	6.000	1.000	51.000
397	F	5.000	7.000	1.000	42.000
398	F	6.000	8.500	1.000	50.000
399	F	6.000	9.000	1.000	52.000
400	F	3.000	3.000	1.000	10.000
401	F	5.000	2.000	1.000	19.000
402	F	8.000	2.500	1.000	25.000
403	F	6.000	3.000	1.000	36.000
404	F	6.000	3.000	1.000	21.000
405	F	8.000	2.500	1.000	14.000
406	F	6.000	2.500	1.000	15.500
407	F	11.000	6.000	1.000	29.000
408	F	6.000	4.000	1.000	40.000
409	F	9.000	8.500	1.000	48.500
410	F	6.000	6.000	1.000	50.000
411	F	8.000	4.500	1.000	28.000
412	F	7.000	4.500	1.000	10.000
413	F	4.000	12.000	1.000	29.000
414	F	0.000	0.000	1.000	5.000
415	F	4.000	4.500	1.000	41.000

OBS	BUDS	FLOWERS	FRUIT	ABORTED	BROWSED
1	0.000	0.000	0.000	0.000	0.000
2	0.000	0.000	0.000	0.000	0.000
3	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000
9	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000
11	0.000	0.000	0.000	0.000	0.000
12	0.000	0.000	0.000	0.000	0.000
13	0.000	0.000	0.000	0.000	0.000
14	0.000	0.000	0.000	0.000	0.000
15	0.000	0.000	0.000	0.000	0.000
16	0.000	0.000	0.000	0.000	0.000
17	0.000	0.000	0.000	0.000	0.000
18	0.000	0.000	0.000	0.000	0.000
19	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000
21	0.000	0.000	2.000	0.000	0.000
22	0.000	0.000	0.000	0.000	0.000
23	0.000	0.000	0.000	0.000	0.000
24	0.000	0.000	0.000	0.000	0.000
25	0.000	0.000	0.000	0.000	0.000
26	0.000	0.000	0.000	0.000	0.000
27	0.000	0.000	0.000	0.000	0.000
28	0.000	0.000	0.000	0.000	0.000
29	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000
31	0.000	0.000	0.000	0.000	0.000
32	0.000	0.000	0.000	0.000	0.000
33	0.000	0.000	0.000	0.000	0.000
34	0.000	0.000	0.000	0.000	0.000
35	0.000	0.000	0.000	0.000	0.000
36	0.000	0.000	0.000	0.000	0.000
37	0.000	0.000	0.000	0.000	0.000

38	0.000	0.000	0.000	0.000	0.000
39	0.000	0.000	0.000	0.000	0.000
40	0.000	0.000	0.000	0.000	0.000
41	0.000	0.000	0.000	0.000	0.000
42	0.000	0.000	0.000	0.000	0.000
43	0.000	0.000	0.000	0.000	0.000
44	0.000	0.000	0.000	0.000	0.000
45	0.000	0.000	0.000	0.000	0.000
46	0.000	0.000	0.000	0.000	0.000
47	0.000	0.000	0.000	0.000	0.000
48	0.000	0.000	0.000	0.000	0.000
49	0.000	0.000	0.000	0.000	0.000
50	0.000	0.000	0.000	0.000	0.000
51	0.000	0.000	0.000	0.000	0.000
52	0.000	0.000	0.000	0.000	0.000
53	0.000	0.000	0.000	0.000	0.000
54	4.000	2.000	0.000	0.000	0.000
55	0.000	0.000	0.000	0.000	0.000
56	0.000	0.000	0.000	0.000	0.000
57	0.000	0.000	0.000	0.000	0.000
58	0.000	0.000	0.000	0.000	0.000
59	0.000	0.000	0.000	0.000	0.000
60	0.000	0.000	0.000	0.000	0.000
61	0.000	0.000	0.000	0.000	0.000
62	0.000	0.000	0.000	0.000	0.000
63	4.000	1.000	13.000	0.000	0.000
64	0.000	0.000	0.000	0.000	0.000
65	0.000	0.000	0.000	0.000	0.000
66	0.000	0.000	0.000	0.000	0.000
67	0.000	0.000	0.000	0.000	0.000
68	0.000	0.000	0.000	0.000	0.000
69	0.000	0.000	0.000	0.000	0.000
70	0.000	0.000	0.000	0.000	0.000
71	0.000	0.000	0.000	0.000	0.000
72	0.000	0.000	0.000	0.000	0.000
73	0.000	0.000	0.000	0.000	0.000
74	7.000	6.000	7.000	0.000	0.000
75	6.000	10.000	19.000	3.000	0.000
76	2.000	5.000	14.000	2.000	0.000
77	4.000	1.000	6.000	0.000	0.000
78	1.000	2.000	14.000	0.000	0.000
79	0.000	2.000	5.000	0.000	0.000
80	3.000	0.000	15.000	0.000	0.000
81	0.000	0.000	6.000	0.000	1.000
82	3.000	5.000	27.000	0.000	0.000
83	0.000	0.000	0.000	0.000	0.000
84	32.000	4.000	0.000	0.000	0.000
85	0.000	5.000	6.000	1.000	0.000
86	0.000	6.000	2.000	2.000	0.000
87	0.000	0.000	0.000	0.000	1.000
88	0.000	0.000	0.000	0.000	1.000
89	6.000	0.000	0.000	0.000	0.000
90	0.000	6.000	1.000	3.000	0.000
91	8.000	8.000	8.000	1.000	0.000
92	0.000	0.000	0.000	0.000	1.000
93	4.000	2.000	0.000	0.000	0.000
94	2.000	0.000	0.000	0.000	0.000
95	3.000	0.000	0.000	0.000	0.000
96	3.000	0.000	3.000	5.000	0.000
97	7.000	9.000	20.000	9.000	0.000
98	3.000	0.000	0.000	0.000	0.000
99	1.000	12.000	44.000	1.000	0.000
100	0.000	5.000	0.000	0.000	0.000
101	12.000	5.000	2.000	2.000	0.000
102	10.000	3.000	0.000	0.000	0.000
103	0.000	6.000	9.000	4.000	0.000

104	1.000	5.000	0.000	0.000	0.000
105	7.000	9.000	0.000	1.000	0.000
106	0.000	4.000	1.000	2.000	0.000
107	6.000	12.000	0.000	0.000	0.000
108	0.000	3.000	1.000	0.000	0.000
109	8.000	7.000	0.000	1.000	0.000
110	0.000	0.000	4.000	0.000	0.000
111	0.000	0.000	1.000	0.000	0.000
112	0.000	0.000	0.000	0.000	1.000
113	0.000	1.000	0.000	0.000	0.000
114	6.000	0.000	0.000	1.000	0.000
115	5.000	0.000	2.000	3.000	0.000
116	5.000	6.000	1.000	2.000	0.000
117	0.000	5.000	0.000	0.000	0.000
118	0.000	4.000	0.000	0.000	0.000
119	0.000	0.000	0.000	0.000	0.000
120	2.000	4.000	0.000	1.000	0.000
121	0.000	10.000	0.000	6.000	0.000
122	4.000	4.000	12.000	9.000	0.000
123	14.000	0.000	2.000	4.000	0.000
124	0.000	0.000	0.000	0.000	0.000
125	10.000	0.000	0.000	0.000	0.000
126	8.000	3.000	2.000	0.000	0.000
127	0.000	4.000	1.000	3.000	0.000
128	6.000	0.000	0.000	2.000	0.000
129	4.000	7.000	11.000	0.000	0.000
130	7.000	4.000	5.000	1.000	0.000
131	2.000	2.000	4.000	0.000	0.000
132	28.000	5.000	0.000	0.000	0.000
133	4.000	9.000	18.000	2.000	0.000
134	10.000	5.000	2.000	2.000	0.000
135	0.000	0.000	0.000	0.000	0.000
136	6.000	6.000	5.000	1.000	0.000
137	10.000	4.000	0.000	1.000	0.000
138	1.000	4.000	3.000	3.000	0.000
139	0.000	0.000	0.000	0.000	0.000
140	42.000	26.000	7.000	0.000	0.000
141	10.000	1.000	0.000	1.000	0.000
142	1.000	4.000	1.000	2.000	0.000
143	0.000	1.000	0.000	0.000	0.000
144	0.000	0.000	0.000	0.000	0.000
145	0.000	0.000	3.000	2.000	1.000
146	3.000	2.000	0.000	0.000	0.000
147	0.000	0.000	0.000	0.000	0.000
148	0.000	0.000	0.000	0.000	0.000
149	0.000	0.000	0.000	0.000	0.000
150	0.000	8.000	0.000	0.000	0.000
151	0.000	0.000	0.000	0.000	0.000
152	0.000	0.000	5.000	0.000	0.000
153	10.000	4.000	0.000	0.000	0.000
154	4.000	0.000	1.000	0.000	0.000
155	0.000	0.000	0.000	0.000	1.000
156	0.000	8.000	4.000	4.000	0.000
157	0.000	4.000	7.000	0.000	0.000
158	1.000	6.000	10.000	3.000	0.000
159	7.000	6.000	21.000	4.000	0.000
160	0.000	0.000	0.000	0.000	0.000
161	0.000	10.000	0.000	0.000	0.000
162	3.000	4.000	4.000	0.000	0.000
163	0.000	1.000	0.000	0.000	0.000
164	0.000	3.000	1.000	0.000	0.000
165	0.000	0.000	4.000	0.000	0.000
166	0.000	0.000	0.000	0.000	0.000
167	0.000	0.000	5.000	0.000	0.000
168	0.000	0.000	0.000	0.000	1.000
169	16.000	29.000	29.000	9.000	0.000

170	2.000	5.000	0.000	2.000	0.000
171	5.000	6.000	0.000	5.000	0.000
172	6.000	9.000	3.000	0.000	0.000
173	8.000	7.000	29.000	3.000	0.000
174	0.000	11.000	1.000	0.000	0.000
175	3.000	4.000	0.000	0.000	0.000
176	0.000	0.000	0.000	0.000	0.000
177	16.000	8.000	0.000	0.000	0.000
178	10.000	0.000	0.000	0.000	0.000
179	0.000	0.000	0.000	0.000	0.000
180	32.000	5.000	0.000	0.000	1.000
181	22.000	15.000	7.000	11.000	0.000
182	4.000	0.000	0.000	0.000	0.000
183	9.000	5.000	7.000	0.000	0.000
184	39.000	2.000	0.000	0.000	0.000
185	12.000	2.000	8.000	0.000	0.000
186	12.000	4.000	3.000	0.000	0.000
187	0.000	0.000	0.000	0.000	0.000
188	0.000	0.000	0.000	0.000	1.000
189	0.000	0.000	0.000	0.000	0.000
190	0.000	0.000	0.000	0.000	0.000
191	0.000	6.000	0.000	0.000	0.000
192	0.000	0.000	0.000	0.000	0.000
193	0.000	0.000	0.000	0.000	1.000
194	0.000	0.000	0.000	0.000	0.000
195	0.000	0.000	0.000	0.000	0.000
196	3.000	4.000	0.000	0.000	0.000
197	0.000	0.000	0.000	0.000	0.000
198	9.000	5.000	0.000	0.000	0.000
199	0.000	0.000	0.000	0.000	0.000
200	21.000	15.000	0.000	13.000	0.000
201	4.000	1.000	1.000	0.000	0.000
202	8.000	0.000	0.000	0.000	0.000
203	6.000	4.000	0.000	0.000	0.000
204	0.000	2.000	0.000	0.000	0.000
205	15.000	10.000	0.000	0.000	0.000
206	6.000	4.000	1.000	4.000	0.000
207	0.000	0.000	0.000	0.000	2.000
208	7.000	5.000	14.000	1.000	1.000
209	0.000	0.000	6.000	0.000	0.000
210	0.000	0.000	3.000	0.000	0.000
211	0.000	0.000	0.000	0.000	0.000
212	0.000	0.000	0.000	0.000	0.000
213	0.000	0.000	0.000	0.000	0.000
214	0.000	0.000	0.000	0.000	0.000
215	13.000	10.000	12.000	4.000	0.000
216	13.000	16.000	8.000	2.000	0.000
217	11.000	0.000	2.000	0.000	0.000
218	0.000	0.000	0.000	0.000	0.000
219	28.000	4.000	12.000	0.000	0.000
220	0.000	0.000	0.000	0.000	1.000
221	3.000	0.000	0.000	0.000	0.000
222	7.000	1.000	3.000	4.000	0.000
223	0.000	0.000	0.000	0.000	0.000
224	0.000	0.000	0.000	0.000	0.000
225	3.000	4.000	1.000	0.000	0.000
226	0.000	0.000	0.000	0.000	0.000
227	0.000	0.000	0.000	0.000	0.000
228	0.000	0.000	0.000	0.000	0.000
229	0.000	0.000	7.000	0.000	0.000
230	3.000	4.000	6.000	2.000	0.000
231	11.000	1.000	8.000	0.000	0.000
232	0.000	0.000	0.000	0.000	0.000
233	0.000	0.000	0.000	0.000	0.000
234	4.000	6.000	4.000	0.000	0.000
235	20.000	19.000	19.000	7.000	0.000

236	18.000	2.000	2.000	2.000	0.000
237	0.000	0.000	0.000	0.000	0.000
238	0.000	0.000	0.000	0.000	1.000
239	3.000	0.000	0.000	0.000	0.000
240	0.000	0.000	0.000	0.000	1.000
241	2.000	2.000	0.000	0.000	0.000
242	0.000	0.000	0.000	0.000	0.000
243	0.000	1.000	0.000	0.000	0.000
244	1.000	0.000	0.000	0.000	0.000
245	0.000	0.000	0.000	0.000	0.000
246	0.000	0.000	0.000	0.000	0.000
247	0.000	0.000	0.000	4.000	0.000
248	1.000	4.000	0.000	0.000	0.000
249	0.000	4.000	0.000	0.000	0.000
250	6.000	0.000	4.000	2.000	0.000
251	1.000	4.000	0.000	0.000	0.000
252	2.000	7.000	18.000	5.000	0.000
253	20.000	11.000	0.000	0.000	0.000
254	0.000	3.000	12.000	1.000	0.000
255	1.000	5.000	30.000	4.000	0.000
256	2.000	0.000	0.000	0.000	0.000
257	1.000	1.000	4.000	1.000	0.000
258	0.000	0.000	0.000	0.000	0.000
259	5.000	4.000	9.000	4.000	0.000
260	0.000	0.000	19.000	3.000	0.000
261	0.000	0.000	0.000	0.000	1.000
262	3.000	4.000	1.000	8.000	0.000
263	0.000	5.000	3.000	2.000	0.000
264	0.000	0.000	1.000	1.000	0.000
265	1.000	0.000	0.000	0.000	0.000
266	4.000	2.000	2.000	1.000	0.000
267	0.000	0.000	1.000	1.000	0.000
268	6.000	7.000	0.000	0.000	0.000
269	0.000	0.000	0.000	0.000	1.000
270	0.000	3.000	0.000	0.000	1.000
271	0.000	0.000	4.000	4.000	0.000
272	0.000	0.000	1.000	1.000	0.000
273	0.000	0.000	0.000	1.000	0.000
274	0.000	0.000	0.000	0.000	1.000
275	0.000	0.000	0.000	0.000	0.000
276	0.000	0.000	0.000	0.000	1.000
277	0.000	0.000	2.000	0.000	0.000
278	3.000	4.000	6.000	2.000	0.000
279	0.000	0.000	0.000	0.000	1.000
280	3.000	4.000	14.000	3.000	0.000
281	0.000	4.000	11.000	3.000	0.000
282	0.000	3.000	8.000	3.000	0.000
283	0.000	5.000	18.000	4.000	0.000
284	8.000	14.000	25.000	3.000	0.000
285	2.000	6.000	12.000	0.000	0.000
286	24.000	0.000	0.000	0.000	0.000
287	0.000	0.000	10.000	4.000	0.000
288	4.000	10.000	6.000	2.000	0.000
289	0.000	0.000	0.000	0.000	0.000
290	0.000	0.000	0.000	0.000	1.000
291	0.000	1.000	1.000	0.000	0.000
292	6.000	0.000	4.000	2.000	0.000
293	0.000	0.000	0.000	0.000	1.000
294	1.000	4.000	0.000	0.000	0.000
295	0.000	0.000	0.000	0.000	1.000
296	13.000	12.000	5.000	5.000	0.000
297	3.000	0.000	0.000	0.000	0.000
298	5.000	0.000	0.000	0.000	0.000
299	0.000	0.000	0.000	0.000	1.000
300	0.000	0.000	0.000	0.000	1.000
301	0.000	0.000	0.000	0.000	1.000

302	20.000	29.000	2.000	4.000	0.000
303	50.000	34.000	0.000	20.000	0.000
304	0.000	0.000	0.000	0.000	1.000
305	0.000	0.000	0.000	0.000	0.000
306	3.000	0.000	0.000	0.000	0.000
307	0.000	0.000	0.000	0.000	1.000
308	0.000	0.000	0.000	0.000	0.000
309	0.000	0.000	0.000	0.000	0.000
310	0.000	0.000	0.000	0.000	0.000
311	0.000	0.000	0.000	0.000	0.000
312	0.000	0.000	0.000	0.000	0.000
313	2.000	0.000	0.000	0.000	0.000
314	0.000	0.000	0.000	0.000	0.000
315	0.000	0.000	0.000	0.000	0.000
316	0.000	0.000	0.000	1.000	0.000
317	2.000	0.000	0.000	0.000	0.000
318	0.000	0.000	0.000	1.000	0.000
319	0.000	4.000	0.000	0.000	0.000
320	10.000	2.000	5.000	0.000	0.000
321	7.000	6.000	3.000	0.000	0.000
322	4.000	0.000	0.000	0.000	0.000
323	8.000	2.000	0.000	0.000	0.000
324	0.000	0.000	0.000	0.000	0.000
325	0.000	0.000	0.000	0.000	0.000
326	6.000	0.000	0.000	1.000	0.000
327	4.000	1.000	3.000	0.000	0.000
328	0.000	0.000	0.000	0.000	1.000
329	0.000	1.000	0.000	0.000	0.000
330	2.000	0.000	0.000	0.000	0.000
331	0.000	0.000	0.000	0.000	1.000
332	8.000	8.000	8.000	4.000	0.000
333	0.000	0.000	0.000	0.000	1.000
334	0.000	0.000	3.000	0.000	0.000
335	0.000	0.000	0.000	0.000	1.000
336	0.000	0.000	0.000	0.000	0.000
337	1.000	0.000	0.000	0.000	0.000
338	3.000	3.000	6.000	0.000	0.000
339	0.000	0.000	6.000	0.000	0.000
340	0.000	0.000	3.000	3.000	0.000
341	0.000	0.000	0.000	0.000	0.000
342	0.000	0.000	0.000	1.000	0.000
343	0.000	0.000	0.000	0.000	0.000
344	0.000	0.000	0.000	0.000	0.000
345	0.000	0.000	0.000	0.000	0.000
346	0.000	0.000	3.000	0.000	0.000
347	0.000	0.000	0.000	3.000	0.000
348	0.000	0.000	12.000	0.000	0.000
349	2.000	0.000	15.000	0.000	0.000
350	0.000	0.000	0.000	0.000	0.000
351	0.000	3.000	0.000	0.000	0.000
352	0.000	0.000	1.000	4.000	0.000
353	4.000	2.000	0.000	5.000	0.000
354	21.000	20.000	26.000	0.000	0.000
355	0.000	0.000	0.000	0.000	1.000
356	4.000	0.000	0.000	0.000	0.000
357	6.000	3.000	0.000	0.000	0.000
358	25.000	0.000	0.000	0.000	0.000
359	0.000	0.000	0.000	0.000	0.000
360	0.000	0.000	0.000	0.000	1.000
361	3.000	6.000	0.000	0.000	0.000
362	0.000	0.000	0.000	0.000	1.000
363	0.000	0.000	0.000	0.000	1.000
364	0.000	0.000	0.000	0.000	1.000
365	0.000	0.000	4.000	6.000	0.000
366	0.000	0.000	4.000	3.000	0.000
367	6.000	2.000	0.000	0.000	0.000

368	0.000	10.000	31.000	5.000	0.000
369	0.000	7.000	5.000	0.000	0.000
370	0.000	1.000	0.000	0.000	0.000
371	2.000	0.000	0.000	0.000	0.000
372	1.000	0.000	0.000	0.000	0.000
373	0.000	0.000	0.000	0.000	1.000
374	10.000	4.000	0.000	0.000	0.000
375	3.000	3.000	7.000	3.000	0.000
376	2.000	4.000	0.000	3.000	0.000
377	3.000	5.000	9.000	0.000	0.000
378	0.000	3.000	0.000	3.000	0.000
379	1.000	0.000	0.000	0.000	0.000
380	5.000	0.000	0.000	0.000	0.000
381	0.000	0.000	0.000	0.000	1.000
382	0.000	0.000	3.000	0.000	0.000
383	0.000	0.000	0.000	0.000	1.000
384	0.000	3.000	0.000	0.000	0.000
385	0.000	2.000	4.000	4.000	0.000
386	1.000	0.000	0.000	3.000	0.000
387	3.000	4.000	0.000	3.000	0.000
388	0.000	0.000	2.000	2.000	0.000
389	0.000	0.000	0.000	0.000	1.000
390	0.000	0.000	0.000	0.000	1.000
391	0.000	0.000	0.000	0.000	1.000
392	2.000	0.000	1.000	0.000	0.000
393	0.000	0.000	3.000	6.000	0.000
394	6.000	1.000	1.000	2.000	0.000
395	0.000	2.000	0.000	0.000	0.000
396	0.000	5.000	17.000	0.000	0.000
397	7.000	12.000	0.000	0.000	0.000
398	10.000	14.000	26.000	0.000	0.000
399	4.000	5.000	18.000	2.000	0.000
400	0.000	0.000	0.000	0.000	0.000
401	0.000	2.000	0.000	0.000	0.000
402	0.000	1.000	0.000	0.000	0.000
403	3.000	5.000	20.000	0.000	0.000
404	5.000	4.000	1.000	0.000	0.000
405	0.000	0.000	0.000	0.000	0.000
406	7.000	5.000	0.000	0.000	0.000
407	3.000	6.000	0.000	0.000	0.000
408	3.000	6.000	22.000	0.000	0.000
409	19.000	16.000	1.000	0.000	0.000
410	2.000	3.000	0.000	5.000	0.000
411	0.000	0.000	0.000	0.000	1.000
412	9.000	0.000	0.000	0.000	0.000
413	0.000	0.000	0.000	0.000	1.000
414	0.000	0.000	0.000	0.000	1.000
415	12.000	11.000	16.000	2.000	0.000

OBS	INSECT	X	Y
1	0.000	0.080	0.140
2	0.000	0.140	0.170
3	0.000	0.160	0.250
4	0.000	0.050	0.240
5	0.000	0.040	0.355
6	0.000	0.045	0.330
7	0.000	0.050	0.510
8	0.000	0.100	0.580
9	0.000	0.130	0.570
10	0.000	0.210	0.185
11	0.000	0.210	0.210
12	0.000	0.220	0.175
13	0.000	0.175	0.285
14	0.000	0.200	0.275
15	0.000	0.220	0.270

16	0.000	0.210	0.310
17	0.000	0.210	0.315
18	0.000	0.210	0.305
19	2.000	0.230	0.305
20	0.000	0.250	0.320
21	2.000	0.260	0.310
22	0.000	0.240	0.170
23	0.000	0.250	0.180
24	0.000	0.270	0.185
25	0.000	0.270	0.245
26	0.000	0.300	0.315
27	0.000	0.330	0.155
28	0.000	0.340	0.210
29	0.000	0.340	0.280
30	0.000	0.370	0.260
31	0.000	0.370	0.180
32	0.000	0.375	0.100
33	0.000	0.375	0.110
34	0.000	0.390	0.155
35	0.000	0.380	0.175
36	0.000	0.370	0.190
37	0.000	0.370	0.240
38	0.000	0.380	0.235
39	0.000	0.480	0.280
40	0.000	0.430	0.325
41	0.000	0.440	0.350
42	0.000	0.460	0.330
43	0.000	0.455	0.330
44	0.000	0.410	0.390
45	0.000	0.410	0.405
46	0.000	0.150	0.710
47	0.000	0.190	0.600
48	0.000	0.190	0.660
49	0.000	0.220	0.660
50	0.000	0.230	0.700
51	0.000	0.310	0.520
52	0.000	0.360	0.525
53	0.000	0.300	0.515
54	1.000	0.370	0.570
55	0.000	0.380	0.550
56	0.000	0.450	0.555
57	0.000	0.120	0.810
58	0.000	0.230	0.785
59	0.000	0.260	0.710
60	0.000	0.380	0.650
61	0.000	0.380	0.700
62	0.000	0.380	0.630
63	1.000	0.400	0.680
64	0.000	0.280	0.825
65	0.000	0.310	0.820
66	0.000	0.290	0.890
67	0.000	0.440	0.660
68	0.000	0.440	0.665
69	0.000	0.420	0.710
70	0.000	0.390	0.770
71	0.000	0.380	0.840
72	0.000	0.360	0.940
73	0.000	0.260	0.995
74	1.000	0.150	1.080
75	0.000	0.280	1.070
76	0.000	0.210	1.330
77	0.000	0.110	1.370
78	1.000	0.090	1.480
79	1.000	1.440	0.000
80	1.000	1.300	1.630
81	0.000	0.010	1.710

82	1.000	2.200	1.760
83	1.000	0.400	1.810
84	1.000	0.440	1.650
85	0.000	0.570	0.750
86	1.000	0.680	0.790
87	1.000	0.840	0.595
88	1.000	0.910	0.680
89	0.000	0.850	0.810
90	0.000	0.680	0.915
91	0.000	0.800	1.250
92	1.000	0.900	1.280
93	1.000	0.950	1.360
94	1.000	0.950	1.390
95	1.000	0.925	1.390
96	1.000	0.865	1.440
97	1.000	0.790	1.440
98	1.000	0.940	1.680
99	1.000	0.650	1.750
100	1.000	0.530	1.795
101	1.000	0.920	1.950
102	1.000	0.950	1.850
103	0.000	1.130	0.200
104	0.000	1.100	0.370
105	2.000	1.200	0.400
106	1.000	1.160	0.600
107	0.000	1.440	0.610
108	2.000	1.100	0.610
109	1.000	1.130	0.710
110	2.000	1.070	0.810
111	1.000	1.080	0.830
112	1.000	1.000	1.050
113	2.000	1.000	1.140
114	2.000	1.100	1.220
115	1.000	1.150	1.200
116	0.000	1.150	1.240
117	1.000	1.320	1.260
118	1.000	1.320	1.280
119	2.000	1.310	1.230
120	1.000	1.360	1.400
121	1.000	1.450	1.390
122	1.000	1.800	1.520
123	1.000	1.050	1.470
124	2.000	1.600	1.420
125	2.000	1.080	1.500
126	1.000	1.120	1.560
127	2.000	1.180	1.580
128	1.000	1.130	1.690
129	2.000	1.110	1.700
130	2.000	1.500	1.740
131	2.000	1.200	1.830
132	1.000	1.180	1.950
133	0.000	1.480	1.930
134	1.000	0.970	2.000
135	2.000	1.540	0.110
136	0.000	1.530	0.280
137	1.000	1.680	0.140
138	1.000	1.690	0.170
139	2.000	1.610	0.430
140	0.000	1.610	0.460
141	2.000	1.670	0.460
142	1.000	1.720	0.440
143	2.000	1.860	0.250
144	2.000	1.920	0.310
145	1.000	1.730	0.780
146	1.000	1.620	1.030
147	2.000	1.840	1.050

148	2.000	1.650	1.440
149	2.000	1.730	1.370
150	2.000	1.800	1.300
151	2.000	1.930	1.280
152	1.000	1.940	1.300
153	1.000	1.770	1.470
154	2.000	1.850	1.460
155	1.000	1.980	1.480
156	2.000	1.650	1.570
157	2.000	1.780	1.630
158	2.000	1.700	1.700
159	1.000	1.500	1.780
160	2.000	2.130	0.140
161	2.000	2.100	0.410
162	2.000	2.200	0.440
163	2.000	2.370	0.150
164	2.000	2.440	0.100
165	2.000	2.430	0.210
166	2.000	2.460	0.130
167	2.000	2.440	0.450
168	0.000	2.080	0.940
169	2.000	2.090	1.400
170	2.000	2.090	1.800
171	1.000	2.000	1.130
172	1.000	2.160	1.100
173	0.000	2.500	0.970
174	2.000	2.250	1.260
175	2.000	2.280	1.290
176	2.000	2.230	1.350
177	2.000	2.320	1.300
178	2.000	2.000	1.750
179	2.000	2.010	1.810
180	2.000	2.180	1.740
181	0.000	2.340	1.630
182	2.000	2.380	1.610
183	2.000	2.360	1.680
184	0.000	2.390	1.740
185	2.000	2.480	1.700
186	2.000	2.280	1.880
187	2.000	2.240	1.970
188	0.000	2.260	1.990
189	0.000	2.370	0.050
190	2.000	2.580	0.000
191	2.000	2.660	0.000
192	1.000	2.660	0.200
193	0.000	2.650	0.550
194	1.000	2.660	0.120
195	1.000	2.670	0.140
196	2.000	2.710	0.150
197	1.000	2.725	0.110
198	0.000	2.750	0.140
199	1.000	2.790	1.200
200	0.000	2.980	0.380
201	2.000	2.570	0.660
202	2.000	2.740	0.650
203	3.000	2.720	0.670
204	2.000	2.670	0.750
205	2.000	2.950	0.740
206	2.000	2.560	1.100
207	0.000	2.980	1.040
208	2.000	2.990	1.250
209	2.000	2.970	1.370
210	2.000	2.990	1.380
211	2.000	2.980	1.400
212	2.000	2.960	1.250
213	2.000	2.970	1.270

214	2.000	2.950	1.270
215	0.000	2.730	1.320
216	1.000	2.650	1.400
217	2.000	2.820	1.430
218	0.000	2.800	1.460
219	2.000	2.520	1.490
220	0.000	2.501	1.600
221	2.000	2.960	1.460
222	2.000	2.950	1.500
223	2.000	2.830	1.490
224	2.000	2.820	1.520
225	2.000	2.870	1.560
226	2.000	2.900	1.600
227	2.000	2.520	1.630
228	2.000	2.580	1.760
229	2.000	2.600	1.230
230	2.000	2.510	1.750
231	2.000	2.500	1.760
232	0.000	2.620	1.730
233	2.000	2.640	1.750
234	2.000	2.540	1.910
235	0.000	2.980	1.340
236	1.000	3.150	0.140
237	2.000	3.250	0.000
238	2.000	3.250	0.050
239	2.000	3.450	0.130
240	2.000	3.200	0.240
241	1.000	3.200	0.440
242	2.000	3.450	0.460
243	2.000	3.470	0.460
244	2.000	3.480	0.560
245	2.000	3.200	0.620
246	2.000	3.310	0.650
247	0.000	3.400	0.760
248	2.000	3.320	0.800
249	0.000	3.380	0.850
250	0.000	3.340	0.800
251	2.000	3.090	0.810
252	0.000	3.060	0.850
253	2.000	3.000	0.840
254	0.000	3.430	0.910
255	0.000	3.330	1.210
256	2.000	3.150	1.190
257	0.000	3.140	1.410
258	2.000	3.200	1.450
259	0.000	3.500	1.270
260	0.000	3.500	1.240
261	2.000	3.330	1.560
262	1.000	3.140	1.660
263	1.000	3.390	1.680
264	2.000	3.420	1.800
265	1.000	3.300	1.800
266	2.000	3.790	0.350
267	2.000	3.770	0.410
268	1.000	3.950	0.440
269	5.000	3.950	0.500
270	0.000	3.800	0.480
271	2.000	3.760	0.440
272	0.000	3.740	0.460
273	0.000	3.620	0.430
274	1.000	3.600	0.270
275	2.000	3.600	0.510
276	2.000	3.500	0.480
277	2.000	3.740	0.670
278	2.000	3.670	0.740
279	2.000	3.700	0.780

280	0.000	3.980	0.840
281	0.000	3.870	0.810
282	0.000	3.800	0.860
283	0.000	3.930	0.950
284	1.000	3.900	1.000
285	0.000	3.700	0.950
286	1.000	3.690	1.000
287	0.000	3.600	1.060
288	2.000	4.030	0.120
289	1.000	4.180	0.280
290	0.000	4.130	0.500
291	1.000	4.290	0.650
292	2.000	4.460	0.630
293	0.000	4.500	0.750
294	2.000	4.460	0.780
295	0.000	4.450	0.770
296	0.000	4.440	0.870
297	2.000	4.480	0.860
298	1.000	4.490	0.830
299	0.000	4.470	0.870
300	0.000	4.100	0.760
301	0.000	4.060	0.820
302	2.000	4.140	1.090
303	0.000	4.160	1.670
304	0.000	4.360	1.900
305	2.000	4.700	0.030
306	1.000	4.830	0.030
307	0.000	4.820	0.070
308	2.000	4.840	0.100
309	2.000	4.860	0.110
310	2.000	4.760	0.260
311	2.000	5.000	0.130
312	2.000	4.900	0.030
313	2.000	4.980	0.000
314	2.000	4.880	0.220
315	2.000	4.920	0.280
316	2.000	4.950	0.230
317	2.000	4.950	0.230
318	2.000	4.900	0.270
319	2.000	4.830	0.290
320	1.000	4.550	0.350
321	1.000	4.530	0.370
322	2.000	4.640	0.380
323	2.000	4.670	0.400
324	2.000	4.680	0.390
325	2.000	4.800	0.380
326	1.000	4.860	0.410
327	1.000	4.900	0.380
328	0.000	4.940	0.360
329	2.000	4.860	0.430
330	2.000	4.840	0.430
331	0.000	4.700	0.460
332	1.000	4.560	0.520
333	0.000	4.980	0.470
334	2.000	4.980	0.530
335	0.000	4.770	0.630
336	2.000	4.510	0.640
337	2.000	4.510	0.710
338	1.000	4.670	0.740
339	1.000	4.840	0.750
340	1.000	4.840	0.760
341	2.000	4.820	0.800
342	2.000	4.910	0.700
343	2.000	4.980	0.700
344	2.000	4.980	0.730
345	2.000	4.980	0.750

346	1.000	4.900	0.840
347	2.000	4.980	0.840
348	2.000	4.890	0.900
349	0.000	4.970	0.910
350	2.000	4.750	1.100
351	2.000	4.760	1.000
352	2.000	4.910	1.030
353	2.000	4.550	1.070
354	1.000	4.560	1.080
355	0.000	4.560	1.070
356	2.000	4.600	1.200
357	2.000	4.600	1.240
358	1.000	4.600	1.410
359	2.000	4.800	1.270
360	0.000	4.810	1.300
361	2.000	4.850	1.250
362	0.000	4.850	1.300
363	0.000	4.900	1.220
364	0.000	4.900	1.250
365	2.000	4.920	1.230
366	2.000	4.940	1.300
367	2.000	4.950	1.340
368	1.000	4.860	1.330
369	1.000	4.800	1.360
370	2.000	5.100	0.030
371	2.000	5.050	0.210
372	2.000	5.090	0.190
373	0.000	5.110	0.170
374	2.000	5.160	0.180
375	2.000	5.340	0.180
376	2.000	5.340	0.200
377	1.000	5.380	0.200
378	2.000	5.500	0.150
379	1.000	5.450	0.190
380	2.000	5.050	0.270
381	0.000	5.160	0.300
382	2.000	5.460	0.350
383	0.000	5.400	0.390
384	2.000	5.300	0.540
385	2.000	5.140	0.520
386	1.000	5.100	0.530
387	2.000	5.120	0.560
388	2.000	5.180	0.610
389	0.000	5.120	0.730
390	0.000	5.030	0.720
391	0.000	5.060	0.780
392	2.000	5.070	0.790
393	2.000	5.070	0.910
394	2.000	5.080	0.870
395	2.000	5.370	0.840
396	0.000	5.350	1.230
397	1.000	5.100	1.400
398	0.000	5.060	1.580
399	1.000	5.470	1.600
400	2.000	5.600	0.050
401	2.000	5.680	0.060
402	2.000	5.700	0.060
403	0.000	5.600	0.360
404	1.000	5.510	0.360
405	2.000	5.750	0.430
406	2.000	5.630	0.530
407	2.000	5.600	1.490
408	1.000	6.050	0.100
409	1.000	6.450	0.300
410	2.000	6.630	0.000
411	0.000	6.630	0.100

412	1.000	6.650	0.450
413	0.000	6.720	0.370
414	0.000	6.970	0.440
415	0.000	3.000	1.940

415 cases printed out of

415 cases in the file.

THE FOLLOWING RESULTS ARE FOR:

STATUS\$ = F

TOTAL OBSERVATIONS: 346

	LEAVES	BASALDIA	FLWRSTEM	FLWRLNTH	BUDS
N OF CASES	346	346	346	346	346
MINIMUM	0.000	0.000	1.000	1.800	0.000
MAXIMUM	11.000	20.000	5.000	70.000	50.000
MEAN	5.009	3.155	1.058	25.611	3.538
STANDARD DEV	2.038	1.950	0.318	12.352	6.678

	FLOWERS	FRUIT	ABORTED	BROWSED	INSECT
N OF CASES	346	346	346	346	346
MINIMUM	0.000	0.000	0.000	0.000	0.000
MAXIMUM	34.000	44.000	20.000	2.000	5.000
MEAN	2.772	3.147	0.971	0.142	1.283
STANDARD DEV	4.648	6.376	2.133	0.357	0.845

	X	Y
N OF CASES	346	346
MINIMUM	0.010	0.000
MAXIMUM	6.970	2.000
MEAN	3.229	0.902
STANDARD DEV	1.599	0.559

THE FOLLOWING RESULTS ARE FOR:

STATUS\$ = NF

TOTAL OBSERVATIONS: 69

	LEAVES	BASALDIA	FLWRSTEM	FLWRLNTH	BUDS
N OF CASES	69	69	69	69	69
MINIMUM	3.000	0.240	0.000	0.000	0.000
MAXIMUM	10.000	4.700	0.000	0.000	0.000
MEAN	4.841	2.080	0.000	0.000	0.000
STANDARD DEV	1.540	0.831	0.000	0.000	0.000

	FLOWERS	FRUIT	ABORTED	BROWSED	INSECT
N OF CASES	69	69	69	69	69
MINIMUM	0.000	0.000	0.000	0.000	0.000
MAXIMUM	0.000	0.000	0.000	0.000	0.000
MEAN	0.000	0.000	0.000	0.000	0.000
STANDARD DEV	0.000	0.000	0.000	0.000	0.000

	X	Y
N OF CASES	69	69
MINIMUM	0.040	0.100
MAXIMUM	0.480	0.995
MEAN	0.287	0.435

STANDARD DEV

0.116

0.243

MATRIX OF SPEARMAN CORRELATION COEFFICIENTS

	LEAVES	BASALDIA	FLWRSTEM	FLWRLNTH	BUDS
LEAVES	1.000				
BASALDIA	0.411	1.000			
FLWRSTEM	0.113	0.300	1.000		
FLWRLNTH	0.192	0.487	0.602	1.000	
BUDS	0.268	0.375	0.367	0.487	1.000
FLOWERS	0.270	0.356	0.362	0.624	0.590
FRUIT	0.208	0.241	0.299	0.656	0.354
ABORTED	0.103	0.201	0.282	0.496	0.304
BROWSED	-0.061	0.034	0.166	-0.126	-0.241
INSECT	0.011	0.069	0.495	0.267	0.143
X	-0.067	0.077	0.555	0.313	0.095
Y	-0.009	0.267	0.311	0.419	0.302
	FLOWERS	FRUIT	ABORTED	BROWSED	INSECT
FLOWERS	1.000				
FRUIT	0.500	1.000			
ABORTED	0.424	0.514	1.000		
BROWSED	-0.237	-0.197	-0.172	1.000	
INSECT	0.080	0.006	-0.008	-0.232	1.000
X	0.069	0.072	0.102	0.200	0.375
Y	0.253	0.310	0.205	0.013	0.092
	X	Y			
X	1.000				
Y	-0.098	1.000			

NUMBER OF OBSERVATIONS: 414

A,5

INDEPENDENT SAMPLES T-TEST ON LEAVES GROUPED BY STATUS\$

GROUP	N	MEAN	SD
F	345	5.012	2.040
NF	69	4.841	1.540

SEPARATE VARIANCES T = 0.794 DF = 121.2 PROB = 0.429
 POOLED VARIANCES T = 0.659 DF = 412 PROB = 0.510

INDEPENDENT SAMPLES T-TEST ON BASALDIA GROUPED BY STATUS\$

GROUP	N	MEAN	SD
F	345	3.151	1.951
NF	69	2.080	0.831

SEPARATE VARIANCES T = 7.382 DF = 242.5 PROB = 0.000
 POOLED VARIANCES T = 4.474 DF = 412 PROB = 0.000

INDEPENDENT SAMPLES T-TEST ON FLWRSTEM GROUPED BY STATUS\$

GROUP	N	MEAN	SD
F	345	1.058	0.318
NF	69	0.000	0.000

INSUFFICIENT DATA FOR TEST

INDEPENDENT SAMPLES T-TEST ON FLWRLNTH GROUPED BY STATUS\$

GROUP	N	MEAN	SD
F	345	25.566	12.342
NF	69	0.000	0.000

INSUFFICIENT DATA FOR TEST

INDEPENDENT SAMPLES T-TEST ON FLOWERS GROUPED BY STATUS\$

GROUP	N	MEAN	SD
F	345	2.748	4.633
NF	69	0.000	0.000

INSUFFICIENT DATA FOR TEST

INDEPENDENT SAMPLES T-TEST ON FRUIT GROUPED BY STATUS\$

GROUP	N	MEAN	SD
F	345	3.110	6.348
NF	69	0.000	0.000

INSUFFICIENT DATA FOR TEST

INDEPENDENT SAMPLES T-TEST ON ABORTED GROUPED BY STATUS\$

GROUP	N	MEAN	SD
F	345	0.968	2.135
NF	69	0.000	0.000

INSUFFICIENT DATA FOR TEST

INDEPENDENT SAMPLES T-TEST ON BROWSED GROUPED BY STATUS\$

GROUP	N	MEAN	SD
F	345		
NF	69		

F	345	0.142	0.358
NF	69	0.000	0.000

INSUFFICIENT DATA FOR TEST

INDEPENDENT SAMPLES T-TEST ON INSECT GROUPED BY STATUS\$

GROUP	N	MEAN	SD
F	345	1.287	0.843
NF	69	0.000	0.000

INSUFFICIENT DATA FOR TEST

Date: 03-SEP-93

Time: 08:49:40

File: Macintosh HD:Julie's Folder:Systat data:THST 92 data Tran-1
has 13 variables and 30 cases.

OBS	STATUS\$	LEAVES	BASALDIA	FLWRSTEM	FLWRLNTH
1	F	15.000	5.600	2.000	49.200
2	NF	7.000	7.200	0.000	0.000
3	NF	4.000	2.200	0.000	0.000
4	NF	4.000	2.300	0.000	0.000
5	NF	3.000	3.100	0.000	0.000
6	NF	6.000	3.000	0.000	0.000
7	NF	6.000	4.500	0.000	0.000
8	F	12.000	3.400	1.000	34.200
9	F	11.000	6.100	2.000	12.700
10	F	7.000	2.900	1.000	23.600
11	F	3.000	2.600	1.000	31.800
12	NF	5.000	1.500	0.000	0.000
13	F	14.000	12.800	1.000	23.300
14	NF	6.000	4.800	0.000	0.000
15	NF	2.000	1.400	0.000	0.000
16	NF	6.000	1.900	0.000	0.000
17	NF	7.000	3.800	0.000	0.000
18	F	9.000	4.600	2.000	42.000
19	NF	7.000	8.000	0.000	0.000
20	F	9.000	5.700	1.000	50.000
21	NF	5.000	10.600	0.000	0.000
22	NF	6.000	5.700	0.000	0.000
23	F	5.000	3.500	1.000	32.700
24	F	8.000	2.500	1.000	33.000
25	F	16.000	4.500	1.000	23.200
26	F	9.000	3.000	1.000	29.800
27	NF	3.000	2.100	0.000	0.000
28	NF	4.000	2.100	0.000	0.000
29	NF	5.000	4.900	0.000	0.000
30	NF	6.000	6.600	0.000	0.000

OBS	BUDS	FLOWERS	FRUIT	ABORTED	BROWSED
1	5.000	3.000	60.000	19.000	0.000
2	0.000	0.000	0.000	0.000	0.000
3	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000
8	0.000	12.000	7.000	6.000	0.000
9	2.000	0.000	0.000	0.000	0.000
10	0.000	1.000	0.000	1.000	1.000
11	3.000	1.000	12.000	4.000	0.000
12	0.000	0.000	0.000	0.000	0.000
13	27.000	0.000	0.000	0.000	0.000
14	0.000	0.000	0.000	0.000	0.000
15	0.000	0.000	0.000	0.000	0.000
16	0.000	0.000	0.000	0.000	0.000
17	0.000	0.000	0.000	0.000	0.000
18	0.000	0.000	7.000	0.000	0.000
19	0.000	0.000	0.000	0.000	0.000
20	0.000	1.000	50.000	1.000	0.000
21	0.000	0.000	0.000	0.000	0.000
22	0.000	0.000	0.000	0.000	0.000
23	0.000	0.000	21.000	4.000	0.000
24	1.000	0.000	24.000	4.000	0.000
25	2.000	3.000	15.000	5.000	0.000
26	3.000	0.000	9.000	3.000	0.000

27	0.000	0.000	0.000	0.000	0.000
28	0.000	0.000	0.000	0.000	0.000
29	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000

OBS	INSECT	X	Y
1	0.000	4.980	0.522
2	0.000	4.470	1.452
3	0.000	6.090	1.130
4	0.000	6.380	0.970
5	0.000	6.545	0.950
6	0.000	7.499	1.060
7	0.000	8.174	1.220
8	0.000	9.321	1.110
9	2.000	8.480	1.270
10	0.000	8.838	1.398
11	0.000	9.980	0.630
12	0.000	10.160	0.660
13	0.000	10.095	1.125
14	0.000	10.135	1.237
15	0.000	10.165	1.232
16	0.000	10.265	0.805
17	0.000	10.195	1.045
18	2.000	10.539	0.710
19	0.000	11.358	1.560
20	1.000	11.310	1.310
21	0.000	11.699	1.970
22	0.000	12.000	1.500
23	0.000	12.000	1.610
24	1.000	12.049	0.615
25	2.000	12.280	1.128
26	2.000	12.188	1.405
27	0.000	12.273	0.825
28	0.000	12.283	0.805
29	0.000	12.921	0.935
30	0.000	12.965	0.520

30 cases printed out of

30 cases in the file.

THE FOLLOWING RESULTS ARE FOR:
STATUS\$ = F

TOTAL OBSERVATIONS: 12

	LEAVES	BASALDIA	FLWRSTEM	FLWRLNTH	BUDS
N OF CASES	12	12	12	12	12
MINIMUM	3.000	2.500	1.000	12.700	0.000
MAXIMUM	16.000	12.800	2.000	50.000	27.000
MEAN	9.833	4.767	1.250	32.125	3.583
STANDARD DEV	3.950	2.827	0.452	10.984	7.549

	FLOWERS	FRUIT	ABORTED	BROWSED	INSECT
N OF CASES	12	12	12	12	12
MINIMUM	0.000	0.000	0.000	0.000	0.000
MAXIMUM	12.000	60.000	19.000	1.000	2.000
MEAN	1.750	17.083	3.917	0.083	0.833
STANDARD DEV	3.415	19.454	5.195	0.289	0.937

	X	Y
N OF CASES	12	12
MINIMUM	4.980	0.522
MAXIMUM	12.280	1.610
MEAN	10.172	1.069
STANDARD DEV	2.114	0.363

THE FOLLOWING RESULTS ARE FOR:
STATUS\$ = NF

TOTAL OBSERVATIONS: 18

	LEAVES	BASALDIA	FLWRSTEM	FLWRLNTH	BUDS
N OF CASES	18	18	18	18	18
MINIMUM	2.000	1.400	0.000	0.000	0.000
MAXIMUM	7.000	10.600	0.000	0.000	0.000
MEAN	5.111	4.206	0.000	0.000	0.000
STANDARD DEV	1.491	2.578	0.000	0.000	0.000

	FLOWERS	FRUIT	ABORTED	BROWSED	INSECT
N OF CASES	18	18	18	18	18
MINIMUM	0.000	0.000	0.000	0.000	0.000
MAXIMUM	0.000	0.000	0.000	0.000	0.000
MEAN	0.000	0.000	0.000	0.000	0.000
STANDARD DEV	0.000	0.000	0.000	0.000	0.000

	X	Y
N OF CASES	18	18
MINIMUM	4.470	0.520
MAXIMUM	12.965	1.970
MEAN	9.754	1.104

STANDARD DEV

2.612

0.356

Date: 03-SEP-93
Time: 09:16:45

File: Macintosh HD:Julie's Folder:Systat data:THST 92 data Tran-2
has 13 variables and 27 cases.

OBS	STATUS\$	LEAVES	BASALDIA	FLWRSTEM	FLWRLNTH
1	F	12.000	4.100	2.000	37.800
2	F	7.000	3.700	2.000	33.300
3	NF	6.000	2.000	0.000	0.000
4	NF	6.000	5.000	0.000	0.000
5	NF	6.000	3.400	0.000	0.000
6	F	11.000	6.200	3.000	45.100
7	NF	7.000	3.600	0.000	0.000
8	F	7.000	2.900	1.000	41.000
9	F	9.000	4.700	1.000	39.500
10	F	9.000	4.700	1.000	39.500
11	F	3.000	3.700	1.000	34.000
12	F	7.000	2.900	2.000	31.400
13	F	5.000	2.800	1.000	29.600
14	F	6.000	4.300	1.000	29.500
15	F	11.000	2.600	1.000	25.000
16	F	8.000	5.200	1.000	31.800
17	F	4.000	2.800	1.000	35.200
18	F	4.000	2.900	1.000	38.500
19	NF	5.000	3.900	0.000	0.000
20	F	3.000	1.200	1.000	25.000
21	F	6.000	3.200	1.000	44.700
22	F	6.000	3.800	1.000	34.400
23	F	7.000	3.900	1.000	33.000
24	F	8.000	5.200	2.000	24.500
25	NF	6.000	4.700	0.000	0.000
26	NF	5.000	6.300	0.000	0.000
27	NF	5.000	2.400	0.000	0.000

OBS	BUDS	FLOWERS	FRUIT	ABORTED	BROWSED
1	0.000	0.000	33.000	3.000	0.000
2	0.000	0.000	52.000	6.000	0.000
3	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000
6	0.000	0.000	36.000	4.000	2.000
7	0.000	0.000	0.000	0.000	0.000
8	3.000	0.000	21.000	1.000	0.000
9	0.000	2.000	30.000	5.000	0.000
10	0.000	2.000	30.000	5.000	0.000
11	1.000	0.000	16.000	3.000	0.000
12	0.000	0.000	23.000	1.000	1.000
13	0.000	0.000	13.000	0.000	1.000
14	0.000	0.000	4.000	1.000	0.000
15	0.000	0.000	10.000	0.000	0.000
16	0.000	0.000	12.000	0.000	0.000
17	2.000	0.000	15.000	0.000	0.000
18	0.000	1.000	23.000	1.000	0.000
19	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	15.000	2.000	0.000
21	0.000	2.000	30.000	3.000	0.000
22	1.000	0.000	18.000	0.000	0.000
23	0.000	0.000	5.000	0.000	0.000
24	15.000	12.000	3.000	0.000	0.000
25	0.000	0.000	0.000	0.000	0.000
26	0.000	0.000	0.000	0.000	0.000
27	0.000	0.000	0.000	0.000	0.000

OBS	INSECT	X	Y
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1	2.000	0.265	0.790
2	2.000	0.832	0.875
3	0.000	0.924	0.765
4	0.000	1.630	1.875
5	0.000	1.690	1.590
6	2.000	1.858	0.970
7	0.000	1.942	1.270
8	1.000	2.151	1.015
9	0.000	2.893	1.520
10	0.000	2.893	1.520
11	0.000	2.890	1.460
12	2.000	2.890	1.157
13	0.000	3.265	1.610
14	2.000	3.275	1.605
15	2.000	3.481	1.690
16	2.000	3.481	1.785
17	0.000	4.680	0.250
18	2.000	4.870	0.115
19	0.000	5.070	0.240
20	0.000	7.899	1.570
21	0.000	9.330	1.330
22	0.000	9.949	1.220
23	0.000	10.049	1.185
24	0.000	10.255	1.375
25	0.000	10.455	1.300
26	0.000	10.032	0.665
27	0.000	10.120	0.900

27 cases printed out of 27 cases in the file.

THE FOLLOWING RESULTS ARE FOR:

STATUS\$ = F

TOTAL OBSERVATIONS: 19

	LEAVES	BASALDIA	FLWRSTEM	FLWRLNTH	BUDS
N OF CASES	19	19	19	19	19
MINIMUM	3.000	1.200	1.000	24.500	0.000
MAXIMUM	12.000	6.200	3.000	45.100	15.000
MEAN	7.000	3.726	1.316	34.358	1.158
STANDARD DEV	2.625	1.168	0.582	6.173	3.452

	FLOWERS	FRUIT	ABORTED	BROWSED	INSECT
N OF CASES	19	19	19	19	19
MINIMUM	0.000	3.000	0.000	0.000	0.000
MAXIMUM	12.000	52.000	6.000	2.000	2.000
MEAN	1.000	20.474	1.842	0.211	0.895
STANDARD DEV	2.769	12.509	2.007	0.535	0.994

X Y

N OF CASES	19	19
MINIMUM	0.265	0.115
MAXIMUM	10.255	1.785
MEAN	4.590	1.213
STANDARD DEV	3.230	0.460

THE FOLLOWING RESULTS ARE FOR:

STATUS\$ = NF

TOTAL OBSERVATIONS: 8

	LEAVES	BASALDIA	FLWRSTEM	FLWRLNTH	BUDS
N OF CASES	8	8	8	8	8
MINIMUM	5.000	2.000	0.000	0.000	0.000
MAXIMUM	7.000	6.300	0.000	0.000	0.000
MEAN	5.750	3.913	0.000	0.000	0.000
STANDARD DEV	0.707	1.405	0.000	0.000	0.000

	FLOWERS	FRUIT	ABORTED	BROWSED	INSECT
N OF CASES	8	8	8	8	8
MINIMUM	0.000	0.000	0.000	0.000	0.000
MAXIMUM	0.000	0.000	0.000	0.000	0.000
MEAN	0.000	0.000	0.000	0.000	0.000
STANDARD DEV	0.000	0.000	0.000	0.000	0.000

X Y

N OF CASES	8	8
MINIMUM	0.924	0.240
MAXIMUM	10.455	1.875
MEAN	5.233	1.076

STANDARD DEV

4.295

0.533

Date: 03-SEP-93

Time: 10:55:37

File: Macintosh HD:Julie's Folder:Systat data:THST 92 data Tran-3
has 13 variables and 163 cases.

OBS	STATUS\$	LEAVES	BASALDIA	FLWRSTEM	FLWRLNTH
1	NF	5.000	2.700	0.000	0.000
2	NF	5.000	4.500	0.000	0.000
3	NF	4.000	0.800	0.000	0.000
4	NF	3.000	2.100	0.000	0.000
5	NF	3.000	1.700	0.000	0.000
6	NF	3.000	1.300	0.000	0.000
7	NF	4.000	2.500	0.000	0.000
8	NF	3.000	1.300	0.000	0.000
9	NF	2.000	1.100	0.000	0.000
10	NF	2.000	2.500	0.000	0.000
11	NF	5.000	2.100	0.000	0.000
12	NF	3.000	2.500	0.000	0.000
13	NF	2.000	1.200	0.000	0.000
14	NF	4.000	1.700	0.000	0.000
15	NF	4.000	1.200	0.000	0.000
16	NF	3.000	1.100	0.000	0.000
17	NF	5.000	1.100	0.000	0.000
18	NF	3.000	1.300	0.000	0.000
19	NF	2.000	4.200	0.000	0.000
20	NF	3.000	2.400	0.000	0.000
21	NF	3.000	4.300	0.000	0.000
22	NF	3.000	2.200	0.000	0.000
23	NF	6.000	4.500	0.000	0.000
24	NF	3.000	1.600	0.000	0.000
25	F	7.000	3.500	1.000	35.700
26	NF	7.000	7.100	0.000	0.000
27	NF	6.000	5.000	0.000	0.000
28	NF	3.000	2.200	0.000	0.000
29	NF	4.000	2.100	0.000	0.000
30	NF	4.000	1.500	0.000	0.000
31	F	8.000	3.000	1.000	47.200
32	NF	5.000	2.500	0.000	0.000
33	NF	4.000	2.500	0.000	0.000
34	NF	2.000	2.700	0.000	0.000
35	NF	3.000	2.000	0.000	0.000
36	NF	3.000	1.500	0.000	0.000
37	NF	3.000	1.400	0.000	0.000
38	NF	3.000	1.100	0.000	0.000
39	NF	3.000	1.000	0.000	0.000
40	NF	4.000	1.400	0.000	0.000
41	NF	3.000	1.300	0.000	0.000
42	NF	3.000	1.400	0.000	0.000
43	NF	5.000	1.500	0.000	0.000
44	NF	2.000	2.200	0.000	0.000
45	NF	4.000	2.500	0.000	0.000
46	NF	4.000	2.700	0.000	0.000
47	NF	3.000	4.400	0.000	0.000
48	NF	2.000	1.500	0.000	0.000
49	NF	3.000	1.900	0.000	0.000
50	NF	2.000	2.100	0.000	0.000
51	NF	2.000	1.000	0.000	0.000
52	NF	4.000	2.700	0.000	0.000
53	NF	2.000	1.000	0.000	0.000
54	NF	4.000	0.900	0.000	0.000
55	NF	4.000	0.700	0.000	0.000
56	NF	6.000	4.000	0.000	0.000
57	NF	2.000	3.200	0.000	0.000
58	NF	2.000	3.800	0.000	0.000
59	NF	3.000	3.900	0.000	0.000

60	F	5.000	6.300	1.000	28.200
61	NF	2.000	1.200	0.000	0.000
62	NF	3.000	1.600	0.000	0.000
63	NF	3.000	1.800	0.000	0.000
64	NF	2.000	1.400	0.000	0.000
65	NF	3.000	1.500	0.000	0.000
66	NF	3.000	1.800	0.000	0.000
67	NF	4.000	2.700	0.000	0.000
68	F	6.000	3.100	1.000	36.500
69	NF	3.000	5.000	0.000	0.000
70	NF	9.000	8.100	0.000	0.000
71	NF	5.000	4.500	0.000	0.000
72	NF	4.000	4.000	0.000	0.000
73	F	4.000	2.500	1.000	25.000
74	F	6.000	3.000	1.000	37.000
75	NF	5.000	4.800	0.000	0.000
76	NF	5.000	5.500	0.000	0.000
77	NF	5.000	3.700	0.000	0.000
78	F	3.000	4.300	1.000	37.500
79	NF	5.000	4.800	0.000	0.000
80	NF	4.000	3.600	0.000	0.000
81	NF	3.000	3.100	0.000	0.000
82	NF	5.000	3.800	0.000	0.000
83	NF	4.000	3.400	0.000	0.000
84	NF	4.000	4.600	0.000	0.000
85	NF	4.000	7.800	0.000	0.000
86	NF	2.000	1.500	0.000	0.000
87	NF	8.000	7.200	0.000	0.000
88	NF	6.000	3.400	0.000	0.000
89	NF	4.000	3.900	0.000	0.000
90	NF	5.000	5.600	0.000	0.000
91	F	5.000	4.000	1.000	40.020
92	NF	3.000	4.400	0.000	0.000
93	NF	5.000	2.200	0.000	0.000
94	NF	3.000	2.300	0.000	0.000
95	F	8.000	3.500	1.000	4.700
96	F	0.000	0.000	1.000	6.800
97	NF	6.000	5.600	0.000	0.000
98	NF	3.000	2.600	0.000	0.000
99	NF	5.000	2.900	0.000	0.000
100	NF	5.000	4.100	0.000	0.000
101	NF	7.000	4.100	0.000	0.000
102	NF	3.000	3.600	0.000	0.000
103	NF	7.000	3.500	0.000	0.000
104	NF	3.000	2.200	0.000	0.000
105	NF	3.000	2.500	0.000	0.000
106	NF	3.000	4.400	0.000	0.000
107	F	3.000	1.100	25.600	1.000
108	NF	2.000	4.800	0.000	0.000
109	F	6.000	4.700	1.000	53.300
110	NF	3.000	3.300	0.000	0.000
111	NF	2.000	2.800	0.000	0.000
112	F	10.000	5.300	2.000	35.600
113	NF	3.000	4.400	0.000	0.000
114	NF	4.000	2.800	0.000	0.000
115	NF	4.000	3.300	0.000	0.000
116	NF	2.000	5.700	0.000	0.000
117	NF	1.000	2.500	0.000	0.000
118	NF	6.000	4.200	0.000	0.000
119	NF	5.000	3.100	0.000	0.000
120	NF	5.000	2.700	0.000	0.000
121	NF	8.000	6.200	0.000	0.000
122	NF	5.000	6.500	0.000	0.000
123	NF	3.000	4.200	0.000	0.000
124	NF	4.000	5.500	0.000	0.000
125	NF	5.000	4.100	0.000	0.000

126	NF	5.000	6.300	0.000	0.000
127	F	5.000	3.900	1.000	25.400
128	F	0.000	0.000	1.000	11.000
129	NF	4.000	4.400	0.000	0.000
130	NF	3.000	3.600	0.000	0.000
131	NF	4.000	4.700	0.000	0.000
132	F	8.000	5.600	1.000	42.000
133	NF	4.000	2.400	0.000	0.000
134	NF	6.000	3.100	0.000	0.000
135	F	7.000	3.700	1.000	43.900
136	F	4.000	2.100	1.000	25.500
137	F	5.000	2.500	1.000	45.000
138	F	5.000	3.500	1.000	53.500
139	F	6.000	2.400	1.000	15.100
140	F	8.000	7.400	1.000	40.050
141	F	6.000	3.900	1.000	26.600
142	F	5.000	2.500	1.000	22.300
143	F	8.000	2.300	1.000	38.600
144	F	6.000	2.600	1.000	36.400
145	F	8.000	4.500	1.000	53.100
146	F	5.000	2.400	1.000	29.100
147	F	7.000	5.500	1.000	18.500
148	F	9.000	6.100	2.000	53.100
149	F	0.000	0.000	1.000	49.000
150	F	6.000	4.900	1.000	33.600
151	F	13.000	4.500	3.000	25.700
152	F	5.000	4.000	1.000	36.900
153	F	0.000	0.000	1.000	14.700
154	F	6.000	2.500	1.000	41.000
155	F	7.000	4.500	1.000	66.200
156	F	5.000	6.100	1.000	40.090
157	F	3.000	2.500	1.000	23.800
158	F	4.000	5.500	1.000	35.000
159	F	5.000	2.500	1.000	32.000
160	F	7.000	3.400	1.000	32.000
161	F	4.000	2.100	1.000	33.200
162	F	5.000	3.600	1.000	38.600
163	F	1.000	2.000	1.000	24.000

OBS	BUDS	FLOWERS	FRUIT	ABORTED	BROWSED
1	0.000	0.000	0.000	0.000	0.000
2	0.000	0.000	0.000	0.000	0.000
3	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000
9	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000
11	0.000	0.000	0.000	0.000	0.000
12	0.000	0.000	0.000	0.000	0.000
13	0.000	0.000	0.000	0.000	0.000
14	0.000	0.000	0.000	0.000	0.000
15	0.000	0.000	0.000	0.000	0.000
16	0.000	0.000	0.000	0.000	0.000
17	0.000	0.000	0.000	0.000	0.000
18	0.000	0.000	0.000	0.000	0.000
19	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000
21	0.000	0.000	0.000	0.000	0.000
22	0.000	0.000	0.000	0.000	0.000
23	0.000	0.000	0.000	0.000	0.000
24	0.000	0.000	0.000	0.000	0.000
25	1.000	4.000	17.000	0.000	0.000

26	0.000	0.000	0.000	0.000	0.000
27	0.000	0.000	0.000	0.000	0.000
28	0.000	0.000	0.000	0.000	0.000
29	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000
31	0.000	4.000	23.000	2.000	0.000
32	0.000	0.000	0.000	0.000	0.000
33	0.000	0.000	0.000	0.000	0.000
34	0.000	0.000	0.000	0.000	0.000
35	0.000	0.000	0.000	0.000	0.000
36	0.000	0.000	0.000	0.000	0.000
37	0.000	0.000	0.000	0.000	0.000
38	0.000	0.000	0.000	0.000	0.000
39	0.000	0.000	0.000	0.000	0.000
40	0.000	0.000	0.000	0.000	0.000
41	0.000	0.000	0.000	0.000	0.000
42	0.000	0.000	0.000	0.000	0.000
43	0.000	0.000	0.000	0.000	0.000
44	0.000	0.000	0.000	0.000	0.000
45	0.000	0.000	0.000	0.000	0.000
46	0.000	0.000	0.000	0.000	0.000
47	0.000	0.000	0.000	0.000	0.000
48	0.000	0.000	0.000	0.000	0.000
49	0.000	0.000	0.000	0.000	0.000
50	0.000	0.000	0.000	0.000	0.000
51	0.000	0.000	0.000	0.000	0.000
52	0.000	0.000	0.000	0.000	0.000
53	0.000	0.000	0.000	0.000	0.000
54	0.000	0.000	0.000	0.000	0.000
55	0.000	0.000	0.000	0.000	0.000
56	0.000	0.000	0.000	0.000	0.000
57	0.000	0.000	0.000	0.000	0.000
58	0.000	0.000	0.000	0.000	0.000
59	0.000	0.000	0.000	0.000	0.000
60	4.000	7.000	5.000	0.000	0.000
61	0.000	0.000	0.000	0.000	0.000
62	0.000	0.000	0.000	0.000	0.000
63	0.000	0.000	0.000	0.000	0.000
64	0.000	0.000	0.000	0.000	0.000
65	0.000	0.000	0.000	0.000	0.000
66	0.000	0.000	0.000	0.000	0.000
67	0.000	0.000	0.000	0.000	0.000
68	4.000	5.000	19.000	2.000	0.000
69	0.000	0.000	0.000	0.000	0.000
70	0.000	0.000	0.000	0.000	0.000
71	0.000	0.000	0.000	0.000	0.000
72	0.000	0.000	0.000	0.000	0.000
73	0.000	0.000	8.000	2.000	0.000
74	0.000	3.000	25.000	3.000	0.000
75	0.000	0.000	0.000	0.000	0.000
76	0.000	0.000	0.000	0.000	0.000
77	0.000	0.000	0.000	0.000	0.000
78	0.000	3.000	15.000	0.000	0.000
79	0.000	0.000	0.000	0.000	0.000
80	0.000	0.000	0.000	0.000	0.000
81	0.000	0.000	0.000	0.000	0.000
82	0.000	0.000	0.000	0.000	0.000
83	0.000	0.000	0.000	0.000	0.000
84	0.000	0.000	0.000	0.000	0.000
85	0.000	0.000	0.000	0.000	0.000
86	0.000	0.000	0.000	0.000	0.000
87	0.000	0.000	0.000	0.000	0.000
88	0.000	0.000	0.000	0.000	0.000
89	0.000	0.000	0.000	0.000	0.000
90	0.000	0.000	0.000	0.000	0.000
91	11.000	3.000	29.000	6.000	0.000

92	0.000	0.000	0.000	0.000	0.000
93	0.000	0.000	0.000	0.000	0.000
94	0.000	0.000	0.000	0.000	0.000
95	0.000	0.000	0.000	0.000	1.000
96	0.000	0.000	0.000	0.000	1.000
97	0.000	0.000	0.000	0.000	0.000
98	0.000	0.000	0.000	0.000	0.000
99	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000
101	0.000	0.000	0.000	0.000	0.000
102	0.000	0.000	0.000	0.000	0.000
103	0.000	0.000	0.000	0.000	0.000
104	0.000	0.000	0.000	0.000	0.000
105	0.000	0.000	0.000	0.000	0.000
106	0.000	0.000	0.000	0.000	0.000
107	3.000	11.000	2.300	0.000	0.000
108	0.000	0.000	0.000	0.000	0.000
109	3.000	0.000	34.000	5.000	0.000
110	0.000	0.000	0.000	0.000	0.000
111	0.000	0.000	0.000	0.000	0.000
112	18.000	11.000	28.000	13.000	0.000
113	0.000	0.000	0.000	0.000	0.000
114	0.000	0.000	0.000	0.000	0.000
115	0.000	0.000	0.000	0.000	0.000
116	0.000	0.000	0.000	0.000	0.000
117	0.000	0.000	0.000	0.000	0.000
118	0.000	0.000	0.000	0.000	0.000
119	0.000	0.000	0.000	0.000	0.000
120	0.000	0.000	0.000	0.000	0.000
121	0.000	0.000	0.000	0.000	0.000
122	0.000	0.000	0.000	0.000	0.000
123	0.000	0.000	0.000	0.000	0.000
124	0.000	0.000	0.000	0.000	0.000
125	0.000	0.000	0.000	0.000	0.000
126	0.000	0.000	0.000	0.000	0.000
127	0.000	0.000	9.000	0.000	1.000
128	0.000	0.000	4.000	0.000	1.000
129	0.000	0.000	0.000	0.000	0.000
130	0.000	0.000	0.000	0.000	0.000
131	0.000	0.000	0.000	0.000	0.000
132	3.000	1.000	30.000	13.000	0.000
133	0.000	0.000	0.000	0.000	0.000
134	0.000	0.000	0.000	0.000	0.000
135	2.000	3.000	11.000	2.000	0.000
136	0.000	0.000	8.000	2.000	1.000
137	3.000	5.000	38.000	4.000	0.000
138	1.000	6.000	23.000	3.000	0.000
139	3.000	1.000	0.000	0.000	1.000
140	0.000	0.000	8.000	8.000	0.000
141	0.000	0.000	9.000	3.000	0.000
142	0.000	0.000	10.000	0.000	1.000
143	0.000	0.000	18.000	5.000	0.000
144	6.000	7.000	8.000	0.000	0.000
145	12.000	5.000	24.000	9.000	0.000
146	0.000	0.000	8.000	9.000	0.000
147	8.000	0.000	0.000	0.000	0.000
148	0.000	3.000	33.000	1.000	0.000
149	0.000	0.000	41.000	1.000	0.000
150	0.000	2.000	21.000	9.000	0.000
151	0.000	0.000	14.000	0.000	3.000
152	9.000	2.000	32.000	6.000	0.000
153	0.000	1.000	0.000	0.000	1.000
154	2.000	0.000	23.000	2.000	0.000
155	6.000	3.000	32.000	16.000	0.000
156	1.000	3.000	22.000	0.000	0.000
157	0.000	2.000	10.000	2.000	0.000

158	1.000	2.000	14.000	4.000	0.000
159	0.000	1.000	7.000	0.000	1.000
160	0.000	0.000	18.000	3.000	0.000
161	1.000	1.000	16.000	1.000	0.000
162	0.000	2.000	21.000	3.000	0.000
163	0.000	0.000	4.000	0.000	1.000

OBS	INSECT	X	Y
1	0.000	0.000	0.160
2	0.000	0.016	0.535
3	0.000	0.080	0.508
4	0.000	0.120	0.805
5	0.000	0.120	0.105
6	0.000	0.120	0.125
7	0.000	0.160	0.385
8	0.000	0.160	0.420
9	0.000	0.150	0.685
10	0.000	0.180	1.070
11	0.000	0.080	1.020
12	0.000	0.090	1.120
13	0.000	0.020	1.150
14	0.000	0.030	1.150
15	0.000	0.000	1.185
16	0.000	0.000	1.195
17	0.000	0.000	1.220
18	0.000	0.000	1.255
19	0.000	0.030	1.330
20	0.000	0.010	1.385
21	0.000	0.000	1.445
22	0.000	0.035	1.420
23	0.000	0.095	1.380
24	0.000	0.010	1.520
25	2.000	0.030	1.600
26	0.000	0.030	1.705
27	0.000	0.100	1.490
28	0.000	0.140	1.530
29	0.000	0.140	1.620
30	0.000	0.150	2.000
31	1.000	0.200	1.460
32	0.000	0.200	1.260
33	0.000	0.200	1.140
34	0.000	0.190	1.090
35	0.000	0.210	1.090
36	0.000	0.230	1.130
37	0.000	0.230	0.190
38	0.000	0.230	0.215
39	0.000	0.220	0.305
40	0.000	0.220	0.315
41	0.000	0.280	0.240
42	0.000	0.290	0.330
43	0.000	0.300	0.310
44	0.000	0.310	0.325
45	0.000	0.390	0.700
46	0.000	0.300	1.250
47	0.000	0.260	1.270
48	0.000	0.280	1.470
49	0.000	0.360	1.790
50	0.000	0.320	1.850
51	0.000	0.305	1.870
52	0.000	0.330	1.870
53	0.000	0.492	0.030
54	0.000	0.611	0.180
55	0.000	0.772	0.290
56	0.000	0.679	0.810
57	0.000	0.775	0.870

58	0.000	1.140	0.660
59	0.000	1.110	0.639
60	0.000	1.830	0.935
61	0.000	1.280	1.050
62	0.000	1.260	1.030
63	0.000	1.320	1.020
64	0.000	1.370	1.020
65	0.000	1.267	1.080
66	0.000	1.255	1.130
67	0.000	1.160	1.142
68	2.000	1.670	0.100
69	0.000	1.700	0.190
70	0.000	1.660	0.480
71	0.000	1.730	0.540
72	0.000	2.390	1.900
73	0.000	2.410	0.325
74	0.000	2.480	0.530
75	0.000	2.460	0.550
76	0.000	2.150	1.120
77	0.000	2.205	1.190
78	2.000	2.230	1.250
79	0.000	2.390	1.090
80	0.000	2.080	1.240
81	0.000	2.040	1.255
82	0.000	1.900	1.150
83	0.000	1.880	1.140
84	0.000	0.525	1.800
85	0.000	0.670	1.790
86	0.000	0.710	1.780
87	0.000	0.800	1.460
88	0.000	0.850	1.440
89	0.000	0.890	1.400
90	0.000	1.110	1.430
91	1.000	1.050	1.550
92	0.000	0.950	1.950
93	0.000	1.140	1.780
94	0.000	1.150	1.755
95	0.000	1.200	1.920
96	0.000	1.190	1.775
97	0.000	1.180	1.530
98	0.000	1.200	1.550
99	0.000	1.210	1.525
100	0.000	1.050	1.460
101	0.000	1.080	1.430
102	0.000	1.100	1.420
103	0.000	1.390	1.550
104	0.000	1.390	1.495
105	0.000	1.360	1.430
106	0.000	1.490	1.950
107	0.000	1.520	1.880
108	0.000	1.500	1.790
109	0.000	1.810	1.880
110	0.000	1.730	1.670
111	0.000	1.710	1.710
112	2.000	1.850	1.740
113	0.000	1.970	1.760
114	0.000	1.965	1.695
115	0.000	1.940	1.600
116	0.000	1.660	1.440
117	0.000	1.715	1.440
118	0.000	1.840	1.460
119	0.000	1.730	1.370
120	0.000	1.930	1.610
121	0.000	2.120	1.720
122	0.000	2.250	1.680
123	0.000	2.128	1.850

124	0.000	2.260	1.610
125	0.000	2.290	1.610
126	0.000	2.420	1.700
127	0.000	2.670	1.750
128	0.000	2.550	1.770
129	0.000	2.540	1.730
130	0.000	2.560	1.710
131	0.000	2.800	1.490
132	0.000	3.070	1.670
133	0.000	2.860	1.745
134	0.000	2.590	1.470
135	0.000	2.900	1.230
136	0.000	2.940	1.250
137	1.000	3.050	1.450
138	0.000	3.160	1.270
139	0.000	3.020	1.200
140	0.000	3.470	1.720
141	0.000	3.390	0.430
142	0.000	3.430	0.970
143	0.000	3.490	0.990
144	0.000	3.560	0.830
145	2.000	3.790	0.660
146	0.000	3.830	0.510
147	0.000	3.890	0.380
148	2.000	4.110	0.710
149	0.000	4.440	0.500
150	0.000	4.580	0.390
151	0.000	4.430	1.100
152	0.000	4.440	1.100
153	0.000	4.430	1.130
154	0.000	4.790	0.530
155	0.000	4.930	1.180
156	0.000	4.910	1.260
157	0.000	4.580	1.170
158	0.000	4.440	1.300
159	0.000	5.350	0.220
160	0.000	5.450	0.210
161	0.000	5.430	0.660
162	0.000	5.590	0.450
163	0.000	4.970	0.330

163 cases printed out of

163 cases in the file.

THE FOLLOWING RESULTS ARE FOR:

STATUS\$ = F

TOTAL OBSERVATIONS: 45

	LEAVES	BASALDIA	FLWRSTEM	FLWRLNTH	BUDS
N OF CASES	45	45	45	45	45
MINIMUM	0.000	0.000	1.000	1.000	0.000
MAXIMUM	13.000	7.400	25.600	66.200	18.000
MEAN	5.422	3.384	1.636	33.188	2.267
VARIANCE	7.068	3.018	13.477	190.129	15.109
STANDARD DEV	2.659	1.737	3.671	13.789	3.887

	FLOWERS	FRUIT	ABORTED	BROWSED	INSECT
N OF CASES	45	45	45	45	45
MINIMUM	0.000	0.000	0.000	0.000	0.000
MAXIMUM	11.000	41.000	16.000	3.000	2.000
MEAN	2.244	16.022	3.089	0.289	0.333
VARIANCE	7.825	127.931	15.946	0.346	0.500
STANDARD DEV	2.797	11.311	3.993	0.589	0.707

THE FOLLOWING RESULTS ARE FOR:

STATUS\$ = NF

TOTAL OBSERVATIONS: 117

	LEAVES	BASALDIA	FLWRSTEM	FLWRLNTH	BUDS
N OF CASES	117	117	117	117	117
MINIMUM	1.000	0.700	0.000	0.000	0.000
MAXIMUM	9.000	8.100	0.000	0.000	0.000
MEAN	3.812	3.075	0.000	0.000	0.000
VARIANCE	2.137	2.705	0.000	0.000	0.000
STANDARD DEV	1.462	1.645	0.000	0.000	0.000

	FLOWERS	FRUIT	ABORTED	BROWSED	INSECT
N OF CASES	117	117	117	117	117
MINIMUM	0.000	0.000	0.000	0.000	0.000
MAXIMUM	0.000	0.000	0.000	0.000	0.000
MEAN	0.000	0.000	0.000	0.000	0.000
VARIANCE	0.000	0.000	0.000	0.000	0.000
STANDARD DEV	0.000	0.000	0.000	0.000	0.000

THE FOLLOWING RESULTS ARE FOR:

STATUS\$ = Nf

TOTAL OBSERVATIONS: 1

	LEAVES	BASALDIA	FLWRSTEM	FLWRLNTH	BUDS
N OF CASES	1	1	1	1	1
MINIMUM	5.000	4.100	0.000	0.000	0.000

MAXIMUM	5.000	4.100	0.000	0.000	0.000
MEAN	5.000	4.100	0.000	0.000	0.000
VARIANCE	.	.	.	.	.
STANDARD DEV	.	.	.	.	.

	FLOWERS	FRUIT	ABORTED	BROWSED	INSECT
N OF CASES	1	1	1	1	1
MINIMUM	0.000	0.000	0.000	0.000	0.000
MAXIMUM	0.000	0.000	0.000	0.000	0.000
MEAN	0.000	0.000	0.000	0.000	0.000
VARIANCE	.	.	.	.	.
STANDARD DEV	.	.	.	.	.