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Waste Management and Research Center

**Survey Summary Report:
1988 Champaign County
Household and Farm
Hazardous Waste
Collection Day**

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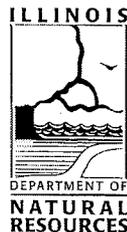
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SURVEY SUMMARY REPORT
1988 CHAMPAIGN COUNTY HOUSEHOLD AND FARM
HAZARDOUS WASTE COLLECTION DAY

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Introduction

The following is a summary report of the survey results of Champaign County's 1988 Household and Farm Hazardous Waste Collection Day (Saturday, September 24). The report comprises 3 sections. The first section briefly reviews the preparatory and publicity activities conducted before the collection day to increase public awareness and participation. This section also provides some factual information concerning the actual collection event.

The second section presents the survey methodology. The third and final section discusses the results of the survey. Throughout the report, comparisons to the 1987 (inaugural) collection day (Sunday, September 13) are made when relevant.

Section 1: Collection Day Activities

In comparison to the 1987 collection day, publicity for the 1988 collection event can be characterized as modest or more limited. In 1987, publicity included (a) press releases to all Champaign County media, (b) radio and television announcements and appearances by members of the Hazardous Waste Research and Information Center and the Intergovernmental Solid Waste Disposal Association, (c) articles in farm publications such as Successful Farming and Champaign County Farm Bureau Newsletter, (d) displays at Marketplace Mall and the Champaign County Fair, and (e) the distribution of doorhangers to county residents.

In 1988, publicity was primarily based on the distribution of doorhangers about 2-3 weeks preceding the event. These were distributed to every home within the Champaign and Urbana City limits. Remaining door

hangers were placed in the central areas of large apartment complexes and were also delivered to other cities in the county such as Philo, Tolono, and Rantoul. The only other publicity for the event was an article in the Champaign County Farm Bureau Newsletter. Members of the Intergovernmental Solid Waste Disposal Association have said that publicity was minimized for 1988 because of the overwhelming response to the 1987 event. In 1987, the collection event reached capacity before the day had ended and some potential participants had to be turned away.

The collection event took place at the Champaign Public Works Center, 702 Edgebrook Drive, Champaign, the same location as 1987. The event was once again scheduled in early fall to maximize participation of farmers and avoid early winter inclement weather. GSX, Incorporated was once again contracted as the hazardous waste disposer.

Section 2: Survey Methodology

The questionnaire utilized to survey collection day participants is presented in Appendix A. The questionnaire is identical to that used in 1987 except for two instances. First, the introduction was reworded to identify the Intergovernmental Solid Waste Disposal Association as the sponsors of the collection event. Second, a question concerning the funding source for collection events (Q.7b) was included.

A Survey Research Laboratory interviewer was stationed at the entrance to the collection area to distribute the questionnaires and to answer any questions from the respondents about the survey. One survey was given to each vehicle that arrived at the drop-off site. Each vehicle also received several informational posters and brochures from the Hazardous Waste Research and Information Center. Surveys were self-administered (i.e., they were completed by the participants themselves). Any person

in the vehicle could complete the questionnaire. Questions concerning the hazardous waste brought to the collection site were designed to gather information about all households, farm operations, and group quarters represented by the delivering vehicle. Hence, some proxy data were collected. Questions concerning household characteristics and behavior were designed to ascertain information about the delivering household only. Finally, questions concerning individual characteristics, behavior, and opinions would be representative only of the person completing the survey.

Completed questionnaires were collected by a Survey Research Laboratory interviewer stationed at the collection area exit. Data were coded, entered, and cleaned by the Survey Research Laboratory Data Reduction staff. Subsequent data analysis was performed utilizing the Statistical Package for the Social Sciences (SPSSX). This software executes a wide variety of statistical procedures including those used in this report, i.e., frequency tabulations, descriptive statistics, and cross-classification tables.

Section 3: Survey Results

A total of 279 surveys were completed. These surveys represent 451 contributing units. A contributing unit is defined as each separate household, farm operation, or group quarter participating in the collection event. The 451 contributing units can be disaggregated as 341 households, 57 farm operations, and 53 group quarters. Overall, this represents a 26 percent increase in the number of contributing units from the 1987 collection event (Table 1).

The number of households increased proportionately to the increase in total contributing units. The number of farm operations decreased by nearly half. The number of group quarters increased substantially.

Table 1

<u>Contributing unit</u>	<u>1987</u>	<u>1988</u>	<u>Percent change</u>
Households	262	341	+30%
Farm operations	94	57	-39%
Group quarters	<u>2</u>	<u>53</u>	<u>+2550%</u>
Total	358	451	+26%

A total of 5,628 partial or full containers [1] of materials were brought to the collection site (Table 2). This represents an increase of nearly 69 percent over the total number of containers brought to the collection site in 1987. Hence, not only did the number of contributing units increase from 1987-1988, so did the total number of containers deposited. Moreover, the distribution of number of containers by type of contributing unit changed from 1987 to 1988. Farm operations accounted for over 31 percent of the containers deposited in 1988, as opposed to 13 percent in 1987. Thus, even though the number of farm operations contributing decreased, the number of containers, and percentage of all containers from farm operations increased.

Table 2

<u>Number of containers by:</u>	<u>1987*</u>	<u>1988*</u>
Households	2,811 (84)	3,546 (63)
Farm operations	439 (13)	1,745 (31)
Group quarters	<u>88</u> (3)	<u>337</u> (6)
Total	3,338 (100)	5,628 (100)

*Number in parentheses represents percent of total.

Table 3 presents the number of containers deposited at the collection site by type of hazardous material for 1987 and 1988. Also presented is the rank of that material (in terms of number of containers deposited) for each year, and percent change in number of containers deposited from 1987 to 1988.

Table 3

<u>Type of material</u>	<u>Number of containers</u>		<u>Percent change</u>
	<u>1987 (Rank)</u>	<u>1988 (Rank)</u>	
Weed killers or herbicides	535 (3)	2,230 (1)	+317%
Insect killers, pesticides, poisons	611 (2)	546 (3)	-11%
Varnishes, wood preservatives, oil based paints	1,047 (1)	810 (2)	-23%
Paint thinners, strippers, solvents	487 (4)	317 (5)	-35%
Household cleaners	225 (5)	160 (6)	-29%
Motor oil	66 (6)	397 (4)	+502%
Anti-freeze	37 (7)	41 (7)	+11%
All other	<u>330</u>	<u>1,127</u>	<u>+242%</u>
Total	3,338	5,628	+69%

Dramatic increases are noted among 3 types of materials: weed killers, motor oil, and other. The increase in weed killers is not a result of the increased number of containers deposited by farm operations as one might suspect. 2070 of the 2230 containers of weed killers were brought in by households. The increase in motor oil was also a result of household deposits. The increase in other materials may reflect an increased awareness by participants as to what may be considered hazardous,

or what materials would be accepted at the collection event. Table 4 lists the other materials brought to the collection event.

Table 4

Other Items

Acid	Gasoline
Adhesive	Glazing compound
Animal repellent	Glue
Asbestos	Latex paint
Auto body filler	Lye
Brake fluid	Mercury
Car batteries	Photographic chemicals
Car paint	Resin
Car wax	Rock salt
Caulking gel	Roofing cement
Chemicals	Sealants
De-icer	Spray paint
Fabric protector	Tar
Fertilizer	Tear gas
Fireworks	Transmission fluid
Floor wax	Wood putty
Freon	

Respondents were asked what they would have done with their hazardous materials had the collection event not been held (Table 5). A majority, 47 percent, would have continued to store the materials. However, 28 percent would have disposed of these materials in their garbage cans, 11 percent would have used some other method of disposal (toilet, storm sewer, ground, etc.), and the remaining 14 percent would have phoned the county or city government for disposal information. These responses represent a change in behavior from 1987. In that survey, only 37 percent of the respondents would have continued to store their hazardous materials, 19 percent would have disposed of their materials in the garbage can, 8 percent would have used some other method of disposal, and 36 percent would have phoned the county or city for disposal information. Hence, it appears the existence of the hazardous waste collection event has increased storage of hazardous materials among county residents, probably in anticipation of the next

collection event. The existence of the event also appears to have reduced the number of residents seeking information about waste disposal.

Table 5

<u>Alternative mode of disposal</u>	<u>1987</u>	<u>1988</u>
Store materials	37%	47%
Dispose of in garbage	19	28
Dispose of some other way	8	11
Call for information	36	14

A majority of the respondents, 40 percent, had heard about the collection event through a brochure or flyer (Table 6). Approximately 26 percent had read about it in the newspaper, and 19 percent had heard about the event on the radio. This represents a similar pattern of awareness as demonstrated in the 1987 survey, where 37 percent had heard of the event through a brochure or flyer, 25 percent had read about it in the newspaper, and 14 percent had heard about it on the radio. One deviation between 1987 and 1988 is of note, however. In the 1987 survey, over 11 percent of the respondents cited hearing about the event through the Farm Bureau. In 1988, less than 3 percent of the participants were aware of the event through the Farm Bureau. This may be responsible for some of the decrease in the number of contributing farm operations.

Table 6

<u>Heard about collection event by</u>	<u>1987</u>	<u>1988</u>
Brochure or flyer	37%	40%
Farm Bureau	11	3
Newspaper	25	26
Radio	14	19
Other	13	12

The average distance traveled by the drop-off participants in 1988 was slightly more than 5 miles. Champaign residents accounted for 58 percent of the participants, Urbana residents accounted for 27 percent, with the remaining 15 percent coming from elsewhere in the county. In comparison to 1987, this represents an increase in the relative number of participants from Champaign (41 percent), but a decrease among Urbana (33 percent) and other county residents (26 percent).

Information was collected on several demographic and socioeconomic characteristics of the respondents. The average age of the participants was 53 years old (Table 7). The average duration of residence in Champaign County was nearly 27 years (Table 8). The participants had achieved higher levels of formal education than county residents in general, with nearly 53 percent having attended graduate school, and an additional 33 percent having done some undergraduate work (Table 9). An overwhelming majority of the participants, 89 percent, were residents of single family homes. These figures represent little change in the profile of 1987 participants. In that survey, respondents averaged 52 years in age, had an average length of residence in the county of 31 years, over 46 percent had graduate educations and 32 percent had done some undergraduate work, and 94 percent were residents of single family homes.

Table 7

<u>Age</u>	<u>Percent</u>
29 and under	7
30 - 39	23
40 - 49	18
50 - 59	15
60 and under	37

The respondents were also asked a series of attitudinal and behavioral questions regarding waste disposal. The first of these questions dealt with how often a hazardous waste collection event should be held (Table 10). A large majority, 76 percent, felt future collection events should be held at least once a year. This represents an increase compared to the percentage of 1987 participants who felt at least a yearly collection event was needed.

Table 8

<u>Length of residence in Champaign County</u>	<u>Percent</u>
0 - 15 years	12
6 - 10 years	12
11 - 20 years	19
More than 20 years	57

Table 9

<u>Education</u>	<u>Percent</u>
High school	14
College	33
Graduate	53

Table 10

<u>How often collection event needed</u>	<u>1987</u>	<u>1988</u>
Less than 1 per year	37%	24%
1 per year	56	66
2-3 per year	7	9
4 or more per year	0	1

The percentage of participants favoring a temporary as opposed to permanent collection site remained the same from 1987 to 1988 (Table 11). In addition, very few participants felt an alternative to the drop-off method was desirable.

Table 11

<u>Type of collection program</u>	<u>1987</u>	<u>1988</u>
Temporary	63%	61%
Permanent	36	39
Something else	1	0

In 1988, participants were asked about the preferred source of funding for collection day events (Table 12). Half of respondents felt a sales tax on hazardous materials should fund the event. The second most selected option was a user fee from persons who participate in the collection event. An additional 10 percent (each) felt general state or local tax revenue should be used.

Table 12

<u>Collection event funding source</u>	<u>Percent</u>
Sales tax	50
State tax	10
Local tax	10
Landfill fee	2
User fee	21
Other	1
Don't know	7

The remaining attitudinal and behavioral questions dealt with household recycling, the importance of protecting the local environment, and voting behavior. Concerning household recycling, 86 percent of the 1988 participants recycled all or most of their household recyclables (Table 13). This represents a 20 percent increase from the 1987 survey. This could be due to a change in the type of participants for the 1988 collection event (i.e., more persons who recycle participated in 1988 than in 1987) or an increase in recycling behavior by county residents in the past year. Concerning the importance of protecting the local environment (Table 14), and voting behavior in local elections (Table 15), little (if any) change was observed between the 1987 and 1988 survey results.

Table 13

<u>Household recycling</u>	<u>1987</u>	<u>1988</u>
All	47	61
Most	19	25
Some	23	10
None	11	4

Table 14

<u>Importance of protecting local environment</u>	<u>1987</u>	<u>1988</u>
Very important	96%	95%
Somewhat important	4	5
Not at all important	0	0

Table 15

<u>Vote in local elections</u>	<u>1987</u>	<u>1988</u>
Yes	94%	94%
No	6	6

NOTES

[1] It should be noted that "number of containers" can be a misleading and confusing unit of measurement for hazardous waste. Containers are of various sizes and capacities. For example, the number of containers deposited at the collection day event increases from 1987 to 1988, while the total weight of hazardous waste decreases. The decrease in weight is easily explained by the fact that the 1987 collection day was an inaugural event and would represent hazardous waste that persons had held for years. The 1988 event would represent (for the most part) hazardous waste collected over the preceding 12 months. The increase in the number of containers is much more difficult to explain. It is possible that containers deposited in 1987 were larger, as they were used to store materials over a longer period of time.

It is suspected that number of containers was selected as the unit of measurement in the initial survey because it would be impractical to ask participants/respondents to report on the weight of the materials they deposited. However, due to the inaccuracy of containers as a measurement unit, it is suggested that subsequent surveys request only the type of materials deposited by the participants, and not the number of containers.

APPENDIX A



HAZARDOUS WASTE RESEARCH AND INFORMATION CENTER

1808 Woodfield Drive
Savoy, Illinois 61874
217/333-8940

HOUSEHOLD AND FARM HAZARDOUS WASTE COLLECTION DAY

Champaign County: September 24, 1988

Participant Drop-Off Report

Participant:

One drop-off report is requested for each vehicle. Please fill out the report and hand it to the attendant at the big "STOP HERE" sign so you can be directed to the appropriate waste drop-off station. Volunteers are available along the way to provide you with assistance if needed.

Your responses will be anonymous and confidential, and will only be used in statistical summaries. Analyses will be conducted by the University of Illinois Survey Research Laboratory for the Hazardous Waste Research and Information Center and the sponsors of the Hazardous Waste Collection Day, the Intergovernmental Solid Waste Disposal Association.

THANK YOU FOR HELPING US ASSESS THE EFFECTIVENESS OF THE SECOND HAZARDOUS WASTE COLLECTION DAY IN CHAMPAIGN COUNTY.

HOUSEHOLD AND FARM HAZARDOUS WASTE COLLECTION DAY

Participant Drop-Off Report

GENERAL INSTRUCTIONS: PLEASE ANSWER ALL PARTS OF EACH QUESTION AS BEST YOU CAN. IF YOU ARE UNSURE, PLEASE GIVE US YOUR BEST ESTIMATE.

1. From how many households, farms, and/or other sources did you collect material for this delivery? (WRITE IN THE NUMBER FOR EACH SOURCE.)

_____ households _____ farm operations _____ dormitories, other group housing, etc. 7-12

2. About how many partial or full containers of each of the following products have you brought here to drop off today? (WRITE IN THE NUMBER OF CONTAINERS FROM EACH SOURCE.)

	<u>Your own home</u>	<u>Neighbors or friends</u>	<u>Farm operations</u>	<u>Group housing</u>	
a. Weed killers or herbicides . . .	_____	_____	_____	_____	13-24
b. Insect killers, pesticides, poisons	_____	_____	_____	_____	25-36
c. Varnishes, wood preservatives, oil based paints	_____	_____	_____	_____	37-48
d. Paint thinners, strippers, solvents	_____	_____	_____	_____	49-60
e. Household cleaners	_____	_____	_____	_____	61-72 73-79/BK 80/1 1-6/DUP
f. Motor oil	_____	_____	_____	_____	7-18
g. Anti-freeze	_____	_____	_____	_____	19-30

All other products being dropped off:
(STATE PRODUCT AND QUANTITIES BY SOURCE.)

h. _____	_____	_____	_____	_____	31-44
i. _____	_____	_____	_____	_____	45-58
j. _____	_____	_____	_____	_____	59-72 73-79/BK 80/2 1-6/DUP
k. _____	_____	_____	_____	_____	7-20

7a. What type of collection program do you think the city or county should establish for hazardous household waste? (CIRCLE ONE.)

- A temporary collection site like this one . 1 68
- A permanent collection site 2
- Something else (PLEASE SPECIFY) _____ 3

- None. There shouldn't be a collection site 4

7b. It costs between \$5 and \$30 per household each year to dispose of hazardous household wastes properly. To pay for a special collection program in your community, do you think that funding should come primarily from . . . (CIRCLE ONE ONLY.)

- A sales tax on hazardous products, 1 69
- General state tax revenue, 2
- General local tax revenue, 3
- Fees collected from garbage trucks at landfills, or 4
- People who use it should pay for it? 5
- Other (SPECIFY) _____ 6

- DON'T KNOW 8

8. Does your household . . .

- Recycle all of your household cans, bottles, and newspapers, 1 70
- Recycle most, 2
- Recycle some, or 3
- Never recycle? 4

9. How important is it to you that the quality of the local environment in Champaign county is protected?

- Very important 1 71
- Somewhat important 2
- Not very important 3

10. Do you usually vote in local elections?

Yes	1	72
No	2	

11. Including yourself, how many people live in your household?

_____ 73-74

12. In what kind of housing do you live?

Single family house	1	75
Other (PLEASE SPECIFY) _____	2	

13. What is the highest level of school that you have attended?

Grade school	1	76
High school	2	
Undergraduate college	3	
Graduate school	4	

14. In what year were you born?

19 _____ 77-78
79/BK
80/3

15. What is the head of your household's occupation? (Homemakers should indicate spouse's occupation. Students should indicate "student".)

1-6/DUP

_____ 7-8

16. What is your sex?

Male	1	9
Female	2	

17. How long have you been a resident of Champaign County? _____ years

10-11

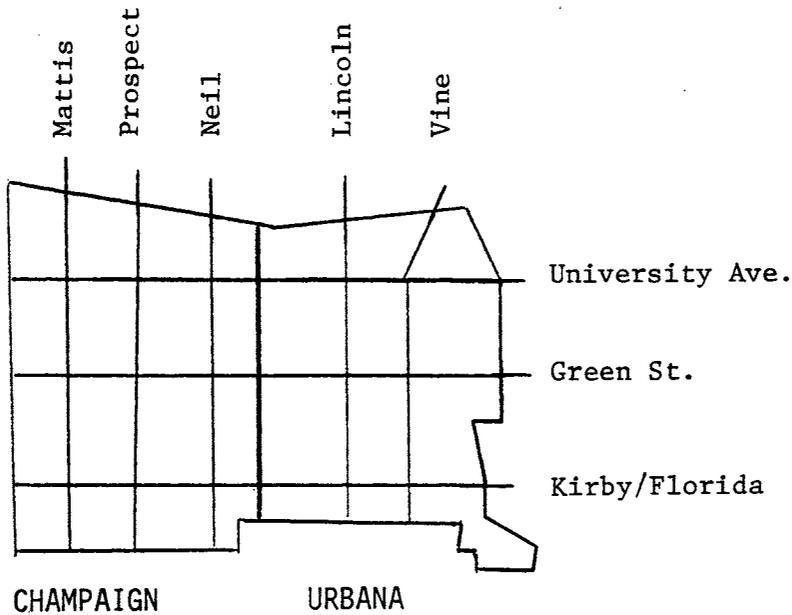
18a. In what city, village, or township do you live?

_____ 12-13

RESIDENTS OF CITIES OF CHAMPAIGN AND URBANA:

18b. Please place an X in the section of this map of Champaign/Urbana indicating the approximate location of your residence.

14-15



Comments and Suggestions: _____

16
17-79/BK
80/4

BE SURE TO HAND THIS REPORT TO THE ATTENDANT AT THE BIG "STOP HERE" SIGN. YOU WILL THEN BE DIRECTED TO THE APPROPRIATE DROP-OFF STATION FOR YOUR MATERIALS. THANK YOU.