

TP
660
.K73
1998

**Attitudes and Opinions on Iowa's
Beverage Container Recycling Law**

Prepared By

Robert E. Kramer

Gene M. Lutz

**Center for Social and Behavioral Research
University of Northern Iowa
Cedar Falls, Iowa**

**For
Waste Management Assistance Division
Iowa Department of Natural Resources
Des Moines, Iowa**

June, 1998

Table of Contents

	<u>Page</u>
Part 1 Introduction, and Methods and Procedures	1
Introduction	1
Methods and Procedures	1
Survey Questionnaire	1
Pilot Study	1
Sampling Plan	1
Data Collection	2
Data Analysis	2
Part 2 Analysis of Findings	3
Demographic Profile of Survey Respondents	3
Recycling Beverage Containers	4
Dealer's Handling Fee For Returned Beverage Containers	5
Use of Money From Unredeemed Containers	6
Iowa's Beverage Container Deposit Law	7
Attitudes Towards Beverage Container Law	8
Knowledge of Recycling	11
Household Recycling	12
Part 3 Summary	14
Bibliography	16
Appendix- Survey Questionnaire	A-1

List of Tables

<u>Table</u>		<u>Page</u>
1	Telephone Call Dispositions	2
2	Highest Grade or Year of School Completed	3
3	Occupation of Survey Respondents	4
4	Other Suggestions for Use of Unredeemed Container Money	6
5	Attitudinal Statements	9
6	Statistically Significant Differences in Attitudinal Statements by Demographic Characteristics of the Study Population	10
7	Percent of Respondents Providing Correct Answers to Knowledge Questions	12

List of Figures

<u>Figure</u>		<u>Page</u>
1	Age Groups	3
2	Employment Status	3
3	Years Lived in Iowa	4
4	Return Empty Beverage Containers	4
5	How Often Containers Are Returned	5
6	Where Containers Are Returned	5
7	One Cent Handling Fee	6
8	Suggested Fair Value	6
9	Use of Unredeemed Container Money	6
10	Iowa's Beverage Container Law	7
11	Advantages of Having Law	7
12	Reasons for Discontinuing Law	7
13	Disadvantages of Law	8
14	Deposit On Other Beverages	8
15	Still Prefer Curbside Recycling	11
16	Disposal Of Household Trash	12
17	Types of Recycling Programs in Community	13
18	Items Sorted For Recycling	13
19	Use Curbside Program If Available	13

Part 1 Introduction, and Methods and Procedures

Introduction

The Waste Management Assistance Division of (WMAD) of the Iowa Department of Natural Resources (DNR) requested the University of Northern Iowa's Center for Social and Behavioral Research (Center) to conduct a state-wide survey to measure Iowans' awareness and attitudes regarding the "Beverage Containers Deposit Law." The study was to provide information regarding the following topics:

- Extent to which household members return "empty beverage containers" (containers).
- Reasons for returning or not returning containers.
- How often containers are returned.
- Places to which containers are returned.
- Opinion about the handling fee that retailers and recycling centers receive for processing containers.
- Opinion on the use of unredeemed container money.
- Advantages and disadvantages of Beverage Container Deposit Law.
- Whether Beverage Container Deposit Law should be discontinued.
- Reasons for discontinuing or continuing Beverage Container Deposit Law.
- Whether other beverages should be included in Beverage Container Deposit Law.
- General attitudes about the Beverage Container Deposit Law.
- Attitudes about curbside recycling.
- Knowledge about the ramifications of the Beverage Container Deposit Law.
- Disposal of household trash.
- Use of curbside or drop off recycling programs in respondents' communities.
- Demographic characteristics of the study population.

In order to assess the findings at the 95 percent confidence level (with a margin of error of plus or minus four percent), 800 completed interviews were conducted. The data were collected by telephone using a Computer Assisted Telephone Interviewing (CATI) program.

Methods and Procedures

Survey Questionnaire. The survey questionnaire (see Appendix) was developed by the Center using information provided by the WMAD, questionnaires that had been developed by other researchers, and a review of the literature. (See Bibliography for a list of sources.)

Pilot Study. Following the development phase of the survey questionnaire, a pilot study was conducted among 54 households in the state to test the clarity of the wording of the questionnaire, and to assess the overall cooperation rate that the researchers would expect in conducting the study. Once all the questions were tested and reworded where necessary, the questionnaire was converted to a CATI system for data collection.

Sampling Plan. A sample of telephone numbers was created using a "Random Digit Dialing" (RDD) sampling technique. This method consists of the following steps. First, a series of random telephone numbers are generated (by computer) for each of the area codes and prefix numbers in the state. Each randomly generated number is then checked to determine if it appears in known residential telephone number directories. Those numbers that do not appear in residential directories are then scanned to determine if they are associated with known business directories. (Business telephone numbers are then removed from the sample.) Numbers that do not appear in residential or

business directories are then dialed electronically to determine if the number is a working telephone number. Those numbers identified as working numbers are placed in with the sample of known residential numbers. Telephone interviewers then dial each number and screen to determine whether it is a private residence. The adult with the most recent birthday is then selected to participate in the study.

Data Collection. The interviewing began on March 11 and concluded on April 19, 1998. Table 1 displays the final disposition of telephone calls made using the RDD sample. As the data indicate, 2,925 calls were made. Of these, approximately four percent refused to participate in the study, eight percent were business numbers, and 33 percent were non-working numbers. The number of completed interviews was 802.

Data Analysis

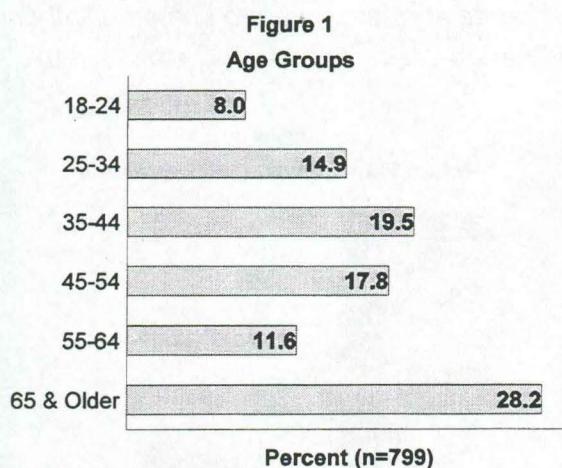
Once the data had been collected, they were converted to Statistical Package for the Social Sciences (SPSS) data files. SPSS programming was used in analyzing the data. Part 2 of this report provides an analysis of the findings. Where appropriate, the data were analyzed to determine whether there were statistically significant differences between demographic characteristics of the study population (i.e., sex, age, education, occupation, and years living in Iowa) and specific questionnaire items. Findings that are statistically significant are reported showing the probability (p) value associated with the analysis.

	Number	Percent
Completed Interviews	802	27.4
Refused to Participate in Study	101	3.5
Respondent Terminated Interview	3	0.1
Business Numbers	224	7.7
Non-Working Numbers	952	32.5
No Eligible Respondent	14	0.5
Language Barriers	14	0.5
Respondent Unable to Communicate	54	1.8
Selected Respondent Not Available After Five Attempted Calls	123	4.2
Three Or More Attempted Calls On Answering Machines	272	9.3
Three or More Attempted Calls With No Answer	366	12.5
Total	2925	100.0

Part 2 Analysis of Findings

Demographic Profile of Survey Respondents

Consistent with the distribution of Iowa's population for persons 18 years or age or older, 54 percent of the survey respondents were females while 46 percent were males. The age of the respondents ranged from 18 to 98. The mean age was 50.72, the median 48, with the mode being 39. The age groups of the respondents are shown in Figure 1.

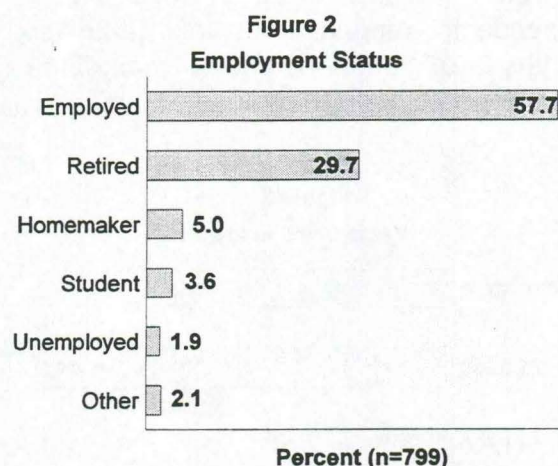


The highest grade or year of school completed for survey respondents is shown in Table 2. With the exception of three respondents, nine percent of the sample said they had completed some primary and secondary education, 34 percent had a high school diploma or GED equivalent, while 15 percent said they had some education beyond high school. Sixteen percent of the respondents said they had a post high school degree while the remainder (24.5%) said they had a college undergraduate degree or higher degree.

Table 2 Highest Grade or Year of School Completed

	Percent (n=792)
No School Completed	0.4
1 Thru 9 Years	3.8
Some High School	6.1
High School Diploma or GED	34.2
Some Education Beyond High School	15.0
Post High School Degree	16.0
College Undergraduate Degree	14.0
Post Graduate Work	2.5
Master's Degree	6.6
Doctoral Degree	1.4
Total	100.0

Most of the survey respondents (57.7%) said they were employed (Figure 2). Approximately 30 percent were retired, four percent were students, five percent were homemakers, and approximately two percent were unemployed.

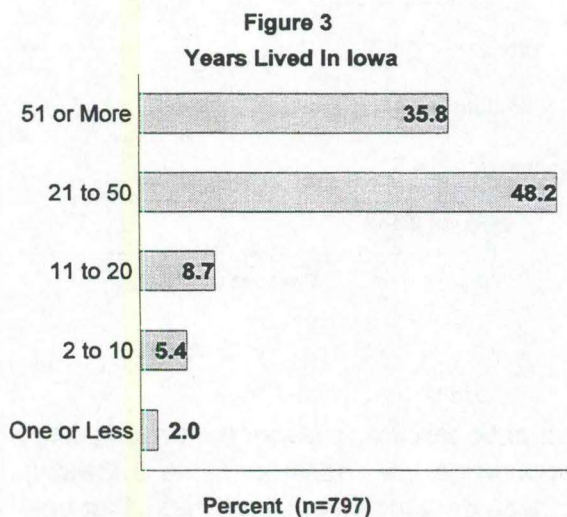


Occupational categories for employed survey respondents are shown in Table 3 (below). As these data indicate, slightly less than one-third of the respondents were in managerial and professional speciality occupations, one-fourth in technical, sales and administrative

support occupations, approximately 13 percent in service occupations, eight percent in farming, forestry, and fishing, and precision production, craft and repair occupations (respectively), while 14 percent were operators, fabricators, and laborers.

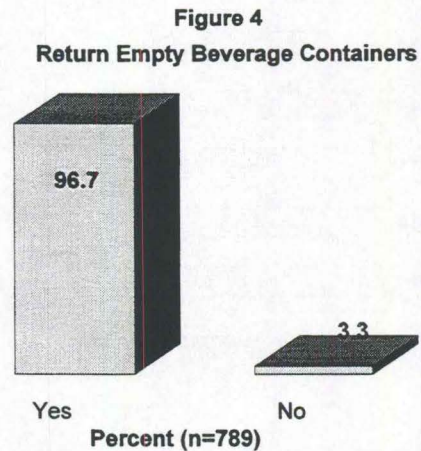
	Percent (n=460*)
Managerial & Professional Speciality	32.4
Technical, Sales, and Administrative Support	24.3
Service	12.6
Farming, Forestry, and Fishing	8.0
Precision Production, Craft, and Repair	8.0
Operators, Fabricators, and Laborers	14.3
Military	0.2
Total	99.8

Slightly less than half (48.2%) said they have been living in Iowa for 21 to 50 years, while 36 percent said they have been living in the state for 51 or more years (Figure 3). Sixteen percent have been living in Iowa for less than 21 years. Years living in Iowa for all respondents ranged from less than six months to 98 years. The mean was 43.19, the median 41, while the mode was 40.

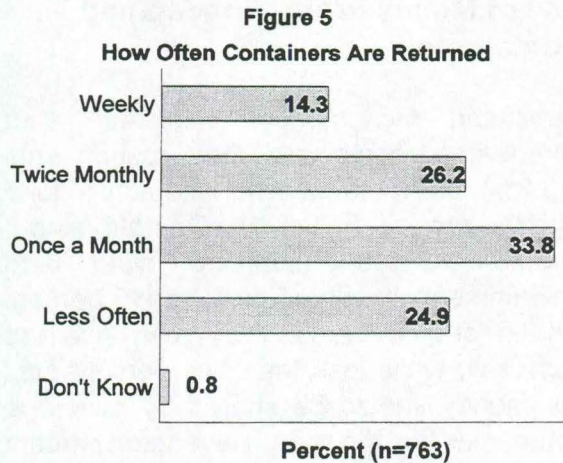


Recycling Beverage Containers

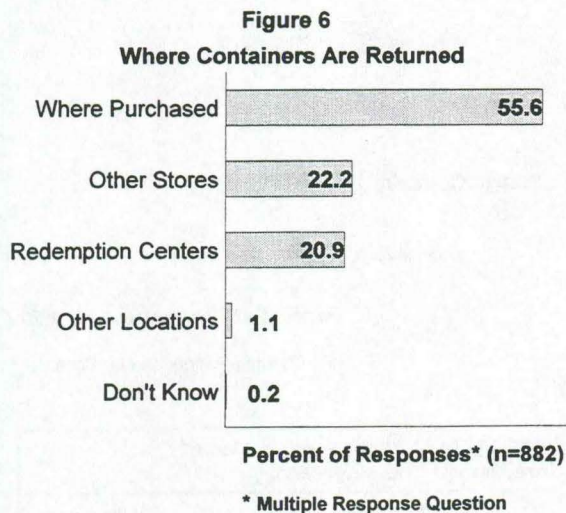
Among survey respondents who purchase (or household members purchase) beverages that require a container deposit, the overwhelming majority (96.7%) said that the empty containers are returned to stores or recycling and redemption centers (Figure 4). The primary reasons for returning the containers include receiving the refund (59.0%), environmentally related reasons (29.5%), and other (11.4%) varied reasons such as "eliminate the clutter," and "to get rid of them." Reasons given for not returning containers include "inconvenience of returning containers" "don't have time," or that the "containers are given to charity or other groups."



Most respondents said that containers are returned either once a month (33.8%), twice a month (26.2%) or less often (24.9%). Less than one percent of the respondents did not know how often the containers are returned (Figure 5 below).



Most of the containers (55.6%) are returned to the store where the beverage was purchased (Figure 6). Twenty-two percent are returned to other stores, 21 percent to redemption or recycling centers, and one percent to other locations.



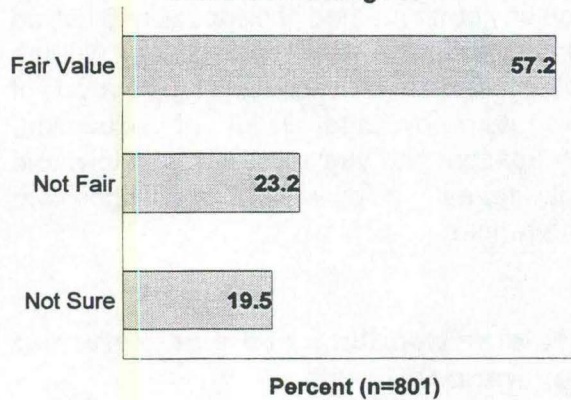
When asked what they would do with empty containers if they did not have to pay a deposit, the majority (57.6%) said they would recycle the containers, 41 percent would throw them away, while the remainder were "not sure" or provided other answers.

Among those respondents who said that they would "throw away the containers" (and not use any other method of disposal, n=312), an almost equal number were men and women (50.6% and 49.4%, respectively). Analysis of this item by age, level of education, occupation, and years residence in Iowa did not reveal any statistically significant differences.

Dealer's Handling Fee For Returned Beverage Containers

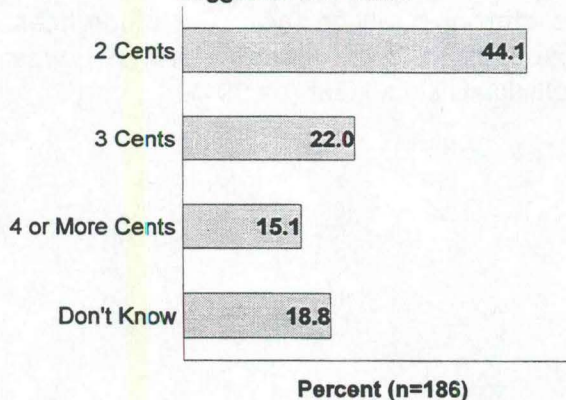
Survey respondents were asked a series of questions about the "handling fee" that retailers receive from beverage companies for processing empty containers. As the data indicate (Figure 7), the majority (57.2%) said that the current one cent handling fee is a fair value for processing the containers. Approximately one-fourth thought it was not a fair value while one fifth were "not sure." Opinions regarding the handling fee did not differ significantly between males and females, level of education, occupation, or number of years living in Iowa. Those respondents in the age groups 18 to 24, and 25 to 34 were more likely to support the current one cent handling fee than other age groups. Those aged 55 and older were most likely to be "unsure" of the appropriateness of the current handling fee. The differences observed between age groups was statistically significant (p=.001).

Figure 7
One Cent Handling Fee



Among those respondents who thought the handling fee was not a fair value, 44.1 percent said the fee should be increased to two cents, and 22.0 percent suggested three cents (Figure 8). Interestingly, close to one-fifth (18.8%) did not know what was a fair value for processing empty containers. Statistically significant differences were noted for this item among men and women, and age groups. Females and younger respondents tended to suggest a higher fee ($p=.006$, and $.018$, respectively).

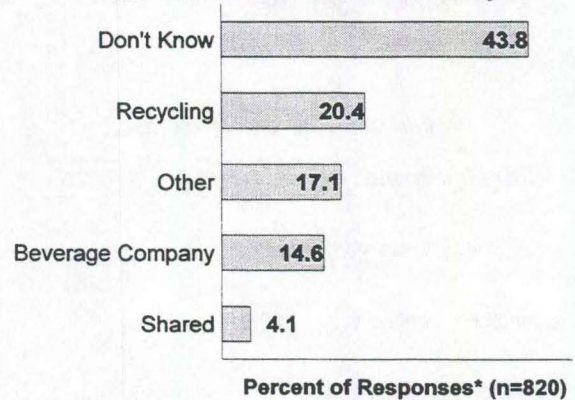
Figure 8
Suggested Fair Value



Use of Money From Unredeemed Containers

Regarding the money associated with unredeemed containers, most respondents (43.8%) did not know what should be done with the money (Figure 9). One-fifth said it should be used for recycling and environmentally related projects, 15 percent said it should be kept by the beverage company, while less than five percent said the money should be shared by beverage companies and the state. Seventeen percent of the respondents provided other varied suggestions including giving the money to the state or communities, charity, education, beverage retailers, or "returning" the money to consumers by providing lower prices for beverages (Table 4 below).

Figure 9
Use of Unredeemed Container Money



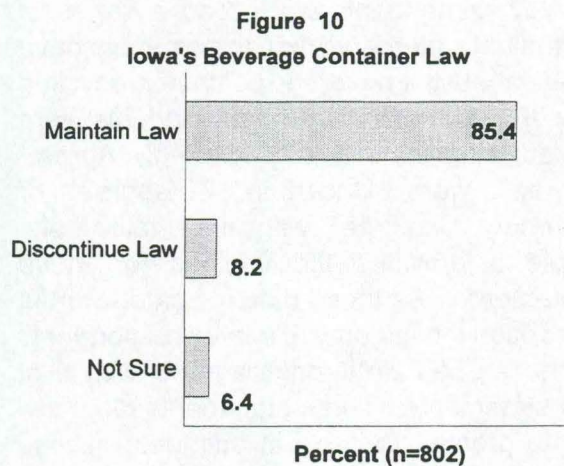
* Multiple Response Question

Table 4 Other Suggestions for Use of Unredeemed Container Money

Suggestion	Percent (n=140)
Give To Education	16.9
Give To Charity	21.6
Give To Beverage Retailers	16.9
Give To State or Communities	34.5
Give To Consumer/Lower Prices	10.1
Total	100.0

Iowa's Beverage Container Deposit Law

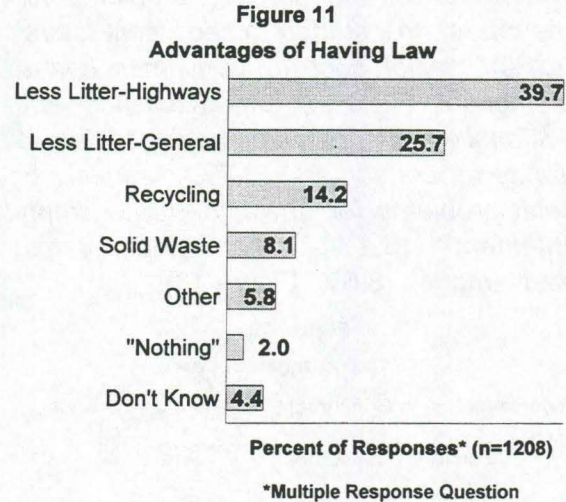
The overwhelming majority of survey respondents (85.4%) support the continuation of Iowa's beverage container deposit law (Figure 10). Only eight percent of the study participants recommend that the law be discontinued, and six percent were "not sure." Slightly more females than males suggested that the law be repealed, or were "not sure" whether the law should be repealed. These differences were not statistically significant. Also, no statistically significant variations were noted for this item in relation to other demographic variables (age, education, occupation, and years residence in Iowa).



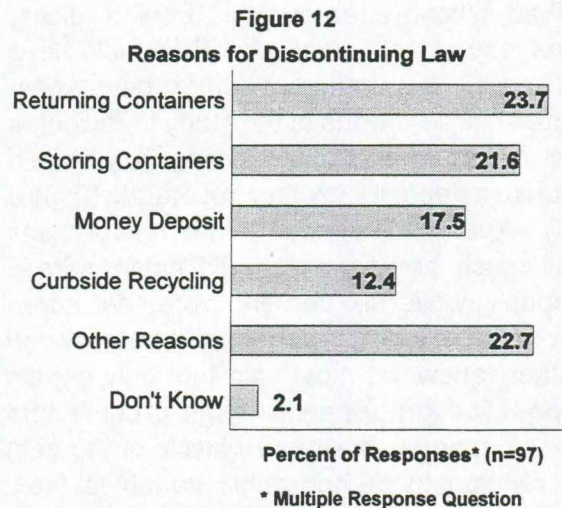
Among those who favored keeping the current law (n=684), most said that the reasons for maintaining the law were because there was "less litter along highways" (31.7%), "more recycling will occur" (27.4%), and there is "less litter generally" (26.8%).

The advantages of the law cited by most people include "less litter along highways" (39.7%), "less litter generally" (25.7%), the "advantages of recycling aluminum, glass, and plastic" (14.2%) and "other" advantages (Figure 11). Among the other advantages cited were "more materials removed from the

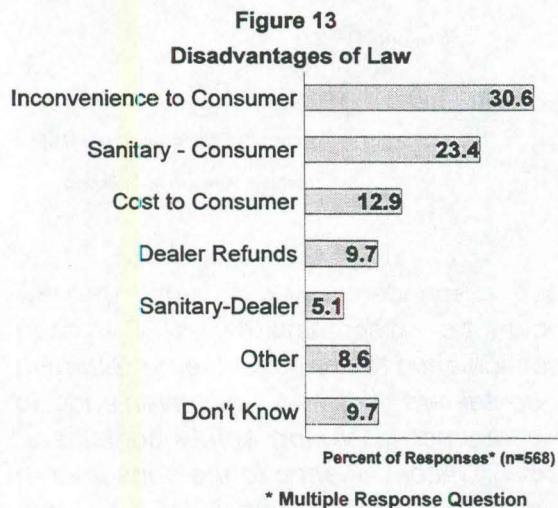
waste stream," that the law "creates new businesses and jobs," that it "helps farmers and there is less litter debris in animal feed," and that there are "fewer litter related injuries."



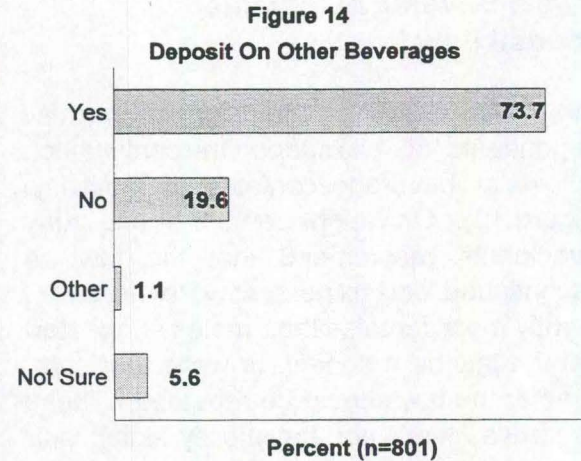
Those respondents who thought the law should be discontinued (n=66) cited "inconvenience to the consumer in returning the containers" (23.7%), "inconvenience to the consumer in storing empty containers" (21.6%), "inconvenience to the consumer in having to make money deposit" (17.5%), "that people can use curbside recycling" (12.4%), and other varied reasons (22.7%; Figure 12).



Slightly over half (52.1%) of the study participants cited one or more disadvantages of the beverage container deposit law. These included "inconvenience to consumer in returning containers to dealers" (30.6%), "inconvenience and sanitary problems for consumers in storing used containers" (23.4%), "initial cost to consumer before redemption" (12.9%), "inconvenience and additional work for dealer in having to handle refunds for consumers" (9.7%), "sanitary or health problems for dealer handling empty containers" (5.1%), and other varied disadvantages (8.6%; Figure 13).



In addition to asking whether the beverage container deposit law should be continued or discontinued, study participants were also asked if beverages such as bottled juices, teas, sports drinks and so forth should have a deposit on them like other beverages. Almost three-fourths of the study participants (73.7%) said that such beverages should require a deposit like other beverages (Figure 14). Approximately one in five respondents said such beverages should not require a deposit, while six percent were "not sure." Among the nine respondents who provided "other" answers, most said that only certain types of beverages and/or types of containers should have a deposit. Analysis of the data in relation to demographic variables (sex, age, education, occupation, and years residence in Iowa) did not reveal any statistically significant differences.



Attitudes Towards Beverage Container Law

Survey respondents were read a series of attitudinal statements that some people have made about the beverage container recycling law. For each statement, respondents were asked to indicate if they "Strongly Agree," "Agree," were "Uncertain," "Disagree" or "Strongly Disagree" with the statements. Table 5 provides the findings for these statements. As these data indicate, without exception the majority of survey respondents either "agreed" or "strongly agreed" with all of the statements. Three statements did show some greater variation in attitudes. These include (1) the extent to which the beverage container recycling law provides economic benefits for the State of Iowa (57.9% agreeing), (2) whether most people would continue to recycle beverage containers by using curbside recycling if the law was repealed (59.7% agreeing), and (3) whether the respondent would prefer to use curbside recycling rather than returning beverage containers to dealers or redemption centers (53.5% agreeing).

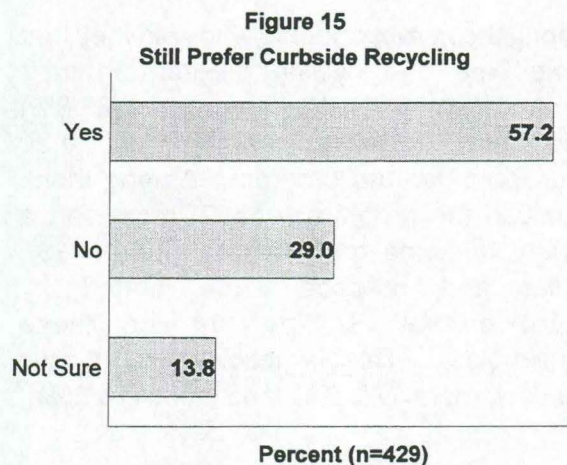
Analysis of the attitudinal statements in relation to demographic characteristics of the study population did show some statistically significant differences. These differences are shown in Table 6 (page 10).

Table 5 Attitudinal Statements

	Frequency	Total Percent Agreeing	Percent				
			Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
<i>There is less litter along Iowa's highways because of the beverage container deposit law.</i>	801	93.5	41.4	52.1	2.5	3.7	0.2
<i>Many parks and recreation areas in Iowa have less bottle and can litter because of the beverage container deposit law.</i>	800	89.2	33.1	56.1	5.6	5.0	0.1
<i>The beverage container deposit law provides economic benefits for the state of Iowa.</i>	800	57.9	9.6	48.3	31.8	9.8	0.6
<i>By recycling bottles and cans we use less energy and materials in manufacturing new cans and bottles.</i>	801	84.8	22.1	62.7	12.1	2.7	0.2
<i>The beverage container deposit law has generated additional employment opportunities for people in Iowa.</i>	801	80.9	12.1	68.8	16.4	2.9	0.0
<i>I believe there should be a national beverage container law.</i>	801	73.9	23.0	50.9	10.6	12.4	3.1
<i>By my having to return beverage containers, I have developed a more positive attitude about recycling.</i>	801	82.7	17.0	65.7	7.1	9.4	0.9
<i>If the beverage container deposit law was ended, most people would continue to recycle beverage containers by using curbside recycling if it was available.</i>	801	59.7	8.6	51.1	10.7	26.8	2.7
<i>A combination of the beverage container deposit law and curbside recycling is the best way to decrease the amount of litter going into our landfills.</i>	801	91.7	23.5	68.2	4.9	3.2	0.2
<i>If it was available, I would prefer to use curbside recycling rather than having to return bottles and cans to dealers or redemption centers.</i>	801	53.5	14.7	38.8	13.1	31.3	2.0

Table 6 Statistically Significant Differences in Attitudinal Statements by Demographic Characteristics of the Study Population	
Statement	Differences Noted
<i>There is less litter along Iowa's highways because of the beverage container deposit law.</i>	Younger survey respondents were more likely to disagree with this statement than were older respondents (p<.001).
<i>Many parks and recreation areas in Iowa have less bottle and can litter because of the beverage container deposit law.</i>	Younger survey respondents were more likely to disagree with this statement than were older respondents (p<.000). Respondents living in Iowa for fewer than two years were more likely to disagree with this statements than long term residents (p=.015).
<i>The beverage container deposit law provides economic benefits for the state of Iowa.</i>	No statistically significant differences were observed.
<i>By recycling bottles and cans we use less energy and materials in manufacturing new cans and bottles.</i>	No statistically significant differences were observed.
<i>The beverage container deposit law has generated additional employment opportunities for people in Iowa.</i>	No statistically significant differences were observed.
<i>I believe there should be a national beverage container law.</i>	No statistically significant differences were observed.
<i>By my having to return beverage containers, I have developed a more positive attitude about recycling.</i>	Respondents living in Iowa for a longer time period were more likely to agree with this statement than were persons who have not lived in the state for an extended period of time (p=.020).
<i>If the beverage container deposit law was ended, most people would continue to recycle beverage containers by using curbside recycling if it was available.</i>	Women tended to agree with this statement while men were more likely to disagree or be uncertain (p<.001). Younger and older survey respondents tended to agree with this statement while middle aged persons tended to disagree (p=.001). Like the age groups, people who lived in Iowa for a shorter or longer period of time tended to agree more with this statement than did other respondents (p=.003).
<i>A combination of the beverage container deposit law and curbside recycling is the best way to decrease the amount of litter going into our landfills.</i>	Respondents living in Iowa for a longer period of time than others tended to agree with this statement (p=.020).
<i>If it was available, I would prefer to use curbside recycling rather than having to return bottles and cans to dealers or redemption centers.</i>	Survey respondents in the 18 to 24 age group were more likely to disagree with this statement than older respondents (p=.003).

Finally regarding the attitudinal statements, survey respondents who said they would prefer to use curbside recycling rather than returning beverage containers to dealers or recycling centers were asked if they would still prefer to use curbside recycling if it cost their city or county more money to provide this service. Among these respondents (n=429), the majority (57.2%) still favored this option, 29.0 percent did not while 13.8 percent were "not sure" (Figure 15). Analysis of this item in relation to demographic variables (sex, age, education, occupation, and years residence in Iowa) did not reveal any statistically significant differences.



Knowledge of Recycling

Survey respondents were asked six questions to determine how knowledgeable they were on how successful the beverage container control laws have been in recycling cans and bottles. The purpose of these questions was twofold. First, to know the extent of variation in the answers to the questions, and secondly, to provide an opportunity to inform the public (survey respondents) of some of the ramifications of the beverage container recycling law.

The questions, their correct answers and the range of answers given by the survey respondents are shown in Table 7. It is interesting to note that the vast majority of survey respondents (87.7%) believed that the materials associated with beverage containers are, in fact, recycled and reused.

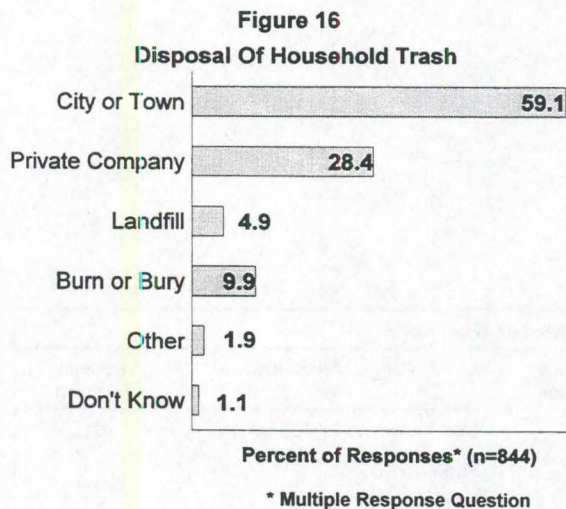
	Correct Answer	Range of Answers	Percent Correct
Number of beverage containers recycled annually by Iowans	1.4 billion*	One thousand to 483 billion	0.2
Percent of all beverage containers returned in Iowa	90%*	Three to 100% Mean= 67%	8.4
Number of other states in the United States having some form of beverage container control law	9	One to 50 Mean=19	2.5
Approximate percent of beverage containers returned or recycled in states not having beverage container control law	25-35%*	One to 99% Mean=31%	19.6
What happens to beverage containers when they are returned to dealers or redemptions centers	Material is recycled	Material is recycled (89.0%) Taken to landfill (1.8%) Other and "Don't Know" (9.2%)	87.7
Amount of money generated each year in Iowa for jobs associated with collecting, handling and processing beverage containers	17 million*	One thousand to 5 billion	0.0

* Correct answers provided by the DNR.

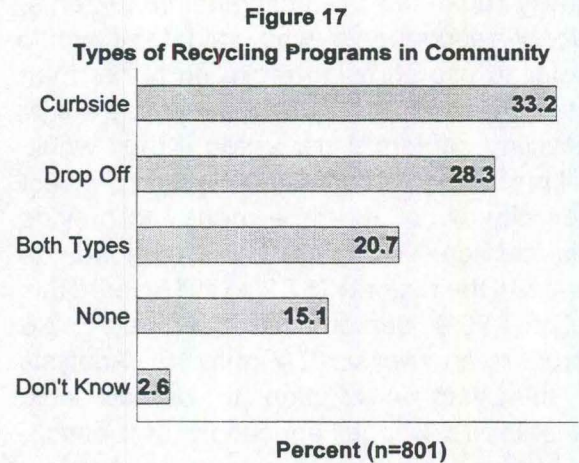
Household Recycling

The survey concluded with a series of questions relating to the extent to which recycling is practiced in the respondent's household. These included the disposal of household trash, the availability of curbside or drop off recycling in the respondent's community, the use of recycling programs, types of items sorted for recycling, and use of curbside recycling in communities where such service is not currently available.

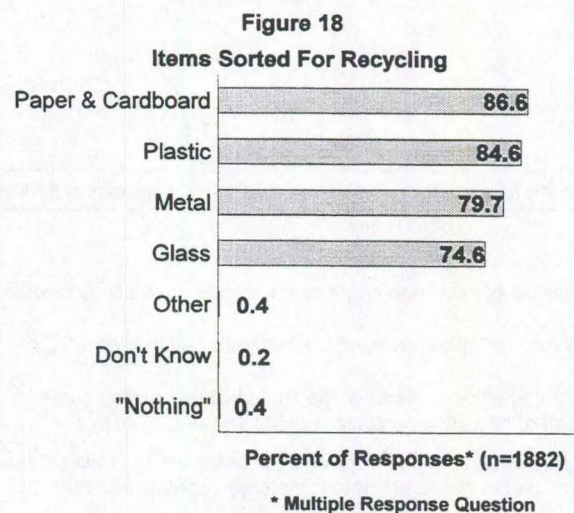
Slightly less than 60 percent of the respondents said that their household trash is picked up by a city or town garbage collection service (Figure 16). Twenty-eight percent said the trash is picked up by a private company, while approximately five percent take the trash to a landfill. Approximately ten percent burn or bury the trash on their property, while approximately two percent said they used some other way to dispose of the trash.



The type of curbside or drop off recycling program, if any, that is available in the survey respondents' community is shown in Figure 17. Fifteen percent of the respondents said that neither type of recycling program is available in their communities. One-third said that a curbside program is available, 28 percent said a drop off program was available, while approximately 21 percent said both types were available.

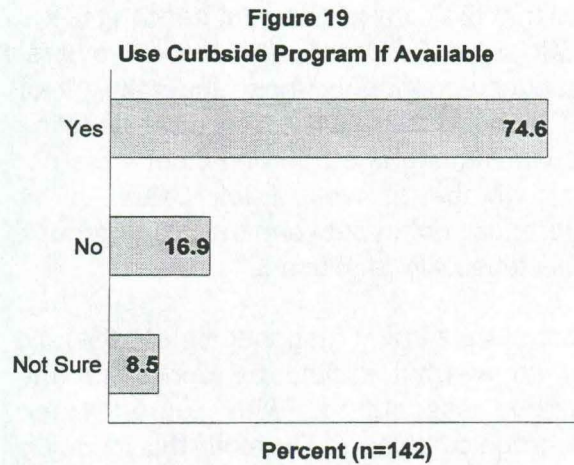


Among those respondents who said they had some type of recycling program in their community (n=659), the vast majority (83.8%) said they or other members of their household use the program. Among those who use the program (n=552) most sort a variety of items for recycling (Figure 18). Paper and cardboard are sorted by approximately 87 percent of these households. This is followed by plastic (84.6%), metal (79.7%), and glass (74.6%).



Finally, respondents who did not have or were not sure whether they had curbside recycling available in their community (n=142) were asked if they or other persons in their household would use such a program if it was available. As shown in Figure 19, slightly less

than three-fourths said they or other members in their household would use the program, approximately nine percent were "not sure," while approximately 17 percent said it would not be used.



Part 3 Summary

This study was conducted in the State of Iowa among a sample of 802 adults, age 18 and older, who were interviewed between March 11th and April 19, 1998. The data were collected by telephone using a RDD sampling plan. The margin of error for the findings is generally plus or minus four percent.

Fifty-four percent of the respondents were females and 46 percent were males. The mean age of the respondents was 50.72, with the median being 48.

Ninety percent of the respondents had completed a high school education or beyond. Most (57.7%) were employed and represented the continuum of occupational categories.

Sixty-four percent had lived in the State of Iowa for 21 or more years. The mean years residence was 43.19, while the median was 41.

Among those households whose members purchase beverages that require a container deposit, 96.7 percent indicated that the containers are usually returned. Most return them to the place where they were purchased (55.6%), and the reason they are returned is primarily to receive the refund (59.0%). The containers are usually returned every month or more often (74.3%).

Most of the respondents (57.6%) said they would recycle empty beverage containers even if they did not have to pay a deposit. Those who said they would "throw away" the containers (41.0%) consisted of an almost equal percent of men and women. The differences noted between the respondents with regard to sex, age, level of education, occupation, and years residence in Iowa were not statistically significant regarding who is more likely to throw away empty containers.

Regarding dealer's handling fee for returned beverage containers, the majority (57.2%) said that the current one cent handling fee is a fair value for processing the containers. Younger respondents (those under the age of 35) tended to support the current handling fee while those aged 55 and older were not sure whether it was a fair value. The differences noted between these age groups was statistically significant.

Most of the survey respondents (43.8%) did not know what should be done with the money associated with unredeemed beverage containers. Currently this money is retained by the beverage company. Among those who provided suggestions for the use of this money, one-fifth said that it should be used for recycling and environmental projects. Fifteen percent said that it should remain with the beverage company, while seventeen percent provided other suggestions.

The overwhelming majority of survey respondents (85.4%) support the continuation of Iowa's beverage container deposit law. Eight percent thought the law should be discontinued, while six percent were "not sure."

The three primary reasons given for continuing the law were "less litter along the highways," "more recycling will occur," and "less litter generally." The advantages of the law cited by most respondents included "less litter along the highways," "less litter generally," and the "advantages of recycling aluminum, glass, and plastic."

Those survey respondents who thought the law should be discontinued (n=66) cited "inconvenience to the consumer in storing, returning and having to make money deposits

on containers," "that people can use curbside recycling," and other varied reasons

Even though the majority of survey respondents thought the beverage container deposit law should be continued, slightly over half (52.1%) cited some disadvantages of the law. These included inconvenience to the consumer in returning containers to dealers, sanitary problems for consumers in storing used containers, and the initial redemption cost to the consumer. Other disadvantages included inconveniences and additional work for dealer in having to handle refunds for consumers, and sanitary or health problems for the dealer handling empty containers

Almost three-fourths of the study participants (73.7%) said that other beverages such as bottled juices, teas, sports drinks and other such beverages should require a bottle deposit.

General attitudes toward the Iowa Beverage Container Deposit Law were favorable. Survey respondents agreed that the law has resulted in less litter along the highways and in parks and recreation areas. Most felt the law has provided economic benefits to the state, and that it has generated additional employment opportunities. Further, they felt that by recycling, less energy and materials are used in the manufacturing of new cans and bottles, and that by their own behavior in returning beverage containers they have developed a more positive attitude about recycling. Most (73.9%) agreed that there should be a national beverage container law.

Attitudes toward the issue of curbside recycling were varied among survey respondents. Sixty percent of the respondents thought that if the beverage container law was ended, most people would continue to recycle beverage containers by using curbside recycling if it was available. On the other hand, only slightly over half (53.5%) said they would prefer to use curbside recycling (if it was available) rather

than having to return bottles and cans to dealers or redemption centers.

Finally, regarding general attitudes toward the beverage container recycling law and the issues of recycling, 92 percent of the respondents agreed that a combination of the container law and curbside recycling would be the best way to decrease the amount of litter going into landfills.

As expected, survey respondents' knowledge of the consequences of recycling beverage containers is varied and minimal. Among six knowledge questions asked of study participants, only one ("What happens to beverage containers when they are returned to dealers or redemption centers?") was answered correctly by a majority of the respondents. It is apparent that most people are unaware of the magnitude of some of the issues (e.g., number or percent of containers returned, number of other states having beverage container deposit laws, economic benefits, etc.) associated with recycling beverage containers.

Finally, survey respondents were asked a series of questions about household recycling. Most (59.1%) said that their household trash is picked up by city or town sanitation services, one-third said that they had curbside recycling available in their community, while 28 percent said they had a "drop off" service. Among those respondents who have curbside or drop off services (n=659), the vast majority (83.8%) said that they or other members in their household use the services. Among those survey participants who do not have curbside recycling services, almost three-fourths said they or other members in their household would use the service if it was available.

Bibliography

"Aluminum Can Recycling." *Information About the Can Industry*. Available: WWW URL: <http://www.cancentral.com/environ5.htm>.

Common Questions on Aluminum Can Recycling. Available: WWW URL: <http://www.cancentral.com/recque.htm>.

"Container Recycling Institute." *Container Packaging Recycling Update* [online], Spring 1996. Available: WWW URL: <http://www.io.org/~boo4env/cpr/spr96.htm>.

Container Recycling Institute, *Container Packaging Recycling Update*, Vol V, No.1, Spring 1995. Available: WWW URL: <http://www.io.org/~boo4env/cpr/spr95.htm>.

Container Recycling Institute. "Beverage Container Deposit Systems in the 90s." Volume II. (n.d.)

Dahlquist, David L., Associates, Inc. "Choices for Iowa's Environment: Phase I 1996 Survey of Public Attitudes Toward the Environment in Iowa," February 1996.

Denison, Richard A., Ph. D., and John F. Ruston. "Anti-Recycling Myths: commentary on 'Recycling is Garbage'" [online], 18 July 1996. Available: WWW URL: <http://www.edf.org/pubs/Reports/armythtin.html>.

Edgington, Denise. "Recycled Ideas." *BIRP's Stance*, 21 April 1997.

Green, Danielle. "Lake Watch!: The Disposal Guide to Household Hazardous Wastes" [online]. Available: WWW URL: http://www.epa.gov/grtlakes/p2/lkwatc_p.htm.

Krogulski, Marilyn. "Litter Did We Know." *Iowa Conservationist*, August 1994, 20-22.

O'Connell, Kim A. "Pennsylvania Bottle Bill Renews Debate Between Old Allies and Opponents." *Waste Age's Recycling Times*, 12 May 1997.

O'Connell, Kim A. "Pennsylvania Bottle Bill Renews Debate Between Old Allies and Opponents." *Waste Age's Recycling Times*. 12 May 1997.

"Recycle Iowa: Creating Economic Opportunity Through Recycling." *Recycle Iowa Home Page*, [online], Fall 1997. Available: WWW URL: <http://www.recycleiowa.org/>.

"Reverse Vending Info." *Environmental Products Corporation - Services Information*, [online]. n.d. Available: WWW URL: <http://www.envipco.com/reversev.html>.

Smith, Julie A., Memorandum to Members of the Management of Beverage Containers Interim Study Committee, Staff and Other Interested Persons. 1 November 1994.

State Public Policy Group. "Iowa Department of Natural Resources 1993 Service Survey: Overview and Analysis," March 1994.

"The Beverage Industry: Doing What it Takes to be WasteWi\$e." *Beverages Industry*, [online]. Available: WWW URL: [http://www.epa.gov/epaoswer/non-hw/reduce/wstewise/textonly/\\$id-bev.htm](http://www.epa.gov/epaoswer/non-hw/reduce/wstewise/textonly/$id-bev.htm).

Timmins, Sharon E., to Representative Reynolds-Knight, 10 October 1997 (memorandum).

Truini, Joe. "Litter Bugged: Pa. Farmers Push for Bottle Bill." *Waste News*, 8 April 1996.

Appendix -- Survey Questionnaire

CENTER FOR SOCIAL AND BEHAVIORAL RESEARCH
University of Northern Iowa

Iowa Department of Natural Resources
1998 Beverage Container Recycle Study
(Project 98-484)

Telephone Interview Schedule

[INTRODUCTION 1]

Hello, this is [YOUR NAME] and I am calling from the University of Northern Iowa's Center for Social and Behavioral Research. We are conducting a research project for the Iowa Department of Natural Resources, concerning recycling.

SC1. **Is this [TELEPHONE NUMBER]?**

1=YES

2=NO ⇨ *I'm sorry, I must have misdialled.* [HANG UP.]

SC2. **Is this a residential telephone number?**

1=YES

2=NO⇨ [PROBE TO DETERMINE IF A BUSINESS OR GROUP QUARTERS. IF NOT A RESIDENCE, SAY:]

We are only trying to reach people at their place of residence. Since this isn't a residential telephone number, I don't need any further information. Thanks for your help.

SC3. **Your household has been chosen randomly to be included in this study. In order to determine who we need to interview from your household, I need to know how many adults, age 18 or older, live in your household.**

NUMBER: _____

[IF SC3 EQ 0, SKIP TO CLOSE 2]

[IF SC3 EQ 1, SKIP TO INTRODUCTION 3]

SC4. **Of those adults, please tell me the age and sex of the person who had the most recent birthday?**

AGE: _____ SEX: MALE FEMALE

[IF PERSON ON PHONE HAD MOST RECENT BIRTHDAY, SAY:]

Then you are the person I need to speak to.

[SKIP TO INTRODUCTION 3]

[IF SELECTED RESPONDENT IS OTHER THAN PERSON ON PHONE, ASK]

SC5. **May I speak to that person?**

[WHEN SELECTED RESPONDENT COMES TO PHONE, BEGIN WITH INTRODUCTION 2]

[IF SELECTED RESPONDENT IS NOT AVAILABLE, ARRANGE FOR CALLBACK.]

[CLOSE WITH:] ***We will call (him/her) back (at/on/at) _____ Thank you. Good bye.***

[ON CALLBACK, BEGIN WITH INTRODUCTION 2]

[INTRODUCTION 2]

Hello, this is [_____] and I am calling from the University of Northern Iowa's Center for Social and Behavioral Research. We are conducting a research project for the Iowa Department of Natural Resources. Your household has been chosen randomly to be included in this study.

[INTRODUCTION 3]

As I said, we are conducting a study for the Iowa Department of Natural Resources. I would like to ask you a few questions and get your opinions about the recycling of beverage containers and the beverage container deposit law in Iowa. The interview only takes a few minutes and all the information you provide will be kept strictly confidential. Your participation in this study is completely voluntary and you do not need to answer any questions that you do not want to. If at any time you have any questions or need clarification, please feel free to ask.

Q1. To begin with, do you (or does anyone in your household) ever return empty beverage containers to stores, recycling or redemption centers?

1. YES
2. NO
3. NOT SURE
9. REFUSED

[IF Q1 EQ 1, SKIP TO Q3]

[IF Q1 GE 3, SKIP TO Q6]

Q2. What are some of reasons why you (or other members in your household) do not return the containers?

[PROBE. DO NOT READ LIST. CODE ALL THAT APPLY]

1. DON'T BUY BEVERAGES
2. GIVE TO CHARITY OR OTHER GROUPS (SCOUTS, CHURCH, ETC)
3. INCONVENIENCE OF RETURNING CONTAINERS
4. OTHER [SPECIFY]
9. REFUSED

[SKIP TO Q6]

Q3. What is (your / the) primary reason for returning these containers?

[PROBE. DO NOT READ LIST. CODE ALL THAT APPLY.]

1. REFUND
2. ENVIRONMENTALLY RELATED REASON(S)
3. OTHER [SPECIFY]
9. REFUSED

Q4. **How often do you (or other members in your household) return the empty containers, would you say**
... [READ LIST. CODE ONE ANSWER]

1. **weekly,**
2. **twice a month,**
3. **once a month, or**
4. **less often?**
5. NOT SURE
9. REFUSED

Q5. **When you (or other members in your household) return the containers, do you usually take them to**
... [READ LIST. CODE ALL THAT APPLY]

1. **the stores where the beverage was purchased,**
2. **other stores who sell the same product,**
3. **redemption or recycling centers, or**
4. **some other place? [SPECIFY]**
5. NOT SURE, SOMEONE ELSE IN THE HOUSEHOLD TAKES THEM BACK
9. REFUSED

Q6. **As you know, when you purchase certain kinds of beverages in Iowa you are charged a five cent deposit on the beverage container. I want to explain to you how this money flows from one person to another.**

When a retailer buys a beverage from a beverage company, the beverage company charges the retailer a five cents deposit on the container.

When you buy the beverage from the retailer, the retailer charges you the 5 cents as a deposit on the container.

When you return the empty container, the retailer refunds your five cent deposit.

When the retailer returns the container, the beverage company refunds the retailer five cents plus an additional penny handling fee, or a total of six cents, for the container.

Now with that in mind, do you think the one cent handling fee is a fair value for the stores and redemption centers or do you think it should be increased?

1. YES, FAIR VALUE AND NO INCREASE
2. NO, NOT FAIR VALUE AND SHOULD BE INCREASED
3. NOT SURE
9. REFUSED

[IF Q6 NE 2, SKIP TO Q8]

Q7. **'What do you think would be a fair value?'** [PROBE FOR AMOUNT IN CENTS]

[AMOUNT] _____¢ 98 DON'T KNOW 99 REFUSED

Q8a. **Currently the money for unredeemed containers stays with the beverage company. What do you think should be done with this unredeemed money?** [PROBE. DO NOT READ LIST. CODE ALL THAT APPLY]

1. KEPT BY THE BEVERAGE COMPANY
2. SHARED BY THE BEVERAGE COMPANY AND THE STATE
3. ALL USED FOR RECYCLING OR ENVIRONMENTAL PROGRAMS
4. NOT SURE
5. OTHER (SPECIFY)
9. REFUSED

[IF Q8a NE 4, SKIP TO Q9]

Q8b. **Well, here are a few suggestions that some people have made. Please tell me which one of the following, if any, you would favor being done with the unredeemed container money.** [READ LIST. PROBE. CODE ONE ANSWER.]

1. *The beverage companies should share the money with the state.*
2. *All the money should go to the state and be used for any purpose.*
3. *All the money should go to the state and be used for environmental or recycling projects.*
4. *All the money should be kept by the beverage company.*
5. OTHER (SPECIFY)
6. NOT SURE
9. REFUSED

Q9. **If you didn't have to pay a deposit on beverage containers, what would you usually do with the empty bottles and cans?** [PROBE. DO NOT READ LIST. CODE ALL THAT APPLY.]

1. THROW AWAY
2. RECYCLE
3. OTHER [SPECIFY]
7. NOT SURE
8. REFUSED

Q10. **The beverage container deposit law was started in Iowa in 1979. What do you think have been the advantages for Iowa in having this law?** [PROBE. DO NOT READ LIST. CODE ALL THAT APPLY]

1. LESS LITTER ALONG HIGHWAYS
2. LESS LITTER GENERALLY
3. RECYCLING ALUMINUM / GLASS / PLASTIC
4. MORE MATERIALS REMOVED FROM WASTE STREAM (LAND FILLS)
5. LESS WATER POLLUTION
6. CREATED NEW BUSINESSES WITH RECYCLING / REDEMPTION CENTERS
7. CREATED NEW JOBS FOR PEOPLE
8. HELPS FARMERS (E.G., LESS TIME SPENT PICKING UP LITTER, LESS DAMAGE TO EQUIPMENT)
9. LESS LIKELIHOOD OF LITTER DEBRIS GETTING INTO ANIMAL FEED
10. FEWER LITTER RELATED INJURIES TO PEOPLE
11. OTHER [SPECIFY]
12. "NOTHING" OR "NONE"
98. DON'T KNOW
99. REFUSED

Q11. ***What do you think are some of the disadvantages of the beverage container deposit law?***
[PROBE. DO NOT READ LIST. CODE ALL THAT APPLY]

1. INITIAL COST TO CONSUMER BEFORE REDEMPTION
2. INCONVENIENCE / SANITARY PROBLEMS FOR CONSUMER IN STORING USED CONTAINERS
3. INCONVENIENCE TO CONSUMER IN RETURNING CONTAINER TO DEALER
4. INCONVENIENCE AND ADDITIONAL WORK FOR DEALER IN HAVING TO HANDLE REFUNDS FOR CONSUMER
5. SANITARY OR HEALTH PROBLEMS FOR DEALER HANDLING EMPTY CONTAINER
6. INCONVENIENCE AND ADDITIONAL WORK FOR DEALER IN COLLECTING REFUND FROM DISTRIBUTOR OR REDEMPTION CENTER
7. MATERIALS ADDED TO WASTE STREAM
8. "NONE"
9. OTHER [SPECIFY]
98. DON'T KNOW
99. REFUSED

Q12. ***In 1979 we did not have all the beverage choices we do now, for example, bottled juices, teas, sports drinks, and so forth. Do you think these types of beverages should have a deposit on them like other beverages?***

1. YES
2. NO
3. NOT SURE
4. OTHER (SPECIFY)
9. REFUSED

Q13. ***Some people have proposed that the Iowa Legislature discontinue the beverage container deposit law. Do you think this law should be ended?***

1. YES
2. NO
3. NOT SURE
9. REFUSED

[IF Q13 EQ 2, SKIP TO Q15]

[IF Q13 GE 3, SKIP TO Q16]

Q14. **What are some of your reasons for thinking the law should be discontinued?** [PROBE. DO NOT READ LIST. CODE ALL THAT APPLY]

1. INCONVENIENCE TO **CONSUMER** IN HAVING TO MAKE MONEY DEPOSIT
2. INCONVENIENCE TO **CONSUMER** IN STORING CONTAINERS
3. INCONVENIENCE TO **CONSUMER** IN RETURNING CONTAINERS TO DEALER
4. INCONVENIENCE TO **DEALER** IN STORING USED CONTAINERS
5. SANITARY OR HEALTH PROBLEMS FOR **DEALER** HANDLING EMPTY CONTAINER
6. ADDITIONAL WORK FOR **DEALER** IN HAVING TO HANDLE REFUNDS FOR CONSUMER
7. INCONVENIENCE FOR **DEALER** IN COLLECTING REFUND FROM MANUFACTURER
8. PEOPLE CAN USE CURB RECYCLING INITIAL COST TO CONSUMER BEFORE REDEMPTION
9. OTHER [SPECIFY]
10. DON'T KNOW
99. REFUSED

[SKIP TO Q16]

Q15. **What are some of your reasons for thinking the law should be kept?** [PROBE. DO NOT READ LIST. CODE ALL THAT APPLY]

1. LESS LITTER ALONG HIGHWAYS
2. LESS LITTER GENERALLY
3. MORE RECYCLING WILL OCCUR
4. LESS MATERIALS ADDED TO WASTE STREAM
5. FEWER PROBLEMS FOR FARMERS (PICKING UP LITTER TO AVOID EQUIPMENT DAMAGE)
6. LESS LITTER DEBRIS GETTING INTO ANIMAL FEED
7. LESS LITTER RELATED INJURIES TO PEOPLE
8. OTHER [SPECIFY]
98. DON'T KNOW
99. REFUSED

Q16. *Now I would like to read you some statements that some people have made about the beverage container recycling law. As I read each statement, please tell me if you "Strongly Agree," "Agree," "Uncertain," "Disagree," or "Strongly Disagree" with the statement.*

	SA	A	U	D	SD
1. <i>There is less litter along Iowa's highways because of the beverage container deposit law.</i>	1	2	3	4	5
2. <i>Many parks and recreation areas in Iowa have less bottle and can litter because of the beverage container deposit law.</i>	1	2	3	4	5
3. <i>The beverage container deposit law provides economic benefits for the state of Iowa.</i>	1	2	3	4	5
4. <i>By recycling bottles and cans we use less energy and materials in manufacturing new cans and bottles.</i>	1	2	3	4	5
5. <i>The beverage container deposit law has generated additional employment opportunities for people in Iowa.</i>	1	2	3	4	5
6. <i>I believe there should be a national beverage container law.</i>	1	2	3	4	5
7. <i>By my having to return beverage containers, I have developed a more positive attitude about recycling.</i>	1	2	3	4	5
<i>Now I want to read you a few statements about "curbside recycling." This is when you sort things like glass, cans, plastic, and paper and place the sorted materials on your curb for pickup. Here is the first statement about curbside recycling.</i>					
8. <i>If the beverage container deposit law was ended, most people would continue to recycle beverage containers by using curbside recycling if it was available.</i>	1	2	3	4	5
9. <i>A combination of the beverage container deposit law and curbside recycling is the best way to decrease the amount of litter going into our landfills.</i>	1	2	3	4	5
10. <i>If it was available, I would prefer to use curbside recycling rather than having to return bottles and cans to dealers or redemption centers.</i>	1	2	3	4	5

[IF Q16-10 GE 3, SKIP TO Q18]

Q17. *Would you still prefer to use curbside recycling if it cost your city or county more money to do this?*

- 1. YES
- 2. NO
- 3. NOT SURE
- 9. REFUSED

Now I would like to ask you a few questions about how successful the beverage container control laws have been in recycling cans and bottles. You may not know the answer for many of these questions but we would like you to make your best guess or estimate for an answer.

Q18. To begin, approximately how many beverage containers are recycled annually by Iowans?

[NUMBER] _____ [IN EXCESS OF 1.4 BILLION]
98 NOT SURE
99 REFUSED

Q19. What percent of all beverage containers are returned in Iowa?

[PERCENT] _____ [90%]
98 NOT SURE
99 REFUSED

Q20. How many other states in the United States have some form of beverage container control law?

[NUMBER] _____ [9-LISTED BELOW]
98 NOT SURE
99 REFUSED

[CALIFORNIA, CONNECTICUT, DELAWARE, MAINE, MASSACHUSETTS, MICHIGAN, NEW YORK, OREGON, AND VERMONT]

Q21. In those states that do not have such laws, approximately what percent of the beverage containers are returned or recycled?

[PERCENT] _____ [25-35%]
98 NOT SURE
99 REFUSED

Q22. When a person returns a beverage container to a store or redemption center, what happens to that container?

00 RECYCLED / MATERIALS ARE REUSED [00 IS CORRECT ANSWER]
01 TAKEN TO LANDFILL
02 OTHER [SPECIFY]
98 NOT SURE
99 REFUSED

Q23. As you may know, the beverage container control law has created many new jobs in the collection, handling and processing of containers. How much money do you think is generated each year in Iowa because of these new jobs?

[AMOUNT] _____ [17 MILLION]
98 NOT SURE
99 REFUSED

Well that concludes our little "quiz." Now I have a few background questions and we will be done.

Q24. *Currently what happens to your household trash, . . .* [READ LIST. CODE ALL THAT APPLY]

1. *is it picked up by your city or town garbage collection service,*
2. *It is picked up by a private company,*
3. *you take it to a landfill,*
4. *you burn or bury it on your property,*
5. *or some other way?* [SPECIFY]

Q25. *Do you have a curbside or drop off recycling program in your community?* [PROBE FOR TYPE]
("Curbside" or "drop off" recycling is where you sort things like glass, cans, plastic, and paper and place the sorted materials on your curb for pickup or take them to a location in your community.)

1. CURBSIDE
2. DROP OFF
3. BOTH
4. NOT SURE
5. NOT AVAILABLE IN COMMUNITY
9. REFUSED

[IF Q25 GE 4, SKIP TO Q28]

Q26. *Do you (or other persons in your household) use this recycling program in your community?*

1. YES
2. NO
3. NOT SURE
9. REFUSED

[IF Q26 GE 2, SKIP TO Q29]

Q27. *What kinds of things do you (or other persons in your household) sort for recycling?* [PROBE. DO NOT READ LIST. CODE ALL THAT APPLY]

1. GLASS
2. PLASTIC (MILK CONTAINERS, ETC.)
3. METAL
4. PAPER (INCLUDING CARDBOARD)
5. OTHER [SPECIFY]
6. "NOTHING"
9. REFUSED

[SKIP TO Q29]

Q28. *If a curbside recycling program was available in your community, would you (or other persons in your household) use it?*

1. YES
2. NO
3. NOT SURE
9. REFUSED

And now a few questions about yourself.

Q29. **And you are . . .**

1. *male, or*
2. *female?*

Q30. **What was your age on your last birthday?**

[AGE] _____ [98= 98 YEARS OR OLDER; 99=REFUSED]

Q31. **What is the highest grade or year of school you've completed?**

[PROBE. CODE ONE ANSWER. READ LIST IF NECESSARY]

1. *Less than 9th grade*
2. *Some high school, but no diploma,*
3. *High school (including GED)*
4. *Some education beyond high school, an associate degree, some college, or tech/training school*
5. *Undergraduate degree (completion of BA ,BS, or equivalent)*
6. *Some post-college or professional degree (MA, MS, MFS, MBA, PhD, DOE, MD, etc)*
7. REFUSED

Q32. **Are you currently . . .**

1. *employed,*
2. *unemployed,*
3. *student,*
4. *retired, or*
5. *a homemaker?*
6. OTHER [SPECIFY]

[IF Q32 NE 1, SKIP TO Q34]

Q33. **What kind of work do you do, what is your main occupation called?**

[PROBE. IF MORE THAN ONE OCCUPATION, ASK FOR PRIMARY OCCUPATION.]

[RECORD OCCUPATIONAL TITLE]

Q34. **For approximately how many years have you lived in Iowa?**

[ASK FOR TOTAL YEARS. NOT CONSECUTIVE YEARS]

[YEARS] _____ 00 LESS THAN ONE 99 REFUSED]

Q35. **And what is your zip code?**

[ZIP CODE] _____

99998 DON'T KNOW

99999 REFUSED

[CLOSE 1] **That's my last question. Your answers have been very helpful and I want to thank you for your time and cooperation. Good bye.**

[CLOSE 2] **Since our study focuses on persons who are 18 or older, that is all of the information I need. Thank you for your time. Good bye.**

STATE LIBRARY OF IOWA



3 1723 02068 1706