

Section 2

RECYCLING DATA COLLECTION

2.1 Introduction

A comprehensive statewide survey of collectors, processors, end-users, brokers, remanufacturers, reuse establishments, and recycling equipment manufacturers was undertaken to gather recyclable materials quantity and recycling economic-related information.

2.2 Methodology

To gather the needed recycling data, the R. W. Beck Project Team worked with IDNR staff to complete the follow steps:

- Develop a comprehensive list of businesses/organizations to survey;
- Draft a written survey and accompanying cover letter to reflect various combinations of recycling activities; and
- Administer the survey to the targeted list of recycling organizations.

2.2.1 Database of Recycling Entities

The IDNR compiled a list of private businesses and public organizations to survey. This list was reviewed to identify duplications and other businesses/organizations involved in the recycling of commodities that were not on the survey list. A master list of entities to survey was developed that included collectors, processors, end-users, brokers, remanufacturers, reuse establishments, recycling equipment manufacturers, and entities involved in a combination of these activities. The database survey list was finalized to include approximately 1,365 recycling businesses and organizations.

2.2.2 Development of Surveys

Upon completing the list of those to be surveyed, the R. W. Beck Project Team, in conjunction with IDNR staff, developed a written survey to be administered to the various entities. The survey was drafted to gather the following information:

- Accurate contact information;
- Recycling activities conducted;
- Employment, payroll, and gross sales information;

- Recyclable material quantity and pricing information; and
- Perceived barriers and drivers to recycling in Iowa.

One survey was developed with six separate sections for each of the following types of recycling entities:

- Collectors;
- Processors;
- End-users;
- Brokers;
- Remanufacturers and Reuse Establishments; and
- Recycling Equipment Manufacturers.

The definitions of the six categories were outlined in the survey directions and respondents were asked to determine what sections of the survey applied to their business. All respondents were asked to complete Section 7 of the survey, titled General Opinion Questions. Cover letters were developed and sent with the survey. A copy of the survey can be found in Appendix B of this report.

2.2.3 Administering of Survey

The cover letter and survey were mailed to the private businesses and public organizations on the finalized database list.

The process used to obtain both accurate and measurable responses to the surveys involved a three contact approach. Approximately two to three weeks after forwarding the surveys, the R. W. Beck Project Team staff attempted to reach by phone the contact persons for the survey recipients flagged as “priority” by IDNR staff. This priority list was composed of over 600 businesses, organizations, and municipalities from the database of the 1,365 surveyed. If we were successful in reaching the identified contact persons, the contact information was confirmed and the recipient was encouraged to complete the survey and return it to R. W. Beck as soon as possible. A systematic protocol was used to explain objectives of the survey and obtain accurate information from the recipient. If we were unsuccessful in reaching the contact persons, we attempted to leave messages for the identified individuals.

Overall, we attempted to reach the targeted survey recipient at least three times before considering companies as non-respondents. After approximately eight weeks, the R. W. Beck Project Team reviewed the list of respondents and identified processors and end-users who had not responded. From this list, IDNR and R. W. Beck staff attempted to contact the processors and end-users handling large quantities of materials to obtain the needed data. The objective was to gather data from those entities considered to play a "significant" role in recycling in Iowa.

2.2.4 Survey Results

Of the approximately 1,365 surveys mailed, 207 were returned for a response rate of fifteen percent.

A summary of the survey results by recycling activity including employment, payroll, and material quantities is provided below.

Table 2-1
Summary of Survey Results
(2007 Study)¹

Recycling Activity	Total Quantities (tons per year)	Total Employment (FTE)	Total Payroll (\$ million)
Collection	379,876	511	14.6
Processing	1,304,620	1,004	24.6
End-Use	2,922,188	4,465	115.2
Remanufacturing/ Reuse	165,217	534	9.0

¹ All data is for calendar year 2005 and represents the documented survey information.

2.2.4.1 Recyclable Material Quantities

The individual survey responses were input into a materials flow model for collectors, processors, end-users, remanufacturers/reuse establishments, and brokers. Raw data was summarized by commodity type for each survey group. In instances where the respondent provided an aggregated total (i.e., Total Paper), this total was allocated by commodity types (i.e., ONP, OCC, High Grade, and Other Paper) in that particular category based upon the average distribution for the other respondents involved in this activity (i.e., processors of paper).

For the collectors, an additional level of distribution was necessary to calculate the residential-commercial mix for collectors identifying materials collected in commingled form. This calculated residential-commercial split is based on the percentage split among respondents providing detailed residential-commercial recycling quantity information. This calculation for the collectors was completed prior to segregating the material types (i.e., Total Paper) by commodity type (i.e., ONP, OCC, High Grade, and Other Paper).

2.2.4.2 Recyclable Material Pricing

The per-ton prices for each of the recyclable commodities were calculated using two approaches. First, the average price per ton was calculated based upon the average prices per ton by commodity type reported by the survey respondents. Because of the limited pricing information provided by respondents, a second approach was undertaken to supplement the survey respondent pricing information. The monthly commodity prices in 2005 as reported in industry sources including "Waste News" and

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"Official Board Markets" were reviewed for the Central Region of the United States. An average annual price per ton was calculated for each of the recyclable material commodities. Providing survey-specific average per ton pricing information, as well as an annual average per ton price from a reputable source within the industry, was designed to provide a comprehensive baseline in which to calculate the gross sales. The gross sales were calculated using the material quantity and pricing information to develop gross sales input information.