



# U.S. GROCERY RETAIL FOOD INEDIBLE PARTS FACTORS

2019

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*Nielsen has committed to donating at least \$10 million a year in pro bono skills-based volunteering and projects through the company's Data for Good program, which helps create new solutions to social and environmental challenges. This collaboration with ReFED is one example of how Nielsen is taking action. Nielsen is donating five years of food pricing and purchase data to help ReFED launch their ReFED Insights Engine, a digital-first, continuously updated platform to house the next generation of data and insights on food waste.*

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*This report describes the methodology used to quantify the weight proportion of U.S. grocery food items that are inedible parts (e.g., bones, cores, peels) as opposed to the part of a food item that is intended for human consumption. Numbers are summarized at the food department and category levels. ReFED has developed this dataset with data from Nielsen combined with USDA inedible parts percentages as documented in the Appendix.*

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## OVERVIEW

One barrier to food waste measurement for businesses interested in understanding how much of their waste is food (i.e., edible parts intended for human consumption) is the difficulty in quantifying the weight of the associated inedible parts of food (e.g., bones, cores, peels)<sup>1</sup>. Businesses that discard products with the inedible parts (e.g., whole unpeeled bananas) and wish to report the food/edible part separately from the associated inedible parts, are unlikely to weigh the inedible parts and as such will need to estimate their weight using an inedible parts factor. Public datasets exist that can be used to overcome this barrier, but they are often unknown to businesses and are in a format that requires a significant amount of work to integrate into business datasets.

A top source of this data, the USDA National Nutrient Database for Standard Reference (NND<sup>SR</sup>)<sup>2</sup>, has been maintained by the USDA for many years. This database houses many data attributes about thousands of U.S. food products. One of the data attributes available is a “refuse” percentage that specifies the percent by weight of a food product that is deemed inedible. **However**, this data is available in an item level format that doesn’t enable department level or category level estimates by businesses (e.g., data for four types of onions). Even if this data was available at the department or category levels, quantifying the weight of inedible food parts can still be difficult for businesses because of the difficulty in quantifying the weight of food purchased, sold, and wasted<sup>3</sup>.

This report outlines the methodology used to develop a set of U.S. industry average grocery retail food inedible parts factors to help grocery retailers overcome these barriers. ReFED developed this dataset with data from Nielsen combined with USDA inedible parts factors to enable the quantification of the weight of a product’s inedible parts at the food department and category levels. Because these factors do not vary significantly among retailers, individual retailers can safely use these ratios to estimate the weight of inedible food parts in their individual datasets. These factors will make it feasible for many businesses to quantify the weight of inedible parts of food for the first time.

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<sup>1</sup> Inedible parts as defined in the Food Loss and Waste Accounting and Reporting Standard refers to components associated with a food that, in a particular food supply chain, are not intended to be consumed by humans. For more details see: [https://www.flwprotocol.org/wp-content/uploads/2019/03/FLW\\_Standard\\_Exec\\_Summary.pdf](https://www.flwprotocol.org/wp-content/uploads/2019/03/FLW_Standard_Exec_Summary.pdf)

<sup>2</sup> USDA National Nutrient Database for Standard Reference: <https://www.ars.usda.gov/northeast-area/beltsville-md-bhnrc/beltsville-human-nutrition-research-center/methods-and-application-of-food-composition-laboratory/mafcl-site-pages/sr17-sr28/>

<sup>3</sup> ReFED has also developed a report that describes the difficulty for businesses in quantifying the weight of food purchased, sold, and wasted along with a set of U.S. industry average grocery retail value-to-weight conversion factors to address this lack of food product weight data: <https://www.refed.com/downloads/ReFED-U.S.-Grocery-Retail-Value-to-Weight-Conversion-Factors.pdf>.

# METHODOLOGY

## Calculations

ReFED mapped each Nielsen subcategory to a single USDA food type before calculating a sales weighted average inedible parts factor based on the percentage refuse from the USDA data and the weight of each subcategory sold from the Nielsen data. Appendix B lists the USDA food types that were mapped to each food category.

Nielsen data represents over 85% coverage of grocery retail sales in the U.S. Each year top U.S. grocery retailers report item level register sales data to Nielsen, including information about each item such as the grocery chain where it was sold, the brand name of the product, the food classification (department, category, subcategory), the weight of food, and many other attributes. The following table displays the calculations used to develop U.S. grocery retail industry average category and department-level inedible parts factors.

**Table 1.** Calculations Performed to Determine Average Inedible Parts Factors

DATA	DATA SOURCE OR CALCULATION	EXAMPLE
Item Sales	Annual U.S. 50-state register sales for a single item according to Nielsen point-of-sale (POS) data	\$5.8 Million in sales of a particular pork rib product (a single UPC item)
Item Food Weight	Item weight according to Nielsen POS data	2 lbs of food per unit
Item Percent Inedible	USDA National Nutrient Database for Standard Reference (NNDLR)	30% refuse for pork ribs (bones) See Appendix A for more information about this data source
Item Inedible Parts Weight	= Item Food Weight * Item Percent Inedible	= 2 lbs of food * 30% refuse = 0.6 lbs inedible parts
Item Units Sold	Annual U.S. 50-state item units sold reported to Nielsen by grocery stores	1 Million units sold
Item Inedible Parts Weight	= Item Inedible Parts Weight * Item Units Sold	= 1 Million units sold * 0.6 lbs inedible parts per unit = 600,000 lbs inedible parts sold
Item Food Weight Sold	= Item Food Weight * Item Units Sold	= 2 lbs of food per unit * 1 Million units sold = 2 Million lbs of food sold
Department or Category Sales	= SUM of Item Sales for all items in each Department or Category	\$7.56 Billion of products sold in the Pork Category of the Fresh Meat & Seafood Department (all items across various brands in the Pork Category)

DATA	DATA SOURCE OR CALCULATION	EXAMPLE
Department or Category Inedible Parts Weight	= SUM of Item Inedible Parts Weight for all items in each Department or Category	315 Million lbs of inedible parts sold in the Pork Category of the Fresh Meat & Seafood Department (all items across various brands in the Pork Category)
Department or Category Food Weight Sold	= SUM of Item Food Weight Sold for all items in each Department or Category	1.52 Billion lbs of food sold in the Pork Category of the Fresh Meat & Seafood Department (all items across various brands in the Pork Category)
Department or Category Industry Average Inedible Parts per Lb Sold	= Department or Category Inedible Parts Weight / Department or Category Food Weight Sold	= 315 Million lbs of inedible parts / 1.52 Billion lbs of food sold = 0.207 lbs inedible parts per lb of food sold in the Pork Category of the Fresh Meat & Seafood Department
Department or Category Industry Average Inedible Parts per \$ Sold	= Department or Category Inedible Parts Weight / Department or Category Sales	= 315 Million lbs of inedible parts / \$7.56 Billion sold = .042 lbs inedible parts per \$ sold in the Pork Category of the Fresh Meat & Seafood Department

## Limitations

The accuracy of these estimates is limited to the accuracy of the Nielsen sales and weight data. The weight data for UPC items comes directly from up-to-date product packaging images. For non-UPC items sold in eches, Nielsen estimates weight using a weight conversion factor (e.g., the average weight of a lemon). For other non-UPC items, Nielsen is reliant on the retailer transaction data to provide the item sale weight units (e.g., lbs of apples sold). Furthermore, due to the variability of inedible parts from item to item, the USDA food type proxies selected may not accurately reflect the true weight of inedible parts. See Appendix A for a list of USDA food types and associated refuse percentages that were mapped to each food category.

# RESULTS

**Table 2.** Department Level Inedible Parts Factors

FOOD DEPARTMENT	INDUSTRY AVERAGE INEDIBLE PARTS FACTOR (LBS INEDIBLE PARTS PER LB OF FOOD)	INDUSTRY AVERAGE LBS INEDIBLE PARTS PER RETAIL \$ SOLD
All Food	5.29%	0.023
Breads & Bakery	0.00%	0.000
Dairy & Eggs	0.81%	0.006
Deli & Prepared Foods	3.93%	0.007
Dry Goods	0.00%	0.000
Fresh Meat & Seafood	14.77%	0.033
Frozen	0.81%	0.003
Produce	22.23%	0.142
Ready-To-Drink Beverages	0.00%	0.000

**Table 3.** Category Level Inedible Parts Factors

FOOD CATEGORY	INDUSTRY AVERAGE INEDIBLE PARTS FACTOR (LBS INEDIBLE PARTS PER LB OF FOOD)	INDUSTRY AVERAGE LBS INEDIBLE PARTS PER RETAIL \$ SOLD
BREADS & BAKERY		
Artisan and specialty bread	0.00%	0.000
Bagels	0.00%	0.000
Brownies	0.00%	0.000
Cake	0.00%	0.000
Cheesecake	0.00%	0.000
Cookies	0.00%	0.000
Cupcakes	0.00%	0.000
Donuts	0.00%	0.000
English muffins and crumpets	0.00%	0.000
Flatbreads and pizza crusts	0.00%	0.000

**Table 3.** Category Level Inedible Parts Factors Continued

FOOD CATEGORY	INDUSTRY AVERAGE INEDIBLE PARTS FACTOR (LBS INEDIBLE PARTS PER LB OF FOOD)	INDUSTRY AVERAGE LBS INEDIBLE PARTS PER RETAIL \$ SOLD
<b>BREADS &amp; BAKERY</b>		
Muffins	0.00%	0.000
Naan	0.00%	0.000
Other desserts	0.00%	0.000
Pies, cobblers, and crisps	0.00%	0.000
Pita bread	0.00%	0.000
Rolls and buns	0.00%	0.000
Sliced bread	0.00%	0.000
Soft tortillas	0.00%	0.000
Sweet goods	0.00%	0.000
<b>DAIRY &amp; EGGS</b>		
Butter, margarine, and substitutes	0.00%	0.000
Buttermilk	0.00%	0.000
Cheese	0.00%	0.000
Creams and creamers	0.00%	0.000
Dairy milk	0.00%	0.000
Egg nog	0.00%	0.000
Eggs	11.99%	0.067
Lactose reduced/free milk	0.00%	0.000
Liquid egg mix	0.00%	0.000
Plant-based dairy alternatives	0.00%	0.000
Refrigerated doughs	0.00%	0.000
Sour cream	0.00%	0.000
Yogurt	0.00%	0.000
<b>DELI &amp; PREPARED FOODS</b>		
Appetizers	0.00%	0.000
Breakfast foods	0.00%	0.000
Calzones or stromboli	0.00%	0.000



**Table 3.** Category Level Inedible Parts Factors Continued

FOOD CATEGORY	INDUSTRY AVERAGE INEDIBLE PARTS FACTOR (LBS INEDIBLE PARTS PER LB OF FOOD)	INDUSTRY AVERAGE LBS INEDIBLE PARTS PER RETAIL \$ SOLD
DELI & PREPARED FOODS		
Chilled salsa, dips, and spreads	0.00%	0.000
Deli cheeses	0.00%	0.000
Deli lunchmeat	0.00%	0.000
Deli salads	0.00%	0.000
Deli trays	0.00%	0.000
Fully cooked beef	6.24%	0.010
Fully cooked chicken	21.60%	0.047
Fully cooked pork	11.33%	0.023
Fully cooked turkey	17.15%	0.029
Handheld entrees	0.00%	0.000
Hummus	0.00%	0.000
Lasagna	0.00%	0.000
Mac and cheese	0.00%	0.000
Meal kits	0.00%	0.000
Meat alternatives	0.00%	0.000
Other meat	0.20%	0.000
Pasta	0.00%	0.000
Pizza	0.00%	0.000
Pot pies	0.00%	0.000
Potatoes	0.00%	0.000
Prepared fruit or vegetables	0.00%	0.000
Prepared meals	0.00%	0.000
Rice	0.00%	0.000
Sandwiches	0.00%	0.000
Snack combos	0.00%	0.000
Soups, stews, and broth	0.00%	0.000
Sushi	0.00%	0.000

**Table 3.** Category Level Inedible Parts Factors Continued

FOOD CATEGORY	INDUSTRY AVERAGE INEDIBLE PARTS FACTOR (LBS INEDIBLE PARTS PER LB OF FOOD)	INDUSTRY AVERAGE LBS INEDIBLE PARTS PER RETAIL \$ SOLD
DRY GOODS		
Apple sauce	0.00%	0.000
Baby food	0.00%	0.000
Bagged or loose tea	0.00%	0.000
Baking chips and chocolate	0.00%	0.000
Baking cocoa	0.00%	0.000
Baking coconut	0.00%	0.000
Baking milks	0.00%	0.000
Baking mixes	0.00%	0.000
Baking nuts	0.00%	0.000
Baking powder	0.00%	0.000
Baking soda	0.00%	0.000
Baking sprinkles	0.00%	0.000
Baking yeast	0.00%	0.000
Bouillon	0.00%	0.000
Boxed dinners	0.00%	0.000
Breakfast syrups	0.00%	0.000
Broth	0.00%	0.000
Canned beans	0.00%	0.000
Canned fruit	0.00%	0.000
Canned meat and seafood	0.02%	0.000
Canned soup	0.00%	0.000
Canned vegetables	0.00%	0.000
Cereal	0.00%	0.000
Cereal and granola bars	0.00%	0.000
Chocolate candy	0.00%	0.000
Coating mixes and crumbs	0.00%	0.000
Chocolate candy	0.00%	0.000
Coating mixes and crumbs	0.00%	0.000

**Table 3.** Category Level Inedible Parts Factors Continued

FOOD CATEGORY	INDUSTRY AVERAGE INEDIBLE PARTS FACTOR (LBS INEDIBLE PARTS PER LB OF FOOD)	INDUSTRY AVERAGE LBS INEDIBLE PARTS PER RETAIL \$ SOLD
DRY GOODS		
Coffee	0.00%	0.000
Coffee enhancers	0.00%	0.000
Coffee pods	0.00%	0.000
Condiments	0.00%	0.000
Cookies	0.00%	0.000
Cooking oils	0.00%	0.000
Cooking syrups	0.00%	0.000
Cooking wine and vinegar	0.00%	0.000
Corn and other food starch	0.00%	0.000
Crackers	0.00%	0.000
Cranberry sauce	0.00%	0.000
Dessert toppings	0.00%	0.000
Diet and nutrition	0.00%	0.000
Dried fruit and vegetables	0.00%	0.000
Dry beans	0.00%	0.000
Edible cake decoration	0.00%	0.000
Flour and meal	0.00%	0.000
Frosting	0.00%	0.000
Fruit snacks	0.00%	0.000
Gift baskets	0.00%	0.000
Gnocchi and dumplings	0.00%	0.000
Grits	0.00%	0.000
Gum	0.00%	0.000
Hard shell tortillas	0.00%	0.000
Herbs, spices, and seasonings	0.00%	0.000
Hot cider	0.00%	0.000
Hot cocoa	0.00%	0.000
Jams and jellies	0.00%	0.000

**Table 3.** Category Level Inedible Parts Factors Continued

FOOD CATEGORY	INDUSTRY AVERAGE INEDIBLE PARTS FACTOR (LBS INEDIBLE PARTS PER LB OF FOOD)	INDUSTRY AVERAGE LBS INEDIBLE PARTS PER RETAIL \$ SOLD
DRY GOODS		
Marshmallows	0.00%	0.000
Milk enhancers	0.00%	0.000
Mints	0.00%	0.000
Nut butters	0.00%	0.000
Nuts and seeds	0.00%	0.000
Oatmeal and hot cereal	0.00%	0.000
Other candy	0.00%	0.000
Other grains	0.00%	0.000
Other noodles	0.00%	0.000
Other sauce, gravy, and marinades	0.00%	0.000
Pasta	0.00%	0.000
Pasta sauce	0.00%	0.000
Pickles, olives, and pickled vegetables	0.00%	0.000
Pie crusts	0.00%	0.000
Pie filling	0.00%	0.000
Pudding and gelatin	0.00%	0.000
Ramen	0.00%	0.000
Rice	0.00%	0.000
Salad dressing	0.00%	0.000
Salad toppings	0.00%	0.000
Salty snacks	0.00%	0.000
Sauce, soup, and seasoning mixes	0.00%	0.000
Shake and smoothie mix	0.00%	0.000
Shelf-stable dips and salsa	0.00%	0.000
Shortening and lard	0.00%	0.000
Snack cakes	0.00%	0.000

**Table 3.** Category Level Inedible Parts Factors Continued

FOOD CATEGORY	INDUSTRY AVERAGE INEDIBLE PARTS FACTOR (LBS INEDIBLE PARTS PER LB OF FOOD)	INDUSTRY AVERAGE LBS INEDIBLE PARTS PER RETAIL \$ SOLD
DRY GOODS		
Specialty wraps	0.00%	0.000
Sugar and sweeteners	0.00%	0.000
Toaster pastries	0.00%	0.000
Tomato sauce and paste	0.00%	0.000
FRESH MEAT & SEAFOOD		
Bacon	0.00%	0.000
Beef ribs	16.00%	0.019
Beef roast	6.00%	0.006
Chicken breast	20.00%	0.040
Chicken legs	68.00%	0.869
Chicken thighs	32.00%	0.137
Chicken wings	38.00%	0.111
Clams and mussels	55.60%	0.119
Crab	20.07%	0.016
Fowl and exotics	22.32%	0.031
Ground beef	0.00%	0.000
Ground chicken	0.00%	0.000
Ground turkey	0.00%	0.000
Ham	7.39%	0.027
Lamb	18.13%	0.025
Lobster	41.17%	0.087
Lunchmeat	0.00%	0.000
Meat alternatives	0.00%	0.000
Other beef	1.18%	0.002
Other chicken	2.25%	0.004
Other fish	0.00%	0.000
Other meat	0.00%	0.000
Other seafood	0.00%	0.000

**Table 3.** Category Level Inedible Parts Factors Continued

FOOD CATEGORY	INDUSTRY AVERAGE INEDIBLE PARTS FACTOR (LBS INEDIBLE PARTS PER LB OF FOOD)	INDUSTRY AVERAGE LBS INEDIBLE PARTS PER RETAIL \$ SOLD
FRESH MEAT & SEAFOOD		
Other shellfish	8.69%	0.020
Other turkey	23.81%	0.129
Oysters	51.43%	0.043
Pork	20.70%	0.042
Salmon	0.00%	0.000
Sausage and franks	0.00%	0.000
Shrimp	4.23%	0.005
Steaks	23.00%	0.021
Whole chicken	32.00%	0.138
FROZEN		
Frozen appetizers	0.00%	0.000
Frozen bagels	0.00%	0.000
Frozen bakery desserts	0.00%	0.000
Frozen beans	0.00%	0.000
Frozen beef	1.92%	0.005
Frozen bread	0.00%	0.000
Frozen breakfast foods	0.00%	0.000
Frozen calzones and stromboli	0.00%	0.000
Frozen chicken	10.25%	0.033
Frozen dairy desserts	0.00%	0.000
Frozen dessert toppings	0.00%	0.000
Frozen dough and batters	0.00%	0.000
Frozen fruit	0.00%	0.000
Frozen fruit juice	0.00%	0.000
Frozen handheld entrees	0.00%	0.000
Frozen lasagna	0.00%	0.000
Frozen mac and cheese	0.00%	0.000

**Table 3.** Category Level Inedible Parts Factors Continued

FOOD CATEGORY	INDUSTRY AVERAGE INEDIBLE PARTS FACTOR (LBS INEDIBLE PARTS PER LB OF FOOD)	INDUSTRY AVERAGE LBS INEDIBLE PARTS PER RETAIL \$ SOLD
FROZEN		
Frozen meals	0.00%	0.000
Frozen meat alternatives	0.00%	0.000
Frozen pasta	0.00%	0.000
Frozen pie crust	0.00%	0.000
Frozen pizza	0.00%	0.000
Frozen pork	0.00%	0.000
Frozen pot pies	0.00%	0.000
Frozen potatoes	0.00%	0.000
Frozen rice	0.00%	0.000
Frozen rolls and buns	0.00%	0.000
Frozen sausage and franks	0.00%	0.000
Frozen seafood	1.81%	0.003
Frozen toaster pastries	0.00%	0.000
Frozen turkey	1.75%	0.007
Other frozen desserts	0.00%	0.000
Other frozen meat	4.40%	0.014
Other frozen vegetables	0.00%	0.000
PRODUCE		
Apples	10.06%	0.061
Apricots	7.00%	0.022
Artichokes	60.00%	0.196
Asparagus	47.00%	0.157
Avocados	32.55%	0.137
Bananas	35.96%	0.641
Bell peppers	18.00%	0.070
Blackberries	4.00%	0.006
Blueberries	5.00%	0.011

**Table 3.** Category Level Inedible Parts Factors Continued

FOOD CATEGORY	INDUSTRY AVERAGE INEDIBLE PARTS FACTOR (LBS INEDIBLE PARTS PER LB OF FOOD)	INDUSTRY AVERAGE LBS INEDIBLE PARTS PER RETAIL \$ SOLD
PRODUCE		
Broccoli	38.82%	0.193
Brussel sprouts	10.00%	0.034
Cabbage	19.53%	0.224
Cantaloupe	49.00%	0.627
Carrots	5.77%	0.048
Cauliflower	60.95%	0.368
Celery	8.37%	0.042
Cherries	8.00%	0.025
Chili peppers	10.61%	0.067
Clementines, mandarins, and tangerines	26.00%	0.178
Coconut	48.00%	0.448
Cranberries	2.00%	0.007
Cucumbers	3.00%	0.023
Dipped fruit	3.87%	0.011
Eggplant	19.00%	0.117
Figs	1.00%	0.001
Fruit or vegetable trays	0.00%	0.000
Garlic	13.00%	0.041
Grapefruit	49.15%	0.395
Grapes	4.00%	0.019
Green beans	5.64%	0.022
Greens	6.54%	0.035
Honeydew	54.00%	0.562
Kale	28.00%	0.137
Kiwis	24.00%	0.114
Leeks	56.00%	0.133
Lemons	47.00%	0.241



**Table 3.** Category Level Inedible Parts Factors Continued

FOOD CATEGORY	INDUSTRY AVERAGE INEDIBLE PARTS FACTOR (LBS INEDIBLE PARTS PER LB OF FOOD)	INDUSTRY AVERAGE LBS INEDIBLE PARTS PER RETAIL \$ SOLD
PRODUCE		
Lettuce	8.66%	0.045
Limes	16.00%	0.117
Mangos	29.00%	0.225
Mixed vegetables	0.00%	0.000
Mushrooms	2.99%	0.007
Nectarines	9.00%	0.044
Onions	11.24%	0.098
Oranges	30.77%	0.247
Other beans	0.00%	0.000
Other berries	2.09%	0.003
Other citrus	21.45%	0.076
Other fruit	15.98%	0.053
Other melons	48.78%	0.421
Other squash	17.85%	0.166
Other vegetables	4.71%	0.023
Packaged salads	0.00%	0.000
Papayas	38.00%	0.384
Peaches	4.00%	0.023
Pears	10.30%	0.067
Peas	9.46%	0.018
Pineapples	49.00%	0.668
Plums	6.00%	0.029
Pomegranates	44.00%	0.162
Potatoes	24.61%	0.308
Pumpkins	30.00%	0.463
Radishes	10.01%	0.099
Raspberries	4.00%	0.005
Root vegetables	17.39%	0.084

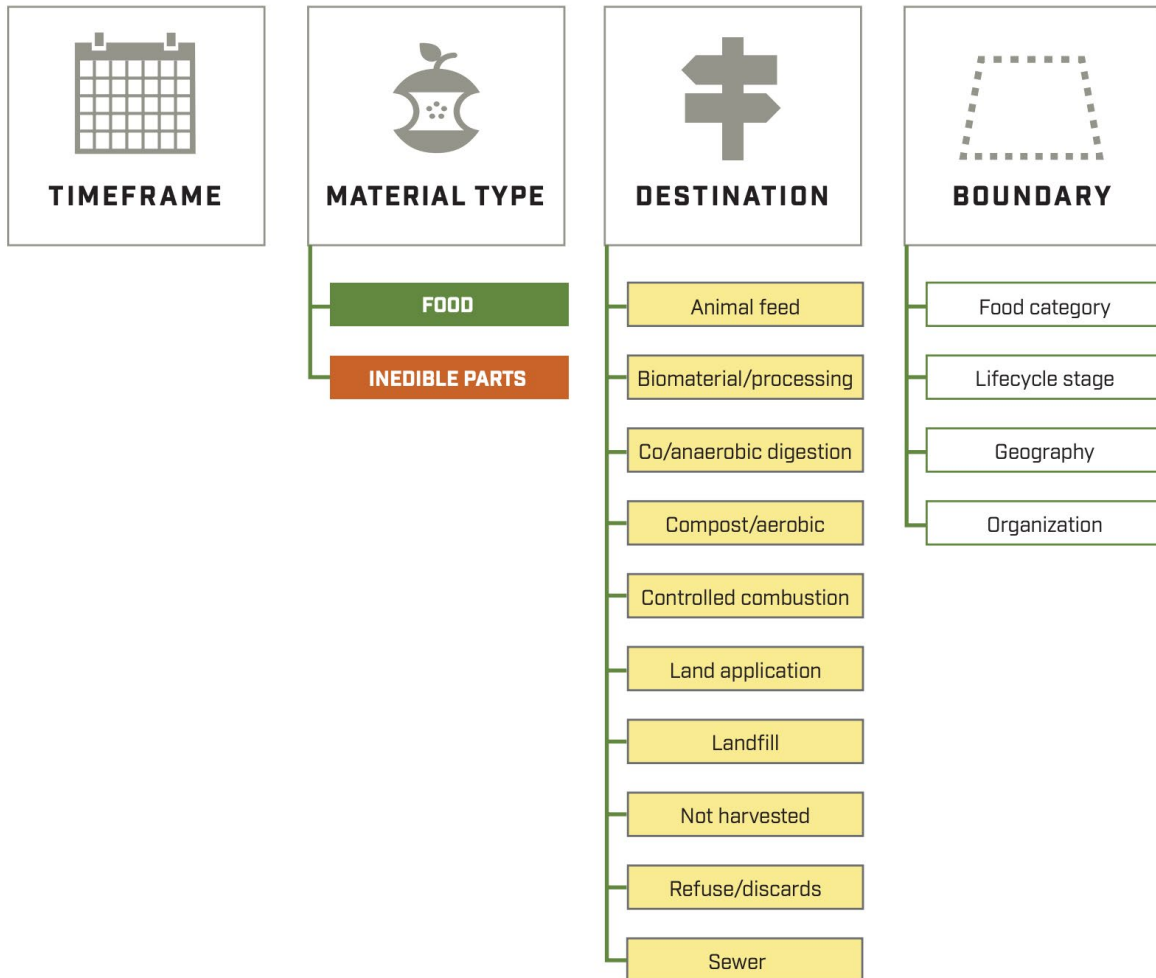
**Table 3.** Category Level Inedible Parts Factors Continued

FOOD CATEGORY	INDUSTRY AVERAGE INEDIBLE PARTS FACTOR (LBS INEDIBLE PARTS PER LB OF FOOD)	INDUSTRY AVERAGE LBS INEDIBLE PARTS PER RETAIL \$ SOLD
PRODUCE		
Spinach	28.00%	0.097
Sprouts	0.00%	0.000
Squash	5.00%	0.031
Strawberries	6.00%	0.022
Sweet corn	64.00%	0.797
Tomatoes	9.00%	0.043
Value added fruit	0.00%	0.000
Value added vegetables	0.00%	0.000
Watermelons	48.00%	1.311
READY-TO-DRINK BEVERAGES		
Coffee	0.00%	0.000
Fruit and vegetable juice	0.00%	0.000
Other drinks	0.00%	0.000
Shakes and smoothies	0.00%	0.000
Sparkling juice	0.00%	0.000
Tea	0.00%	0.000

# APPENDIX

## Appendix A: Food Waste Inventory Scope Diagram for Food Loss and Waste Accounting Standard

The **Food Loss and Waste Accounting Standard** specifies that businesses should quantify the weight of food and inedible parts separately. The factors developed in this report will make this a lot easier and outline a standardized way to do so.



# APPENDIX

## Appendix B: Mapping of USDA Food Types

The following table displays the USDA NNDSR food types that were mapped to the subcategories under each category and used to calculate a weighted average inedible parts factor. Categories listed as not applicable (N/A) were assumed to be 100% food/edible parts and no USDA food type was assigned. If you see both N/A and other food types assigned to a category, it means that only some subcategories within the category were assumed to be 100% food/edible parts. Most categories had a clear and obvious USDA food type match, but there were some categories that were difficult to map. This includes the following:

- Due to the limited granularity and descriptions of some prepared meals, it was difficult to know what food types were included. ReFED assumed prepared meals were 100% food/edible parts unless the description clearly denoted a food type that typically has inedible parts. This could lead to an underestimation of the weight of inedible parts in prepared food items.
- All value added items were assumed to be 100% food/edible parts, since removing inedible parts is typically part of value added processing.

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
BREADS & BAKERY			
Artisan and specialty bread	N/A	0%	
Bagels	N/A	0%	
Brownies	N/A	0%	
Cake	N/A	0%	
Cheesecake	N/A	0%	
Cookies	N/A	0%	
Cupcakes	N/A	0%	
Donuts	N/A	0%	
English muffins and crumpets	N/A	0%	
Flatbreads and pizza crusts	N/A	0%	
Muffins	N/A	0%	

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
BREADS & BAKERY			
Naan	N/A	0%	
Other desserts	N/A	0%	
Pies, cobblers, and crisps	N/A	0%	
Pita bread	N/A	0%	
Rolls and buns	N/A	0%	
Sliced bread	N/A	0%	
Soft tortillas	N/A	0%	
Sweet goods	N/A	0%	
DAIRY & EGGS			
Butter, margarine, and substitutes	Butter, without salt	0%	
Butter, margarine, and substitutes	Margarine-like, margarine-butter blend, soybean oil and butter	0%	
Butter, margarine, and substitutes	Margarine-like, vegetable oil-butter spread, tub, with salt	0%	
Buttermilk	Milk, buttermilk, fluid, cultured, lowfat	0%	
Cheese	Cheese, brick	0%	
Cheese	Cheese, cottage, lowfat, 2% milkfat	0%	
Cheese	Cheese, cream	0%	
Creams and creamers	Cream, fluid, heavy whipping	0%	
Creams and creamers	Cream, fluid, half and half	0%	
Creams and creamers	Cream, whipped, cream topping, pressurized	0%	
Dairy milk	Milk, reduced fat, fluid, 2% milkfat, with added vitamin A and vitamin D	0%	
Egg nog	Eggnog	0%	
Eggs	Egg substitute, powder	0%	

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
Eggs	Egg, whole, raw, fresh	12%	Shell
Lactose reduced/free milk	Milk, reduced fat, fluid, 2% milkfat, with added vitamin A and vitamin D	0%	
Liquid egg mix	Egg substitute, liquid or frozen, fat free	0%	
Plant-based dairy alternatives	N/A	0%	
Refrigerated doughs	N/A	0%	
Sour cream	Cream, sour, cultured	0%	
Sour cream	Sour cream, fat free	0%	
Sour cream	Sour cream, reduced fat	0%	
Yogurt	Yogurt, Greek, plain, lowfat	0%	
<b>DELI &amp; PREPARED FOODS</b>			
Appetizers	N/A	0%	
Breakfast foods	N/A	0%	
Calzones or stromboli	N/A	0%	
Chilled salsa, dips, and spreads	N/A	0%	
Deli cheeses	Cheese, brick	0%	
Deli lunchmeat	N/A	0%	
Deli salads	N/A	0%	
Deli trays	N/A	0%	
Deli trays	Cheese, brick	0%	
Fully cooked beef	N/A	0%	
Fully cooked beef	Beef, chuck eye roast, boneless, America's Beef Roast, separable lean and fat, trimmed to 0" fat, all grades, cooked, roasted	7%	Connective tissue 7%
Fully cooked beef	Beef, short loin, t-bone steak, separable lean and fat, trimmed to 0" fat, all grades, cooked, broiled	22%	Bone and heavy connective tissue, 22%

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
DELI & PREPARED FOODS			
Fully cooked beef	Veal, sirloin, separable lean and fat, raw	25%	Bone
Fully cooked beef	Beef, rib, shortribs, separable lean and fat, choice, cooked, braised	29%	Bone
Fully cooked beef	Beef, brisket, whole, separable lean only, all grades, raw	0%	Connective tissue 0.3%
Fully cooked chicken	N/A	0%	
Fully cooked chicken	Chicken, broiler or fryers, breast, skinless, boneless, meat only, with added solution, cooked, grilled	0%	
Fully cooked chicken	Chicken breast tenders, breaded, uncooked	0%	
Fully cooked chicken	Chicken patty, frozen, cooked	0%	
Fully cooked chicken	Chicken, broiler or fryers, breast, skinless, boneless, meat only, cooked, braised	0%	
Fully cooked chicken	Chicken, broiler, rotisserie, BBQ, breast meat and skin	11%	Bone and connective tissue 11%
Fully cooked chicken	Chicken, broilers or fryers, dark meat, meat and skin, cooked, fried, batter	23%	Bone
Fully cooked chicken	Chicken, broiler, rotisserie, BBQ, drumstick meat and skin	29%	Bone and connective tissue 29%
Fully cooked chicken	Beef, brisket, whole, separable lean only, all grades, raw	0%	Connective tissue 0.3%
Fully cooked chicken	Chicken, broilers or fryers, meat and skin, raw	32%	Bone
Fully cooked chicken	Chicken, broilers or fryers, thigh, meat and skin, cooked, roasted	33%	Bone and cartilage 17%, bone and connective tissue 16%
Fully cooked chicken	Chicken, broilers or fryers, wing, meat and skin, cooked, roasted	40%	Bone and connective tissue 40%
Fully cooked pork	N/A	0%	
Fully cooked pork	Pork, fresh, variety meats and by-products, mechanically separated, raw	0%	

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
DELI & PREPARED FOODS			
Fully cooked pork	Pork, fresh, loin, sirloin (roasts), boneless, separable lean and fat, cooked, roasted	3%	Connective tissue 3%
Fully cooked pork	Pork, fresh, loin, top loin (chops), boneless, separable lean only, cooked, braised	6%	Connective tissue 6%
Fully cooked pork	Pork, fresh, shoulder, (Boston butt), blade (steaks), separable lean and fat, cooked, braised	26%	Bone 9%, Connective tissue 17%
Fully cooked pork	Beef, brisket, whole, separable lean only, all grades, raw	0%	Connective tissue 0.3%
Fully cooked pork	Pork, fresh, spareribs, separable lean and fat, cooked, braised	38%	Bone
Fully cooked turkey	N/A	0%	
Fully cooked turkey	Chicken, broiler or fryers, breast, skinless, boneless, meat only, with added solution, cooked, grilled	0%	
Fully cooked turkey	Chicken, broiler or fryers, breast, skinless, boneless, meat only, cooked, braised	0%	
Fully cooked turkey	Turkey, retail parts, breast, meat and skin, cooked, roasted	12%	Bone and connective tissue 12%
Fully cooked turkey	Turkey thigh, pre-basted, meat and skin, cooked, roasted	13%	Bone
Fully cooked turkey	Turkey, fryer-roasters, meat and skin, cooked, roasted	25%	Bone
Fully cooked turkey	Turkey, drumstick, from whole bird, meat only, roasted	37%	Bone and connective tissue 37%
Fully cooked turkey	Turkey, wing, from whole bird, meat only, roasted	48%	Bone and connective tissue 48%
Handheld entrees	N/A	0%	
Handheld entrees	Potatoes, french fried, wedge cut, frozen, unprepared	0%	
Hummus	N/A	0%	
Lasagna	N/A	0%	



**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
DELI & PREPARED FOODS			
Mac and cheese	N/A	0%	
Meal kits	N/A	0%	
Meat alternatives	N/A	0%	
Other meat	N/A	0%	
Other meat	Chicken, broiler or fryers, breast, skinless, boneless, meat only, with added solution, cooked, grilled	0%	
Other meat	Beef, chuck eye roast, boneless, America's Beef Roast, separable lean and fat, trimmed to 0" fat, all grades, cooked, roasted	7%	Connective tissue 7%
Other meat	Beef, short loin, t-bone steak, separable lean and fat, trimmed to 0" fat, all grades, cooked, broiled	22%	Bone and heavy connective tissue, 22%
Other meat	Beef, brisket, whole, separable lean only, all grades, raw	0%	Connective tissue 0.3%
Other meat	Chicken, broilers or fryers, meat and skin, raw	32%	Bone
Other meat	Chicken, broilers or fryers, thigh, meat and skin, cooked, roasted	33%	Bone and cartilage 17%, bone and connective tissue 16%
Other meat	Pork, fresh, spareribs, separable lean and fat, cooked, braised	38%	Bone
Other meat	Chicken, broilers or fryers, wing, meat and skin, cooked, roasted	40%	Bone and connective tissue 40%
Pasta	N/A	0%	
Pizza	N/A	0%	
Pot pies	N/A	0%	
Potatoes	N/A	0%	
Potatoes	Potatoes, french fried, wedge cut, frozen, unprepared	0%	
Prepared fruit or vegetables	N/A	0%	
Prepared meals	N/A	0%	

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
DELI & PREPARED FOODS			
Rice	N/A	0%	
Sandwiches	N/A	0%	
Snack combos	N/A	0%	
Soups, stews, and broth	N/A	0%	
Sushi	N/A	0%	
DRY GOODS			
Apple sauce	N/A	0%	
Baby food	N/A	0%	
Bagged or loose tea	N/A	0%	
Baking chips and chocolate	N/A	0%	
Baking cocoa	N/A	0%	
Baking coconut	N/A	0%	
Baking milks	N/A	0%	
Baking milks	Cream, fluid, heavy whipping	0%	
Baking milks	Milk, reduced fat, fluid, 2% milkfat, with added vitamin A and vitamin D	0%	
Baking milks	Eggnog	0%	
Baking milks	Milk, buttermilk, fluid, cultured, lowfat	0%	
Baking milks	Cream, sour, cultured	0%	
Baking mixes	N/A	0%	
Baking nuts	N/A	0%	
Baking powder	N/A	0%	
Baking soda	N/A	0%	
Baking sprinkles	N/A	0%	
Baking yeast	N/A	0%	
Bouillon	N/A	0%	

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
DRY GOODS			
Boxed dinners	N/A	0%	
Breakfast syrups	N/A	0%	
Broth	N/A	0%	
Canned beans	N/A	0%	
Canned bread	N/A	0%	
Canned fruit	N/A	0%	
Canned meat and seafood	N/A	0%	
Canned meat and seafood	Sausage, Italian, pork, raw	0%	
Canned meat and seafood	Turkey sausage, fresh, raw	0%	
Canned meat and seafood	Fish, anchovy, european, canned in oil, drained solids	0%	
Canned meat and seafood	Fish, caviar, black and red, granular	0%	
Canned meat and seafood	Fish, cod, Atlantic, raw	0%	
Canned meat and seafood	Mollusks, clam, mixed species, canned, liquid	0%	
Canned meat and seafood	Mollusks, clam, mixed species, raw	0%	
Canned meat and seafood	Crustaceans, crab, blue, raw	0%	
Canned meat and seafood	Fish, flatfish (flounder and sole species), raw	0%	
Canned meat and seafood	Fish, catfish, channel, cooked, breaded and fried	0%	
Canned meat and seafood	Fish, herring, Atlantic, kippered	0%	
Canned meat and seafood	Fish, herring, Atlantic, raw	0%	
Canned meat and seafood	Fish, herring, Atlantic, pickled	0%	

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
DRY GOODS			
Canned meat and seafood	Crustaceans, lobster, northern, raw	0%	
Canned meat and seafood	Fish, mackerel, Atlantic, raw	0%	
Canned meat and seafood	Mollusks, mussel, blue, raw	0%	
Canned meat and seafood	Mollusks, cuttlefish, mixed species, raw	0%	
Canned meat and seafood	Mollusks, octopus, common, raw	0%	
Canned meat and seafood	Mollusks, squid, mixed species, raw	0%	
Canned meat and seafood	Fish, tuna, white, canned in water, drained solids	0%	
Canned meat and seafood	Mollusks, oyster, eastern, wild, raw	0%	
Canned meat and seafood	Mollusks, oyster, eastern, farmed, raw	0%	
Canned meat and seafood	Fish, salmon, pink, raw	0%	
Canned meat and seafood	Salmon, sockeye, canned, total can contents	0%	
Canned meat and seafood	Mollusks, scallop, mixed species, raw	0%	
Canned meat and seafood	Crustaceans, shrimp, mixed species, raw (may have been previously frozen)	0%	
Canned meat and seafood	Fish, tilapia, raw	0%	
Canned meat and seafood	Fish, trout, mixed species, raw	0%	
Canned meat and seafood	Fish, tuna, skipjack, fresh, cooked, dry heat	0%	
Canned meat and seafood	Fish, tuna, fresh, yellowfin, raw	0%	

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
DRY GOODS			
Canned meat and seafood	Fish, whiting, mixed species, raw	0%	
Canned meat and seafood	Pork, cured, ham, extra lean and regular, canned, unheated	0%	
Canned meat and seafood	Crustaceans, shrimp, raw (not previously frozen)	13%	Tail and shell
Canned meat and seafood	Fish, trout, brook, raw, New York State	53%	skin, head, viscera, bones
Canned soup	N/A	0%	
Canned vegetables	N/A	0%	
Cereal	N/A	0%	
Cereal and granola bars	N/A	0%	
Chilled cereal	N/A	0%	
Chocolate candy	N/A	0%	
Coating mixes and crumbs	N/A	0%	
Coffee	N/A	0%	
Coffee enhancers	N/A	0%	
Coffee enhancers	Cream, fluid, heavy whipping	0%	
Coffee enhancers	Cream, fluid, half and half	0%	
Coffee enhancers	Cream substitute, flavored, powdered	0%	
Coffee pods	N/A	0%	
Condiments	N/A	0%	
Cookies	N/A	0%	
Cooking oils	N/A	0%	
Cooking syrups	N/A	0%	
Cooking wine and vinegar	N/A	0%	
Corn and other food starch	N/A	0%	
Crackers	N/A	0%	

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
DRY GOODS			
Cranberry sauce	N/A	0%	
Dessert toppings	N/A	0%	
Diet and nutrition	N/A	0%	
Dried fruit and vegetables	N/A	0%	
Dry beans	N/A	0%	
Edible cake decoration	N/A	0%	
Flour and meal	N/A	0%	
Frosting	N/A	0%	
Fruit snacks	N/A	0%	
Gift baskets	N/A	0%	
Gnocchi and dumplings	N/A	0%	
Grits	N/A	0%	
Gum	N/A	0%	
Hard shell tortillas	N/A	0%	
Herbs, spices, and seasonings	N/A	0%	
Hot cider	N/A	0%	
Hot cocoa	N/A	0%	
Jams and jellies	N/A	0%	
Marshmallows	N/A	0%	
Milk enhancers	N/A	0%	
Mints	N/A	0%	
Nut butters	N/A	0%	
Nuts and seeds	N/A	0%	
Oatmeal and hot cereal	N/A	0%	
Other candy	N/A	0%	
Other grains	N/A	0%	
Other noodles	N/A	0%	

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
DRY GOODS			
Other sauce, gravy, and marinades	N/A	0%	
Pasta	N/A	0%	
Pasta sauce	N/A	0%	
Pickles, olives, and pickled vegetables	N/A	0%	
Pie crusts	N/A	0%	
Pie filling	N/A	0%	
Pudding and gelatin	N/A	0%	
Ramen	N/A	0%	
Rice	N/A	0%	
Salad dressing	N/A	0%	
Salad toppings	N/A	0%	
Salty snacks	N/A	0%	
Sauce, soup, and seasoning mixes	N/A	0%	
Shake and smoothie mix	N/A	0%	
Shelf-stable dips and salsa	N/A	0%	
Shortening and lard	Lard	0%	
Shortening and lard	Shortening, household, lard and vegetable oil	0%	
Snack cakes	N/A	0%	
Specialty wraps	N/A	0%	
Sugar and sweeteners	N/A	0%	
Toaster pastries	ReFED Research - Clams (see Appendix C)	0%	
Tomato sauce and paste	ReFED Research - Mussels (see Appendix C)	0%	

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
FRESH MEAT & SEAFOOD			
Bacon	Bacon, pre-sliced, reduced/low sodium, unprepared	0%	
Bacon	Turkey bacon, unprepared	0%	
Bacon	Pork, bacon, rendered fat, cooked	0%	
Bacon	Pork, cured, bacon, unprepared	0%	
Bacon	Canadian bacon, unprepared	0%	
Beef ribs	Beef, rib, whole (ribs 6-12), separable lean and fat, trimmed to 1/8" fat, all grades, raw	16%	Bone
Beef roast	Beef, shoulder pot roast or steak, boneless, separable lean only, trimmed to 0" fat, all grades, raw	6%	Connective tissue 6%
Chicken breast	ReFED Research - Crab legs (see Appendix C)	20%	Bone
Chicken legs	Chicken, dark meat, drumstick, meat and skin, with added solution, raw	68%	Bone and cartilage 34%, bone and connective tissue 34%
Chicken thighs	Chicken, dark meat, thigh, meat and skin, with added solution, raw	32%	Bone and cartilage 15%, bone and connective tissue 17%
Chicken wings	Chicken, broilers or fryers, wing, meat and skin, raw	38%	Bone and connective tissue 38%
Clams and mussels	N/A	65%	Shell
Clams and mussels	N/A	0%	
Clams and mussels	N/A	61%	Shell
Crab	N/A	49%	Shell
Crab	N/A	0%	
Fowl and exotics	Chicken, cornish game hens, meat and skin, raw	39%	Bone
Fowl and exotics	Duck, domesticated, meat and skin, raw	28%	Bone
Fowl and exotics	Pheasant, raw, meat and skin	14%	Bone



**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
FRESH MEAT & SEAFOOD			
Fowl and exotics	Goose, domesticated, meat and skin, raw	19%	Bone
Fowl and exotics	Game meat, bison, top round, separable lean only, 1" steak, raw	3%	Connective tissue, 3%
Fowl and exotics	Quail, meat and skin, raw	10%	Bone
Fowl and exotics	Squab, (pigeon), meat and skin, raw	23%	Bone
Fowl and exotics	Game meat , bison, ground, raw	0%	
Fowl and exotics	Game meat, bison, separable lean only, cooked, roasted	0%	
Fowl and exotics	Game meat, boar, wild, raw	0%	
Fowl and exotics	Goat, raw	0%	
Fowl and exotics	Ostrich, tenderloin, raw	0%	
Fowl and exotics	N/A	0%	
Fowl and exotics	Game meat, rabbit, wild, raw	0%	
Fowl and exotics	Deer (venison), sitka, raw (Alaska Native)	0%	
Fowl and exotics	Turkey bacon, unprepared	0%	
Ground beef	Beef, ground, 80% lean meat / 20% fat, raw	0%	
Ground beef	Beef, grass-fed, ground, raw	0%	
Ground chicken	Chicken, ground, raw	0%	
Ground turkey	Ground turkey, raw	0%	
Ham	Pork, cured, ham – water added, rump, bone-in, separable lean only, unheated	12%	Bone 12%
Ham	Pork, cured, ham – water added, shank, bone-in, separable lean and fat, unheated	10%	Bone
Ham	Pork, cured, ham – water added, rump, bone-in, separable lean and fat, unheated	12%	Bone

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
FRESH MEAT & SEAFOOD			
Ham	USDA Commodity, pork, cured, ham, boneless, cooked, unheated	0%	
Ham	Pork, cured, ham and water product, whole, boneless, separable lean only, unheated	0%	
Lamb	Lamb, domestic, rib, separable lean and fat, trimmed to 1/4" fat, choice, raw	27%	Bone
Lamb	Lamb, domestic, leg, shank half, separable lean and fat, trimmed to 1/4" fat, choice, raw	20%	Bone
Lamb	Lamb, New Zealand, imported, neck chops, separable lean and fat, raw	32%	Bone and connective tissue 32%
Lamb	Lamb, Australian, imported, fresh, leg, whole (shank and sirloin), separable lean and fat, trimmed to 1/8" fat, raw	14%	Bone
Lamb	Lamb, domestic, shoulder, arm, separable lean and fat, trimmed to 1/4" fat, choice, raw	17%	Bone
Lamb	Lamb, Australian, imported, fresh, rib chop/rack roast, frenched, bone-in, separable lean and fat, trimmed to 1/8" fat, raw	25%	Bone and connective tissue 25%
Lamb	Lamb, New Zealand, imported, leg chop/steak, bone-in, separable lean and fat, raw	15%	Bone and connective tissue 15%
Lamb	Lamb, New Zealand, imported, square-cut shoulder chops, separable lean and fat, raw	23%	Bone and connective tissue 23%
Lamb	Lamb, ground, raw	0%	
Lamb	Lamb, domestic, cubed for stew or kabob (leg and shoulder), separable lean only, trimmed to 1/4" fat, raw	0%	
Lobster	N/A	49%	Shell

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
FRESH MEAT & SEAFOOD			
Lobster	N/A	0%	
Lunchmeat	N/A	0%	
Meat alternatives	N/A	0%	
Meat alternatives	Turkey bacon, unprepared	0%	
Meat alternatives	Sausage, Italian, pork, raw	0%	
Meat alternatives	Canadian bacon, unprepared	0%	
Other beef	Veal, sirloin, separable lean and fat, raw	25%	Bone
Other beef	ReFED Research - Crab legs (see Appendix C)	31%	Bone
Other beef	Veal, rib, separable lean and fat, raw	35%	Bone
Other beef	Veal, loin, chop, separable lean only, cooked, grilled	30%	Bone and connective tissue 30%
Other beef	Beef, shoulder pot roast or steak, boneless, separable lean only, trimmed to 0" fat, all grades, raw	6%	Connective tissue 6%
Other beef	Beef, brisket, whole, separable lean only, all grades, raw	0%	Connective tissue 0.3%
Other beef	Veal, shank (fore and hind), separable lean and fat, raw	29%	Bone
Other beef	N/A	0%	
Other beef	Beef, grass-fed, strip steaks, lean only, raw	23%	23% Bone and connective tissue
Other chicken	Chicken, broilers or fryers, meat and skin, raw	32%	Bone
Other chicken	N/A	0%	
Other fish	Fish, catfish, channel, farmed, raw	0%	
Other fish	N/A	0%	
Other fish	Fish, cod, Atlantic, raw	0%	
Other fish	Fish, flatfish (flounder and sole species), raw	0%	

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
FRESH MEAT & SEAFOOD			
Other fish	Fish, grouper, mixed species, raw	0%	
Other fish	Fish, haddock, raw	0%	
Other fish	Fish, halibut, Atlantic and Pacific, raw	0%	
Other fish	Fish, herring, Atlantic, raw	0%	
Other fish	Fish, herring, Atlantic, pickled	0%	
Other fish	Fish, mackerel, Atlantic, raw	0%	
Other fish	Fish, mahimahi, raw	0%	
Other fish	Fish, whiting, mixed species, raw	0%	
Other fish	Fish, snapper, mixed species, raw	0%	
Other fish	Fish, swordfish, raw	0%	
Other fish	Fish, tilapia, raw	0%	
Other fish	Fish, trout, mixed species, raw	0%	
Other fish	ReFED Research - Clams (see Appendix C)	0%	
Other fish	Fish, tuna, fresh, yellowfin, raw	0%	
Other fish	Fish, tuna, skipjack, fresh, cooked, dry heat	0%	
Other meat	Beef, shoulder pot roast or steak, boneless, separable lean only, trimmed to 0" fat, all grades, raw	6%	Connective tissue 6%
Other meat	Chicken, broilers or fryers, wing, meat and skin, raw	38%	Bone and connective tissue 38%
Other meat	Beef, short loin, t-bone steak, separable lean and fat, trimmed to 0" fat, all grades, cooked, broiled	22%	Bone and heavy connective tissue, 22%
Other meat	Pork, fresh, spareribs, separable lean and fat, raw	30%	Bone
Other meat	N/A	0%	

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
FRESH MEAT & SEAFOOD			
Other meat	Scrapple, pork	0%	
Other meat	Beef, variety meats and by-products, liver, raw	0%	
Other meat	Chicken, gizzard, all classes, raw	0%	
Other meat	Lamb, domestic, cubed for stew or kabob (leg and shoulder), separable lean only, trimmed to 1/4" fat, raw	0%	
Other meat	Chicken, broiler or fryers, breast, skinless, boneless, meat only, with added solution, cooked, grilled	0%	
Other meat	Beef, grass-fed, ground, raw	0%	
Other meat	Pork, fresh, variety meats and by-products, mechanically separated, raw	0%	
Other meat	Turkey, whole, giblets, raw	0%	
Other meat	Pork, cured, salt pork, raw	0%	
Other meat	Beef, rib, whole (ribs 6-12), separable lean and fat, trimmed to 1/8" fat, all grades, raw	16%	Bone
Other meat	Chicken, broilers or fryers, leg, meat and skin, raw	27%	Bone
Other meat	Chicken, dark meat, thigh, meat and skin, with added solution, raw	32%	Bone and cartilage 15%, bone and connective tissue 17%
Other seafood	Fish, anchovy, european, canned in oil, drained solids	0%	
Other seafood	N/A	0%	
Other seafood	Mollusks, cuttlefish, mixed species, raw	0%	
Other seafood	Mollusks, octopus, common, raw	0%	
Other seafood	Mollusks, squid, mixed species, raw	0%	

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
FRESH MEAT & SEAFOOD			
Other seafood	Mollusks, scallop, mixed species, raw	0%	
Other shellfish	Mollusks, clam, mixed species, raw	0%	
Other shellfish	N/A	0%	
Other shellfish	Crustaceans, shrimp, raw (not previously frozen)	13%	Tail and shell
Other turkey	Turkey, whole, meat and skin, raw	29%	Bone and connective tissue 29%
Other turkey	Turkey, all classes, wing, meat and skin, raw	33%	Bone
Other turkey	Turkey, all classes, leg, meat and skin, raw	17%	Bone
Other turkey	Turkey, all classes, breast, meat and skin, raw	10%	Bone
Other turkey	Turkey, dark meat, meat and skin, raw	48%	Bone and connective tissue 38%
Other turkey	Turkey, all classes, breast, meat and skin, cooked, roasted	8%	Bone
Other turkey	N/A	0%	
Oysters	N/A	65%	Shell
Oysters	N/A	0%	
Pork	Pork, fresh, loin, center loin (chops), bone-in, separable lean and fat, raw	25%	Bone, 14%, Connective tissue 11%
Pork	Pork, fresh, spareribs, separable lean and fat, raw	30%	Bone
Pork	Pork, fresh, loin, top loin (roasts), boneless, separable lean and fat, raw	16%	Connective tissue
Pork	Pork, fresh, loin, blade (chops or roasts), bone-in, separable lean and fat, raw	26%	Bone 18%, Connective tissue 8%
Pork	Pork, fresh, belly, raw	7%	Skin

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
FRESH MEAT & SEAFOOD			
Pork	Pork, fresh, leg (ham), whole, separable lean and fat, raw	17%	Bone and skin
Pork	Pork, cured, salt pork, raw	0%	
Pork	Pork, fresh, loin, center loin (chops), boneless, separable lean and fat, raw	0%	
Pork	Pork, fresh, ground, raw	0%	
Pork	N/A	0%	
Pork	Picnic loaf, pork, beef	0%	
Salmon	Fish, salmon, pink, raw	0%	
Salmon	N/A	0%	
Sausage and franks	Sausage, Italian, pork, raw	0%	
Sausage and franks	Turkey sausage, fresh, raw	0%	
Shrimp	Crustaceans, shrimp, raw (not previously frozen)	13%	Tail and shell
Shrimp	N/A	0%	
Steaks	Beef, grass-fed, strip steaks, lean only, raw	23%	23% Bone and connective tissue
Whole chicken	Chicken, broilers or fryers, meat and skin, raw	32%	Bone
FROZEN			
Frozen appetizers	N/A	0%	
Frozen bagels	N/A	0%	
Frozen bakery desserts	N/A	0%	
Frozen beans	N/A	0%	
Frozen beef	USDA Commodity, beef, ground, bulk/coarse ground, frozen, raw	0%	
Frozen beef	Beef, variety meats and by-products, liver, raw	0%	
Frozen beef	N/A	0%	

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
FROZEN			
Frozen beef	Beef, grass-fed, ground, raw	0%	
Frozen beef	Beef, chuck, shoulder clod, shoulder tender, medallion, separable lean and fat, trimmed to 0" fat, all grades, cooked, grilled	0%	
Frozen beef	USDA Commodity, beef, ground bulk/coarse ground, frozen, cooked	0%	
Frozen beef	Chicken patty, frozen, cooked	0%	
Frozen beef	Beef, shoulder pot roast or steak, boneless, separable lean only, trimmed to 0" fat, all grades, raw	6%	Connective tissue 6%
Frozen beef	Beef, rib, whole (ribs 6-12), separable lean and fat, trimmed to 1/8" fat, all grades, raw	16%	Bone
Frozen beef	Beef, short loin, t-bone steak, separable lean and fat, trimmed to 0" fat, all grades, cooked, broiled	22%	Bone and heavy connective tissue, 22%
Frozen beef	Beef, grass-fed, strip steaks, lean only, raw	23%	23% Bone and connective tissue
Frozen bread	N/A	0%	
Frozen breakfast foods	Egg substitute, liquid or frozen, fat free	0%	
Frozen breakfast foods	Egg substitute, powder	0%	
Frozen breakfast foods	N/A	0%	
Frozen calzones and stromboli	N/A	0%	
Frozen chicken	Chicken, broiler or fryers, breast, skinless, boneless, meat only, with added solution, cooked, grilled	0%	
Frozen chicken	Chicken, ground, raw	0%	
Frozen chicken	Chicken, gizzard, all classes, raw	0%	



**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
FROZEN			
Frozen chicken	N/A	0%	
Frozen chicken	Chicken breast tenders, breaded, cooked, microwaved	0%	
Frozen chicken	Chicken patty, frozen, cooked	0%	
Frozen chicken	Chicken, broiler or fryers, breast, skinless, boneless, meat only, cooked, braised	0%	
Frozen chicken	Chicken breast tenders, breaded, uncooked	0%	
Frozen chicken	Chicken, dark meat, thigh, meat and skin, with added solution, raw	32%	Bone and cartilage 15%, bone and connective tissue 17%
Frozen chicken	Chicken, broilers or fryers, meat and skin, raw	32%	Bone
Frozen chicken	Chicken, wing, frozen, glazed, barbecue flavored, heated (conventional oven)	33%	Drumette: Bone 24.92%, Cartilage 9.79%, Total refuse: 34.71%; Second wing section: Bone 22.09%, Cartilage 8.51%, Total refuse: 30.65%
Frozen chicken	Chicken, broilers or fryers, thigh, meat and skin, cooked, roasted	33%	Bone and cartilage 17%, bone and connective tissue 16%
Frozen chicken	Chicken, dark meat, drumstick, meat and skin, with added solution, cooked, roasted	66%	Bone and Cartilage 40%, bone and connective tissue 26%
Frozen chicken	Chicken, dark meat, drumstick, meat and skin, with added solution, raw	68%	Bone and cartilage 34%, bone and connective tissue 34%
Frozen dairy desserts	N/A	0%	
Frozen dessert toppings	N/A	0%	
Frozen dips, sauces, and condiments	N/A	0%	
Frozen dough and batters	N/A	0%	
Frozen fruit	N/A	0%	
Frozen fruit juice	N/A	0%	
Frozen handheld entrees	N/A	0%	

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
FROZEN			
Frozen lasagna	N/A	0%	
Frozen mac and cheese	N/A	0%	
Frozen meals	N/A	0%	
Frozen meat alternatives	N/A	0%	
Frozen pasta	N/A	0%	
Frozen pie crust	N/A	0%	
Frozen pizza	N/A	0%	
Frozen pork	N/A	0%	Bone, 14%, Connective tissue 11%
Frozen pork	N/A	0%	
Frozen pork	N/A	0%	Bone
Frozen pork	N/A	0%	Connective tissue 3%
Frozen pot pies	N/A	0%	
Frozen potatoes	N/A	0%	
Frozen rice	N/A	0%	
Frozen rolls and buns	N/A	0%	
Frozen sausage and franks	N/A	0%	
Frozen seafood	Fish, anchovy, european, raw	0%	
Frozen seafood	N/A	0%	
Frozen seafood	Fish, catfish, channel, farmed, raw	0%	
Frozen seafood	Fish, caviar, black and red, granular	0%	
Frozen seafood	ReFED Research - Clams (see Appendix C)	65%	Shell
Frozen seafood	Fish, cod, Atlantic, raw	0%	
Frozen seafood	Mollusks, clam, mixed species, raw	0%	
Frozen seafood	ReFED Research - Crab legs (see Appendix C)	49%	Shell

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
FROZEN			
Frozen seafood	Crustaceans, shrimp, raw (not previously frozen)	13%	Tail and shell
Frozen seafood	Fish, flatfish (flounder and sole species), raw	0%	
Frozen seafood	Fish, grouper, mixed species, raw	0%	
Frozen seafood	Fish, haddock, raw	0%	
Frozen seafood	Fish, halibut, Atlantic and Pacific, raw	0%	
Frozen seafood	Fish, herring, Atlantic, raw	0%	
Frozen seafood	Fish, mackerel, Atlantic, raw	0%	
Frozen seafood	Fish, mahimahi, raw	0%	
Frozen seafood	ReFED Research - Mussels (see Appendix C)	61%	Shell
Frozen seafood	Mollusks, cuttlefish, mixed species, raw	0%	
Frozen seafood	Mollusks, octopus, common, raw	0%	
Frozen seafood	Mollusks, squid, mixed species, raw	0%	
Frozen seafood	Fish, whiting, mixed species, raw	0%	
Frozen seafood	Mollusks, oyster, eastern, farmed, raw	0%	
Frozen seafood	Fish, salmon, pink, raw	0%	
Frozen seafood	Mollusks, scallop, mixed species, raw	0%	
Frozen seafood	Fish, snapper, mixed species, raw	0%	
Frozen seafood	Fish, swordfish, raw	0%	
Frozen seafood	Fish, tilapia, raw	0%	
Frozen seafood	Fish, trout, mixed species, raw	0%	
Frozen seafood	Fish, tuna, fresh, bluefin, raw	0%	

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
FROZEN			
Frozen toaster pastries	N/A	0%	
Frozen turkey	Ground turkey, raw	0%	
Frozen turkey	Turkey, gizzard, all classes, raw	0%	
Frozen turkey	N/A	0%	
Frozen turkey	Ground turkey, cooked	0%	
Frozen turkey	Turkey sticks, breaded, battered, fried	0%	
Frozen turkey	Turkey, all classes, breast, meat and skin, cooked, roasted	8%	Bone
Frozen turkey	Turkey, all classes, breast, meat and skin, raw	10%	Bone
Frozen turkey	Turkey, all classes, leg, meat and skin, raw	17%	Bone
Frozen turkey	Turkey from whole, light meat, meat and skin, with added solution, cooked, roasted	18%	Bone and connective tissue 18%
Frozen turkey	Turkey, all classes, wing, meat and skin, raw	33%	Bone
Frozen turkey	Turkey from whole, dark meat, meat only, raw	38%	Bone and connective tissue 38%
Other frozen desserts	N/A	0%	
Other frozen meat	Game meat , bison, ground, raw	0%	
Other frozen meat	Game meat, boar, wild, raw	0%	
Other frozen meat	Goat, raw	0%	
Other frozen meat	N/A	0%	
Other frozen meat	Game meat, rabbit, wild, raw	0%	
Other frozen meat	Deer (venison), sitka, raw (Alaska Native)	0%	
Other frozen meat	Lamb, ground, raw	0%	
Other frozen meat	USDA Commodity, beef, ground bulk/coarse ground, frozen, cooked	0%	

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
FROZEN			
Other frozen meat	Game meat, bison, top round, separable lean only, 1" steak, raw	3%	Connective tissue, 3%
Other frozen meat	Quail, meat and skin, raw	10%	Bone
Other frozen meat	Lamb, New Zealand, imported, square-cut shoulder chops, separable lean and fat, raw	23%	Bone and connective tissue 23%
Other frozen meat	Duck, domesticated, meat and skin, raw	28%	Bone
Other frozen meat	Chicken, wing, frozen, glazed, barbecue flavored, heated (conventional oven)	33%	Drumette: Bone 24.92%, Cartilage 9.79%, Total refuse: 34.71%; Second wing section: Bone 22.09%, Cartilage 8.51%, Total refuse: 30.65%
Other frozen meat	Chicken, cornish game hens, meat and skin, raw	39%	Bone
Other frozen vegetables	N/A	0%	
PRODUCE			
Apples	Apples, raw, gala, with skin	9%	Core and stem
Apples	Apples, raw, with skin	10%	Core and stem
Apples	Apples, raw, golden delicious, with skin	10%	Core and stem
Apples	Apples, raw, fuji, with skin	11%	Core and stem
Apples	Apples, raw, granny smith, with skin	11%	Core and stem
Apples	Apples, raw, red delicious, with skin	11%	Core and stem
Apricots	Apricots, raw	7%	Pits
Artichokes	Artichokes, (globe or french), raw	60%	Stem and inedible parts of bracts and flowers
Asparagus	Asparagus, raw	47%	Butt ends
Avocados	Avocados, raw, all commercial varieties	26%	Seed and skin
Avocados	Avocados, raw, Florida	33%	Seed and skin

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
PRODUCE			
Avocados	Avocados, raw, California	33%	Seed and skin
Bananas	Plantains, raw	35%	Skin and stems
Bananas	Bananas, raw	36%	Skin
Bell peppers	Peppers, sweet, green, raw	18%	Stem ends, seeds and core
Bell peppers	Peppers, sweet, red, raw	18%	Stem ends, seed and core
Bell peppers	Peppers, sweet, yellow, raw	18%	Stem ends, seeds and core
Blackberries	Blackberries, raw	4%	Caps and spoiled berries
Blueberries	Blueberries, raw	5%	Stems and green or spoiled berries
Broccoli	Broccoli, chinese, raw	12%	Base and damaged leaves
Broccoli	Broccoli, raw	39%	Leaves and tough stalks with trimmings
Brussel sprouts	Brussels sprouts, raw	10%	Outer leaves
Cabbage	Cabbage, chinese (pak-choi), raw	12%	Base and damaged leaves
Cabbage	Cabbage, red, raw	20%	Outer leaves and core
Cabbage	Cabbage, raw	20%	Outer leaves and core
Cabbage	Cabbage, savoy, raw	20%	Outer leaves and core
Cantaloupe	Melons, cantaloupe, raw	49%	9% cavity contents, 1% cutting loss, 39% rind
Carrots	Carrots, baby, raw	0%	
Carrots	Carrots, raw	11%	Crown, tops and scrapings
Cauliflower	Cauliflower, frozen, unprepared	0%	
Cauliflower	Cauliflower, raw	61%	Leaf stalks, cores and trimmings
Celery	Celery, cooked, boiled, drained, with salt	0%	
Celery	Celery, raw	11%	Roots and trimmings
Cherries	Cherries, sweet, raw	8%	Pits and stems
Chili peppers	Peppers, serrano, raw	3%	Stems
Chili peppers	Peppers, pasilla, dried	6%	Stems

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
PRODUCE			
Chili peppers	Peppers, jalapeno, raw	8%	Stems and seeds
Chili peppers	Pepper, banana, raw	18%	Stem ends, seeds and core
Chili peppers	Peppers, hot chili, red, raw	27%	Stem ends, seeds and core
Clementines, mandarins, and tangerines	Tangerines, (mandarin oranges), raw	26%	Peel and seeds
Coconut	Nuts, coconut meat, raw	48%	Shells (brown), skin, water
Cranberries	Cranberries, raw	2%	Stems and spoiled berries
Cucumbers	Cucumber, with peel, raw	3%	Ends
Dipped fruit	N/A	0%	
Dipped fruit	Apples, raw, with skin	10%	Core and stem
Eggplant	Eggplant, raw	19%	Ends, parings and trimmings
Figs	Figs, raw	1%	Stems
Fruit or vegetable trays	N/A	0%	
Garlic	Garlic, raw	13%	Knob and skin
Grapefruit	Grapefruit, raw, pink and red, all areas	49%	Peel, seeds, core, and membrane
Grapefruit	Grapefruit, raw, pink and red and white, all areas	50%	Peel, seeds, core, and membrane
Grapefruit	Grapefruit, raw, white, all areas	51%	Peel, seeds, core, and membrane
Grapes	Grapes, muscadine, raw	4%	Seeds
Grapes	Grapes, red or green (European type, such as Thompson seedless), raw	4%	Stems
Green beans	Beans, french, mature seeds, raw	0%	
Green beans	Beans, snap, green, raw	12%	Ends, strings, trimmings
Greens	Dandelion greens, raw	0%	
Greens	Broccoli raab, raw	0%	
Greens	Turnip greens, frozen, unprepared	0%	

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
PRODUCE			
Greens	Mustard greens, raw	7%	Bases
Greens	Chard, swiss, raw	8%	Tough stems and damaged leaves
Greens	Turnip greens, raw	30%	Root crown, tough stems and discarded leaves
Greens	Beet greens, raw	44%	Stems, bruised and old leaves
Honeydew	Melons, honeydew, raw	54%	5% cavity contents, rind 49%
Kale	Kale, raw	28%	Stem ends, tough stems and tough midrib parts
Kiwis	Kiwifruit, green, raw	24%	Skin
Leeks	Leeks, (bulb and lower leaf-portion), raw	56%	Tops, root end and skin
Lemons	Lemons, raw, without peel	47%	45% peel, 2% seeds
Lettuce	Escarole, cooked, boiled, drained, no salt added	0%	
Lettuce	Broccoli, leaves, raw	0%	
Lettuce	Lettuce, iceberg (includes crisphead types), raw	5%	Core
Lettuce	Lettuce, cos or romaine, raw	6%	Core
Lettuce	Radicchio, raw	9%	Core and leaf ends
Lettuce	Endive, raw	14%	Outer leaves and core
Lettuce	Lettuce, red leaf, raw	20%	Core and damaged outer leaves
Lettuce	Lettuce, butterhead (includes boston and bibb types), raw	26%	Outer leaves and core
Lettuce	Lettuce, green leaf, raw	36%	Outer leaves, core and trimmings
Lettuce	Arugula, raw	40%	Roots, stems and yellowed leaves
Limes	Limes, raw	16%	Peel and seeds
Mangos	Mangos, raw	29%	Seeds and skin
Mixed vegetables	N/A	0%	
Mushrooms	Mushrooms, Chanterelle, raw	0%	



**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
PRODUCE			
Mushrooms	Mushrooms, shiitake, raw	0%	
Mushrooms	Mushrooms, brown, italian, or crimini, raw	3%	Trimmings
Mushrooms	Mushrooms, portabella, raw	3%	Trimmings
Mushrooms	Mushrooms, white, raw	3%	Trimmings
Mushrooms	Mushrooms, oyster, raw	11%	Stems
Mushrooms	Mushrooms, enoki, raw	16%	Stems and trimmings
Nectarines	Nectarines, raw	9%	Pit
Onions	Onions, spring or scallions (includes tops and bulb), raw	4%	Rootlets
Onions	Onions, raw	10%	Stem ends, sprouts and defects
Onions	Onions, sweet, raw	16%	Stem, root, and two outermost layers
Oranges	Oranges, raw, all commercial varieties	27%	Peel and seeds
Oranges	Oranges, raw, navels	32%	Peel and navel
Other beans	N/A	0%	
Other berries	N/A	0%	
Other berries	Currants, european black, raw	2%	Stems
Other berries	Raspberries, raw	4%	Caps, stems, and spoiled berries
Other citrus	Kumquats, raw	7%	Seeds
Other citrus	Tangerines, (mandarin oranges), raw	26%	Peel and seeds
Other fruit	Figs, raw	1%	Stems
Other fruit	Plums, raw	6%	Pits
Other fruit	Persimmons, native, raw	18%	2% calyx, 16% seeds
Other fruit	Guavas, common, raw	22%	Skin
Other fruit	Prickly pears, raw	25%	Seeds, skin, and bud end
Other fruit	Tangerines, (mandarin oranges), raw	26%	Peel and seeds

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
PRODUCE			
Other fruit	Cherimoya, raw	31%	Seeds, skin and core
Other fruit	Sapote, mamey, raw	31%	Seeds and skin
Other fruit	Quinces, raw	39%	Core, seeds, and parings
Other fruit	Feijoa, raw	43%	Skin
Other fruit	Passion-fruit, (granadilla), purple, raw	48%	Shell
Other fruit	Tamarinds, raw	66%	Pods and seeds
Other fruit	Jackfruit, raw	72%	Seeds and skin
Other melons	Melon balls, frozen	0%	
Other melons	Melons, casaba, raw	40%	11% cavity contents, 29% rind
Other melons	Melons, cantaloupe, raw	49%	9% cavity contents, 1% cutting loss, 39% rind
Other squash	Squash, summer, zucchini, includes skin, raw	5%	Ends
Other squash	Squash, summer, all varieties, raw	5%	Ends
Other squash	Squash, winter, butternut, raw	16%	Seeds, rind and trimmings
Other squash	Squash, winter, acorn, raw	24%	Rind
Other squash	Squash, winter, all varieties, raw	29%	Seeds, rind and stem
Other squash	Squash, winter, spaghetti, raw	29%	Rind and seeds
Other squash	Squash, winter, hubbard, raw	36%	Seeds, rind, trimmings and cutting loss
Other vegetables	N/A	0%	
Other vegetables	Broccoli, leaves, raw	0%	
Other vegetables	Yambean (jicama), raw	8%	Ends and skin
Other vegetables	Radishes, raw	10%	Stem ends, rootlets and trimmings
Other vegetables	Celeriac, raw	14%	Parings
Other vegetables	Okra, raw	14%	Crown and tips
Other vegetables	Waterchestnuts, chinese, (matai), raw	23%	Skin

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
PRODUCE			
Other vegetables	Cardoon, raw	51%	Tough stems and leaves
Packaged salads	N/A	0%	
Papayas	Papayas, raw	38%	Seeds and skin
Peaches	Peaches, yellow, raw	4%	Pit
Pears	Pears, asian, raw	9%	Core and stem
Pears	Pears, raw, bosc	10%	Stem, core and seeds
Pears	Pears, raw	10%	Stem, core and seeds
Pears	Pears, raw, bartlett	10%	Stem, core and seeds
Pears	Pears, raw, red anjou	11%	Stem, core and seeds
Peas	Peas, edible-podded, raw	6%	Ends and strings
Peas	Peas, green, raw	62%	Pods and inedible peas
Pineapples	Pineapple, raw, all varieties	49%	8% core, 16% crown, 26% parings
Plums	Plums, raw	6%	Pits
Pomegranates	Pomegranates, raw	44%	Skin and membrane
Potatoes	Potatoes, raw, skin	0%	
Potatoes	Potatoes, red, flesh and skin, raw	25%	Parings and trimmings
Potatoes	Potatoes, russet, flesh and skin, raw	25%	Parings and trimmings
Potatoes	Potatoes, white, flesh and skin, raw	25%	Parings and trimmings
Potatoes	Sweet potato, raw, unprepared	28%	Parings and trimmings
Pumpkins	Pumpkin, raw	30%	Seeds, rind and stem
Radishes	Radishes, raw	10%	Stem ends, rootlets and trimmings
Radishes	Radishes, white icicle, raw	35%	Parings
Raspberries	Raspberries, raw	4%	Caps, stems, and spoiled berries
Root vegetables	Radishes, raw	10%	Stem ends, rootlets and trimmings

**Table 4.** USDA Proxy Category Assignments

REFED CATEGORY	USDA PROXY	INEDIBLE PARTS FACTOR	INEDIBLE PARTS DESCRIPTION
PRODUCE			
Root vegetables	Taro, raw	14%	Ends and skin
Root vegetables	Parsnips, raw	15%	Parings
Root vegetables	Rutabagas, raw	15%	Parings
Root vegetables	Turnips, raw	19%	Parings
Root vegetables	Jerusalem-artichokes, raw	31%	Parings
Root vegetables	Beets, raw	33%	Parings and part tops
Root vegetables	Kohlrabi, raw	54%	Leaves, stems and parings
Spinach	Spinach, raw	28%	Large stems and roots
Sprouts	Alfalfa seeds, sprouted, raw	0%	
Squash	Squash, summer, zucchini, includes skin, raw	5%	Ends
Strawberries	Strawberries, raw	6%	Caps and stems
Sweet corn	Corn, sweet, yellow, raw	64%	35% husk, silk, trimmings; 29% cob
Sweet corn	Corn, sweet, white, raw	64%	35% husk, silk, trimmings; 29% cob
Tomatoes	Tomatoes, red, ripe, raw, year round average	9%	Core and stem ends
Value added fruit	N/A	0%	
Value added vegetables	N/A	0%	
Watermelons	Watermelon, raw	48%	Rind, seeds, and cutting loss
READY-TO-DRINK-BEVERAGES			
Coffee	N/A	0%	
Fruit and vegetable juice	N/A	0%	
Other drinks	N/A	0%	
Shakes and smoothies	N/A	0%	
Sparkling juice	N/A	0%	
Tea	N/A	0%	

## Appendix C: Inedible Parts Factors for Select Seafood Items

ReFED conducted a brief study to weigh the inedible parts of Clams, Crab legs, and Mussels. The only USDA shellfish item in the database was raw shrimp (13% inedible parts by weight) so weighing the inedible parts of additional items allowed for more accurate proxy assignments. Table 5 includes the measurements taken to calculate the inedible parts factors for Clams, Crab legs, and Mussels. Images of each item and its inedible parts are shown in Table 6 to demonstrate which parts were considered inedible for each item:

**Table 5.** ReFED Inedible Parts Factors for Select Seafood Items

ITEM	ITEM WEIGHT (GRAMS)	INEDIBLE PARTS WEIGHT (GRAMS)	INEDIBLE PARTS DESCRIPTION	INEDIBLE PARTS FACTOR
Clams	151	98	Shell	65%
Crab legs	205	101	Shell	49%
Mussels	41	25	Shell	61%

**Table 6.** ReFED Images of Inedible Parts for Select Seafood Items

