

# THE AMERICAN COMMUNITY SURVEY

## WHAT IS IT & HOW SHOULD IT BE USED

### PRESENTATION AT:

2014 MONTANA ASSOCIATION OF PLANNERS CONFERENCE  
HAMILTON, MT

### PRESENTATION BY:

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SEPTEMBER  
2014



# WHAT WE'RE TALKING ABOUT TODAY

2

## The American Community Survey (ACS)

- What is it?
- What information does it provide?
- Strengths & weaknesses of the ACS
  - Geographic availability
  - Margins of error
- Comparing ACS data



AMERICAN  
COMMUNITY  
SURVEY

U.S. CENSUS BUREAU

# WHAT IS THE AMERICAN COMMUNITY SURVEY

3

## 2010 Decennial Census Form

## American Community Survey

**United States Census 2010**

This is the official form for all the people at this address. It is quick and easy, and your answers are protected by law.

U.S. DEPARTMENT OF COMMERCE  
Economics and Statistics Administration  
U.S. CENSUS BUREAU

Use a blue or black pen.  
**Start here**

The Census must count every person living in the United States on April 1, 2010.  
Before you answer Question 1, count the people living in this house, apartment, or mobile home using our guidelines.

- Count all people, including babies, who live and sleep here most of the time.

The Census Bureau also conducts counts in institutions and other places, so:

- Do not count anyone living away either at college or in the Armed Forces.
- Do not count anyone in a nursing home, jail, prison, detention facility, etc., on April 1, 2010.
- Leave these people off your form, even if they will return to live here after they leave college, the nursing home, the military, jail, etc. Otherwise, they may be counted twice.

The Census must also include people without a permanent place to stay, so:

- If someone who has no permanent place to stay is staying here on April 1, 2010, count that person. Otherwise, he or she may be missed in the census.

**1. How many people were living or staying in this house, apartment, or mobile home on April 1, 2010?**

Number of people =

**2. Were there any additional people staying here April 1, 2010 that you did not include in Question 1? Mark  all that apply.**

Children, such as newborn babies or foster children  
 Relatives, such as adult children, cousins, or in-laws  
 Nonrelatives, such as roommates or live-in baby sitters  
 People staying here temporarily  
 No additional people

**3. Is this house, apartment, or mobile home — Mark  ONE box.**

Owned by you or someone in this household with a mortgage or loan? Include home equity loans.  
 Owned by you or someone in this household free and clear (without a mortgage or loan)?  
 Rented?  
 Occupied without payment of rent?

**4. What is your telephone number? We may call if we don't understand an answer.**  
Area Code + Number  -  -

OMB No. 0607-0919-C; Approval Expires 12/31/2011.  
Form **D-61** (1-15-2009)

U.S. CENSUS BUREAU

**5. Please provide information for each person living here. Start with a person living here who owns or rents this house, apartment, or mobile home. If the owner or renter lives somewhere else, start with any adult living here. This will be Person 1.**  
What is Person 1's name? *Print name below.*  
Last Name   
First Name  MI

**6. What is Person 1's sex? Mark  ONE box.**  
 Male  Female

**7. What is Person 1's age and what is Person 1's date of birth? Please report babies as age 0 when the child is less than 1 year old. Print numbers in boxes.**  
Age on April 1, 2010  Month  Day  Year of birth   
→ NOTE: Please answer BOTH Question 8 about Hispanic origin and Question 9 about race. For this census, Hispanic origins are not races.

**8. Is Person 1 of Hispanic, Latino, or Spanish origin?**  
 No, not of Hispanic, Latino, or Spanish origin  
 Yes, Mexican, Mexican Am., Chicano  
 Yes, Puerto Rican  
 Yes, Cuban  
 Yes, another Hispanic, Latino, or Spanish origin — *Print origin, for example, Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.*

**9. What is Person 1's race? Mark  one or more boxes.**  
 White  
 Black, African Am., or Negro  
 American Indian or Alaska Native — *Print name of ancestor or principal tribe.*   
 Asian Indian  Japanese  Native Hawaiian  
 Chinese  Korean  Guamanian or Chamorro  
 Filipino  Vietnamese  Samoan  
 Other Asian — *Print race, for example, Hong Kong, Thai, Pakistani, Cambodian, and so on.*   
 Other Pacific Islander — *Print race, for example, Fijian, Tongan, and so on.*

Some other race — *Print race.*

**10. Does Person 1 sometimes live or stay somewhere else?**  
 No  Yes — *Mark  all that apply.*  
 In college housing  For child custody  
 In the military  In jail or prison  
 At a seasonal  In a nursing home or second residence  
 For another reason

→ If more people were counted in Question 1, continue with Person 2.

13192018

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Economics and Statistics Administration  
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**THE American Community Survey**

This booklet shows the content of the American Community Survey questionnaire.

Please complete this form and return it as soon as possible after receiving it in the mail.

This form asks for information about the people who are living or staying at the address on the mailing label and about the house, apartment, or mobile home located at the address on the mailing label.

If you need help or have questions about completing this form, please call 1-800-354-7271. The telephone call is free.

Telephone Device for the Deaf (TDD): Call 1-800-582-8330. The telephone call is free.

¿NECESITA AYUDA? Si usted habla español y necesita ayuda para completar su cuestionario, llame sin cargo alguno al 1-877-833-5625. Usted también puede pedir un cuestionario en español o completar su entrevista por teléfono con un entrevistador que habla español.

For more information about the American Community Survey, visit our web site at: <http://www.census.gov/acs/www/>

**Start Here**

→ Please print today's date.  
Month  Day  Year

→ Please print the name and telephone number of the person who is filling out this form. We may contact you if there is a question.  
Last Name   
First Name  MI   
Area Code + Number  -

→ How many people are living or staying at this address?  
• INCLUDE everyone who is living or staying here for more than 2 months.  
• INCLUDE yourself if you are living here for more than 2 months.  
• INCLUDE anyone else staying here who does not have another place to stay, even if they are here for 2 months or less.  
• DO NOT INCLUDE anyone who is living somewhere else for more than 2 months, such as a college student living away or someone in the Armed Forces on deployment.  
Number of people

→ Fill out pages 2, 3, and 4 for everyone, including yourself, who is living or staying at this address for more than 2 months. Then complete the rest of the form.

FORM ACS-1 (INFO) (2012) KFI  
ISS 14-2011

OMB No. 0607-0810

# WHAT IS THE AMERICAN COMMUNITY SURVEY

4

## 2010 Decennial Census

- The decennial census is conducted once every 10 years by the US Census Bureau and is a point-in-time count
  - Provides an official count of the entire US population for Congress

## American Community Survey

- Conducted every year in a rolling sample design by the US Census Bureau
  - Estimates the characteristics of how people live – education, housing, income, disability, and more

# WHAT IS THE AMERICAN COMMUNITY SURVEY

5

## DEFINITIONS

**Census** – *an official count of a population, typically recording various details of individuals*

**Estimate** – *an approximate calculation or judgment of the value, number, quantity, or extent of something*

Source: The Internet...

# WHAT IS THE AMERICAN COMMUNITY SURVEY

6

## 2000 Decennial Census Long Form

## American Community Survey

**United States Census 2000**

U.S. Department of Commerce  
Bureau of the Census

This is the official form for all the people at this address. It is quick and easy, and your answers are protected by law. Complete the Census and help your community get what it needs — today and in the future!

**Start Here** Please use a black or blue pen.

➔ How many people were living or staying in this house, apartment, or mobile home on April 1, 2000?

Number of people

**INCLUDE** in this number:

- foster children, roomers, or housemates
- people staying here on April 1, 2000 who have no other permanent place to stay
- people living here most of the time while working, even if they have another place to live

**DO NOT INCLUDE** in this number:

- college students living away while attending college
- people in a correctional facility, nursing home, or mental hospital on April 1, 2000
- Armed Forces personnel living somewhere else
- people who live or stay at another place most of the time

➔ Please turn the page and print the names of all the people living or staying here on April 1, 2000.

If you need help completing this form, call 1-800-471-9424 between 8:00 a.m. and 8:00 p.m., 7 days a week. The telephone call is free.

**TDD** - Telephone display device for the hearing impaired. Call 1-800-582-8330 between 8:00 a.m. and 9:00 p.m., 7 days a week. The telephone call is free.

**¿NECESITA AYUDA?** Si usted necesita ayuda para completar este cuestionario llame al 1-800-471-9424 entre las 8:00 a.m. y las 9:00 p.m., 7 días a la semana. La llamada telefónica es gratis.

The Census Bureau estimates that, for the average household, this form will take about 28 minutes to complete, including the time for reviewing the instructions and answers. Comments about the estimate should be directed to the Associate Director for Program and Administration, Attention: Population Reduction Project (0607-0856, Room 3104, Federal Building 3, Bureau of the Census, Washington, DC 20233).

Respondents are not required to respond to any information collection unless it displays a valid approval number from the Office of Management and Budget.

OMB No. 0607-0856; Approval Expires 12/31/2000

Form D-2

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Economics and Statistics Administration  
U.S. CENSUS BUREAU

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**Start Here**

➔ Please print today's date.  
Month Day Year

➔ Please print the name and telephone number of the person who is filling out this form. We may contact you if there is a question.  
Last Name  
First Name MI  
Area Code + Number

➔ How many people are living or staying at this address?

- **INCLUDE** everyone who is living or staying here for more than 2 months.
- **INCLUDE** yourself if you are living here for more than 2 months.
- **INCLUDE** anyone else staying here who does not have another place to stay, even if they are here for 2 months or less.
- **DO NOT INCLUDE** anyone who is living somewhere else for more than 2 months, such as a college student living away or someone in the Armed Forces on deployment.

**Number of people**

➔ Fill out pages 2, 3, and 4 for everyone, including yourself, who is living or staying at this address for more than 2 months. Then complete the rest of the form.

FORM ACS-1 (INFO) (2012) KFI  
07-14-2011

OMB No. 0607-0810

# WHAT IS THE AMERICAN COMMUNITY SURVEY

7

- The ACS replaced the Census Long Form
  - The last Long Form survey was disseminated during the 2000 Census (April 1, 2000)
- The ACS is an ongoing survey
  - Fully implemented in 2005, it provides data every year
  - Gives communities the information they need to plan investments and services
  - Helps determine how more than \$400 billion in federal and state funds are distributed each year across America

# THE ACS – WHAT DOES IT PROVIDE

8

## Individual & social characteristic questions asked by the ACS

- Gender
- Age
- Race & Hispanic Origin
- Education
- Marital Status
- Fertility
- Grandparent / Other Caregiver
- Veteran Status
- Disability Status
- Place of Birth
- Citizenship Status
- Year of Entry into the US
- Language Spoken at Home
- Ancestry / Tribal Affiliation



# THE ACS – WHAT DOES IT PROVIDE

9

## Economic & housing characteristic questions asked by the ACS

- Income & Benefits
- Employment Status
- Occupation
- Industry of Employment
- Commuting to Work
- Place of Work / Residence
- Housing Tenure
- Housing Characteristics
- Housing Values
- Housing Taxes & Insurance
- Mortgage / Monthly Rent
- Utilities



# THE ACS – THE GOOD, THE BAD & THE UGLY

10

## American Community Survey

### THE GOOD...

- Timeliness for areas that are large enough to get data every year
  - The ACS provides a new set of refreshed data every year...
  - For areas with a population 65,000 or greater

### THE BAD...

- Data for areas with small populations (less than 20,000 people) are only released in 5-year “period estimates”

### THE UGLY...

- Relatively small sample sizes – especially in “small areas” – creates high levels of estimate variability / reliability, in general...
- Because estimates for small areas are based on a sample taken over a 5 year period, it is difficult to pinpoint areas that may be undergoing significant changes over the period



# THE ACS – DATA RELEASE GUIDELINES

11

Data collected between...	Data pooled to produce	Data published for areas with
January 1, 2012 and December 31, 2012	ACS 1-year estimates Year: 2012	populations of 65,000+
January 1, 2010 and December 31, 2012	ACS 3-year estimates Years: 2010 – 2012	populations of 20,000+
January 1, 2008 and December 31, 2012	ACS 5-year estimates Years: 2008 – 2012	populations of almost any size

Source: US Census Bureau, American Community Survey ([www.census.gov/acs](http://www.census.gov/acs))

# THE ACS – DATA RELEASE SCHEDULE

ACS Data Product	Population of Area	Year of Data Release							
		2007	2008	2009	2010	2011	2012	2013	2014
1-Year Estimates for Data Collected in:	65,000 +	2006	2007	2008	2009	2010	2011	2012	2013
3-Year Estimates for Data Collected in:	20,000 +		2005 - 2007	2006 - 2008	2007 - 2009	2008 - 2010	2009 - 2011	2010 - 2012	2011 - 2013
5-Year Estimates for Data Collected in:	All Areas*				2005-2009	2006-2010	2007-2011	2008 - 2012	2009 - 2013

\* Five-year estimates will be available for areas as small as census tracts and block groups

Source: US Census Bureau, American Community Survey



Data Currently Available

1-year Estimates are generally released in September

3-year Estimates are generally released in October

5-year Estimates are generally released in December

# THE ACS – SAMPLE SIZE

13

National and Montana ACS sample size (*final interviews*) and response rates

Year	National Figures				Montana Figures			
	Housing Units		Group Quarters People		Housing Units		Group Quarters People	
	Final Interviews	Response Rate	Final Interviews	Response Rate	Final Interviews	Response Rate	Final Interviews	Response Rate
2012	2,375,715	97.3%	154,182	95.1%	11,955	97.6%	833	98.8%
2011	2,128,104	97.6%	148,486	96.9%	10,913	98.8%	725	95.5%
2010	1,917,799	97.5%	144,948	97.6%	9,256	98.2%	758	100.0%
2009	1,917,748	98.0%	146,716	98.0%	8,971	98.3%	786	99.9%
2008	1,931,955	97.9%	145,974	98.0%	9,087	98.5%	725	99.9%
2007	1,937,659	97.7%	142,468	97.8%	9,271	98.7%	402	100.0%
2006	1,968,362	97.5%	145,311	97.4%	9,482	98.7%	478	99.6%
2005	1,924,527	97.3%	N/A	N/A	9,076	99.2%	N/A	N/A

N/A - The ACS did not survey individuals in group quarters until 2006.

Source: US Census Bureau, American Community Survey Response Rate [www.census.gov/acs](http://www.census.gov/acs)

# THE ACS – SAMPLE SIZE

14

To put it into context...

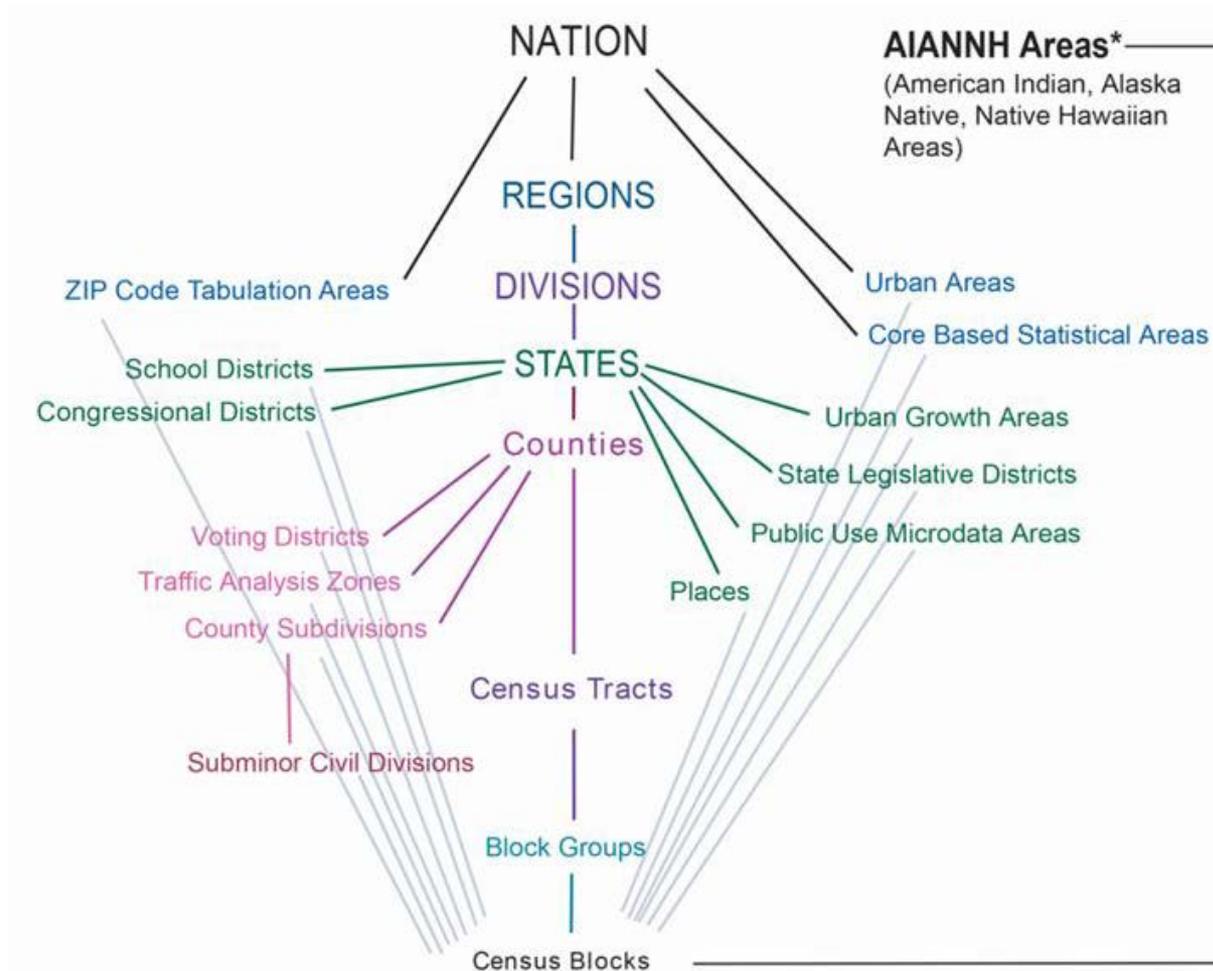
- 1.79% of all housing units in the US were sampled in 2012
- 2.46% of all Montana housing units were sampled in 2012

Year	United States			Montana		
	Total Housing Units	ACS Final Interviews	% of Total Housing Units	Total Housing Units	ACS Final Interviews	% of Total Housing Units
<b>2012</b>	132,452,405	2,375,715	1.79%	486,141	11,955	2.46%
<b>2011</b>	132,102,665	2,128,104	1.61%	484,901	10,913	2.25%
<b>2010</b>	131,781,345	1,917,799	1.46%	483,322	9,256	1.92%
<b>2009</b>	131,340,117	1,917,748	1.46%	479,025	8,971	1.87%
<b>2008</b>	130,522,504	1,931,955	1.48%	473,401	9,087	1.92%
<b>2007</b>	129,186,575	1,937,659	1.50%	465,868	9,271	1.99%
<b>2006</b>	127,394,236	1,968,362	1.55%	458,002	9,482	2.07%
<b>2005</b>	125,458,161	1,924,527	1.53%	449,791	9,076	2.02%
<b>Average</b>						
<b>2008-2012</b>	131,639,807	10,271,321	7.80%	481,358	50,182	10.43%

Source: US Census Bureau, Housing Unit Estimates - 2012 Vintage Estimates (Current as of April 2014)

# CENSUS GEOGRAPHY HIERARCHY

15



# THE ACS – AVAILABLE DATA

16

## Available Montana 1-Year Estimates

Most Current Available: 2012 Estimates

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### State of Montana

#### 5 Montana Counties

- Cascade
- Flathead
- Gallatin
- Missoula
- Yellowstone

#### 2 Montana Cities

- Billings
- Missoula

# THE ACS – AVAILABLE DATA

17

## Available Montana 3-Year Estimates

Most Current Available: 2010 – 2012 Estimates

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### State of Montana

#### 9 Montana Counties

- Cascade
- Flathead
- Gallatin
- Missoula
- Yellowstone
- Lake
- Lewis & Clark
- Ravalli
- Silver Bow

#### 6 Montana Cities

- Billings
- Missoula
- Bozeman
- Great Falls
- Helena
- Kalispell

# THE ACS – AVAILABLE DATA

18

## Available Montana 5-Year Estimates

Most Current Available: 2008 – 2012 Estimates

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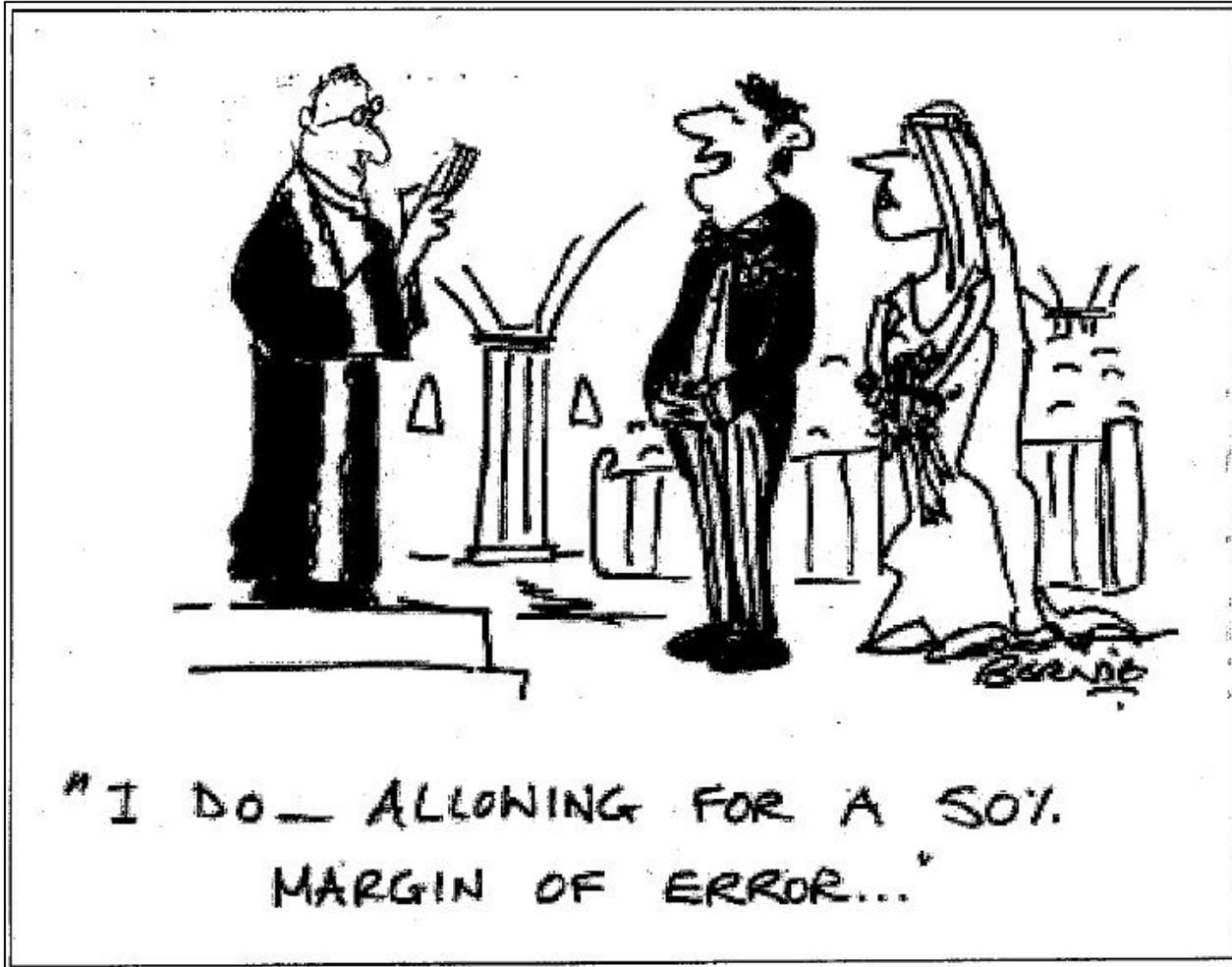
**EVERYWHERE\***

ACS 5-year estimates are available for all Census geographies  
– block groups and larger

\* ACS data of any kind is not available at the Census block level

# THE ACS – MARGIN OF ERROR

19



# THE ACS – MARGIN OF ERROR

20

## Sample Survey

- The ACS is based on a *sample* of total households selected to fill out the survey
  - This is similar to the 2000 Census Long Form

## Decennial Census Survey

- Every household in America is selected to fill out the survey
- This provides an actual *count* of ALL people and housing units in the Nation
  - Census 2010, Census 2000, Census 1990, etc.

# THE ACS – MARGIN OF ERROR

21

## What is *Margin of Error*?

- Because the ACS data is derived from a sample of households, the figures are estimates...
  - All estimates have a degree of error associated with them due to random sampling – and other potential reasons but we won't get into that...
- The margin of error is a statistic expressing the amount of random sampling error there is associated with an estimate

## Interpretation

... *We can be 90% confident that the true value of what we're estimating falls within the range – confidence interval – of the estimate plus/minus the margin of error...*

# THE ACS – MARGIN OF ERROR

22

Decennial Census – Census 2010 – data is based on a survey of every household in a geographic area...

ACS data is based on a sample of households in the area...

## Yellowstone County, MT

	Census 2010	American Community Survey	
		2010 1-year Estimate	Margin of Error (+/-)
Total Population	10,122	10,321	568
Under 5 years old			

Source: US Census Bureau

Data: Census 2010 Summary File 1; ACS 1-year (2010) Estimates

# THE ACS – WHAT MAKES A GOOD ESTIMATE

23

## Relative Margin of Error (RMOE)

- It's essentially what its name infers...
  - The *relative margin of error* is a measure of an estimates variability relative to the estimate itself expressed as a percentage

$$RMOE = \left( \frac{\textit{Margin of Error}}{\textit{Estimate}} \right) * 100$$

- In general, the smaller the RMOE, the better or more reliable the estimate is...
- Conversely, the larger the RMOE the less confident we can be in the estimate's accuracy – do to sampling error.

# THE ACS – WHAT MAKES A GOOD ESTIMATE

24

## Example of Relative Margin of Error (RMOE)

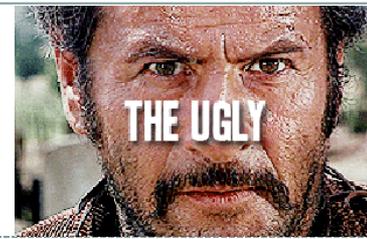
- The data below are American Community Survey 5-year (2008-2012) Estimates for Ravalli County comparing relative margins of error across estimates

### Ravalli County, MT

	Estimate	Margin of Error (+/-)	Relative Margin of Error
Persons Below Poverty Level	5,847	665	11.4%
Males Below Poverty Level	2,774	395	14.2%
Males 75 Years and Older in Poverty	51	40	78.4%

Source: US Census Bureau, American Community Survey 5-year (2008 – 2012) Estimates

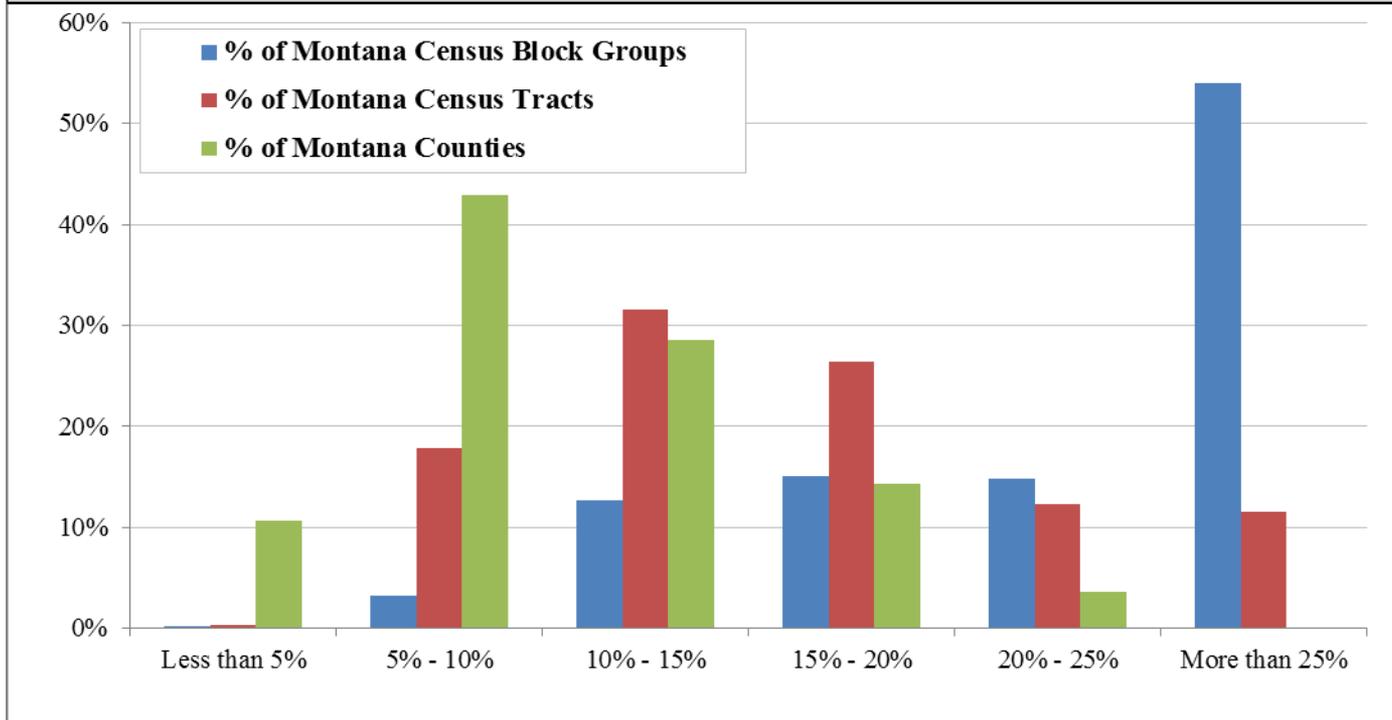
# THE ACS – MARGIN OF ERROR



25

The purpose of this graph is to show, in general, the smaller and less populated the geographic area, the less reliable the ACS estimate...

**PERCENT OF TOTAL MT GEOGRAPHIES WITH RESPECTIVE RELATIVE MARGIN OF ERROR ESTIMATED MEDIAN HOUSEHOLD INCOME - AMERICAN COMMUNITY SURVEY 2008-2012 ESTIMATES**

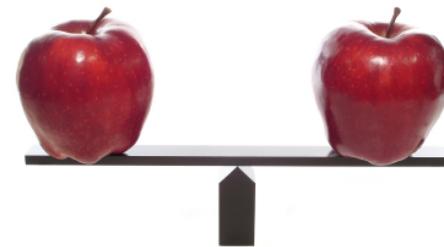


# THE ACS – COMPARING THE DATA

26

## ACS data is comparable to some data...

- ACS 1-year estimates with Census 2000 Long Form Data
  - For the most part...
- ACS 1-year estimates from different years
- ACS estimates from non-overlapping periods
  - For example, ACS 3-year (2006-2008) estimates to ACS 3-year (2009-2011) estimates

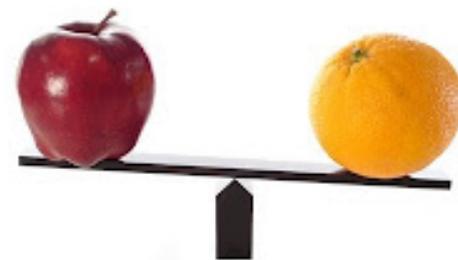


# THE ACS – COMPARING THE DATA

27

## ACS data is NOT comparable to other data...

- Different time period ACS estimates should not be compared
  - For example, ACS 3-year estimates with ACS 1-year estimates
- Overlapping time period estimates should never be compared
  - For example ACS 5-year (2006-2010) estimates with ACS 5-year (2007-2011) estimates

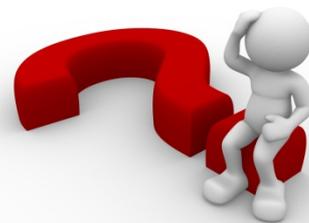


# THE ACS – COMPARING THE DATA

28

## When in doubt...

- Go check out what you're trying to compare on the US Census Bureau's website:  
[http://www.census.gov/acs/www/guidance\\_for\\_data\\_users/comparing\\_data/](http://www.census.gov/acs/www/guidance_for_data_users/comparing_data/)
- Give us a call or shoot us an email at the Census & Economic Information Center
  - Contact information is on the last slide of this presentation



# QUESTIONS...

29

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MONTANA DEPARTMENT OF COMMERCE

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