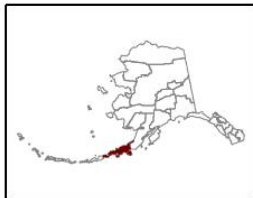
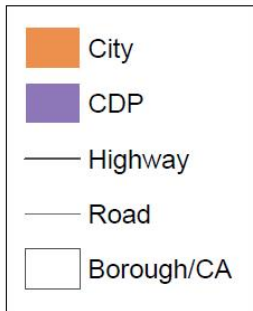


Aleutians East Borough



Map Prepared by:
Alaska Department of Labor
& Workforce Development

September 2011

Source: US Census
2010 TIGERline

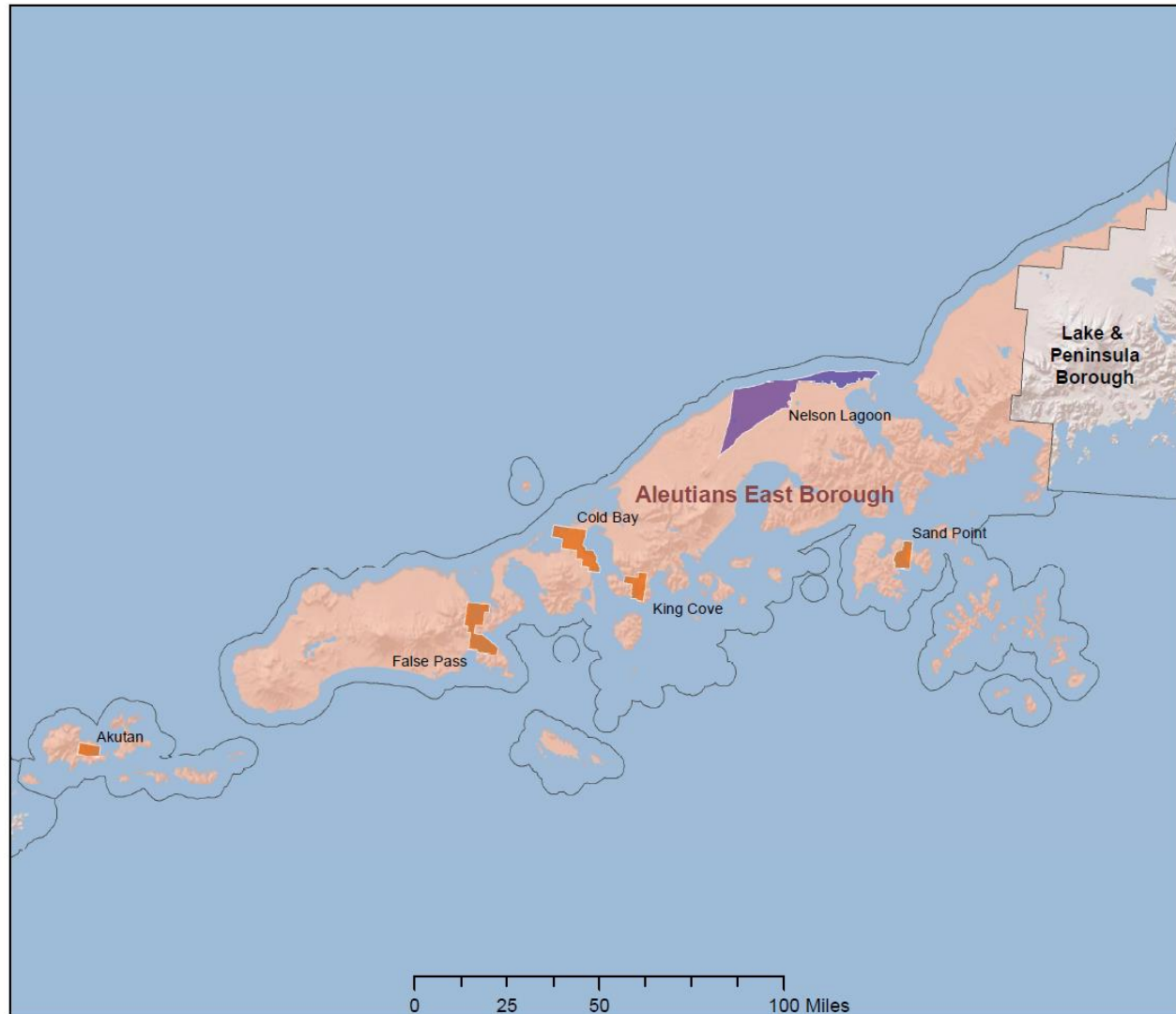


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Aleutians East Borough Dashboard

Population: The Alaska Department of Labor and Workforce Development's current (2012) population estimate for the Aleutians East Borough is 3,227—an increase of 20% from 2000.

Housing Units: There are currently 535 housing units in the Aleutians East Borough. Of these, 336 are occupied, 46 are for sale or rent, and the remaining 153 are seasonal or otherwise vacant units (Profile Figure C6).

Energy: The average home in the Aleutians East Borough is 1,295 square feet and uses 108,000 BTUs of energy per square foot annually, 21% less than the statewide average of 137,000 BTUs per square foot per year.

Energy Costs: Using AKWarm estimates, average annual energy cost for homes in the Aleutians East Borough is \$6,300, which is approximately 2.3 times more than the cost in Anchorage, and 3 times higher than the national average (Profile Figure C13).

Energy Programs: Approximately 29% of the occupied housing in the Aleutians East Borough has completed either the Home Energy Rebate, Weatherization, or BEES programs since 2008, compared to 21% statewide (Profile Figure C12).

Housing Quality: Within current housing stock, newer homes have better energy performance. On average, homes built in the 1960s are currently rated at 1-star-plus, compared to a current average rating of 5-stars for houses built after 2000.

Air-tightness: Within current housing stock, newer homes are tighter than those built prior to the 1980s. On average, homes built in the last decade perform better than the 2012 BEES standard of 4 air-changes per hour at 50 pascals (ACH50). In contrast, homes built in the 1950s are 3.3 times leakier than those built since 2000 (Profile Figure C7).

Ventilation: An estimated 116 occupied housing units (or 34%) in the Aleutians East Borough are relatively air-tight and lack a continuous ventilation system. These houses are at higher risk of moisture- and indoor air quality-related issues (Profile Figures C9-C10).

Overcrowding: 3.6% of occupied units are estimated to be either overcrowded (1.5%) or severely overcrowded (2.1%). This is roughly the same as the national average, and makes the Aleutians East Borough the 23rd most overcrowded census area in the state.

Affordability: On average, approximately 21% of households in the Aleutians East Borough spend more than 30% of total income on housing costs, which include rent, utilities, and energy costs. Based on average AKWarm estimates, annual energy costs constitute approximately 11% of census median area income for occupied housing.

Aleutians East Borough Summary

Community

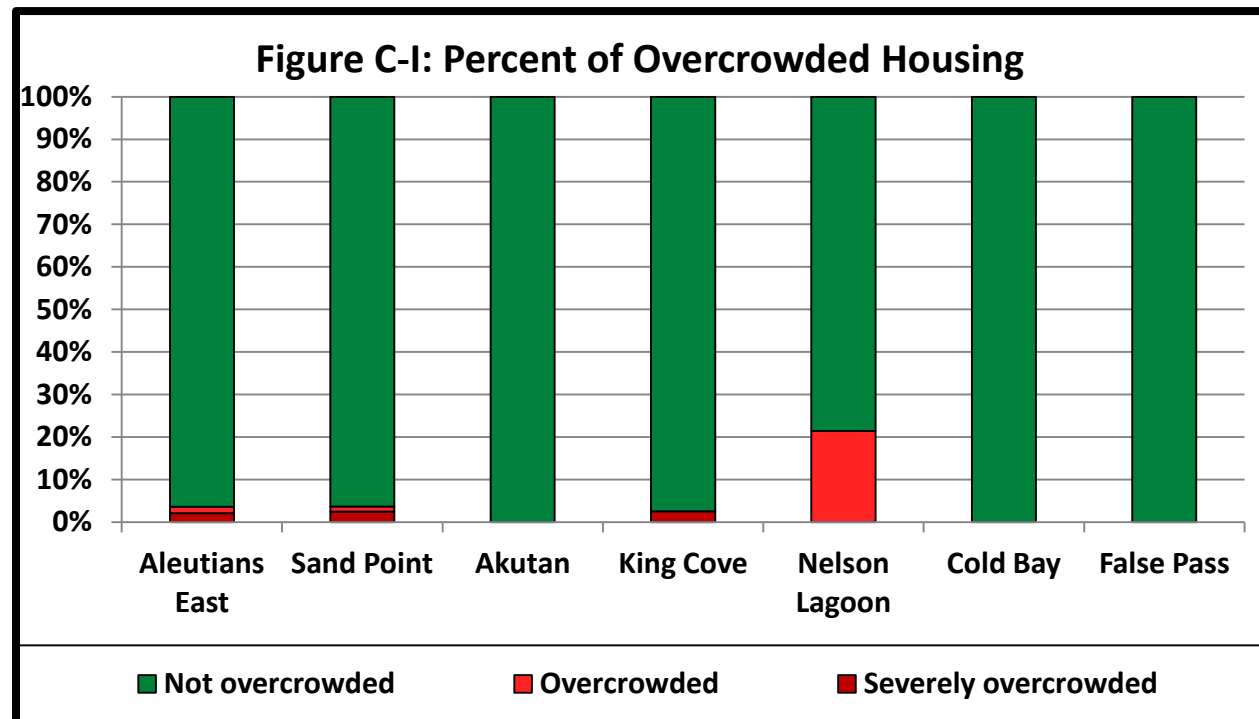
The Aleutians East census area is located in the Southwest peninsula off the coast of mainland Alaska. It is in the Aleut Native Corporation ANSCA region. The six communities in the census area sit on islands or the coast of the Southwest peninsula. Average homes in the census area range in size from 864 square feet in King Cove to 1,466 square feet in Sand Point.

Overcrowding

The Aleutians East census area has less than 5% overcrowding, making it one of the 10 least-crowded census areas in Alaska. The most crowded community in the census area is Nelson Lagoon, in which 21% of households are classified as overcrowded, or with more than one person per room. Akutan, Cold Bay, and False Pass have an estimated 0% overcrowded households, and remaining communities have less than 10% overcrowding, (Figure C-1).

Approximately 9% of housing in the census area is for sale or rent. There is a broad range of available housing on the community level: Akutan has an estimated no available housing,

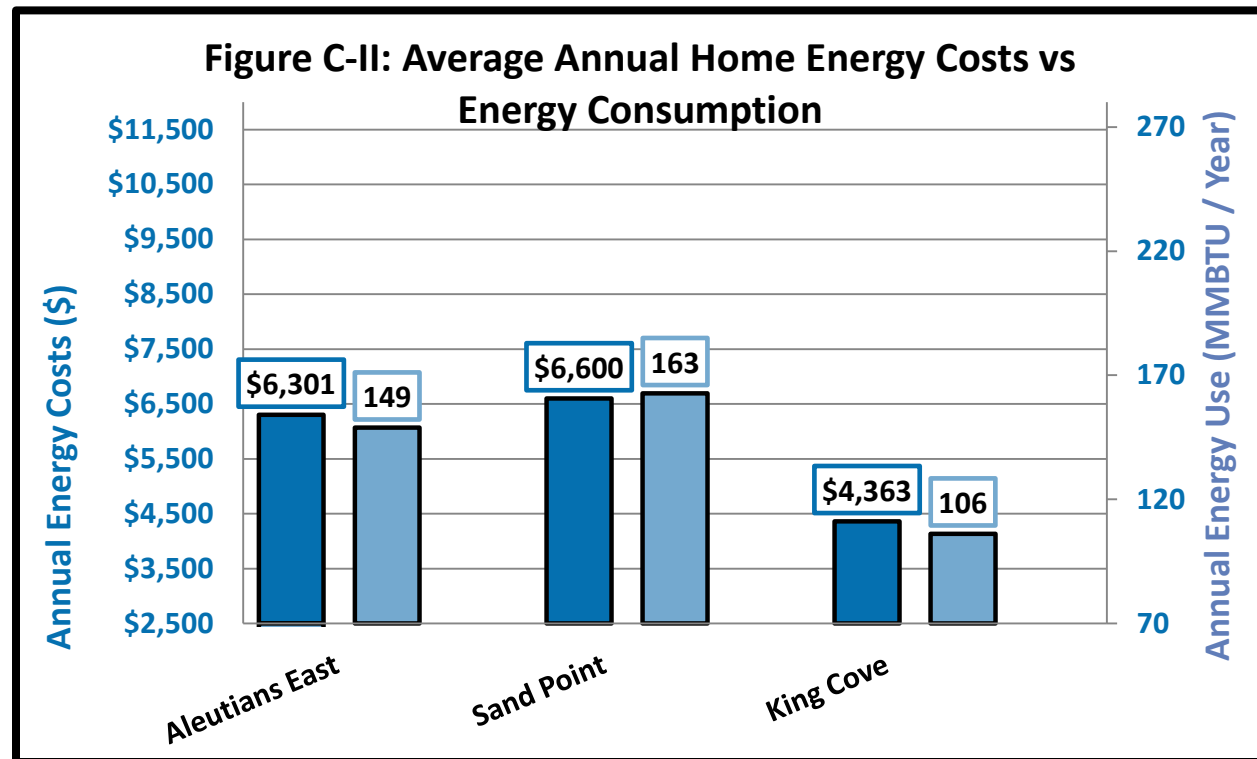
while 78% of housing in False Pass is available. Throughout the census area, 29% of housing units are considered vacant because they are used for seasonal, recreational, or “other” non-year-round purposes.



Energy

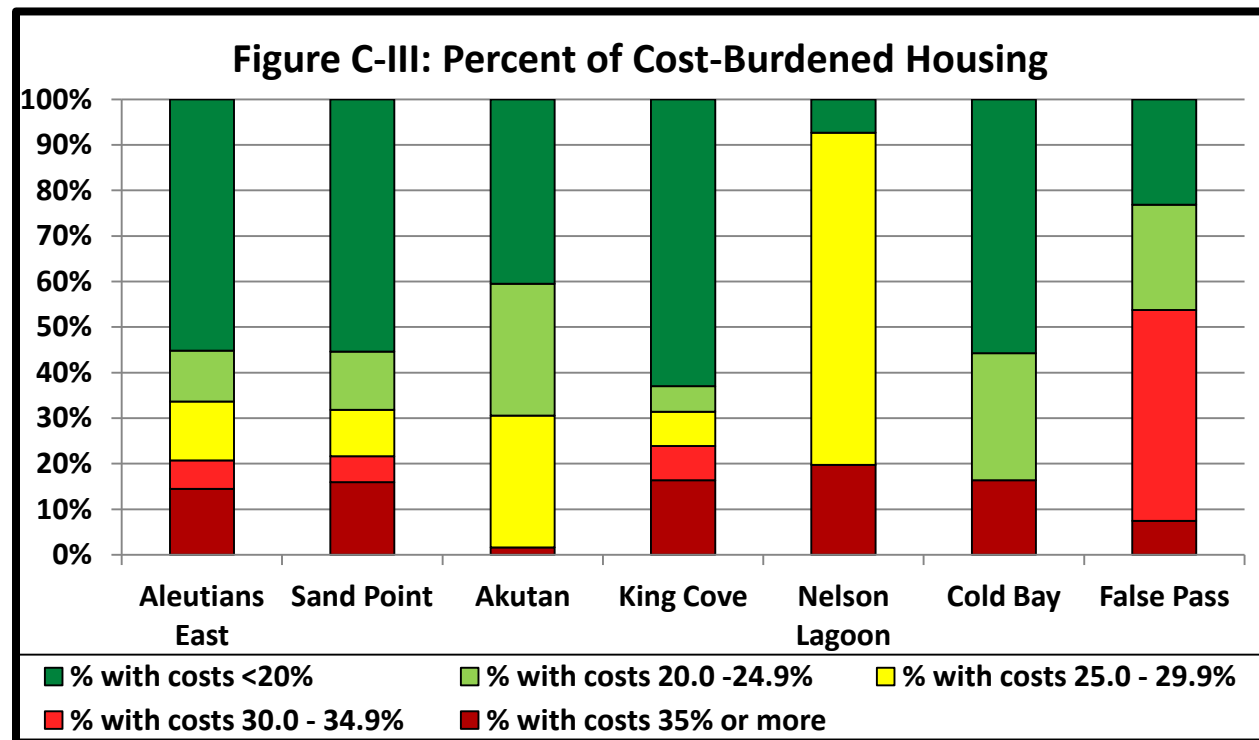
The average house in the Aleutians East census area uses 149 million BTUs annually, which results in an average annual cost of \$6,301 as shown in Figure C-II. The highest costs in the census area are found in Sand Point at an annual cost of \$6,600. King Cove has the lowest energy costs in the census area, with an annual cost of \$4,363. Sand Point and King Cove also represent the communities with the highest and lowest home heating indexes: Sand Point homes have an average heating index of 9.5 BTUs/ft²/Heating Degree Day and King Cove homes have an average heating index of 6 BTUs/ft²/HDD. King Cove homes use about two-thirds the annual energy of Sand Point homes (Figure C-II), possibly because the housing units are on average almost 600 square feet smaller, have a lower heating index, and more homes in King Cove have participated in an AHFC energy program. One possible factor is that electricity is less expensive in King Cove due to its use of hydroelectricity. Note that this only matters when monthly electrical usage exceeds the upper limit of 500 kWh a month

The percentage of all housing units in the Aleutians East census area that have participated in either the Home Energy Rebate Program, Weatherization, or a BEES program since 2008 is 29%, compared to 21% statewide. Participation in communities in the census area has varied widely: Cold Bay has an estimated 0% participation in an energy program since 2003 for the lowest participation rate in the census area whereas Akutan has achieved an estimated 100% participation in an energy program. Since the 1990s, the percentage of homes with a continuous mechanical ventilation system or HRV in the census area has increased by roughly 90%.



Affordability

According to ACS estimates¹, between 6% and 60% of households in the Aleutians East census area are cost-burdened, or spend more than 30% of their income on housing costs. Akutan has the lowest percentage (6%) of cost-burdened households (Figure C-III),. It also has the lowest median household income, \$35,000, in the census area. Median household incomes for other communities range up to \$67,000, the median household income in Sand Point. False Pass is the most cost-burdened community, with over half of households (60%) spending more than 30% of their income on housing costs. This is more than twice the regional average of 20%



Community, Regional, and Statewide Housing Characteristics

This census area summary only includes the highlights of housing characteristics at the census area level. Detailed data profile with charts and tables for both the census area and for each of the communities within it follow. The 2014 Alaska Housing Assessment provides a significant amount of data and analysis at statewide, ANCSA region, census area, and community levels. This assessment provides a statewide analysis of housing characteristics, how they compare to national numbers, and the estimated housing needs. Within the 2014 Alaska Housing Assessment,

¹ CCHRC's analysis of ACS energy costs indicate that there are systematic underestimations for rural Alaska, which suggests that ACS-based cost burdened housing estimates are low. See Appendix A, "Analysis of American Community Survey Energy Cost Estimates" for more details.

written summaries are available for each individual ANCSA region and census area, and data profiles are available for each community and census area characterizing the housing stock from the perspective of community, overcrowding, energy and affordability. These different tiers of information and analysis allow researchers, housing authorities, policymakers and others to generate answers to specific questions. For a detailed discussion of estimating housing need and comparison of methods to previous Housing Assessments, see Appendix B, "Statewide Need Assessment" of the 2014 Alaska Housing Assessment.

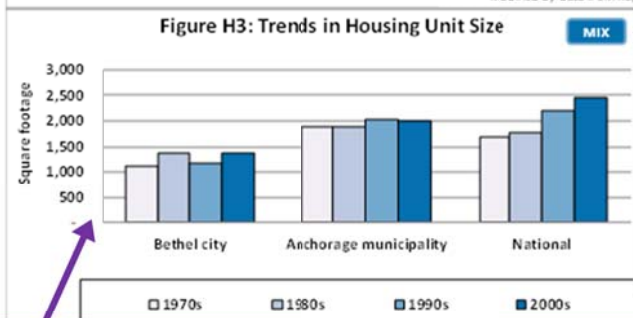
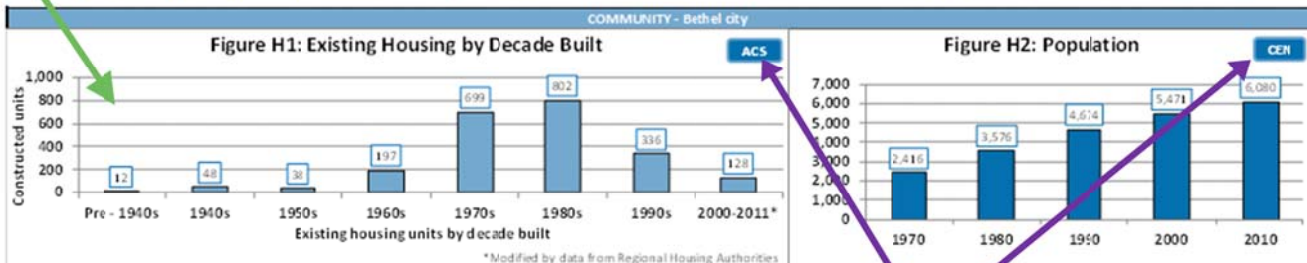
How to Interpret the Profile: Data Sources, Definitions & Clarifications

1

This graph show the breakdown of *current* housing stock by the decade in which the housing units were built. It does *not* show trends over time.

The Alaska Building Energy Efficiency Standard (BEES) was established by AHFC for the State of Alaska to promote the construction of energy efficient buildings. The standards for specific building components are divided into four climate zones, from Zone 6 in Southeast AK to Zone 9 on the North Slope.

Community Profile for: Bethel city
ANCSA Region: Calista
Regional Housing Authority: AVCP Regional Housing Authority
BEES Climate Zone (Heating Degree Days): Zone 8 (13,334 HDD)



Data Source Key:

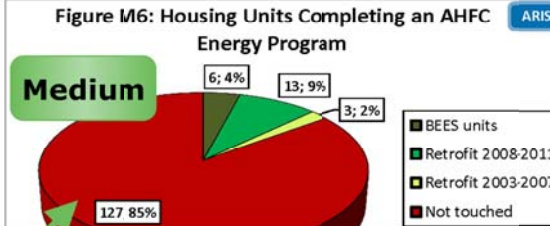
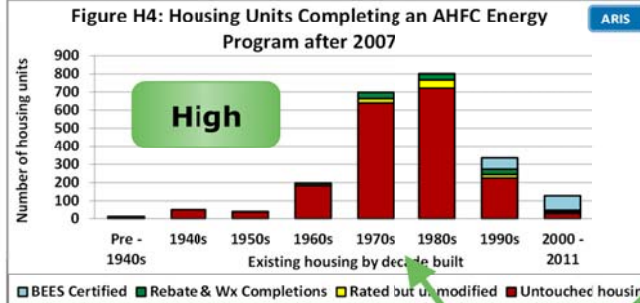
- 2011 American Community Survey 5 year estimates (ACS) **ACS**
- Alaska Retrofit Information System energy audits **ARIS**
- 2010 Decennial Census **CEN**
- Mixed data source; see individual graphs for details. **MIX**

Data Sources: National trends come from the 2009 Residential Energy Consumption Statistics published by the U.S. Energy Information Administration. Anchorage and census area data come from the Alaska Retrofit Information System.

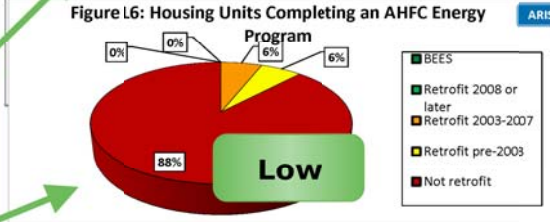
How to Interpret the Profile: Data Sources, Definitions & Clarifications

1

Energy program activity within communities with high, medium and low amounts of ARIS data available. (See p.7 of "How to Interpret" for detail on data levels).



Communities - AHFC Energy Program Activity
High Data - Reported by decade built for the housing units.
Medium Data - Reported by percent of total housing units touched.
Low Data - Have few or no post-2008 Weatherization/Rebate completions or BEES certifications in the ARIS database.



American Community Survey (ACS) Data:
Complete Plumbing: Includes hot & cold running water, a flush toilet, and a bathtub or shower within the home.
Complete Kitchen: Includes a sink with a faucet, a stove/range, and a refrigerator.

- PCE = Power Cost Equalization
- Average Annual Energy Cost with PCE: The cost to the household after it has been lowered by the PCE subsidy.
- Without PCE: The actual energy cost, including the amount paid by the State for PCE.

Houses Lacking Complete Plumbing or Kitchen Facilities	# Households	% Households
Lack complete plumbing	3	10%
Lack complete kitchen	0	0%

Estimated Total Community Space Heating Fuel Use by Type		
Fuel Oil	20,816	(gallons)
Nat Gas	-	(ccf)
Electricity	15,459	(kWh)
Wood	3	(cords)
Propane	-	(gallons)
Coal	-	(tons)

Avg Annual Energy Cost with PCE	\$5,265
Avg Annual Energy Cost without PCE	\$6,643

Estimated Energy Prices as of January 2015	
#1 Fuel oil cost (\$ / gallon)	\$5.16
Electricity with PCE (\$/kWh)	\$0.03
Electricity cost without PCE (\$/kWh)	\$0.27

Weatherization Program Retrofits (funding increased in 2008)	
Date Range	Units
2008-2011	17
2003-2007	-
1990-2002	10

Housing Stock Estimates	
All Housing	Nu
All Occupied Housing	
All Single-Family Housing	
Vacant Housing for Sale or Rent	

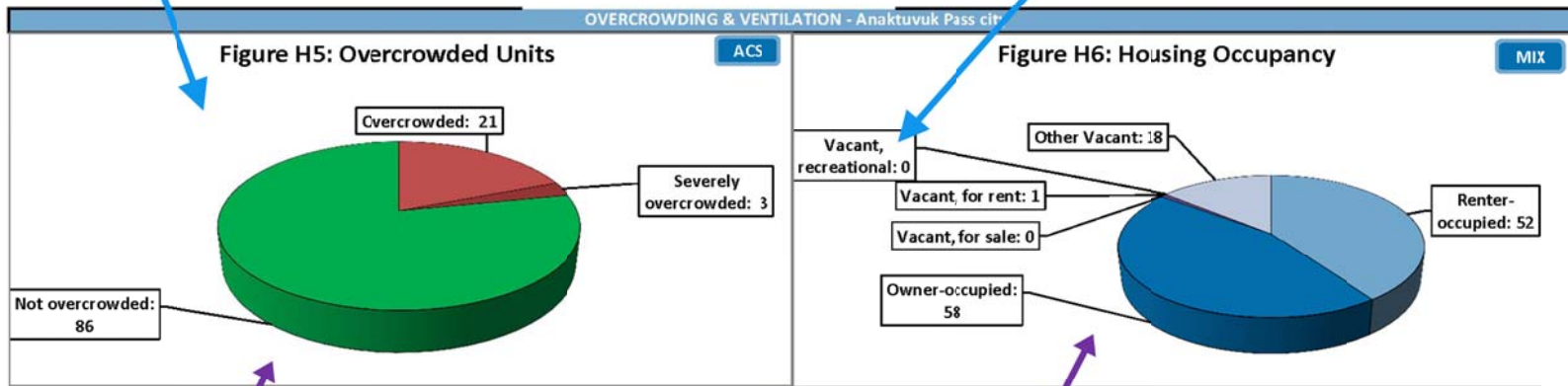
Units weatherized before 2008 are eligible to participate in the program again. (Data source: Alaska Housing Finance Corporation).

How to Interpret the Profile: Data Sources, Definitions & Clarifications

2

Overcrowded: Housing units with more than 1 person per room
Severely Overcrowded: Housing units with more than 1.5 people per room.
 "Rooms" include bedrooms, living rooms, dining rooms, kitchens, and other finished, separated spaces, but not including bathrooms, porches, balconies, foyers, halls, or unfinished basements.

Recreational: For seasonal, recreational, or occasional use.



Data Source:
 2011 American
 Community
 Survey 5-year
 estimates

Data Sources: The number of owner-occupied, renter-occupied, and total vacant units are taken from the 2011 ACS 5-year estimates. Data for vacancy type, only available from the decennial Census, were derived by taking the decennial census ratios by vacancy type and applying them to the total number of vacant units.

How to Interpret the Profile: Data Sources, Definitions & Clarifications

2

Heat Recovery: Continuous mechanical ventilation with heat recovery operated with automatic controls.

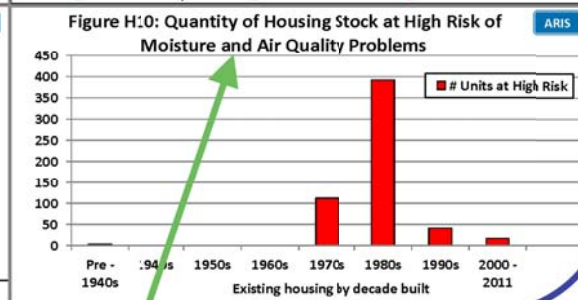
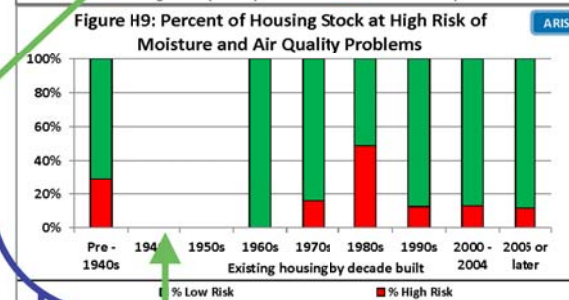
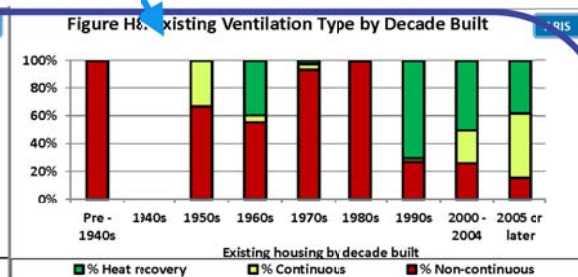
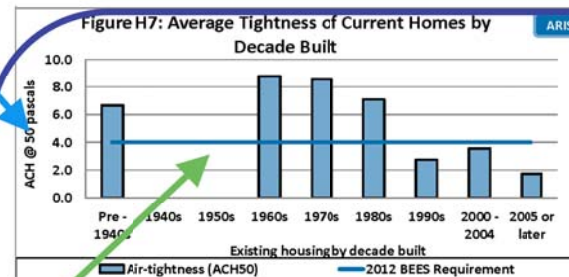
Continuous: Mechanical ventilation without heat recovery operated with automatic controls.

Non-Continuous ventilation: Includes homes with range and/or bath fans not operated using automatic controls.

ACH50: The results of a blower door test to measure building air leakage. Smaller numbers indicate tighter buildings. Tighter buildings lose less heated air to the outside and thus use less energy for space heating.

The 2012 Building Energy Efficiency Standard (BEES) for air-tightness is for reference only, as it was implemented after the majority of homes in Alaska were built.

Data Source:
Alaska Retrofit Information System



Decades with no bar lack sufficient data for reporting. They should not be considered zero quantities.

High Risk of Moisture and Air Quality Problems: Note that moisture or poor indoor air quality have not been physically measured; these houses are considered "at-risk" because they are relatively air tight (less than 0.5 estimated natural air changes per hour) and do not have a continuous ventilation system.

How to Interpret the Profile: Data Sources, Definitions & Clarifications

3

Rating stars and points are based on AHFC's AkWarm energy rating system.

Average annual energy cost:
Includes all end uses. Costs are estimated using January 2013 energy prices, and include reductions from the PCE program.

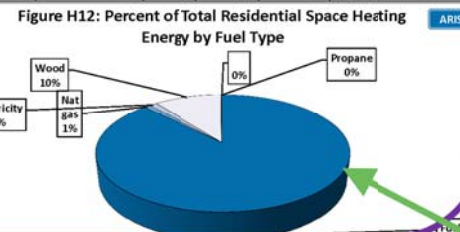
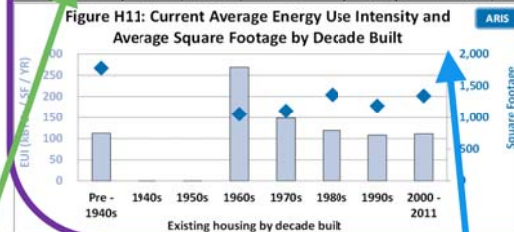
Space Heating, DHW, Appliances:
Estimated annual energy for the end uses of: Space Heating, Domestic Hot Water, and all other energy including lights, appliances, and electronics.

ECI: Energy Cost Index, the amount of money spent on energy per year divided by square footage.

The number of AkWarm records from each decade built that were used to calculate the averages reported.

Current Residential Units by Year Built	Number of Records	Avg Energy Rating	Avg Energy Rating Points	Avg Sq. Feet	Avg. Annual Energy Cost (with PCE)	Avg. Annual Energy Use (million BTUs)	Avg Ann Energy by End Use (million Btus)				Avg. EUI (kBtu/SF)	Avg. ECI (\$ / SF)	Avg. Home Heating Index
							Space Heating	DHW	Appliances	Other			
OVERALL	419	3-star	70.7	1,237	\$ 8,065	160	102	17	26	132	\$ 6.97	6.5	
Pre- 1940	7	3-star	68.3	1,779	\$ 11,107	199	145	11	33	113	\$ 6.66	6.4	
1940-49	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
1950-59	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
1960-69	15	2-star	52.3	1,056	\$ 11,087	287	225	15	27	269	\$ 10.60	16.0	
1970-79	71	2-star plus	64.5	1,106	\$ 7,961	153	105	11	25	149	\$ 8.99	7.8	
1980-89	113	3-star plus	74.7	1,361	\$ 8,239	157	100	10	26	119	\$ 6.40	5.8	
1990-99	111	4-star	79.9	1,187	\$ 6,395	122	57	11	20	108	\$ 5.58	4.7	
2000-2004	71	3-star plus	77.5	1,388	\$ 8,435	143	80	15	27	118	\$ 7.24	5.2	
2005 or later	28	5-star	91.9	1,233	\$ 4,504	92	39	18	25	79	\$ 3.82	2.5	

Home Heating Index:
The energy used per square foot per year divided by the area's heating degree days.



Data Source:
AkWarm ratings from AHFC's Alaska Retrofit Information System (ARIS).

Average energy characteristics of the *current* housing stock by decade built (high data communities) or by pre-/post-retrofit and new construction categories (medium data communities).

Energy Use Intensity (EUI) is the total amount of energy used per year per square foot of floor space.

This is the community's breakdown by fuel type of the energy (BTUs) used for home space heating. It is not the percent of housing using a given fuel in primary space heating devices. Because wood burning devices are inefficient, they may use a significant portion of total energy even if no homes in a community use wood as a primary fuel.

How to Interpret the Profile: Data Sources, Definitions & Clarifications

3

Average building envelope characteristics of the *current* housing stock by decade built (high data communities) or by pre-/post-retrofit and new construction categories (medium data communities).

ACH50: The results of a blower door test to measure building leakiness. Smaller numbers indicate tighter buildings.

R-value: the capacity to resist heat flow. The higher the value, the better the insulator.

U-value: the conductance to heat flow. The lower the value, the better the insulator.

Data Sources: AkWarm ratings from AHFC's Alaska Retrofit Information System (ARIS).

Current Bethel city Housing Envelope Characteristics By Decade Built

Current Residential Units by Year Built	Number of Records	ACH 50	Ceiling R	Above Grade Wall R	Below Grade Wall R	Above Grade Floor R	On Grade Floor R	Below Grade Floor R	Door U	Garage Door U	Window U
OVERALL	419	6.4	23	17	7	30	NR	2	0.36	0.27	0.54
Pre- 1940	7	6.7	26	21	NR	30	NR	NR	0.30	NR	0.40
1940- 49	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1950- 59	3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1960- 69	15	8.8	16	14	NR	21	NR	NR	0.44	NR	1.65
1970- 79	71	8.5	20	15	NR	29	NR	NR	0.39	NR	0.57
1980- 89	113	7.1	29	17	NR	32	NR	NR	0.30	NR	0.44
1990- 99	111	2.7	56	31	NR	50	NR	NR	0.19	0.12	0.29
2000- 2004	71	3.6	13	21	NR	36	NR	NR	0.27	0.23	0.40
2005 or later	28	1.7	41	22	NR	41	NR	NR	0.20	NR	0.31
BEES 2009 - Climate Zone 8		7.0	38	30	15	38	15	15	0.22	0.22	0.22
BEES 2012 - Climate Zone 8		4.0	48	30	15	38	15	15	0.22	0.22	0.22

The number of AkWarm records from each decade built that were used to calculate the averages reported.

"NR" is used when there are insufficient records to protect the confidentiality of the occupants.

Color Coding--
Green: the average value meets or exceeds the 2012 BEES requirement.
Yellow: value is 75-99% of the 2012 BEES requirement.
Red: value is less than 75% of the 2012 BEES requirement.

How to Interpret the Profile: Data Sources, Definitions & Clarifications

4

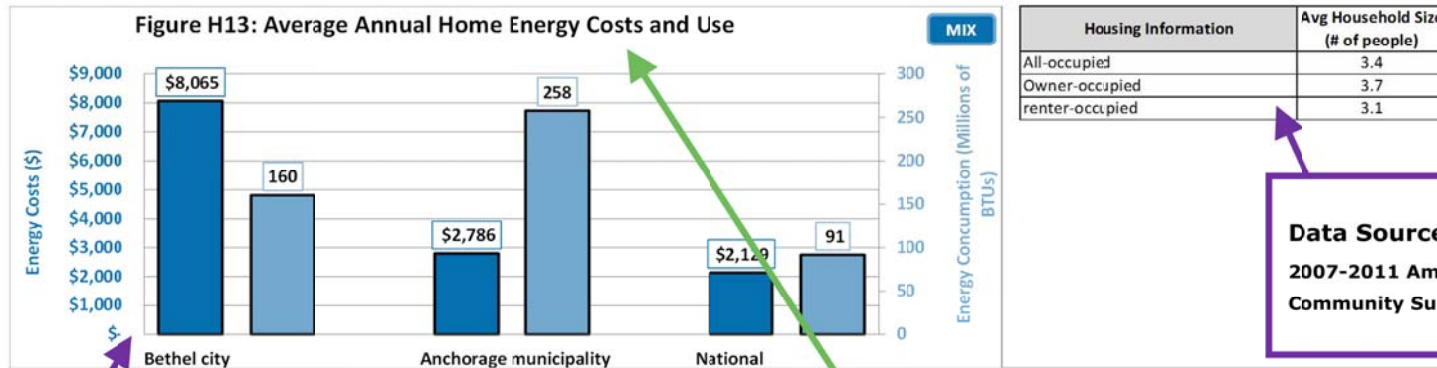
Communities are categorized in this report by the amount of ARIS data available, and reporting is more extensive for locations with more data. Data quantities are defined as--

High: ARIS records exist for housing units built in 7 of the 9 date ranges use in this report, and there are either more than 50 records or records totaling 20 percent or more of the total number of housing units.

Medium: There are three or more ARIS records. Data are presented for an "overall" group if there are "As Is" ARIS records totaling at least 10% of the community's occupied housing units.

Low: There are fewer than three ARIS records for the location.

Community Template - Data Quantity: High



Data Source:
2007-2011 American Community Survey

Data Sources: Census Area and Anchorage data come from AFHC's Alaska Retrofit Information System. National figures come from the U.S. Energy Information Administration's 2009 Residential Energy Consumption Statistics (RECS) for "cold"/"very cold" climate regions.

Average annual home energy costs and usage estimates are for all end uses, including space heating, domestic hot water, lighting and appliances. Costs are estimated using January 2013 energy prices and include reductions from the PCE program.

How to Interpret the Profile: Data Sources, Definitions & Clarifications

4

Data Source:
2007-2011
American
Community
Survey.

"Value" is determined by responses to the ACS question: "How much do you think this house and lot, apartment, or mobile home (and lot, if owned) would sell for if it were for sale?"

Household income includes all earnings from salaries, stocks, gifts, public assistance, etc.

Data Source: Median income comes from 2007-2011 ACS estimates; energy costs come from AHFC's Alaska Retrofit Information System (ARIS).

Owner-occupied House with Mortgage, Median Value
\$226,800
Owner-occupied House without a Mortgage, Median Value
\$119,600

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 91,302
Renter-occupied	\$ 70,170
Owner-occupied	\$ 107,908
w/ mortgage	\$ 111,167
w/o mortgage	\$ 70,400

Median Household Expenses		
	Monthly	Annual
All-occupied	\$ 1,369	\$ 16,428
Gross rent	\$ 1,201	\$ 14,412
Owner-occupied	\$ 1,610	\$ 19,320
Housing units w/ mortgage	\$ 1,854	\$ 22,248
Housing units w/out a mortgage	\$ 680	\$ 8,160
Avg % of Median Income Spent on Energy	8.8%	

Figure H14: Affordability - Housing Costs as a Percent of Income

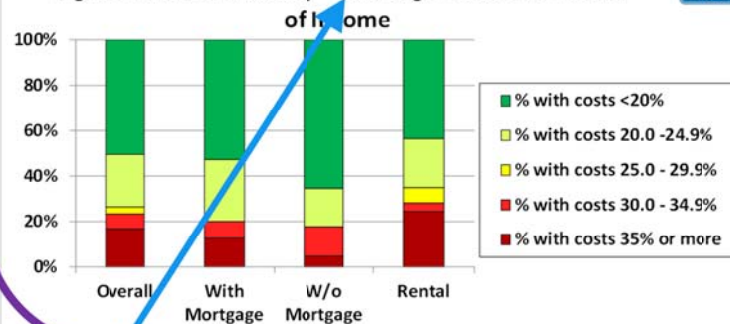


Figure H15: Number of Cost-Burdened Housing Units



Rental housing costs: Contract rent, fuels, utilities.

Owner housing costs: Mortgage payments, property taxes, insurance, fuels, utilities, condo fees.

Households are considered "cost burdened" if they spend 30% or more of total household income on housing costs. Households spending more than this amount on housing costs may have difficulty affording basic necessities such as food, transportation, and medical care.

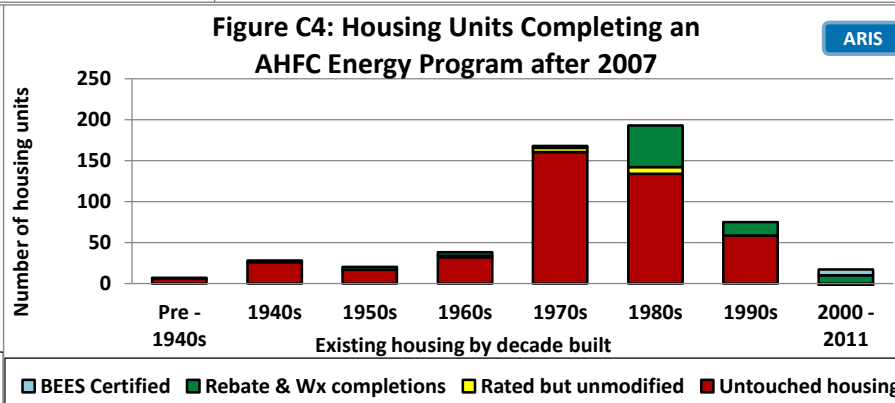
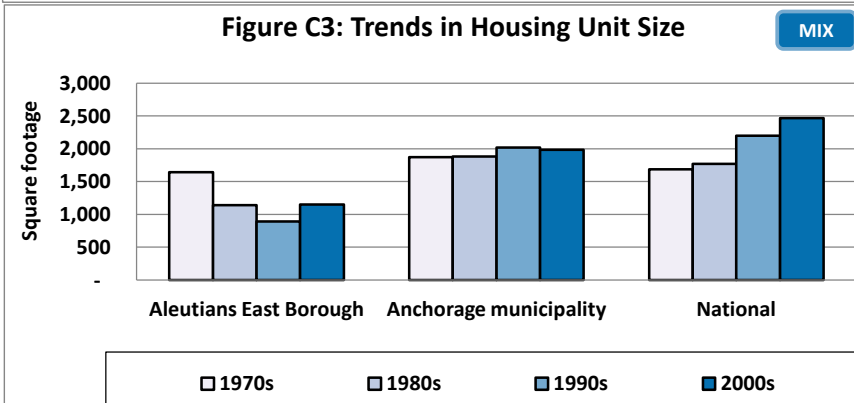
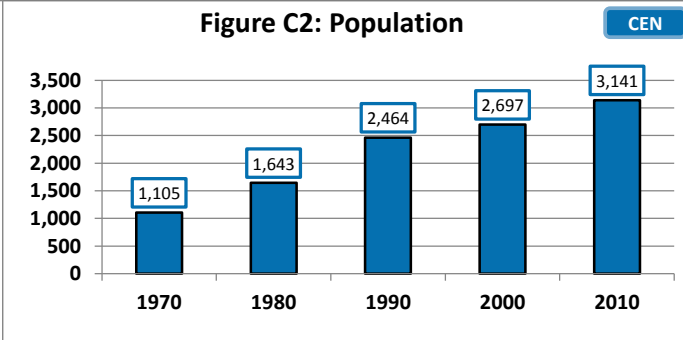
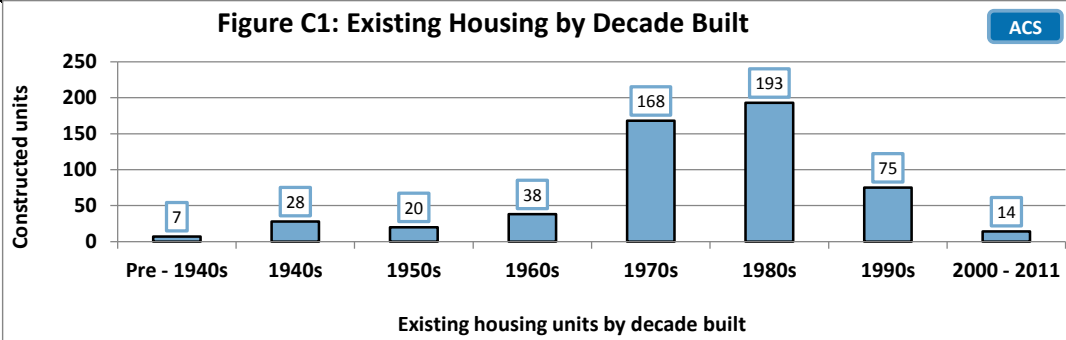
Census Area Profile for: Aleutians East Borough

ANCSA Region: Aleut

Regional Housing Authority: Aleutian Housing Authority

BEES Climate Zone (Heating Degree Day Range): Zone 7 (9,000 - 12,600 HDD)

COMMUNITY - Aleutians East Borough



Houses Lacking Complete Plumbing or Kitchen Facilities	Households	
	Number	Percent
Lack complete plumbing	13	4%
Lack complete kitchen	5	2%

Avg Annual Energy Cost with PCE	\$6,301
Avg Annual Energy Cost without PCE	\$7,726

Weatherization Retrofits (funding increased 2008)	
Date Range	Units
2008 - 2011	84
2003 - 2007	0
1990 - 2002	5

Estimated Total Annual Community Space Heating Fuel Use		
Fuel Oil	241,412	(gallons)
Natural Gas	-	(ccf)
Electricity	206,028	(kWh)
Wood	98	(cords)
Propane	-	(gallons)
Coal	-	(tons)

Housing Need Indicators	Number of Units	% Occupied Housing
Overcrowded	12	4%
Housing cost burdened	62	18%
1 Star Homes	63	19%

Housing Stock Estimates	Number of Units
All Housing	535
All Occupied Housing	336
All Vacant housing	199
Vacant Housing for Sale or Rent	46

OVERCROWDING & VENTILATION - Aleutians East Borough

Figure C5: Overcrowded Units

ACS

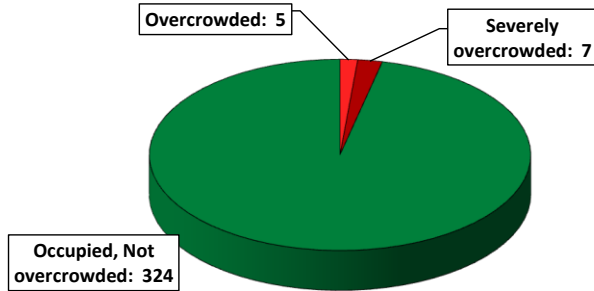


Figure C6: Housing Occupancy

MIX

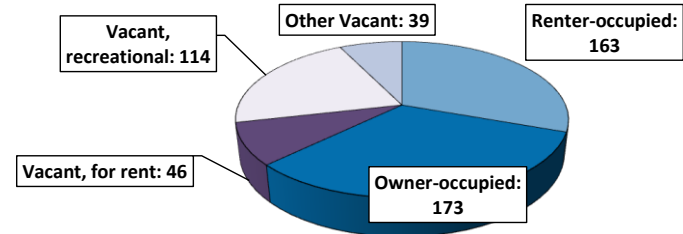


Figure C7: Average Air-Tightness of Current Homes by Decade Built

ARIS

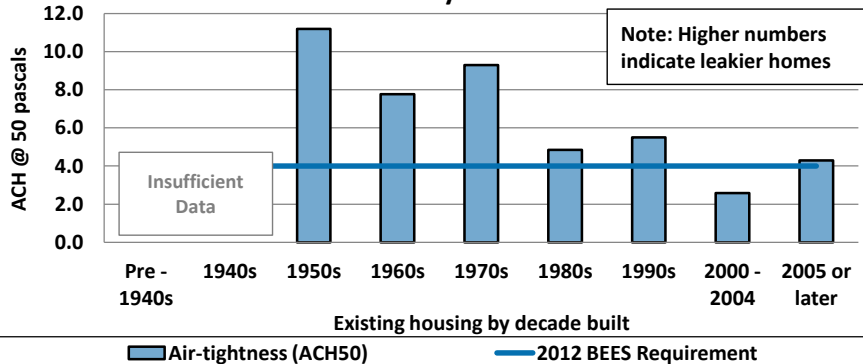


Figure C8: Existing Ventilation Type by Decade Built

ARIS

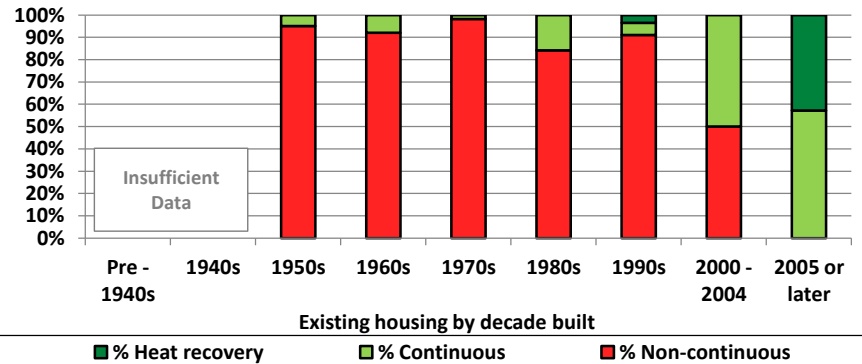


Figure C9: Percent of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS

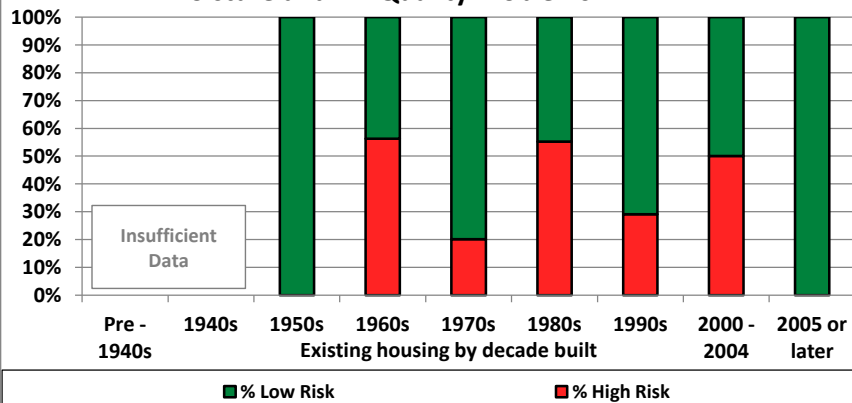
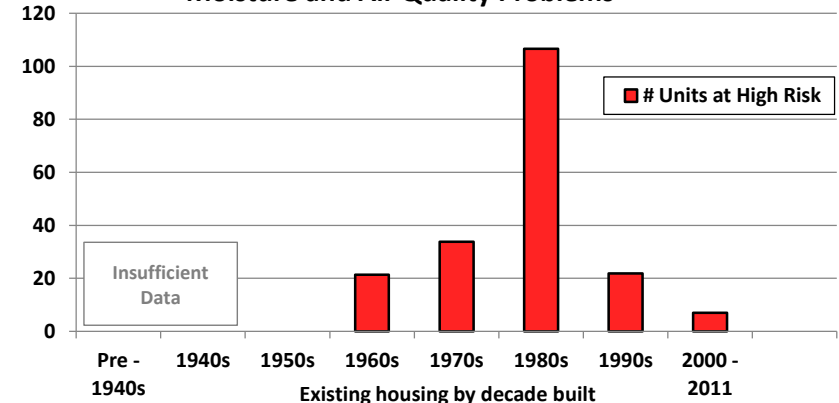


Figure C10: Quantity of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS



ENERGY - Aleutians East Borough												
Current Aleutians East Borough Housing Energy Characteristics By Decade Built												
Current Residential Units by Year Built	# of AkWarm Records	Avg Energy Rating Stars	Avg Energy Rating Points	Avg Sq. Feet	Avg. Annual Energy Cost (with PCE)	Avg. Annual Energy Use (million BTUs)	Avg Ann Energy by End Use (million Btus)			Avg. EUI (kBtUs / SF)	Avg. ECI (\$ / SF)	Avg. Home Heating Index
							Space Heating	DHW	Appliances			
OVERALL	118	2-star plus	67.8	1,295	\$6,301	149	94	27	28	108	\$4.51	7.4
Pre- 1940	3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1940- 49	2	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1950- 59	7	2-star	56.0	1,370	\$6,557	166	120	19	28	121	\$4.80	10.0
1960- 69	9	1-star plus	49.3	1,159	\$8,646	236	183	26	28	218	\$7.90	19.7
1970- 79	12	2-star plus	60.1	1,645	\$8,577	201	156	18	26	131	\$5.53	11.1
1980- 89	114	4-star	79.9	1,142	\$4,657	105	54	26	25	92	\$4.01	5.4
1990- 99	36	4-star plus	83.0	891	\$3,563	88	44	23	21	102	\$4.12	5.4
2000- 2004	14	4-star plus	85.6	1,150	\$3,285	85	39	21	25	71	\$2.81	3.5
2005 or later	7	5-star	89.9	1,207	\$3,439	78	18	36	23	65	\$2.86	1.7

Figure C11: Current Average Energy Use Intensity and Average Square Footage by Decade Built

ARIS

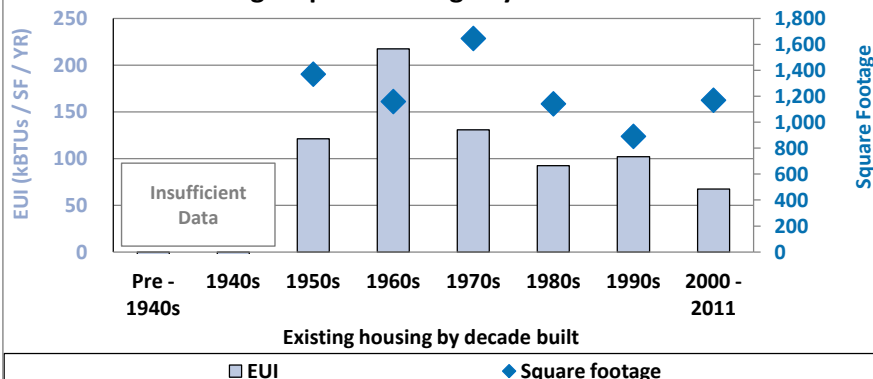
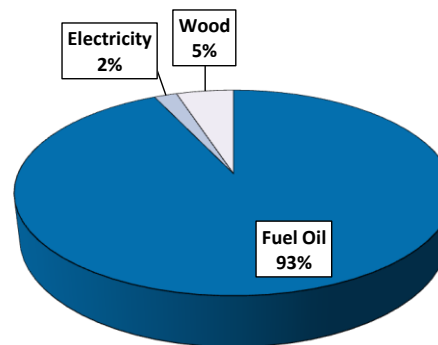


Figure C12: Percent of Total Residential Space Heating Energy by Fuel Type

ARIS

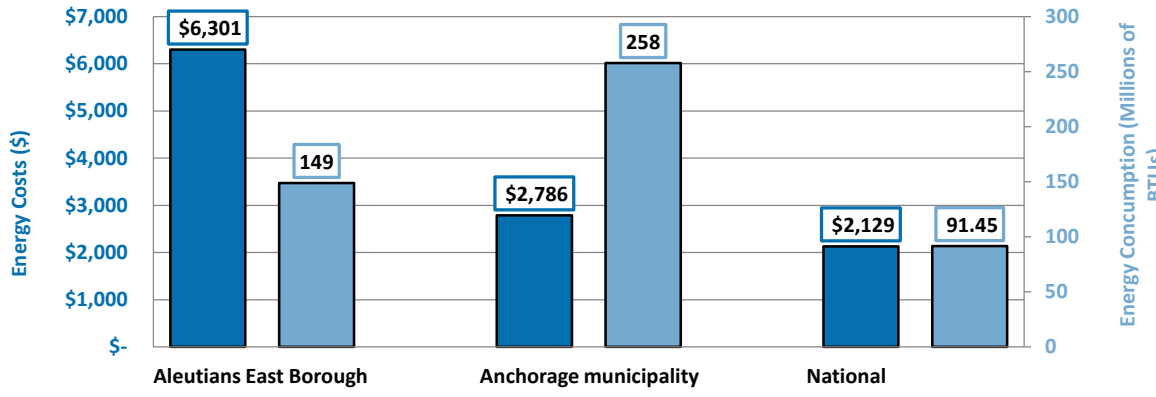


Current Aleutians East Borough Housing Envelope Characteristics By Decade Built												
Current Residential Units by Year Built	# of AkWarm Records	ACH 50	Ceiling R	Above Grade Wall R	Below Grade Wall R	Above Grade Floor R	On Grade Floor R	Below Grade Floor R	Door U	Garage Door U	Window U	
OVERALL	118	6.5	19	12	5	23	3	3	0.28	NR	0.50	
Pre- 1940	3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
1940- 49	2	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
1950- 59	7	11.2	14	7	NR	16	NR	NR	0.26	NR	0.56	
1960- 69	9	7.8	10	7	NR	11	NR	NR	0.53	NR	0.50	
1970- 79	12	9.3	16	11	NR	23	NR	NR	0.33	NR	0.52	
1980- 89	114	4.9	29	15	13	29	3	2	0.24	NR	0.53	
1990- 99	36	5.5	31	17	12	38	NR	2	0.25	NR	0.44	
2000- 2004	14	2.6	NR	NR	NR	NR	NR	NR	NR	NR	NR	
2005 or later	7	4.3	52	23	19	NR	NR	3	0.34	NR	0.29	

BEES 2009 - Climate Zone 7	7.0	38	21	15	38	15	15	15	0.33	0.33	0.33
BEES 2012 - Climate Zone 7	4.0	43	25	15	38	15	15	15	0.30	0.30	0.30

AFFORDABILITY - Aleutians East Borough

Figure C13: Average Annual Home Energy Cost and Use



Housing Information	Avg Household Size (# of people)
All-occupied	2.3
Owner-occupied	2.4
Renter-occupied	2.3

Median Value of Owner-occupied House with Mortgage
\$140,300

Median Value of Owner-occupied House without a Mortgage
\$112,500

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 57,083
Renter-occupied	\$ 50,694
Owner-occupied	\$ 65,250
w/ mortgage	\$ 87,917
w/o mortgage	\$ 55,000

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 774	\$ 9,288
Gross rent	\$ 790	\$ 9,480
Owner-occupied	\$ 741	\$ 8,892
Housing units w/ mortgage	\$ 1,125	\$ 13,500
Housing units w/out a mortgage	\$ 555	\$ 6,660

Avg % of Median Income Spent on Energy	11.0%
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Figure C14: Affordability - Housing Costs as a Percent of Income

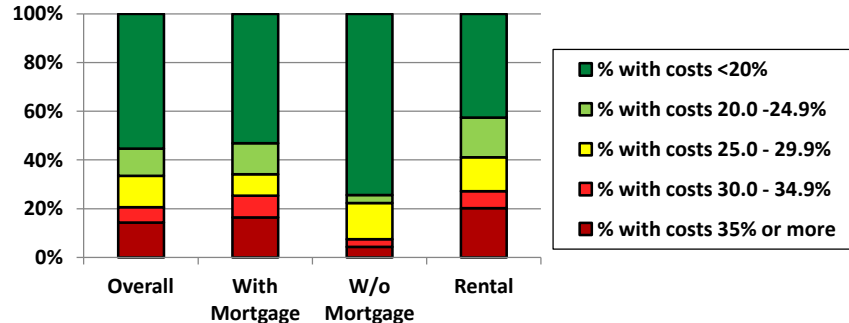
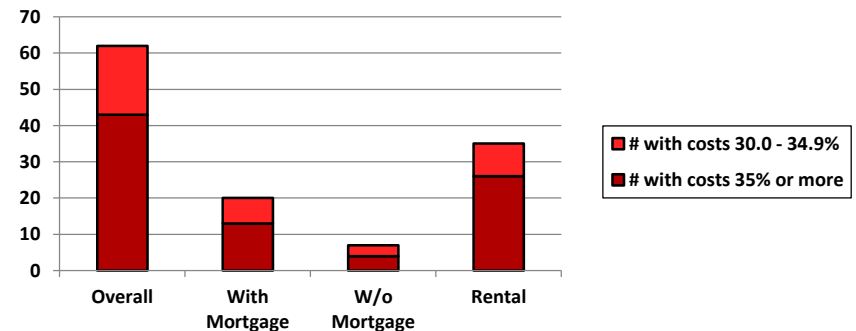


Figure C15: Number of Cost-Burdened Housing Units

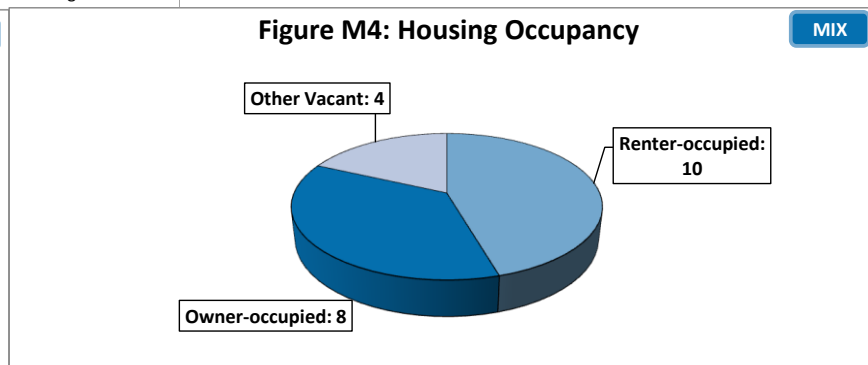
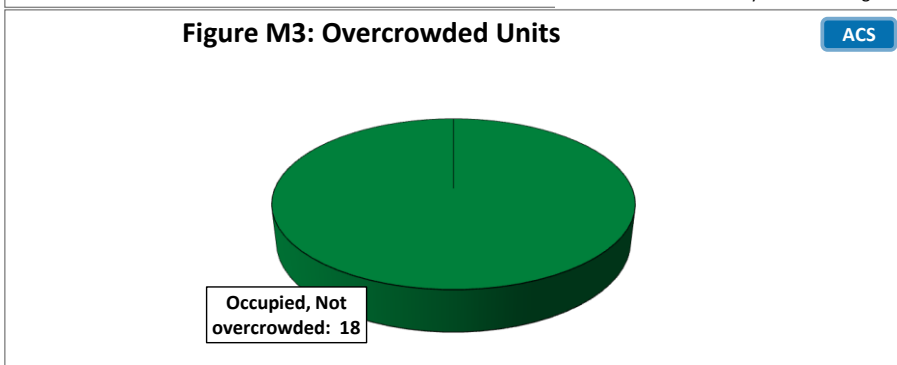
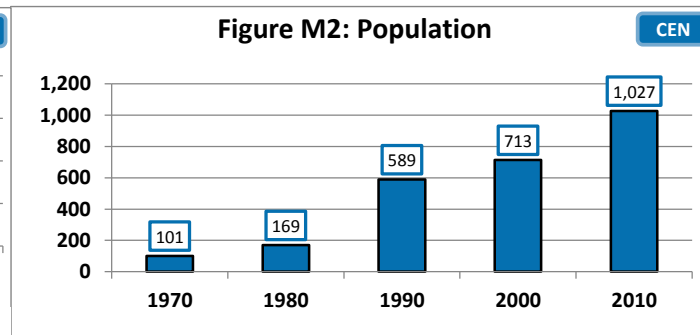
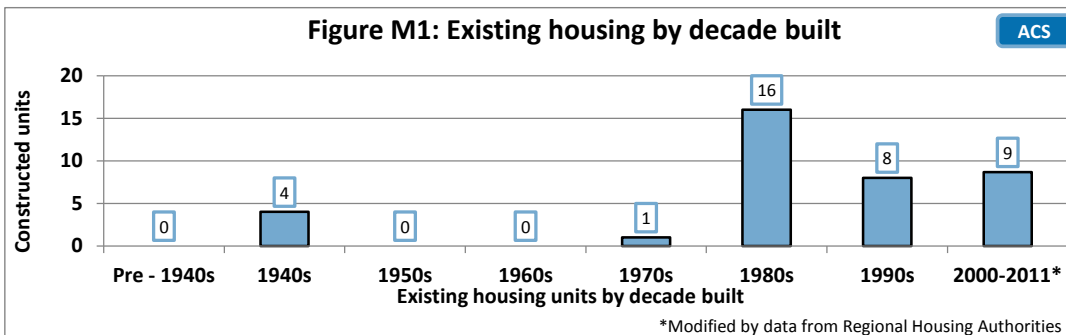


Community Profile for: Akutan city

ANCSA Region: Aleut

Regional Housing Authority: Aleutian Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 7 (8,554 HDD)



Akutan city Housing Energy Characteristics

Residential Unit Categories	Number of records	Avg Energy Rating Stars	Avg Energy Rating Points	Avg Sq. Feet	Avg. Ann Energy Cost w/ PCE	Avg. Ann Energy Use (million BTUs)	Avg. EUI (kBtus/SF)	Avg. ECI	Avg. Home Heating Index	% Tight Homes, No Ventilation
Pre-retrofit units	26	4-star	78.5	941	\$ 2,860	86	90	\$3.02	5.9	33%
Retrofit units	26	5-star	91.5	993	\$ 1,960	56	57	\$1.99	2.3	80%
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR

Akutan city Housing Envelope Characteristics

Residential Unit Categories	Number of Records	ACH 50	Ceiling R	Above Grade Wall R	Below Grade Wall R	Above Grade Floor R	On Grade Floor R	Below Grade Floor R	Door U	Garage Door U	Window U
Pre-retrofit units	26	6.1	36	19	NR	NR	NR	NR	0.39	NR	0.44
Retrofit units	26	3.6	45	22	NR	34	NR	NR	0.16	NR	0.46
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

BEES 2009	7.0	38	21	15	38	15	15	0.33	0.33	0.33
BEES 2012	4.0	43	25	15	38	15	15	0.30	0.30	0.30

Figure M5: Average Annual Home Energy Costs and Use

MIX

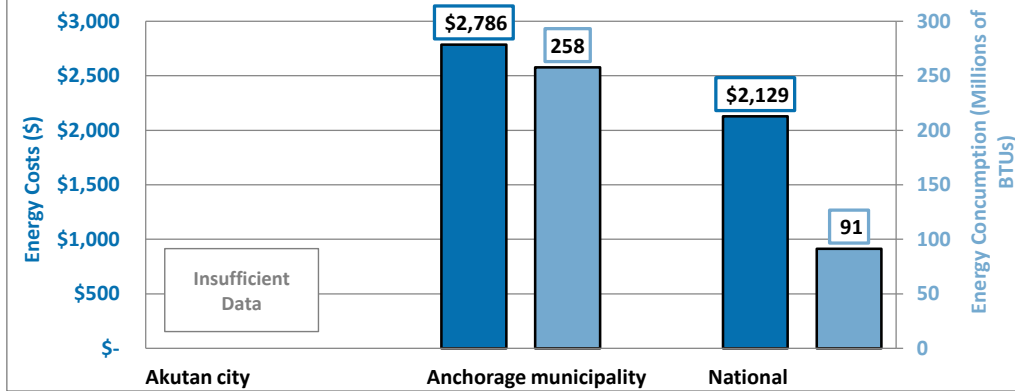
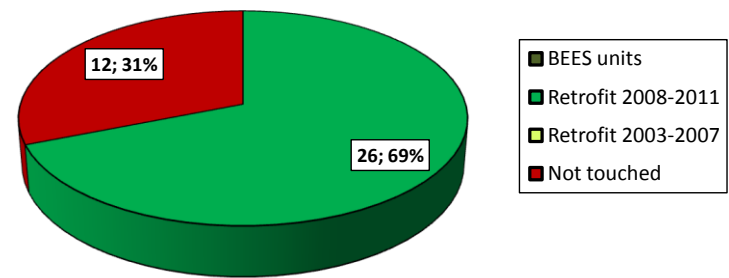


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - Akutan city

Owner occupied House with Mortgage, Median Value	\$175,000
Owner-occupied House without a Mortgage, Median Value	\$100,000

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 35,000
Renter-occupied	\$ 35,000
Owner-occupied	\$ 33,750
w/ mortgage	\$ 33,750
w/o mortgage	\$ 37,500

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 500	\$ 6,000
Gross rent	\$ 625	\$ 7,500
Owner-occupied	\$ 300	\$ 3,600
Housing units w/ mortgage	\$ 450	\$ 5,400
Housing units w/out a mortgage	\$ 225	\$ 2,700

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 3.80
Electricity with PCE (\$/kWh)	\$ 0.14
Electricity without PCE (\$/kWh)	\$ 0.32

Average Annual Energy Cost	
With PCE	NR
Without PCE	NR

Housing Stock Estimates	Number of Units
All Housing	22
All Occupied Housing	18
All Vacant housing	4
Vacant Housing for Sale/Rent	0

Figure M7: Affordability - Housing Costs as a Percent of Income

ACS

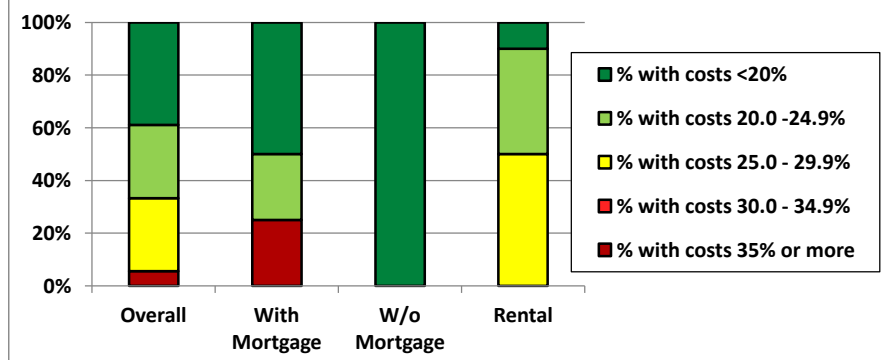
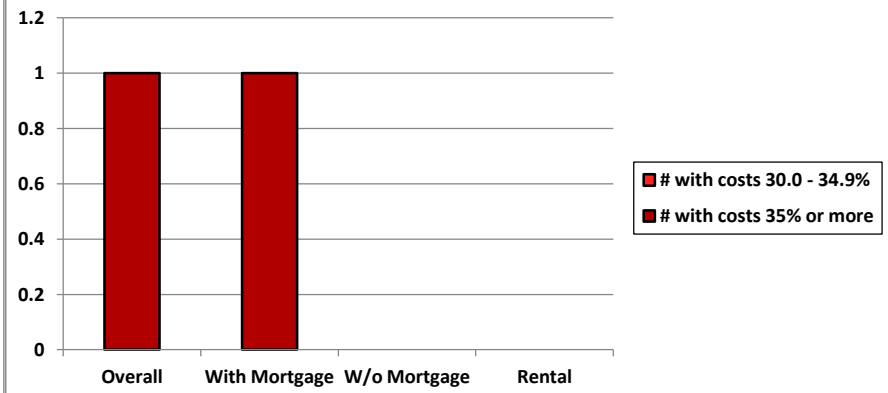


Figure M8: Number of Cost-Burdened Housing Units

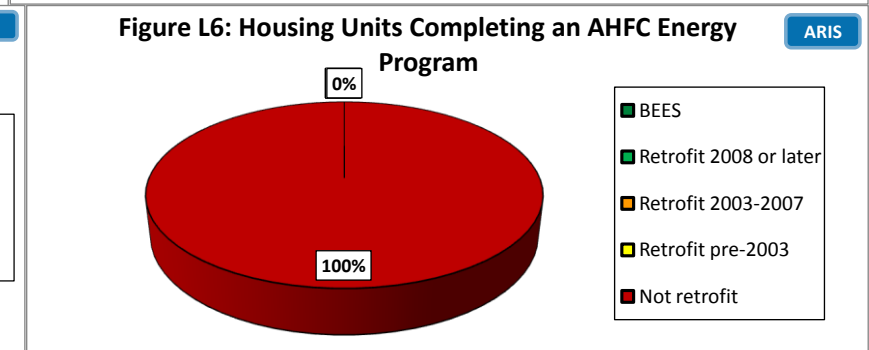
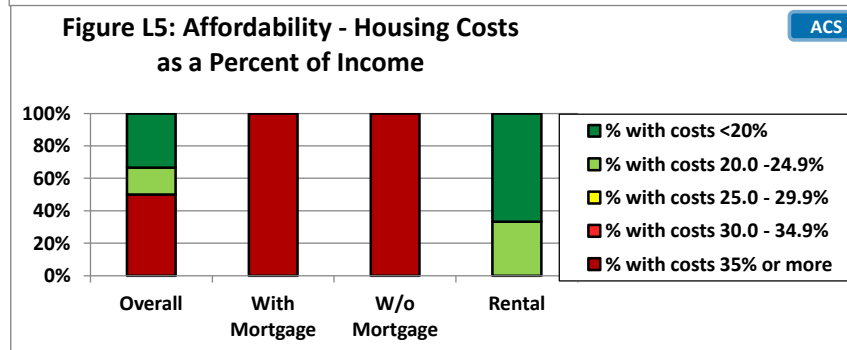
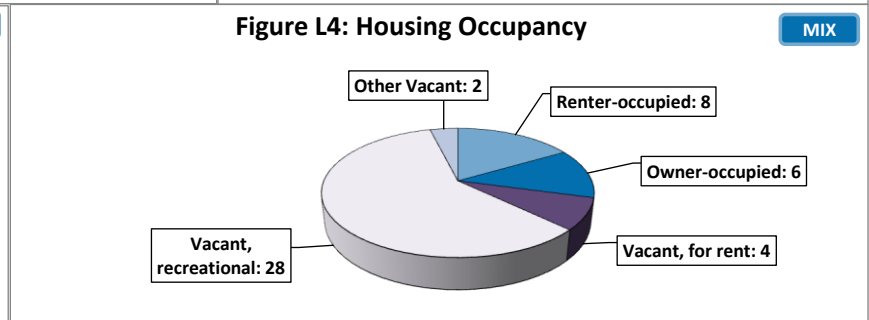
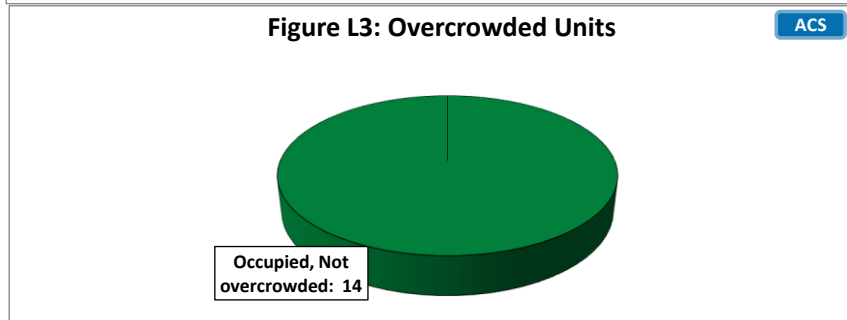
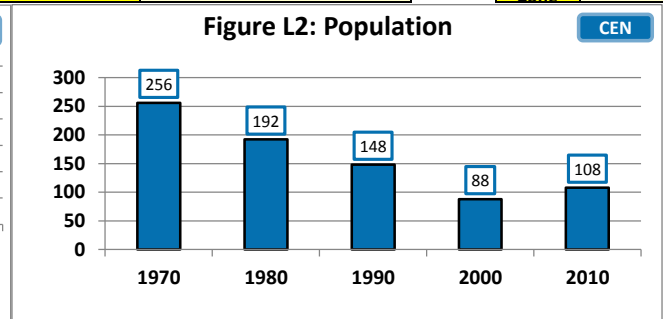
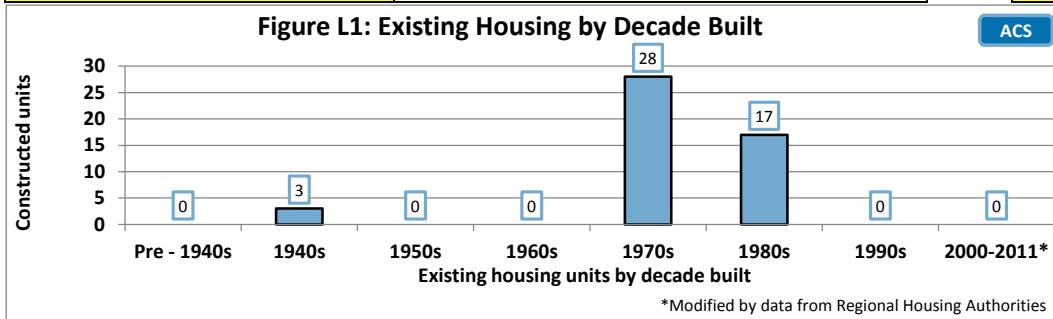
ACS



Community Profile for: Cold Bay city

ANCSA Region: Aleut

Climate Zone: 7



Owner-occupied House with Mortgage, Median Value
\$275,000

Owner-occupied House without a Mortgage, Median Value
NR

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 5.39
Electricity with PCE (\$/kWh)	No PCE
Electricity without PCE (\$/kWh)	\$ 1.00

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 48,333
Renter-occupied	\$ 50,833
Owner-occupied	\$ 2,500
w/ mortgage	NR
w/o mortgage	NR

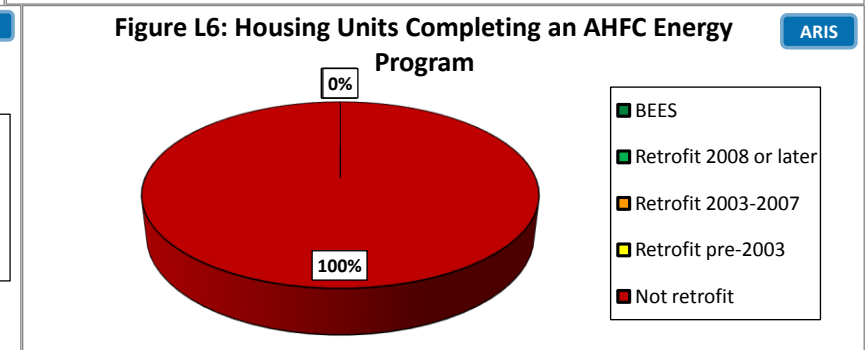
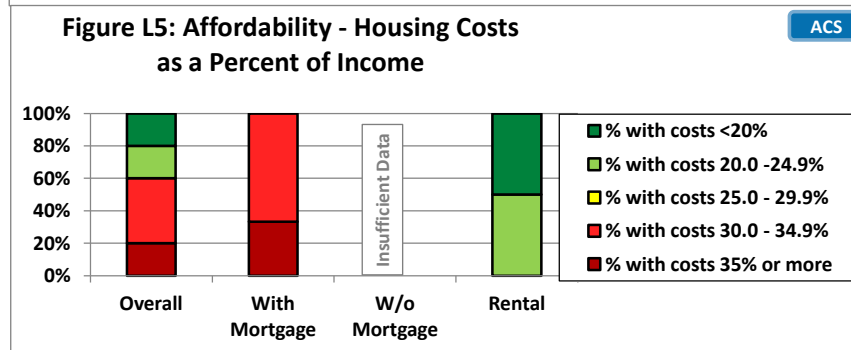
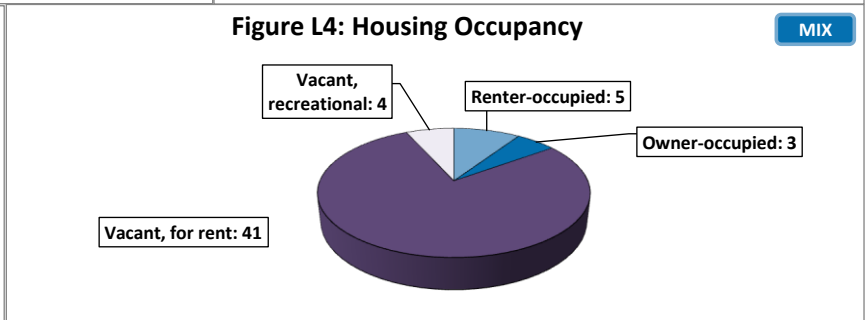
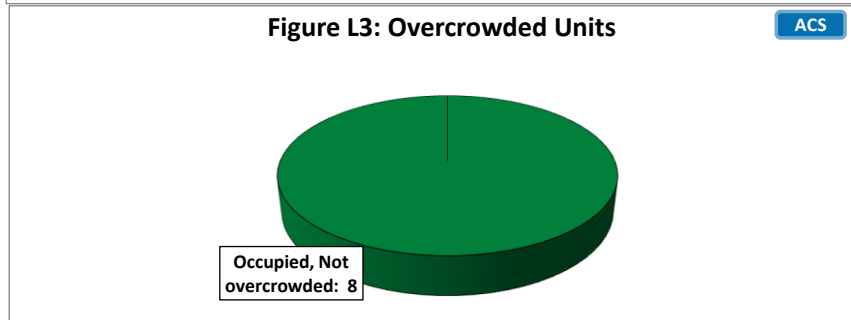
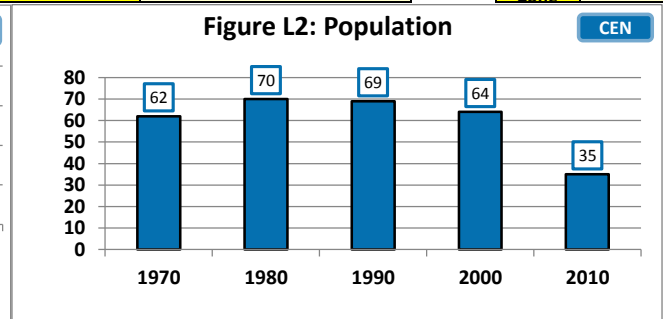
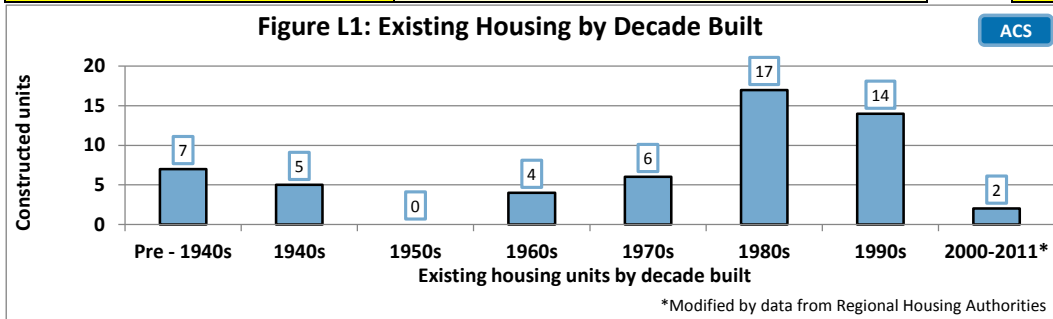
Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 783	\$ 9,396
Gross rent	\$ 700	\$ 8,400
Owner-occupied	\$ 1,400	\$ 16,800
Housing units w/ mortgage	NR	NR
Housing units w/out a mortgage	NR	NR

Housing Stock Estimates	Number of Units
All Housing	48
All Occupied Housing	14
All Vacant housing	34

Community Profile for: False Pass city

ANCSA Region: Aleut

Climate Zone: 7



Owner-occupied House with Mortgage, Median Value
\$38,800

Owner-occupied House without a Mortgage, Median Value
NR

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 4.77
Electricity with PCE (\$/kWh)	\$ 0.38
Electricity without PCE (\$/kWh)	\$ 0.58

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 48,750
Renter-occupied	\$ 67,917
Owner-occupied	\$ 19,375
w/ mortgage	\$ 19,375
w/o mortgage	NR

Housing Stock Estimates	
	Number of Units
All Housing	53
All Occupied Housing	8
All Vacant housing	45

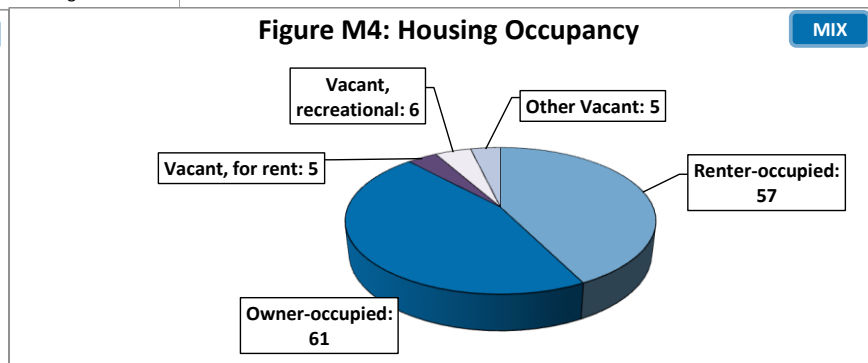
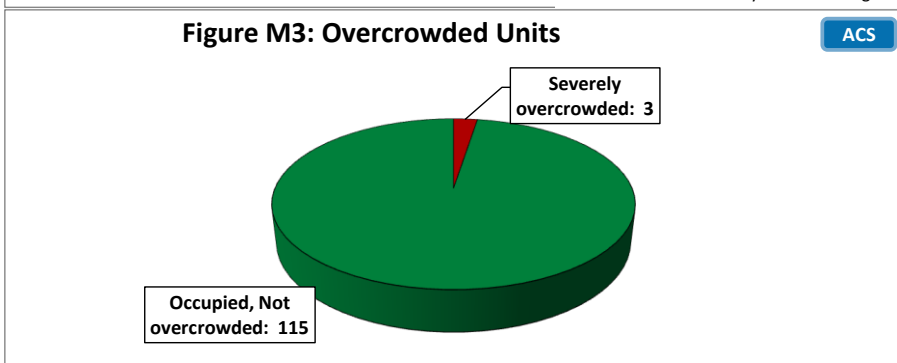
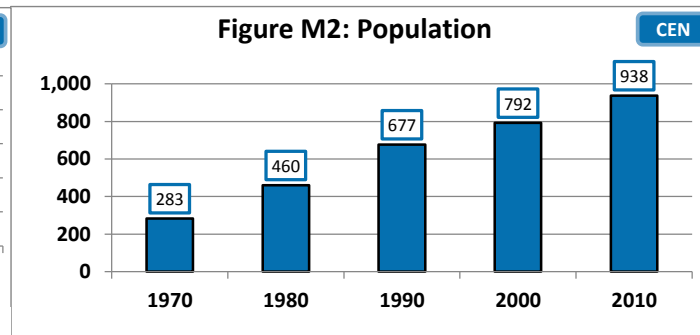
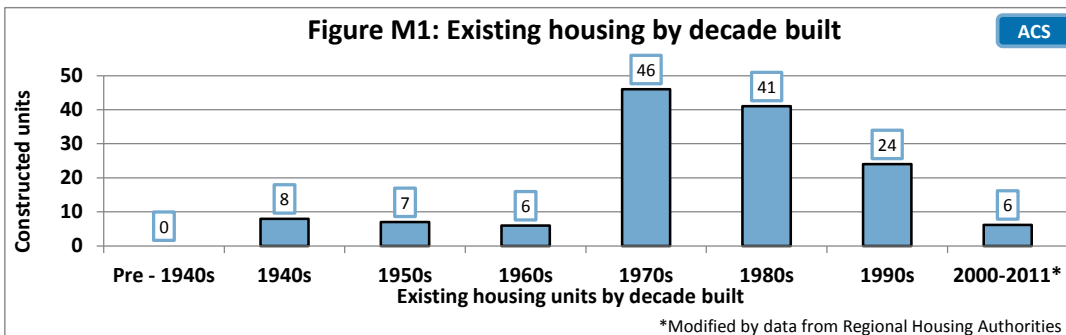
Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 538	\$ 6,456
Gross rent	\$ 600	\$ 7,200
Owner-occupied	NR	NR
Housing units w/ mortgage	NR	NR
Housing units w/out a mortgage	NR	NR

Community Profile for: King Cove city

ANCSA Region: Aleut

Regional Housing Authority: Aleutian Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 7 (9,733 HDD)



King Cove city Housing Energy Characteristics

Residential Unit Categories	Number of records	Avg Energy Rating Stars	Avg Energy Rating Points	Avg Sq. Feet	Avg. Ann Energy Cost w/ PCE	Avg. Ann Energy Use (million BTUs)	Avg. EUI (kBtus/SF)	Avg. ECI	Avg. Home Heating Index	% Tight Homes, No Ventilation
Pre-retrofit units	37	3-star plus	76.1	845	\$ 4,787	117	115	\$4.72	6.9	27%
Retrofit units	33	4-star plus	87.2	975	\$ 3,263	79	83	\$3.43	3.9	59%
New construction	5	5-star	88.9	494	\$ 3,500	77	66	\$2.97	1.6	0%
Overall	75	4-star	79.3	864	\$ 4,363	106	106	\$4.34	6.0	34%

King Cove city Housing Envelope Characteristics

Residential Unit Categories	Number of Records	ACH 50	Ceiling R	Above Grade Wall R	Below Grade Wall R	Above Grade Floor R	On Grade Floor R	Below Grade Floor R	Door U	Garage Door U	Window U
Pre-retrofit units	37	6.3	26	14	11	29	NR	2	0.22	NR	0.53
Retrofit units	33	3.9	37	15	27	34	NR	2	0.22	NR	0.46
New construction	5	4.1	NR	NR	NR	NR	NR	NR	NR	NR	NR
Overall	75	5.7	28	15	12	30	NR	2	0.23	NR	0.50

BEES 2009	7.0	38	21	15	38	15	15	0.33	0.33	0.33
BEES 2012	4.0	43	25	15	38	15	15	0.30	0.30	0.30

Figure M5: Average Annual Home Energy Costs and Use

MIX

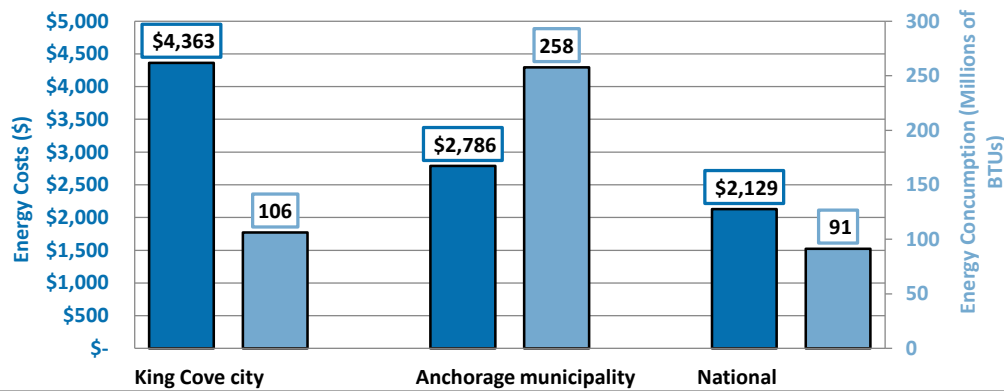
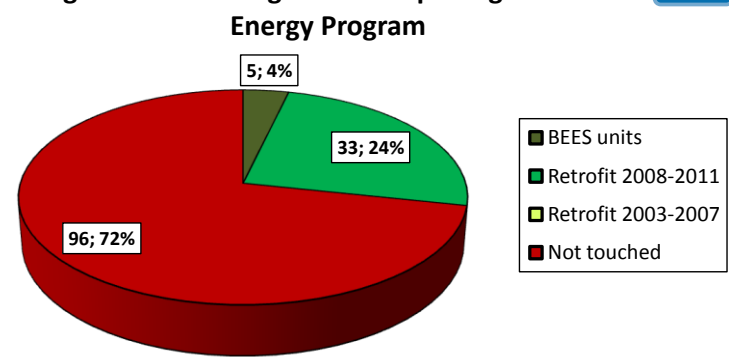


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - King Cove city

Owner occupied House with Mortgage, Median Value
\$131,300

Owner-occupied House without a Mortgage, Median Value
\$106,300

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 5.51
Electricity with PCE (\$/kWh)	\$ 0.14
Electricity without PCE (\$/kWh)	\$ 0.26

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 55,833
Renter-occupied	\$ 51,042
Owner-occupied	\$ 62,813
w/ mortgage	\$ 82,917
w/o mortgage	\$ 56,500

Average Annual Energy Cost	
With PCE	\$4,363
Without PCE	\$5,059

Avg % Median Income spent on Energy	7.8%
-------------------------------------	------

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 592	\$ 7,104
Gross rent	\$ 625	\$ 7,500
Owner-occupied	\$ 575	\$ 6,900
Housing units w/ mortgage	\$ 790	\$ 9,480
Housing units w/out a mortgage	\$ 486	\$ 5,832

Housing Stock Estimates	Number of Units
All Housing	134
All Occupied Housing	118
All Vacant housing	16
Vacant Housing for Sale/Rent	5

Figure M7: Affordability - Housing Costs as a Percent of Income

ACS

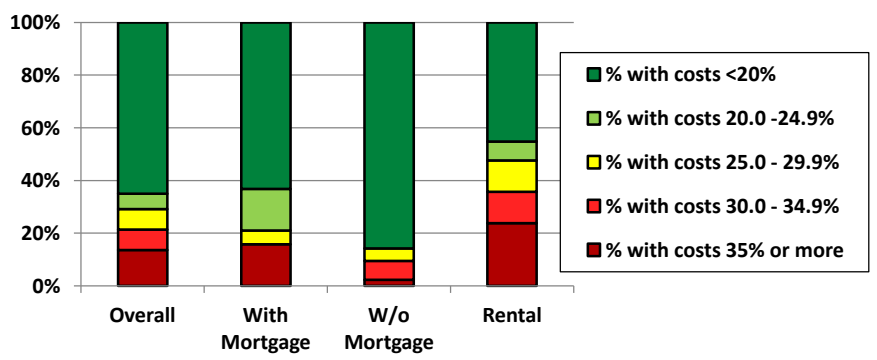
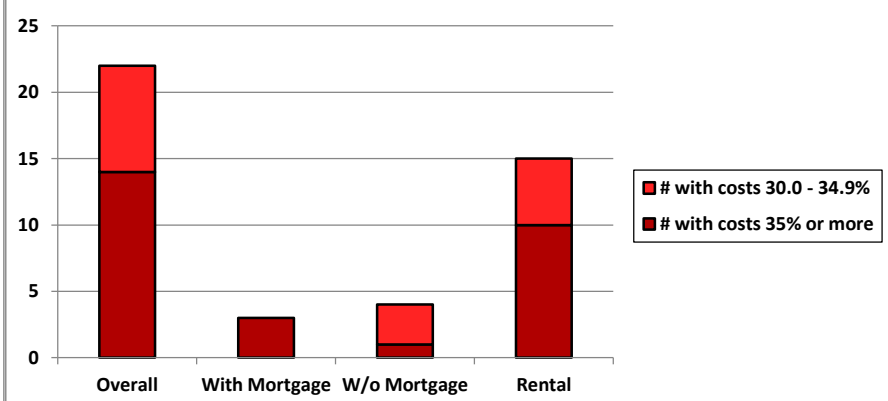


Figure M8: Number of Cost-Burdened Housing Units

ACS

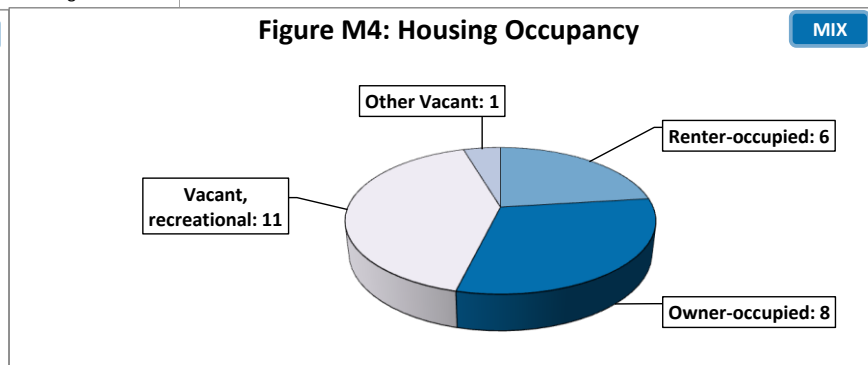
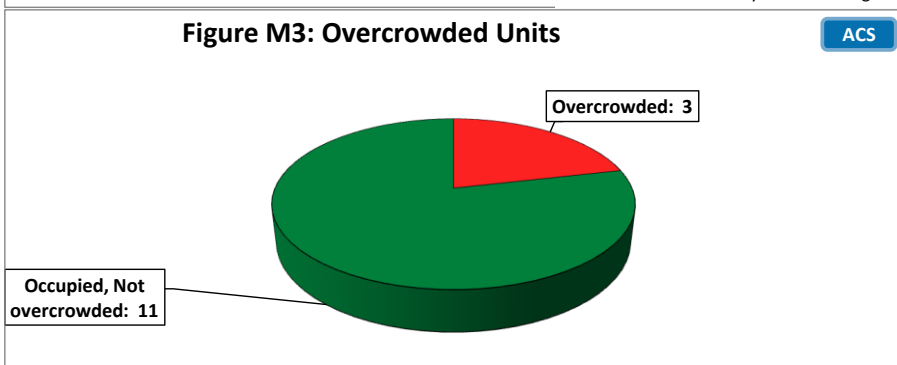
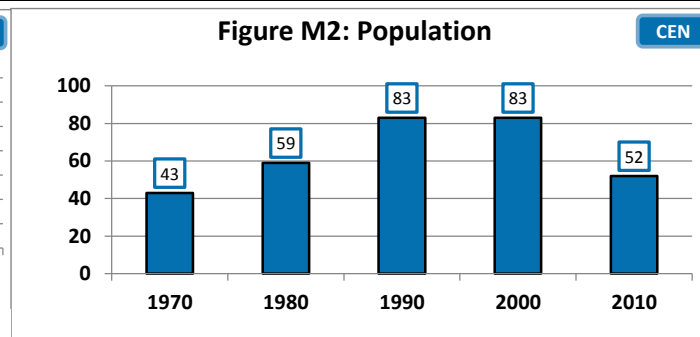
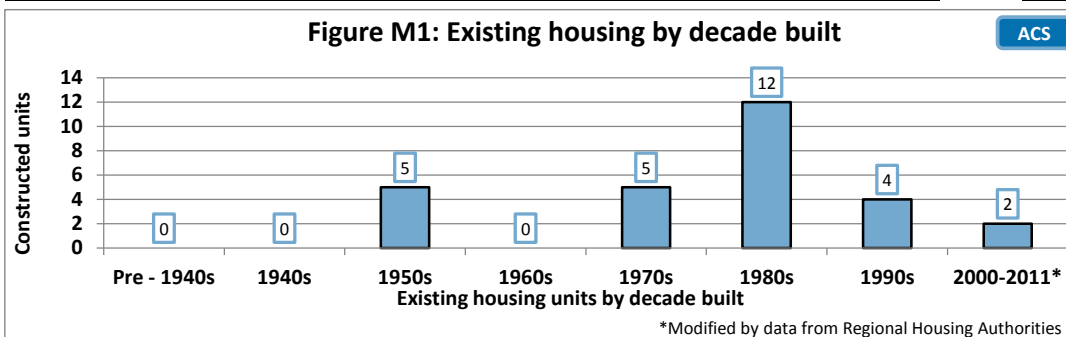


Community Profile for: Nelson Lagoon CDP

ANCSA Region: Aleut

Regional Housing Authority: Aleutian Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 7 (8,865 HDD)



Nelson Lagoon CDP Housing Energy Characteristics											
Residential Unit Categories	Number of records	Avg Energy Rating Stars	Avg Energy Rating Points	Avg Sq. Feet	Avg. Ann Energy Cost w/ PCE	Avg. Ann Energy Use (million BTUs)	Avg. EUI (kBtus/SF)	Avg. ECI	Avg. Home Heating Index	% Tight Homes, No Ventilation	
Pre-retrofit units	7	3-star plus	75.1	1,350	\$ 7,310	120	87	\$5.33	6.0	100%	
Retrofit units	7	4-star plus	85.1	1,350	\$ 5,849	88	64	\$4.30	3.6	0%	
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	

Nelson Lagoon CDP Housing Envelope Characteristics											
Residential Unit Categories	Number of Records	ACH 50	Ceiling R	Above Grade Wall R	Below Grade Wall R	Above Grade Floor R	On Grade Floor R	Below Grade Floor R	Door U	Garage Door U	Window U
Pre-retrofit units	7	3.1	20	14	NR	37	3	NR	0.28	NR	0.64
Retrofit units	7	2.3	32	14	NR	37	3	NR	0.31	NR	0.49
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

BEES 2009	7.0	38	21	15	38	15	15	0.33	0.33	0.33
BEES 2012	4.0	43	25	15	38	15	15	0.30	0.30	0.30

Figure M5: Average Annual Home Energy Costs and Use

MIX

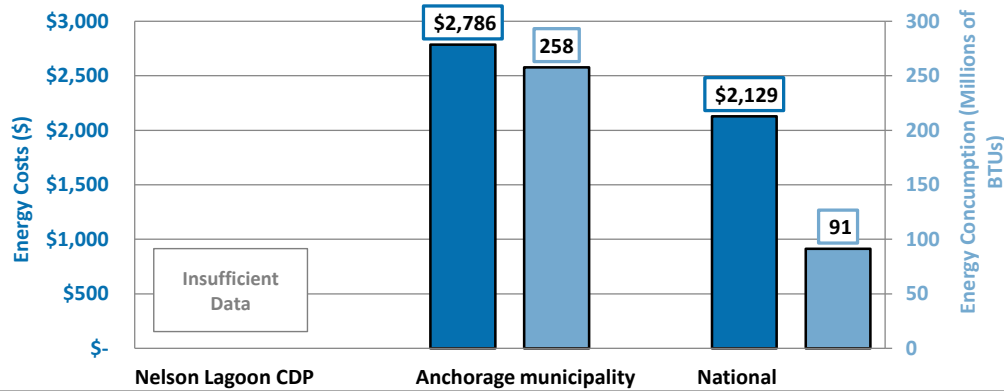
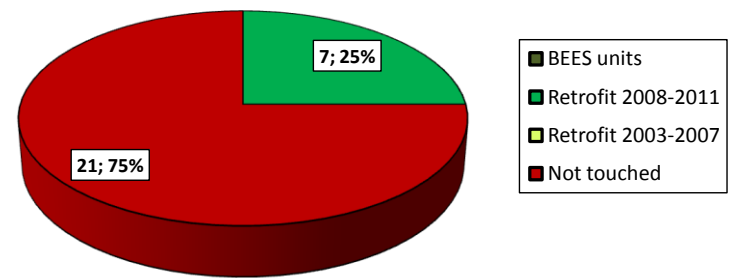


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - Nelson Lagoon CDP

Owner occupied House with Mortgage, Median Value
NR
Owner-occupied House without a Mortgage, Median Value
\$165,000

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 43,750
Renter-occupied	\$ 40,000
Owner-occupied	\$ 43,750
w/ mortgage	NR
w/o mortgage	\$ 43,750

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 950	\$ 11,400
Gross rent	\$ 900	\$ 10,800
Owner-occupied	\$ 950	\$ 11,400
Housing units w/ mortgage	NR	NR
Housing units w/out a mortgage	\$ 950	\$ 11,400

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 5.98
Electricity with PCE (\$/kWh)	\$ 0.36
Electricity without PCE (\$/kWh)	\$ 0.74

Average Annual Energy Cost	
With PCE	NR
Without PCE	NR

Housing Stock Estimates	Number of Units
All Housing	26
All Occupied Housing	14
All Vacant housing	12
Vacant Housing for Sale/Rent	0

Figure M7: Affordability - Housing Costs as a Percent of Income

ACS

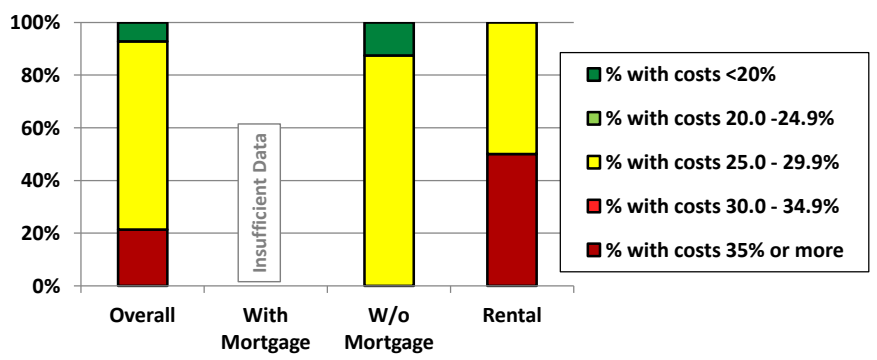
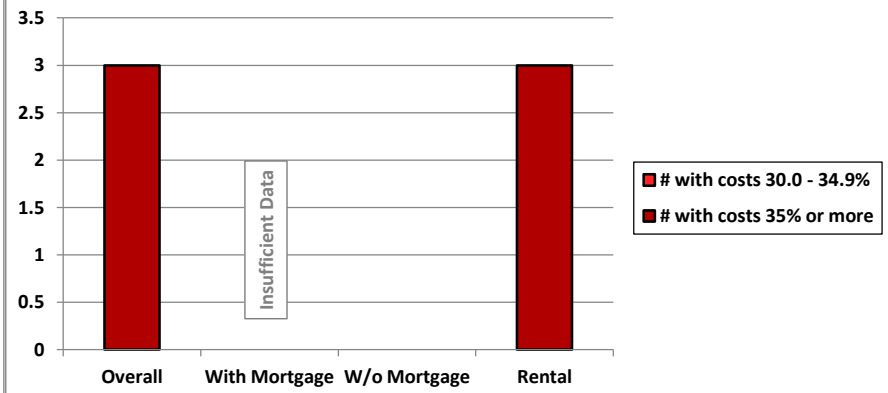


Figure M8: Number of Cost-Burdened Housing Units

ACS



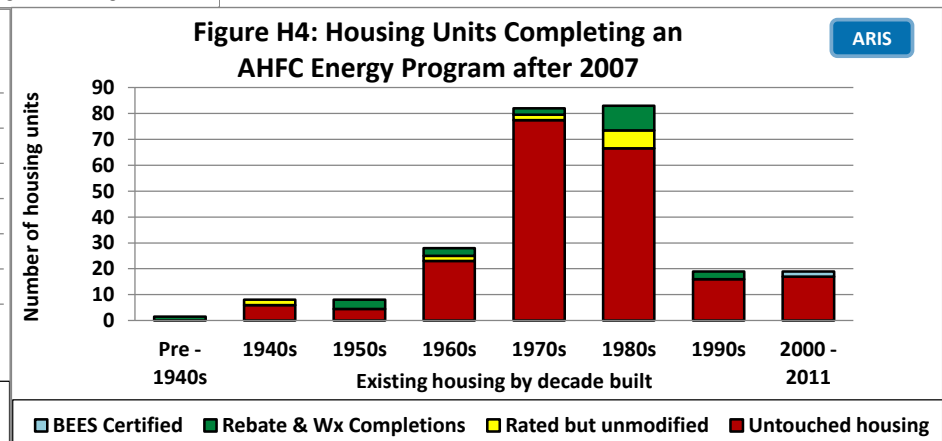
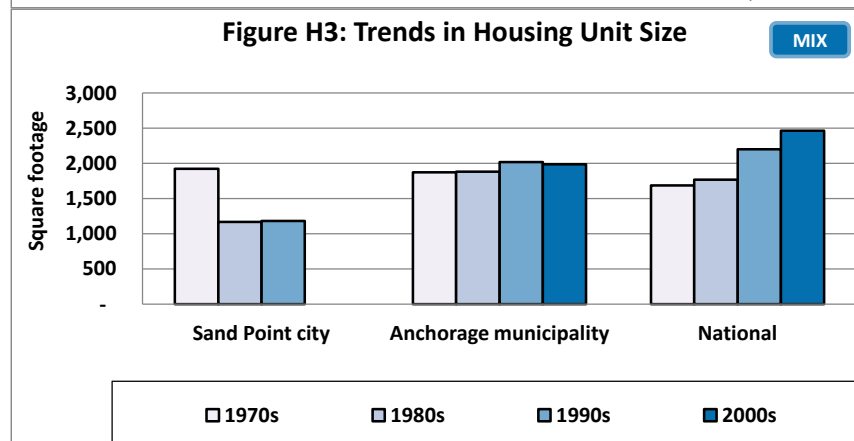
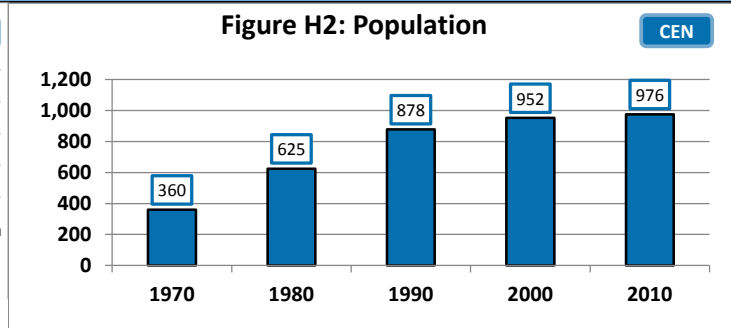
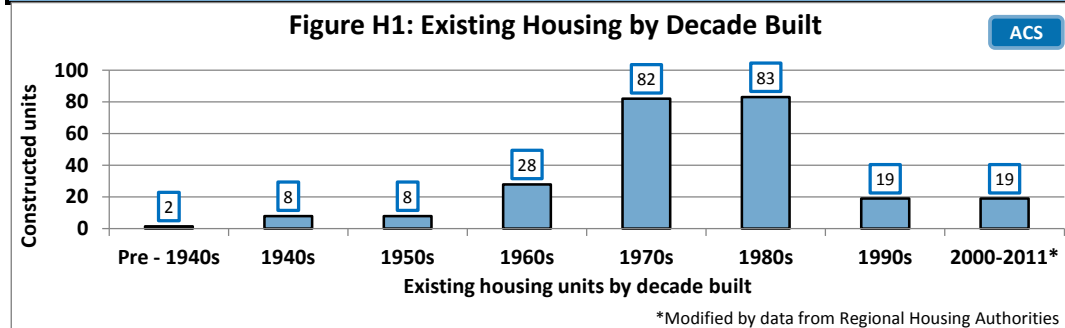
Community Profile for: Sand Point city

ANCSA Region: Aleut

Regional Housing Authority: Aleutian Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 7 (8,865 HDD)

COMMUNITY - Sand Point city



Houses Lacking Complete Plumbing or Kitchen Facilities	Households	
	Number	Percent
Lack complete plumbing	7	4%
Lack complete kitchen	4	2%

Avg Annual Energy Cost with PCE	\$6,600
Avg Annual Energy Cost without PCE	\$8,633

Weatherization Program Retrofits (funding increased in 2008)	
Date Range	Units
2008-2011	18
2003-2007	NR
1990-2002	NR

Estimated Total Annual Community Space Heating Fuel Use		
Fuel Oil	128,448	(gallons)
Nat Gas	-	(ccf)
Electricity	94,460	(kWh)
Wood	93	(cords)
Propane	-	(gallons)
Coal	-	(tons)

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$5.30
Electricity with PCE (\$/kWh)	\$0.10
Electricity cost without PCE (\$/kWh)	\$0.44

Housing Stock Estimates	Number of Units
All Housing	231
All Occupied Housing	164
All Vacant housing	67
Vacant Housing for Sale or Rent	5

OVERCROWDING & VENTILATION - Sand Point city

Figure H5: Overcrowded Units

ACS

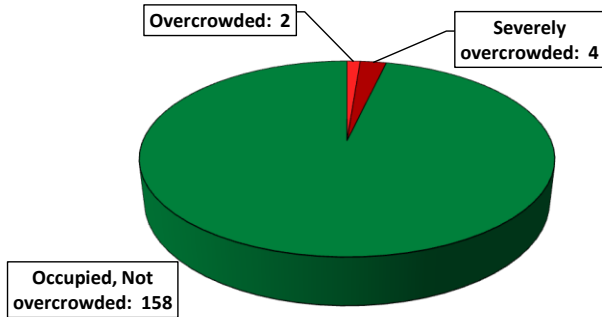


Figure H6: Housing Occupancy

MIX

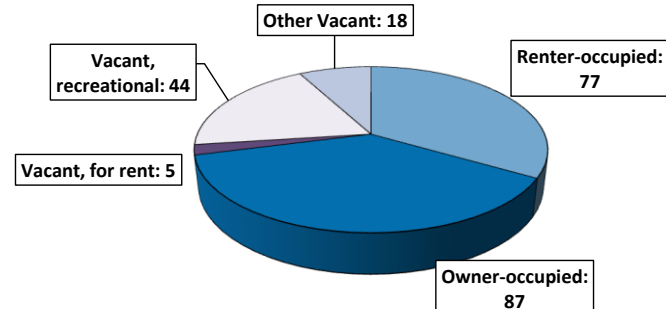


Figure H7: Average Air-Tightness of Current Homes by Decade Built

ARIS

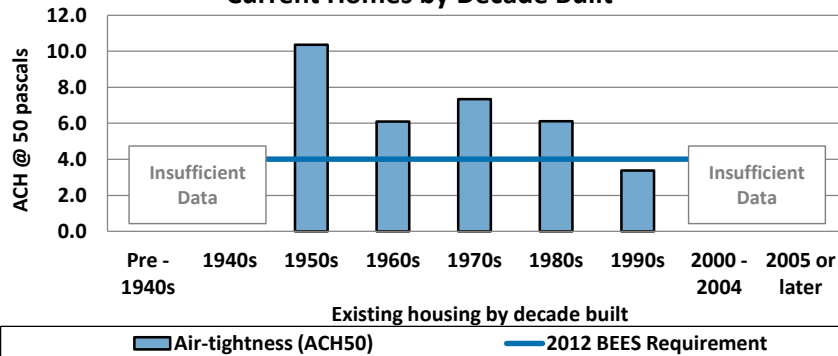


Figure H8: Existing Ventilation Type by Decade Built

ARIS

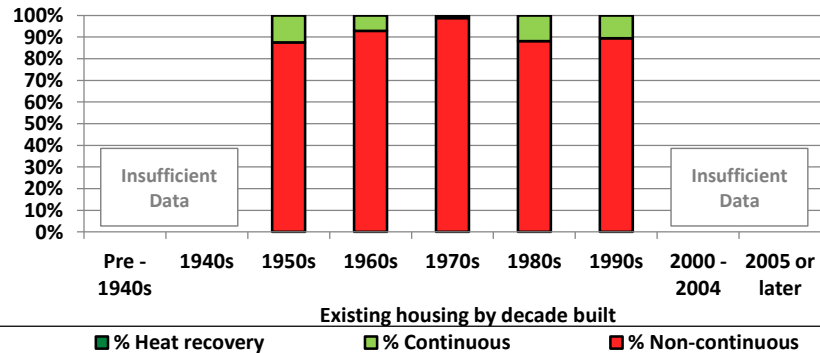


Figure H9: Percent of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS

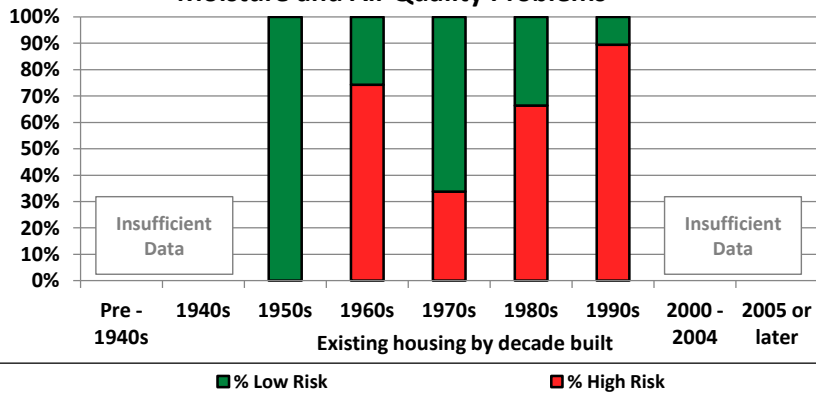
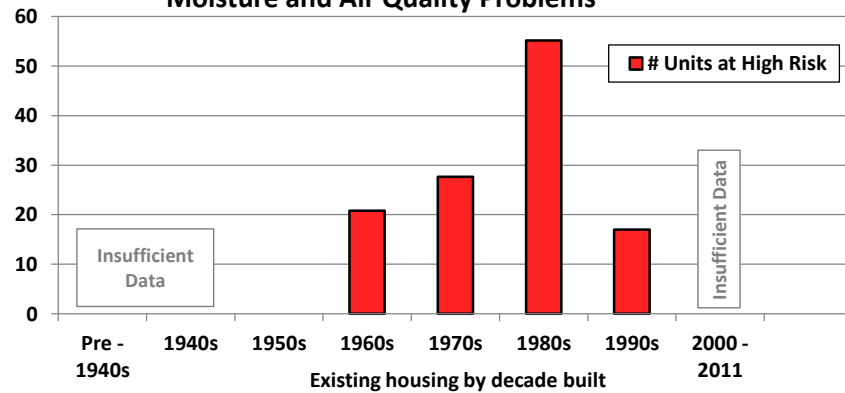


Figure H10: Quantity of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS



ENERGY - Sand Point city

Current Sand Point city Housing Energy Characteristics By Decade Built

Current Residential Units by Year Built	Number of Records	Avg Energy Rating Stars	Avg Energy Rating Points	Avg Sq. Feet	Avg. Annual Energy Cost (with PCE)	Avg. Annual Energy Use (million BTUs)	Avg Ann Energy by End Use (million Btus)			Avg. EUI (kBtus/SF)	Avg. ECI (\$ / SF)	Avg. Home Heating Index
							Space Heating	DHW	Appliances			
OVERALL	43	3-star	68.7	1,466	\$ 6,600	163	107	27	29	122	\$ 4.80	9.5
Pre- 1940	3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1940- 49	2	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1950- 59	7	2-star	59.5	1,352	\$ 6,089	157	110	19	28	116	\$ 4.48	9.3
1960- 69	7	2-star	57.1	1,253	\$ 8,514	245	191	26	29	208	\$ 7.04	19.5
1970- 79	7	3-star	70.1	1,922	\$ 8,211	191	142	21	28	102	\$ 4.32	8.6
1980- 89	30	3-star	72.7	1,168	\$ 4,912	122	69	26	26	105	\$ 4.23	7.2
1990- 99	5	4-star	81.9	1,182	\$ 4,010	101	48	31	23	86	\$ 3.40	4.6
2000- 2004	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2005 or later	2	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Figure H11: Current Average Energy Use Intensity and Average Square Footage by Decade Built

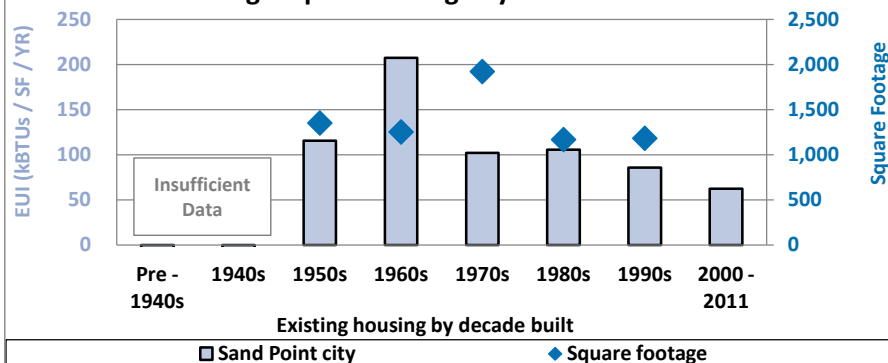
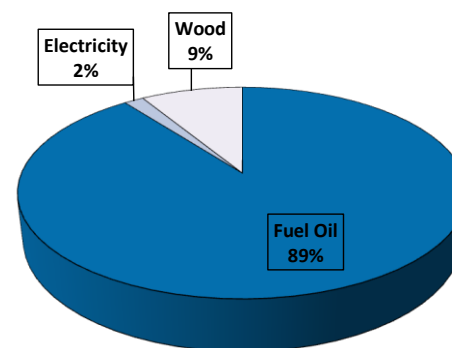


Figure H12: Percent of Total Residential Space Heating Energy by Fuel Type



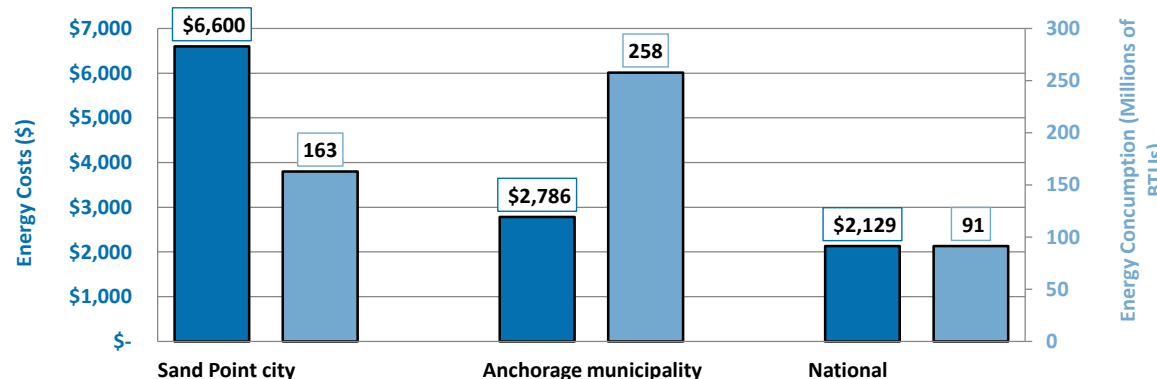
Current Sand Point city Housing Envelope Characteristics By Decade Built

Current Residential Units by Year Built	Number of Records	ACH 50	Ceiling R	Above Grade Wall R	Below Grade Wall R	Above Grade Floor R	On Grade Floor R	Below Grade Floor R	Door U	Garage Door U	Window U
OVERALL	43	7.2	14	11	2	18	2	NR	0.35	NR	0.49
Pre- 1940	3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1940- 49	2	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1950- 59	7	10.4	15	7	NR	17	NR	NR	0.24	NR	0.55
1960- 69	7	6.1	19	6	NR	NR	NR	NR	0.53	NR	0.53
1970- 79	7	7.3	14	12	NR	NR	NR	NR	0.31	NR	0.59
1980- 89	30	6.1	22	15	NR	20	NR	NR	0.32	NR	0.45
1990- 99	5	3.4	NR	NR	NR	NR	NR	NR	NR	NR	NR
2000- 2004	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2005 or later	2	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

BEES 2009 - Climate Zone 7	7.0	38	21	15	38	15	15	15	0.33	0.33	0.33
BEES 2012 - Climate Zone 7	4.0	43	25	15	38	15	15	15	0.30	0.30	0.30

AFFORDABILITY - Sand Point city

Figure H13: Average Annual Home Energy Costs and Use



Housing Information	Avg Household Size (# of people)
All-occupied	2.3
Owner-occupied	2.3
renter-occupied	2.4

Owner-occupied House with Mortgage, Median Value
\$137,500

Owner-occupied House without a Mortgage, Median Value
\$121,600

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 67,000
Renter-occupied	\$ 59,375
Owner-occupied	\$ 87,188
w/ mortgage	\$ 95,625
w/o mortgage	\$ 63,125

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 942	\$ 11,304
Gross rent	\$ 957	\$ 11,484
Owner-occupied	\$ 923	\$ 11,076
Housing units w/ mortgage	\$ 1,357	\$ 16,284
Housing units w/out a mortgage	\$ 675	\$ 8,100

Avg % of Median Income Spent on Energy	9.9%
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Figure H14: Affordability - Housing Costs as a Percent of Income

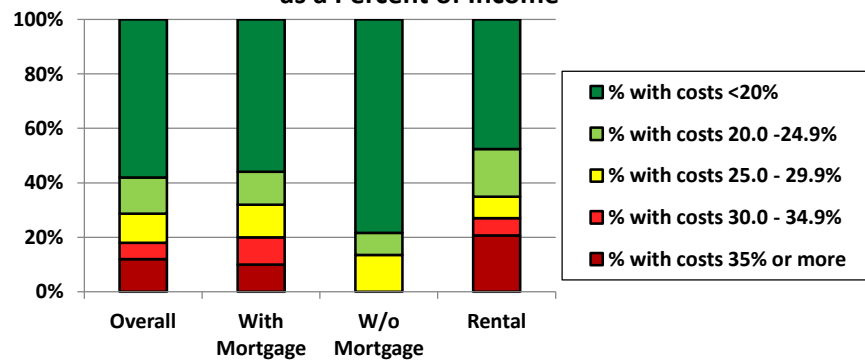


Figure H15: Number of Cost-Burdened Housing Units

