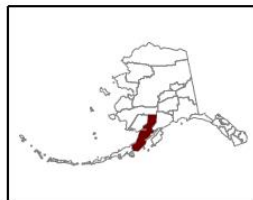
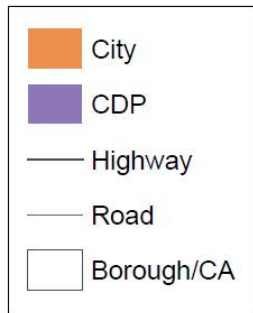
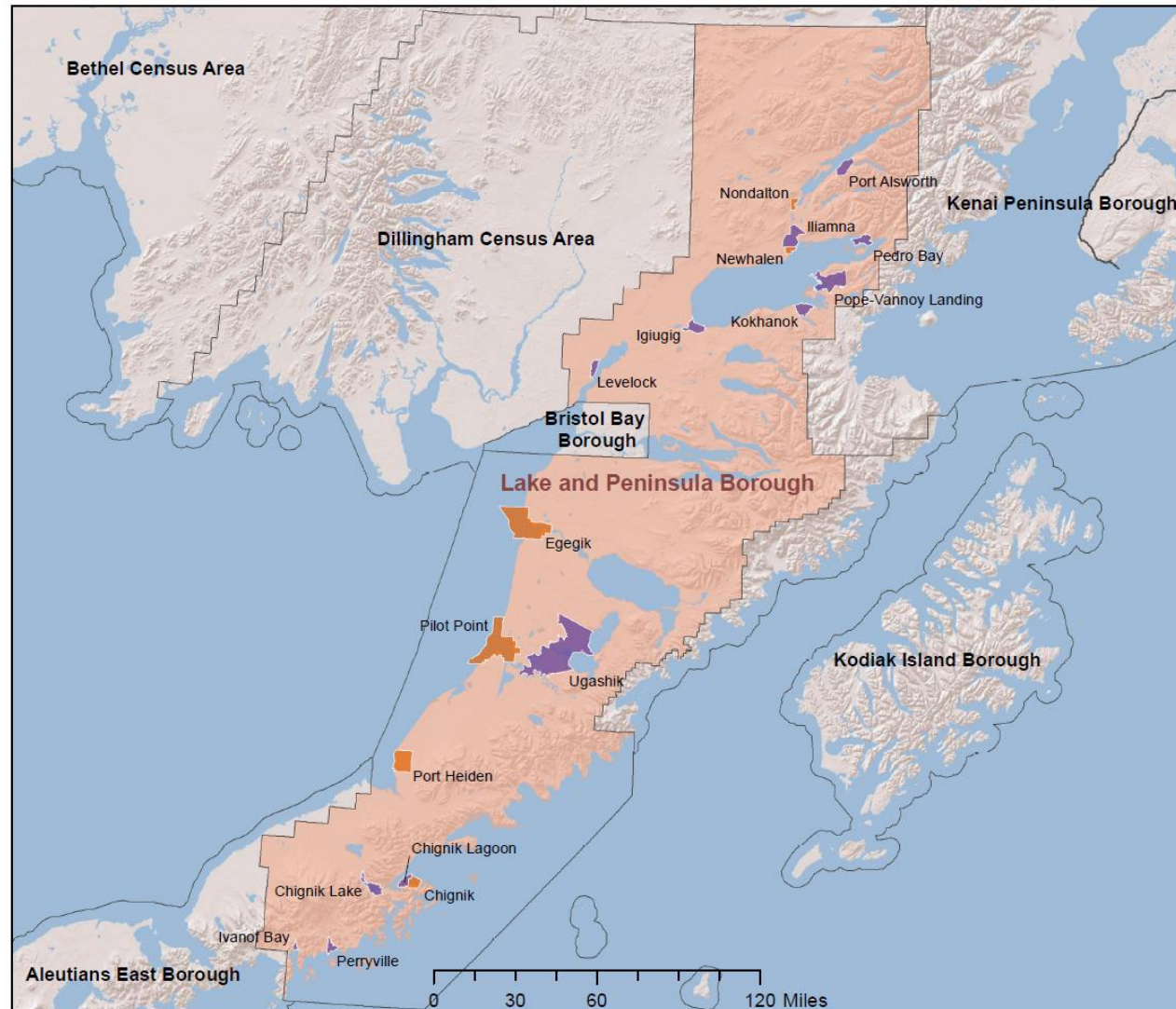


# Lake & Peninsula Borough



Map Prepared by:  
Alaska Department of Labor  
& Workforce Development  
September 2011  
Source: US Census  
2010 TIGERline



## Table of Contents

<b>Lake and Peninsula Borough Dashboard</b> .....	III
<b>Lake and Peninsula Borough Summary</b> .....	IV-VII
Community.....	IV
Overcrowding.....	IV
Energy .....	V
Affordability .....	VI
Community, Regional, and Statewide Housing Characteristics.....	VII
<b>How to Interpret the Profile: Data Sources, Definitions &amp; Clarifications</b> .....	A-H
<b>Lake and Peninsula Borough Profile</b> .....	1-4
<b>Lake and Peninsula Community Profiles</b> .....	5-30
Chignik                      Data Quantity: Low .....	5
Chignik Lagoon            Data Quantity: Low .....	6
Chignik Lake              Data Quantity: Medium .....	7
Egegik                      Data Quantity: Low .....	9
Igiugig                      Data Quantity: Medium .....	10
Iliamna                      Data Quantity: Medium .....	12
Kokhanok                  Data Quantity: Medium .....	14
Levelock                    Data Quantity: Low .....	16
Newhalen                  Data Quantity: Medium .....	17
Nondalton                 Data Quantity: Medium .....	19

---

Pedro Bay	Data Quantity: Low .....	21
Perryville	Data Quantity: Medium .....	22
Pilot Point	Data Quantity: Medium .....	24
Port Alsworth	Data Quantity: Medium .....	26
Port Heiden	Data Quantity: Medium .....	28
Ugashik	Data Quantity: Low .....	30

---

## ***Lake and Peninsula Borough Dashboard***

**Population:** The Alaska Department of Labor and Workforce Development's current (2012) population estimate for the Lake and Peninsula Borough is 1,673—a decrease of 9% from 2000.

**Housing Units:** There are currently 1,605 housing units in the Lake and Peninsula Borough. Of these, 562 are occupied, 45 are for sale or rent, and the remaining 998 are seasonal or otherwise vacant units (Profile Figure C6).

**Energy:** The average home in the Lake and Peninsula Borough is 1,029 square feet and uses 139,000 BTUs of energy per square foot annually, 1% more 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 Lake and Peninsula Borough is \$8,410, approximately 3 times more than the cost in Anchorage and 4 times more than the national average (Profile Figure C13).

**Energy Programs:** Approximately 40% of occupied housing in the Lake and Peninsula 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 1940s are currently rated at 1-star, compared to a current average rating of 3-star-plus for houses built after 2000.

**Air-tightness:** Within current housing stock, newer homes are tighter. 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 1940s are 5.6 times leakier than those built since 2000 (Profile Figure C7).

**Ventilation:** Ann estimated 198 occupied housing units (or 35%) in the Lake and Peninsula 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:** 13% of occupied units are estimated to be either overcrowded (10%) or severely overcrowded (3%). This is roughly 4 times the national average, and makes the Lake and Peninsula Borough the eighth most overcrowded census area in the state.

**Affordability:** On average, approximately 24% of households in the Lake and Peninsula 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 16% of census median area income for occupied housing.

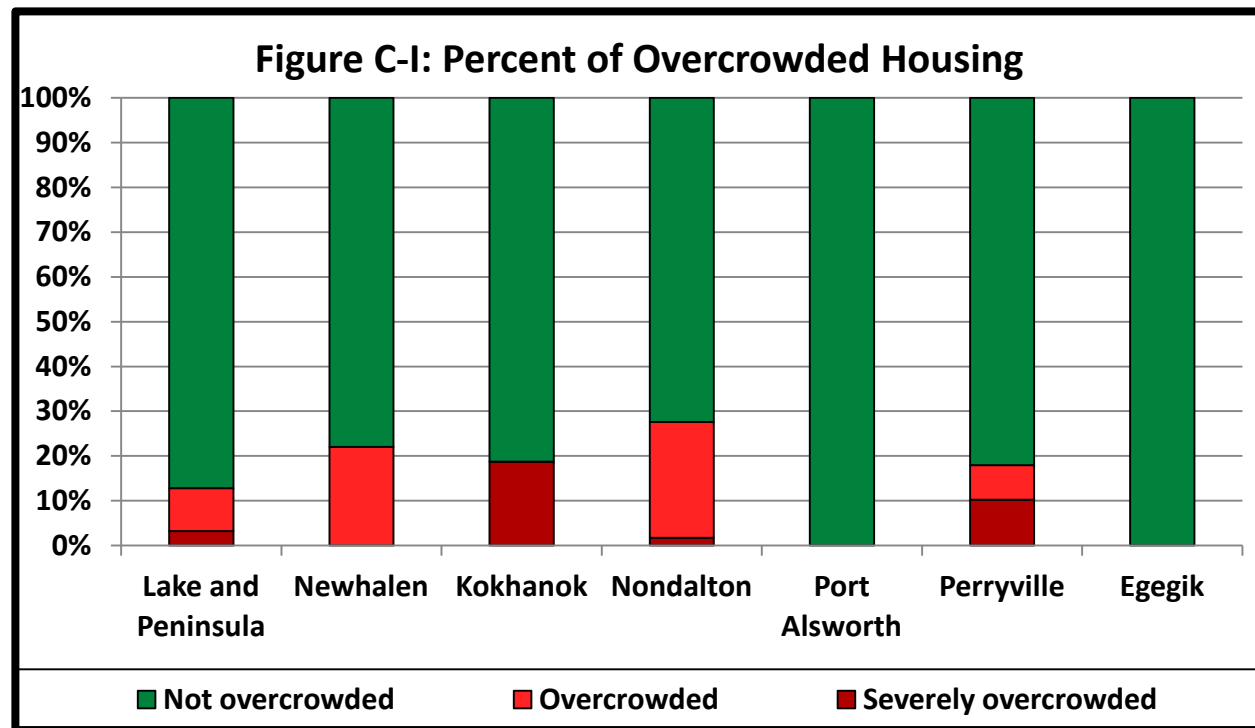
## Lake and Peninsula Borough Summary

### Community

The Lake and Peninsula Borough census area rests at the junction of mainland Alaska and the Aleutian chain. The census area lies in the Bristol Bay Native Corporation ANCSA region. The average home size in Lake and Peninsula is just over 1,000 square feet, or slightly more than half the average size found in most urban areas of Alaska. The smallest average home size is found in the community of Kokhanok, where homes average 915 square feet. The largest homes are in Igiugig, with an average size of 1,209 square feet.

### Overcrowding

In the census area as a whole, 13% of housing units are considered overcrowded (10%) or severely overcrowded (3%). The percentage of overcrowded households in different communities varies widely, from an estimated zero overcrowded households in Port Alsworth, Port Heiden, Iliamna, and Egegik to 40% of households in Pedro Bay having more than one person per room. Nondalton and Igiugig also experience overcrowding in almost 30% of housing units. Considering only the six most populous communities, overcrowding varies between 0% and 28% of housing units (Figure C-1).



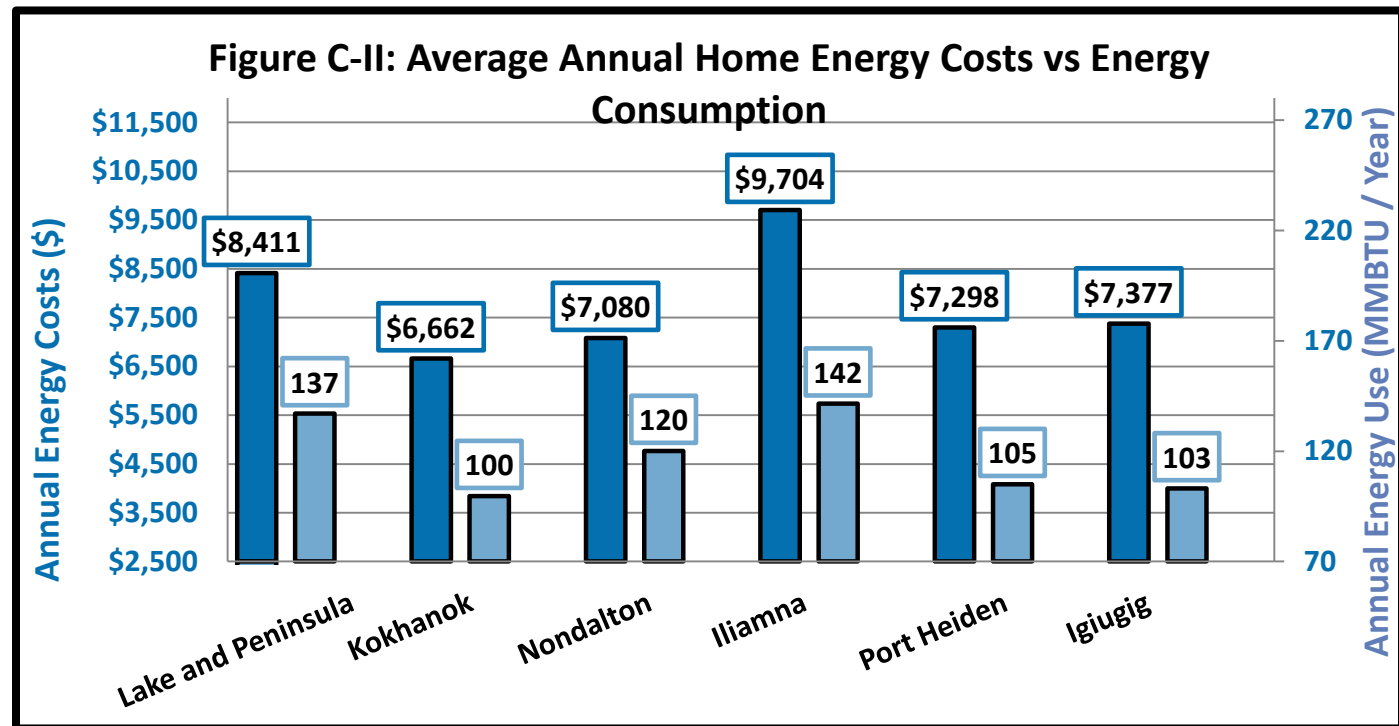
Approximately 3% of housing in the Lake and Peninsula Borough is available for sale or rent. The lowest percentage of available housing is found in Newhalen, which has an estimated zero available homes. Perryville has the largest percentage of available housing, with 22% of housing units

available for sale or rent. Additionally, more than half of the housing units in the census are classified as seasonal, recreational, or “other” purposes and therefore are considered vacant.

## Energy

In the Lake and Peninsula census area, homes use on average 137 million BTUs of energy each year, for an average annual cost of \$8,411. The community of Kokhanok, where an estimated 100% of homes have completed an energy program, has the lowest energy costs in the census area, \$6,662 annually. The lowest home heating index, however, is found in Igiugig, where homes have an average home heating index of 4.5 BTUs/ft<sup>2</sup>/HDD. The highest home heating index, 9.4 BTUs/ft<sup>2</sup>/HDD, is found in Iliamna, where residents also pay the highest annual energy cost in the census area, \$9,704 annually, over \$2,000 more than most other communities in the census area.

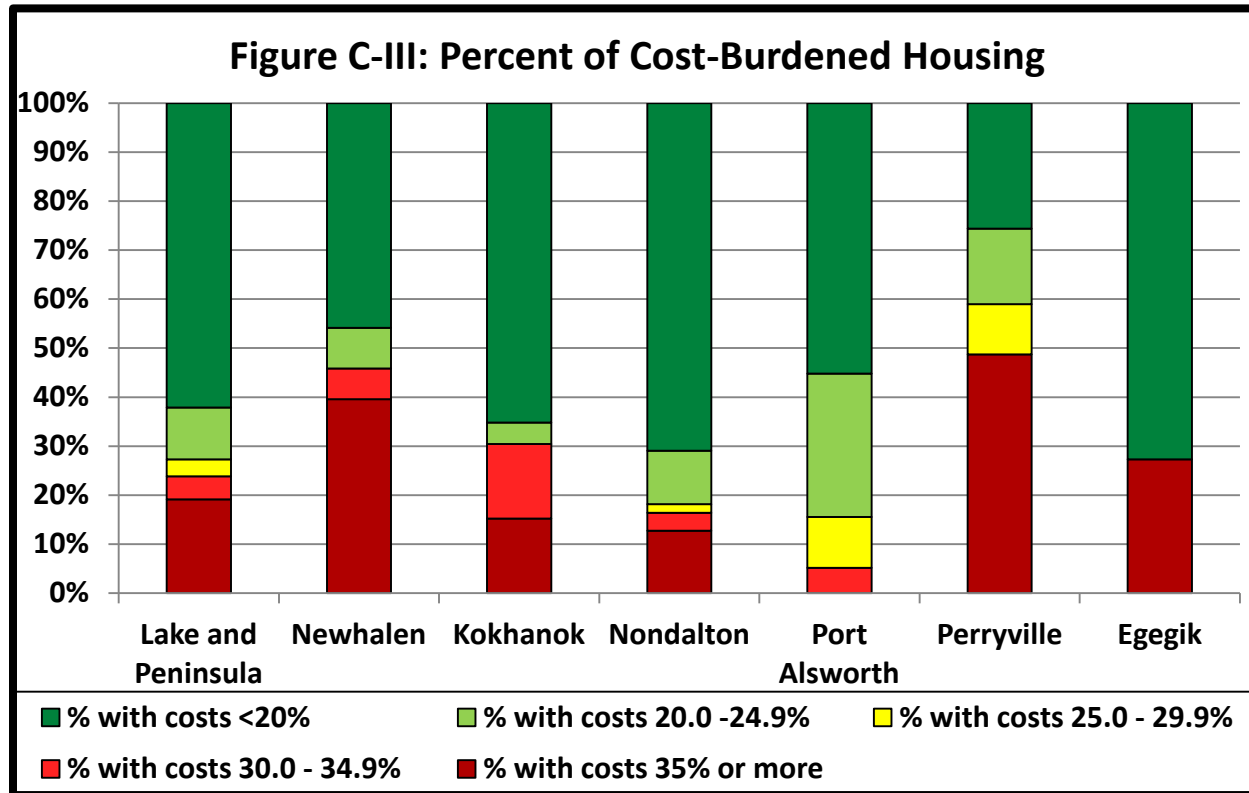
Participation among communities in either the Weatherization, Home Energy Rebate, or a BEES program since 2003 varies substantially throughout the census area – from an estimated zero homes participating in an energy program in Chignik to an estimated 100% of homes participating in an energy program in Kokhanok. The range is slightly smaller when considering only the six most populous communities, varying from 6% to 100%.



Overall, 44% of housing units in the census area have participated in one of the programs. On average, housing units built since 2005 have earned a 5-star energy rating, and an estimated 95% of these recently built homes include an HRV system.

## Affordability

According to ACS estimates<sup>1</sup>, between an estimated 0% and 49% of households in Lake and Peninsula communities are cost-burdened, meaning they spend more than 30% of household income on housing costs. Overall, 24% of households in the census area are cost-burdened. Chignik has an estimated zero cost-burdened households, the lowest in the census area. Residents of Chignik also earn the highest median household income in the Lake and Peninsula census area, \$118,125. Communities with less than 10% of overcrowded households include Port Alsworth and Chignik Lake. The highest percentage of cost-burdened households (49%) is found in Perryville, followed by Newhalen at 46% (Figure C-III). The lowest median income is found in the community of Igiugig, where households earn a median income of \$14,643 per year. Considering only the six most populous communities in the region, median incomes range from \$25,313 to \$80,750.



<sup>1</sup> 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.

---

## **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, 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.



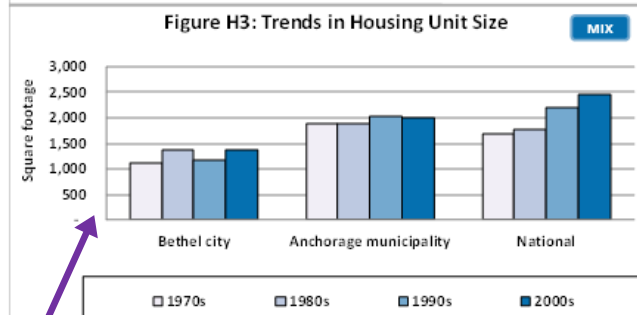
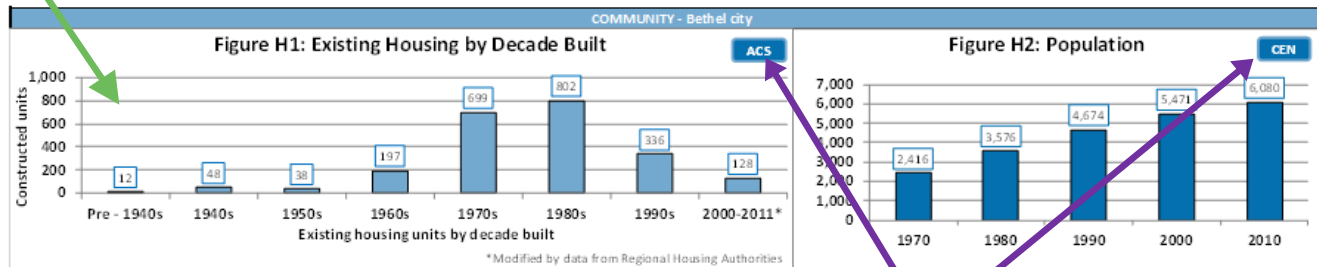
# How to Interpret the Profile: Data Sources, Definitions & Clarifications

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.

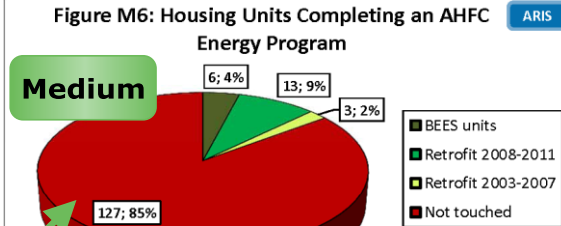
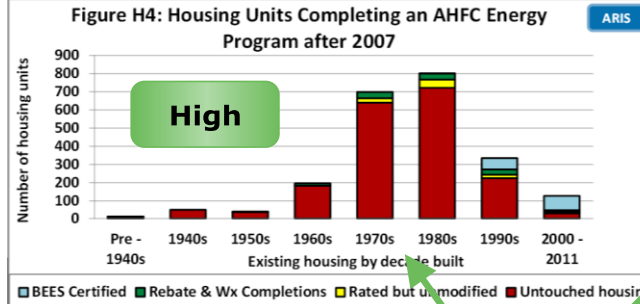
MIX

**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.

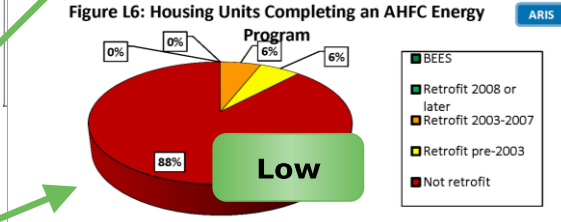
# How to Interpret the Profile: Data Sources, Definitions & Clarifications

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.



- 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.

**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.

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 2013	
#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 Housing	
Vacant housing for Sale or Rent	

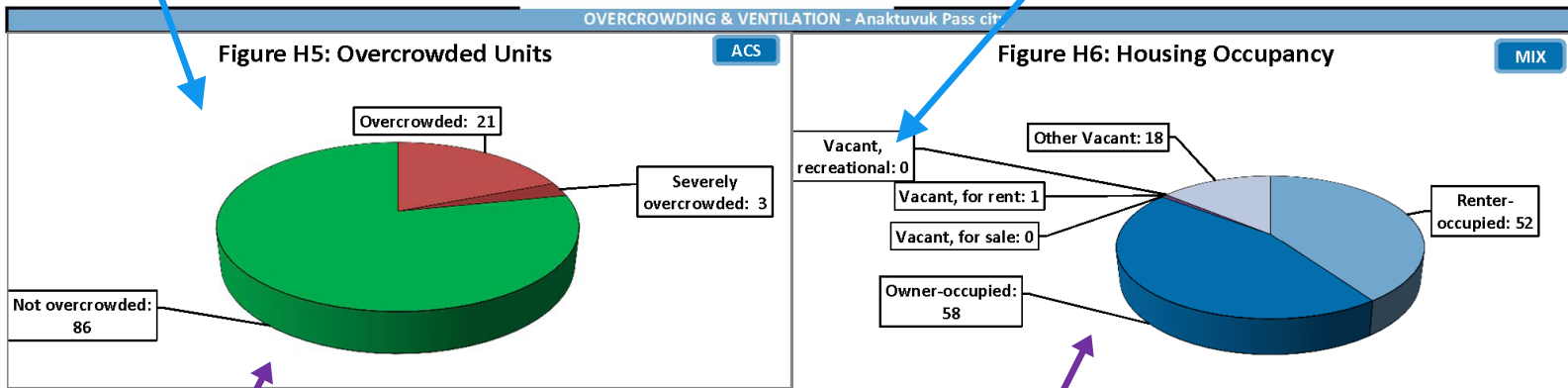
Units weatherized before 2008 are eligible to participate in the program again. (Data source: Alaska Housing Finance Corporation).

## 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.

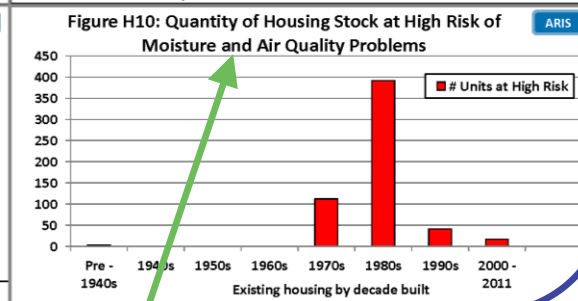
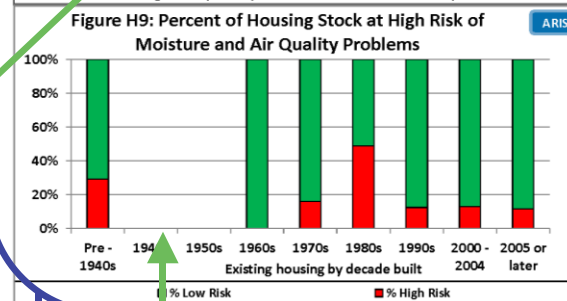
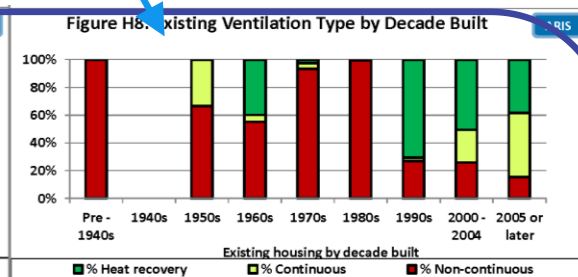
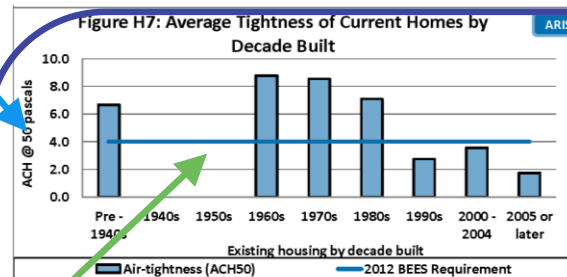
**Continuous:** Mechanical ventilation without heat recovery operated with automatic controls.

**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

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.

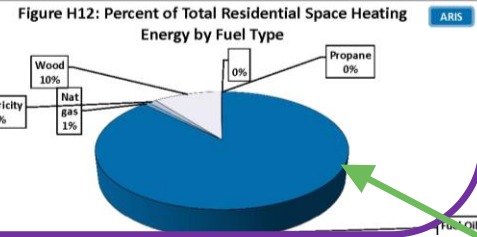
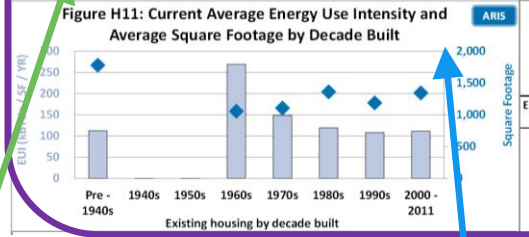
**Space Heating, DHW, Appliances:**  
Estimated annual energy for the end uses of: Space Heating, Domestic Hot Water, and all other energy including lights, appliances, and electronics.

**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 Use (million Btus)			Avg. EUI (kBtu/SqFt)	Avg. ECI (\$ / SqFt)	Avg. Home Heating Index
							Space Heating	DHW	Appliances			
OVERALL	419	3-star	70.7	1,237	\$ 8,065	160	102	27	26	132	\$ 6.97	6.5
Pre- 1940	7	3-star	68.3	1,779	\$ 11,107	199	145	21	33	113	\$ 6.66	6.4
1940-49	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1950-59	3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1960-69	15	2-star	52.3	1,056	\$ 11,087	287	225	35	27	269	\$ 10.60	16.0
1970-79	71	2-star plus	64.5	1,106	\$ 7,961	153	105	21	25	149	\$ 8.09	7.8
1980-89	113	3-star plus	74.7	1,361	\$ 8,239	157	100	30	26	119	\$ 6.40	5.8
1990-99	111	4-star	79.9	1,187	\$ 6,395	122	57	21	20	108	\$ 5.58	4.7
2000-2004	71	3-star plus	77.5	1,388	\$ 8,435	143	80	35	27	118	\$ 7.24	5.2
2005 or later	28	5-star	91.9	1,233	\$ 4,504	92	39	28	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

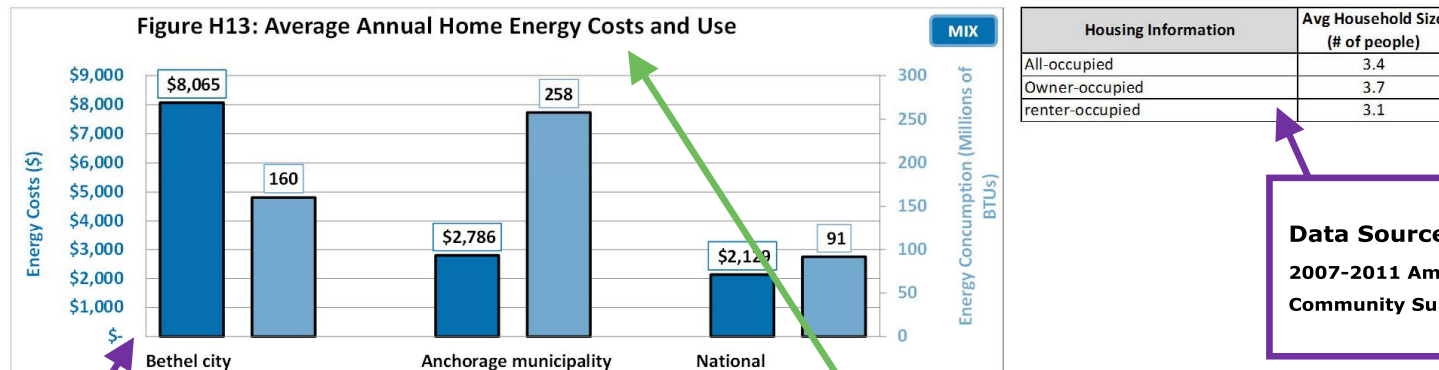
Communities are categorized in this report by the amount of ARIS data available, and reporting is more extensive for locations with more data. Data quantities are defined as--

**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 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.

**Data Source:**  
2007-2011 American Community Survey



## 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).

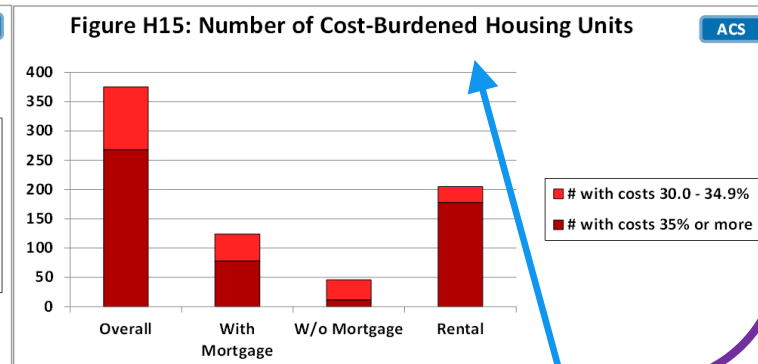
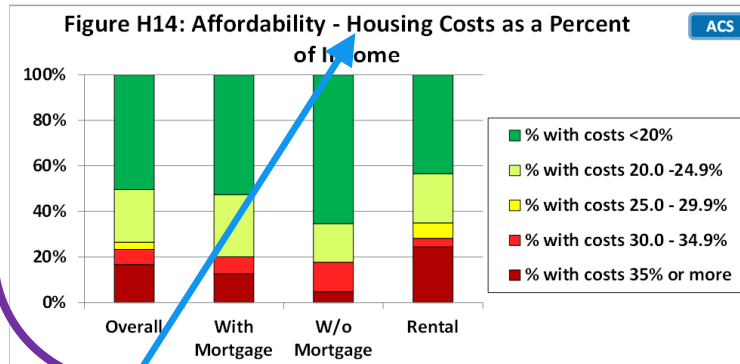
Owner-occupied House with Mortgage, Median Value
\$226,800
Owner-occupied House without a Mortgage, Median Value
\$119,600

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%
--	------



**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.



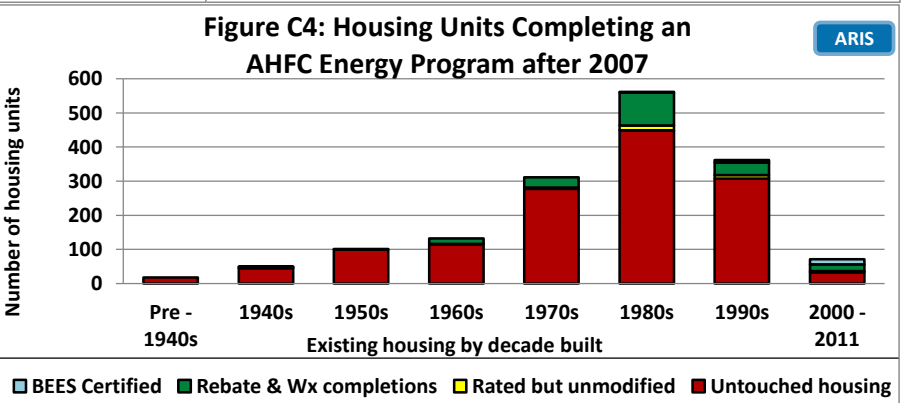
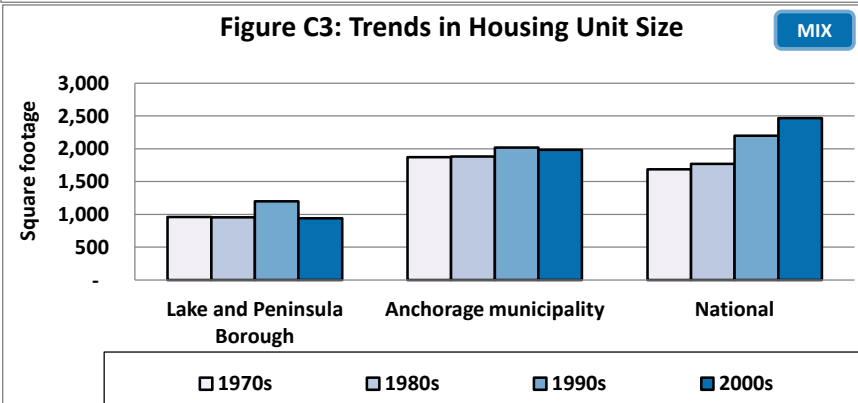
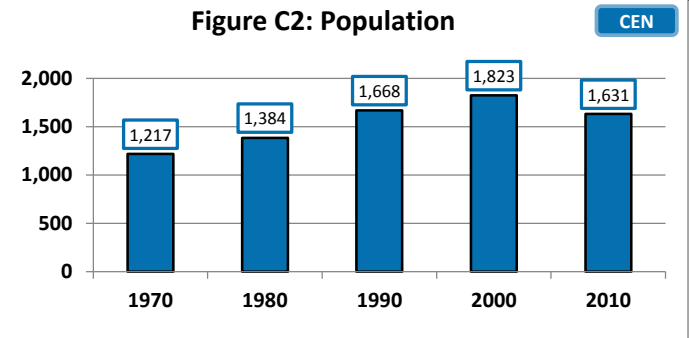
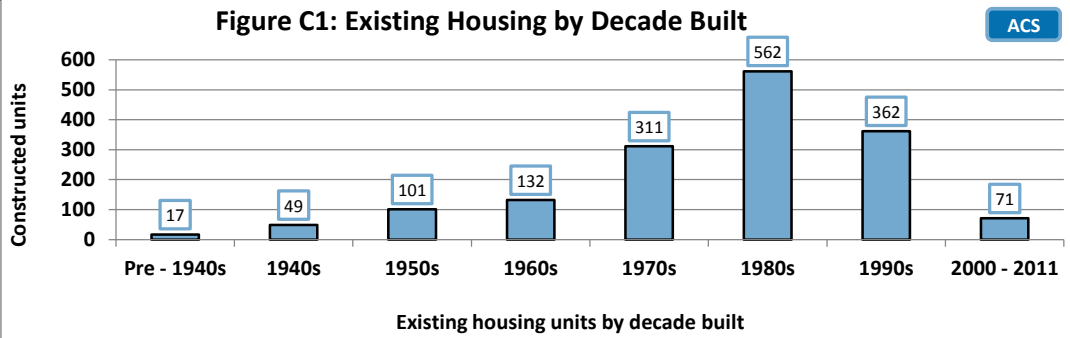
**Census Area Profile for:** Lake and Peninsula Borough

**ANCSA Region:** Bristol Bay Native Corporation

**Regional Housing Authority:** Bristol Bay Housing Authority

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

**COMMUNITY - Lake and Peninsula Borough**



Houses Lacking Complete Plumbing or Kitchen Facilities	Households	
	Number	Percent
Lack complete plumbing	95	17%
Lack complete kitchen	57	10%

Avg Annual Energy Cost with PCE	\$8,411
Avg Annual Energy Cost without PCE	\$10,122

Weatherization Retrofits (funding increased 2008)	
Date Range	Units
2008 - 2011	192
2003 - 2007	18
1990 - 2002	180

Estimated Total Annual Community Space Heating Fuel Use		
Fuel Oil	328,407	(gallons)
Natural Gas	-	(ccf)
Electricity	289,801	(kWh)
Wood	326	(cords)
Propane	-	(gallons)
Coal	-	(tons)

Housing Need Indicators	Number of Units	% Occupied Housing
Overcrowded	72	13%
Housing cost burdened	117	21%
1 Star Homes	152	27%

Housing Stock Estimates	Number of Units
All Housing	1,605
All Occupied Housing	562
All Vacant housing	1,043
Vacant Housing for Sale or Rent	45

OVERCROWDING & VENTILATION - Lake and Peninsula Borough

Figure C5: Overcrowded Units

ACS

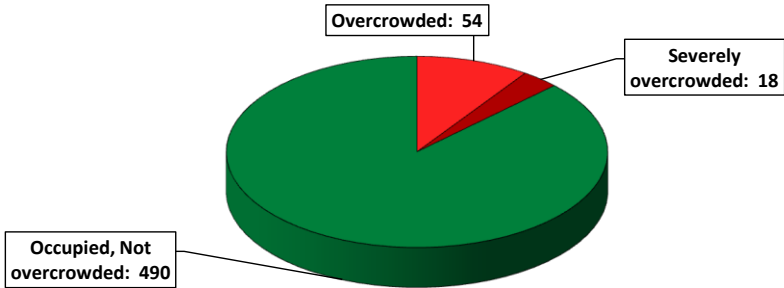


Figure C6: Housing Occupancy

MIX

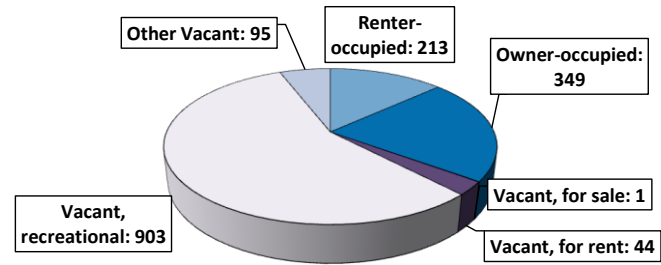


Figure C7: Average Air-Tightness of Current Homes by Decade Built

ARIS

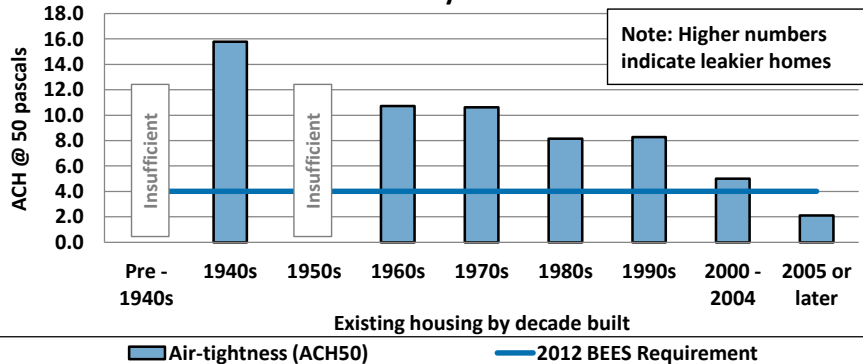


Figure C8: Existing Ventilation Type by Decade Built

ARIS

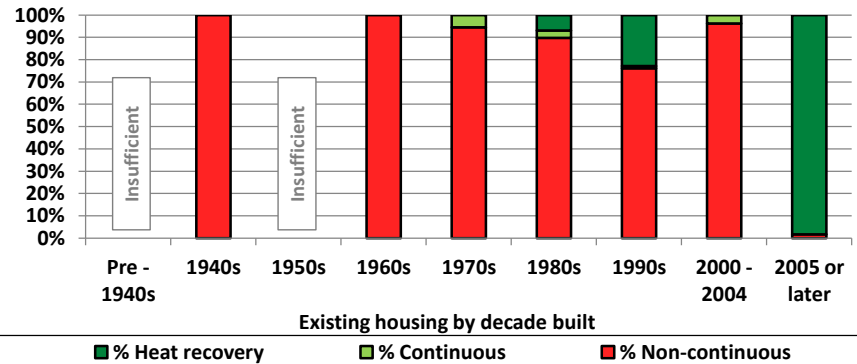


Figure C9: Percent of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS

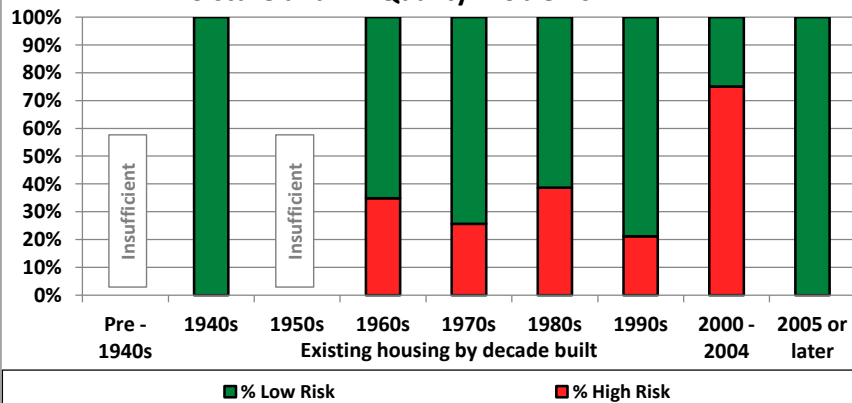
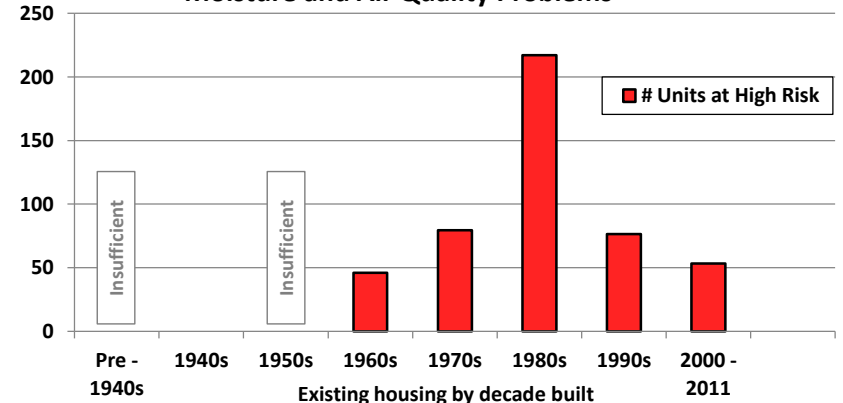


Figure C10: Quantity of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS



ENERGY - Lake and Peninsula Borough												
Current Lake and Peninsula 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	272	2-star plus	66.7	1,029	\$8,411	137	89	22	26	139	\$8.84	8.4
Pre- 1940	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1940- 49	5	1-star	38.5	1,618	\$11,026	240	180	33	27	187	\$8.59	13.7
1950- 59	4	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1960- 69	30	2-star	59.8	783	\$8,638	137	98	14	26	174	\$11.33	11.6
1970- 79	59	2-star	59.2	959	\$9,384	156	108	23	25	170	\$10.23	11.1
1980- 89	192	3-star	69.1	957	\$7,735	120	73	21	26	136	\$8.91	7.9
1990- 99	94	3-star	69.4	1,201	\$8,907	146	94	23	26	137	\$8.57	8.4
2000- 2004	17	3-star	68.1	942	\$7,381	124	91	11	23	143	\$8.51	9.6
2005 or later	29	5-star	91.8	1,334	\$7,334	101	44	31	26	76	\$5.51	3.2

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

ARIS

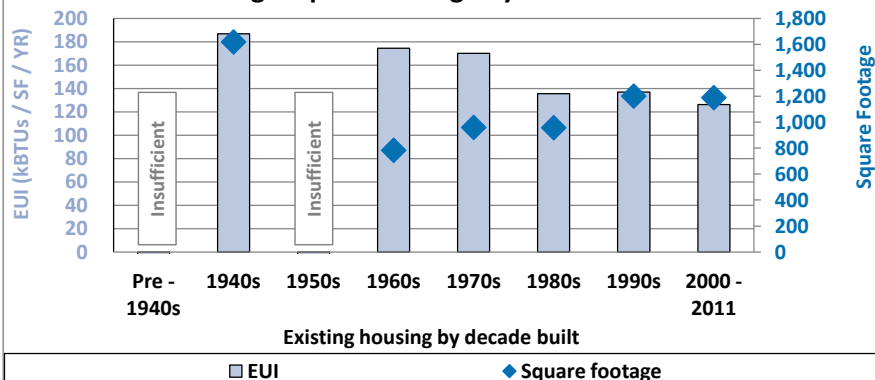
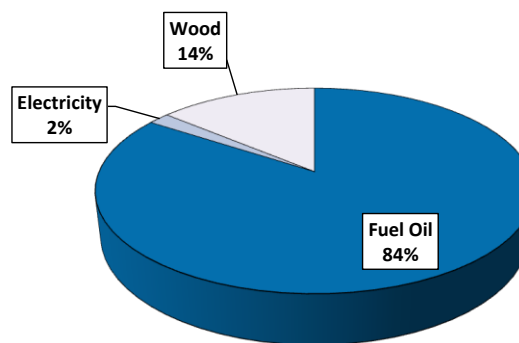


Figure C12: Percent of Total Residential Space Heating Energy by Fuel Type

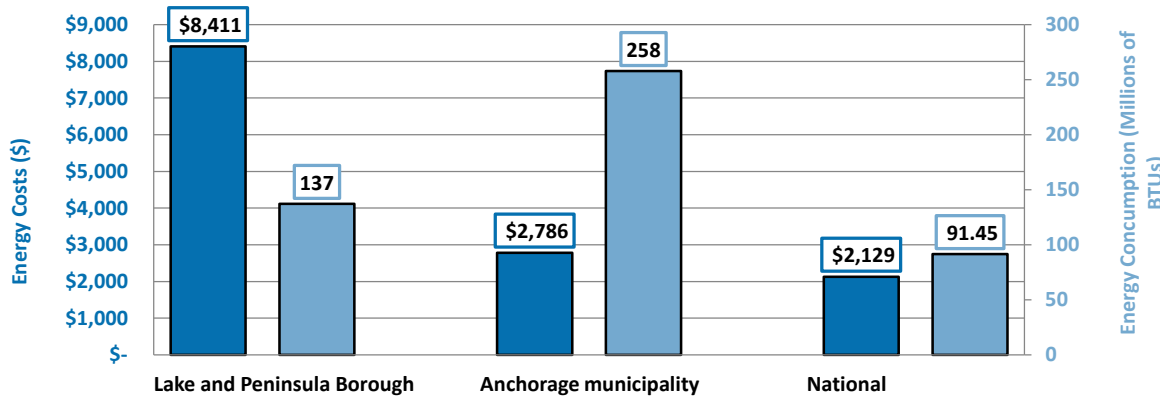
ARIS



Current Lake and Peninsula 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	272	8.1	23	15	6	17	3	3	0.33	NR	0.48
Pre- 1940	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1940- 49	5	15.8	NR	NR	NR	NR	NR	NR	NR	NR	NR
1950- 59	4	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1960- 69	30	10.7	17	14	4	13	NR	NR	0.33	NR	0.50
1970- 79	59	10.6	20	12	4	15	NR	NR	0.41	NR	0.59
1980- 89	192	8.1	24	14	5	19	NR	2	0.30	NR	0.47
1990- 99	94	8.3	24	17	12	16	2	3	0.34	NR	0.49
2000- 2004	17	5.0	26	14	NR	16	NR	NR	0.53	NR	0.51
2005 or later	29	2.1	49	24	19	NR	NR	4	0.25	NR	0.21
BEES 2009 - Climate Zone 7		7.0	38	21	15	38	15	15	0.33	0.33	0.33
BEES 2012 - Climate Zone 7		4.0	43	25	15	38	15	15	0.30	0.30	0.30

AFFORDABILITY - Lake and Peninsula Borough

Figure C13: Average Annual Home Energy Cost and Use



Housing Information	Avg Household Size (# of people)
All-occupied	2.7
Owner-occupied	2.8
Renter-occupied	2.7

Median Value of Owner-occupied House with Mortgage
\$170,200

Median Value of Owner-occupied House without a Mortgage
\$134,800

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 51,429
Renter-occupied	\$ 52,875
Owner-occupied	\$ 50,938
w/ mortgage	\$ 77,500
w/o mortgage	\$ 44,063

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 569	\$ 6,828
Gross rent	\$ 732	\$ 8,784
Owner-occupied	\$ 511	\$ 6,132
Housing units w/ mortgage	\$ 1,442	\$ 17,304
Housing units w/out a mortgage	\$ 409	\$ 4,908

Avg % of Median Income Spent on Energy: 16.4%

Figure C14: Affordability - Housing Costs as a Percent of Income

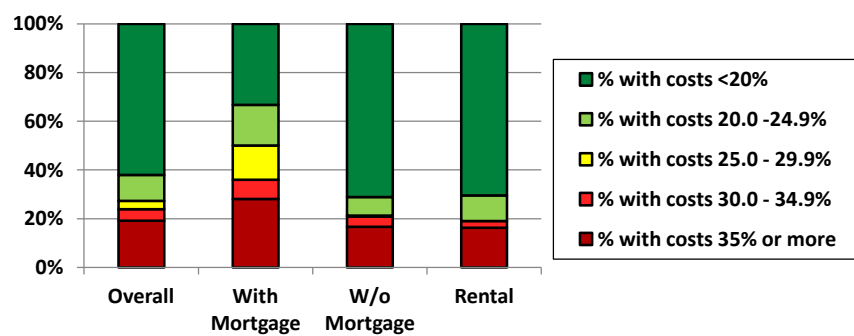
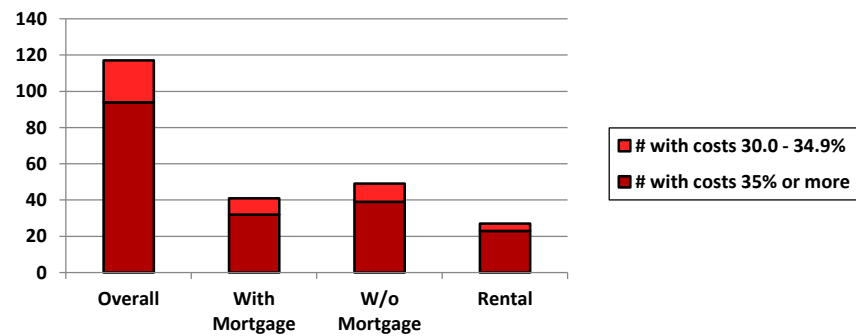


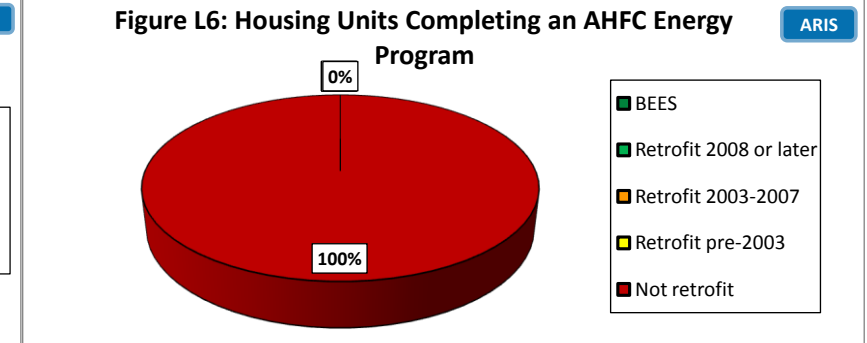
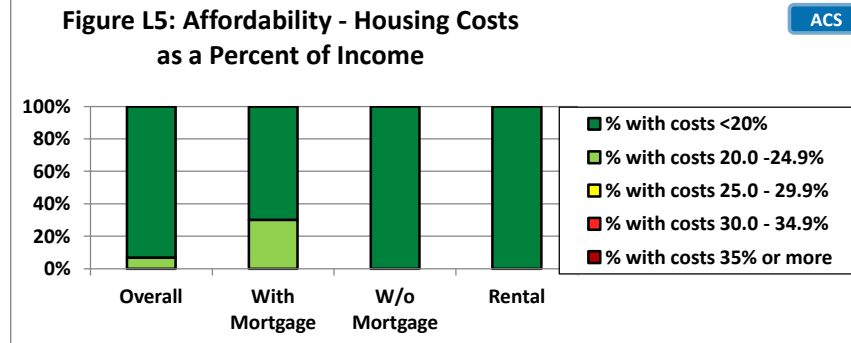
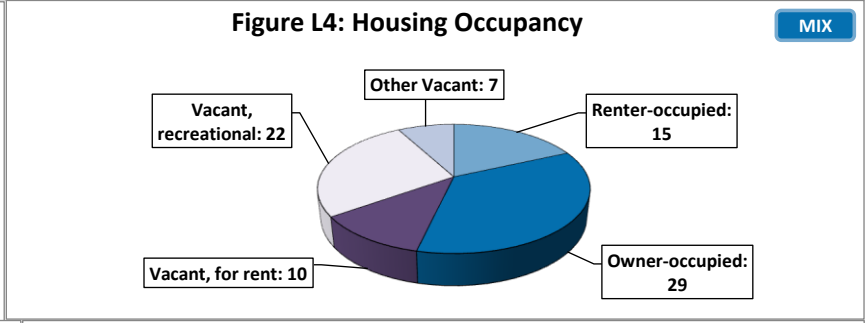
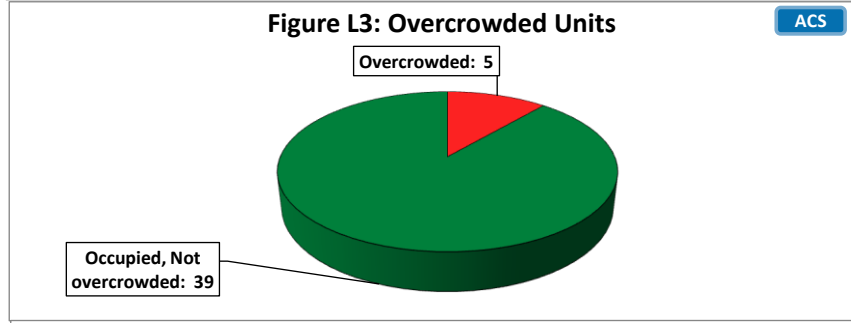
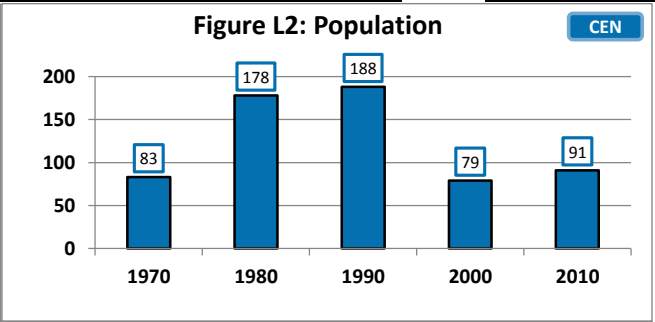
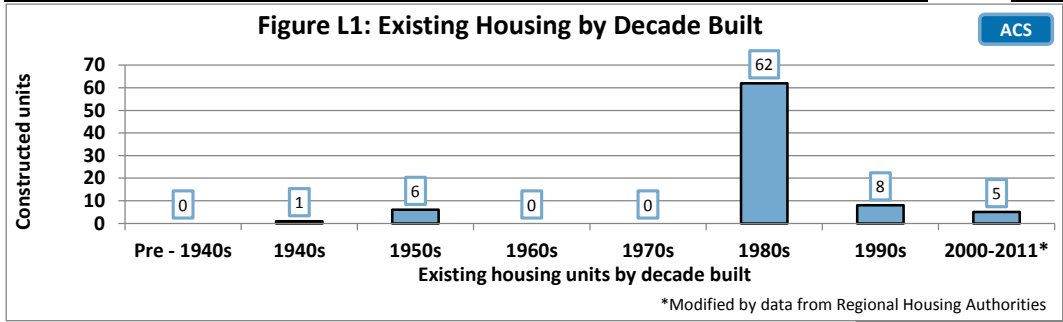
Figure C15: Number of Cost-Burdened Housing Units



**Community Profile for:** Chignik city

**ANCSA Region:** Bristol Bay Native Corporation

**Climate Zone:** 7



Owner-occupied House with Mortgage, Median Value
\$264,300

Owner-occupied House without a Mortgage, Median Value
\$65,000

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 75,833
Renter-occupied	\$ 75,417
Owner-occupied	\$ 97,917
w/ mortgage	\$ 135,714
w/o mortgage	\$ 46,563

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 717	\$ 8,604
Gross rent	\$ 817	\$ 9,804
Owner-occupied	\$ 350	\$ 4,200
Housing units w/ mortgage	\$ 1,821	\$ 21,852
Housing units w/out a mortgage	\$ 265	\$ 3,180

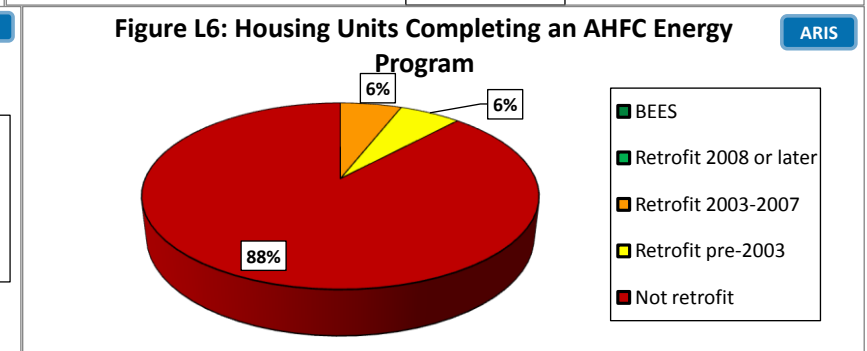
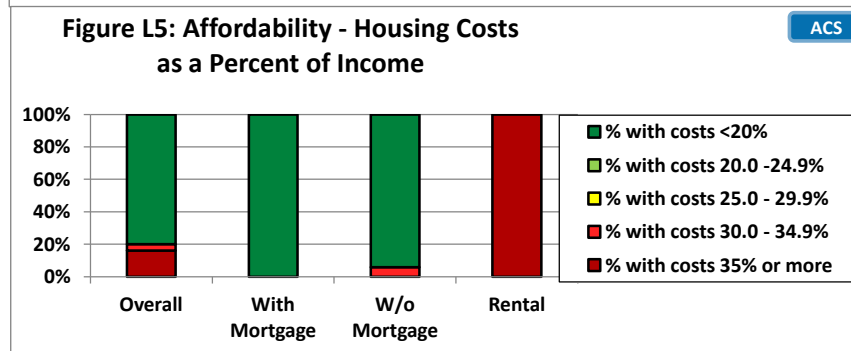
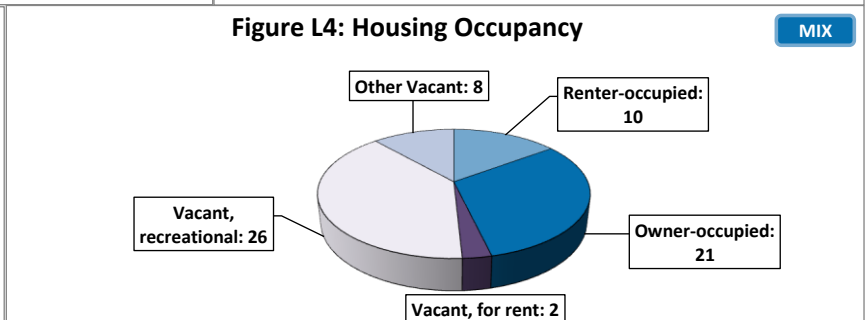
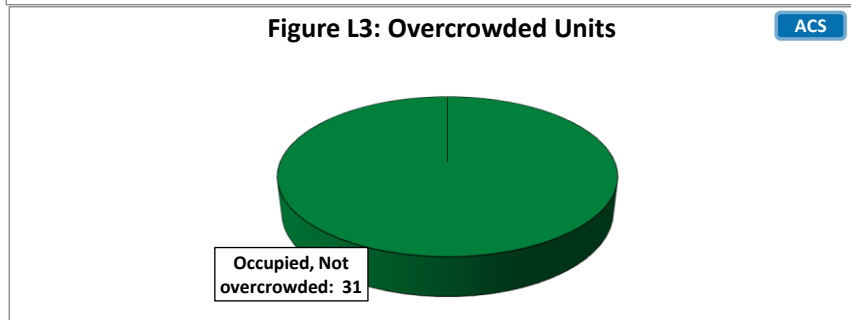
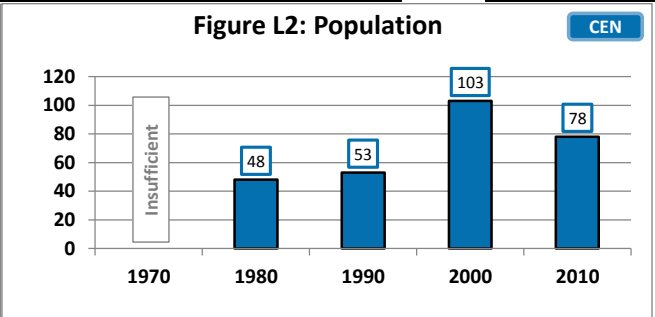
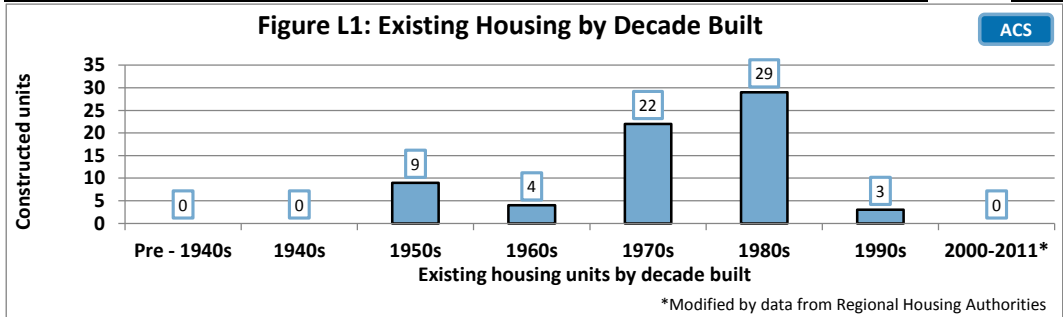
Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 3.65
Electricity with PCE (\$/kWh)	\$ 0.13
Electricity without PCE (\$/kWh)	\$ 0.44

Housing Stock Estimates	Number of Units
All Housing	82
All Occupied Housing	44
All Vacant housing	38

**Community Profile for:** Chignik Lagoon CDP

**ANCSA Region:** Bristol Bay Native Corporation

**Climate Zone:** 7



Owner-occupied House with Mortgage, Median Value
NR

Owner-occupied House without a Mortgage, Median Value
\$212,500

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

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 118,125
Renter-occupied	\$ 31,875
Owner-occupied	\$ 137,188
w/ mortgage	NR
w/o mortgage	\$ 171,875

Housing Stock Estimates	
	Number of Units
All Housing	67
All Occupied Housing	31
All Vacant housing	36

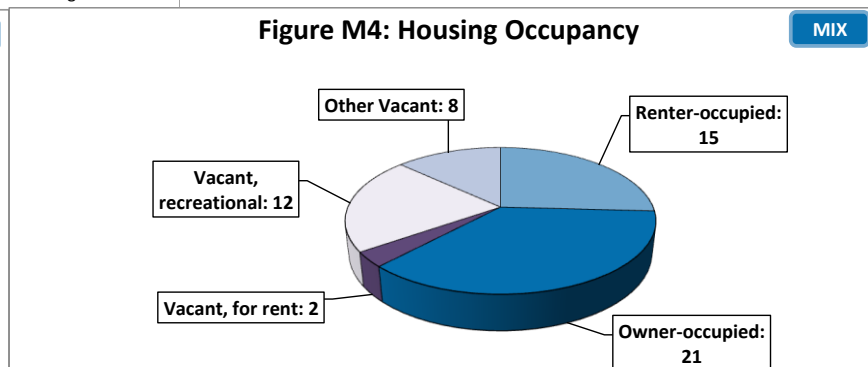
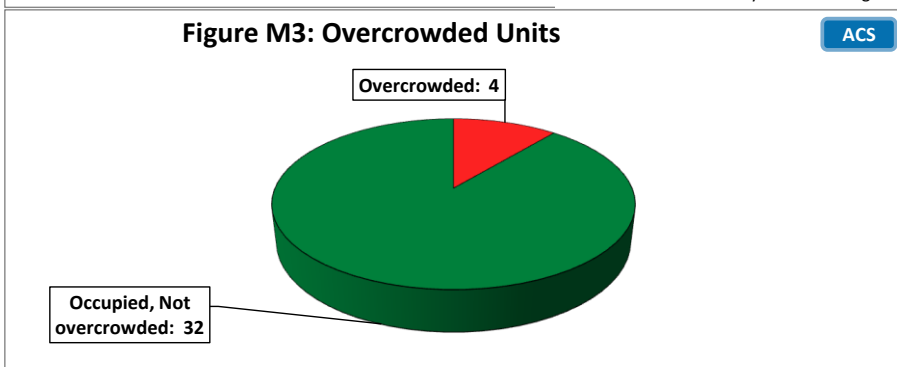
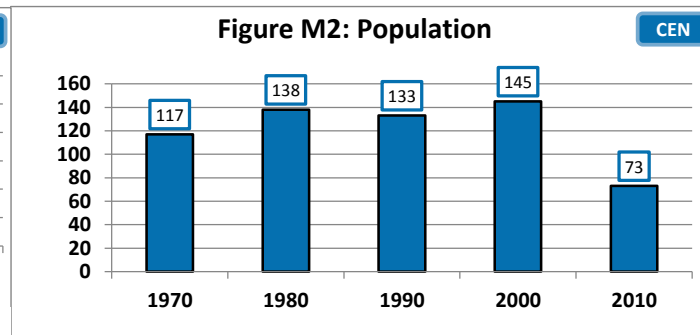
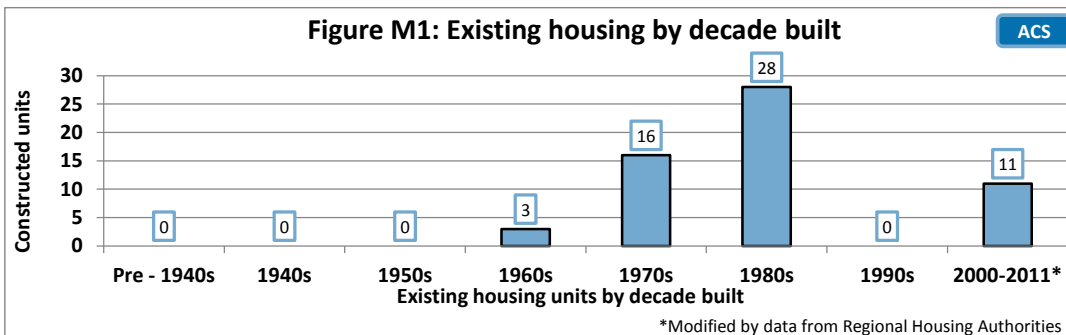
Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 613	\$ 7,356
Gross rent	NR	NR
Owner-occupied	\$ 395	\$ 4,740
Housing units w/ mortgage	NR	NR
Housing units w/out a mortgage	\$ 369	\$ 4,428

**Community Profile for:** Chignik Lake CDP

**ANCSA Region:** Bristol Bay Native Corporation

**Regional Housing Authority:** Bristol Bay Housing Authority

**BEES Climate Zone (Heating Degree Days):** Zone 7 (9,612 HDD)



#### Chignik Lake 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	Avg. Ann Energy Use (million BTUs)	Avg. EUI (kBtus/SF)	Avg. ECI	Avg. Home Heating Index	% Tight Homes, No Ventilation
Pre-retrofit units	15	4-star	79.0	2,864	\$ 8,672	193	67	\$3.03	4.7	0%
Retrofit units	0	NR	NR	NR	NR	NR	NR	NR	NR	NR
New construction	2	NR	NR	NR	NR	NR	NR	NR	NR	NR

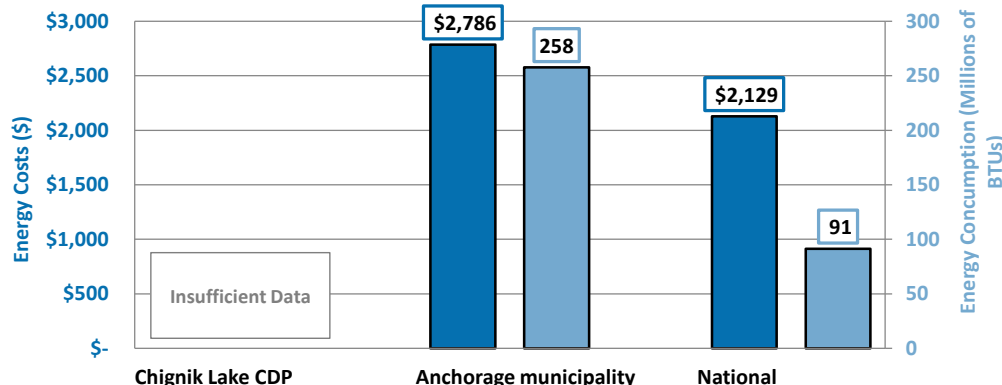
#### Chignik Lake CDP Housing Envelope Characteristics

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	15	6.0	NR	NR	NR	NR	NR	NR	NR	NR	NR
Retrofit units	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
New construction	2	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

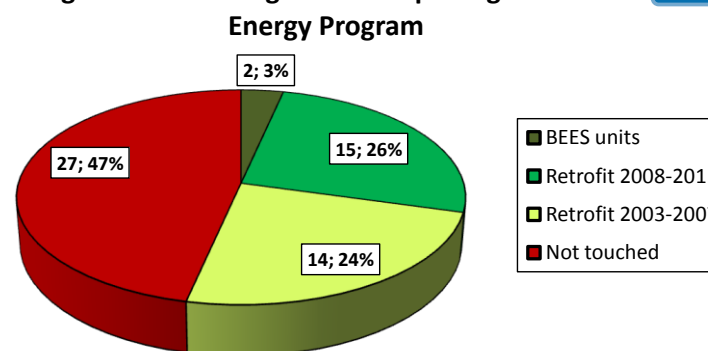
**Figure M5: Average Annual Home Energy Costs and Use**

MIX



**Figure M6: Housing Units Completing an AHFC Energy Program**

ARIS



**AFFORDABILITY - Chignik Lake CDP**

Owner occupied House with Mortgage, Median Value
\$95,000

Owner-occupied House without a Mortgage, Median Value
\$95,800

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 5.32
Electricity with PCE (\$/kWh)	\$ 0.20
Electricity without PCE (\$/kWh)	\$ 0.58

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 63,000
Renter-occupied	\$ 2,500
Owner-occupied	\$ 78,438
w/ mortgage	NR
w/o mortgage	\$ 77,813

Average Annual Energy Cost	
With PCE	NO PCE
Without PCE	\$10,792

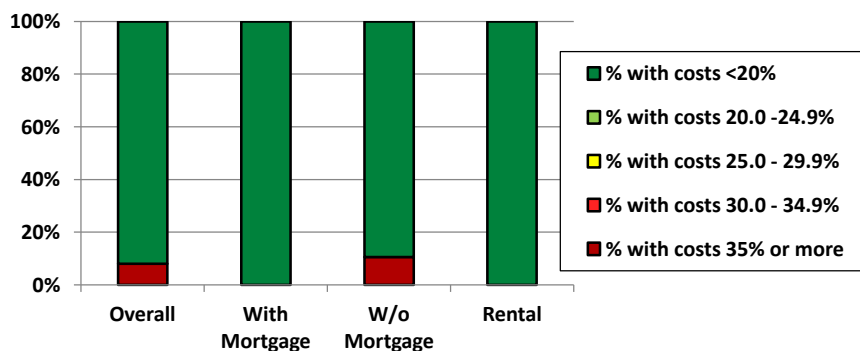
Avg % Median Income spent on Energy	17.1%
-------------------------------------	-------

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 575	\$ 6,900
Gross rent	NR	NR
Owner-occupied	\$ 528	\$ 6,336
Housing units w/ mortgage	NR	NR
Housing units w/out a mortgage	\$ 517	\$ 6,204

Housing Stock Estimates	Number of Units
All Housing	58
All Occupied Housing	36
All Vacant housing	22
Vacant Housing for Sale/Rent	2

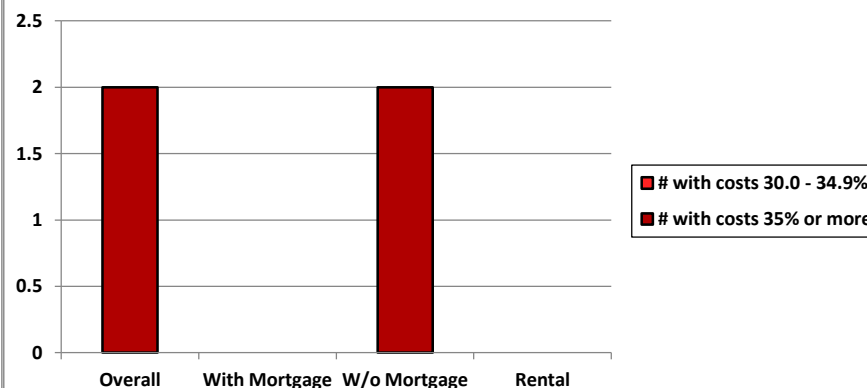
**Figure M7: Affordability - Housing Costs as a Percent of Income**

ACS



**Figure M8: Number of Cost-Burdened Housing Units**

ACS

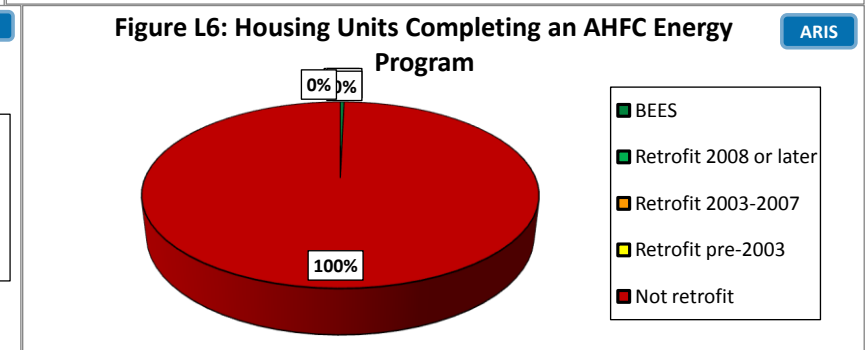
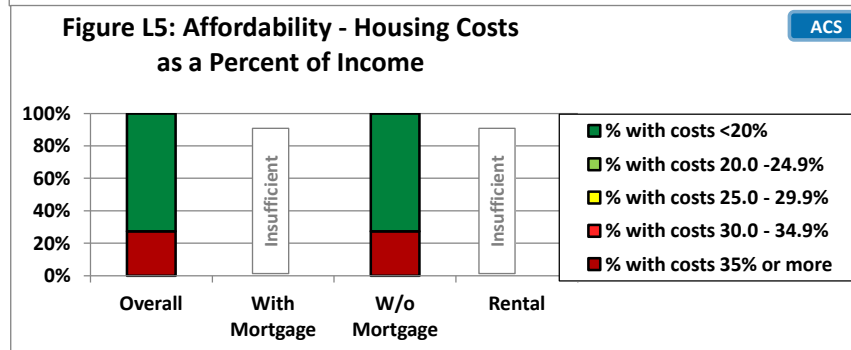
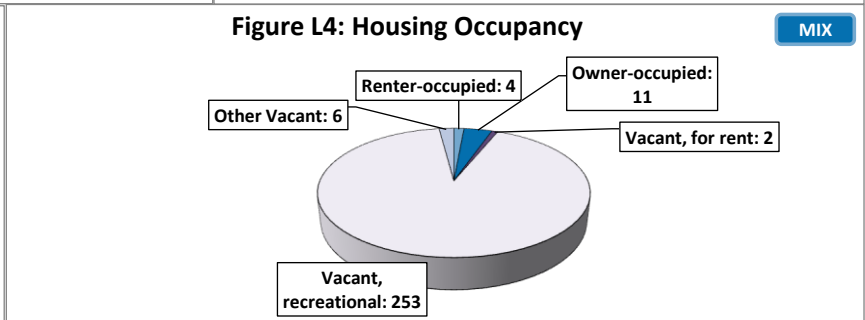
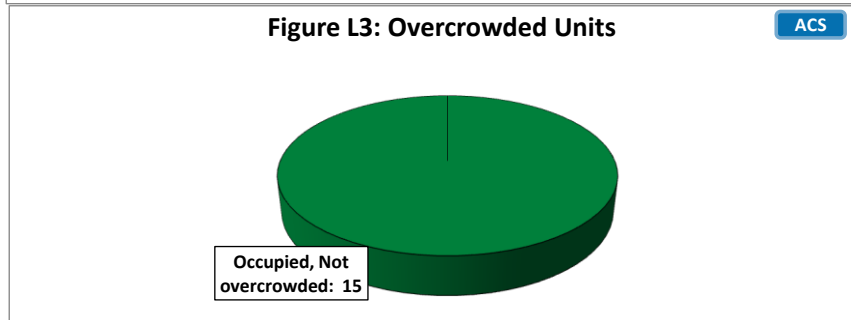
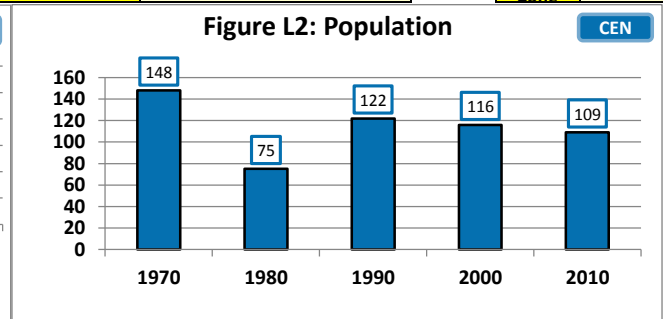
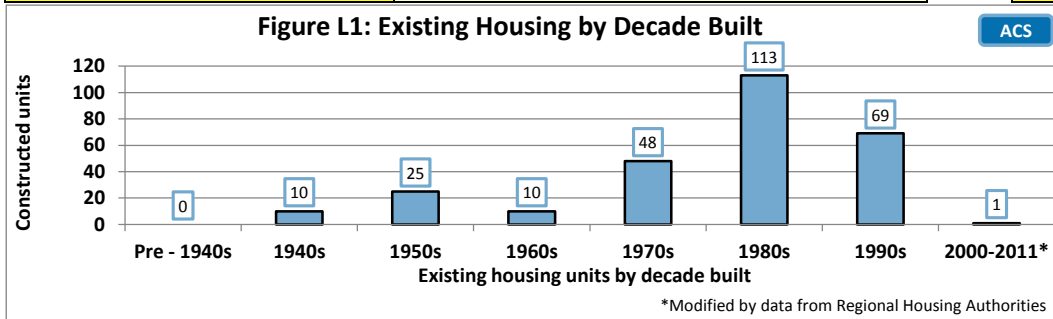




**Community Profile for:** Egegik city

**ANCSA Region:** Bristol Bay Native Corporation

**Climate Zone:** 7



Owner-occupied House with Mortgage, Median Value
NR

Owner-occupied House without a Mortgage, Median Value
\$206,300

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 5.05
Electricity with PCE (\$/kWh)	\$ 0.30
Electricity without PCE (\$/kWh)	\$ 0.79

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 76,563
Renter-occupied	NR
Owner-occupied	\$ 75,313
w/ mortgage	NR
w/o mortgage	\$ 75,313

Housing Stock Estimates	
	Number of Units
All Housing	276
All Occupied Housing	15
All Vacant housing	261

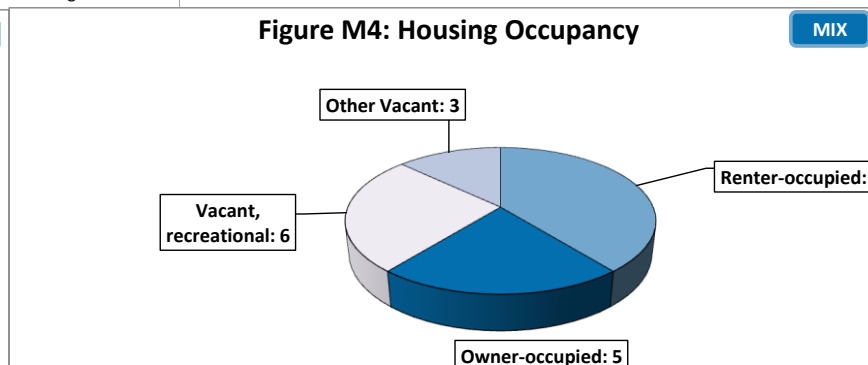
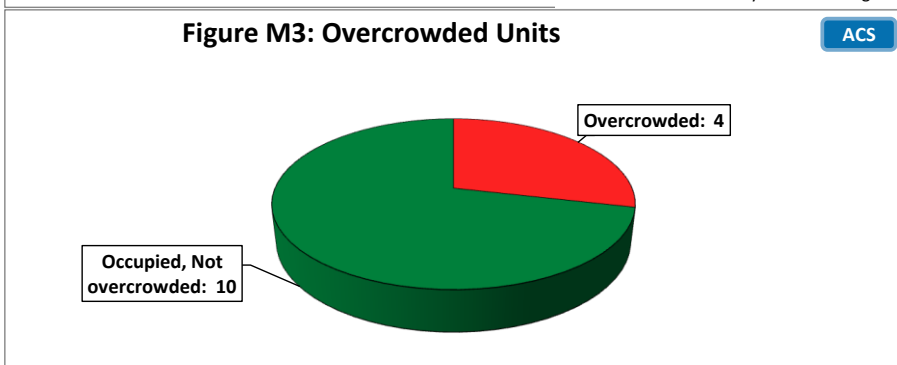
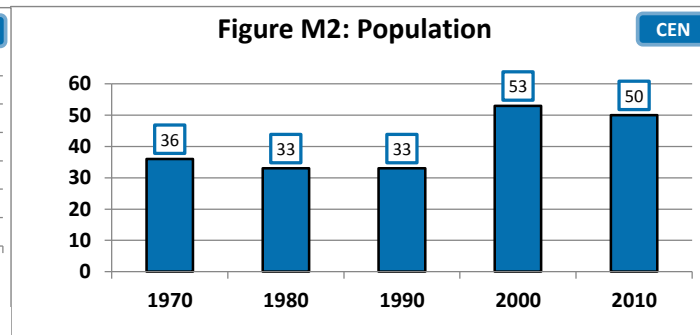
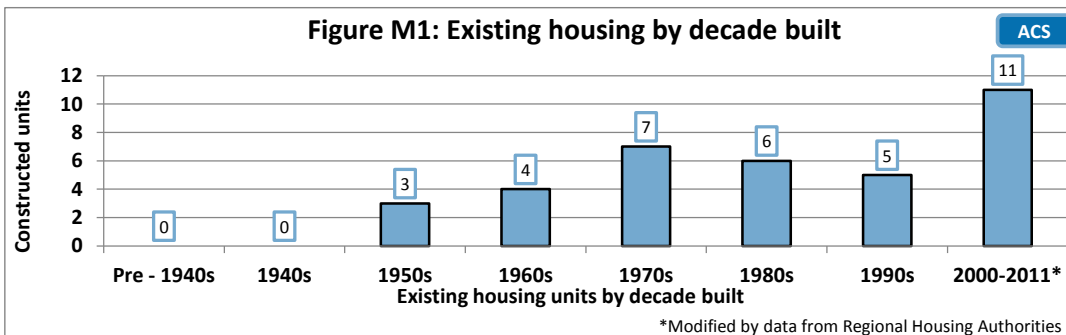
Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 363	\$ 4,356
Gross rent	NR	NR
Owner-occupied	\$ 325	\$ 3,900
Housing units w/ mortgage	NR	NR
Housing units w/out a mortgage	\$ 363	\$ 4,356

**Community Profile for:** Igiugig CDP

**ANCSA Region:** Bristol Bay Native Corporation

**Regional Housing Authority:** Bristol Bay Housing Authority

**BEES Climate Zone (Heating Degree Days):** Zone 7 (11,306 HDD)



#### Igiugig 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	18	4-star plus	83.2	1,166	\$ 7,017	99	93	\$6.53	4.6	28%
Retrofit units	0	NR	NR	NR	NR	NR	NR	NR	NR	NR
New construction	3	5-star	88.2	1,493	\$ 9,778	133	89	\$6.55	4.5	0%
Overall	21	4-star plus	83.9	1,209	\$ 7,377	103	92	\$6.53	4.5	24%

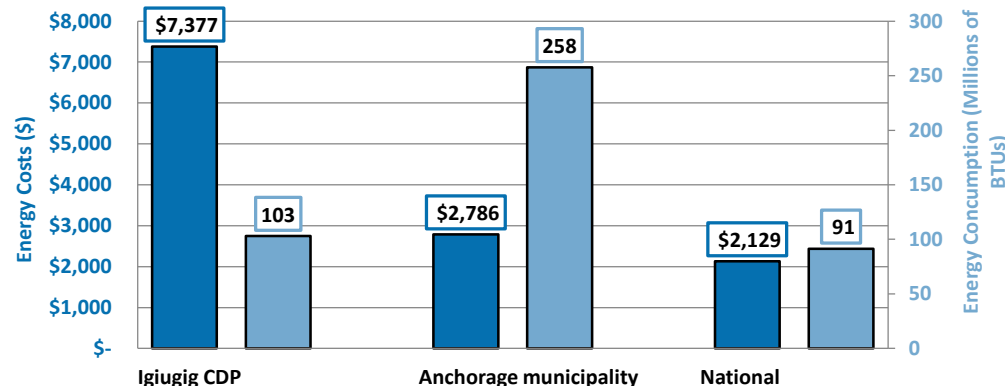
#### Igiugig CDP Housing Envelope Characteristics

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	18	5.2	27	17	19	22	NR	4	0.26	NR	0.32
Retrofit units	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
New construction	3	4.0	50	18	17	NR	NR	4	0.31	NR	0.28
Overall	21	5.1	29	17	18	22	NR	4	0.26	NR	0.31

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

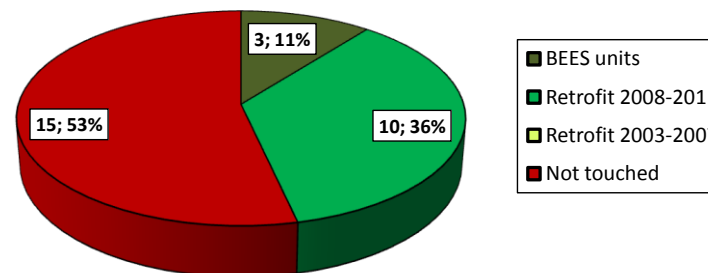
**Figure M5: Average Annual Home Energy Costs and Use**

MIX



**Figure M6: Housing Units Completing an AHFC Energy Program**

ARIS



**AFFORDABILITY - Igiugig CDP**

Owner occupied House with Mortgage, Median Value
\$115,600

Owner-occupied House without a Mortgage, Median Value
NR

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 8.09
Electricity with PCE (\$/kWh)	\$ 0.39
Electricity without PCE (\$/kWh)	\$ 0.80

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 14,643
Renter-occupied	\$ 14,107
Owner-occupied	\$ 68,438
w/ mortgage	\$ 68,438
w/o mortgage	NR

Average Annual Energy Cost	
With PCE	\$7,377
Without PCE	\$9,553

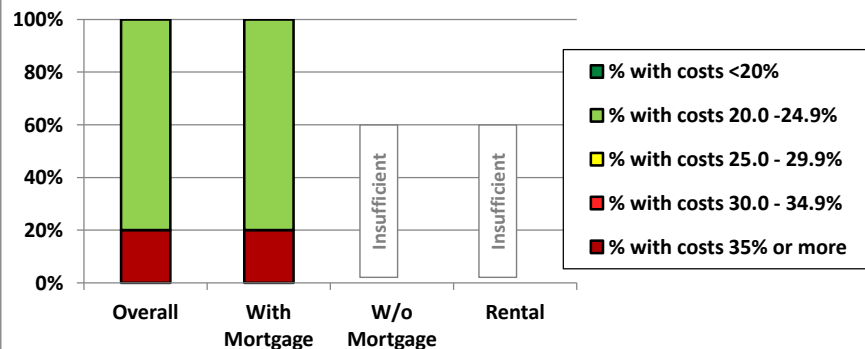
Avg % Median Income spent on Energy	50.4%
-------------------------------------	-------

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 1,094	\$ 13,128
Gross rent	NR	NR
Owner-occupied	\$ 1,094	\$ 13,128
Housing units w/ mortgage	\$ 1,094	\$ 13,128
Housing units w/out a mortgage	NR	NR

Housing Stock Estimates	Number of Units
All Housing	23
All Occupied Housing	14
All Vacant housing	9
Vacant Housing for Sale/Rent	0

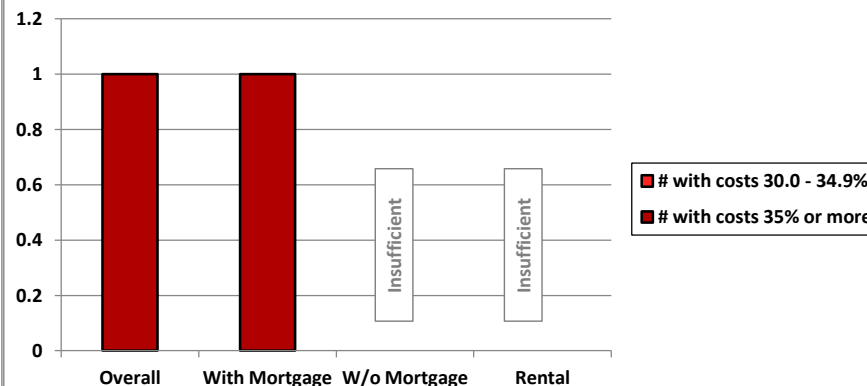
**Figure M7: Affordability - Housing Costs as a Percent of Income**

ACS



**Figure M8: Number of Cost-Burdened Housing Units**

ACS

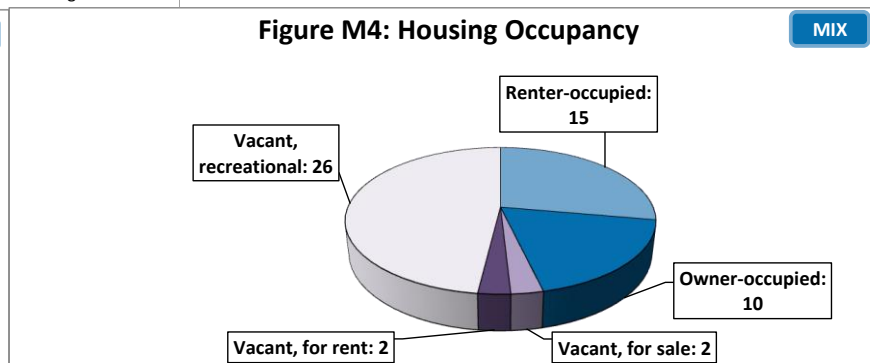
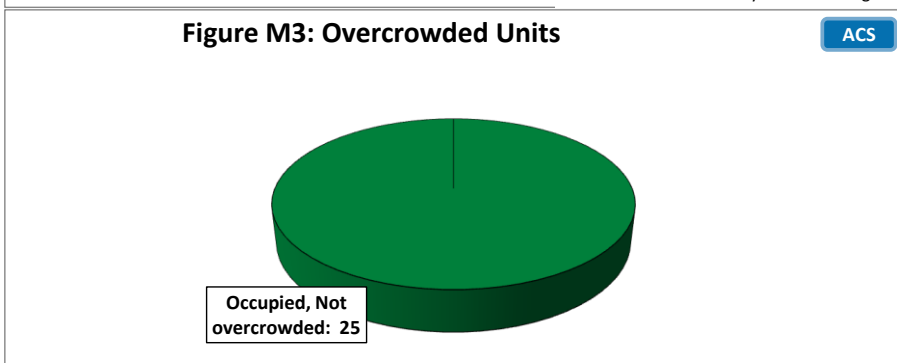
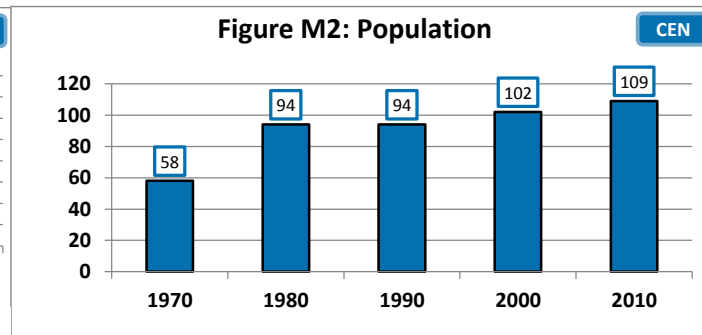
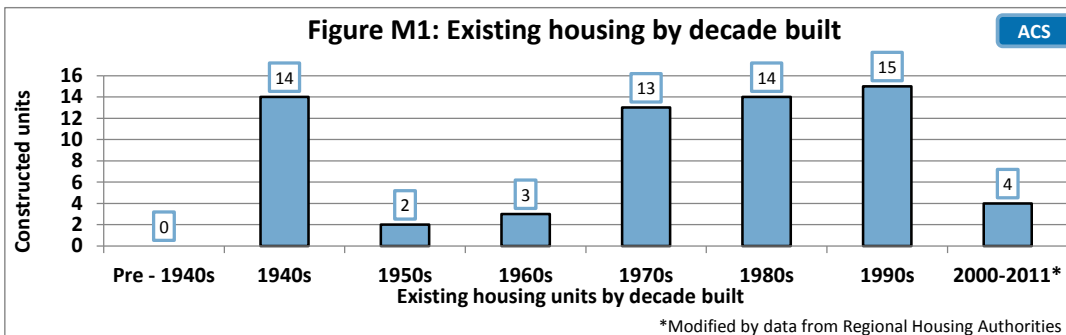


**Community Profile for:** Iliamna CDP

**ANCSA Region:** Bristol Bay Native Corporation

**Regional Housing Authority:** Bristol Bay Housing Authority

**BEES Climate Zone (Heating Degree Days):** Zone 7 (11,130 HDD)



#### Iliamna 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	35	2-star	59.6	1,081	\$ 11,578	173	183	\$12.14	12.6	52%
Retrofit units	28	3-star plus	77.2	1,042	\$ 7,964	112	120	\$8.74	6.5	82%
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR
Overall	63	3-star	68.7	1,061	\$ 9,704	142	150	\$10.37	9.4	67%

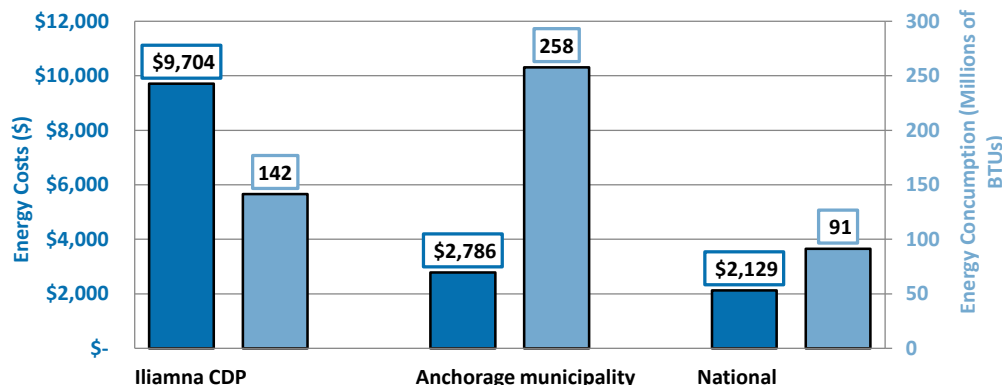
#### Iliamna CDP Housing Envelope Characteristics

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	35	9.1	22	13	4	10	NR	NR	0.38	NR	0.49
Retrofit units	28	7.4	41	19	7	19	NR	NR	0.18	NR	0.45
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Overall	63	8.7	25	14	5	12	NR	NR	0.32	NR	0.48

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

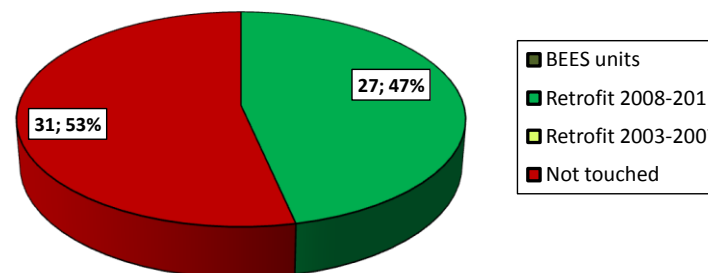
**Figure M5: Average Annual Home Energy Costs and Use**

MIX



**Figure M6: Housing Units Completing an AHFC Energy Program**

ARIS



**AFFORDABILITY - Iliamna CDP**

Owner occupied House with Mortgage, Median Value
\$167,500

Owner-occupied House without a Mortgage, Median Value
\$262,500

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 7.96
Electricity with PCE (\$/kWh)	\$ 0.32
Electricity without PCE (\$/kWh)	\$ 0.57

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 80,750
Renter-occupied	\$ 46,964
Owner-occupied	\$ 81,500
w/ mortgage	\$ 80,750
w/o mortgage	\$ 89,375

Average Annual Energy Cost	
With PCE	\$9,704
Without PCE	\$11,183

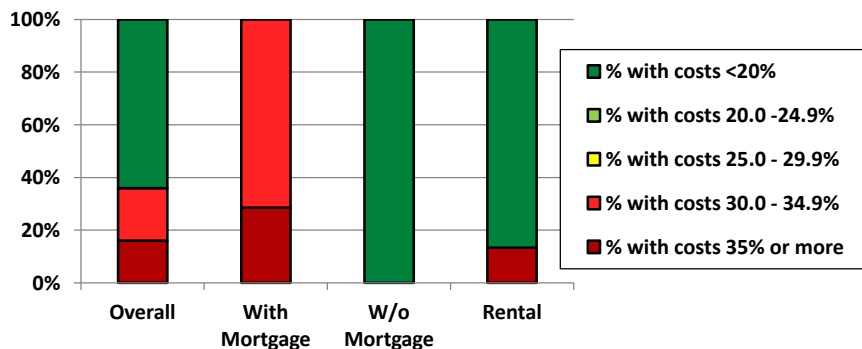
Avg % Median Income spent on Energy	12.0%
-------------------------------------	-------

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 663	\$ 7,956
Gross rent	\$ 613	\$ 7,356
Owner-occupied	\$ 2,000	\$ 24,000
Housing units w/ mortgage	\$ 2,150	\$ 25,800
Housing units w/out a mortgage	\$ 363	\$ 4,356

Housing Stock Estimates	Number of Units
All Housing	54
All Occupied Housing	25
All Vacant housing	29
Vacant Housing for Sale/Rent	3

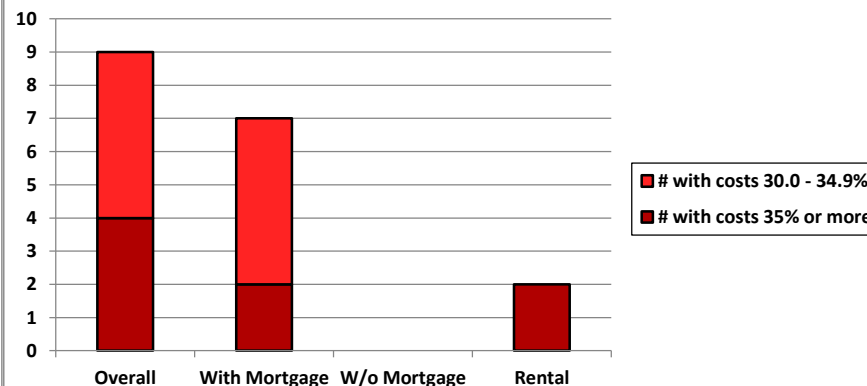
**Figure M7: Affordability - Housing Costs as a Percent of Income**

ACS



**Figure M8: Number of Cost-Burdened Housing Units**

ACS

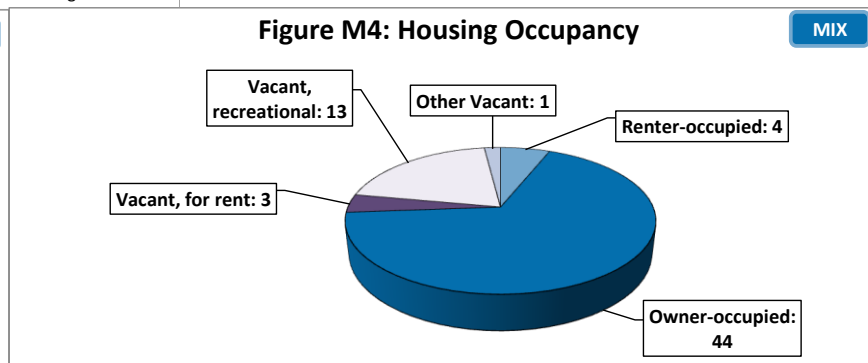
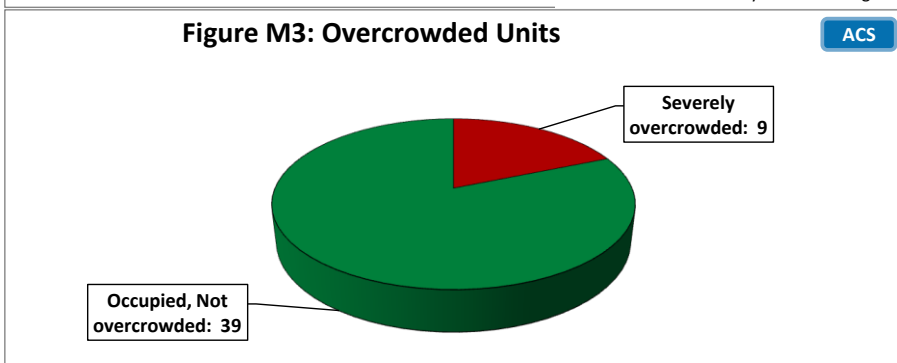
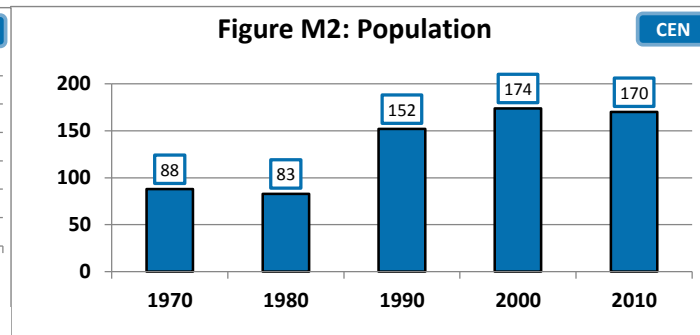
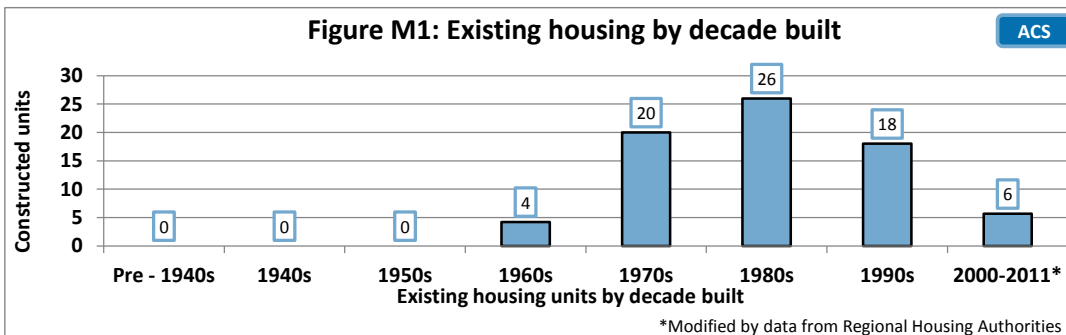


**Community Profile for:** Kokhanok CDP

**ANCSA Region:** Bristol Bay Native Corporation

**Regional Housing Authority:** Bristol Bay Housing Authority

**BEES Climate Zone (Heating Degree Days):** Zone 7 (11,610 HDD)



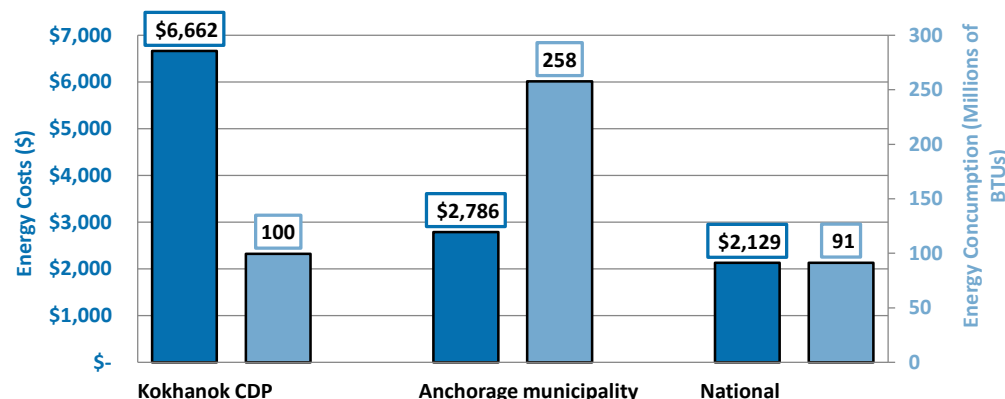
Residential Unit Categories	Number of records	Avg Energy Rating Stars	Avg Energy Rating Points	Avg Sq. Feet	Avg. Ann Energy Cost w/ PCE	Avg. Ann Energy Use (million BTUs)	Avg. EUI (kBtus/SF)	Avg. ECI	Avg. Home Heating Index	% Tight Homes, No Ventilation
Pre-retrofit units	44	3-star	68.7	859	\$ 7,649	121	156	\$9.97	8.4	26%
Retrofit units	45	4-star plus	87.4	900	\$ 6,095	89	102	\$7.24	4.0	31%
New construction	4	4-star plus	87.1	1,315	\$ 9,097	137	104	\$6.91	5.0	0%
Overall	93	4-star	82.8	915	\$ 6,662	100	116	\$7.89	5.1	28%

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	44	7.9	22	13	14	15	NR	3	0.24	NR	0.40
Retrofit units	45	5.1	38	18	24	35	4	3	0.19	NR	0.31
New construction	4	3.5	32	28	29	NR	NR	2	0.19	NR	0.28
Overall	93	5.7	32	17	19	22	3	3	0.20	NR	0.33

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

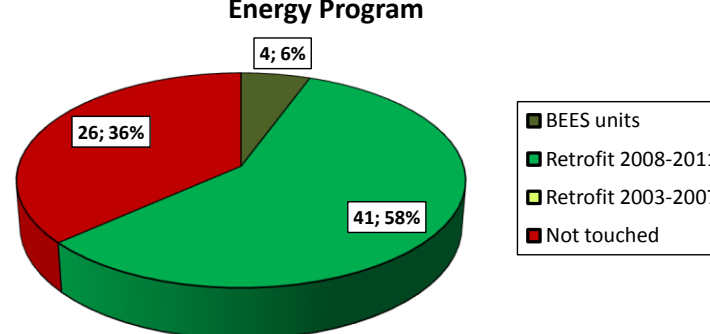
**Figure M5: Average Annual Home Energy Costs and Use**

MIX



**Figure M6: Housing Units Completing an AHFC Energy Program**

ARIS



**AFFORDABILITY - Kokhanok CDP**

Owner occupied House with Mortgage, Median Value
\$78,800

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

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 8.02
Electricity with PCE (\$/kWh)	\$ 0.39
Electricity without PCE (\$/kWh)	\$ 0.90

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 46,250
Renter-occupied	\$ 90,000
Owner-occupied	\$ 31,250
w/ mortgage	\$ 60,000
w/o mortgage	\$ 31,250

Average Annual Energy Cost	
With PCE	\$6,662
Without PCE	\$9,204

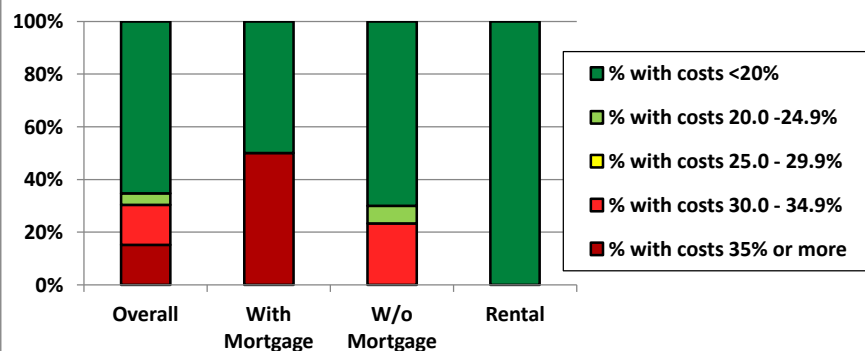
Avg % Median Income spent on Energy	14.4%
-------------------------------------	-------

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 436	\$ 5,232
Gross rent	NR	NR
Owner-occupied	\$ 457	\$ 5,484
Housing units w/ mortgage	\$ 950	\$ 11,400
Housing units w/out a mortgage	\$ 280	\$ 3,360

Housing Stock Estimates	Number of Units
All Housing	65
All Occupied Housing	48
All Vacant housing	17
Vacant Housing for Sale/Rent	3

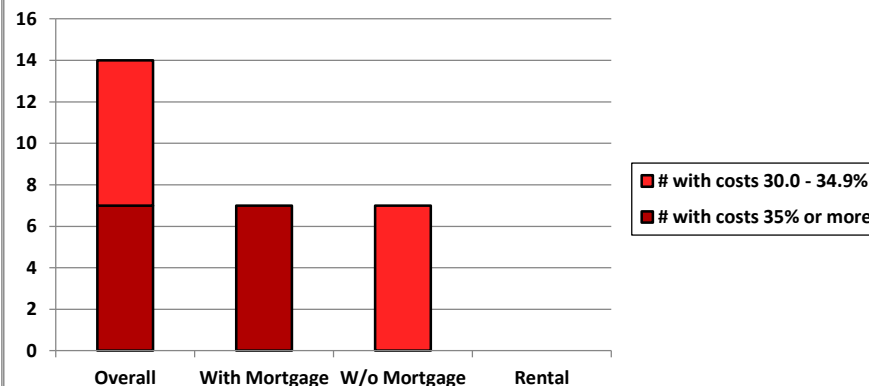
**Figure M7: Affordability - Housing Costs as a Percent of Income**

ACS



**Figure M8: Number of Cost-Burdened Housing Units**

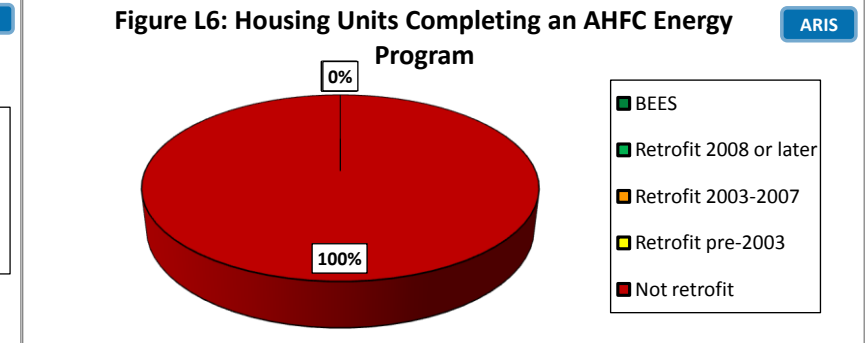
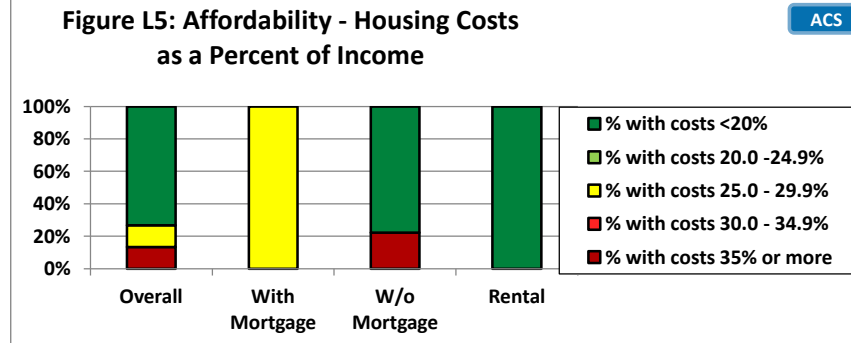
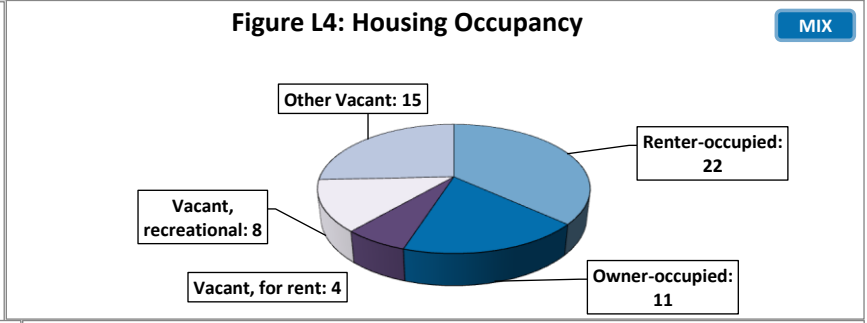
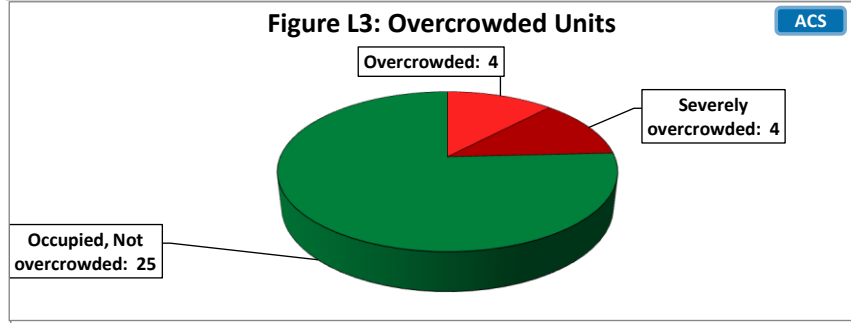
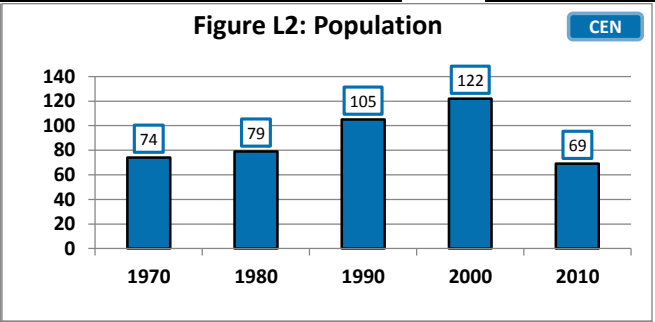
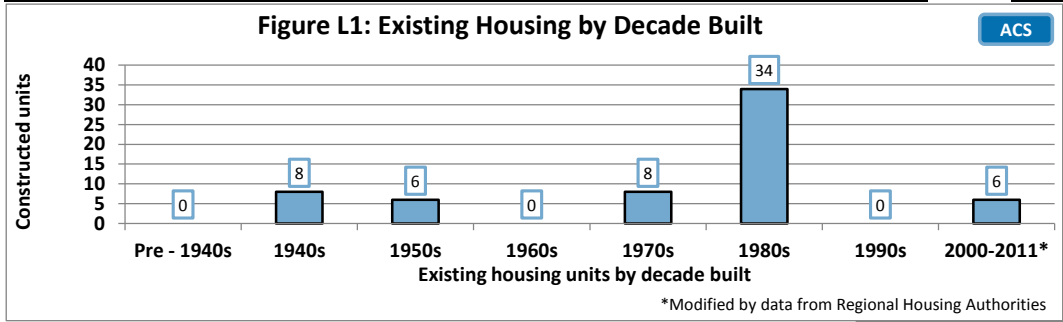
ACS



**Community Profile for:** Levelock CDP

**ANCSA Region:** Bristol Bay Native Corporation

**Climate Zone:** 7



Owner-occupied House with Mortgage, Median Value
\$187,500

Owner-occupied House without a Mortgage, Median Value
\$208,300

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 49,375
Renter-occupied	\$ 55,625
Owner-occupied w/ mortgage	\$ 35,625
w/ mortgage	NR
w/o mortgage	\$ 14,750

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 525	\$ 6,300
Gross rent	\$ 600	\$ 7,200
Owner-occupied	\$ 467	\$ 5,604
Housing units w/ mortgage	NR	NR
Housing units w/out a mortgage	NR	NR

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 4.90
Electricity with PCE (\$/kWh)	\$ 0.31
Electricity without PCE (\$/kWh)	\$ 0.70

Housing Stock Estimates	Number of Units
All Housing	60
All Occupied Housing	33
All Vacant housing	27

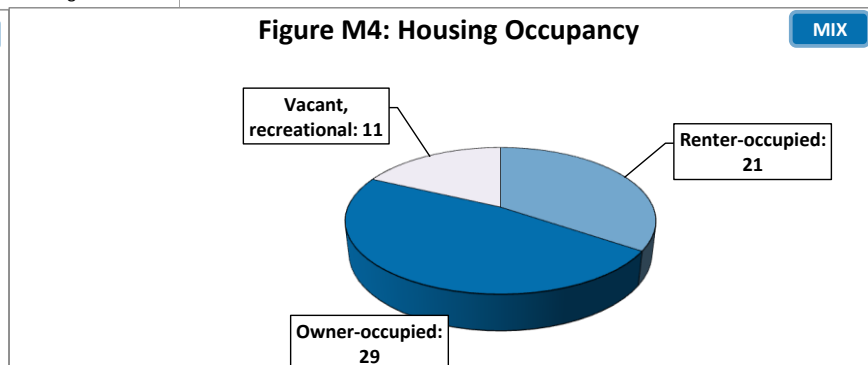
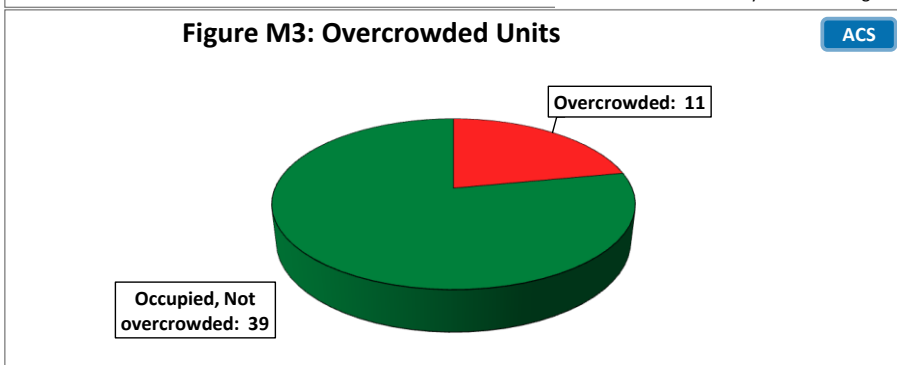
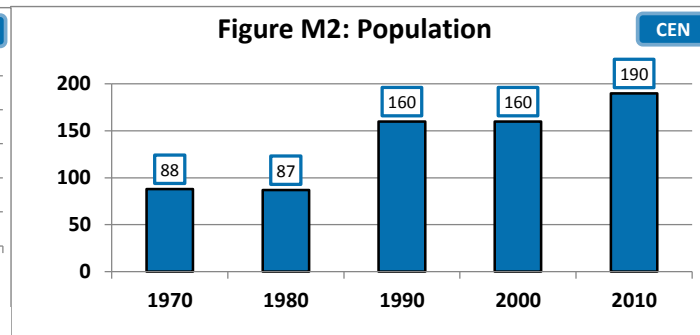
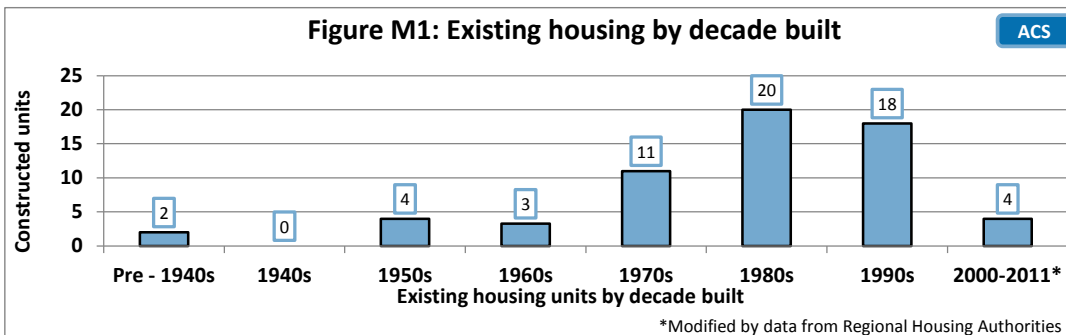


**Community Profile for:** Newhalen city

**ANCSA Region** Bristol Bay Native Corporation

**Regional Housing Authority** Bristol Bay Housing Authority

**BEES Climate Zone (Heating Degree Days)** Zone 7 (11,130 HDD)

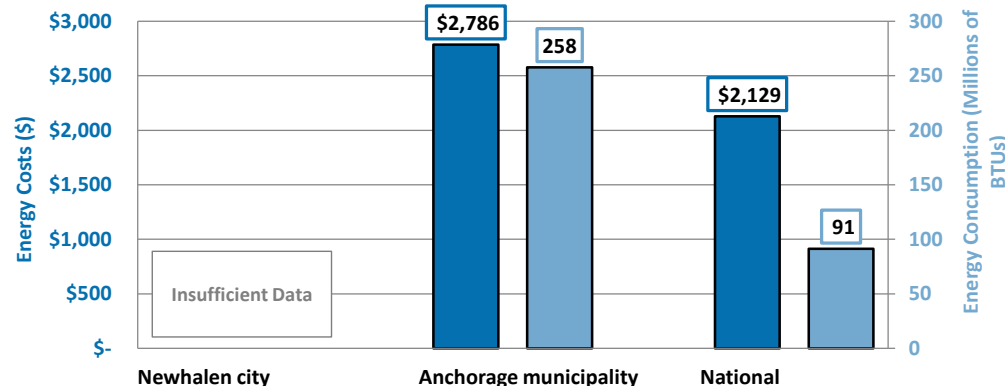


Newhalen city Housing Energy Characteristics											
Residential Unit Categories	Number of records	Avg Energy Rating Stars	Avg Energy Rating Points	Avg Sq. Feet	Avg. Ann Energy Cost w/ PCE	Avg. Ann Energy Use (million BTUs)	Avg. EUI (kBtus/SF)	Avg. ECI	Avg. Home Heating Index	% Tight Homes, No Ventilation	
Pre-retrofit units	23	2-star plus	60.3	1,015	\$ 10,133	165	173	\$10.83	11.5	57%	
Retrofit units	23	4-star	78.0	1,175	\$ 7,979	120	110	\$7.45	6.5	100%	
New construction	4	4-star plus	86.5	1,161	\$ 7,959	125	107	\$6.85	5.6	0%	

Newhalen 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	23	7.8	22	12	3	11	NR	NR	0.34	NR	0.52
Retrofit units	23	5.7	40	20	4	24	NR	NR	0.18	NR	0.48
New construction	4	3.6	40	20	19	NR	NR	2	0.16	NR	0.30
		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

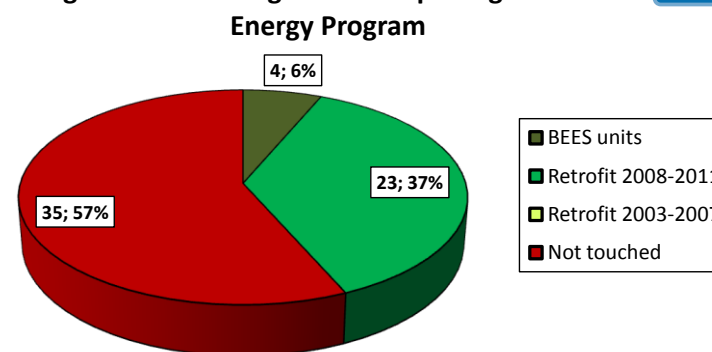
**Figure M5: Average Annual Home Energy Costs and Use**

MIX



**Figure M6: Housing Units Completing an AHFC Energy Program**

ARIS



**AFFORDABILITY - Newhalen city**

Owner occupied House with Mortgage, Median Value
\$193,800

Owner-occupied House without a Mortgage, Median Value
\$212,500

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 7.31
Electricity with PCE (\$/kWh)	\$ 0.32
Electricity without PCE (\$/kWh)	\$ 0.57

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 56,250
Renter-occupied	\$ 80,250
Owner-occupied	\$ 50,625
w/ mortgage	\$ 103,750
w/o mortgage	\$ 26,250

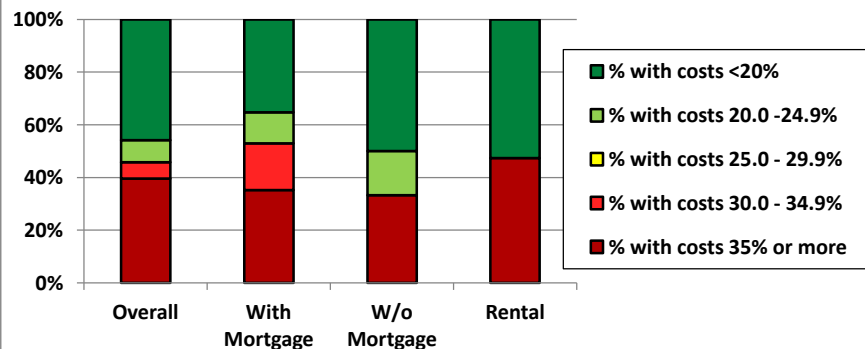
Average Annual Energy Cost	
With PCE	NR
Without PCE	NR

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 756	\$ 9,072
Gross rent	\$ 763	\$ 9,156
Owner-occupied	\$ 738	\$ 8,856
Housing units w/ mortgage	\$ 1,646	\$ 19,752
Housing units w/out a mortgage	\$ 433	\$ 5,196

Housing Stock Estimates	Number of Units
All Housing	61
All Occupied Housing	50
All Vacant housing	11
Vacant Housing for Sale/Rent	0

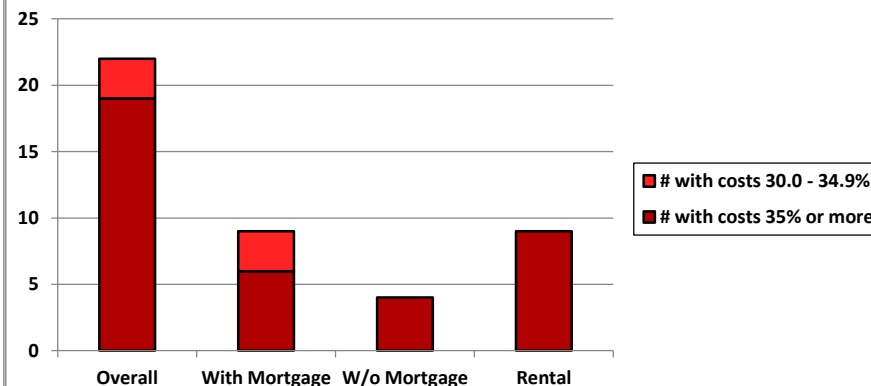
**Figure M7: Affordability - Housing Costs as a Percent of Income**

ACS



**Figure M8: Number of Cost-Burdened Housing Units**

ACS

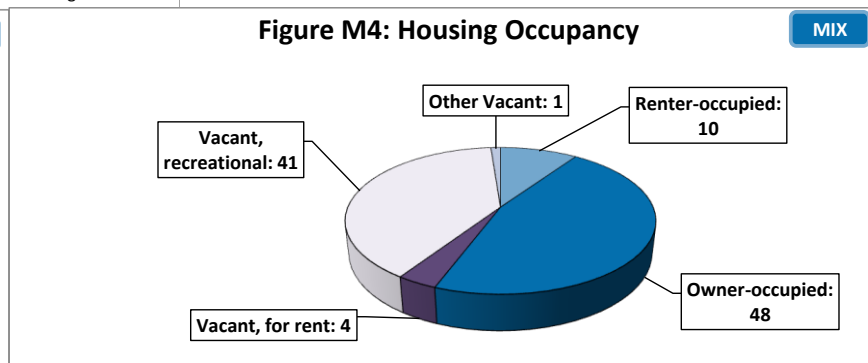
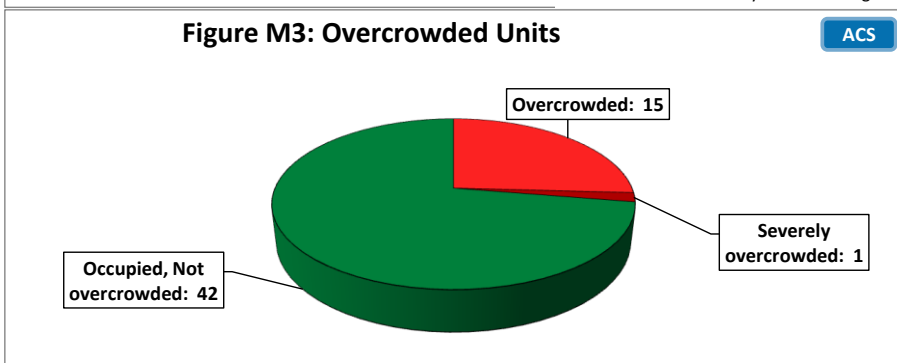
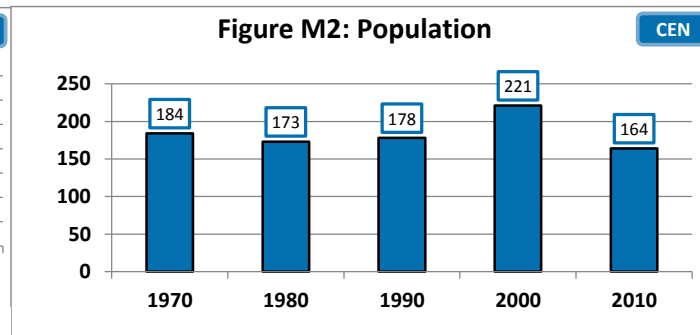
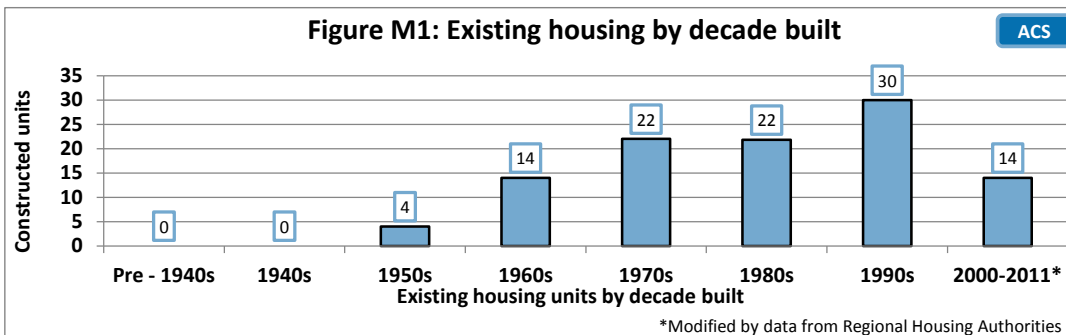


**Community Profile for:** Nondalton city

**ANCSA Region:** Bristol Bay Native Corporation

**Regional Housing Authority:** Bristol Bay Housing Authority

**BEES Climate Zone (Heating Degree Days):** Zone 7 (11,130 HDD)



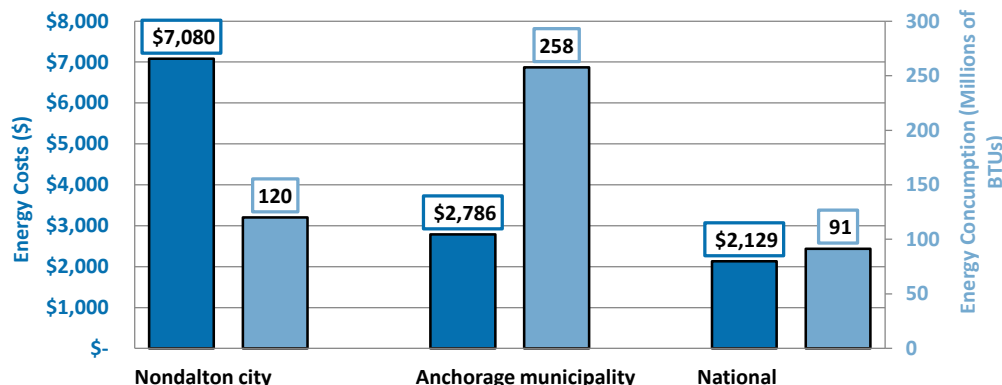
Residential Unit Categories	Number of records	Avg Energy Rating Stars	Avg Energy Rating Points	Avg Sq. Feet	Avg. Ann Energy Cost w/ PCE	Avg. Ann Energy Use (million BTUs)	Avg. EUI (kBtus/SF)	Avg. ECI	Avg. Home Heating Index	% Tight Homes, No Ventilation
Pre-retrofit units	48	2-star	56.4	949	\$ 8,304	150	161	\$9.06	11.3	10%
Retrofit units	48	4-star	80.6	929	\$ 5,555	85	93	\$6.19	5.2	42%
New construction	1	NR	NR	NR	NR	NR	NR	NR	NR	NR
Overall	97	2-star plus	67.8	949	\$ 7,080	120	129	\$7.71	8.4	26%

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	48	10.4	20	13	23	20	NR	2	0.60	NR	0.75
Retrofit units	48	8.2	42	23	24	34	NR	3	0.17	NR	0.43
New construction	1	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Overall	97	9.7	24	15	23	23	NR	3	0.48	NR	0.65

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

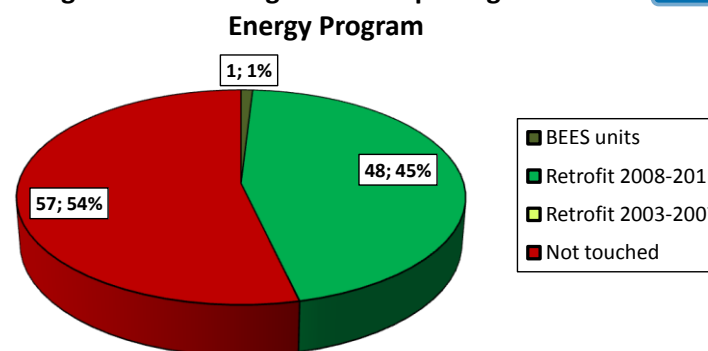
**Figure M5: Average Annual Home Energy Costs and Use**

MIX



**Figure M6: Housing Units Completing an AHFC Energy Program**

ARIS



**AFFORDABILITY - Nondalton city**

Owner occupied House with Mortgage, Median Value
\$34,200

Owner-occupied House without a Mortgage, Median Value
\$231,300

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 7.00
Electricity with PCE (\$/kWh)	\$ 0.32
Electricity without PCE (\$/kWh)	\$ 0.57

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 39,286
Renter-occupied	\$ 50,000
Owner-occupied	\$ 39,286
w/ mortgage	\$ 77,083
w/o mortgage	\$ 33,750

Average Annual Energy Cost	
With PCE	\$7,080
Without PCE	\$8,556

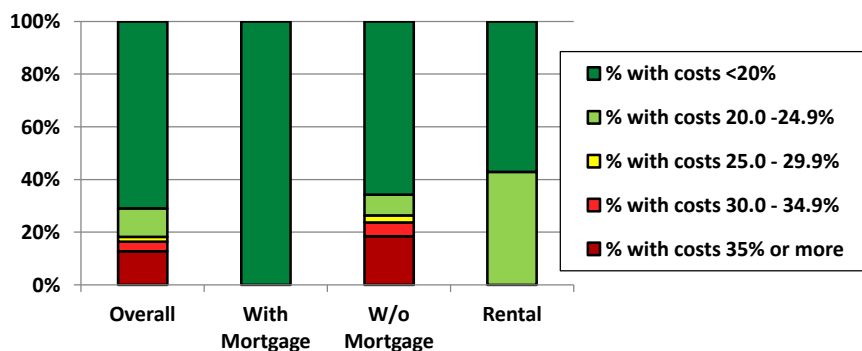
Avg % Median Income spent on Energy	18.0%
-------------------------------------	-------

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 494	\$ 5,928
Gross rent	\$ 975	\$ 11,700
Owner-occupied	\$ 475	\$ 5,700
Housing units w/ mortgage	\$ 733	\$ 8,796
Housing units w/out a mortgage	\$ 420	\$ 5,040

Housing Stock Estimates	Number of Units
All Housing	104
All Occupied Housing	58
All Vacant housing	46
Vacant Housing for Sale/Rent	4

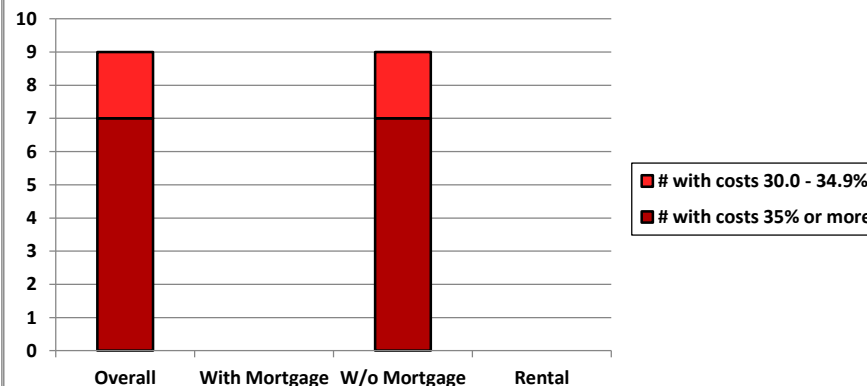
**Figure M7: Affordability - Housing Costs as a Percent of Income**

ACS



**Figure M8: Number of Cost-Burdened Housing Units**

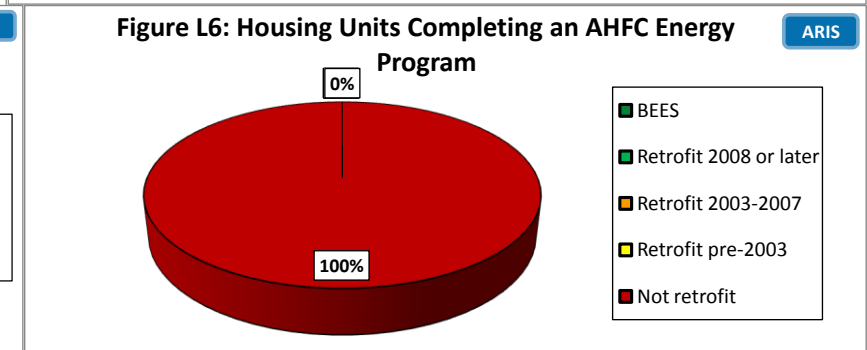
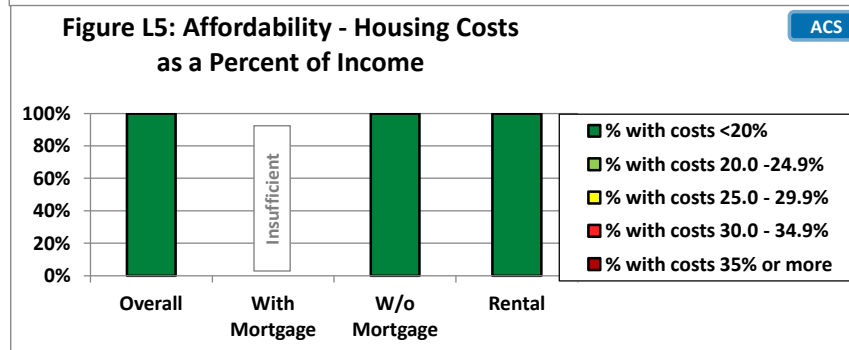
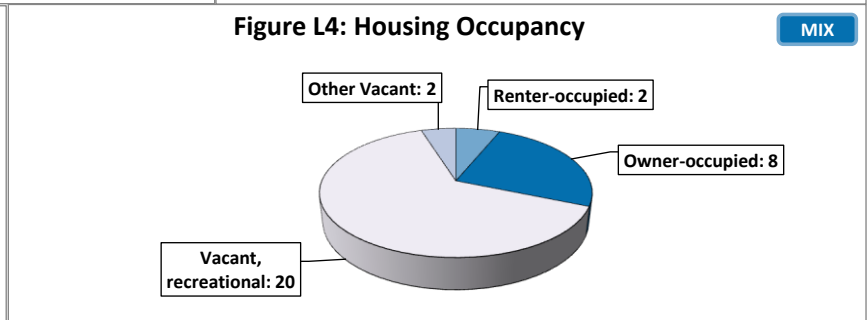
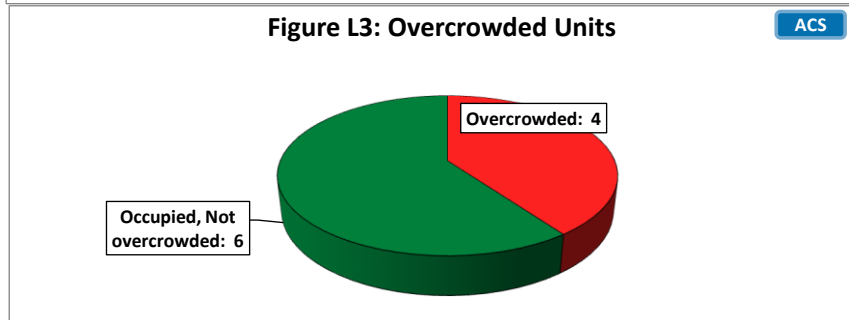
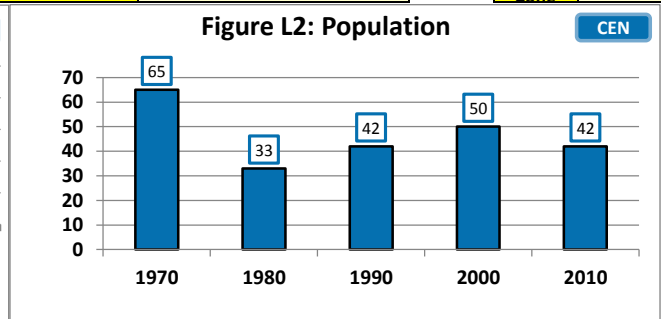
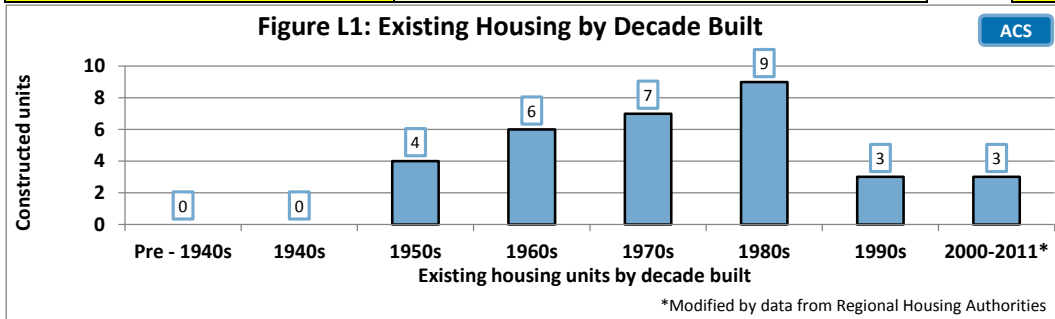
ACS



**Community Profile for:** Pedro Bay CDP

**ANCSA Region:** Bristol Bay Native Corporation

**Climate Zone:** 7



Owner-occupied House with Mortgage, Median Value
NR

Owner-occupied House without a Mortgage, Median Value
\$150,000

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	No Data
Electricity with PCE (\$/kWh)	\$ 0.43
Electricity without PCE (\$/kWh)	\$ 0.91

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 43,125
Renter-occupied	NR
Owner-occupied w/ mortgage	\$ 40,000
Owner-occupied w/o mortgage	NR
w/o mortgage	\$ 40,000

Housing Stock Estimates	
Housing Stock Estimates	Number of Units
All Housing	32
All Occupied Housing	10
All Vacant housing	22

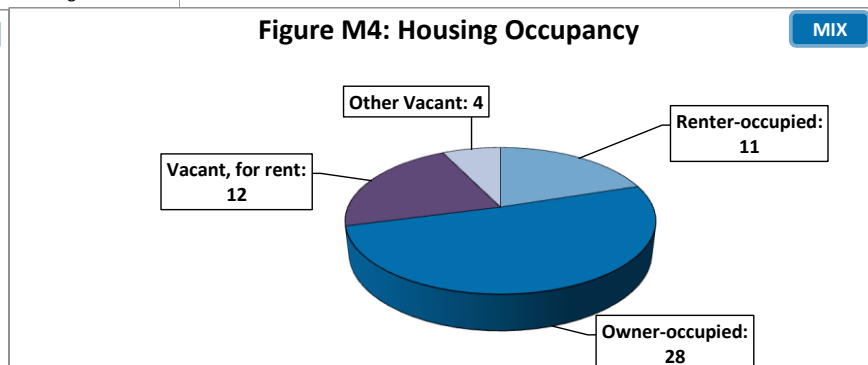
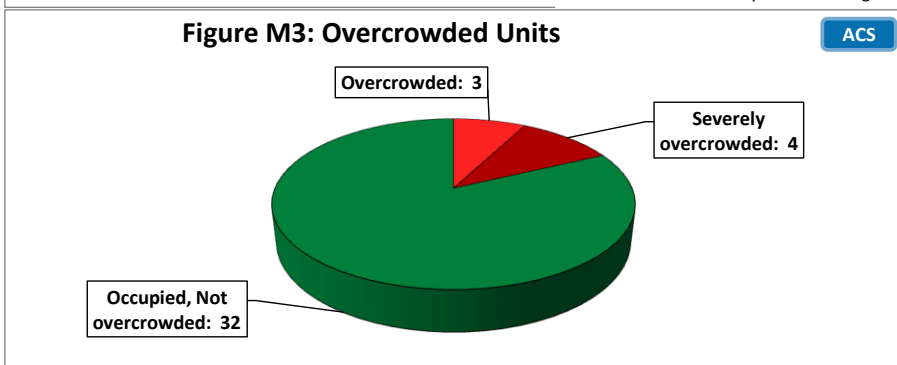
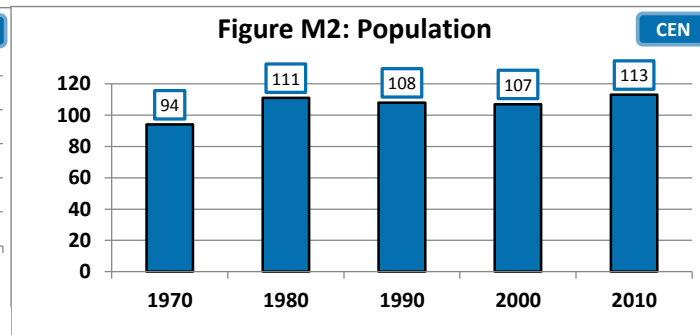
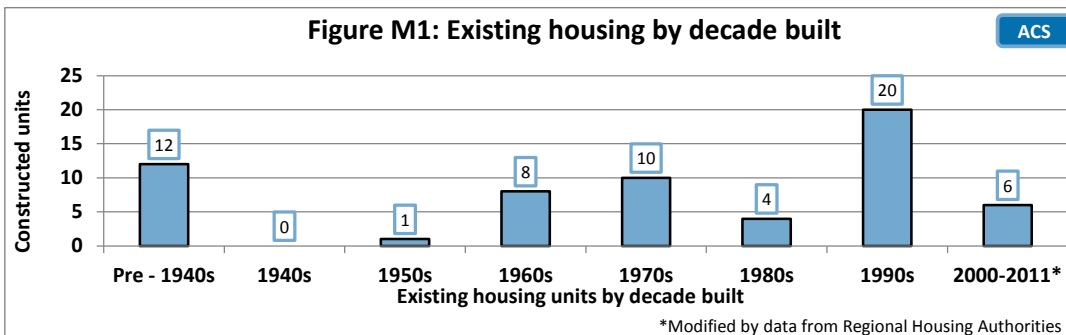
Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 463	\$ 5,556
Gross rent	NR	NR
Owner-occupied	\$ 350	\$ 4,200
Housing units w/ mortgage	NR	NR
Housing units w/out a mortgage	\$ 325	\$ 3,900

**Community Profile for:** Perryville CDP

**ANCSA Region:** Bristol Bay Native Corporation

**Regional Housing Authority:** Bristol Bay Housing Authority

**BEES Climate Zone (Heating Degree Days):** Zone 7 (9,612 HDD)



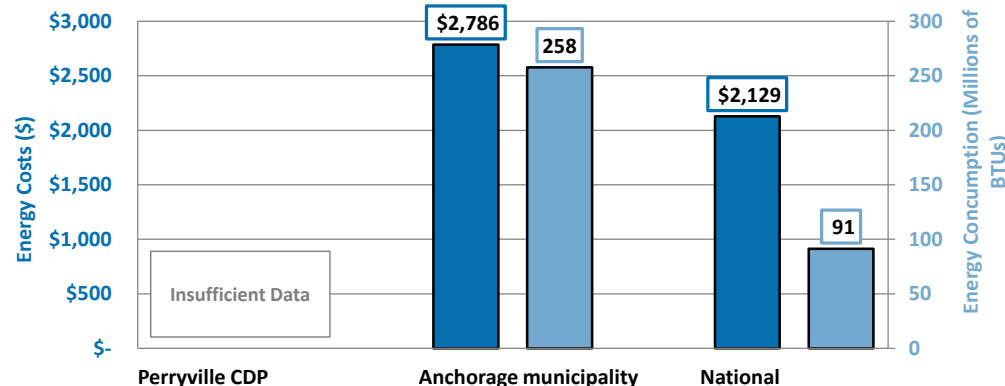
Residential Unit Categories	Number of records	Avg Energy Rating Stars	Avg Energy Rating Points	Avg Sq. Feet	Avg. Ann Energy Cost	Avg. Ann Energy Use (million BTUs)	Avg. EUI (kBtus/SF)	Avg. ECI	Avg. Home Heating Index	% Tight Homes, No Ventilation
Pre-retrofit units	2	NR	NR	NR	NR	NR	NR	NR	NR	NR
Retrofit units	0	NR	NR	NR	NR	NR	NR	NR	NR	NR
New construction	5	5-star plus	93.6	1,244	\$ 7,502	88	70	\$6.03	2.6	0%

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	2	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Retrofit units	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
New construction	5	2.0	49	31	19	NR	NR	4	0.16	NR	0.15

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

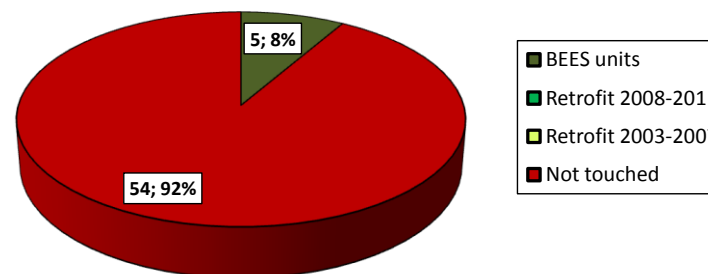
**Figure M5: Average Annual Home Energy Costs and Use**

MIX



**Figure M6: Housing Units Completing an AHFC Energy Program**

ARIS



**AFFORDABILITY - Perryville CDP**

Owner occupied House with Mortgage, Median Value
\$75,000

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 25,313
Renter-occupied	\$ 21,719
Owner-occupied	\$ 26,875
w/ mortgage	\$ 33,125
w/o mortgage	\$ 26,250

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 513	\$ 6,156
Gross rent	\$ 716	\$ 8,592
Owner-occupied	\$ 491	\$ 5,892
Housing units w/ mortgage	\$ 950	\$ 11,400
Housing units w/out a mortgage	\$ 482	\$ 5,784

Owner-occupied House without a Mortgage, Median Value	
\$47,500	

Average Annual Energy Cost	
With PCE	NO PCE
Without PCE	\$10,622

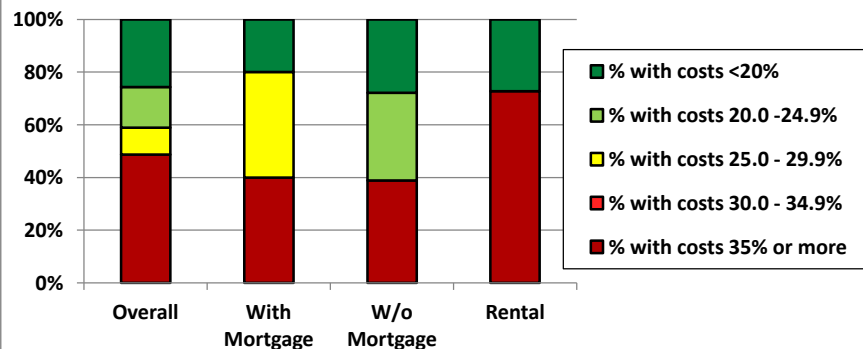
Housing Stock Estimates	Number of Units
All Housing	55
All Occupied Housing	39
All Vacant housing	16
Vacant Housing for Sale/Rent	12

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 5.75
Electricity with PCE (\$/kWh)	\$ 0.72
Electricity without PCE (\$/kWh)	\$ 0.95

Avg % Median Income spent on Energy	42.0%
-------------------------------------	-------

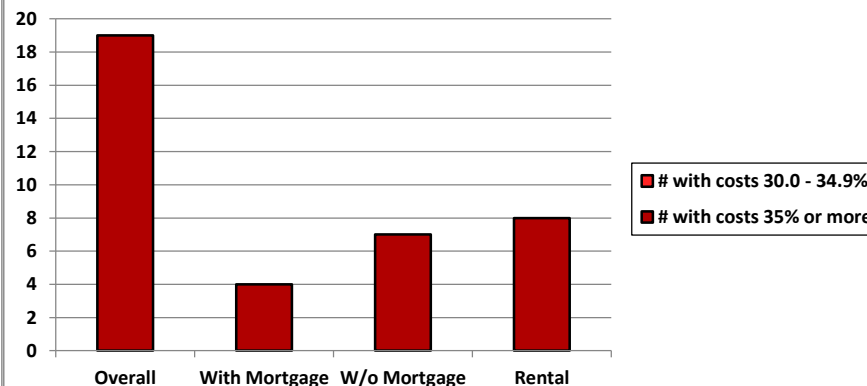
**Figure M7: Affordability - Housing Costs as a Percent of Income**

ACS



**Figure M8: Number of Cost-Burdened Housing Units**

ACS

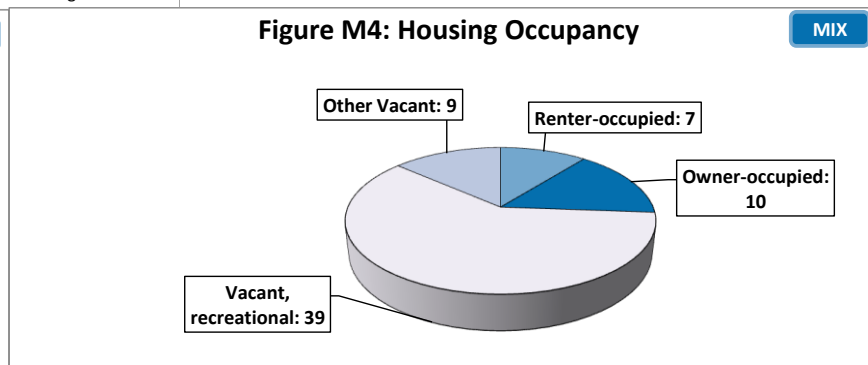
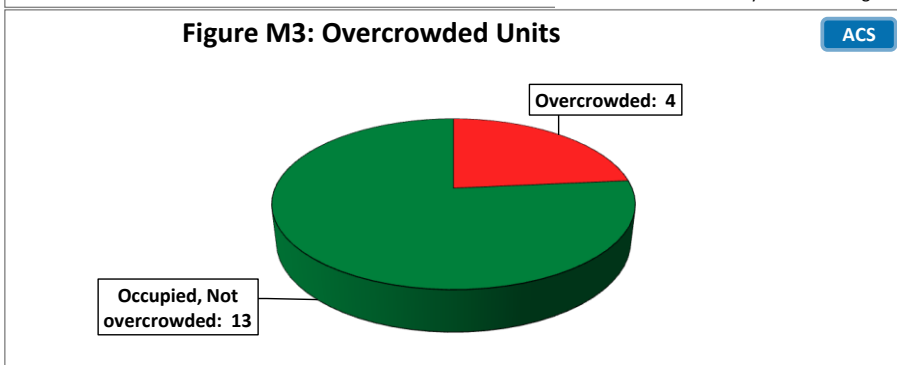
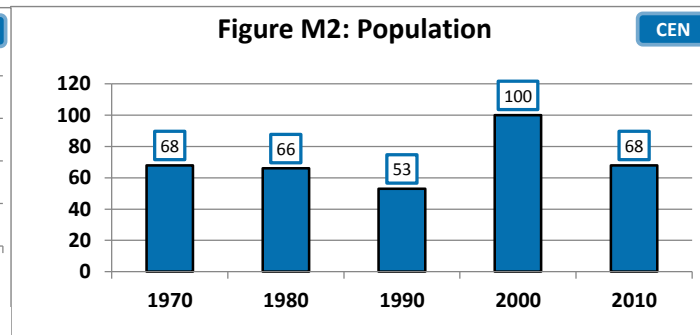
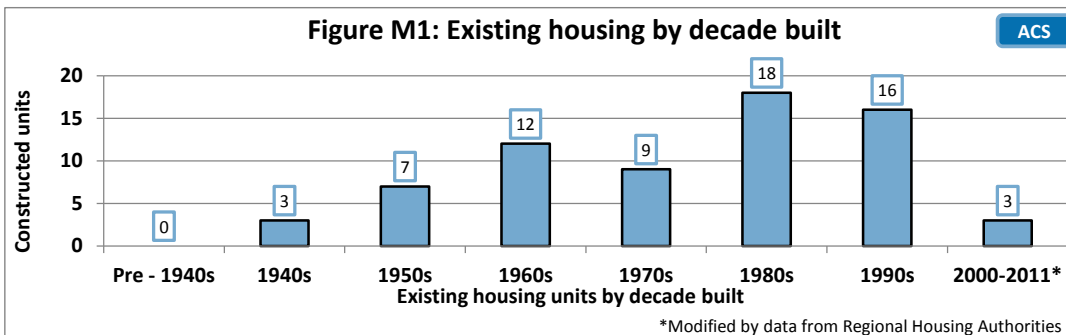


**Community Profile for:** Pilot Point city

**ANCSA Region:** Bristol Bay Native Corporation

**Regional Housing Authority:** Bristol Bay Housing Authority

**BEES Climate Zone (Heating Degree Days):** Zone 7 (10,415 HDD)



#### Pilot Point 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	Avg. Ann Energy Use (million BTUs)	Avg. EUI (kBtus/SF)	Avg. ECI	Avg. Home Heating Index	% Tight Homes, No Ventilation
Pre-retrofit units	6	1-star plus	49.9	1,477	\$ 10,083	213	160	\$7.45	11.3	17%
Retrofit units	0	NR	NR	NR	NR	NR	NR	NR	NR	NR
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR

#### Pilot Point 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	6	11.2	12	12	2	12	NR	2	0.30	NR	0.52
Retrofit units	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

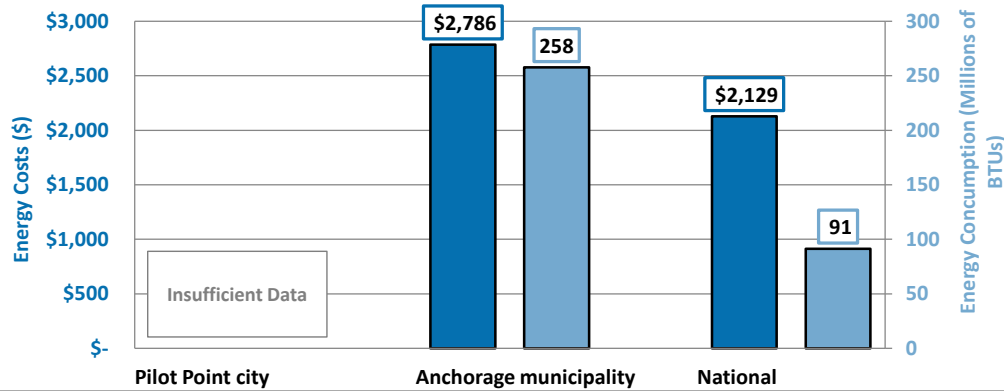
  

BEES 2009	7.0	38	21	15	38	15	15	0.33	0.33	0.33
BEES 2012	4.0	43	25	15	38	15	15	0.30	0.30	0.30



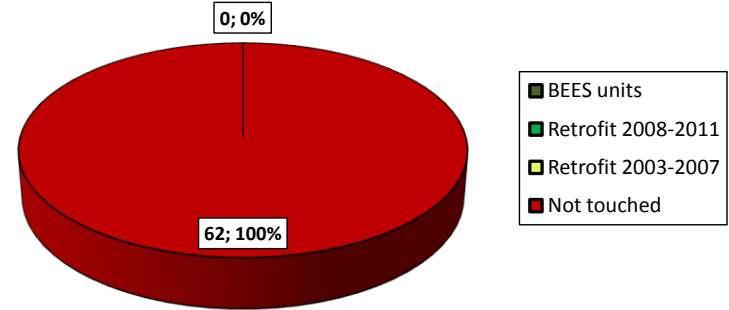
**Figure M5: Average Annual Home Energy Costs and Use**

MIX



**Figure M6: Housing Units Completing an AHFC Energy Program**

ARIS



**AFFORDABILITY - Pilot Point city**

<b>Owner occupied House with Mortgage, Median Value</b>
NR
<b>Owner-occupied House without a Mortgage, Median Value</b>
\$166,700

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 33,750
Renter-occupied	\$ 70,313
Owner-occupied	\$ 27,500
w/ mortgage	NR
w/o mortgage	\$ 27,500

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 525	\$ 6,300
Gross rent	\$ 581	\$ 6,972
Owner-occupied	\$ 425	\$ 5,100
Housing units w/ mortgage	NR	NR
Housing units w/out a mortgage	\$ 425	\$ 5,100

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 5.41
Electricity with PCE (\$/kWh)	\$ 0.14
Electricity without PCE (\$/kWh)	\$ 0.50

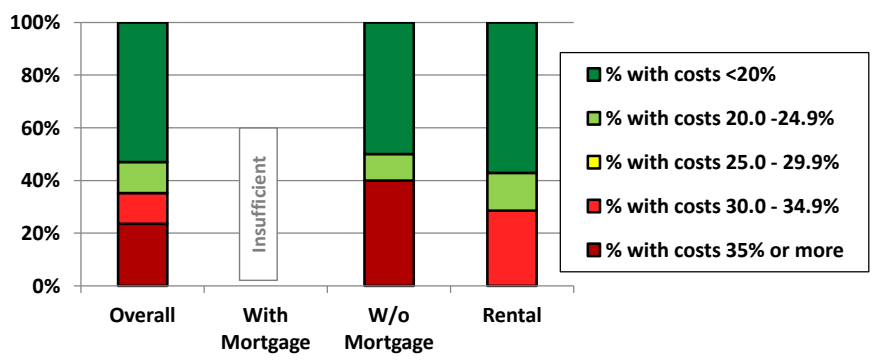
Average Annual Energy Cost	
With PCE	NO PCE
Without PCE	\$12,201

Housing Stock Estimates	Number of Units
All Housing	65
All Occupied Housing	17
All Vacant housing	48
Vacant Housing for Sale/Rent	0

<b>Avg % Median Income spent on Energy</b>	36.2%
--	-------

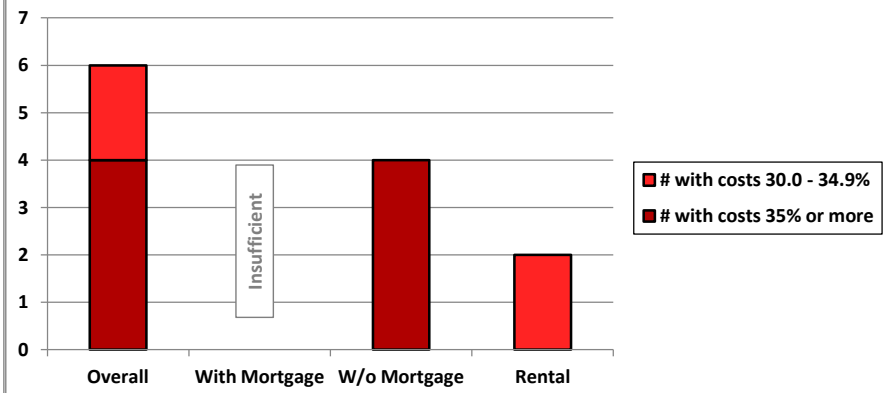
**Figure M7: Affordability - Housing Costs as a Percent of Income**

ACS



**Figure M8: Number of Cost-Burdened Housing Units**

ACS

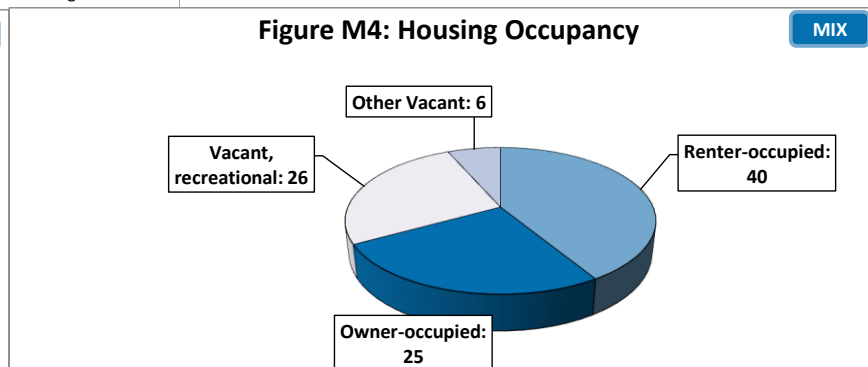
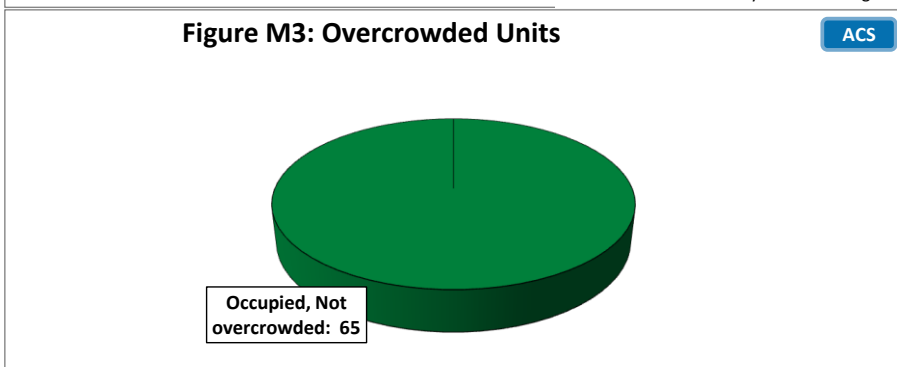
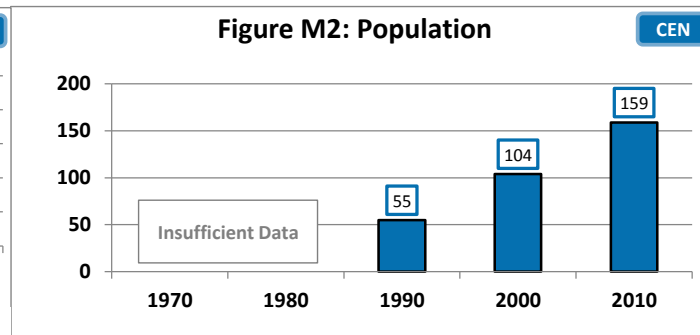
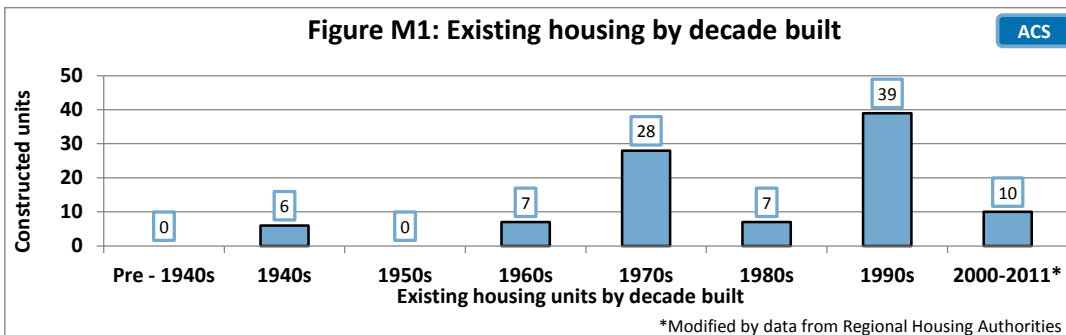


**Community Profile for:** Port Alsworth CDP

**ANCSA Region** Cook Inlet Regional (CIRI)

**Regional Housing Authority** Bristol Bay Housing Authority

**BEES Climate Zone (Heating Degree Days)** Zone 7 (11,206 HDD)



**Port Alsworth 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	Avg. Ann Energy Use (million BTUs)	Avg. EUI (kBtus/SF)	Avg. ECI	Avg. Home Heating Index	% Tight Homes, No Ventilation
Pre-retrofit units	0	NR	NR	NR	NR	NR	NR	NR	NR	NR
Retrofit units	0	NR	NR	NR	NR	NR	NR	NR	NR	NR
New construction	1	NR	NR	NR	NR	NR	NR	NR	NR	NR

**Port Alsworth CDP Housing Envelope Characteristics**

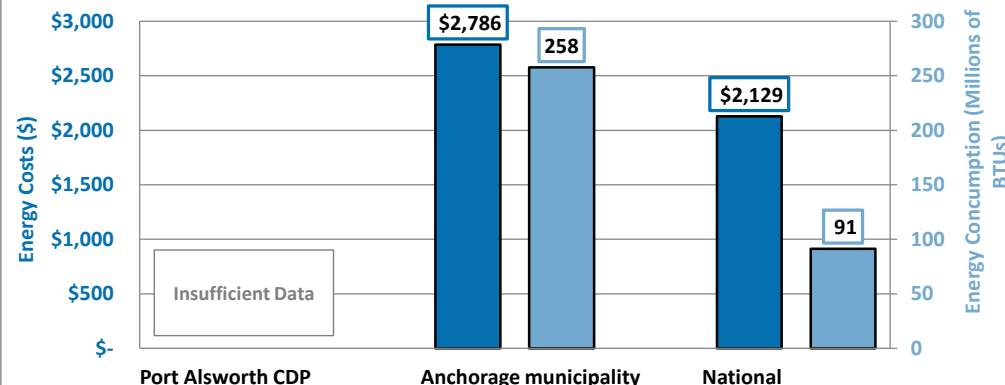
Residential Unit Categories	Number of Records	ACH 50	Ceiling R	Above Grade Wall R	Below Grade Wall R	Above Grade Floor R	On Grade Floor R	Below Grade Floor R	Door U	Garage Door U	Window U
Pre-retrofit units	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Retrofit units	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
New construction	1	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

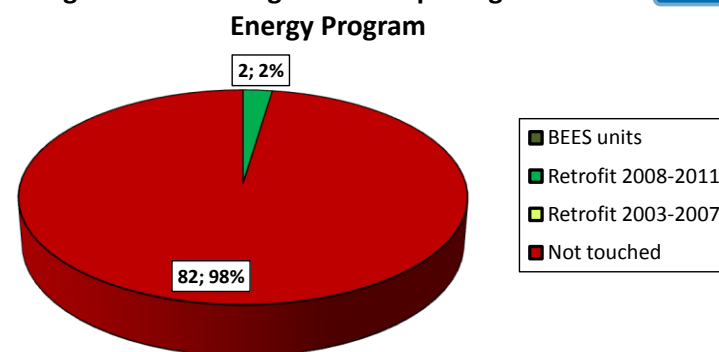
**Figure M5: Average Annual Home Energy Costs and Use**

MIX



**Figure M6: Housing Units Completing an AHFC Energy Program**

ARIS



**AFFORDABILITY - Port Alsworth CDP**

Owner occupied House with Mortgage, Median Value
\$292,500

Owner-occupied House without a Mortgage, Median Value
NR

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 7.00
Electricity with PCE (\$/kWh)	No PCE
Electricity without PCE (\$/kWh)	\$ 1.00

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 61,806
Renter-occupied	\$ 53,333
Owner-occupied	\$ 91,458
w/ mortgage	\$ 105,375
w/o mortgage	\$ 90,833

Average Annual Energy Cost	
With PCE	NO PCE
Without PCE	\$0

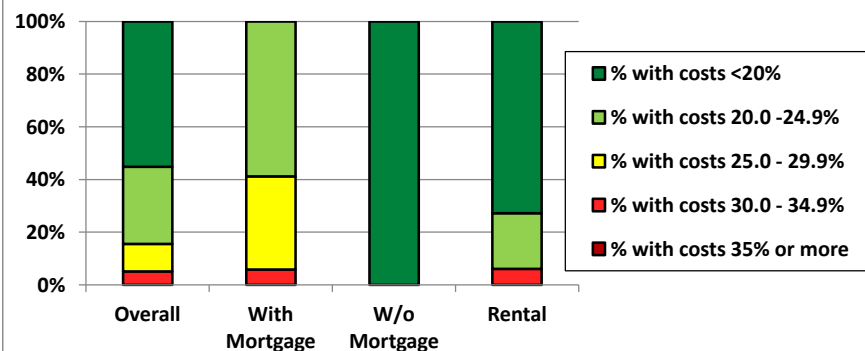
Avg % Median Income spent on Energy	0.0%
-------------------------------------	------

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 817	\$ 9,804
Gross rent	\$ 513	\$ 6,156
Owner-occupied	\$ 1,820	\$ 21,840
Housing units w/ mortgage	\$ 1,883	\$ 22,596
Housing units w/out a mortgage	\$ 217	\$ 2,604

Housing Stock Estimates	Number of Units
All Housing	97
All Occupied Housing	65
All Vacant housing	32
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

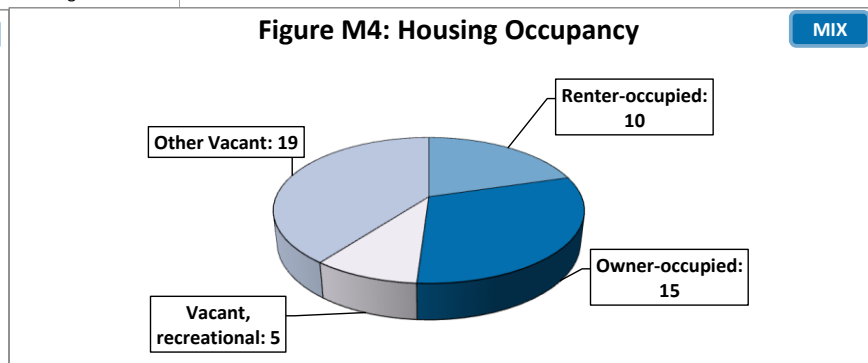
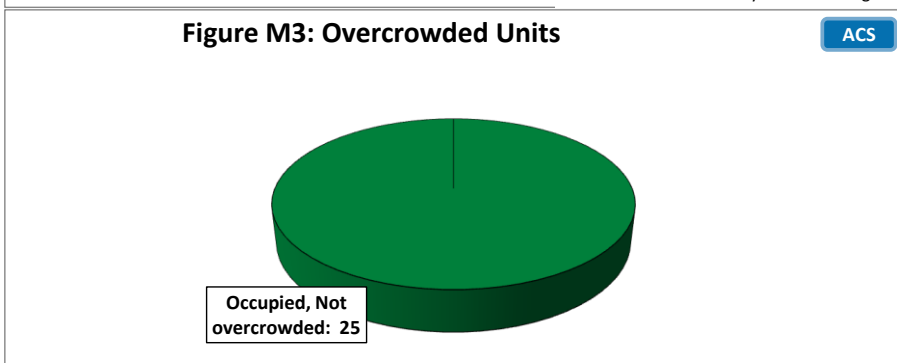
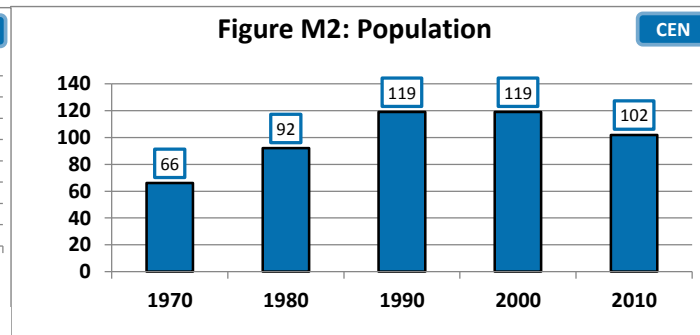
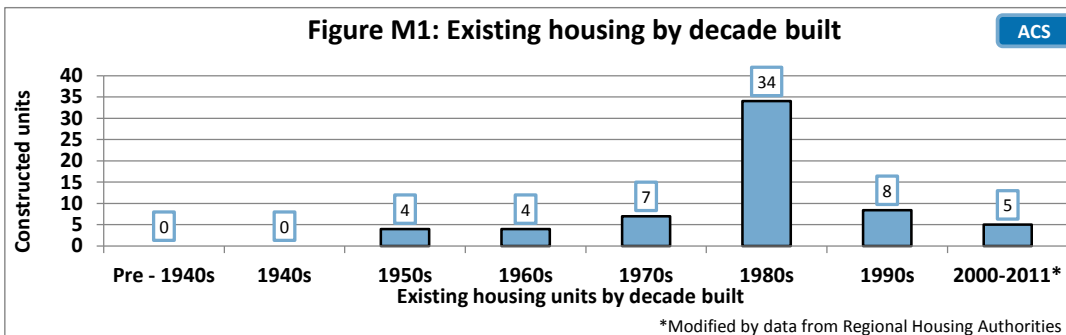


**Community Profile for:** Port Heiden city

**ANCSA Region:** Bristol Bay Native Corporation

**Regional Housing Authority:** Bristol Bay Housing Authority

**BEES Climate Zone (Heating Degree Days):** Zone 7 (10,415 HDD)



#### Port Heiden 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	33	3-star plus	75.3	1,218	\$ 8,216	122	110	\$7.73	6.1	46%
Retrofit units	20	5-star	88.3	1,096	\$ 6,255	86	86	\$6.42	3.8	18%
New construction	4	5-star plus	93.5	1,225	\$ 6,774	95	77	\$5.53	2.9	0%
Overall	57	4-star	82.1	1,169	\$ 7,298	105	98	\$7.01	4.9	31%

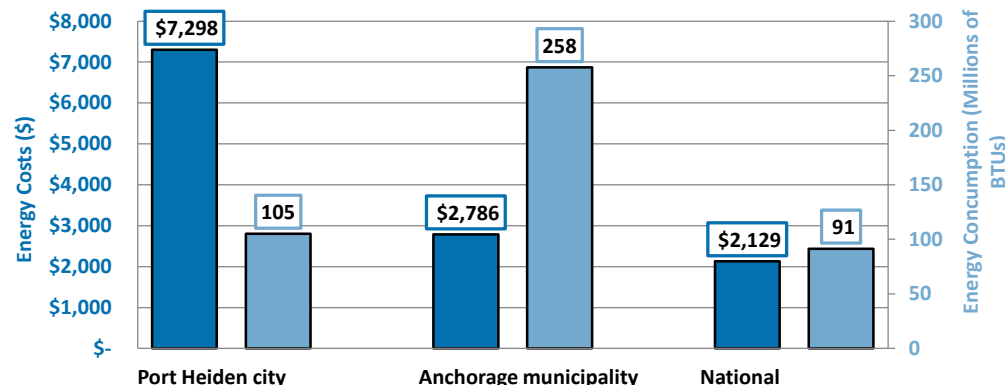
#### Port Heiden city Housing Envelope Characteristics

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	33	7.5	27	17	19	22	NR	NR	0.25	NR	0.40
Retrofit units	20	5.7	46	19	19	43	NR	NR	0.19	NR	0.26
New construction	4	1.5	47	31	19	NR	2	8	0.31	NR	0.15
Overall	57	6.4	32	18	19	26	2	4	0.24	NR	0.33

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

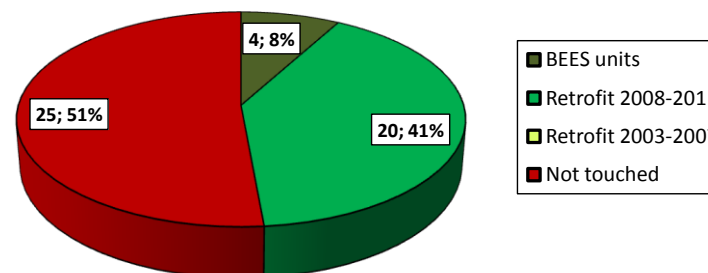
**Figure M5: Average Annual Home Energy Costs and Use**

MIX



**Figure M6: Housing Units Completing an AHFC Energy Program**

ARIS



**AFFORDABILITY - Port Heiden city**

Owner occupied House with Mortgage, Median Value
\$75,000

Owner-occupied House without a Mortgage, Median Value
\$137,500

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 5.41
Electricity with PCE (\$/kWh)	\$ 0.56
Electricity without PCE (\$/kWh)	\$ 0.75

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 59,792
Renter-occupied	\$ 91,875
Owner-occupied	\$ 57,813
w/ mortgage	NR
w/o mortgage	\$ 58,125

Average Annual Energy Cost	
With PCE	\$7,298
Without PCE	\$8,374

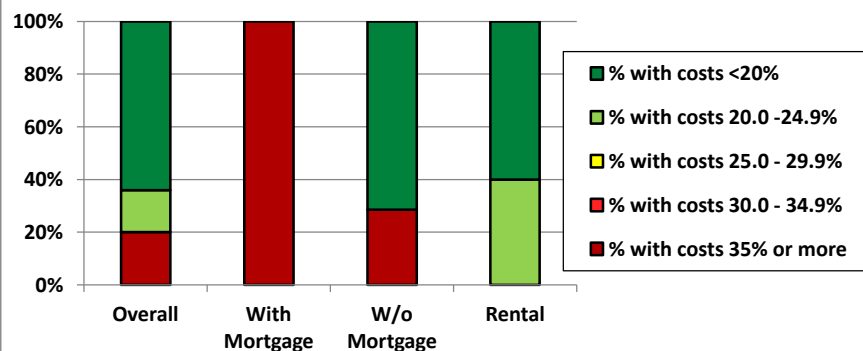
Avg % Median Income spent on Energy	12.2%
-------------------------------------	-------

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 438	\$ 5,256
Gross rent	\$ 950	\$ 11,400
Owner-occupied	\$ 288	\$ 3,456
Housing units w/ mortgage	NR	NR
Housing units w/out a mortgage	\$ 288	\$ 3,456

Housing Stock Estimates	Number of Units
All Housing	49
All Occupied Housing	25
All Vacant housing	24
Vacant Housing for Sale/Rent	0

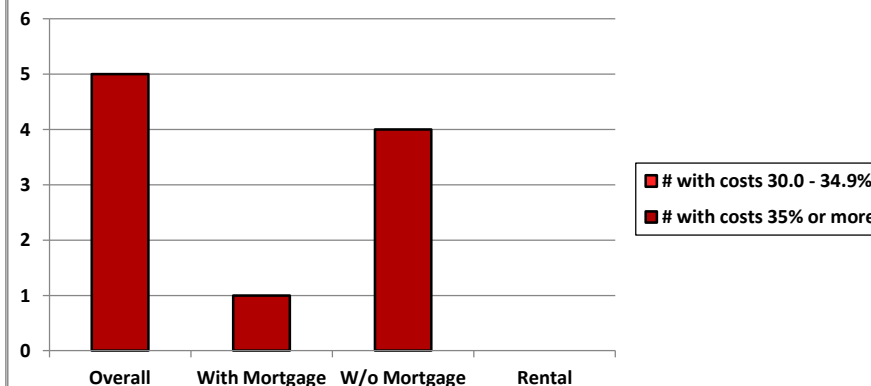
**Figure M7: Affordability - Housing Costs as a Percent of Income**

ACS



**Figure M8: Number of Cost-Burdened Housing Units**

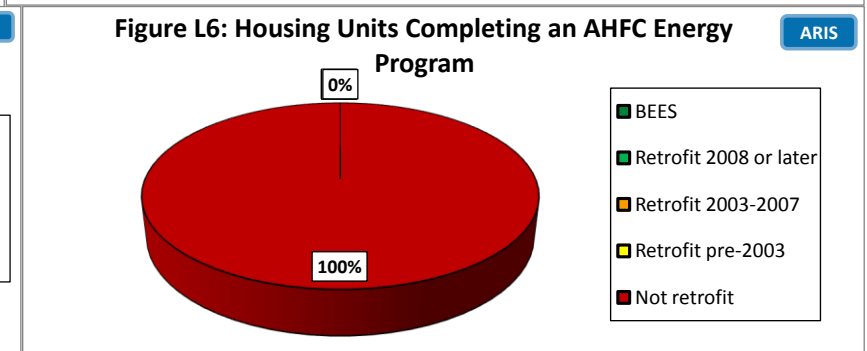
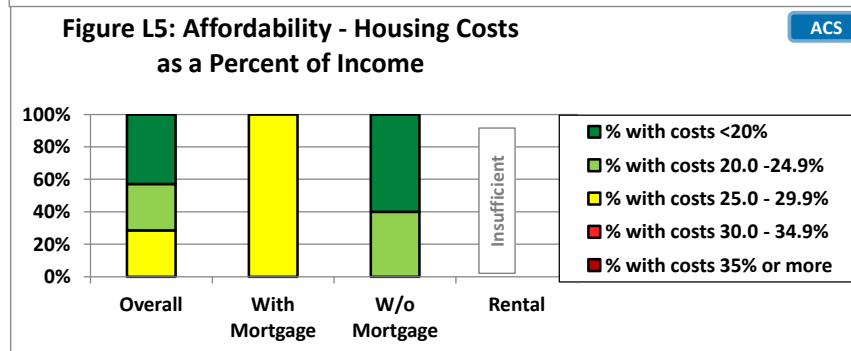
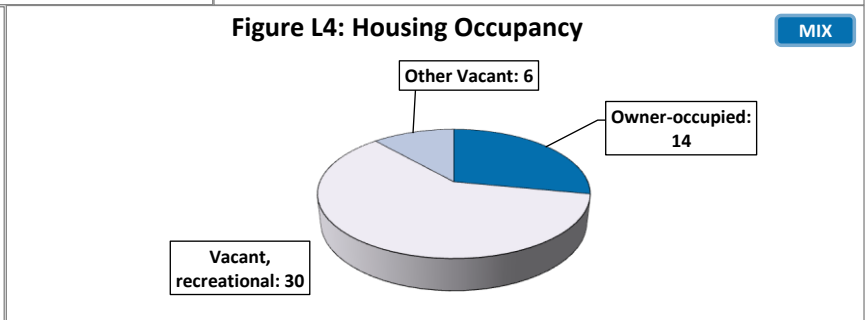
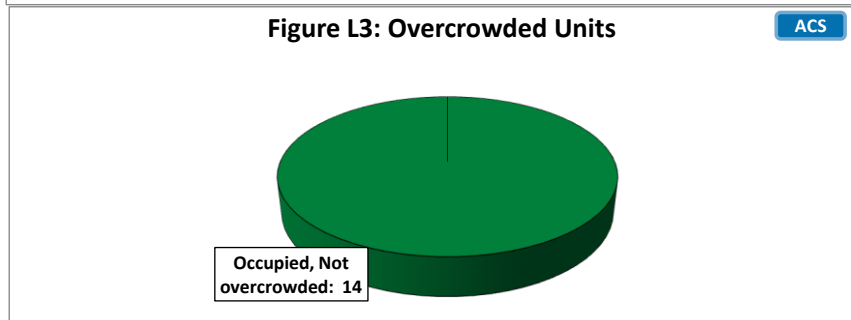
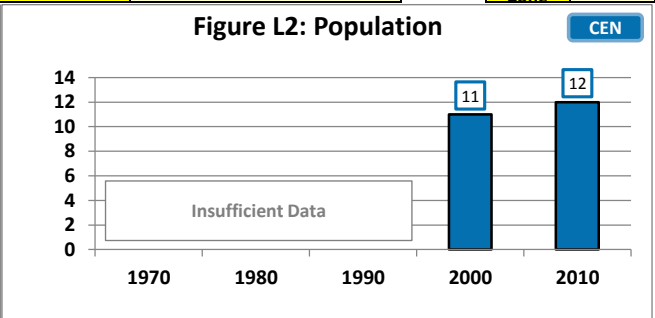
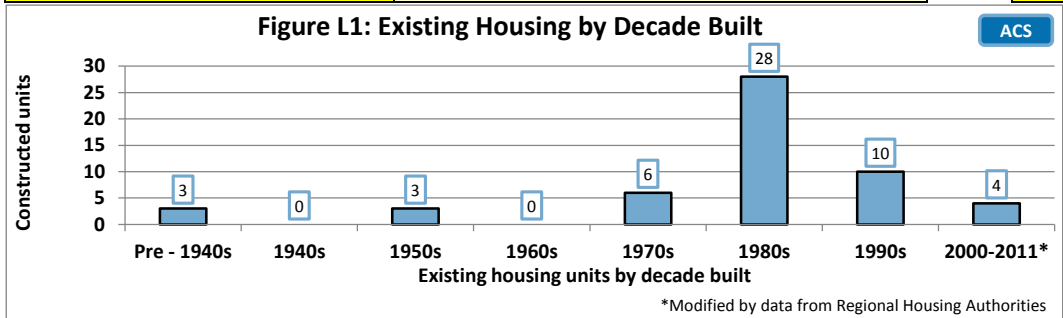
ACS



**Community Profile for:** Ugashik CDP

**ANCSA Region:** Bristol Bay Native Corporation

**Climate Zone:** 7



Owner-occupied House with Mortgage, Median Value
NR

Owner-occupied House without a Mortgage, Median Value
\$70,000

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

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 51,667
Renter-occupied	NR
Owner-occupied w/ mortgage	NR
Owner-occupied w/o mortgage	\$ 48,750

Housing Stock Estimates	
Housing Units	Number of Units
All Housing	50
All Occupied Housing	14
All Vacant housing	36

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 594	\$ 7,128
Gross rent	NR	NR
Owner-occupied	\$ 588	\$ 7,056
Housing units w/ mortgage	NR	NR
Housing units w/out a mortgage	\$ 538	\$ 6,456