

Overview of Funding and Needs for Rural Alaska Water and Sewer Improvements



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Progress in Alaska Village Sanitation

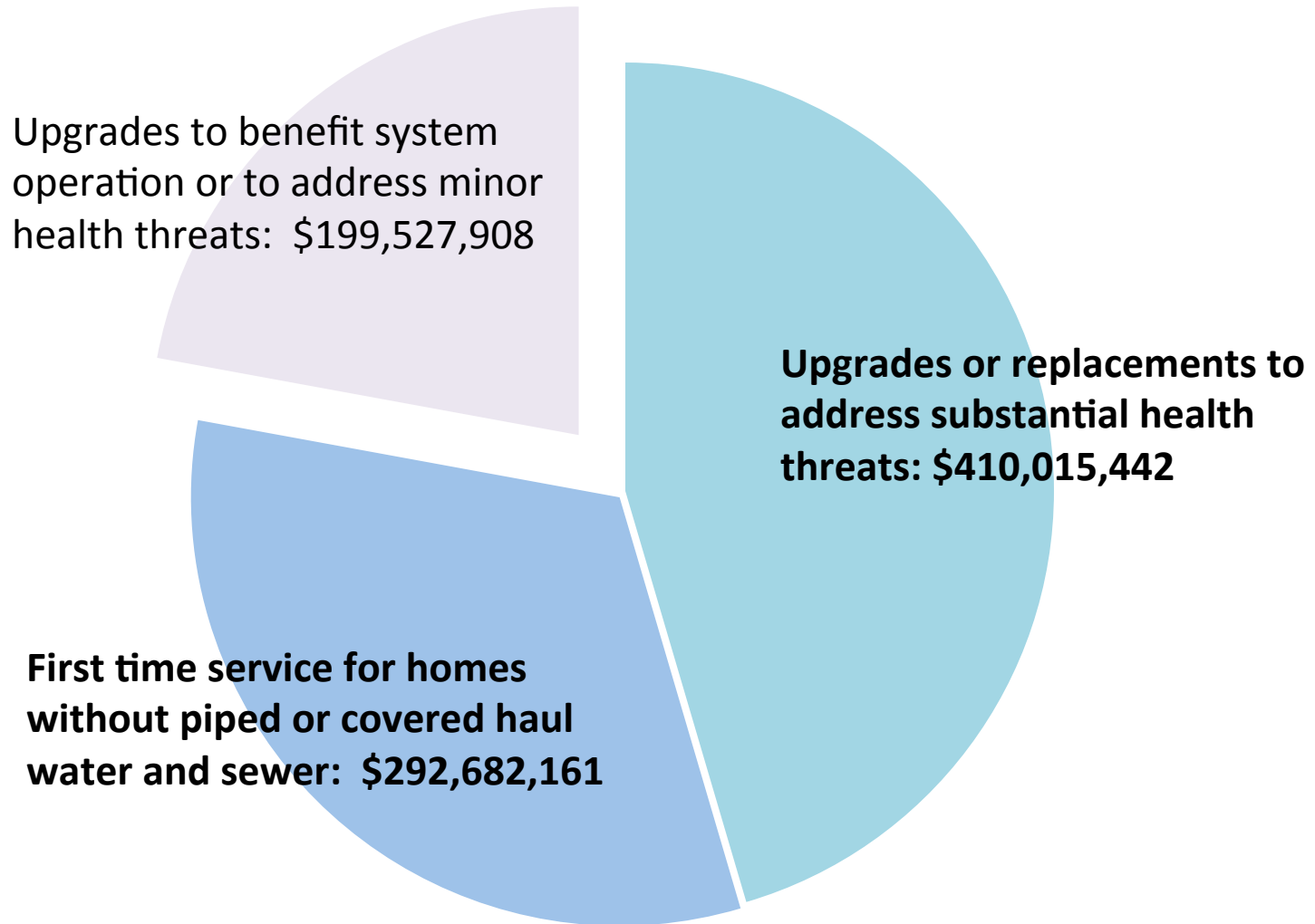
- For half a century, we've focused on “putting the honey bucket in the museum” (*and keeping it there!*)
- Much progress has been made:
 - ▣ 30 years ago, fewer than 25% of rural Alaska households had running water and flush toilets.
 - ▣ In 1996, 55% of rural homes had piped or covered haul service.
 - ▣ Today, approximately 75% of rural homes have indoor plumbing (over 90% if regional hubs are included in the calculation).

“Centralized” Approach Since 1970:

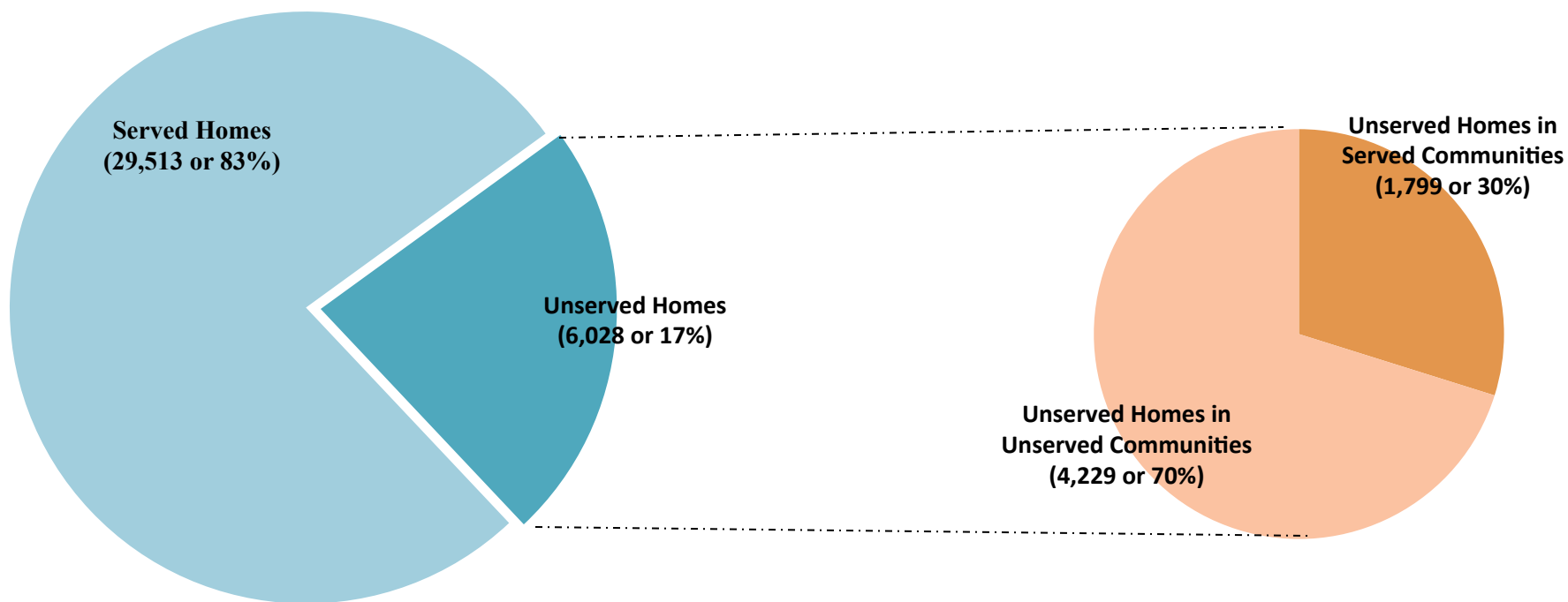
- ❑ 100% water treatment to full regulatory compliance (regardless of ultimate use)
- ❑ Storage of large quantities of water, usually requiring heat addition
- ❑ Distribution of treated water to individual homes via pipes or haul vehicle, usually requiring heat addition
- ❑ Collection of all household sewage for lagoon disposal, usually requiring heat addition

Categories of Project Needs

January 2012



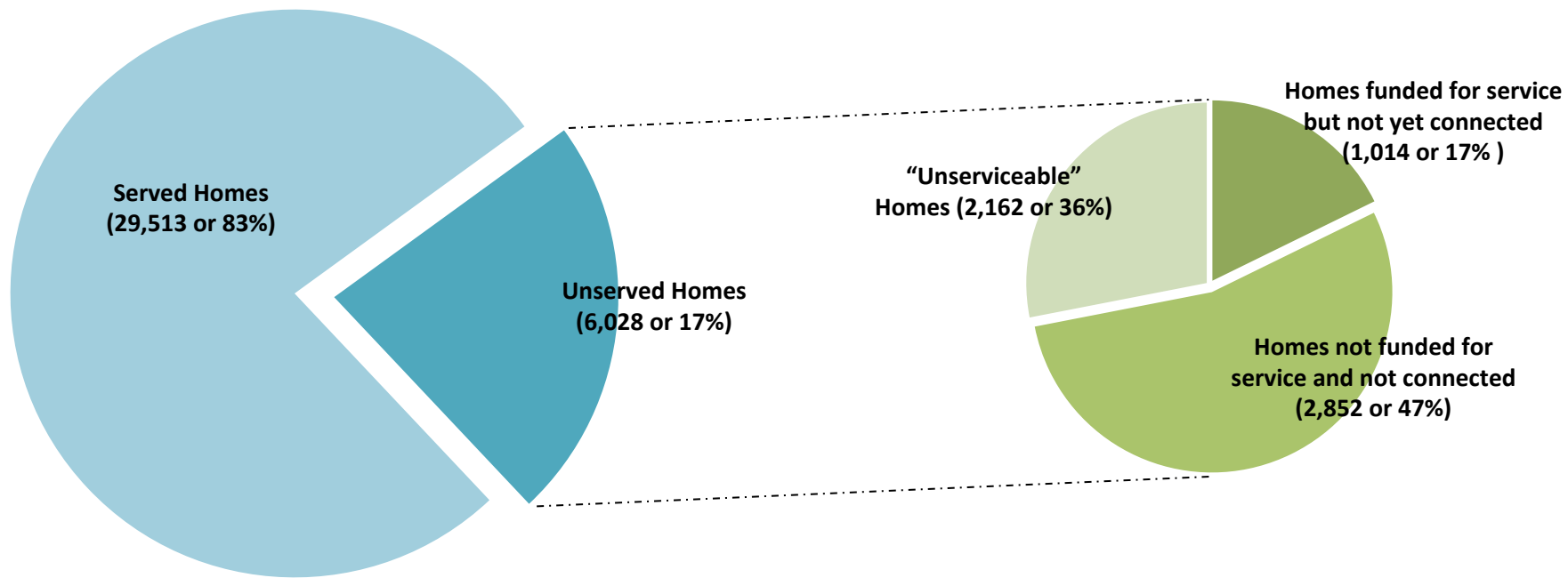
Distribution of Unserved Homes in Served -vs- Unserved Communities



An unserved home is one which is not connected to an onsite or community piped or closed haul system.

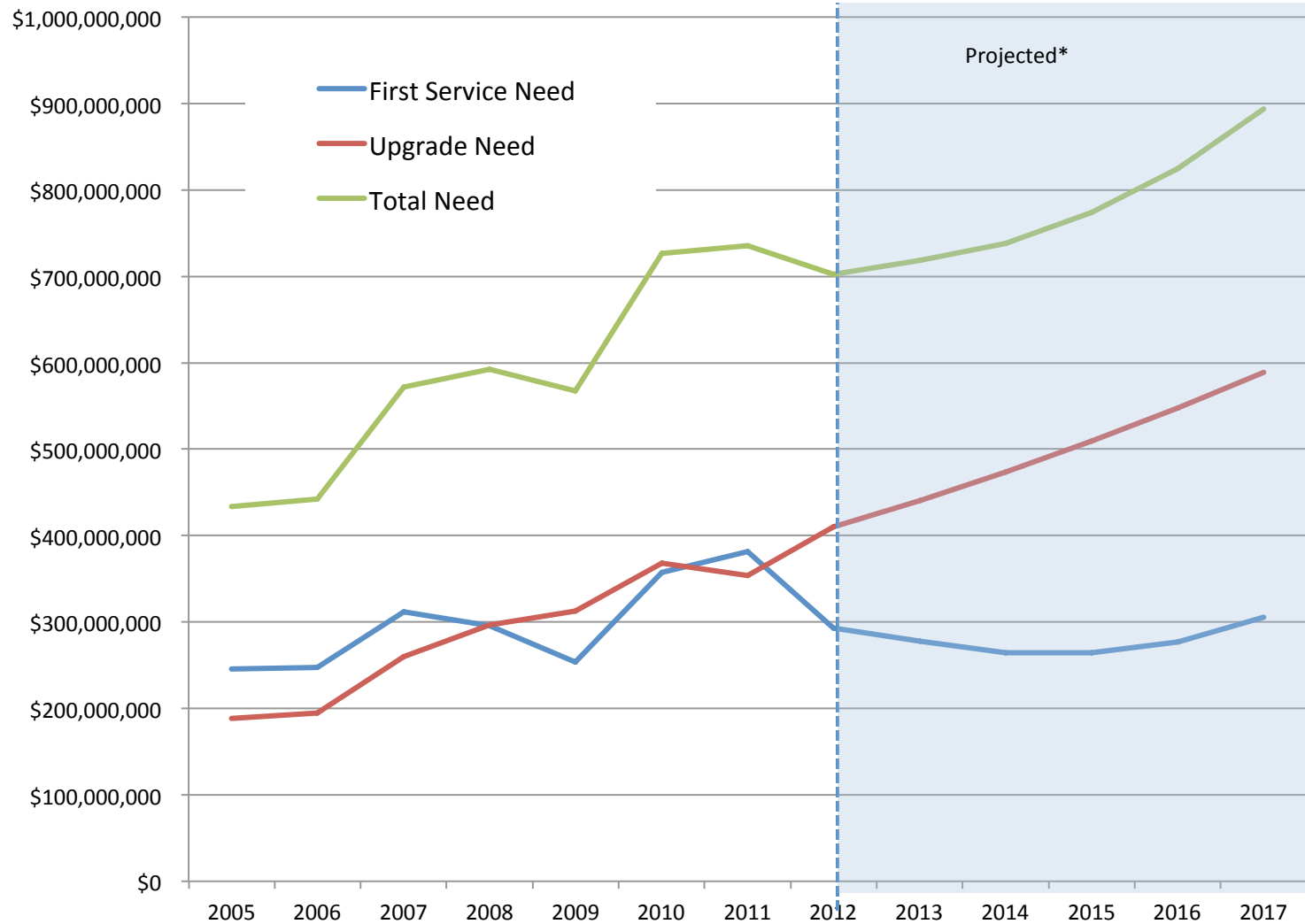
An unserved community is one in which less than 55% of residences are connected to an onsite or community piped or closed haul system.

Categories of Unserved Homes

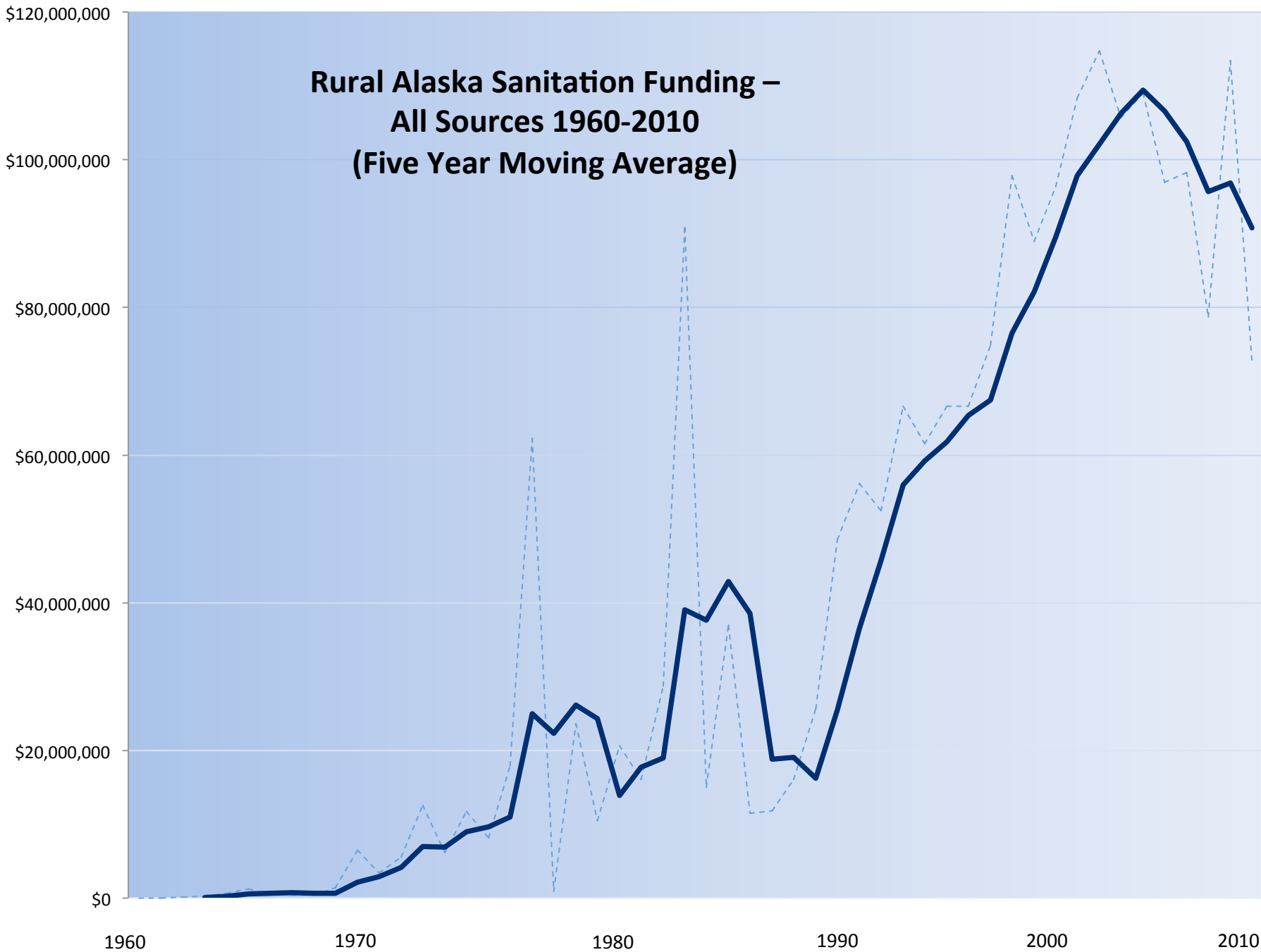


An unserviceable home is one that is located in an area where septic tanks and wells are not feasible and is too far away from the “core” area of a community making extending piped service or providing vehicle access for flush/haul vehicles unreasonably expensive.

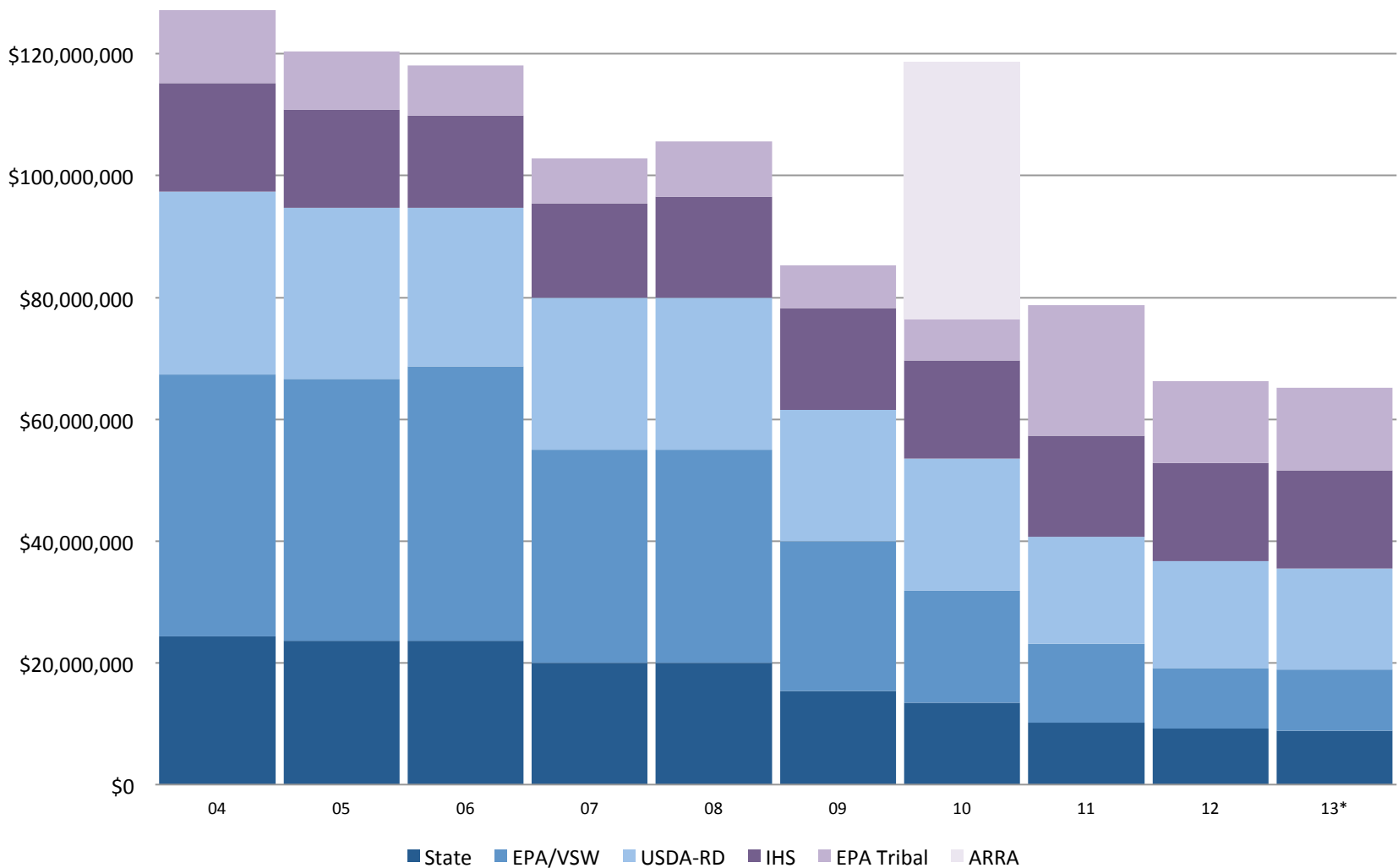
Past and Projected Project Funding Needs



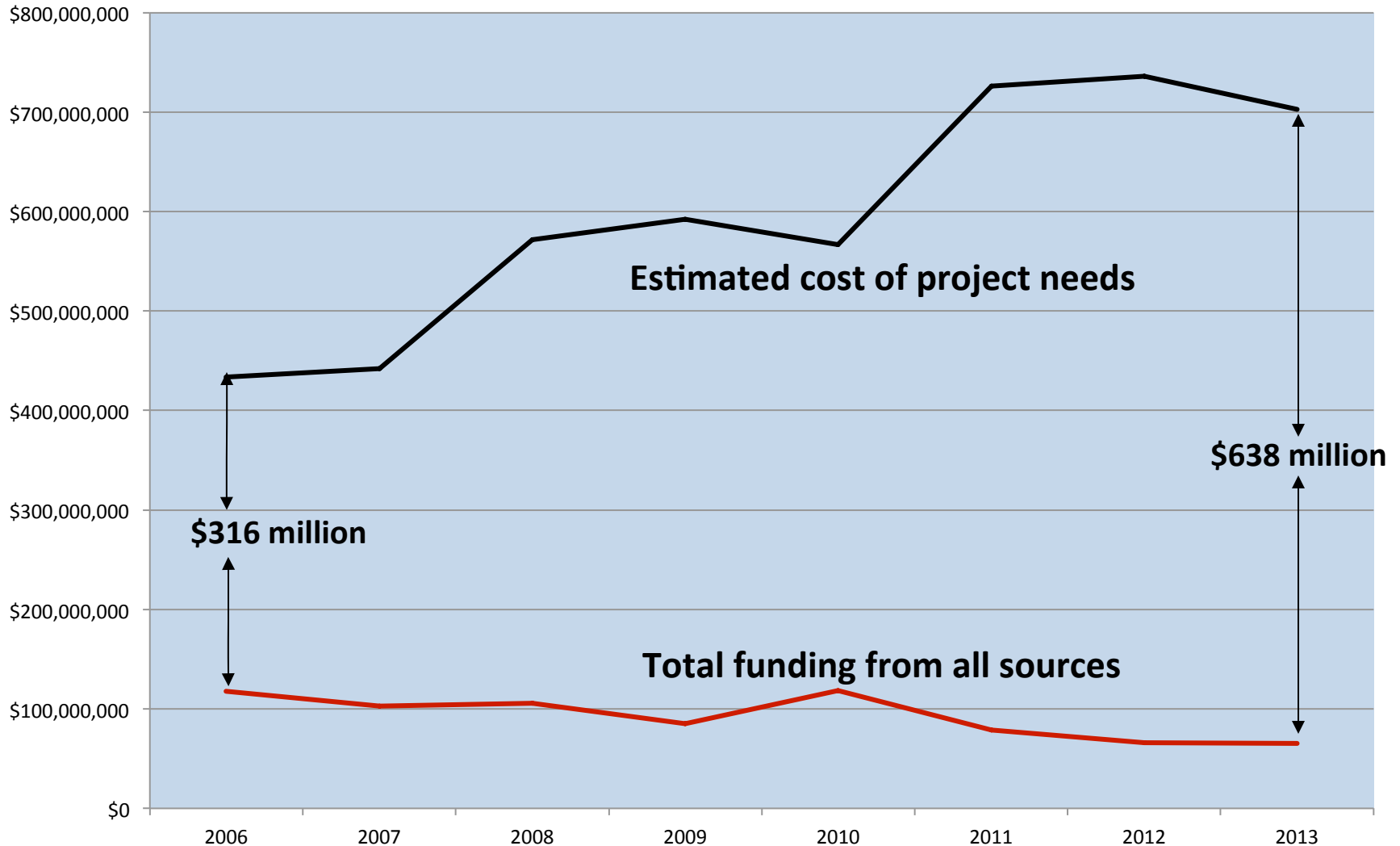
**Rural Alaska Sanitation Funding –
All Sources 1960-2010
(Five Year Moving Average)**



Project Funding from All Sources 2004 - 2013

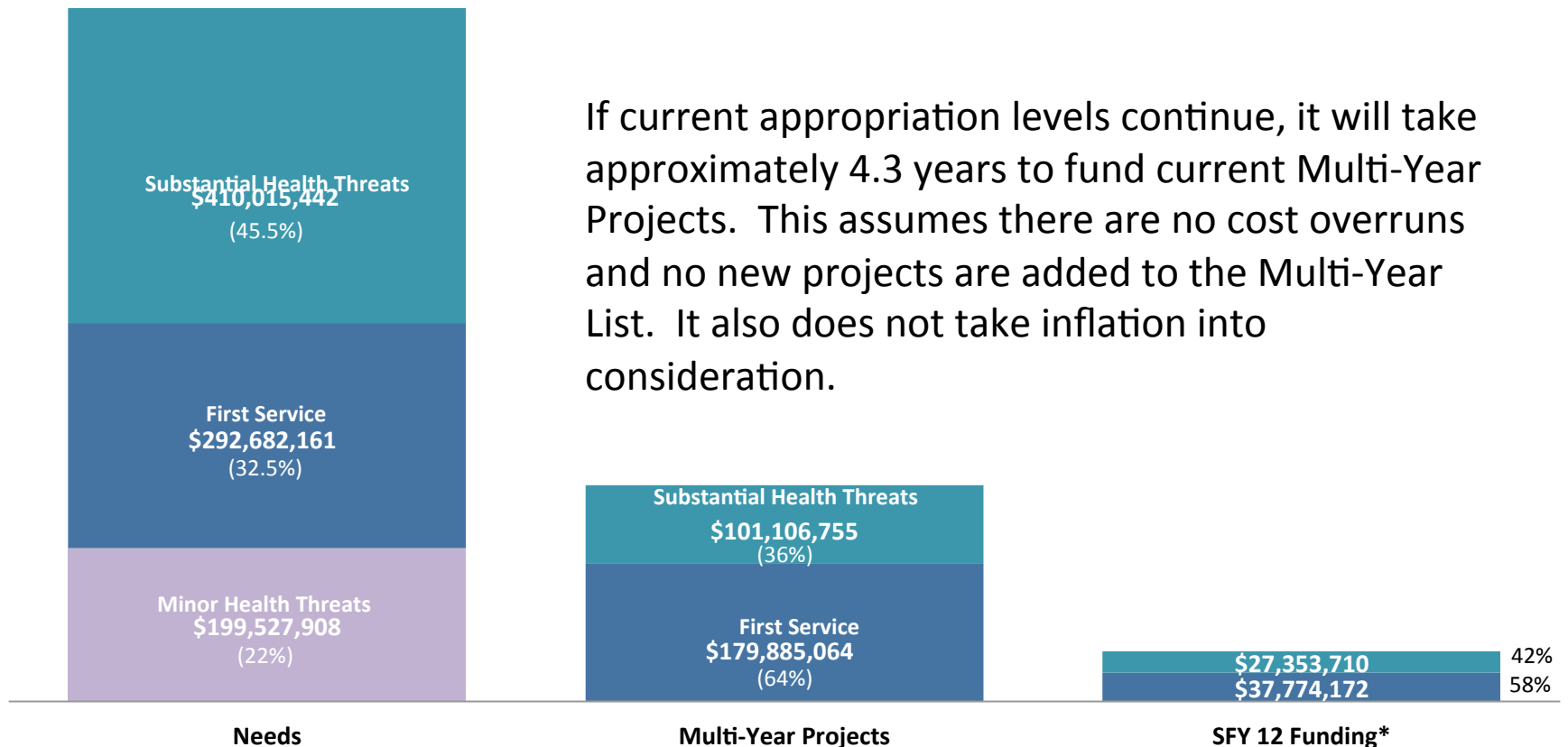


The Growing Gap Between Critical Needs and Available Funding



Relationship of Needs, Multi-Year Projects and Funding

Minor Health Threats First Service Substantial Health Threats



If current appropriation levels continue, it will take approximately 4.3 years to fund current Multi-Year Projects. This assumes there are no cost overruns and no new projects are added to the Multi-Year List. It also does not take inflation into consideration.

*Note: Tribal funding through EPA and IHS for Alaska projects is not dedicated to Alaska's Multi-Year Projects.

How long would it take to provide service to all remaining Alaskan homes without running water and sewer?

Assumptions:

- Current cost estimate to serve homes is very low – probably by a factor of 2 or 3.
- Projecting actual recent construction costs and current house count information: The cost to provide first time service to all unserved homes is between \$600 million and \$900 million. Use \$750 million for this exercise.
- Assume that total funding remains constant at \$65 million per year.
- Assume continued funding split between first-time service and upgrades remains at 60/40 (\$39 million for first-service projects and \$26 million for upgrades)

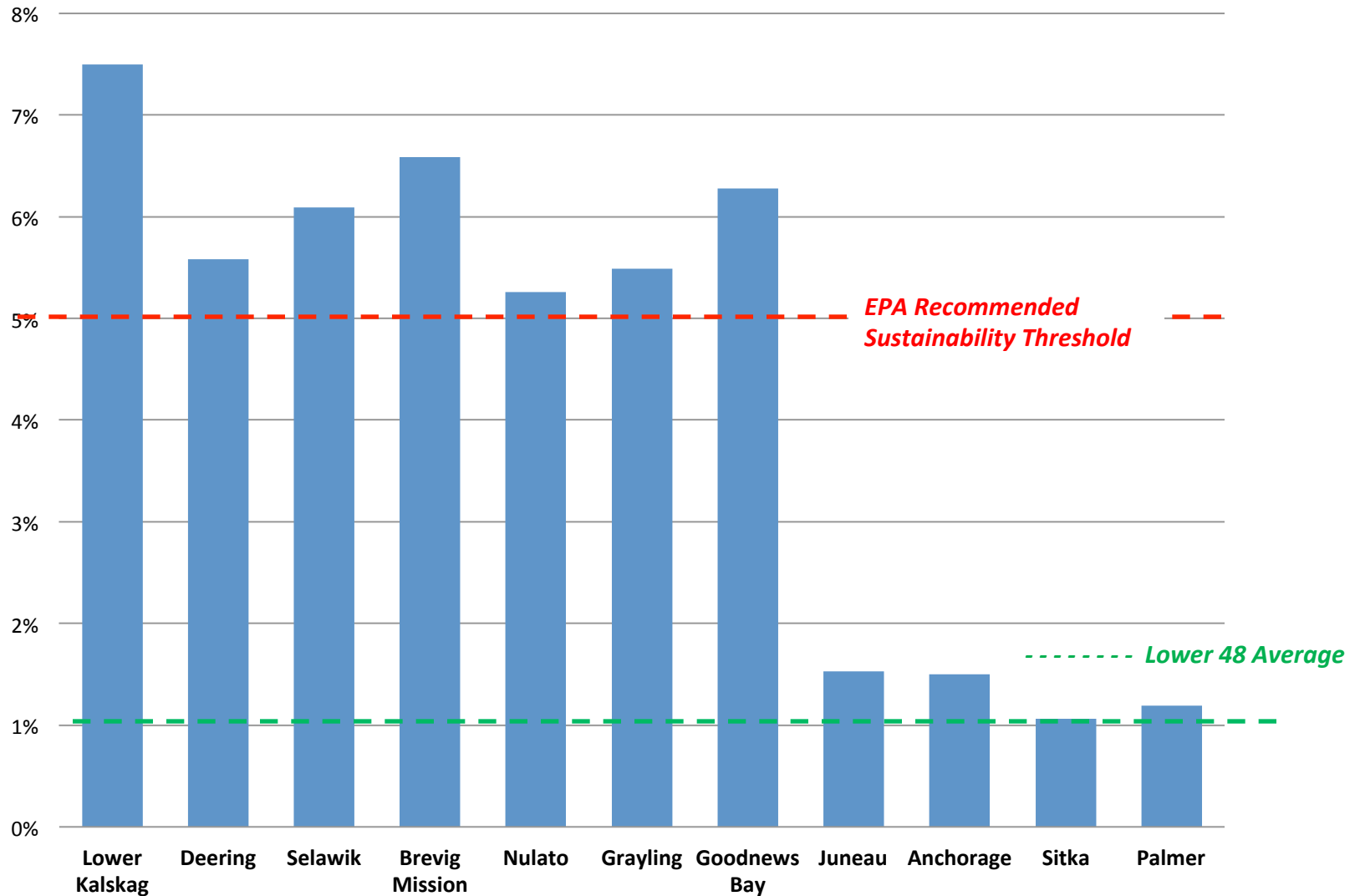
Projection:



It would require 19 years to provide service to all remaining homes.

Year 2031.

Water and Sewer User Fees as a Percentage of Median Household Income



Bottom Line:



- ❑ Centralized solutions used for the past 50 years are increasingly unaffordable to build, upgrade, replace and maintain.
- ❑ Available funding is not adequate to serve remaining homes and make needed improvements.
- ❑ Innovative approaches are needed now in order to address health problems associated with water and sewer system deficiencies.

The need for innovative approaches exists at every service level:



Thousands of people will continue to handle honey buckets for years to come



Washeterias will remain the most sustainable level of service for many villages



Many existing piped systems are at the end of their useful life or require major upgrades



Upgrades to water plants and other buildings are needed to meet current regulations and improve energy efficiency



***“Discovery consists of seeing
what everybody has seen
and thinking what nobody has thought.”***

Albert Szent-Gyorgyi

Hungarian physiologist who won the Nobel Prize in Medicine in 1937, credited with discovering vitamin C.