2026
Drought Management Plan

Pagosa Area Water and Sanitation District
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4/2/2026
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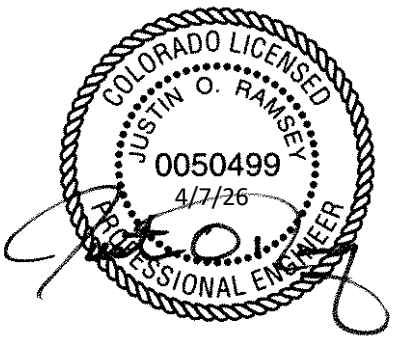

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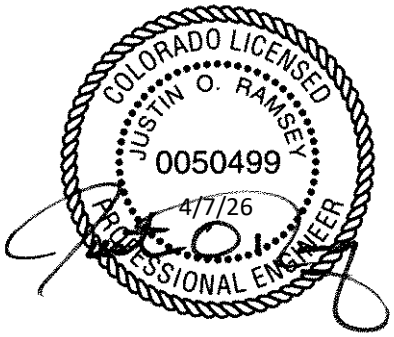


1. INTRODUCTION

1.1. PROFILE OF EXISTING SYSTEM

The Pagosa Area Water and Sanitation District (PAWSD) was established by general election in July of 1971 to provide water and wastewater service within the Archuleta County, Colorado area. In 1992 the Archuleta Water Company and Town of Pagosa Springs water was included into the PAWSD district. With the inclusion, PAWSD became owner of the Snowball Water Treatment Plant and the West Fork Diversion. The current PAWSD service area consists of approximately 6,000 water connections and operates approximately 300 miles of water line. A map of the PAWSD service area is included as **Appendix A**.

PAWSD's raw water supply consists of surface water from three river diversions, the West Fork, the main stem of the San Juan River and Fourmile Creek. PAWSD's service area encompasses approximately 41,428 acres. A source water map of the raw water supply is included as **Appendix B.**

Table 1 PAWSD Raw Water Diversions

Location	Type
San Juan River (West Fork)	Box
San Juan River (Main Stem)	Box
Fourmile Creek	Weir

PAWSD currently has 4,070 acre-feet (AF) of usable raw water storage. Storage includes the following five reservoirs: Hatcher, Stevens, Pagosa, Village, and Forest. Hatcher Reservoir receives its water supply from Fourmile Creek through the Dutton Pipeline. The Four Mile Creek diversion can divert water to Hatcher Reservoir, Stevens Reservoir, or both. When Hatcher Reservoir is full, water is diverted to Stevens Reservoir. The lower reservoirs of Stevens, Pagosa, Village, and Forest are operated in series; when an upstream reservoir is full it spills into the downstream reservoir. For instance, when Stevens Reservoir is full it spills to Lake Pagosa through the Linn and Clark Ditch. When Lake Pagosa is full it flows through a series of golf course ponds and is conveyed to Village Lake. Village Lake spills into Lake Forest, where overflow then spills into Stevens Draw, upstream of the Martinez and Stollsteimer confluence. Stollsteimer Creek feeds into the Piedra River prior to its confluence with the San Juan River at Navajo Lake. PAWSD can also pump raw water from the San Juan River through the San Juan Pipeline to the San Juan Water Treatment Plant, Lake Forest or Village Lake via the San Juan diversion.

Table 2 PAWSD Primary Water Supply Sources

Reservoir	Usable Capacity (Acre Feet)
Hatcher	880
Lake Pagosa	920
Lake Forest	269
Stevens	1730
Village	228

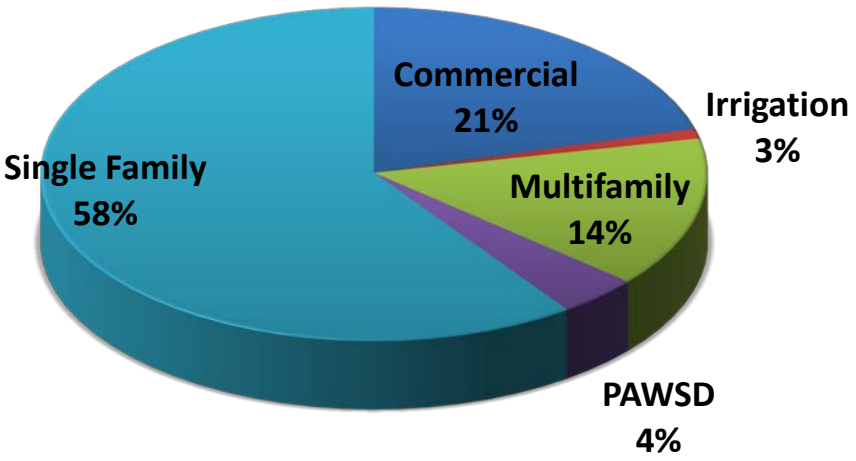
Primary Diversion	Diversion Rate (cfs)
San Juan River (West Fork)	5.0
San Juan River (Main Stem)	8.0
Four Mile Creek	12.8

Table 3 provides PAWSD retail water deliveries by customer sector from 2019 to 2025 while **Figure 1** illustrates average customer sector use based on 2013 through 2025 water deliveries.

Table 3 PAWSD Retail Water Deliveries in Acre Feet (2019-2025)

Location	2019	2020	2021	2022	2023	2024	2025
Commercial	226	250	254	267	261	237	288
Irrigation	16	22	22	23	21	19	28
Multi-Family	137	152	169	160	153	151	205
PAWSD	56	58	57	60	64	61	73
Single Family	712	781	797	715	819	783	945
TOTAL	1147	1263	1298	1225	1318	1251	1538

Figure 1 - PAWSD Customer Water Use by Sector (2013 - 2025)



The San Juan Water Treatment Plant went back into service in 2017. Since water taken from Fourmile Creek, the San Juan River, and the area reservoirs constitutes a draw on available raw water supplies, PAWSD has determined that readings from the production meters on the water treatment plants (WTP) would be used to calculate annual water demand. PAWSD has a contractual

obligation with the Pagosa Springs Golf Club to provide raw water from Village and Pinon lakes for the purpose of irrigation. The required annual supply under this contract is 300 AF. Raw water is also provided to various condominium communities. Raw water is pumped into Pinon Lake from Village Lake. PAWSD also allows homeowners along Hatcher, Lake Pagosa, Lake Forest or Village Lake to pull water directly from the reservoir for irrigation purposes. PAWSD is unable to track this water drawn from lakeside residences.

Table 4 PAWSD Water Treatment Plant Production (in Acre Feet)

	2022	2023	2024	2025
Snowball	584.87	632.16	613.78	620.75
Hatcher	1,215.05	1,212.53	1,274.64	1,277.16
San Juan	255.28	483.07	483.07	497.74
Raw	450.01	478.56	448.98	497.63

The PAWSD service area encompasses the Town of Pagosa Springs as well as areas of unincorporated Archuleta County. It is estimated that 75% of the population of Archuleta County lives within the PAWSD service area. The PAWSD service area population is estimated by multiplying the current population for Archuleta County by 75% (0.75). This methodology was supported in 2011 by a community Water Supply Work Group (WSWG) that assisted PAWSD in efforts to understand water use within its service area.

Population projection methods were analyzed by PAWSD for the 2018 Fee Study. The analysis indicated EU growth was occurring at approximately 1% annually and cumulative connections were increasing at approximately 3% annually. In 2019 the Upper San Juan Watershed Enhancement Program contracted RPI Consultants to develop a report on Archuleta County population growth. The report estimated the likely average annual growth would be from 1.6% to 1.9% (Appendix H). The PAWSD Board of Directors agreed to use a 2% increase for estimated population growth. **Table 5** summarizes this methodology showing population estimates and existing and projected annual EU increases.

Table 5 Past, Current, and Predicted Population and Equivalent Units (EU's) served by PAWSD

Year	Archuleta County Population Estimates	Archuleta County Population Estimate 75%	Equivalent Units	Residential Equivalent Units (85%)	Commercial Equivalent Units (15%)
2008	**12,497**	9,373	7362.0		
2009	**12,430**	9,323	7177.0	6,100.5	**1,076.6**
2010	**12,056**	9,042	7148.5	6,076.2	1,072.3
2011	**12,010**	9,008	7194.0	6,114.9	1,079.1
2012	**12,114**	9,086	7231.0	6,146.4	1,084.7
2013	**12,184**	9,138	7278.0	6,186.3	1,091.7
2014	**12,210**	9,158	7347.5	6,245.4	1,102.1
2015	**12,325**	9,244	7475.5	6,354.2	1,121.3
2016	**12,572**	9,429	7585.0	6,447.3	1,137.8
2017	**12,823**	9,617	7703.0	6,547.6	1,155.5
2018	**13,079**	9,809	7818.5	6,645.7	1,172.8
2019	**13,341**	10,006	7924.0	6,735.4	1,188.6
2020	**13,359**	10,019	8044.0	6,837.4	1,206.6
2021	13,809	10,357	8211.5	6,979.8	1,231.7
2022	13,987	10,490	8327.0	7,078.0	1,249.1
2023	14,189	10,642	8429.5	7,165.1	1,264.4
2024	14,112	10,584	8630.5	7,335.9	1,294.6
2025	14,306	10,730	8712.0	7,405.2	1,306.8
2026	14,592	10,944	9023.0	7,669.6	1,353.5
2027	14,884	11,163	9203.0	7,822.6	1,380.5
2028	15,182	11,386	9387.0	7,979.0	1,408.1
2029	15,485	11,614	9575.0	8,138.8	1,436.3
2030	15,795	11,846	9767.0	8,302.0	1,465.1

*2026 to 2030 are estimates

So as to better understand and quantify PAWSD's current raw water supply and its ability to meet customer demands, PAWSD's firm yield report is provided in **Appendix D.** It factors the current average annual customer demand (2,247 AF) and summer use in million gallons per day (MGD) against the raw water supplies available to PAWSD via the San Juan River, Fourmile Creek, and the five reservoirs. The report estimates that PAWSD has "approximately a two-year water supply".

1.2. Drought Mitigation and Response Planning

For this plan, drought is defined and understood to be an extended period of time (months/years/decades) when a region is deficient in the delivery of its natural water supply. Generally, this occurs when a region receives consistently below average precipitation for a given period; thus, resulting in a strain on the existing water supplies to meet the external demands placed upon it. Drought is a combination of naturally dry conditions that stress human water needs and result in water supply shortages.

PAWSD is fully reliant on surface water supplies that originate as snowfall and rain in the Upper San Juan Watershed Basin. As mentioned previously (see Table 1), PAWSD diverts surface water from the West Fork of the San Juan, the San Juan River and Fourmile Creek. PAWSD holds some senior water rights on the West Fork of the San Juan and the San Juan River; however, water rights on Fourmile Creek are junior to others. This results in the water supply from Fourmile Creek being "turned off" for most of the summer months as senior users draw their allotments primarily for irrigation. Fortunately, the senior rights on the West Fork of the San Juan and San Juan River allow PAWSD to draw their current facility maximums at both the San Juan Water Treatment Plant and Snowball Water Treatment Plant. Additionally, PAWSD has five reservoirs containing a total of approximately 4,027 AF of usable water. Water from all reservoirs except Hatcher are only used for raw water irrigation. PAWSD is currently developing a pipeline and pump station to allow water in Stevens Reservoir to be moved as necessary to Hatcher where it would be available for potable use.

The purpose of this document is to understand how the effects of drought can stress the water supply and the ways in which PAWSD can proactively deal with those stresses to fulfill its mission of providing safe drinking water to the Pagosa Springs community.

Drought response is comprised of the temporary actions required to maximize the existing water supplies due to anticipated water shortages caused by lack of precipitation.

The PAWSD Drought Management Plan has been constructed in compliance with the guidelines established by the Colorado Water Conservation Board (CWCB) Office of Water Conservation and Drought.

A copy of this plan is on file with Colorado Water Conservation Board as well as the Archuleta County Sheriff's Department Office of Emergency Management.

1.3. Drought Planning and Water Conservation

The main objective of a water conservation plan is to achieve and realize long-term improvements in overall water use efficiency while simultaneously achieving a reduction in overall per capita water demand.

A Drought Management Plan, by contrast, focuses on dealing with the effects of drought in such a way as to provide short-term reprieve from temporary water supply shortages. Demand reductions are often achieved through voluntary and/or mandated water use restrictions designed to temporarily decrease water demand.

Drought mitigation is a concerted effort to use all water wisely to eliminate unnecessary waste. This not only promotes responsible stewardship within the community, but it also enables PAWSD to develop a thorough understanding of the service area's water needs. Drought mitigation efforts are

generally precautionary steps or actions taken prior to a drought situation to avoid or reduce the potential impacts. Water conservation is considered a form of drought mitigation.

2. STAKEHOLDERS, OBJECTIVES, AND PRINCIPLES

Since a drought event and the actions taken by PAWSD to combat the effects of drought affect the entire community, PAWSD believes that incorporating a variety of perspectives from within the community will produce a Drought Management Plan that will accurately and efficiently deal with the effects of drought in the most beneficial way. This includes operating principles that reflect the values of PAWSD as well as the community.

In preparation of this Drought Management Plan a committee of volunteers was organized to aid the District in the development of this plan. The following members of the community were on the committee and provided recommendations and insight on the improvement of this document.

Mary Jo Coulehan – Pagosa Springs Chamber of Commerce (retired)
Allan Pfister – Upper San Juan Water Enhancement Program
Bruce Jones – PAWSD Board Member and Business Owner
Peter Hurley – Business Owner
Joshua Kurz – Hydrologist

2.1. OBJECTIVES OF THE DROUGHT MANAGEMENT PLAN

The following objective and operating principles were developed.

2.1.1. Objectives of the Drought Management Plan

The objective of the Drought Management Plan is to effectively address the needs of the community during times of water supply shortage while systematically enacting efforts to reduce demand to maximize current available water supplies without undue economic hardship on the community.

2.1.2. Principles of the Drought Management Plan

The operating principles of the Drought Management Plan are as follows:

- PAWSD's top priority is to ensure essential public water service to the community during any level of drought severity.
- Consideration of the actions taken to ensure essential public water service will minimize adverse drought related impacts on public health and safety, economic vitality, and environmental resources.

- Provide a comprehensive yet flexible framework to guide PAWSD staff through drought mitigation and monitoring efforts as well as pre-scripted procedures to follow for communicating drought severity and implementing the actions required within the various drought stages.
- Effective communication of drought awareness, drought conditions, and response information to the community.
- Provide an efficient means to monitor and improve the effectiveness of the Plan over time.
- Provide sufficient contextual information in the Plan to convey the importance of drought preparedness and management to the public and how the actions set forth in this Plan are necessary to reduce drought-related impacts and ensure the health and safety of the community.

2.1.3. Water Priorities

Water use priorities are the ranking of the uses of water such that they ensure the welfare of the people and reflect the beliefs of the community. All water use restrictions and actions taken to secure the water supply will be managed according to the priorities listed below.

1. Health and Safety – Water uses essential to the public health and safety of the community. These include indoor water use, and community fire suppression.

2. Commercial / Industrial – water use necessary to ensure economic stability and/or prevent an unfair burden from befalling a narrow segment of businesses.

3. New Construction – intended to encompass practices such as dust mitigation and water intensive materials such as concrete.

4. Outdoor Irrigation of Landscapes – includes all outdoor water use such as water for ornamental gardens, turf grass, and water fountains and features.

All water use can be grouped into at least one of three categories: Essential, Social/Economic, and Non-essential. Essential water use priorities are just that, essential for the health and safety of people. Social/Economic water use priorities are essential for the health of the business community as well as the social fabric of the community. Non-essential water use is comprised of activities that can temporarily be reduced or stopped without significantly affecting public health and safety or economic/social priorities.

3. DROUGHT VULNERABILITY ASSESSMENT

3.1. WATER SUPPLY AND DROUGHT MANAGEMENT PLANNING

When surface water supplies decrease due to abnormal, below average precipitation events (short or long term) more water must be taken from storage to meet demand. The reliability of the water supply is a function of how well the available supplies will meet demand over time and under various hydrologic conditions.

Water supply reliability is defined as the ability of the provider's raw water supply system to meet the demands placed upon it. Water supply reliability planning differs from drought planning in that drought management planning is the exercise of short-term water demand reduction activities implemented by the provider to extend usable water supplies and lessen drought impacts.

Short-term water supply reliability planning looks at the total available water supply expected for the year (based upon winter snowpack, San Juan River flows, and reservoir levels) and contrasts it to the forecasted demand for that year. Should there be a concern whether anticipated supply will meet the demand, drought planning efforts will begin internally prior to an official public declaration of drought.

Long-term water supply reliability efforts consist of actions to secure and hold as much water as possible. Doing so will ensure that PAWSD will have adequate supplies to meet demand during times of drought.

4. DROUGHT MITIGATION AND RESPONSE STRATEGIES

Drought mitigation efforts are both short and long-term actions taken to ensure, to the greatest extent possible, the reliability of the water supply. Drought mitigation differs from drought response mostly in timing and implementation requirements. Mitigation efforts are generally voluntary long-term water use modifications to improve water supply reliability while drought response efforts may be more reactive to an observed reduction in water supplies.

4.1. DROUGHT MITIGATION MEASURES

The drought mitigation measures to be employed by PAWSD are as follows:

- Regular monitoring of early drought indicators such as winter snowpack and current stream flow.
- Ensure the reservoirs remain as full as possible.
- Installation of additional Solar Bees[1] and maintenance of current Solar Bees will continue to increase or maintain water quality.

- Ensure the integrity of the water distribution system through a vigilant maintenance and repair program.
- Encourage use of water efficient retrofitting in residential and commercial structures.
- Encourage regionally appropriate plants and landscaping.
- Encourage water conservation.

  Note 1 A Solar Bee is a solar operated mechanical device which mixes water in the reservoir to minimize stratification and algae growth.

Water conservation efforts apply to both the provider and the customer and are generally long-term efforts to firm up water demand. There will come a time when existing water supplies and treatment facilities will need to be expanded to meet demand. Through water conservation it is possible to prolong the usability of existing water supplies and facilities which represents a cost savings to both the provider and customer. Expanding the usability of water resources is a form of drought preparedness and mitigation.

4.2. SUPPLY-SIDE RESPONSE STRATEGIES

Drought response strategies are generally short-term actions to reduce demand and prolong the available water supply. PAWSD response strategies can be grouped into six distinct fields: Elements of a Drought Plan, Emergency Response, Public Education and Community Relations, Water Supply Security, Water Rights Management and Cooperative Agreements, and Water Distribution System Efficiency.

Elements of a Drought Plan

- Continue monitoring drought indicators such as lake levels, remaining snowpack, current stream flows, and precipitation.
- Track public perception and effectiveness of enacted drought measures to gauge community sentiment and overall plan effectiveness.

Emergency Response

- In case of a drought emergency, PAWSD will make an official declaration of drought prior to enacting any drought level requiring mandatory water-use restrictions.
- The installation of new taps may be prohibited.
- Should the drought situation warrant, PAWSD may look to the State and Federal Government for assistance.

Public Education and Community Relations

- Develop education and awareness campaigns specific to the needs of our community
- Track public perception and response to drought materials and the efforts of the education and awareness campaign.

Water Supply Security

- Ensure maximum and reliable raw water supply by ensuring all reservoirs are as full as possible for as long as possible.

- Develop a contingency plan should diversions by senior right holders affect PAWSD's ability to meet demand.
- Ensure water treatment plant technology can efficiently treat water of low quality.

Water Rights Management and Cooperative Agreements

- Compensate senior water right holders to NOT place a curtailment order that would affect PAWSD's supply.
- Lease irrigation rights from agricultural users.
- Purchase additional water rights.
- Renegotiate contractual water delivery obligations.
- Compensate upstream users to allow more water to flow downstream.

Water Distribution System Efficiency

- Conduct distribution system audits to identify areas of potential water loss.
- Identify and repair distribution system leaks.
- Reduce system pressure to decrease water loss.
- Evaluate current facility and equipment operations to optimize efficiency and distribution of water supplies

4.3. DEMAND-SIDE RESPONSE STRATEGIES

The following demand-side response strategies involve actions to be taken by PAWSD, both internally and externally, to encourage water conservation and temporarily reduce water demand.

- **PAWSD**
  - Develop education and awareness campaigns specific to the needs of our community that address the need for short-term water reductions
  - Implement a drought surcharge and/or a temporarily modified billing structure to ensure financial stability during times of decreased revenues related to drought.
  - Enact mandatory water use restrictions per the Plan.
  - Limit fire hydrant flushing.
- **Residential**
  - Limit outdoor watering of landscapes to certain times/days per the level of drought severity.
  - Ensure all lawn and landscape watering restrictions are known (see 4.4 Public Information Campaign).
  - In times of serious drought, the application of water to landscapes and gardens (e.g., edible and ornamental) will be limited to hand watering only.
  - Use the AMI system to identify potential leaks and initiate customer contact.
  - Encourage efficient irrigation practices.
  - Discourage water waste.
  - Continue water conservation and education efforts.

- **Commercial / Industrial**
    - Ensure any water restrictions impacting this sector are known.
    - Discourage any waste of construction water.
    - Limit outdoor watering of landscapes to certain times/days per the level of drought severity.
    - Promote the installation of water efficient technologies where applicable.
    - Promote the serving of water in restaurants only upon request.
    - Use the AMI system to identify potential leaks and initiate customer contact.
    - Continue water conservation and education efforts.

4.4. Public Information Campaign

PAWSD recognizes the power of public education and awareness. A public drought campaign raises community awareness of the drought situation and paves the way for responsive demand reduction.

The goal of the Public Information Campaign is to ensure that the community is made fully aware of the water supply situation and any associated water use restrictions that may occur during the drought event and why the restrictions being imposed are necessary.

The general components of the Campaign will include:

- Timely and reoccurring media releases notifying the public of current drought conditions and encouraging short-term reductions in water use.
- Direct mailings to customers advising them of the current level of water use restrictions and what water use restrictions are entailed in the current drought level.
- The use of the Dropcountr customer portal advising customers of current water use restrictions and drought levels.

Examples of the components of the Public Information Campaign can be found in **Appendix F** and **G**.

5. DROUGHT STAGES, TRIGGER POINTS, AND RESPONSE TARGETS

5.1. Drought Stages, Trigger Points, and Response Targets

Appropriate drought indicators used by the District to understand and/or forecast drought periods will be snow water equivalency, call date on Four Mile Creek, Hatcher Reservoir levels, San Juan River flows and drought stages as defined by the National Drought Mitigation Center. This information will be gathered primarily from the National Resource Conservation Service (NRCS), State Engineer, and the NIDIS US Drought Portal.

The date at which the Snow Water Equivalency reaches 0 and the date that the State Engineer places a curtailment order on Four Mile Creek (the call date) will be early indicators of coming drought conditions.

After June 5th a scoring method based on the usable volume of water in Hatcher Reservoir, San Juan River flows and the listed Regional Drought Stage from the National Drought Mitigation Center will be used to determine the drought stage. The scoring tool weights the three triggers differently, i.e. the usable volume in Hatcher Reservoir is weighted at two times the San Juan River Flows and three times the Regional Drought Stage.

Observed changes in water supply availability (e.g., reservoir levels, stream flows) are indicative of potential drought. The importance of pairing these observables changes with precipitation data cannot be overstated.

Trigger points serve as thresholds for action. Once the requirements set for a trigger point have been met or exceeded, the actions outlined in the corresponding drought stage are followed to achieve a water reduction goal intended to extend current water supplies. The primary trigger points established by PAWSD are based upon median values for those five trigger points.

The tables below show the drought stages, their corresponding trigger point thresholds and dates of those thresholds.

The water demand reduction goals were determined by a Drought Committee in 2012 as well as through the reading of other Colorado municipal Drought Management Plans. It was determined that in the most severe of drought scenarios, a 50% reduction goal in demand would be required. The water industry has long held that approximately 50% of residential summer water use is the irrigation of lawns and landscapes. Therefore, were PAWSD customers to simply stop all outdoor irrigation, demand would decrease by the desired 50%. The water use restrictions associated with each drought stages are specifically targeted towards irrigation activities and ways in which those can be reduced and/or monitored for compliance.

Table 6 Voluntary Drought Stage Trigger Points

Trigger Point	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SNOTEL Water Equivalency Reaches 0"[1]	On or Before May 15											
Call Date on Four Mile Creek[2]	On or Before May 22											
Hatcher Reservoir Level[3]	714	757	802	828	834	755	666	515	397	369	505	621
San Juan River Flow[1]	39	44	113	382	849	845	241	118	103	103	64	45
Drought Stages					Abnormally Dry							

Notes:

1. SNOTEL SWE
   a. Upper San Juan Colorado SNOTEL Site
   b. Based on date SWE hits 0", average and median date is June 2
   c. Based on 90% of average date from 1978 through 2020 (42 data points)
2. Four Mile Creek Call Date
   a. The average Call Cate is 6/9.
   b. Based on 85% of average date from 2006 through 2020 (15 data points)
3. Hatcher Reservoir Level
   a. Volume measured in Acre Feet
   b. Useable water volume from bathometric survey provided by Harris Engineering
   c. Monitored at dam
   d. Based on 95% of average monthly usable volume from Aug 2014 to June 2020 (67 data points)
4. San Juan River Flows
   a. Flows measured in cubic feet per second (CFS)
   b. Measured at USGS gage station at Pagosa Springs (USGS 09432500)
   c. Based on 67% of average monthly flow from 1935 through 2019 (1,008 data points)
5. Drought Stage
   a. From the NOAA National Integrated Drought Information System
   b. https://www.drought.gov/states/colorado/county/archuleta

Voluntary water reduction is intended to give the community advance notice of developing drought conditions and begin to foster water conservation and voluntary water use reduction. It is intended

that water demand should decline by 0-10% based on the average of three previous years' water demand.

Table 7 – Drought Stage 1 Trigger Points

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SNOTEL Water Equivalency Reaches 0"[1]	On or Before April 30											
Call Date on Four Mile Creek[2]	On or Before May 7											
Hatcher Reservoir Level[3]	594	629	667	689	694	628	554	429	330	306	420	516
San Juan River Flow[1]	31	35	89	302	672	669	191	93	82	81	51	36
Drought Stages[5]					Moderate Drought							

Notes:

1. SNOTEL SWE
   a. Upper San Juan Colorado SNOTEL Site
   b. Based on date SWE hits 0", average and median date is May 31
   c. Based on 80% of average date from 1978 through 2020 (42 data points)
2. Four Mile Creek Call Date
   a. The average Call Cate is 6/9. The median call date is 6/15
   b. Based on 76% of average date from 2006 through 2020 (15 data points)
3. Hatcher Reservoir Level
   a. Volume measured in Acre Feet
   b. Useable water volume from bathometric survey provided by Harris Engineering
   c. Monitored at dam
   d. Based on 79% of average monthly usable volume from Aug 2014 to June 2020 (67 data points)
4. San Juan River Flows
   a. Flows measured in cubic feet per second (CFS)
   b. Measured at USGS gage station at Pagosa Springs (USGS 09432500)
   c. Based on 53% of average monthly flow from 1935 through 2019 (1,008 data points)
5. Drought Stage
   a. From the NOAA National Integrated Drought Information System
   b. https://www.drought.gov/states/colorado/county/archuleta

Level 1 – Low

This stage builds upon the efforts of Voluntary Reduction stage while incorporating basic mandatory water use restrictions aimed mostly at curbing excessive outdoor irrigation of lawns and landscapes. A declaration of Level One will be accompanied by an increased community outreach and awareness campaign. This stage will include a modified water use rate structure for residential users. It is intended that water demand should decline by 10-20% based upon the average of three previous years' water demand.

Table 8 – Drought Stage 2 Trigger Points

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SNOTEL Water Equivalency Reaches 0"[1]	On or Before April 15											
Call Date on Four Mile Creek[2]	On or Before April 22											
Hatcher Reservoir Level[3]	451	478	507	523	527	477	420	325	251	233	319	392
San Juan River Flow[1]	22	25	64	217	482	480	137	67	58	58	36	26
Drought Stages[5]					Severe Drought							

Notes:

1. SNOTEL SWE
   a. Upper San Juan Colorado SNOTEL Site
   b. Based on date SWE hits 0", average and median date is May 31
   c. Based on 70% of average date from 1978 through 2020 (42 data points)
2. Four Mile Creek Call Date
   a. The average Call Cate is 6/9. The median call date is 6/15
   b. Based on 67% of average date from 2006 through 2020 (15 data points)
3. Hatcher Reservoir Level
   a. Volume measured in Acre Feet
   b. Useable water volume from bathometric survey provided by Harris Engineering
   c. Monitored at dam
   d. Based on 60% of average monthly usable volume from Aug 2014 to June 2020 (67 data points)
4. San Juan River Flows

a. Flows measured in cubic feet per second (CFS)
b. Measured at USGS gage station at Pagosa Springs (USGS 09432500)
c. Based on 38% of average monthly flow from 1935 through 2019 (1,008 data points)

5. Drought Stage
   a. From the NOAA National Integrated Drought Information System
   b. https://www.drought.gov/states/colorado/county/archuleta

Level 2 – Moderate

This stage is an advance notice of severe drought conditions. Mandatory water use restrictions are amplified to promote water conservation and curb water consumption. A declaration of Level Two will be accompanied by a more aggressive community outreach and awareness campaign. This stage will include a modified water use rate structure for residential users. It is intended that water demand should decline by 20-30% based upon the average of three previous years' water demand.

Table 9 – Drought Stage 3 Trigger Points

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SNOTEL Water Equivalency Reaches 0"[1]	On or Before April 1											
Call Date on Four Mile Creek[2]	On or Before April 8											
Hatcher Reservoir Level[3]	368	390	414	427	430	390	343	266	205	190	261	320
San Juan River Flow[1]	16	18	47	160	355	353	101	49	43	43	27	19
Drought Stages[5]					Extreme Drought							

Notes:

1. SNOTEL SWE
   a. Upper San Juan Colorado SNOTEL Site
   b. Based on date SWE hits 0", average and median date is May 31
   c. Based on 60% of average date from 1978 through 2020 (42 data points)
2. Four Mile Creek Call Date
   a. The average Call Cate is 6/9. The median call date is 6/15
   b. Based on 67% of average date from 2006 through 2020 (15 data points)
3. Hatcher Reservoir Level
   a. Volume measured in Acre Feet

   b. Useable water volume from bathometric survey provided by Harris Engineering
   c. Monitored at dam
   d. Based on 49% of average monthly usable volume from Aug 2014 to June 2020 (67 data points)
4. San Juan River Flows
   a. Flows measured in cubic feet per second (CFS)
   b. Measured at USGS gage station at Pagosa Springs (USGS 09432500)
   c. Based on 28% of average monthly flow from 1935 through 2019 (1,008 data points)
5. Drought Stage
   a. From the NOAA National Integrated Drought Information System
   b. https://www.drought.gov/states/colorado/county/archuleta

Level 3 – Serious

This stage serves as notification of severe drought conditions that threaten water availability. Mandatory water use restrictions are further amplified to curb water consumption and extend the usability of current water supplies. A drought surcharge will be implemented on both residential and commercial customers, and the water use rate structure will be implemented for commercial customers and be further modified for residential customers. A declaration of Level Three will be accompanied by an even more aggressive community outreach and awareness campaign. It is intended that water demand should decline by 30-40% based upon the average of three previous years' water demand.

Table 10 – Drought Stage 4 Trigger Points

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SNOTEL Water Equivalency[1]	On or Before March 15											
Call Date on Four Mile Creek[2]	On or Before March 22											
Hatcher Reservoir Level[3]	263	279	296	305	307	278	245	190	146	136	186	229
San Juan River Flow[1]	9	10	25	86	190	189	54	26	23	23	14	10
Drought Stages[5]					Exceptional Drought							

Notes:

1. SNOTEL SWE
    a. Upper San Juan Colorado SNOTEL Site
    b. Based on date SWE hits 0", average and median date is May 31
    c. Based on 50% of average date from 1978 through 2020 (42 data points)
2. Four Mile Creek Call Date
    a. The average Call Cate is 6/9. The median call date is 6/15
    b. Based on 48% of average date from 2006 through 2020 (15 data points)
    3. Hatcher Reservoir Level
        a. Volume measured in Acre Feet
        b. Useable water volume from bathometric survey provided by Harris Engineering
        c. Monitored at dam
        d. Based on 35% of average monthly usable volume from Aug 2014 to June 2020 (67 data points)
    4. San Juan River Flows
        a. Flows measured in cubic feet per second (CFS)
        b. Measured at USGS gage station at Pagosa Springs (USGS 09432500)
        c. Based on 15% of average monthly flow from 1935 through 2019 (1,008 data points)
    5. Drought Stage
        a. From the NOAA National Integrated Drought Information System
        b. https://www.drought.gov/states/colorado/county/archuleta

Level 4 –Severe

This stage is the most severe, indicating dangerously low water supply levels that could affect PAWSD's ability to provide essential water service. The drought surcharge will remain, and the water use rate structure will be further modified. It is intended that water demand should decline by 40-50% based on the average of three previous years' water demand.

5.2. Drought Declaration and Predictability

As a headwater's locale, PAWSD is entirely dependent upon surface water. The amount of water available as well as when that water is available is subject to the patterns of nature. A winter of record snowfall followed by a spring of record heat can be just as devastating on the water supply as a winter of below average snowfall. Annual monsoon rain events, which generally occur in mid-July, serve to bolster stream flows and decrease demand (due to less irrigation) but these too can be unreliable. Also, the monsoon rains, though serving to decrease demand temporarily, do little to raise reservoir levels.

5.3. Drought Indicators

1. **Snow Water Equivalent (SWE)**

Definition - a measurement of the amount of water contained within the snowpack. It can be thought of as the depth of water that would theoretically result if you melted the entire snowpack instantaneously.

Operation – SWE will be monitored beginning March 1 of each year. Current SWE conditions will be judged based upon the median date SWE hits 0". The median date is June 1st.

2. **Curtailment Order on Four Mile Creek**

Definition – The date the State Engineer's Office places an Administrative Call on Four Mile Creek.

Operation – The curtailment cuts off the flow of water into Hatcher and Stevens Reservoirs. Current Curtailment will be based upon the median call date of June 15th.

The two monitoring efforts above will be used to determine early season (spring) drought concerns.

3. **Hatcher Reservoir Level**

Definition – measurement of the level of the surface of a reservoir as it relates to its usable capacity of 880-acre feet.

Operation – Water levels of the reservoir will be gathered weekly and compared to the median level for each given month.

4. **San Juan River Flows**

Definition – River flows measured from the USGS flow gage located in Pagosa Springs.

Operation – Flows will be gathered and compared to the median level for each given month.

5. **United States Drought Monitor**

Definition – The regional drought stage as defined by the National Drought Mitigation Center.

Operation – The U.S. Drought Monitor is a map released every Thursday, showing parts of the U.S. that are in drought. The map uses five classifications: abnormally dry, moderate; severe; extreme and exceptional.

The three monitoring efforts listed above (three through five) will be entered into a scoring spreadsheet that will serve to catalog the dynamic activity of current water supply and the anticipated water availability. The effort to monitor water supply conditions is ultimately a mechanism for PAWSD to better understand the water supply system as well as predict the potential severity of a drought.

See Section 7.2 for additional information on the monitoring of drought indicators.

6. STAGED DROUGHT RESPONSE PROGRAM

PAWSD will make every effort to ensure that the maximum amount of water available is being captured. In 2002, 2018, 2020 and 2025, this commitment amounted to placing sandbags in the West Fork of the San Juan River and the main stem of San Juan River to increase the water level and direct maximum water flow into the diversion structures. It is worth mentioning that in July of 2002 when the USGS gauging station located in downtown Pagosa Springs was registering San Juan stream flows as low as 16 cfs, PAWSD was still able to draw its full facility maximums from the West fork and San Juan Diversions. However, senior water rights exist on the San Juan River that may affect the amount of water PAWSD is able to draw in a future drought event.

The majority of PAWSD's water demands occur during the summer months when the effects of drought are most pronounced. PAWSD has chosen to focus demand reduction efforts on irrigation and outdoor water use. PAWSD also seeks to reduce water use through its public education and water conservation efforts.

Within each drought stage there is a targeted demand reduction goal, the actions to be taken to achieve that goal, and the preservation focus. As shown in Table 13, mandatory water use restrictions do not go into effect until Level 1 where irrigation is limited to evening, night, and morning hours, but is permitted seven days per week. Level 2 reduces irrigation days to every other, allowing for 2-3 watering days per week (irrigation is not allowed on weekends). Level 3 permits irrigation only one day per week to sustain landscapes. Level 4, being the most severe stage, prohibits outdoor watering of landscapes all together.

An overview of irrigation-specific water use restrictions is shown below.

Table 11 – Demand Reduction Goals, Options, and Focus

Drought Stages	Demand Reduction Goal	Demand Reduction Focus Option	Focus
Voluntary	00 - 10%	Public education and awareness	Encourage responsible water use
Level 1 Low	10 - 20%	Irrigation allowed from 6 PM – 9 AM Tier charge multipliers shall be applied.	Keep all landscapes elements alive
Level 2 Moderate	20 - 30%	Irrigation allowed from 6 PM to 9 AM Odd/Even watering days based upon address Tier charge multipliers shall be applied.	Preserve landscape elements such as trees, shrubs, gardens, and turf grass
Level 3 Serious	30 - 40%	Irrigation allowed from 6 PM to 9 AM 1 day per week based upon address Drought Surcharge shall be applied Tier charge multipliers shall be applied	Sustain certain landscapes elements such as trees, shrubs, and gardens while allowing turf grass to go dormant
Level 4 Severe	40 - 50%	No irrigation of outside landscapes Drought Surcharge shall be applied Tier charge multipliers shall be applied.	Recognize that landscape die-off may occur

Table 11 highlights the drought stages, response targets, and summarizes the drought response measures to be implemented.

Table 12 – Mandatory Water Use Restrictions

Drought Stages	Demand Reduction Goal	Mandatory Water Use Restrictions
Voluntary	00 - 10%	None
Level 1 Low	10 - 20%	Irrigation is permitted only between 9 PM – 9 AM Gardens (edible and ornamental) may be hand watered using a hose or drip irrigation Restaurants encouraged to serve water only upon the request of customers. Hotels encouraged to replace towels and bed linens for new guests and at the request of existing guests.
Level 2 Moderate	20 - 30%	Irrigation permitted only between 9 PM to 9 AM based upon address Odd numbered addresses may irrigate on odd numbered calendar days while even numbered addresses may irrigate on even numbered days Irrigation is permitted Monday – Friday Only. Weekend watering is prohibited. Gardens (edible and ornamental) may be hand watered using a hose or drip irrigation. Restaurants shall serve water only upon the request of customers. Hotels encouraged to replace towels and bed linens for new guests and at the request of existing guests.
Level 3 Serious	30 - 40%	Irrigation permitted only between 9 PM to 9 AM based upon address Irrigation is permitted Monday or Thursday only depending on address. Watering on other days is prohibited. Gardens (edible and ornamental) may be hand watered using a hose or drip irrigation. Restaurants shall serve water only upon the request of customers. Hotels encouraged to replace towels and bed linens for new guests and at the request of existing guests.
Level 4 Severe	40 - 50%	Irrigation of all landscape elements is prohibited, including gardens (edible and ornamental).

PAWSD will make every effort and utilizes resources that ensure the public is regularly made aware of the severity of the current drought situation. The steps required to achieve this goal are redundant for levels 1 – 4. The Voluntary level does not necessitate more costly outreach efforts, such as direct mailings, because there are no mandated water use restriction measures being imposed.

The Public Drought Campaign is to be monitored by the District Manager and reported to the Board of Directors.

Table 13 – Public Information Campaign Components and Tools

Public Information Campaign Components	Dissemination Tools							
	Web	Water Bill	Newspaper	Direct Mailing	Radio	Public Meeting	Email	Dropcountr
Status of current water supply and drought conditions	☑º		☑º			☑º		
Demand reduction goals	☑º		☑º	☑º				
Current drought stage and water use restrictions	☑º	☑º	☑º	☑º		☑º	☑º	☑º
Measures/impacts customers can expect if drought continues or	☑º		☑º			☑º	☑º	
Explanation of modified rate structure/drought surcharge	☑º	☑º	☑º	☑º		☑º	☑º	☑º
Water conservation tips and suggestions	☑º	☑º	☑º		☑º	☑º	☑º	
Water reuse education	☑º		☑º		☑º	☑º	☑º	
Promote xeriscaping	☑º		☑º				☑º	
Promote efficient irrigation practices	☑º	☑º	☑º		☑º	☑º	☑º	

7. IMPLEMENTATION AND MONITORING

7.1. DROUGHT MITIGATION ACTION PLAN

Table 14 shows current actions and projects that PAWSD is engaged in to increase the security and understanding of the water supply system and provide mitigation of the effects of drought.

Table 14 – Drought Mitigation Actions, Steps, Milestones, and Administration

List of Drought Mitigation Actions	Steps to Implementation	Milestone Deadlines	Entities/Staff Responsible for Administration
Water Conservation Plan	follow plan	to be updated 2023	District Manager
Transfer of water from Stevens to Hatcher	Design & Construction	Winter 2026/2027	Operation Manager/Project Manager
Fourmile Creek stream access	purchase senior water rights	On-going	District Manager
Infrastructure Leak Detection	field time	On-going	Utility Infrastructure Superintendent
Demand side Leak Detections	Utilize AMI system	On-going	Utility Infrastructure Superintendent

7.2. MONITORING OF DROUGHT INDICATORS

As described in Section 6.1, the monitoring and recording of the water supply is critical in understanding the dynamics of the water supply as well as in predicting the potential and severity of drought.

Table 15 provides an overview of drought indicators, sources, monitoring frequency and PAWSD staff responsible for these tasks.

Table 15 – Drought Indicators, Resources, Information Locations, Monitoring, and Administration

Drought Indicators	Information Resources	Information Locations	Monitoring Frequency	Entities/Staff Responsible for Administration
San Juan Stream Flow	USGS	http://waterdata.usgs.gov	October 1 – September 30	Operations Manager
Hatcher Reservoir Level	PAWSD Staff	S://Water Plant Production/Historical Lake Levels.xls	Utility Infrastructure Superintendent	Utility System Operator/Superintendent
Snow Water Equivalent (SWE)	NRCS	www.wcc.nrcs.usda.gov	October 1 – September 30	District Manager
Fourmile Creek Call Date	Not Available	Not Available	NA	Operations Manager
State Drought Stage	United States Drought Monitor	Droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?CO	NA	District Manager

It is important that knowledge and insights gained through conditions monitoring be cataloged and shared. Beginning April 1 of each year, the District Manager shall begin collecting and recording current water supply conditions, the main components of which are highlighted below.

Table 16 provides an overview of the calendar schedule for drought monitoring tasks for PAWSD staff.

Table 16 – Conditions Monitoring Schedule

Conditions Monitoring Schedule	
April	Water Supply Availability Forecast • Call Date on Four Mile Creek • Snow Water Equivalent reaches 0" • Reservoir levels • San Juan stream flow (% of average) • Drought Stage Use mountain snowpack conditions to begin forming relevant press release
May	Continue Water Supply Availability Monitoring • Call Date on Four Mile Creek • Snow Water Equivalent reaches 0" • Reservoir levels • San Juan stream flow (% of average) • Drought Stage Use current conditions to promote water conservation Communicate current observed water supply conditions to the Board of Directors Appropriate and timely press releases
June	Continue Water Supply Availability Monitoring • Call Date on Four Mile Creek • Snow Water Equivalent reaches 0" • Reservoir levels • San Juan stream flow (% of average) • Drought Stage Use current conditions to promote water conservation Communicate current observed water supply conditions to the Board of Directors Begin discussions about potential implementation of the appropriate drought stage based upon Trigger Points Begin efficient irrigation community awareness campaign Continue appropriate and timely press release and radio adds
July	Continue Water Supply Availability Monitoring • Reservoir levels • San Juan stream flow (% of average) • Drought Stage Use current conditions to promote water conservation Communicate current observed water supply conditions to the Board of Directors Implementation of appropriate drought stage based upon Trigger Points (if applicable) Continue efficient irrigation community awareness campaign Continue appropriate and timely press release and radio ads
August - December	Continue with the efforts shown above until such a time as concerns of drought and water supply availability have past

7.3. Drought Declarations

It is the role of the District Manager to ensure that the above-mentioned drought indicators are monitored and formally recorded beginning April 1 and concluding November 1 of each year.

A worksheet has been developed that allows PAWSD staff to enter current reservoir levels and water inflow from the Fourmile Creek and San Juan River diversions as well as estimated demand through the water year. With these data sets in place the worksheet will calculate the amount of water available and will prompt the user when a trigger point threshold has been crossed.

Once a trigger point threshold has been crossed, the District Manager will present these findings to the PAWSD Board of Directors.

Voluntary measures can be implemented by the District Manager however it is the responsibility of the PAWSD Board of Directors to formally declare a drought thereby allowing the District to begin efforts to reduce water demand using penalties and/or tier rate multipliers. This announcement should be made at the next scheduled public Board meeting. A special meeting may be called should the current situation warrant such immediacy.

7.4. Implementation of the Staged Drought Response Plan

The District Manager is responsible for recommending to the Board of Directors the current drought status and any accompanying water use restrictions. The final determination of the Board of Directors will be made public by utilizing the local media outlets, direct customer mailing and statement inserts and use of the Dropcountr system when applicable. It is the role of the District Manager to implement the staged drought response plan. Once the elements of the Plan are put into motion following a formal determination by the Board of Directors of the current drought level, an "all hands-on deck" approach is to be employed by all PAWSD staff wherein each staff member will have a role in implementing the Plan. Administrative and field staff will be briefed on the current situation and how their responsibilities and duties may be modified to achieve the demand reduction goal stated within each level of drought severity. At the outset of each drought stage, the District Manager shall provide PAWSD staff with a handout detailing the current drought stage and the water use restrictions therein to ensure everyone understands the details and all public communication is accurate and consistent.

7.5. Schedule Waiver

The District understands that under specific circumstances adherence to the water schedule per this Plan may be impractical. A waiver system has been developed allowing customers to request a waiver from the irrigation schedule (**See Appendix I**). Granting a waiver is fully at the discretion of the District Manager or Board of Directors. The District reserves the right to rescind the waiver at

any time. The waiver is only for irrigation scheduling; it does not waive surcharges or rate multipliers. The waiver will protect the applicant from non-compliance penalties as outlined in Table 17.

7.6. Enforcement of the Staged Drought Response Plan

PAWSD customers will be made aware of the current drought situation and any corresponding mandatory water use restrictions as described in Section 6.0. Repeated failure to comply with mandatory watering restrictions and/or watering days could result in PAWSD imposing penalties as specified in the District's Rules and Regulations. These violation charges will be added to the property owner's monthly water bill and if not paid in a timely manner, could result in the disconnection of service.

With each violation, it is the duty of the Customer Accounts Supervisor to notify the property owner in writing of the violation, the date of the occurrence, as well as any resulting fine. All notifications will be sent to the address on record.

Table 17 – Non-Compliance

Non-Compliance Violations	Level 1	Level 2
	Voluntary	Low to Severe
First	Not Applicable	Written warning and Water Conservation Level Notification Sheet delivered.
Second	Not Applicable	$100 fine, Water Conservation Level notification sheet delivered.
Third	Not Applicable	$250 fine Water Conservation Level Notification Sheet delivered.
Fourth	Not Applicable	$500 fine Water Conservation Level Notification Sheet delivered.

NOTE: The fees for non-compliance are subject to change.

7.7. Revenue Implications and Financial Budgeting Plan

It is commonly understood that a reduction in water demand is generally followed by a reduction in revenue. It is also true that there is a relationship between price and demand in that as the price increases, the demand generally decreases. Considering this, PAWSD may impose a drought surcharge or modified rate structure to accomplish two things –

1. Reduce water demand.

2. Ensure financial stability during times of decreased water deliveries.

It is PAWSD's goal to avoid undue hardship or unfair restrictions upon those already working to conserve water. For this reason, each residential water customer will be allowed up to 5,000 gallons per month (per EU) before the Stage 1 multiplier is implemented and 4,000 gallons per month (per EU) tier rate increases for subsequent stages (surcharge will apply as applicable). Commercial water users will not be assessed tier multipliers until the District goes into a Level 3 or 4 drought stage. At that time commercial users will be allowed up to 6,000 gallons per month (per EU) free of tier rate increases related to drought stage (surcharge will apply). A customer who uses above those volumes within a billing period will be subject to structured water rate increases as detailed below.

Table 18 – Drought Surcharge/Water Rate Adjustment (Residential)

Gallons/EU	Voluntary	Level 1	Level 2	Level 3	Level 4
0 - 4000	n/a	n/a	n/a	surcharge	surcharge
4,001 +	n/a	1.25x standard tier rate fee for flows above 5,000	2x standard tier rate fee for flows above 4,000	surcharge and 3x standard tier rate fee for flows above 4,000	surcharge and 4x standard tier rate fee for flows above 4,000

Table 19 – Drought Surcharge/Water Rate Adjustment (Commercial)

Gallons/EU	Voluntary	Level 1	Level 2	Level 3	Level 4
0 - 6,000	n/a	n/a	n/a	surcharge	surcharge
6,001 +	n/a	n/a	n/a	surcharge and 2x standard tier rate fee	surcharge and 3x standard rate fee

The tier rate multipliers will be implemented starting on the first day of the new billing cycle after the board votes to enter a drought stage. The watering schedule will be implemented immediately upon the board vote. When the board votes to go out of a drought stage the rate multiplier will end at the beginning of the current billing cycle.

The surcharge is calculated to recoup lost water sales for Drought Stages 3 and 4. As previously stated Drought Stage 3 and 4 have a goal of reducing water production by 40% and 50%. The surcharge has been calculated by taking the average water sales for 2024 and 2025 then multiplying by the reduction goals of 40% and 50% and dividing by the average number of EUs for 2024 and 2025 and then dividing by 12.

Table 20 – Non-Compliance

Drought Stage	Surcharge
3	$20.98
4	$26.23

Financial incentive for water conservation

Voluntary: Standard rate structure applies. No surcharge will be added.

Level 1 - Low: The standard rate structure applies per 1,000 gallons of use up to 5,000 gallons (per EU) for residential. 1.25 times the standard rate structure will apply to gallons used over 4,000 gallons (per EU) residential. A multiplier will not be applied to commercial accounts. No surcharge will be added. Non-compliance penalties will apply to residential and commercial.

Level 2 - Moderate: The standard rate structure applies per 1,000 gallons of use up to 4,000 gallons (per EU) for residential. Two times the standard rate structure will apply to gallons used over 4,000 gallons (per EU) residential. A multiplier will not be applied to commercial accounts. No surcharge will be added. Non-compliance penalties will apply to residential and commercial.

Level 3 - Serious: Surcharges will be added to both residential and commercial accounts. Three times the standard rate structure will apply to the gallons used in excess of 4,000 (per EU) residential. Two times the standard rate structure will apply the gallons used in excess of 6,000 (per EU) gallons for commercial or non-residential within a single billing period. Non-compliance penalties will apply to residential and commercial.

Level 4 - Severe: Four times the standard rate structure will apply to the gallons used in excess of 4,000 (per EU) residential. Three times the standard rate structure will apply the gallons used in excess of 6,000 (per EU) gallons for commercial or non-residential within a single billing period. The Drought Surcharge remains in place. Non-compliance penalties will apply to residential and commercial.

Businesses wherein the control of water use is not regulated by the owner (i.e., Hotels, Car Washes, etc.) may appeal to PAWSD for a reduction or waiver of drought surcharge increases so long as the business can show that it is doing everything within its power to encourage water conservation at all levels.

The funding to implement, monitor, and manage the numerous components of the Drought Management Plan will come from the PAWSD general fund for operations. It is not anticipated that revenue shortfalls due to the effectiveness of community water demand reductions during a time of drought should ever result in permanent water rate increases.

7.8. Monitoring of Plan Effectiveness

Should the Drought Management Plan be employed in a time of water scarcity, the overall effectiveness of the Plan will be gauged by whether the demand reduction goals were achieved. This will be determined by comparing the most current monthly water sold to historic averages from the same month. The public outreach and clear and timely messaging are the key components to ensure community support. PAWSD is committed to ensuring that all customers will be well informed of the drought stage, the accompanying water use restrictions, the demand reduction goal, and why these steps are necessary.

Under the direction of the District Manager, following a drought event where water use restrictions were mandated, PAWSD will host a public forum to solicit comments to gauge the perception of the overall effectiveness of the plan and the way in which it was employed. Community feedback from this meeting will be used to strengthen the Plan.

8. FORMAL PLAN APPROVAL AND UPDATES

8.1. Public Review Process

A drought committee consisting of district residential and commercial customers along with District Staff and Board Members was formed to aid in the development of this plan. The committee reviewed and commented on the Drought Management Plan on April 6, 2026. Recommendations to the plan by the committee were provided to the PAWSD Board at the April 9, 2026, Regular Meeting.

The draft Drought Management Plan was available to the public from the PAWSD website (www.pawsd.org), PAWSD office and at the public hearing.

8.2. Adoption of Resolution and Official Agreements

It is the sole responsibility of the PAWSD Board of Directors to declare a drought wherein the elements of the Drought Management Plan will begin to take effect.

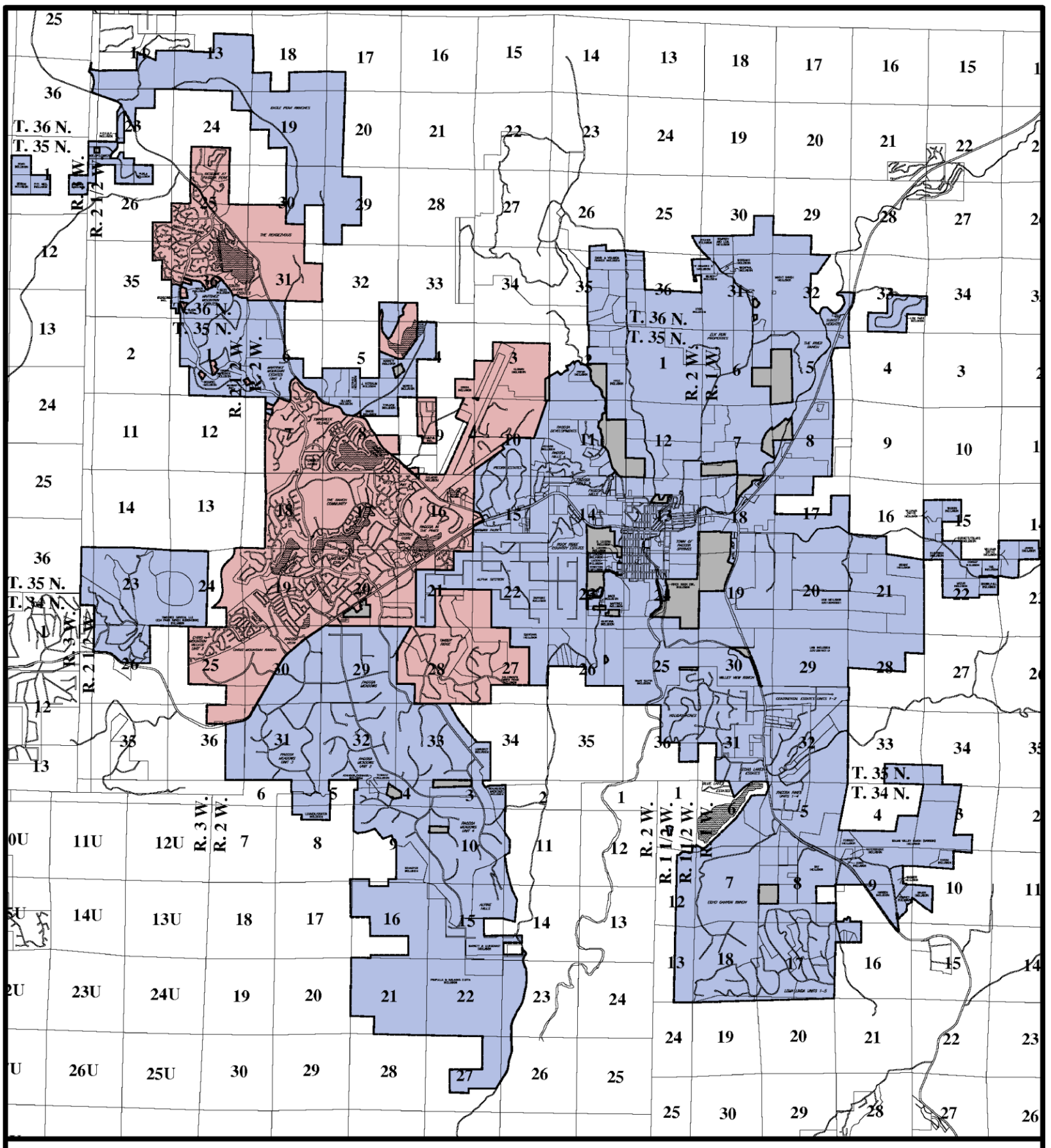
8.3. Drought Management Plan Approval

The PAWSD 2020 Drought Management Plan was approved by the Board of Directors on May 17, 2020. Per the Plan requirements, a review of the 2020 plan was conducted by the Drought Management Plan Committee on April 6, 2026. The District Board approved recommended revisions to the plan at the April 9, 2026, Regular Board Meeting.

8.4. Periodic Review and Update

This Plan is scheduled to be revisited and updated every five years or with major changes to the Districts water system with the next scheduled revision to occur in 2031. Should a drought event occur, and elements of the Plan put into place, an update would follow based upon the monitoring objectives laid out in Section 7.2.

APPENDIX A
Service Area



YEAR ADDED	INCLUSION NAME	EQUIVALENT UNITS
1994	Beaugureau & MacKenzie	2
	Echo Canyon Ranch	25
	Claman	20
	Collins	2
	Dempsey & Leal	2
	Eagle Peak Ranches	12
	Giordano	1
	P. & M. Gupta	4
	R. Gupta	13
	Hyde	19
	Quintana	10
	Wilsey	1
1995	Martinez	1
	Sands	1
1996	Alpine Hills Subdivision	12
	Dawson	23
	Forrest	4
	Leake	2
	Maez	3
	Outerbridge	1
	Schaeper	2
1997	Ray	6
	Wagner	3
	Dillard	3
	Downey	1
	Bauer	1
	Wildflower Sub. (ex. lots 27, 35, 42-45)	45
	Kukla	1
	Tesman	1
	The River Ranch (S.J.R.E., LLC)	8

YEAR ADDED	INCLUSION NAME	EQUIVALENT UNITS
	Lucero	1
	Stretton	1
	Frazier (Valley View Ranch, Tr. 1)	1
	Victory Mgmt. (Valley View Ranch, Tr. 2)	2
	Clare (Valley View Ranch, Tr. 3)	1
	Frazier (Valley View Ranch, Tr. 4)	1
	Brown (Valley View Ranch, Tr. 5)	2
	Pond	1
	Gibson	1
	Phy. Med. (Barker)	1
1998	Thalman	2
	Ketchum	2
	Colorado's Timber Ridge (Machock)	260
	Belmear	14
1999	Maes	1
	Macht Ranch	2
	Timbered Canyon, LLC (Elk Park)	119
	David and Yolanda Parker	4
2002	Lunnen/Carter (Hidden Meadows)	5
	Atkinson/Donhart	0
	Wienpahl	1
	Hansen	0
2003	Lamasney	1
	Payne	1
	Morris	1

YEAR ADDED	INCLUSION NAME	EQUIVALENT UNITS
2004	Humane Society of Pagosa Springs	2
	Hackett	1
2005	Jimmy Lucero	2
	Bernardo Lucero	1
	Madalina Lucero	2
2006	Dillard (Wastewater for 2 lot subdivision)	2
	Knudson (Wastewater Lot 59 Mtz. Mtn.)	1
2007	Thibault (Portion Lot 266X Meadows 4)	0
	Maun (Wastewater Mtz. Mtn., Lot 57)	1
	Humane Soc. of P.S. (2 add. W & WW)	2
2010	Cecka Family Living Trust	1
2012	N.C.F.R.P., Inc. (Wildflower, Lot 45)	1
2013	Blackmon	1
	Mazur	1
	Corley	1
	Soniat	1
	Williams	2
	Wilson	1
	Burnett/Toland	1

YEAR ADDED	INCLUSION NAME	EQUIVALENT UNITS
2014	Vail	1
	Jones	1
	Williams	1
	Log Park	42
2016	Schabel (Wastewater Mtz. Mtn. 2, Lot 1)	1
2017	Brown/Hill	1
	Rizzo (Wastewater Mtz. Mtn., Lot 103)	1
2018	Zappone	1
	Black (Wastewater Mtz. Mtn. Lot 54)	1
	LKM, Ltd. (for 570129100115)	1
2020	Murray (Wastewater Mtz. Mtn. 2 Lot 11)	1
	Scoggins (Wastewater Mtz. Mtn. Lot 56)	1
	Pitcher	1
	Rivera	1
	River Rock Estates	10
2022	J. Ketchum	1
	Tyson/Murdock (W.W. Mtz. Mtn. Lot 20X)	1
	W Diamond X	1

P.A.W.S.D.

PAGOSA AREA WATER AND SANITATION DISTRICT

ORIGINAL SCALE: 1" = 7000'

0' 7000'

INCLUDED IN DISTRICT WATER AND SEWER SERVICE

INCLUDED IN DISTRICT WATER SERVICE ONLY

EXCLUDED FROM DISTRICT

MAP OF
PAGOSA AREA WATER AND SANITATION DISTRICT
ARCHULETA COUNTY, COLORADO

PREPARED BY

DAVIS ENGINEERING SERVICE, INC.
188 S. 8th STREET – P.O. BOX 1208
PAGOSA SPRINGS, COLORADO 81147

REVISED JANUARY 25, 2023

APPNDIX B
Source Water Map

4 Mile Creek Diversion

West Fork Diversion

Dutton Ditch / Pipeline

Dutton Pipeline

Dutton Ditch

Pagosa Pipeline

Lake Pagosa

Lynn & Clark Ditch

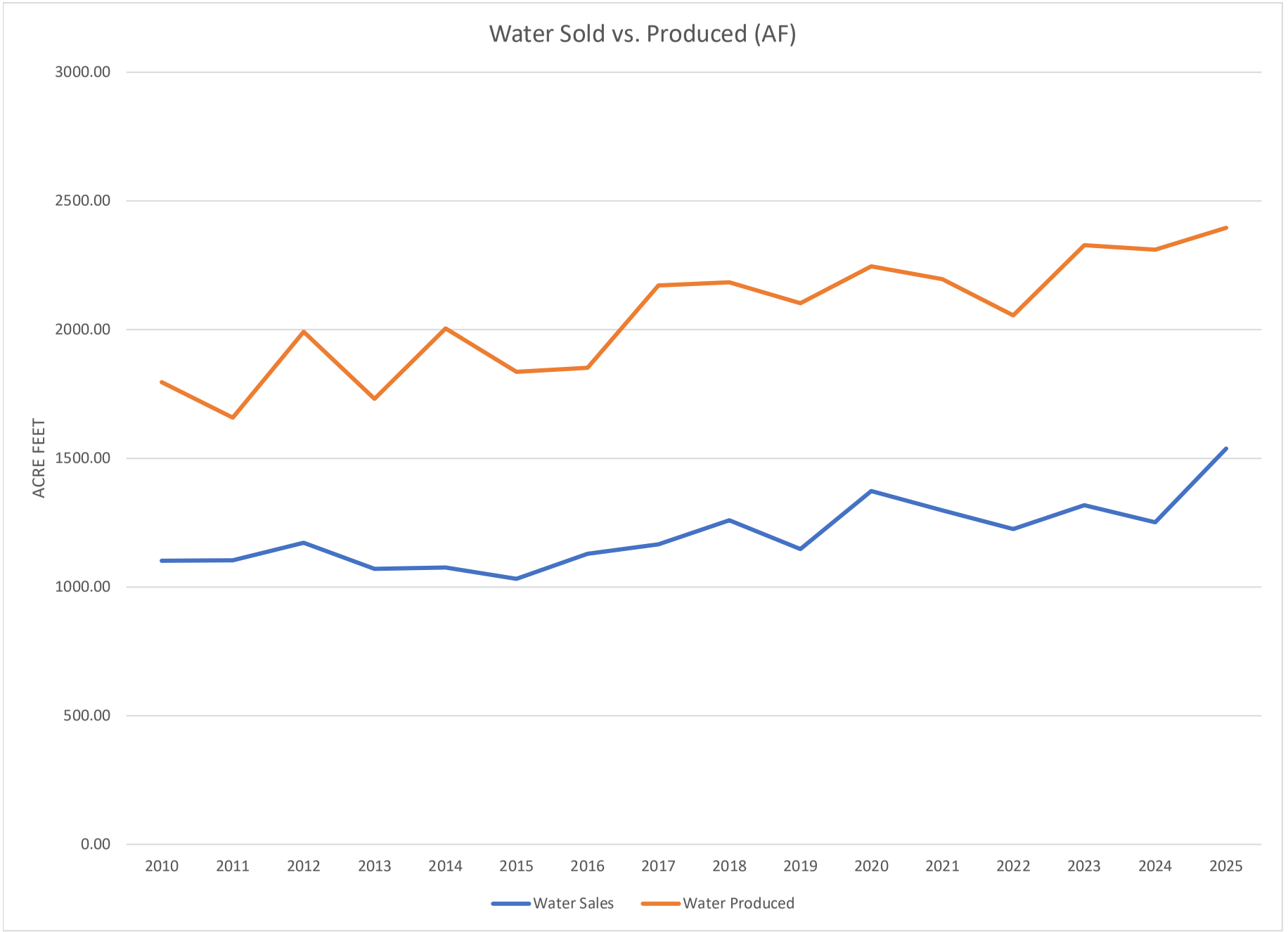
Vista Discharge

Stevens Draw

San Juan Pipeline

San Juan Diversion

APPENDIX C
Water Treatment Plant Production And Raw Water Sales


Water Sold vs. Produced (AF)
3000.00
2500.00
2000.00
1500.00
1000.00
500.00
0.00
ACRE FEET
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
Water Sales
Water Produced

APPENDIX D
2026 Firm Yield

Appendix D – 2026 Firm Yield Report

Existing Capacity Operation

		AF	Summer/MGD
Water Production			
	Treated	2,396.64	2.63
	Raw	523.70	1.41
	TOTAL	2,920.34	4.04
Usable Storage			
	Hatcher	880.0	
	Stevens	1,730.0	
	Pagosa	920.0	
	Village	228.0	
	Forest	269.0	
	TOTAL	4,027.0	
Diversions			Summer/MGD
	West Fork	1194	0.57
	Main Stem	934	1.78
	Four Mile	301	2.28
	TOTAL	2,430	4.63

Note(s):
1. Summer flows are typically 3 X average flows.
2. The San Juan WTP ran from May 8 to October 26, that is what was used for summer flows
3. Table based on 2025 flows.

Snowball pipeline and treatment plant are used to supply the District area from Putt Hill through town and down Highway 84 to Loma Linda. During the drought of 2002 the supply provided to the treatment plant from the West Fork Diversion was approximately 720 AF. The demand in this area is approximately 573 AF so there is adequate supply for current demand. It is assumed that no water from the Hatcher or San Juan WTP is necessary to meet this areas demand.

Fourmile Creek flow is diverted into the Dutton Ditch Pipeline whenever in priority. During the winter much of the Fourmile creek flow is contained in snow and ice, in the summer months a call on the river by senior water right holders stop all diversions into the Dutton Pipeline. Thus, PAWSD has access to average flows in the Dutton Ditch of approximately 1.5 cfs for an average of seven months per year

Flows in the Dutton Pipeline are first delivered to Hatcher Reservoir. Once Hatcher is full the flows can be totally or partially diverted to Stevens Reservoir.

Hatcher Reservoir and treatment plant are used first to meet demands, then if the demand exceeds the treatment plant capacity or the reservoir is low, then San Juan treatment plant can treat water from the

San Juan Diversion and pump station can move San Juan water to Village Lake, Lake Forest or directly to the treatment plant.

The San Juan Water Treatment Plant can operate year-round but cost constraints minimize the use of the plant for peaking only.

In addition to flows from the San Juan Diversion as described above, Lake Forest is also fed from the chain of upstream reservoirs of Village Lake, Lake Pagosa and Stevens Reservoir.

The water rights at the San Juan diversion are complicated but generally are:

a. A 6.5 cfs senior water right but the decree limits PAWSD to 105 AF per year.
b. A 0.8 cfs conditional right. The 0.8 priority date is equal to a competing Alpine Cascade water right located about one mile downstream.
c. A 12.0 cfs conditional fill right. This right is for storage in the river intake Forebay, Lake Forest, Village Lake, Pinon Lake, Lake Pagosa, Martinez Dam, Stevens Reservoir and Hatcher Reservoir. Currently this right can only be conveyed to Lake Forest and Village Lake. This right is decreed for municipal and other purposes.
d. A 12.0 cfs conditional fill right. This right is for storage in the river intake Forebay, Lake Forest, Village Lake, Pinon Lake, Lake Pagosa, Martinez Dam, Stevens Reservoir and Hatcher Reservoir. Currently this right can only be conveyed to Lake Forest and Village Lake. This right is decreed for recreational purposes.
e. A 1.52 cfs senior water right.
f. A 15.06 cfs conditional right.
g. Current pumping limitations allow for approximately 4 cfs.

PAWSD is contracted to provide the Golf Course with an annual guarantee of 300-acre feet of water.

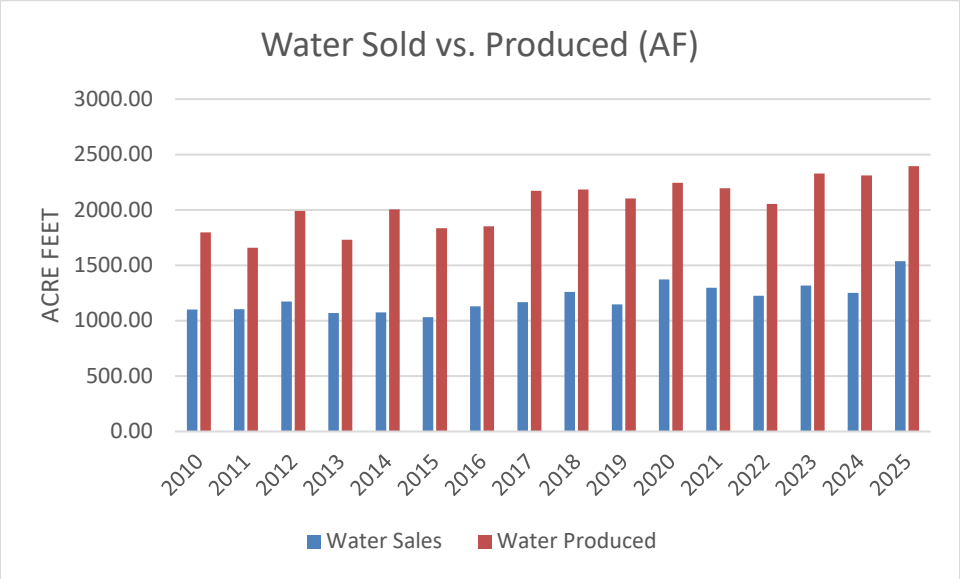
Multiple condominium communities and single-family homes located on the banks of the reservoirs use raw water for irrigation.

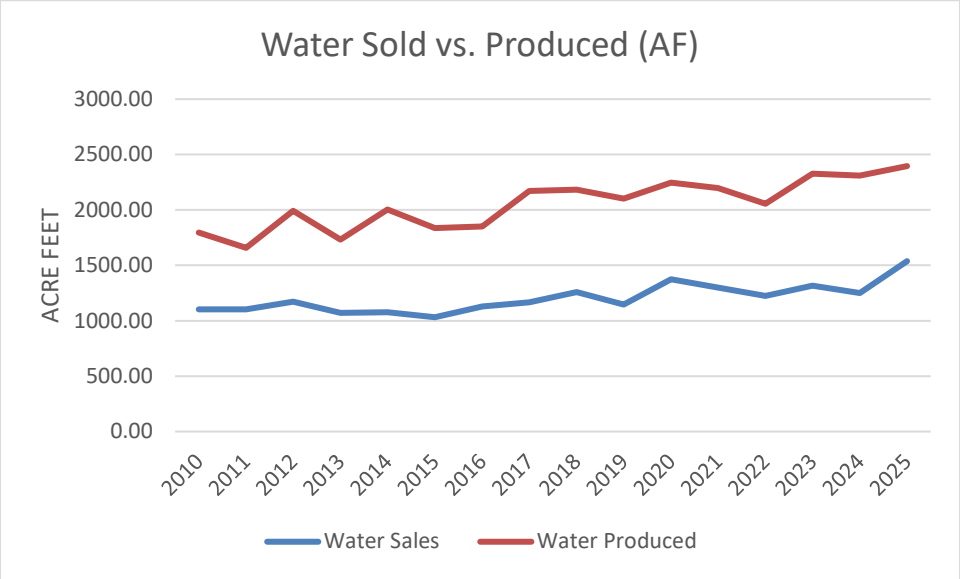
Reservoir evaporation is not included in this report.

Hatcher reservoir has a usable capacity of 880-acre feet. In 2025 1,455-acre feet of water was diverted from Fourmile creek into Hatcher or Sevens reservoirs. In 2025 the Hatcher plant generated 1,277-acre feet of water. Stevens Reservoir could provide 1,730-acre feet of water to Hatcher if a pipeline and pump station were developed. Between the two reservoirs they could provide approximately 2,610-acre feet or two years' worth of flow needs.

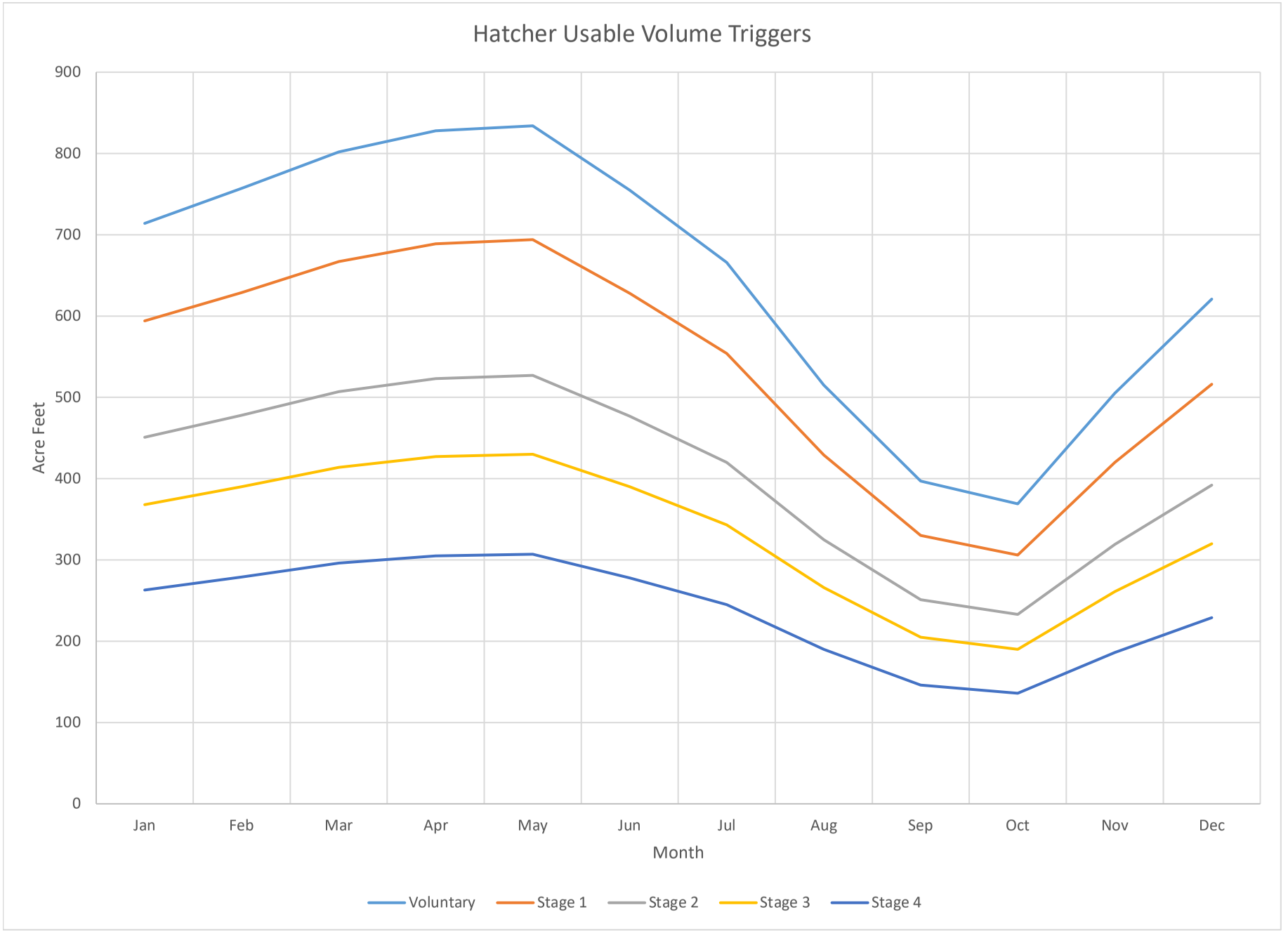
It should be noted that as water levels in reservoirs drop the quality of the water drops. This decrease in water quality impacts the efficiency of treatment facilities, reducing the actual treated volume from the treatment plants as well as increasing the cost per gallon. There is also an esthetic degradation as lake levels drop with lake shore receding from surrounding residences and existing boat docks and public access points.

Water production has increased an average of 1.46% and water sales have increased an average of 1.82% between 2010 and 2025. This includes a steep increase between 2024 and 2025 which was likely caused by the drought conditions experienced in 2025.





APPENDIX E
Hatcher Drought Trigger Stages


Hatcher Usable Volume Triggers
900
800
700
600
500
400
300
200
100
0
Acre Feet
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month
Voluntary
Stage 1
Stage 2
Stage 3
Stage 4

APPENDIX F
Media Release

PRESS RELEASE

Due to current drought conditions and decreasing water supply levels, the Pagosa Area Water and Sanitation District (PAWSD) will begin implementation of Level ___ water use restrictions beginning _____.

Below is an abridged summary of the levels of water use restrictions. A full and detailed explanation of forthcoming water use restrictions will be mailed to all PAWSD customers. It is expected that all affected customers will become familiar with the requirements and employ the demand reduction mandates so as to preserve the current water supply. Copies of the PAWSD Drought Management Plan are available at the www.pawsd.org or at the PAWSD office located at 100 Lyn Avenue.

Voluntary – Drought conditions are such that PAWSD is encouraging customers to voluntarily reduce the amount of water they use. There are no mandatory water use restrictions in place. There will be no modifications to the standard rate structure.

Level 1 – Low – Irrigation of landscapes may occur only from 6 pm to 9 am. Gardens (edible and ornamental) may be hand watered or watered through drip irrigation. Restaurants will serve water to customers only when requested. Hotels should only change bedding and wash towels during client turnover or upon request. Acts of water wastefulness are discouraged. The standard rate structure will increase by 1.25x for residential flows over 5,000.

Level 2 – Moderate – Includes all the water conservation measures found in Level Two with some modifications. Odd numbered addresses may irrigate on odd numbered calendar days while even numbered addresses may irrigate on even numbered days. Irrigation is permitted Monday through Fridays Only. Weekend watering is prohibited. The standard rate structure will increase by 2x for residential flows over 4,000.

Level 3 – Serious – Includes all of the water conservation measures found in Level 1 and 2 with some modifications. Irrigation is permitted on Mondays for even numbered addresses and Thursday for odd numbered addresses. The standard rate structure will increase by 2x for residential flows over 4,000 and commercial flows over 6,000 gallons. The addition of a drought surcharge of $20.98 per equivalent unit (EU) shall be applied.

Level 4 – Severe – This is the most critical stage and includes all of the water conservation measures found in Level 3 with some modifications. Watering of landscapes which include trees, shrubs, vegetables, flowers, turf, lawn and sod is strictly prohibited. All non-essential uses of water is prohibited (i.e. car washing) except in cases of health and safety. The standard rate structure will increase by 3x for residential flows over 4,000 and commercial flows over 6,000 gallons. The drought surcharge will increase to $26.23 per equivalent unit.

100 Lyn Avenue
Pagosa springs, Colorado 81147

www.pawsd.org

(970) 731-2691
FAX (970) 731-2693

APPENDIX G
Press Release

MEMORANDUM

Below is the PAWSD Drought Stage Trigger worksheet.

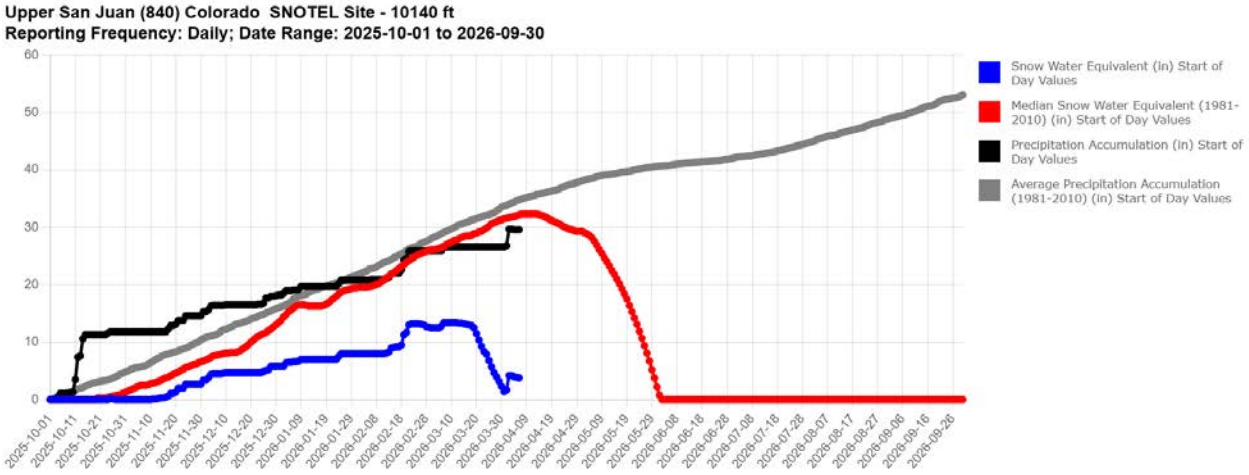
Pagosa Area Water and Sanitation District
Drought Stage Trigger Points
Data Entry Sheet

Today's Date	:	4/6/2026	
Date of SWE at 0"	:	NA	
Four Mile Call:	:	NA	
Early Drought Stage	=		
Hatcher Reservoir Level	:	7,739.40	Feet
San Juan River Flow	:	507.0	CFS
CO Drought Monitor	:	D3	
Drought Stage	=	Voluntary	

Hatcher reservoir is currently full, and the San Juan River is flowing at 507 cubic feet per second (CFS). The NOAA National Integrated Drought Information System has recently upgraded all of Archuleta County from Severe Drought to Extreme Drought. These conditions place us in the Voluntary Drought Stage. Drought conditions are such that PAWSD is encouraging customers to voluntarily reduce the amount of water they use. There are no mandatory water use restrictions in place.

The current Snow Water Equivalency (SWE) is 3.8", the median SWE on this day is 32.2". The recent snow in the upper watershed delayed the SWE from dropping to zero, however it is still likely

the SWE will drop to zero and the District will go into a higher level drought stage within the next two weeks. This is due to a very light snowpack this season and warmer than normal late winter and spring temperatures.



The District greatly appreciates everyone's continued diligence in conserving water. If you have any questions regarding the current Drought Management Plan, it can be found on the website at https://www.pawsd.org/water-service/water-conservation/.

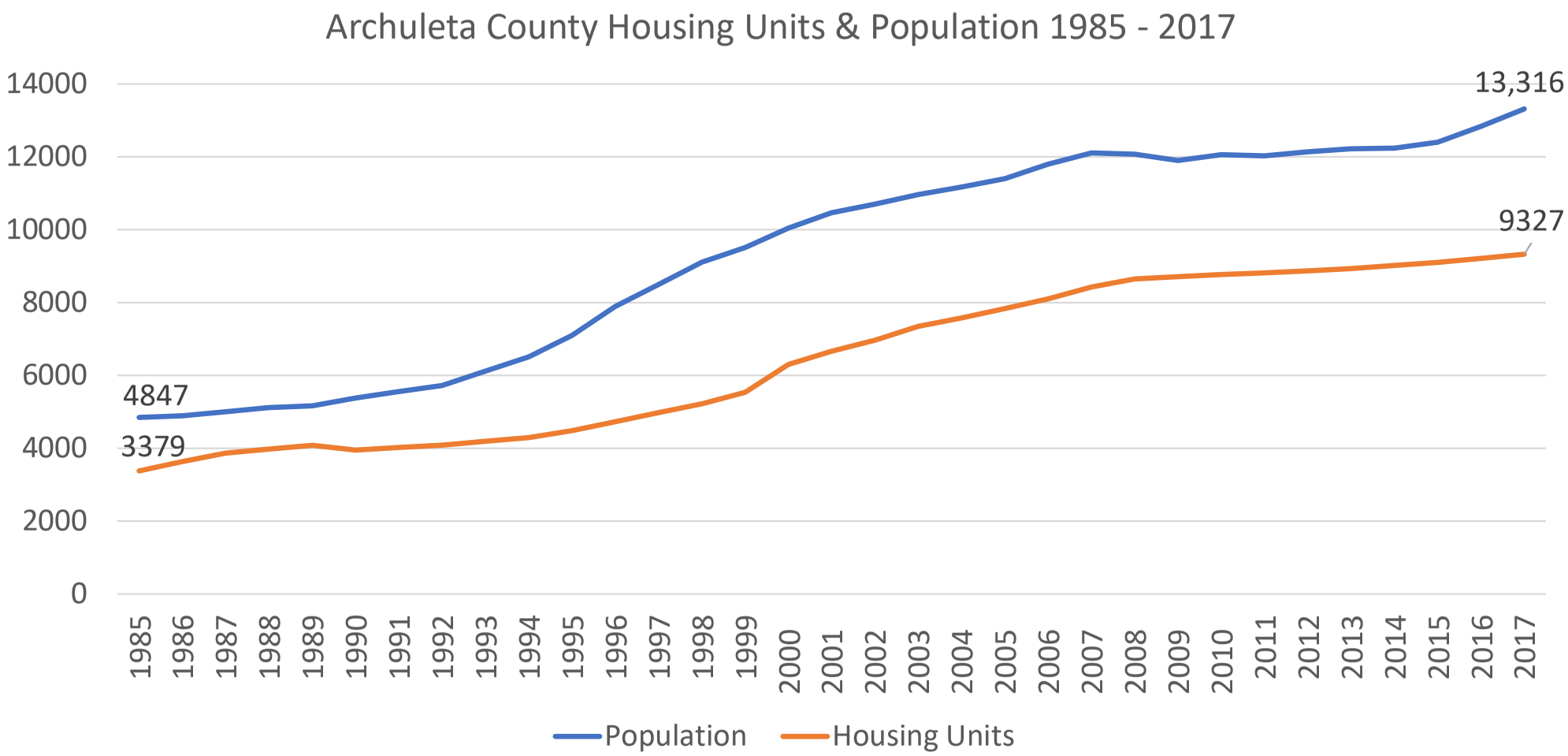
APPENDIX H
RPI Growth Trends and Projections

Growth Trends and Projections

Archuleta County Growing Water Smart

January 28, 2019

RPI consulting



Sources: US Census, DOLA

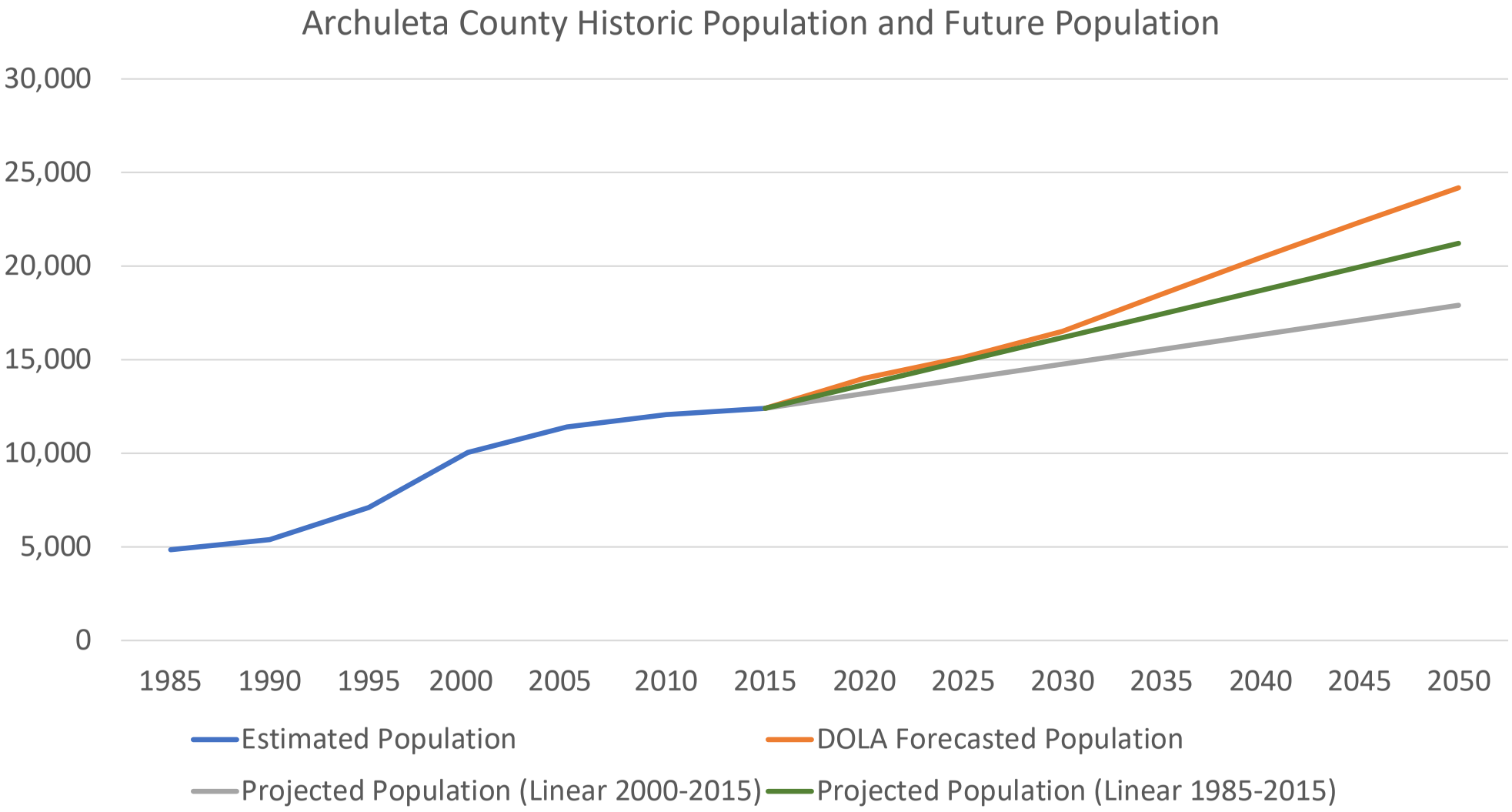
- Housing unit trend mirrors population trend
- Two periods of slowed growth (late 80s and 2008-2012)
- Almost 2 decades of high growth (1991-2008)
- Steady moderate growth since 2013

Rate of Change – Archuleta Housing Units and Population

	1985	1990	1995	2000	2005	2010	2015	2017
Population	4,847	5,382	7,098	10,042	11,402	12,060	12,401	13,316
Average Annual Percent Change for 5 Year Period		2.21%	6.38%	8.30%	2.71%	1.15%	0.57%	3.69%
Housing Units	3,379	3,951	4,483	6,302	7,836	8,772	9,100	9,327
Average Annual Percent Change for 5 Year Period		3.39%	2.69%	8.12%	4.87%	2.39%	0.75%	1.25%

Sources: US Census, DOLA

- Housing units grew faster than population 85-90, 2000-05, 2005-10
- Population grew faster than housing units 1990-1995, 2015-2017
- Total growth for both housing units and population since 1985 = 175%
- Trends suggest a cycle of residential construction and absorption.

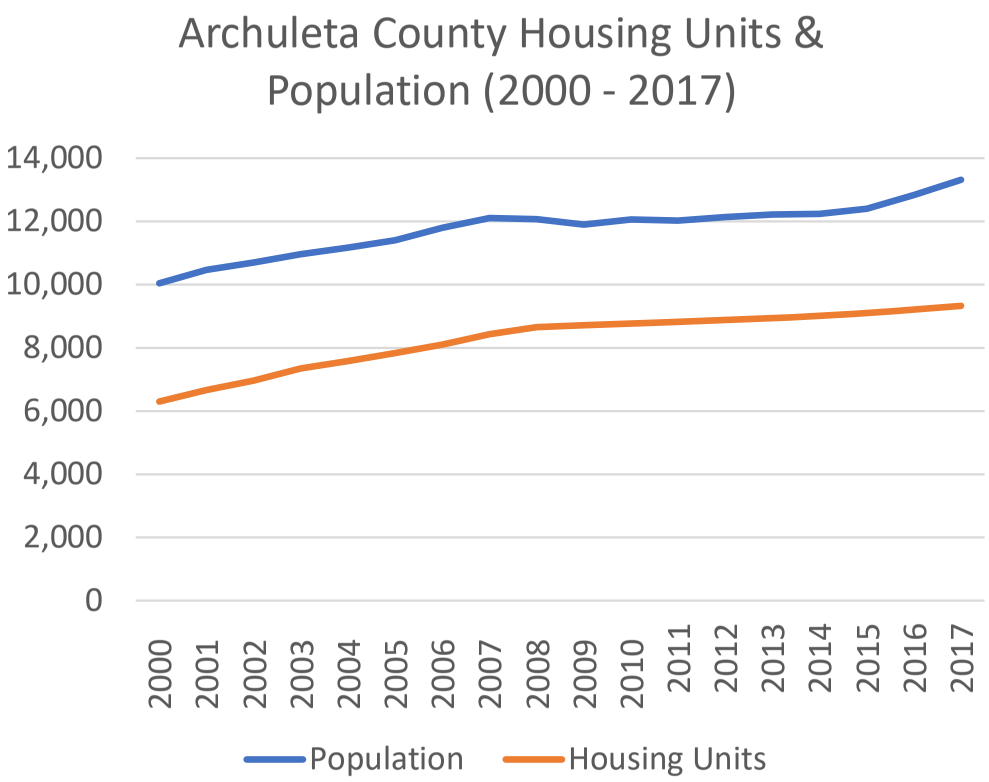


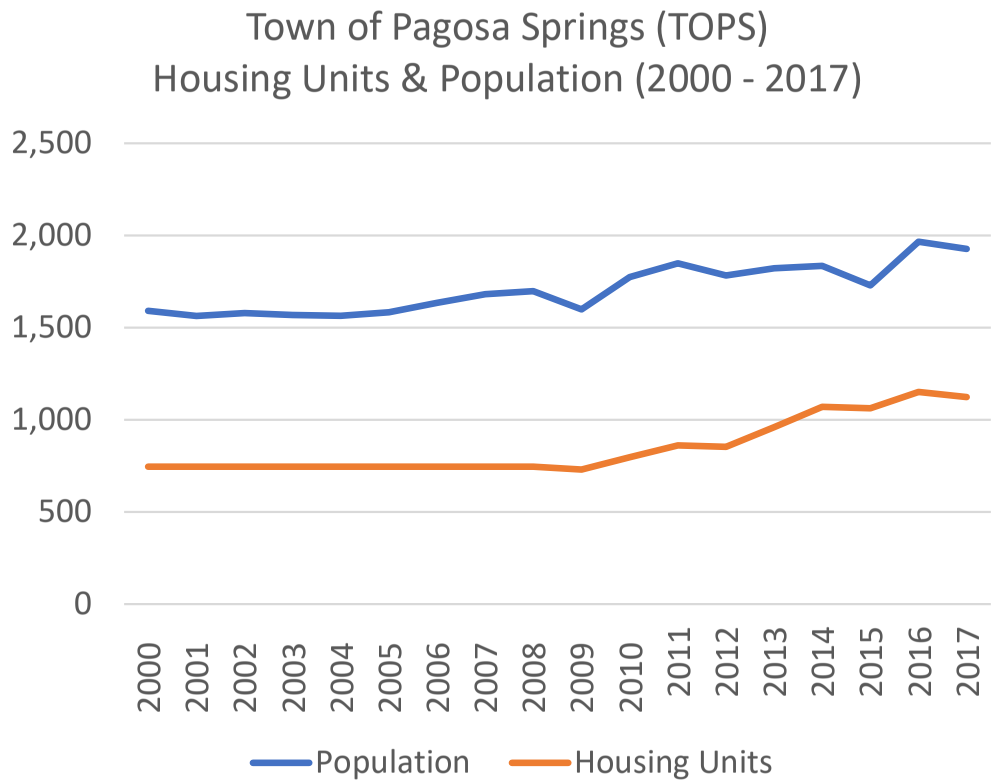
Sources: US Census, DOLA, RPI Projections

- DOLA forecasts exceed projected population based on 1985-2015, which include the unprecedented growth in the 1990s

2000 to Most Current: The Reference Period

- 2000 to current had all the ingredients:
  - Dot com bust (2001)
  - 2000s growth
  - Great Recession
  - Recovery
- Recent history matters when projecting forward
- Recent data is more complete and accurate





Sources: US Census, DOLA

Indicator	Geography	Start Year	End Year	Start Value	End Value	Percent Change 2000 - 2017	Average New Annually	Average Annual Change
Housing Units	Archuleta County	2000	2017	6,302	9,327	48.00%	178	2.82%
Housing Units	Town of Pagosa Springs	2000	2017	746	1,124	50.67%	22	2.98%
Population	Archuleta County	2000	2017	10,042	13,316	32.60%	193	1.92%
Population	Town of Pagosa Springs	2000	2017	1,591	1,927	21.12%	20	1.24%

- Housing units grew more quickly than population 2000-2017 because of construction pace in 2000-2008.

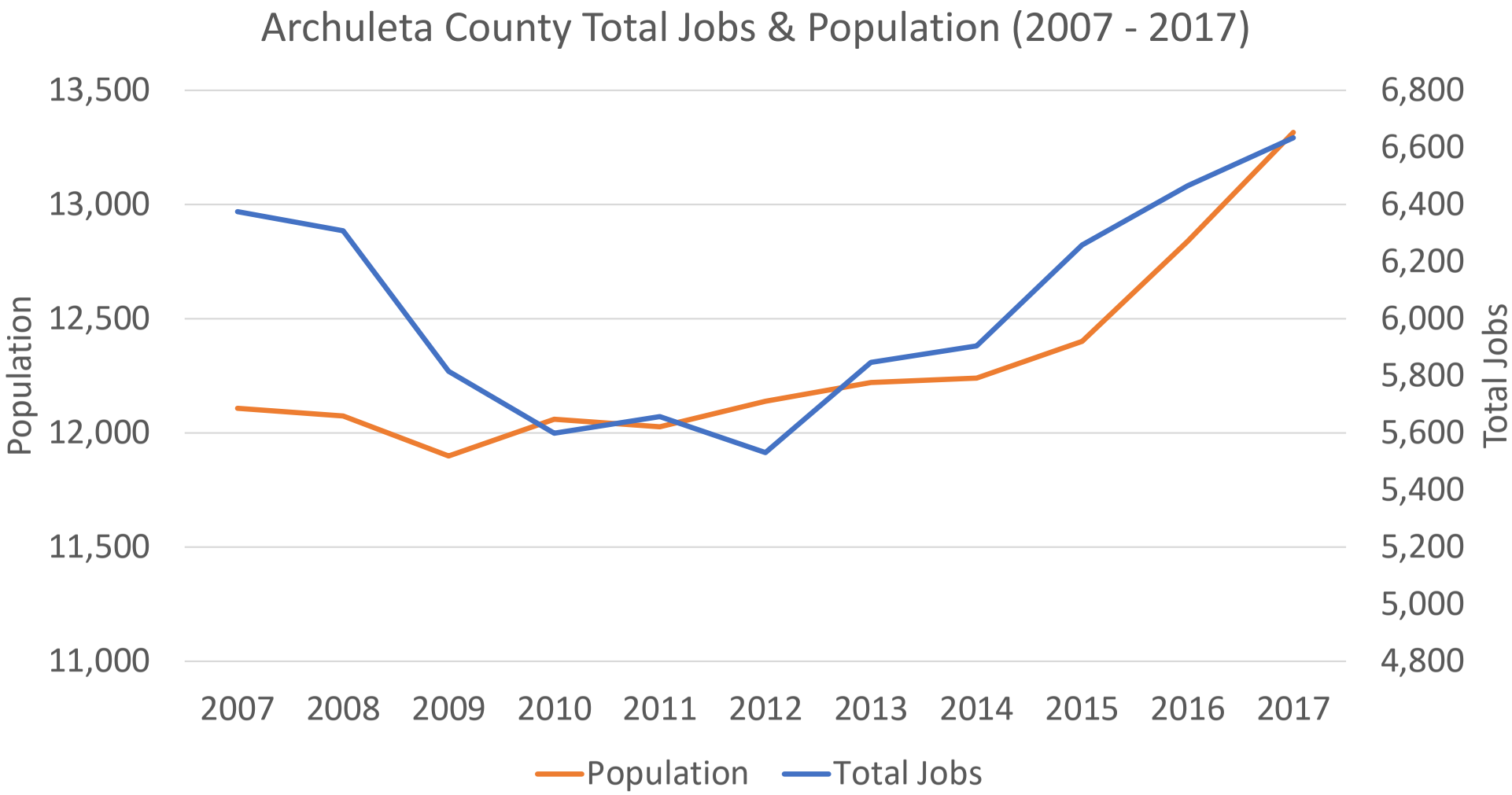
Housing Occupancy Trends

Archuleta County Occupancy Status	2000	2010	2012	2017
Occupied	3,980	5,267	4,536	5,553
Vacant	2,232	3,495	4,206	3,568
Surveyed Housing Units	6,212	8,762	8,742	9,121
Percent Occupied	64.07%	60.11%	51.89%	60.88%

Archuleta County Average Household Size	2000	2010	2012	2017
Household Size (Total)	2.47	2.27	2.64	2.24

Source: US Census

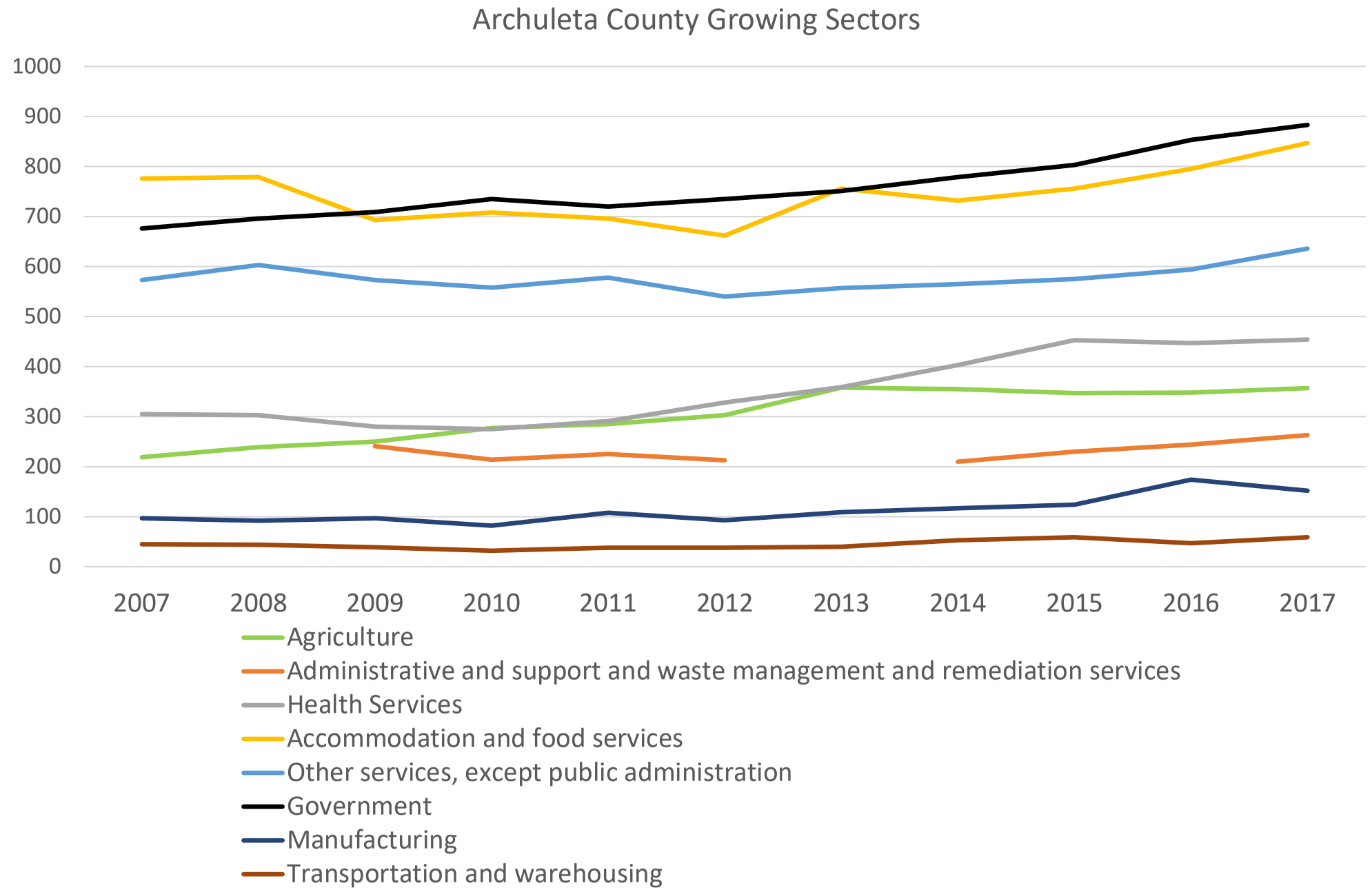
- Vacancy hovers around 40%, includes vacation homes
- Tight housing market in 2017 points towards vacation homes as most of the vacant units.
- Household size fell between 2000-2010 (decennial census).



Source: DOLA

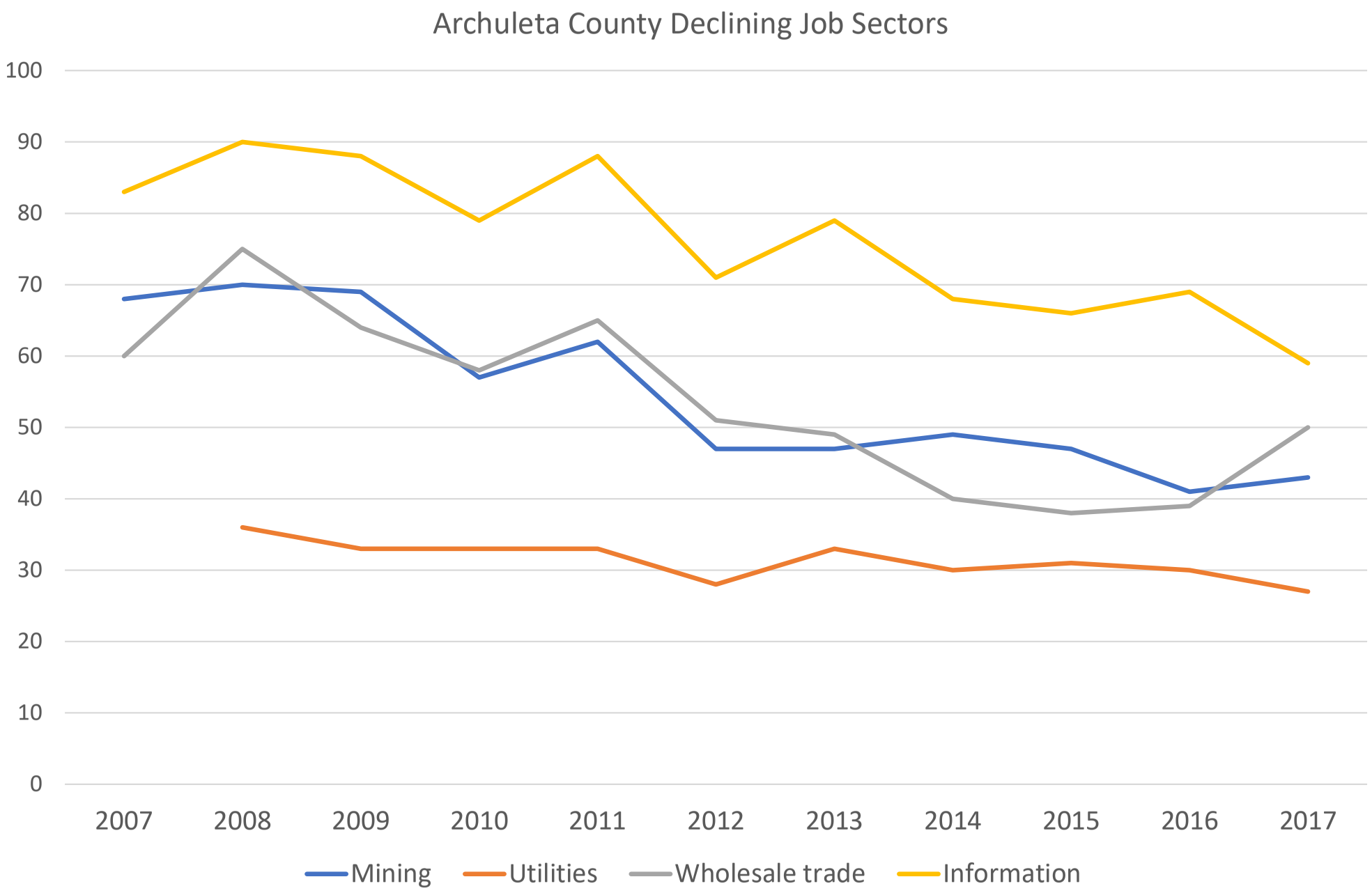
- Population has grown with jobs during recovery
- Population was in decline 2000-2011

Job Growth Prospects



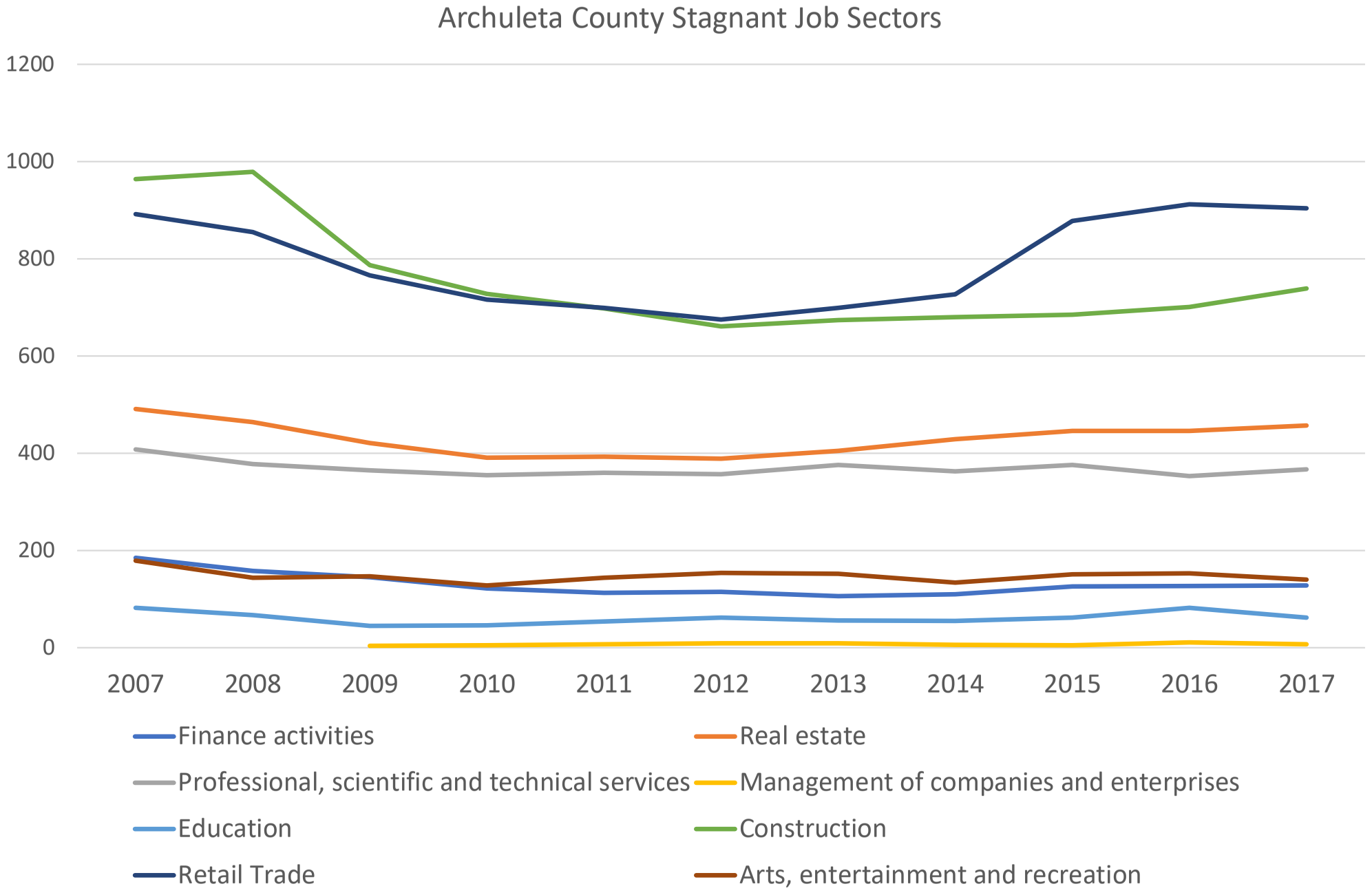
Source: US Bureau of Economic Analysis

Steady losses in smaller sectors



Source: US Bureau of Economic Analysis

Some key sectors are flat

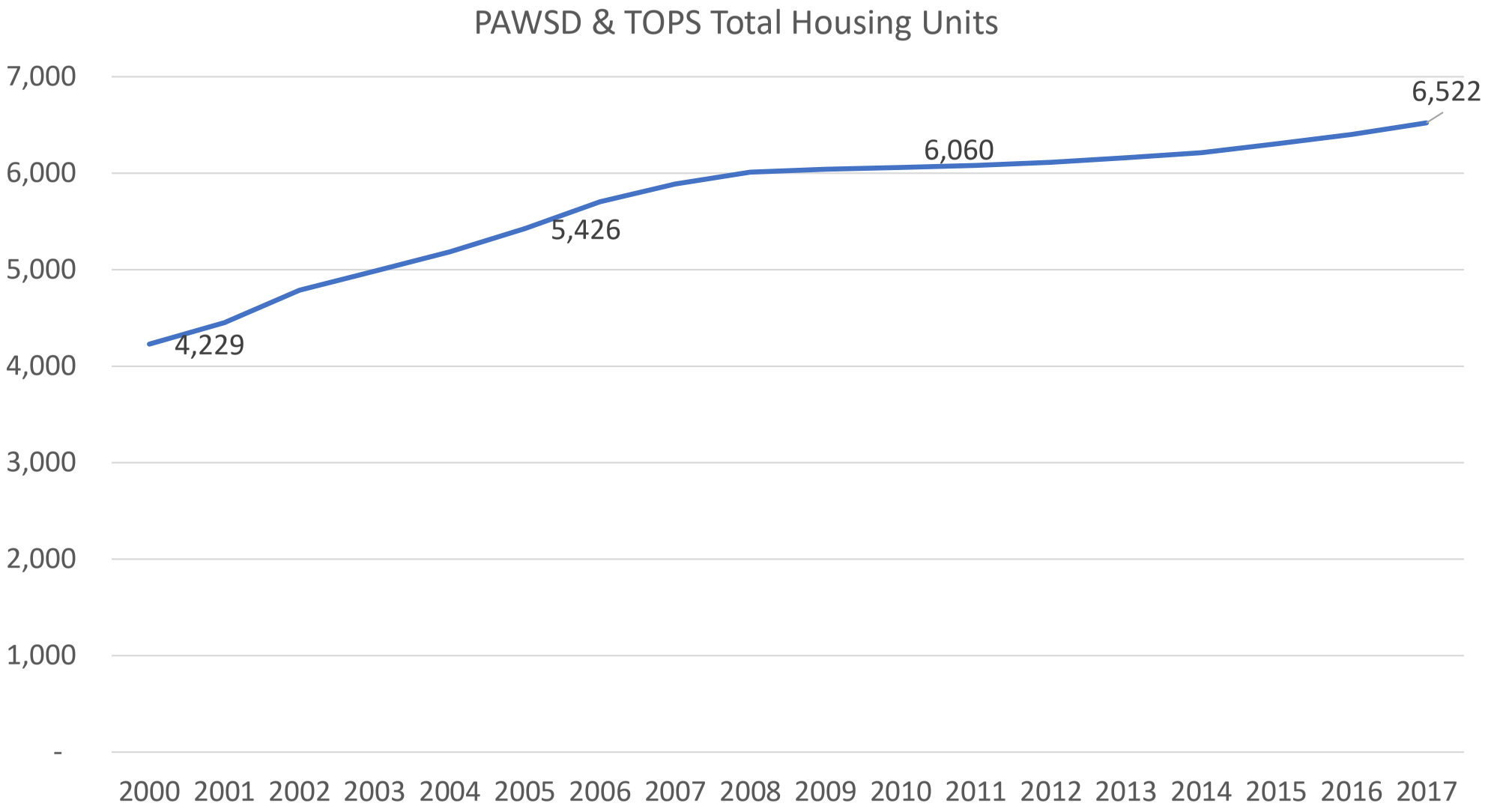


Source: US Bureau of Economic Analysis

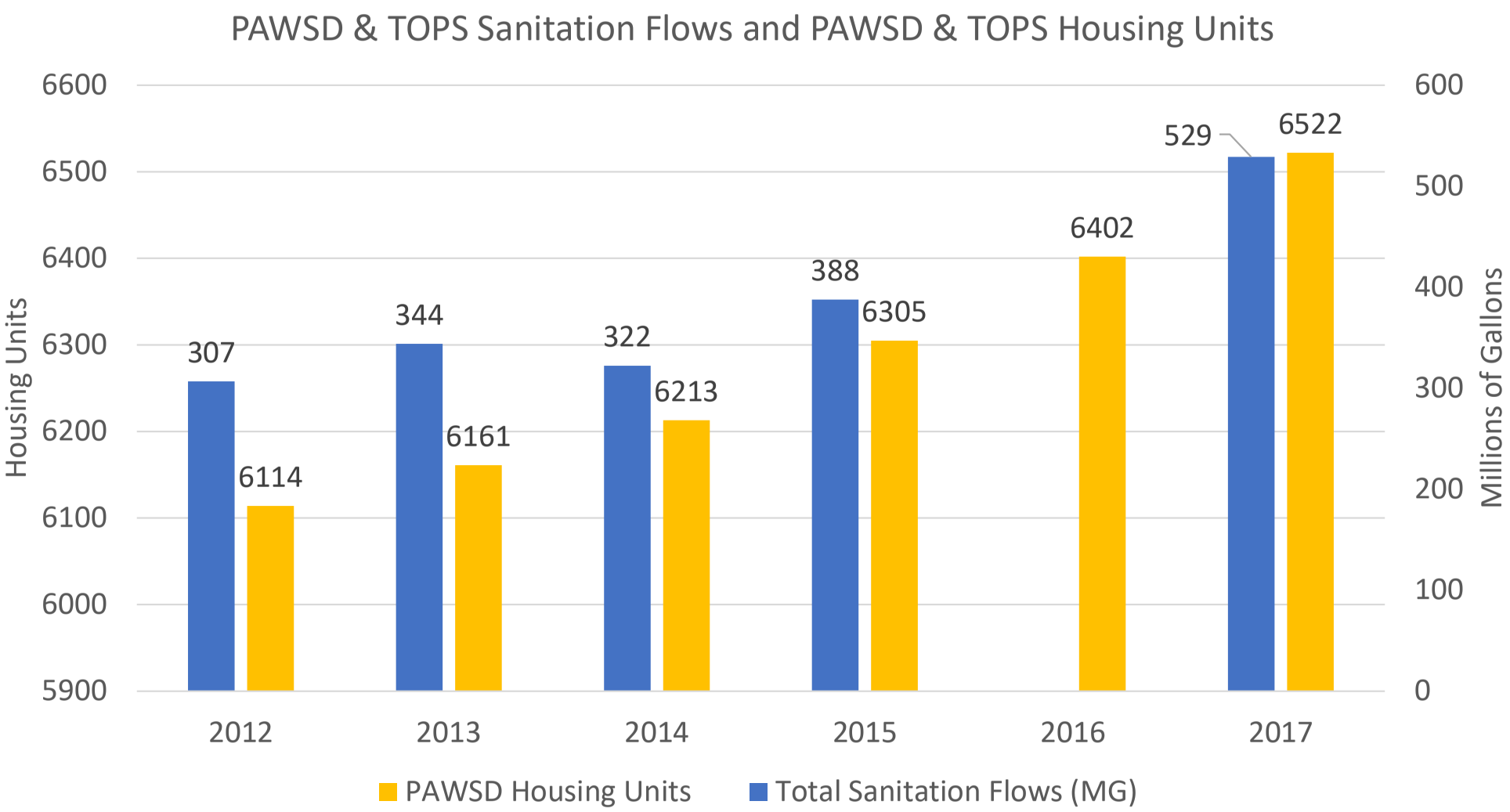
What do we know so far?

- DOLA population forecasts > projections of past trends
- Growth–flat cycles, not boom-bust
- Cycles of housing construction and absorption
- Housing vacancy around 40% since 2000 ≈ 2nd homes
- Jobs can go away but most people stay here
- Jobs and population grow concurrently
- Positive trend in some sectors, some key sectors flat

PAWSD & Town of Pagosa Springs (TOPS) Trend Analysis

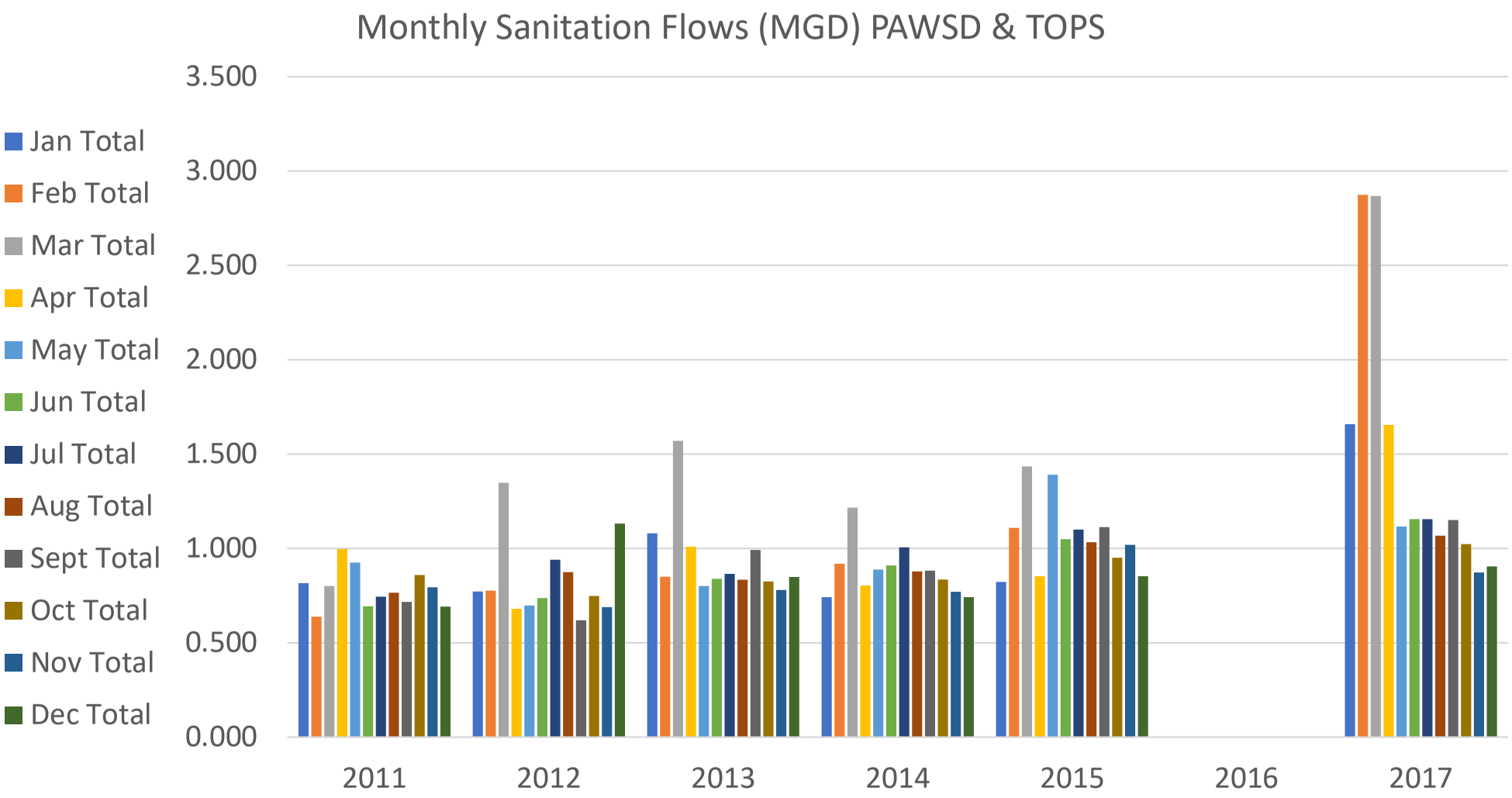


Source: Archuleta County Assessor



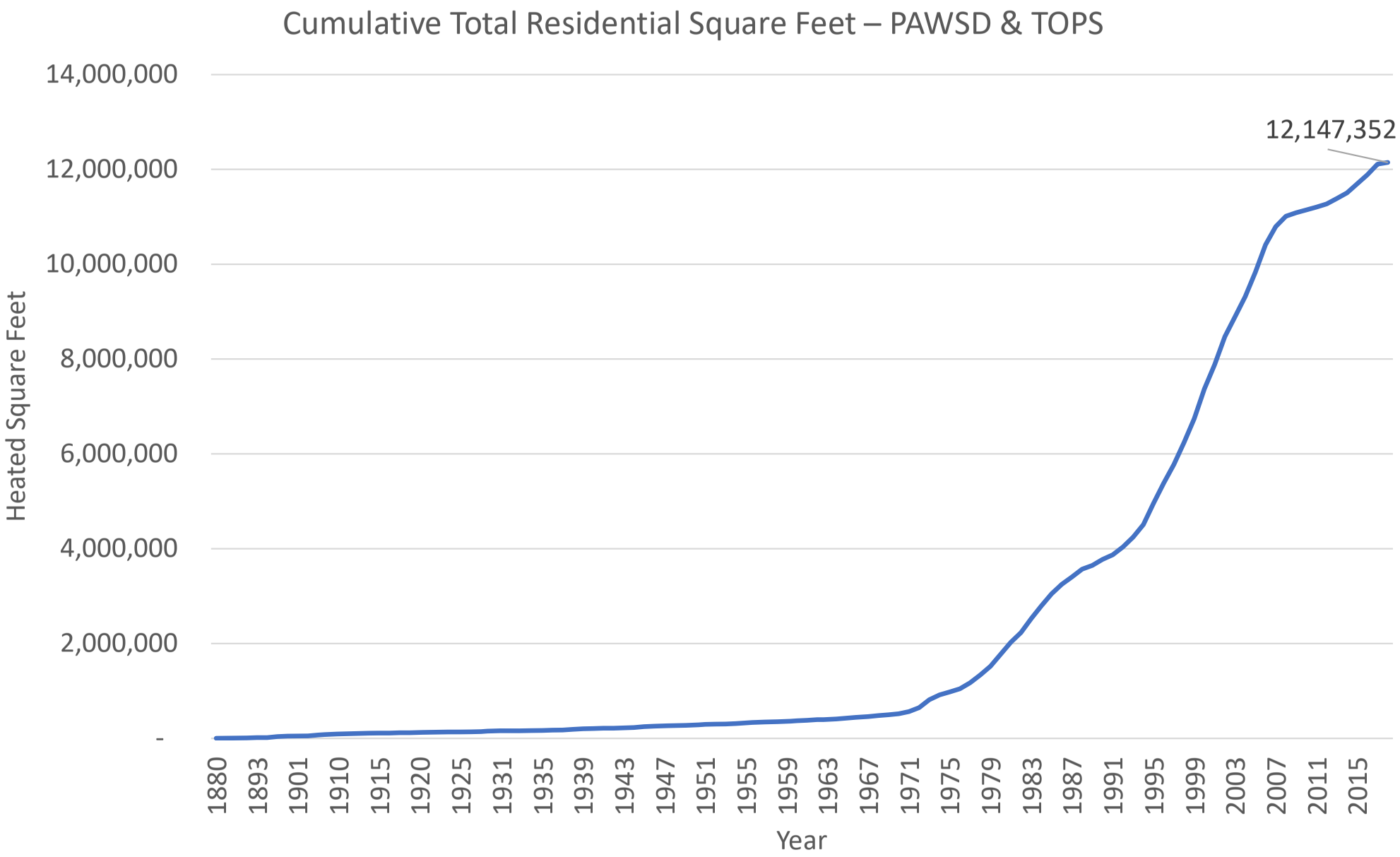
Sources: Archuleta County Assessor, PAWSD, Town of Pagosa Springs

- Sanitation flows are an indicator of activity
- Housing units and flows have grown concurrently since 2014
- Includes both treatment plants, 2016 data incomplete
- Spike in 2017 sanitation flows is related to pumping activities

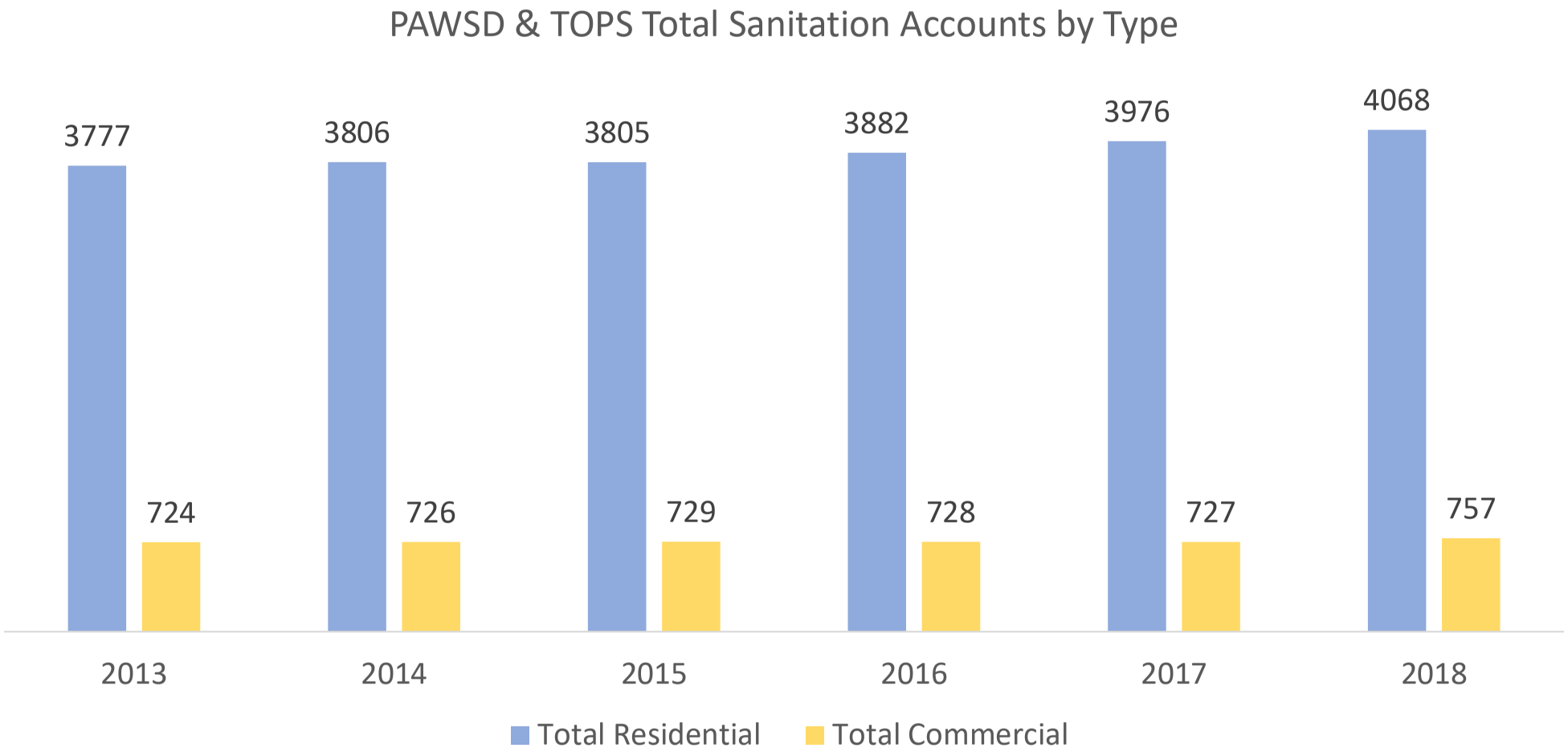


Sources: PAWSD, Town of Pagosa Springs

- Big spikes in early-mid spring likely infiltration.
- Obvious peak in July/August/September.
- Abnormally high infiltration/spike in Feb. and March 2017 due to pumping activities associated with pond maintenance

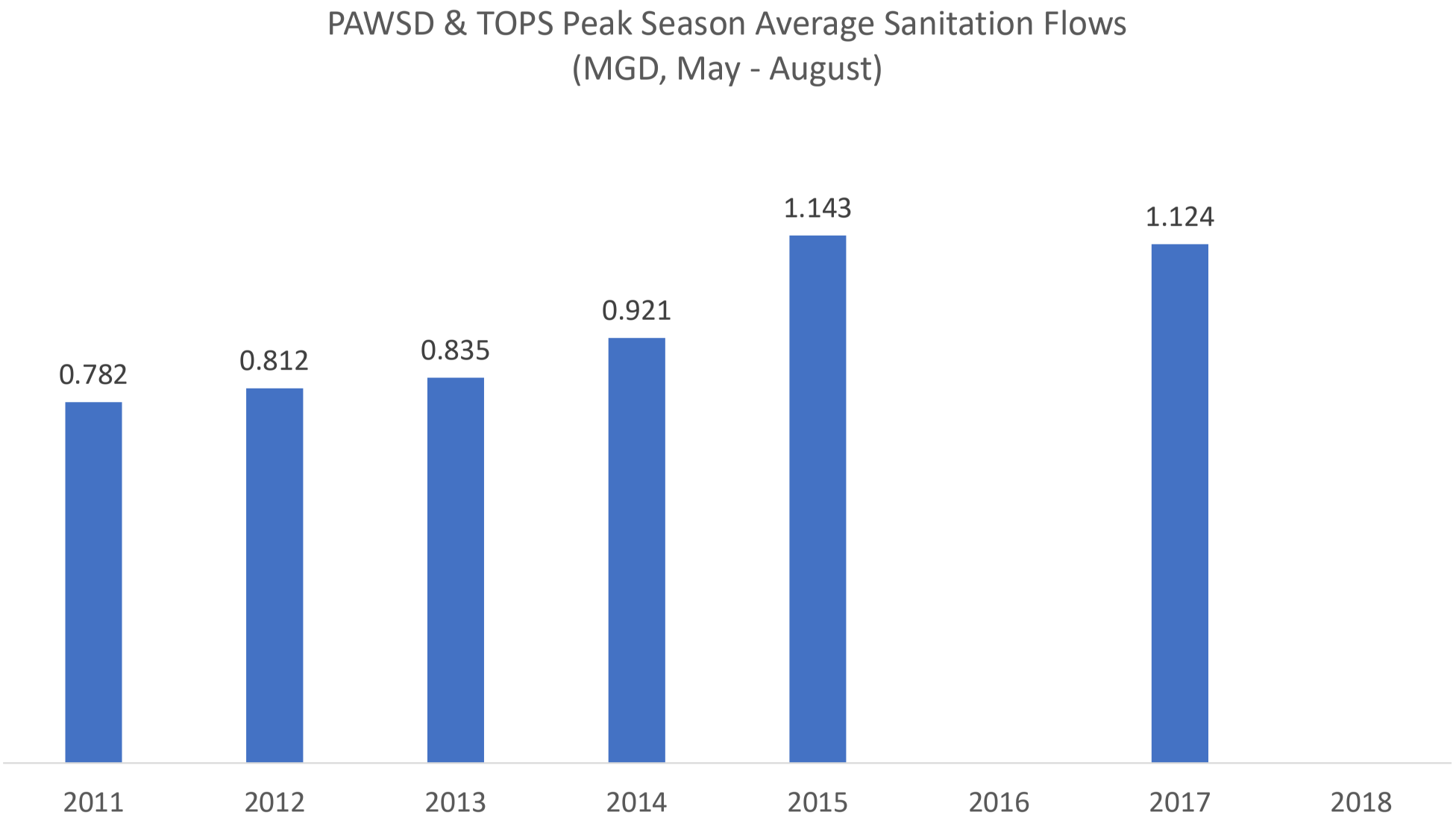


Sources: Archuleta County Assessor



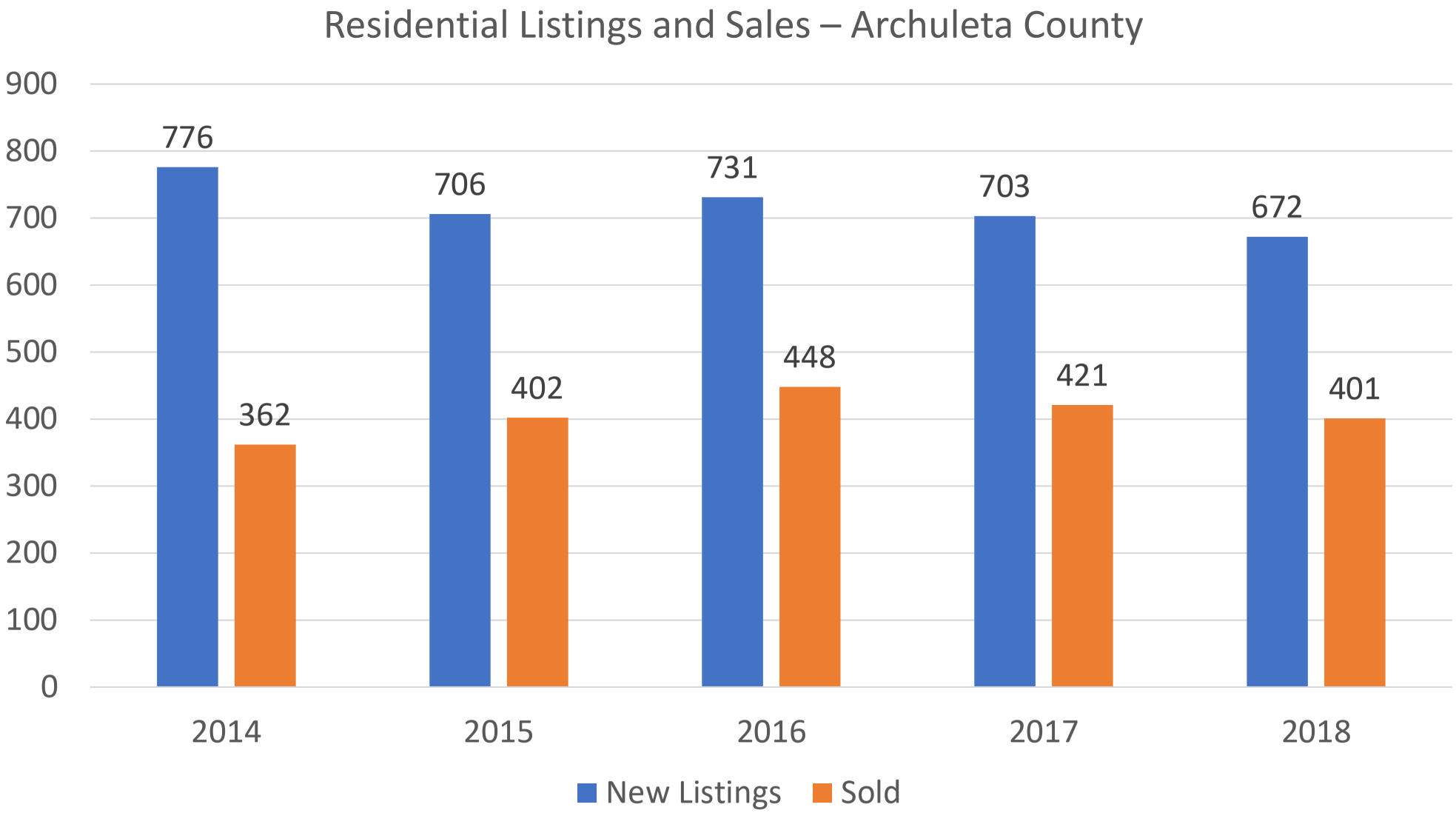
Sources: PAWSD, Town of Pagosa Springs

- Modest increase in residential accounts
- Recent growth (2018) in previously flat commercial accounts
- All sanitation flows from TOPS register as 1 account



Sources: PAWSD, Town of Pagosa Springs

- Peak season flows have steadily increased since 2011
- Peak season flows include less infiltration
- Peak season is a better indication of flow trends because infiltration and 2017 pumping activities are not included



Sources: Colorado Real Estate Network

- Listings and sales steady since 2014
- Indicates that supply is holding in the for sale market
- Downward trend for listings beginning in 2017?

PAWSD & TOPS Recent Trend Analysis

Indicator	Geography	Start Year	End Year	Start Value	End Value	Percent Change 2012 - 2017	Average New Annually	Average Annual Change
Housing Units	PAWSD & TOPS	2012	2017	6,114	6,522	6.7%	82	1.3%
Sanitation Flows (Annual MG)	PAWSD & TOPS	2012	2017	307	529	72.5%	44	14.5%
Sanitation Flows (Peak Season MGD)	PAWSD & TOPS	2012	2017	0.812	1.124	38.4%	0.062	7.7%
Total Sanitation Accounts	PAWSD & TOPS	2013	2017	4,501	4,703	N/A	50.5	1.1%
Jobs	Archuleta County	2012	2017	5,531	6,634	19.9%	221	4.0%
Total Personal Income	Archuleta County	2012	2017	409,227	531,858	30.0%	24,526	6.0%
Room Nights	Archuleta County	2012	2017	41,754	66,680	59.7%	4,985	11.9%

Sources: Archuleta County Assessor, PAWSD, Town of Pagosa Springs, DOLA, US Census, Visit Pagosa Springs

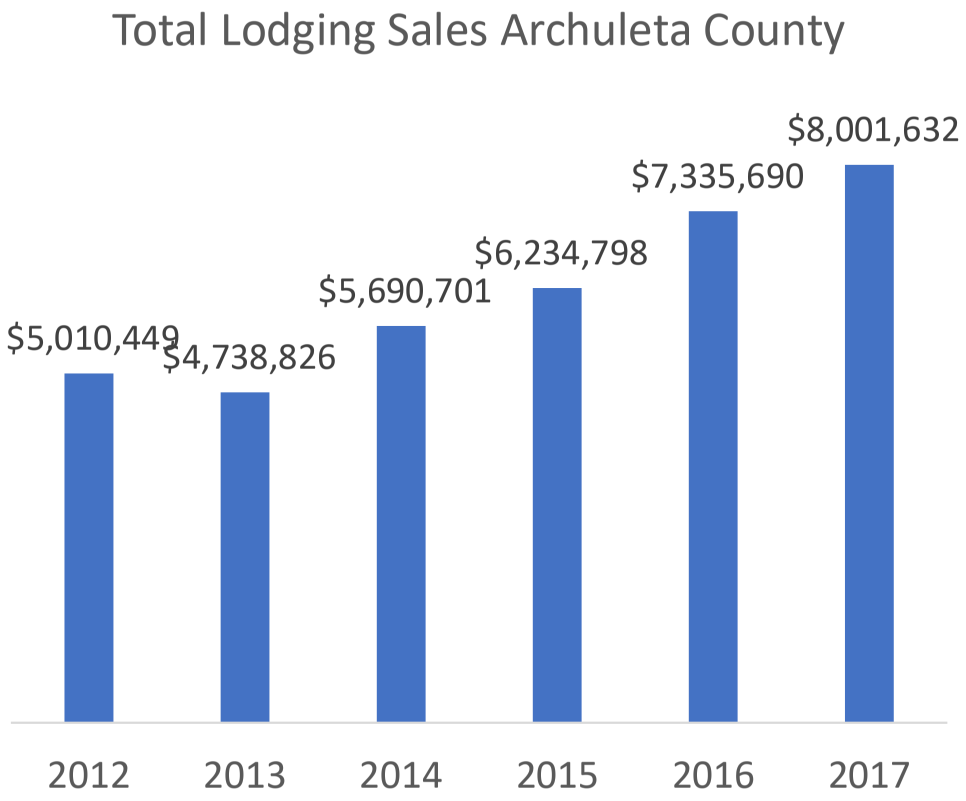
- Increase in peak season sanitation flows (MGD) exceeds most indicators
- Sanitation accounts and housing units increasing at about the same rate
- Note- all sanitation flows from TOPS register as 1 sanitation account
- Existing housing units are being further activated/utilized

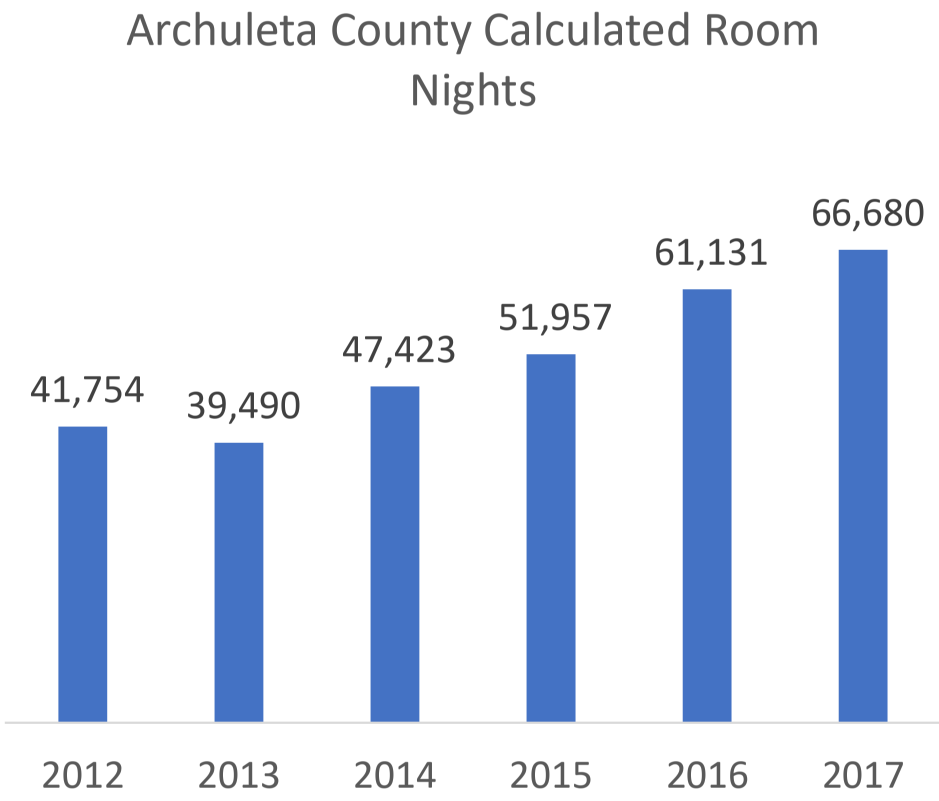
Estimated Lodging Units 2017

	Town	Unincorporated County	Entire County
Hotel / Motel	375	166	541
B&B's	0	19	19
Cabins	37	15	52
Vacation Rentals	100	500	600
Total	512	700	1,212

Sources: Pagosa Springs Area Tourism Board

- About 600 traditional lodging units, most are in TOPS
- Estimated 600 vacation rentals, most in the uninc. county.
- Assessor search showed no new lodging structures in recent years



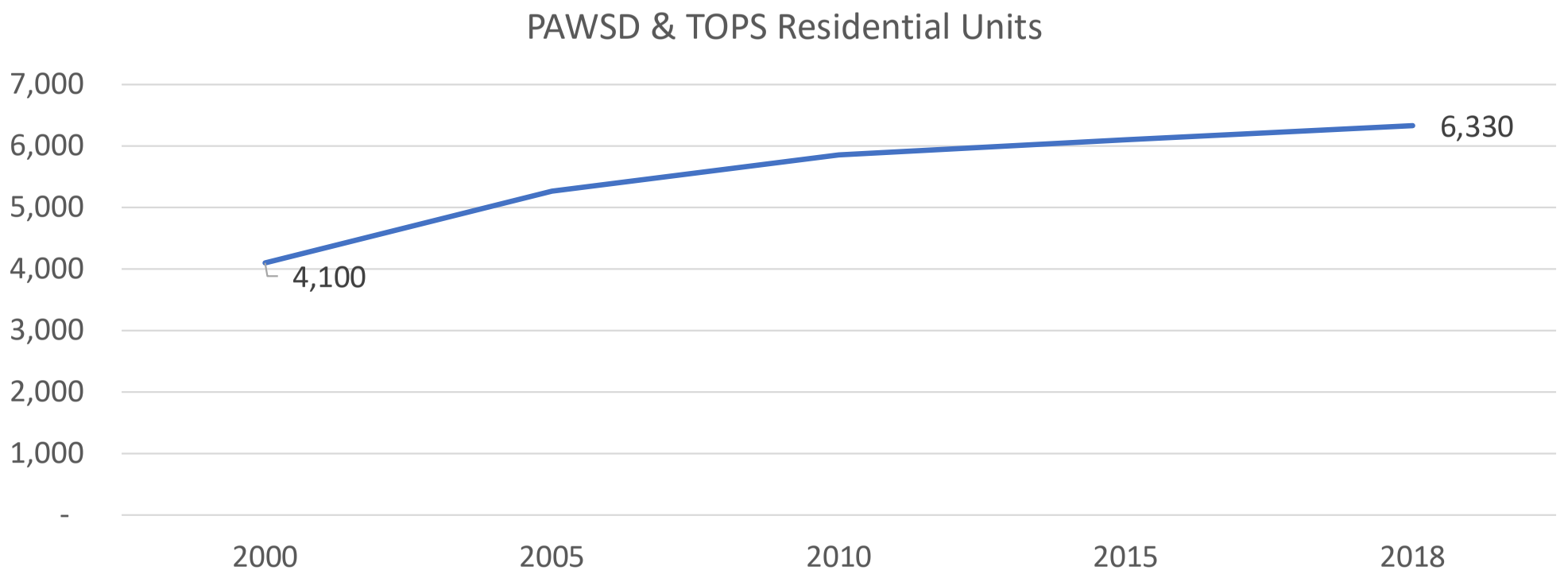


Sources: Pagosa Springs Area Tourism Board

- (Calculated) room nights increased 60% since 2012
- About 5,000 room nights added each year or approximately 9,000 overnight guest stays.
- Visitor's center sees over 80,000 guests each year
- Existing lodging base is being further activated, RBOs growing

Projection inputs and observations

- Trends during 2000-2017 make it a reasonable projection period
- PAWSD sanitation flows exceed housing unit growth 2012-2017
- County housing unit growth exceeded population growth 2000-2008
- Existing capacity in housing stock is being absorbed
- Room nights have grown far more than lodging base
- Visitors are filling existing lodging capacity, new capacity in RBOs
- County pop. and housing increased the same % between 1985-2017
- Occupancy rates remained stable between 2000-2017
- New PAWSD accounts 2013-2018 were mostly residential accounts
- All flows from TOPS register as one (1) sanitation account
- PAWSD & TOPS housing units = primary basis for growth projections



Indicator	Geography	Start Year	End Year	Start Value	End Value	Percent Change for Period	Average New Annually
Population	Archuleta County	1985	2017	4,847	13,316	174.73%	265
Housing Units	Archuleta County	1985	2017	3,379	9,327	176.03%	186
Housing Units	Archuleta County	2000	2017	6,302	9,327	48.00%	178
Housing Units	PAWSD	2000	2018	4,100	6,330	54.39%	124
Housing Units	Town of Pagosa Springs	2000	2017	746	1,124	50.67%	22
Population	Archuleta County	2000	2017	10,042	13,316	32.60%	193

Sources: Archuleta County Assessor, PAWSD, Town of Pagosa Springs, DOLA, US Census

- Housing unit growth in PAWSD & TOPS @ 124 units/year
- County housing units and PAWSD & TOPS units grew at similar rates

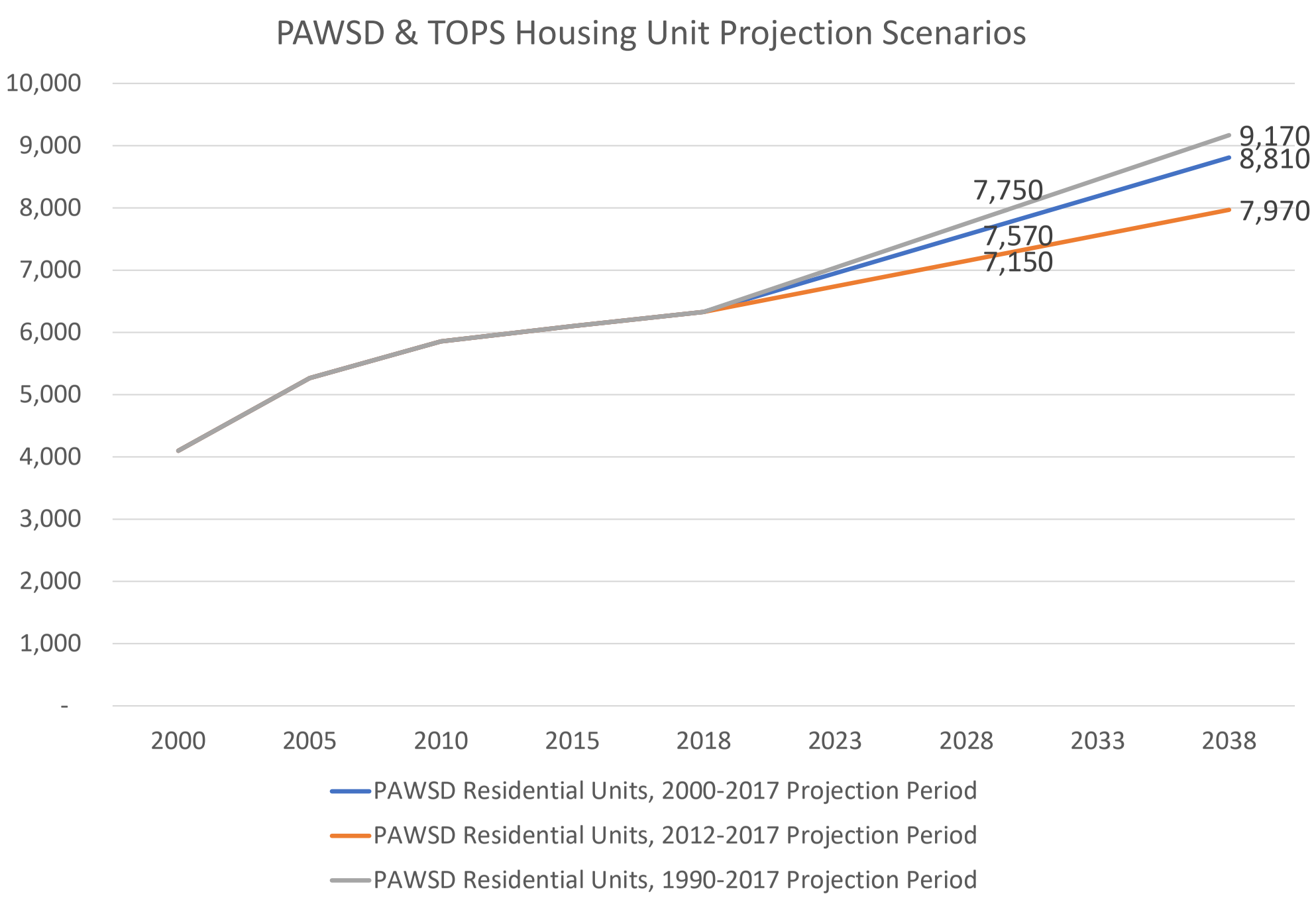
PAWSD & TOPS Housing Unit Projections

Year	PAWSD Residential Units, 2000-2017 Projection Period	PAWSD Residential Units, 2012-2017 Projection Period	PAWSD Residential Units, 1990-2017 Projection Period
2000	4,100	4,100	4,100
2005	5,266	5,266	5,266
2010	5,856	5,856	5,856
2015	6,101	6,101	6,101
2018	6,330	6,330	6,330
2023	6,950	6,740	7,040
2028	7,570	7,150	7,750
2033	8,190	7,560	8,460
2038	8,810	7,970	9,170
Projected New per Year	124	82	141

Projection Years	PAWSD Residential Units, 2000-2017 Projection Period	PAWSD Residential Units, 2012-2017 Projection Period	PAWSD Residential Units, 1990-2017 Projection Period
% Change 2019-2023	10%	6%	11%
% Change 2024-2028	9%	6%	10%
% Change 2029-2033	8%	6%	9%
% Change 2034-2038	8%	5%	8%

Projection Years	PAWSD Residential Units, 2000-2017 Projection Period	PAWSD Residential Units, 2012-2017 Projection Period	PAWSD Residential Units, 1990-2017 Projection Period
% Average Annual Change 2019-2023	2.0%	1.3%	2.2%
% Average Annual Change 2024-2028	1.8%	1.2%	2.0%
% Average Annual Change 2029-2033	1.6%	1.1%	1.8%
% Average Annual Change 2034-2038	1.5%	1.1%	1.7%

Sources: Archuleta County Assessor, PAWSD, Town of Pagosa Springs, DOLA, US Census



Sources: Archuleta County Assessor

Comparing Forecasts and Projections

Projection Years	PAWSD Residential Units, 2000-2017 Projection Period	PAWSD Residential Units, 2012-2017 Projection Period	Linear Projection of County Population 1985-2015	Linear Projection of County Population 2000-2015	DOLA County Population Forecasts
% Average Annual Change 2016-2020	1.6%	1.3%	2.0%	1.3%	2.6%
% Average Annual Change 2021-2025	1.9%	1.3%	1.8%	1.2%	1.6%
% Average Annual Change 2026-2030	1.7%	1.2%	1.7%	1.1%	1.8%
% Average Annual Change 2031-2035	1.6%	1.1%	1.6%	1.1%	2.4%

Sources: Archuleta County Assessor, DOLA, US Census

- **Low-end:** 1.1-1.3% average annual growth
- **Likely:** 1.6% - 1.9% average annual growth
- **High-end:** up to 2.6% average annual growth

Conclusions and Considerations

- On-going trend of activation of underutilized housing stock has a limit.
- Projections assume supply will balance with demand as it has historically: cycles of development and absorption.
- Will the job market perform as needed to drive this projected demand?
- Need to explore how these projections would play out from a land use and infrastructure perspective.
- Need for improved visitor data collection.
- Opportunity to track additional metric from PAWSD (connections, availability accounts vs active accounts, etc.)
- Revisit trends and growth rate assumptions every two or three years.

APPENDIX I
Drought Mitigation Waiver Request

SCHEDULE WAIVER REQUEST FORM

APPLICANT: _____ METER NO: _____

ACCOUNT NO: _____ DATE: _____

ADDRESS: _____ PHONE NO: _____

I understand the Pagosa Area Water and Sanitation District (District) Board of Directors has implemented Drought Stage ___ Water restrictions per the Districts 2026 Drought Management Plan. The District Board implemented these restrictions due to current drought conditions and decreasing water supply levels. Due to specific property demands or hardships, as stated below, I request a schedule waiver from the District Drought Management Plan Restrictions for the following: **(Please Initial)**

☐_____ Irrigation allowed from 6 PM to 9 AM

☐_____ Odd/Even water days

☐_____ Prohibition on weekend watering

☐_____ 1 day a week watering only

☐_____ No irrigation of outside landscaping

Location: (Provide the location and description of where the waiver will take place)

_____

_____

Justification: (Explain why the account requires a waiver)

_____

_____

100 Lyn Avenue
Pagosa springs, Colorado 81147

www.pawsd.org

(970) 731-2691
FAX (970) 731-2693

Conservation: (List additional water conservation efforts you have or will be implementing)

_____

_____

_____

Acknowledgements: **(Please Initial)**

☐_____ We are requesting relief from the specific demand reduction action(s) mentioned above, and if granted, we will comply with all other applicable requirements of the Drought Management Plan and District Rules and Regulations.

☐_____ I understand that even if the waiver is granted my account will be charged and I will be responsible to pay for water use tier multipliers and Drought Surcharges per the Drought Management Plan Drought Stage the District is in currently or in the future.

☐_____ This waiver request pertains only to the specific customer account, address and meter number listed above.

☐_____ This waiver will expire on: _____.

☐_____ We understand that, if the waiver is granted by the District and we do not continue to meet or exceed the conservation efforts listed above the waiver will be cancelled.

☐_____ As the drought intensifies and water supply becomes scarcer, the District may adopt future restrictions not covered by this waiver. The District reserves the right to revoke the waiver at any time should drought conditions worsen or if water usage exceeds acceptable limits.

☐_____ In granting a waiver, the District does not guarantee the right to any future waiver.

☐_____ Additional documentation in support of this waiver request is attached (photographs, invoices, receipts, etc…).

APPLICANT SIGNATURE: _____

☐ APPROVED: _____ ☐ DENIED: _____

PAWSD SIGNATURE: _____