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**TOWN OF PATAGONIA
DROUGHT PREPAREDNESS PLAN**

Purpose: A drought preparedness plan is required by Arizona statutes for all public water systems and is to be part of the Water Operating system plan. More important, for a Town such as Patagonia where the water supply may be subject to conditions such as drought or other interruption of the existing water supply, advance planning is essential.

Public Education: Drought preparedness and successful implementation of the measures included herein depends on effective communication with, and from, the public. The majority of the public, if they understand the critical nature of the situation and the importance of water use reduction, will comply with the restrictions. For those that do not, enforcement remains necessary.

The following are elements of the public awareness and education plan:

- The water management condition is real.
- Reductions in water demand are necessary
- The adopted measures realistically correspond to the severity of the situation.
- All customers share the inconvenience during water shortages.
- Patagonia is effectively, uniformly and fairly managing the existing water supply.

Applicability: The plan applies to all users, premises and customers receiving water from the Town of Patagonia.

Responsibility for Drought Stage Declarations: The Mayor is responsible for making the official Drought Stage Declarations. He will use the drought triggers as a partial basis for his declarations, however he may adjust his declarations to reflect conditions not reflected in either of the triggers but which, in his sole judgement, require a different Drought Response Stage than that indicated by either of the Drought Triggers.

Triggering criteria for initiating and terminating Drought Response Stages: Patagonia uses either of two triggering mechanisms to initiate or terminate the responses required under the drought response plan:

Trigger Number One: Patagonia carries out a weekly monitoring program to determine water levels in the Town's two public water supply wells. The wells are approximately 90 feet deep and water levels have fluctuated between 18 feet, which was the level at initial drilling to 45 feet which was the lowest during the summer of 2014. A recent study of the aquifer suggested that there is water to a depth of as much as 300 feet however the length and width of the aquifer at such depths is not known so we have no assurance that the 2.5 to 4.5 million gallons per month that the town typically pumps would be available at anything approximating that depth.

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Absent further data the town is establishing an initial trigger at a depth of 45 feet or if the well levels drop 4 or more feet. The following chart depicts the correlation between the town well trigger and the Palmer Drought Severity Index

Trigger Number Two: Palmer Drought Severity Index: The Palmer Drought Severity Index is a national index with data as refined as Counties. It is considered most accurate for "Unirrigated cropland" which is generally descriptive of the area around Patagonia. It is the most accurate reflection of long term conditions.

Correlation between two triggers:

Town well trigger	Palmer Drought Severity Index	Description
Normal ranges above 45 feet No consecutive drops of 4 or more feet.	none	Normal
Well level at 45 feet or monthly drop exceeding 4 feet.	D0	Abnormally Dry
Well level at 50 feet or 2 monthly drops exceeding 4 feet.	D1	Moderate Drought
Water levels continue below 50 feet, no recovery of well levels	D2	Severe Drought
	D3	Extreme Drought
	D4	Exceptional Drought

Drought Plan actions steps.

Drought Monitor Condition	Description	Actions taken
None	Normal	No restrictions-good water system practices including leak repair and prevention
DO	Abnormally Dry	Public notice, encourage voluntary conservation
D1	Moderate Drought	Conservation outreach, offer specific advice, no bulk water sales for commercial use.
D2	Severe Drought	Irrigation and outdoor water use restrictions, bulk water sales limited to residential and agricultural use.
D3	Extreme Drought	Restrict bulk water sales for residential use to 5,000 gallons per month per customer , prohibition on use for irrigation or other non-consumptive use, usage caps, fees for excess use
D4	Exceptional Drought	Rationing, strict enforcement of restrictions.

Bulk water Sales regulations: In Patagonia we are well aware of the importance of bulk water sales to homes and businesses in the area. These regulations are intended to provide support where needed without impairing supplies to the residents and business connected to the town system. The first limitation would occur during a period of moderate drought and would preclude bulk sales for commercial use: commercial use is defined as a use by any business for purposes other than consumption by humans or domestic animals. The second limitation would occur when water supplies are seriously threatened and would limit bulk sales to customers who use the water for domestic consumption only. Because many of these` customers have their water hauled by a commercial firm such as D&M, the hauler will be required to provide a certification from the customer who receives the water and total use will be limited to 1,500 gallons per occupant per residence per month. It should be noted that nationwide average water use is about 100 gallons per day and in jurisdictions where aggressive conservation efforts are carried out, average consumption is down around 50 gallons per person per day so this is an achievable figure during a drought emergency. The following list from March 2014 shows a typical water use distribution in Patagonia.

total customers	419
0 usage	45
1-2000 gallons	127
2001 to 10000	213
10001 to 15000	20
15001 to 20000	4
20000>	10

Patagonia resident and business consumption: A very high rate or fee for usage in excess of 1,500 gallons per person should be established along with a special exception for very large families based on gallons per capita in the residence. Under our present rate structure the charge for use in excess of 20,000 gallons is nearly twice that for 2-10,000 gallons and I would recommend that it be higher, perhaps as much as 3 or 4 times as high. Some accommodation also needs to be made for commercial customers providing meals or accommodations. The attached major user listing shows their general consumption patterns.

Any accommodations for such users should be based on a requirement, and verification, that all their fixtures are low water use types.

We should also undertake to find a grant program to establish a repair and replacement program for low income families to install low water use fixtures in all qualifying homes.