

City of Harrisonburg Drought Condition Water Supply Options

SOURCE WATER	2006 HBURG RWSP	Min Stream Flow	Min % Q Limits	RWSP2 Low Flow	RWSP2 Low Flow	95% Stream Flow	95% Q Limits	RWSP2 95%	RWSP2 95%	90% Stream Flow	90% Q Limits	RWSP2 90%	RWSP2 90%
North River Intake (NRI)	5.5	10.7	1.3	1.3	1.3	21.3	2.6	2.6	2.6	25.2	3.0	3.0	3.0
South Fork Intake (SFI)	8.0	54.8	5.5	9.1	9.1	113.6	11.4	12.7	8.7	124.0	12.4	12.3	8.7
Subtotal	13.5			10.4	10.4			15.3	11.3			15.3	11.7
Switzer Optimization (1.0-2.0 MGD)													
Conservation (1.5 MGD)													
Silver Lake (1.5 MGD)	1.8			4.9	0.9			0.0	0.0			0.0	3.6
Shenandoah Wells (? MGD)													
RoCo Wells (1.0 MGD)													
Frazier Quarry (? MGD)													
Subtotal	15.3			15.3	11.3			15.3	11.3			15.3	15.3

Switzer Optimization (1.0 to 2.0 MGD): To rely on raw water supply from Dry River during the critical months will require HPU to forecast allowable discharges from Switzer such to retain reserves if those critical conditions do occur. This will also require more knowledge regarding the loss of volume due to overland flow from Switzer to DRI.

Conservation (1.5 MGD): Conservation is an element that is mandated into the water supply plan and should be considered. Whether the culture and effectiveness will change such to rely upon conservation for significant periods of time is a concern.

Silver Lake (1.5 MGD): To rely on Silver Lake during drought will require HPU to 1)construct a permanent facility (\$400K); 2) obtain suction line access to the spring or share with Dayton, and 3) retain first rights of withdrawal under the agreement with Dayton (in place with temporary agreement).

Shenandoah Wells (? MGD): HPU has located potential well sites on its Shenandoah property as a contingency for water quality or water quantity issues. These feasibility or quantity of water from these wells is unknown.

Rockingham County (1.0 MGD): Rockingham County has constructed wells on its WTP site which is near the SFI. In addition, the proposed raw water line will be constructed in route adjacent to the WTP. The City could nulify or mutually agree to change the existing City -County Water Agreement such that RoCo must provide raw water to the SFI intake in equal quantities. Construction would require a parallel pipe from RoCo WTP to SFI

Frazier Quarries (? MGD): An unexplored option is to determine whether Waterman Quarry could provide a short term water supply during drought.