

Reuse in a Resort Environment

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Water Reuse
Conference
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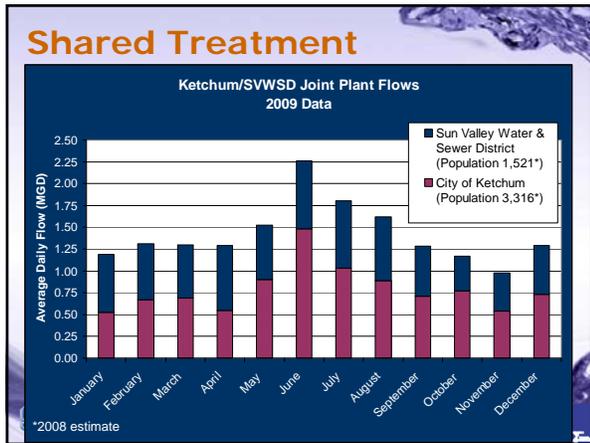
Ketchum/Sun Valley Water & Sewer District (SVWSD) Joint WWTP

Plant consists of:

- Screening
- Grit Removal
- Activated Sludge
- Cloth Media Filtration
- UV Disinfection



Sun Valley FORSGREN



Treatment Plant Capacity

- Current flow rate
 - 1.5 mgd (average)
 - 2.4 mgd (peak month)
- Future flow rate at build-out
 - 4.0 mgd (average)
 - 5.0 mgd (peak month)

Sun Valley FORSGREN

Treatment Plant Limits

- **Current NPDES Permit Limits**
 - BOD = 505 lbs/day monthly avg. (30 mg/l)
 - TSS = 505 lbs/day monthly avg. (30 mg/l)
 - TP = 1 mg/l
 - E. coli = 126 org/100ml
- **TMDL Proposed Limits**
 - TSS = 142 lbs/day
 - 11 mg/l at current flows; 4 mg/l at future flows
 - TP = 9.9 lbs/day
 - 0.8 mg/l at current flows; 0.3 mg/l at future flows

Sun Valley FORSGREN

Current Effluent Quality

- BOD₅ and TSS = < 5 mg/L
- TP = < 0.5 mg/L
- TN = < 15 mg/L
- E. coli = < 2 org/100 ml
- NTU = 1 – 2 units
- UV transmittance = 80 – 85%

Sun Valley FORSGREN

Drivers for Ketchum / Sun Valley Reuse

- High quality effluent
- Desire for consistent irrigation supply
- Potential water rights transfer
- Reduced demands on potable water system by satisfying irrigation demand
- Reduced nutrients entering the Big Wood River



FORSYDEN

Class A Reuse

- Class A Permit
 - Received March 2009
 - Allows for landscape and pasture irrigation
 - Plant grounds
 - Weyakkin subdivision – implementation planned for 2011
- Permit application by SVWSD for Elkhorn Golf Course planned for 2010



FORSYDEN

Sun Valley Water & Sewer District

- Serves:
 - population of 1,500
 - golf course
 - ski resort
- 17 miles of sewer mains
- 4 lift stations
- Approximate wastewater flow of 0.75 - 1.5 MGD



Elkhorn Golf Course

- Approximately 100 irrigated acres
- Irrigated with potable water
- Uses up to 100 MG of per year
- Causes major strain on potable water system during peak periods.



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Irrigation Water Usage



FORSYDEN

Reuse Distribution Facilities

- Existing 12" reuse line from plant to SH-75
- Future pump station reuse line to Weyakkin & SVWSD
- Future reuse line SVWSD booster station
- Future reuse line to SVWSD reuse storage
- Future reuse line to Elkhorn Golf Course



FORSYDEN



Dollar Mountain Snowmaking

- Approx. 160 acres
- Potable water
- 2009-2010 season
 - Oct. 2 MG (~3%*)
 - Nov. 11 MG (~20%*)
 - Dec. 12 MG (~19%*)
 - Jan. 0.23 MG (~0.5%*)

*of total SVSWD water demands

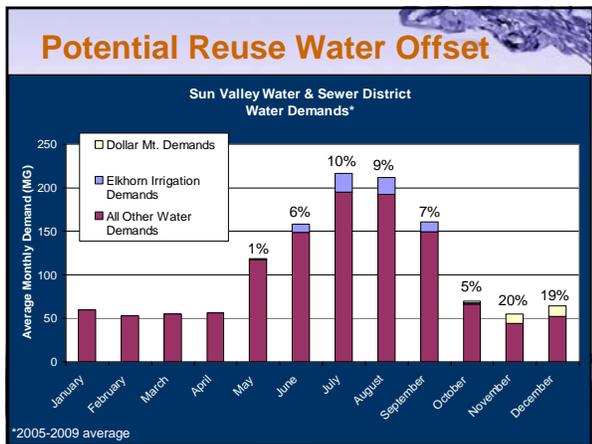
<http://www.youtube.com/watch?v=...>

Precedents – Mt. Buller & Mt. Hotham Ski Resorts in Australian Alps

- Class A reclaimed water used for snowmaking
- Criteria per Australia's EPA Guidelines for Environmental Management: Use of Reclaimed Water

Effluent Snowmaking

- Snowmaking included in DEQ draft rules for acceptable use (Class A and B).
- SVWSD may do additional testing of snowmaking this winter



Questions?