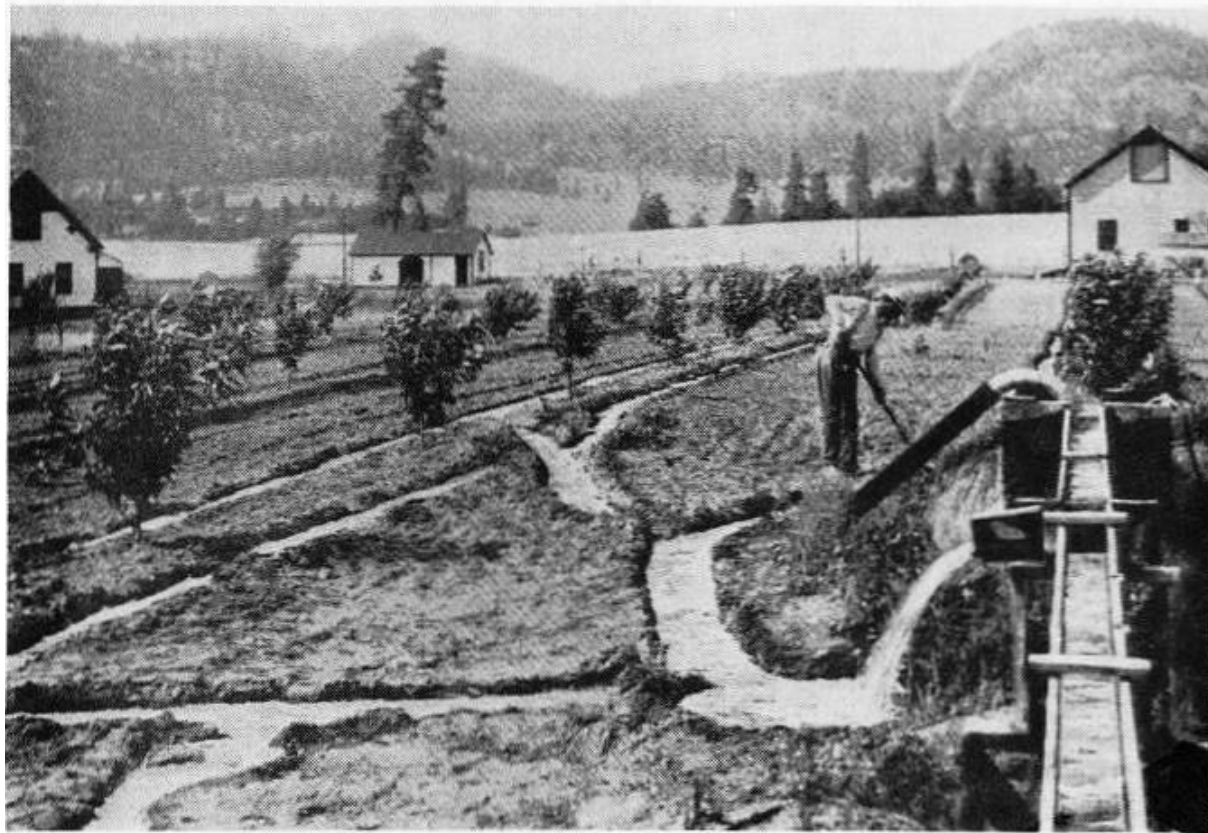


# Demand Management Strategies



A whole array of irrigation works are pictured here — syphon, flume, furrow irrigation. (Photo courtesy Kelowna Museum)



**BCWWA Convention, Penticton, BC  
April, 20<sup>th</sup>, 2005**

# Presentation Outline

- Okanagan Valley Issues
- Specific DSM Opportunities
- General DSM Opportunities



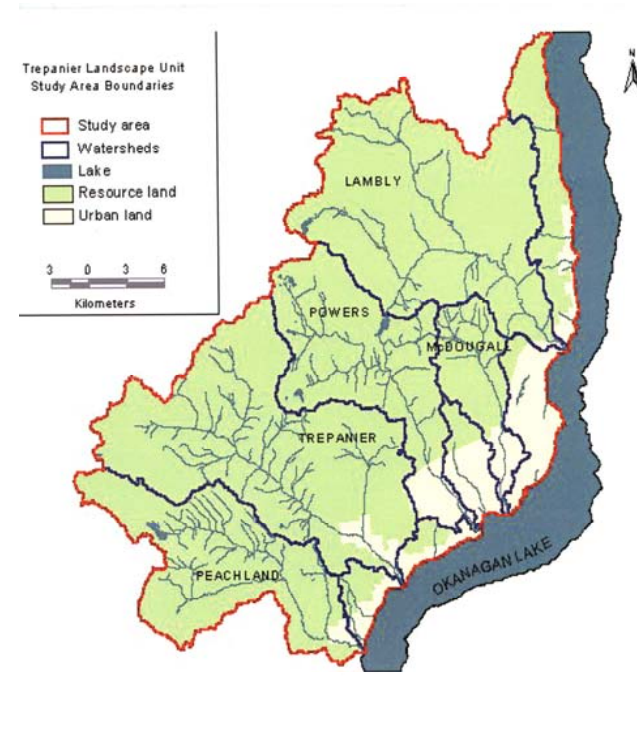
# Okanagan Valley

- 8,000 km<sup>2</sup> watershed,  
averages 0.50m of precipitation annually  
less than 0.10m of runoff annually
- Driest climate in Canada
- Climate Change Work in 2002-2004 has  
heightened awareness of our water resource
- High drought risk
- High agricultural component



# Okanagan Valley - Current Initiatives

- Numerous initiatives underway
- Political changes proposed to OBWB
- Recent formation of WJWC, compliments KJWC
- Groundwater work
- LWBC Study, Okanagan Basin Supply and Demand Study, Phase 1 is nearly complete
- Location of Licensed locations, Points of Withdrawal



# Okanagan Valley – Future Challenges

- Value of Water
- Large difference between value of Irrigation and Domestic water
- Universal Metering
- Full Cost Pricing
- Water Treatment
- Sustainable supply and understanding existing water resource is finite
- High population growth expected for the Okanagan

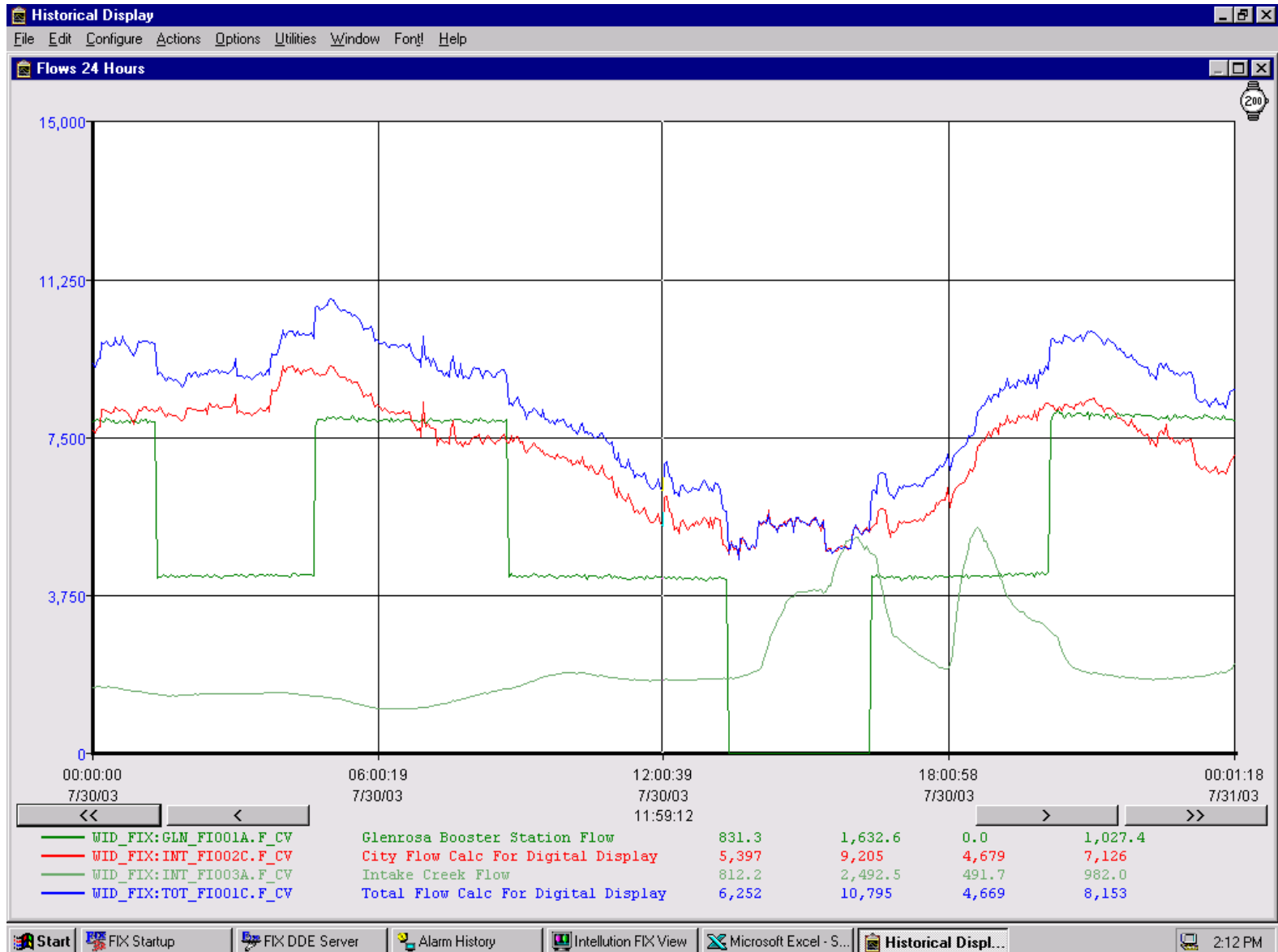


# Specific DSM Opportunities

- Understand your utility and water use patterns
  - Leakage
  - Seasonal variation
  - Extreme conditions
  - Land Use allocations
  - Irrigation vs domestic component
- Understand historic trends and future direction
- Drought Plan ( make this a bylaw )
- In Okanagan Watershed supply vs direct Okanagan Lake supply require different approaches



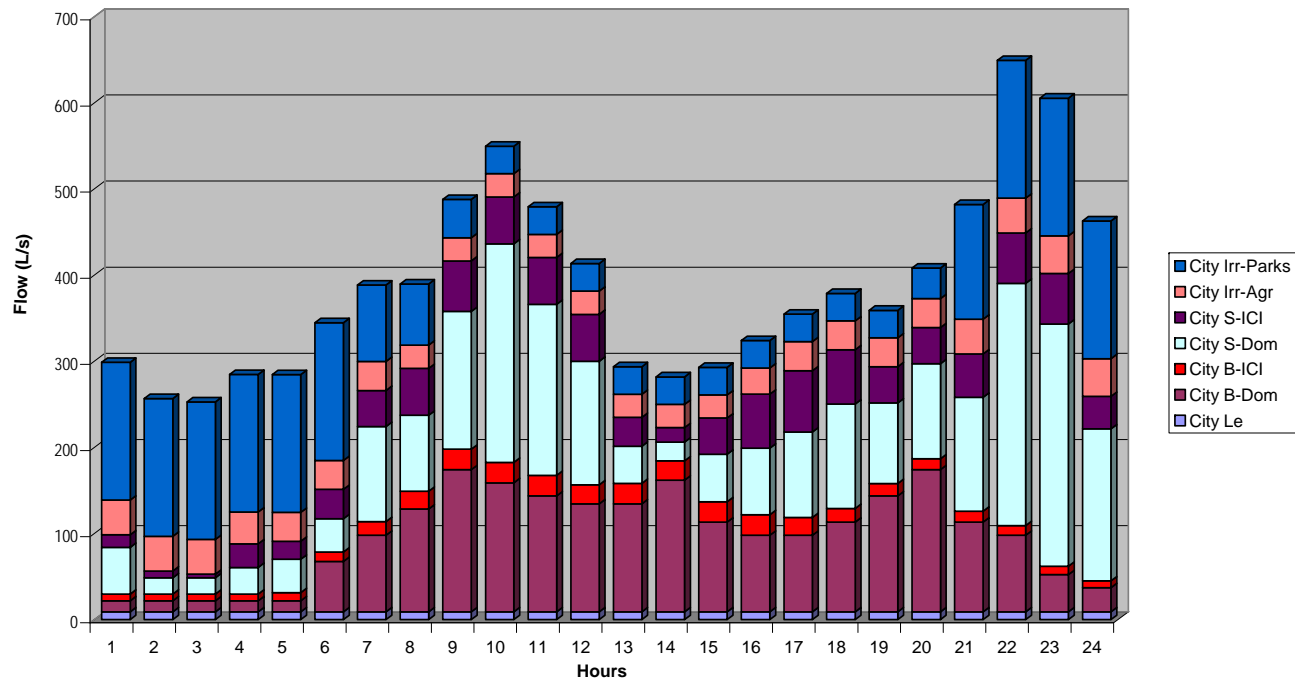
# Specific DSM - Simple Leakage Check



# Specific DSM Opportunities

- Leakage
- Base metered flow (winter)
- Base domestic flow (indoor winter use)
- Seasonal metered flows (summer MDD)
- Seasonal irrigation flow (outdoor use, MDD)
- Seasonal domestic flow (outdoor use, MDD)

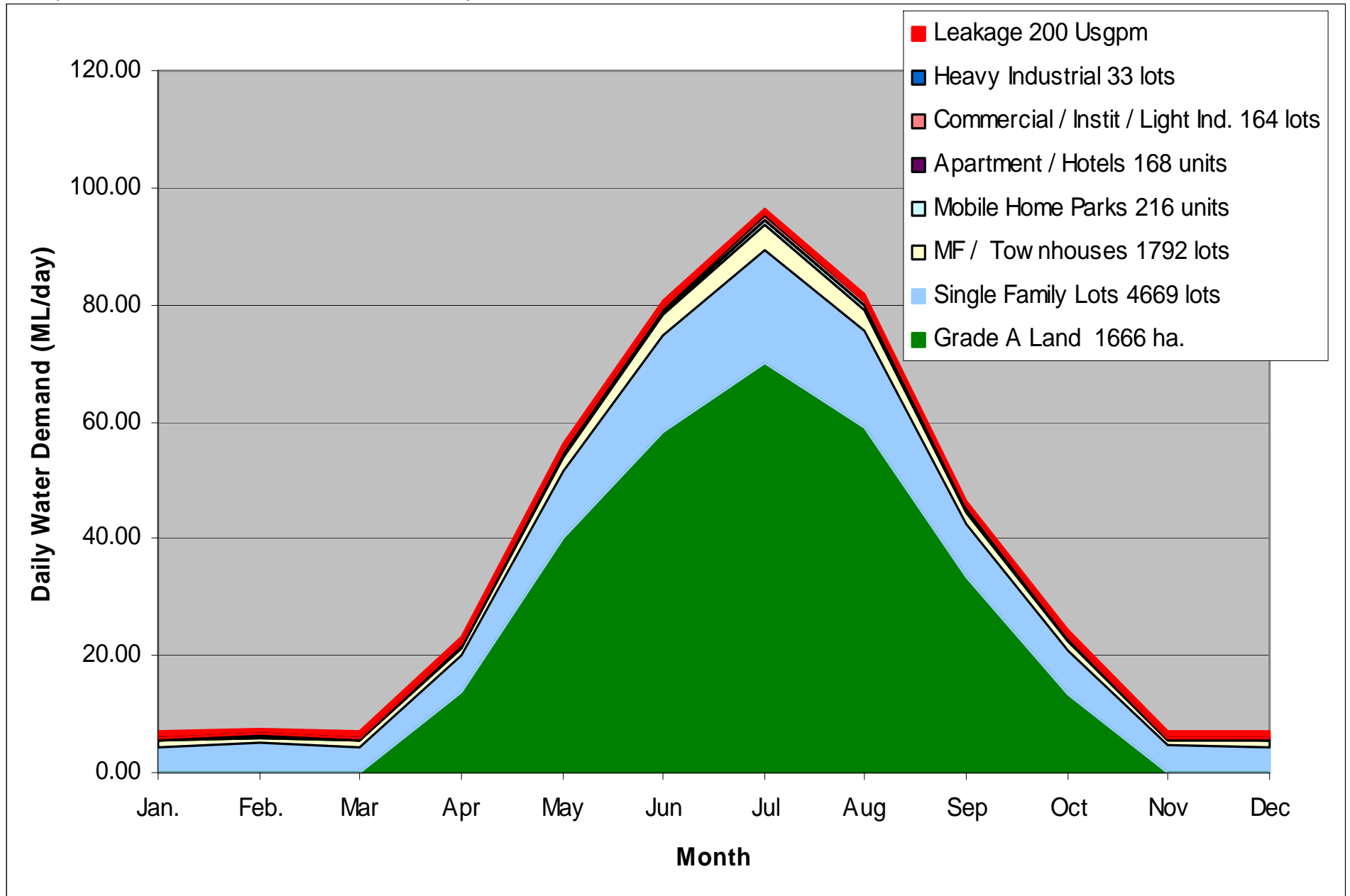
CITY OF VERNON MAXIMUM DAY DEMAND





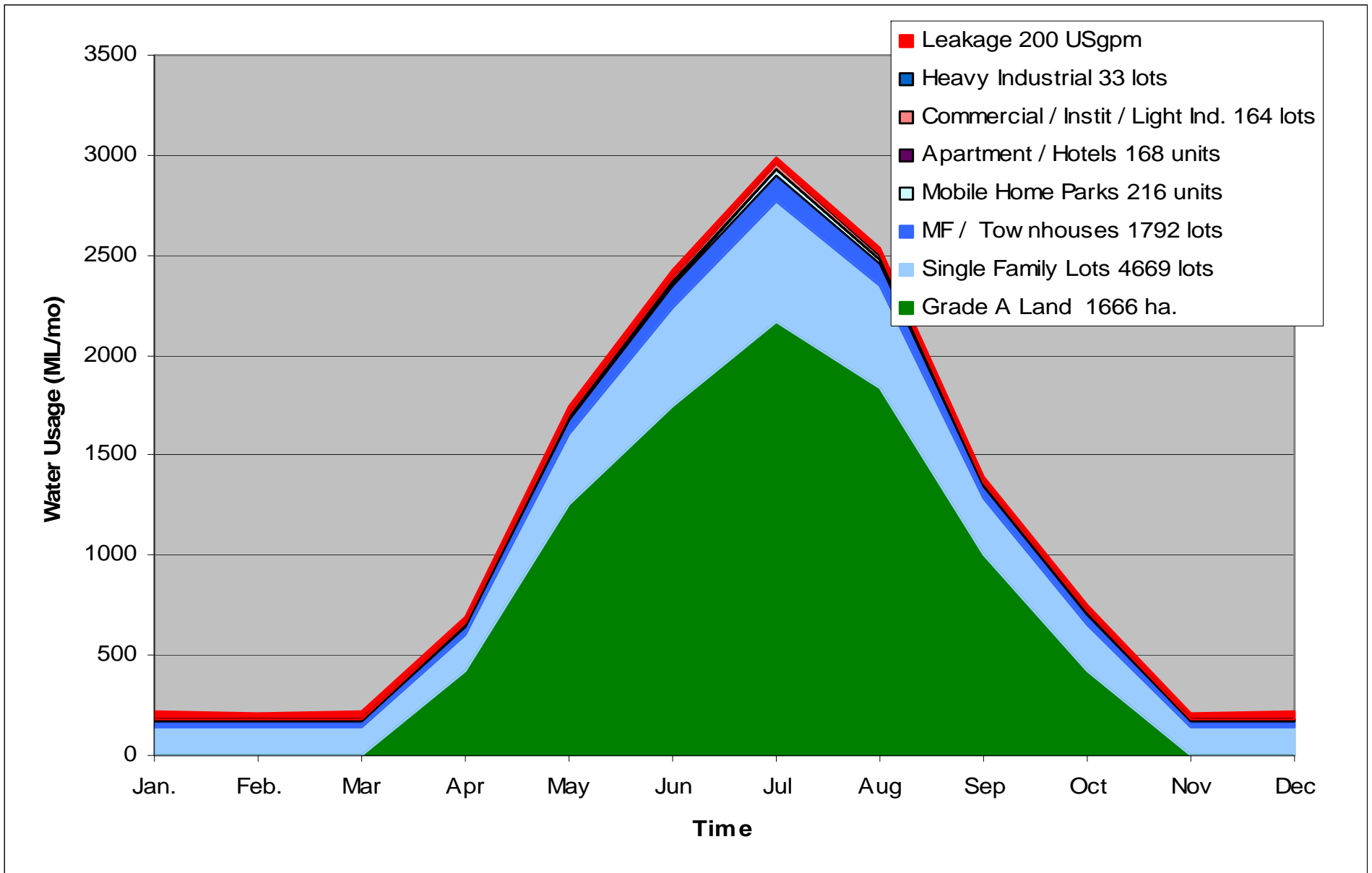
# Specific DSM - Water Demand Characteristics

(where can we save water?)

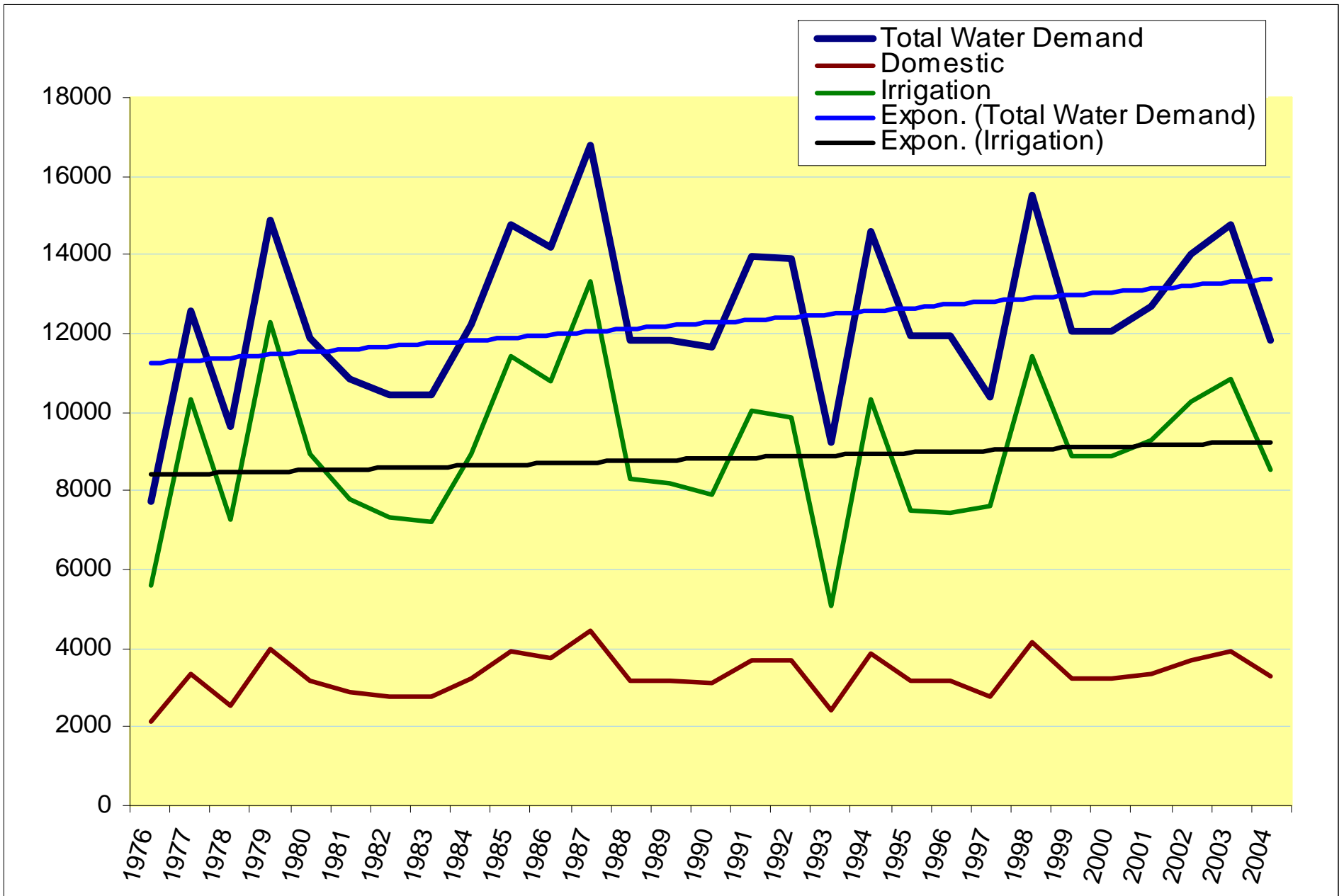


# Specific DSM - Water Demand Characteristics

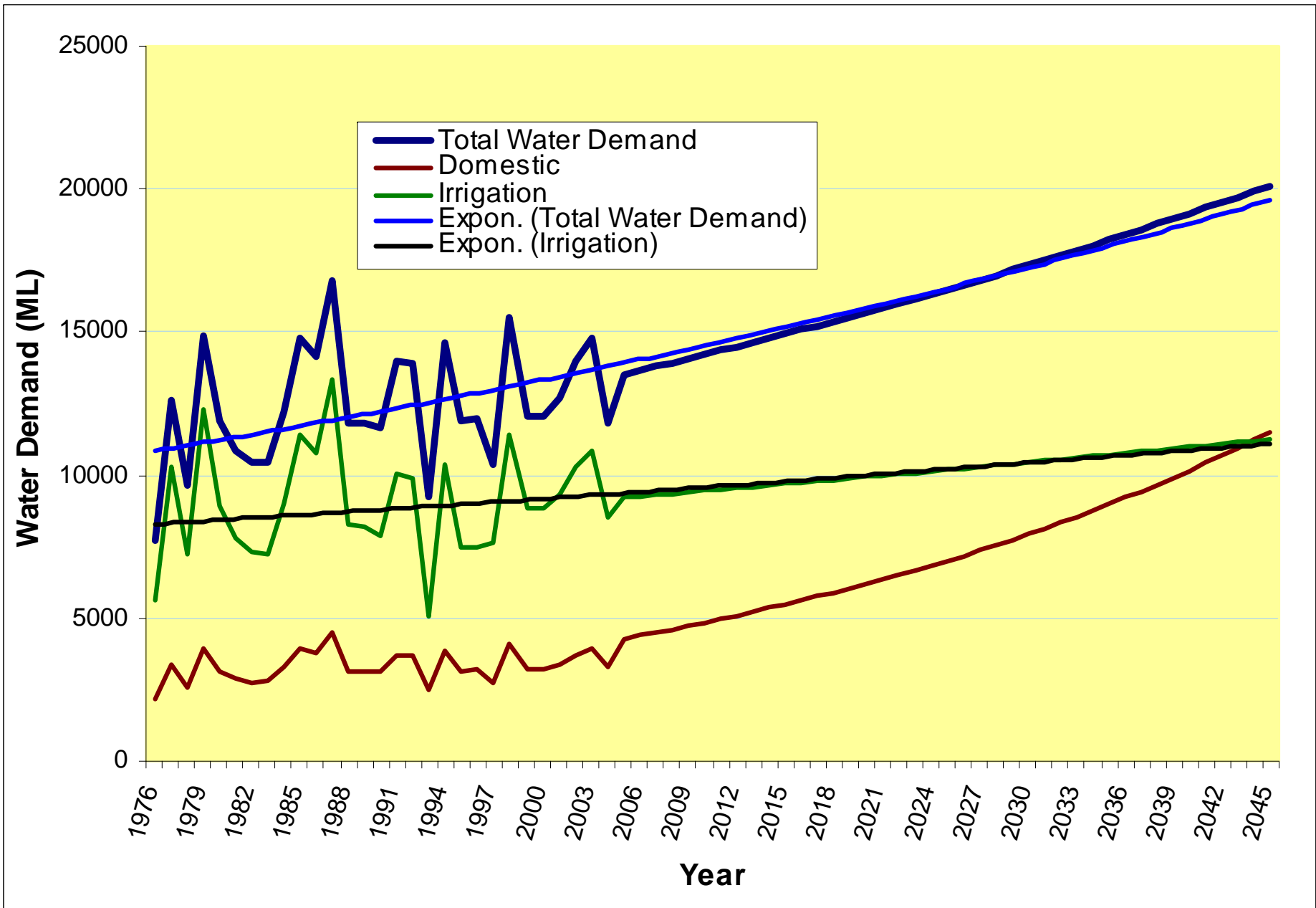
(where can we save water?)



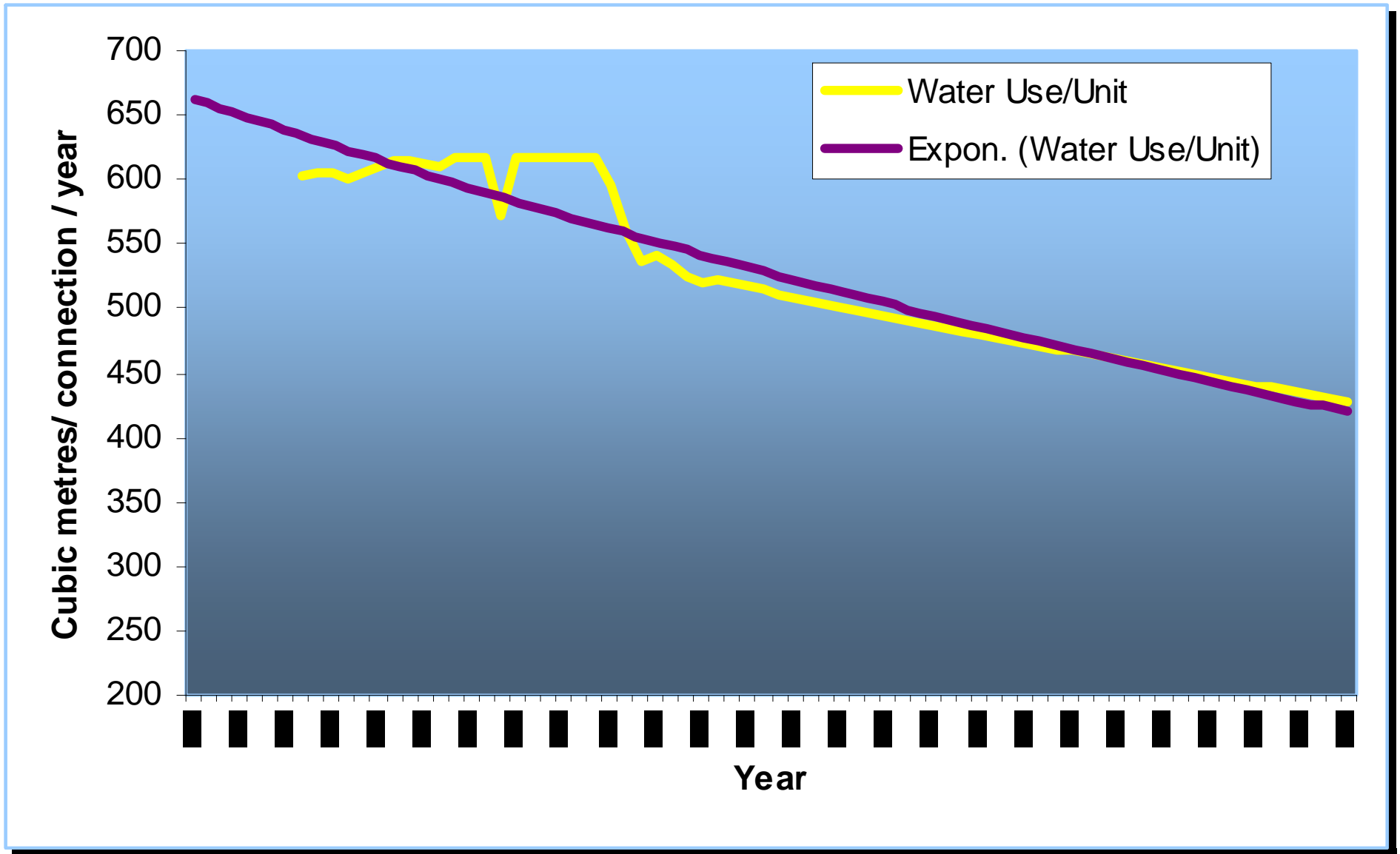
# Specific DSM - Historic Demand



# Specific DSM - Projected Demand



# Specific DSM - Projected per Capita Use

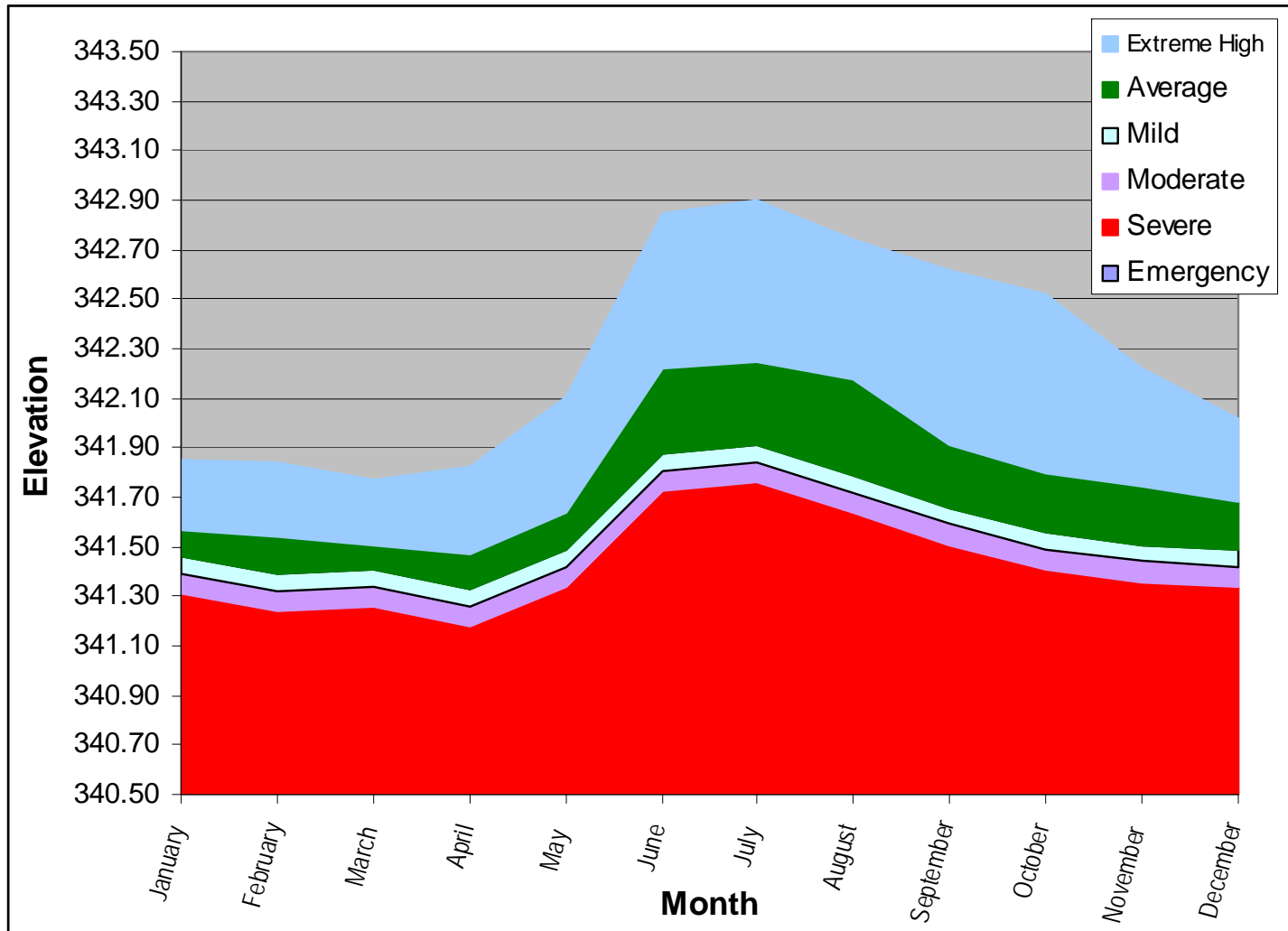


# General DSM Opportunities

- Provincial and Regulatory support to water suppliers
- Universal metering
- Groundwater licensing and understanding
- Thorough understanding of water use by LWBC
- Bylaws with incentives to promote water use efficiency
- Public education



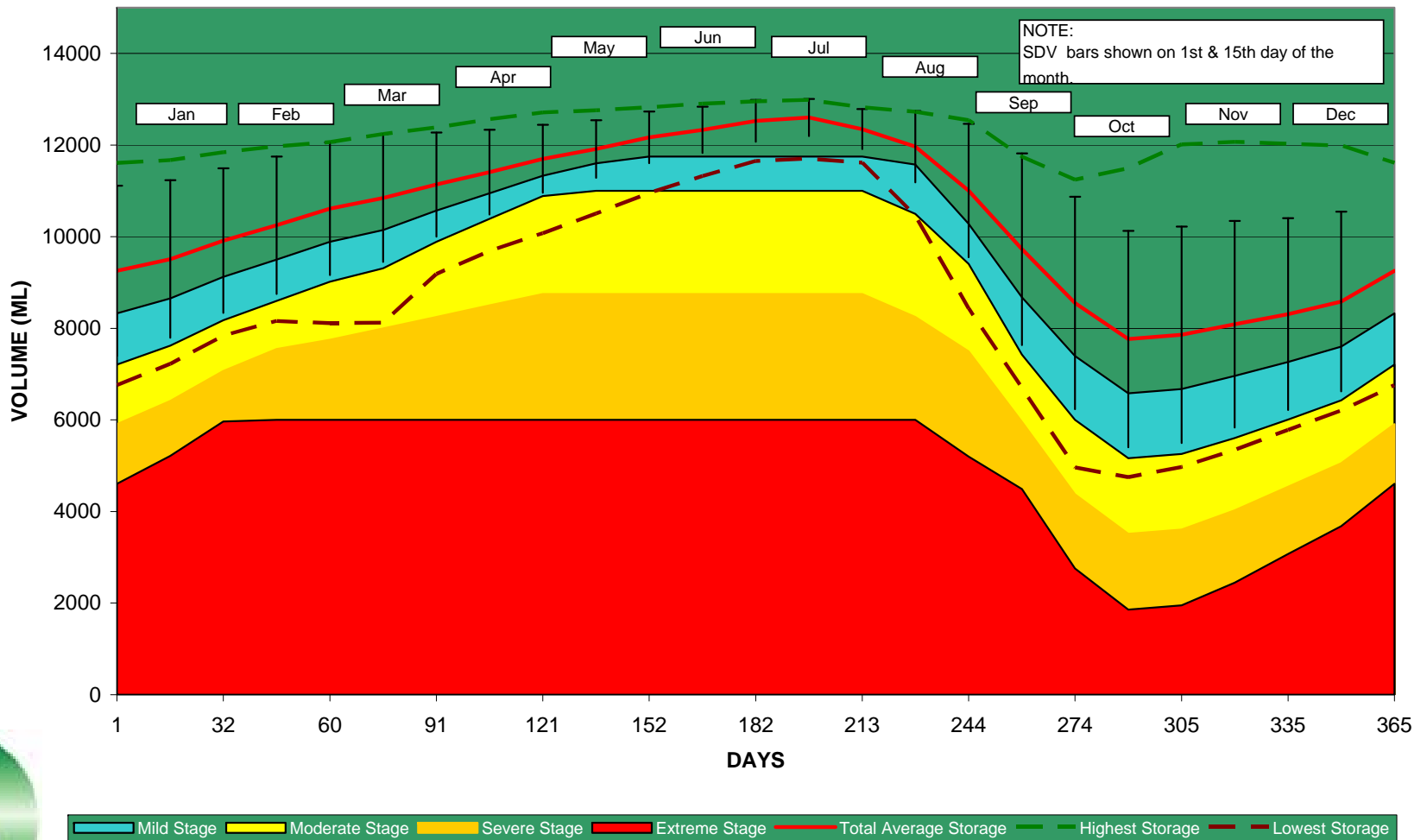
# General DSM - Okanagan Lake Drought Approach based on lake level in comparison with average



# General DSM - Upland Supply Approach

(based on Storage remaining in comparison with normal storage levels)

## DROUGHT STAGE





# Okanagan Valley – What Will Happen

## STEPS FOR ADEQUATE SUPPLY

1. Understand how much water is available and how much is left to reliably license (< 5 yrs )
2. Improve water use efficiencies (< 15 yrs)
3. Increased value and pricing of water ( on-going)
4. Increase high elevation storage to reduce drought risk (> 15 yrs)



# Specific DSM Opportunities

- Metering
- Value of Water (can't charge equitably if we don't meter)
- Meter rates structures
- Bylaw incentives for agriculture to conserve

