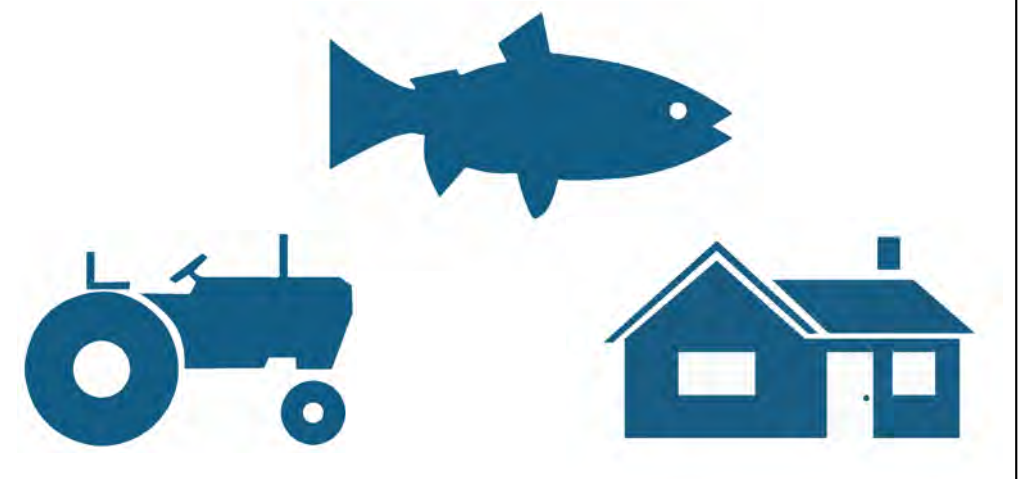


# CONSERVATION & WATER MARKETS



The Icicle Strategy has identified several projects to improve instream flows, domestic water supply, and agricultural water reliability. Benefits of conservation include:

- Irrigation conservation to benefit instream flow and fish and provide improved infrastructure.
- Domestic conservation will benefit domestic supply.
- Water markets will benefit agricultural reliability.
- Instream flow rule amendment will benefit domestic supply.

## Cascade Orchard Irrigation Company (COIC) Water Conservation

COIC is currently working on an alternatives analysis to explore various conservation options. The conservation alternative selected by COIC will benefit stream flow in Icicle Creek.



COIC Canal

- Up to 12 cfs and 3,640 acre-feet instream flow benefit
- \$5 million total cost estimate
- \$1,374/acre-foot



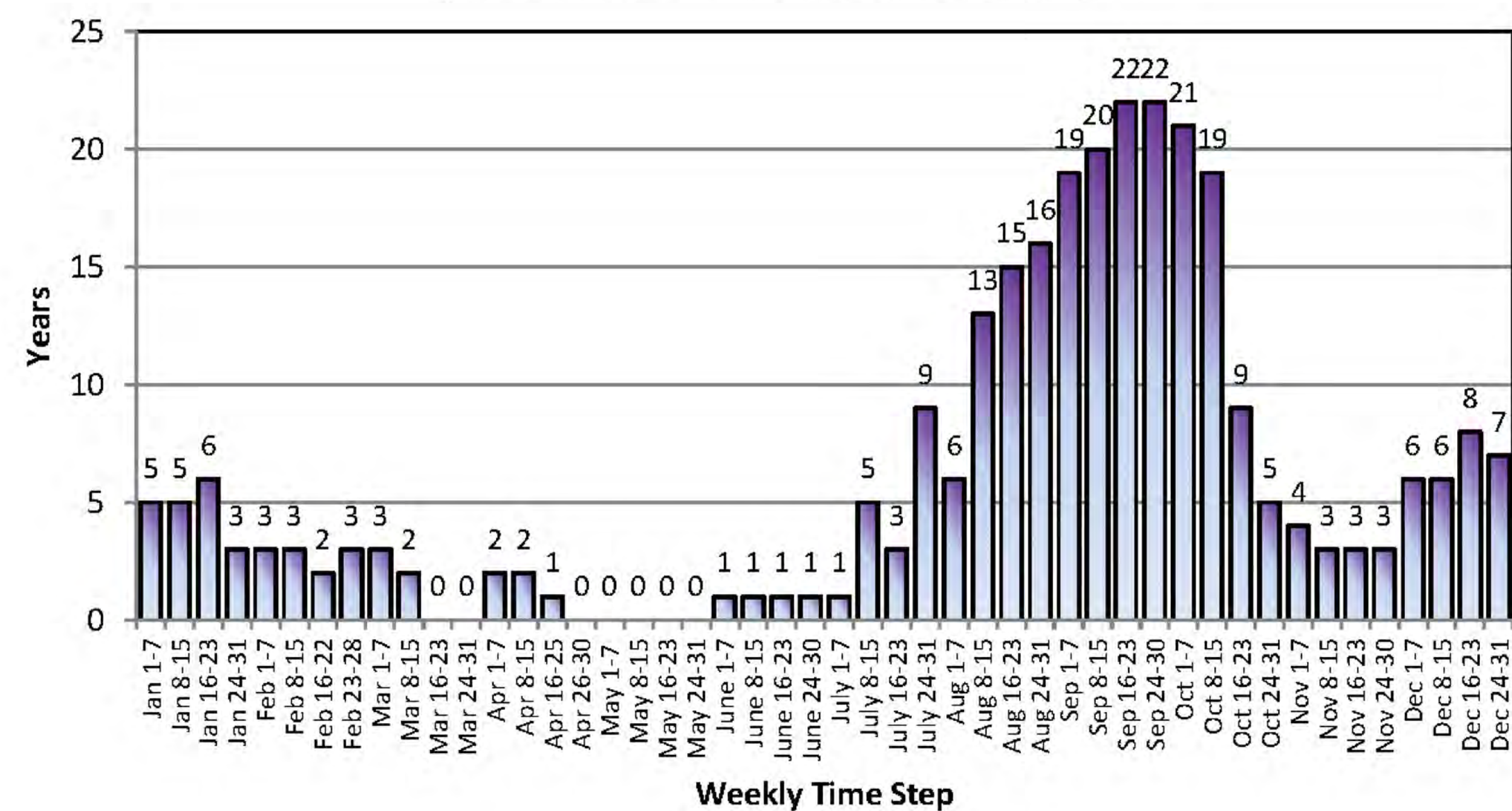
COIC/LNFH Diversion

## Water Markets

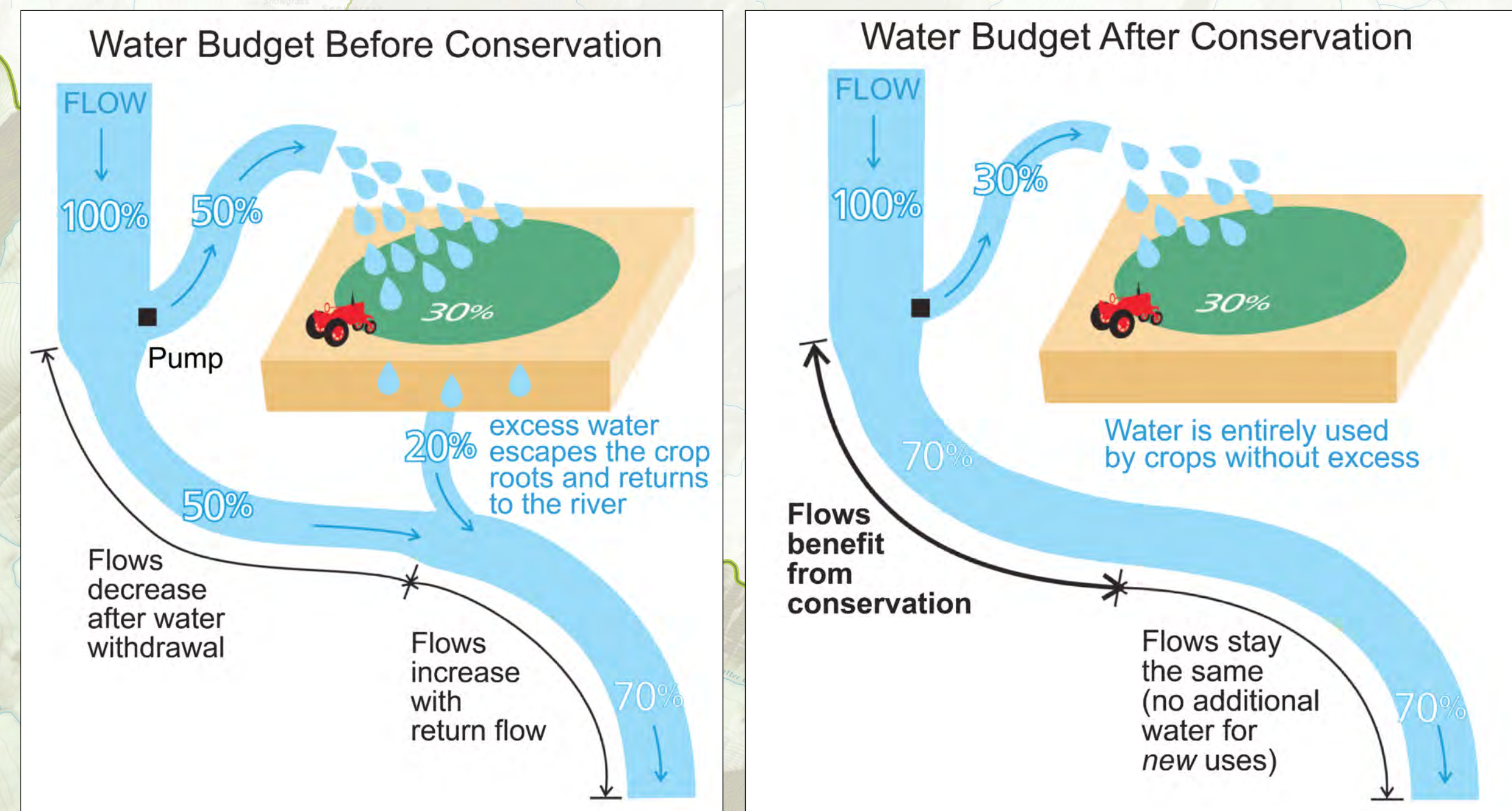
56 agricultural water users in the Icicle and Wenatchee basins are curtailed in water short years. This project will create a water bank that would move senior water to curtailed irrigators during drought.

- Purchase 1,000 acre-feet senior water rights
- \$3 million total cost estimate
- \$3,000/acre-foot

Total Interruptible Years vs. Instream Flow Rule  
(Wenatchee River at Peshastin, 1984-2014)



This graph represents the number of years that the 56 farmer's water supply was interrupted in the last 30 years. Over past 25 years interruptible water users have been curtailed 209 times during the irrigation season.



Conservation Water Budget: Water conservation typically provides reach benefits from diversion point to where return flow re-enters the river, but not water for new consumptive uses (e.g. additional acres).

## Icicle Peshastin Irrigation District (IPID) Water Conservation

Under this project, IPID would identify conservation opportunities and update its management plan. Conservation opportunities may include canal piping, reregulation reservoirs, and on-farm efficiency upgrades.

- Up to 10 cfs and 3,000 acre-feet instream flow benefit
- \$7.5 million total cost estimate
- \$2,500/acre-foot



IPID Canal

## Instream Flow Rule Amendment

Within the Wenatchee instream flow rule, an Icicle reservation of water was established for future domestic use. The rule allows for an increase from 0.1 cfs to 0.5 cfs if habitat improvements are made in Icicle Creek. The Wenatchee instream flow rule would remain capped at 4.0 cfs total for the basin.

- Up to 400 acre-feet for domestic supply
- \$50,000 total cost estimate
- \$125/acre-foot

## Domestic Water Conservation

The Icicle Strategy will fund domestic conservation for the City of Leavenworth and rural Chelan County residents. These conservation measures will include metering and pipe replacement, and would help supply population projections through 2050.

- Save up to 400 acre-feet
- \$2 million total cost estimate
- \$2,500/acre-foot



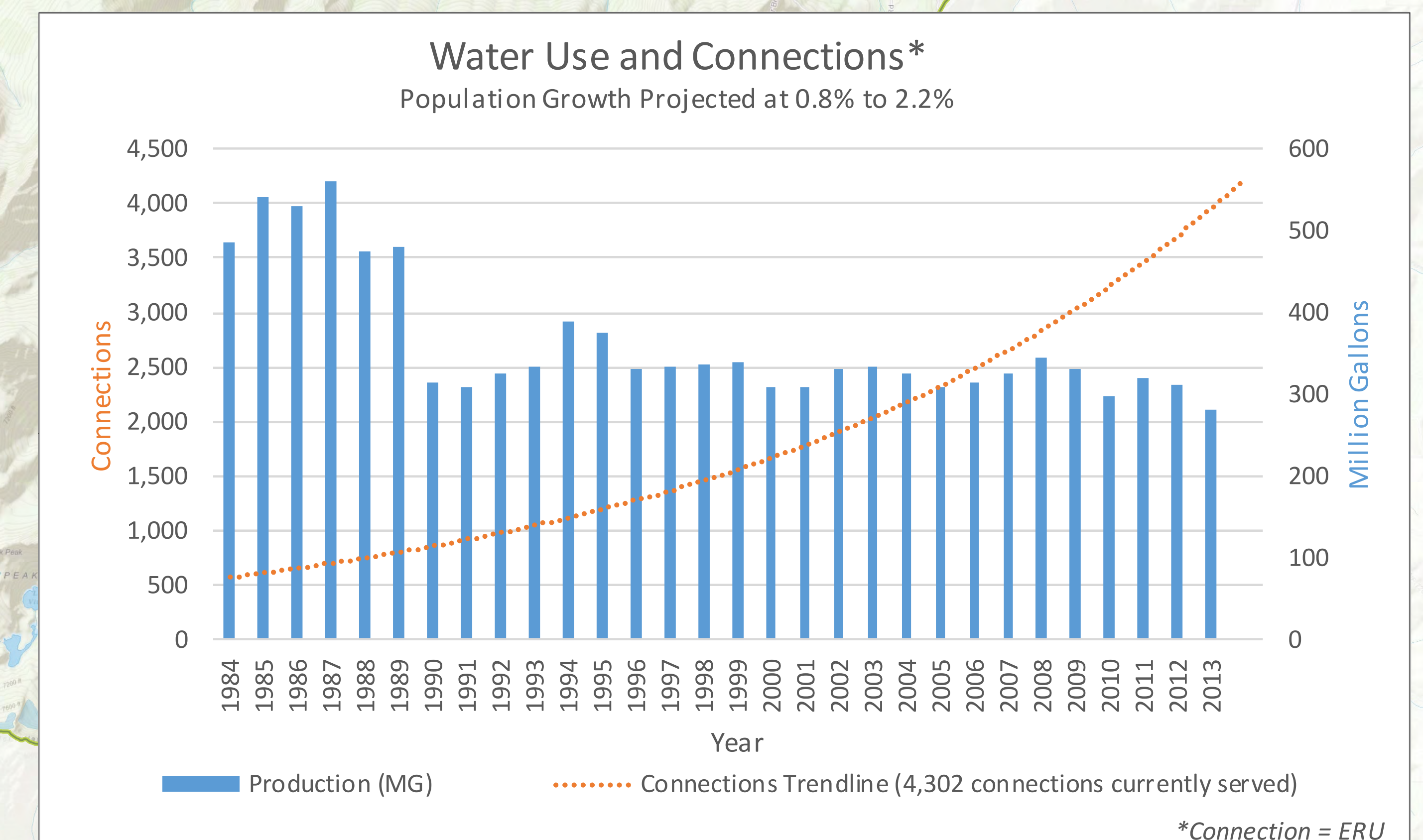
City of Leavenworth Pipe Rehabilitation

## City of Leavenworth Past Domestic Conservation Projects: \$3.6 million invested over last 10 years

- Leak Detection
- Icicle Road Reservoir Reconstruction
- 9th Street Watermain Replacement
- Commercial Street Watermain Replacement
- Meter Upgrades
- Front/Division - 14th Watermain Replacement
- Source Water Meters
- East Leavenworth Road Watermain Replacement
- Icicle Creek Watermain Crossing Repair
- Rain Sensor Installation on City Property
- Water Use Efficiency and Conservation Education
- Low-Flow Showerhead Rebates
- Customer Leak Detection

## Future Conservation Projects

- Metering upgrades
- Explore conservation oriented rate structure
- Replace leaky water mains
- Conservation education
- Leak detection programs
- Rebates for efficient residential fixtures
- Explore reclaimed water



City of Leavenworth decreased water use by 50% over past 20 years, and increased service to 3,500 more connections