

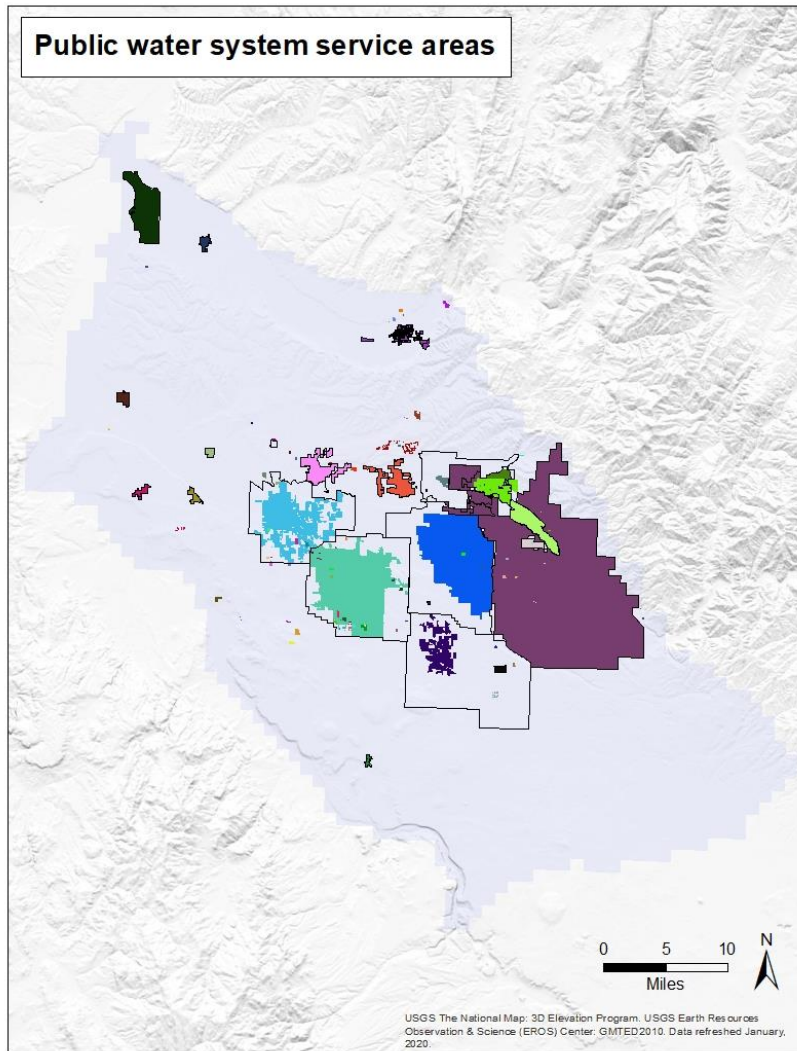
Municipal water system service areas and irrigation water sources

Presented to the Treasure Valley Modeling Technical Advisory
Committee

Jennifer Sukow, P.E., P.G.

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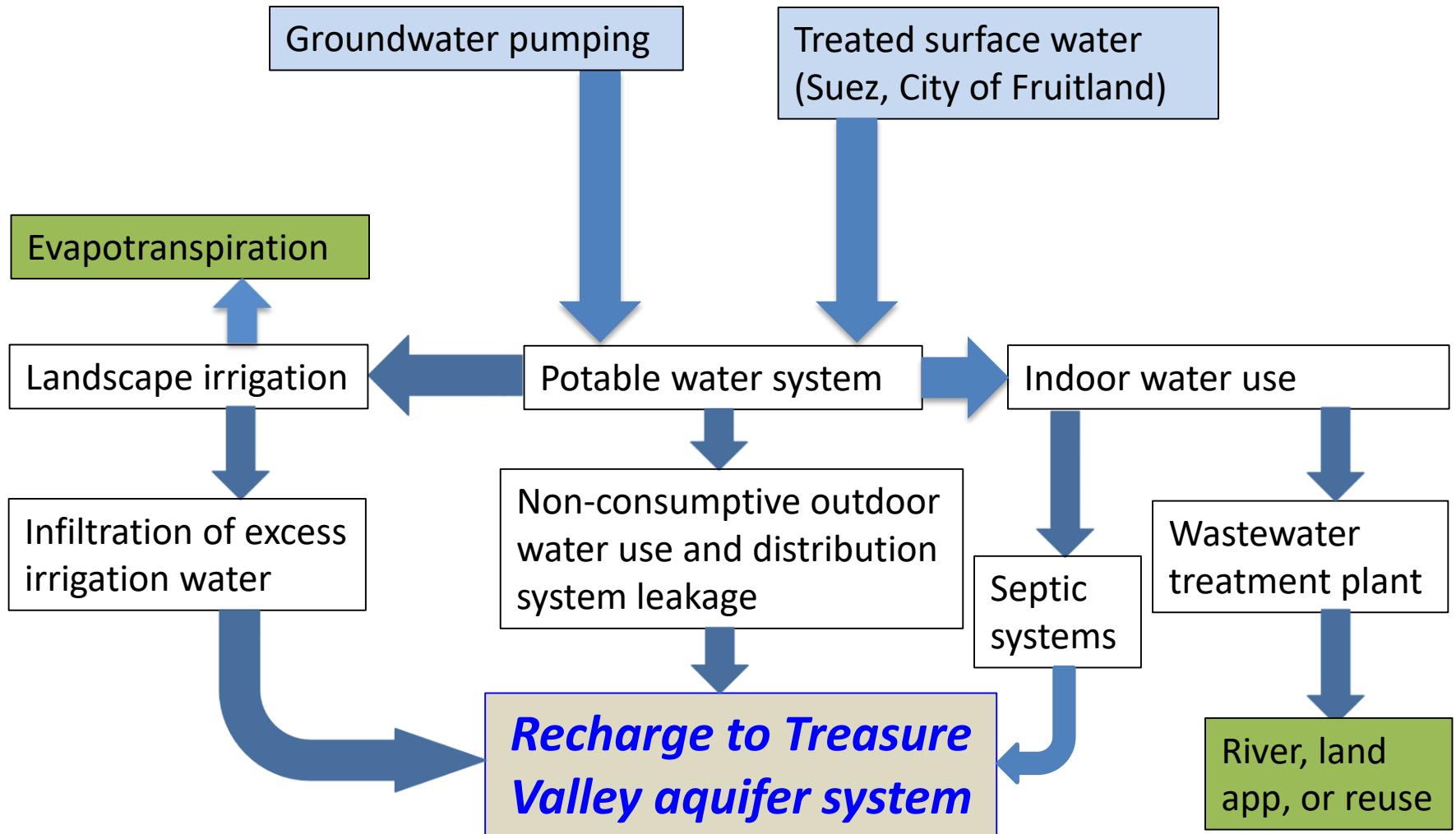
Public (potable) water systems



PUBLIC WATER SYSTEM	Population served	% served
SUEZ	228,790	39.3%
CITY OF MERIDIAN	114,680	19.7%
CITY OF NAMPА	81,557	14.0%
CITY OF CALDWELL	50,204	8.6%
CITY OF KUNA	20,740	3.6%
CITY OF GARDEN CITY	12,500	2.1%
EAGLE WATER CO INC	10,400	1.8%
CAPITOL WATER CORP	9,000	1.5%
STAR SEWER & WATER DISTRICT	8,000	1.4%
CITY OF MIDDLETON	7,500	1.3%
CITY OF EMMETT	6,700	1.2%
CITY OF FRUITLAND	5,087	0.9%
CITY OF EAGLE EAST	3,683	0.6%
CITY OF EAGLE WEST	3,377	0.6%
CITY OF PARMA	1,983	0.3%
CITY OF NEW PLYMOUTH	1,600	0.3%
CITY OF WILDER	1,500	0.3%
CALDWELL HOUSING AUTHORITY	1,100	0.2%
CITY OF GREENLEAF	846	0.1%
CITY OF NOTUS	539	0.1%
CITY OF MELBA	500	0.1%
95 SUBDIVISION SYSTEMS	11,934	2.0%

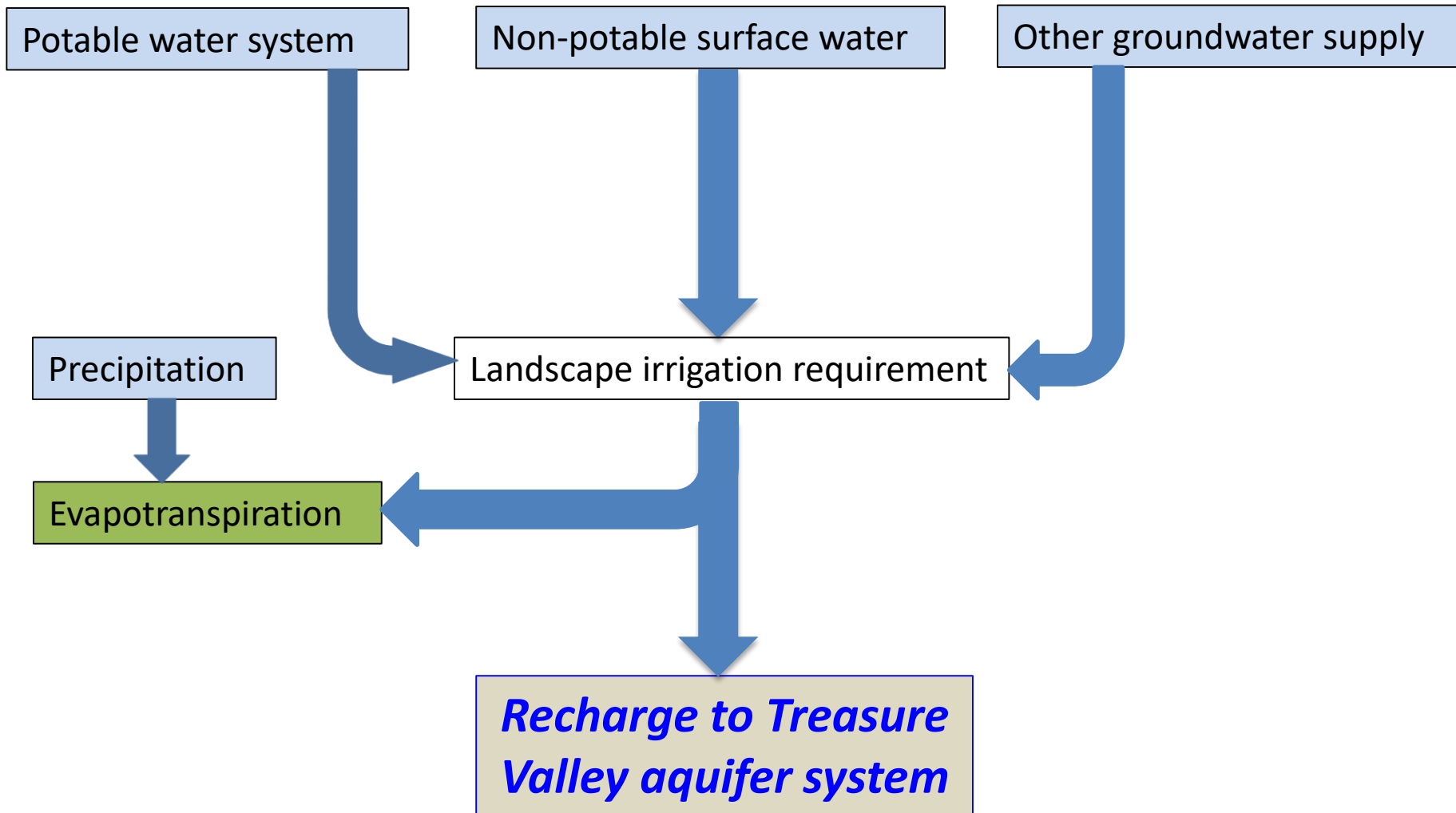
*diversion data available for systems serving approximately 89% of the population served by PWS

Potable water system contribution to aquifer recharge



Recharge = diversions + precip – wastewater – landscape irrigation requirement

Landscape irrigation sources

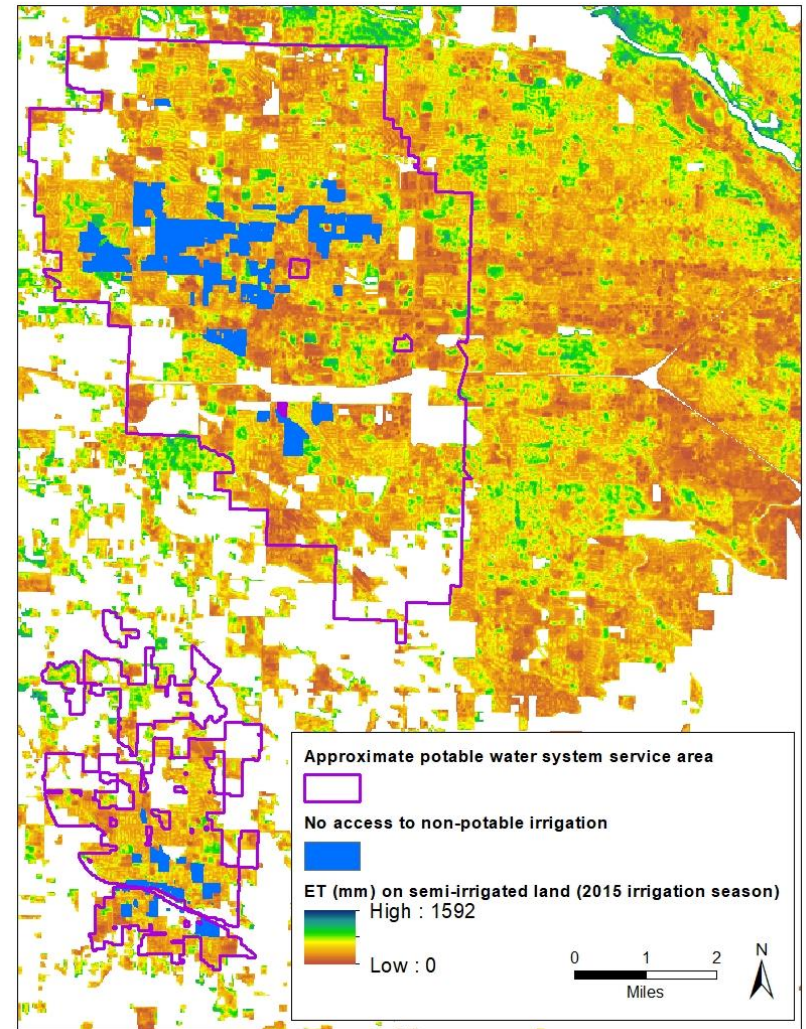
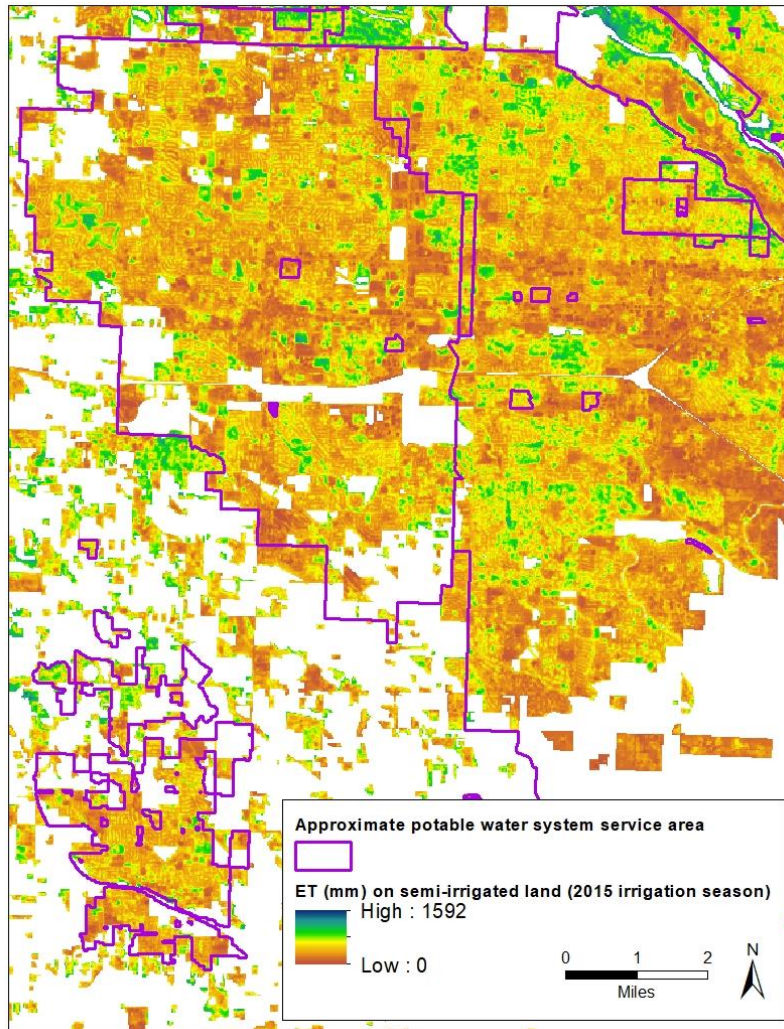


Recharge = diversions + precip – wastewater – landscape irrigation requirement

What do we know about municipal irrigation sources?

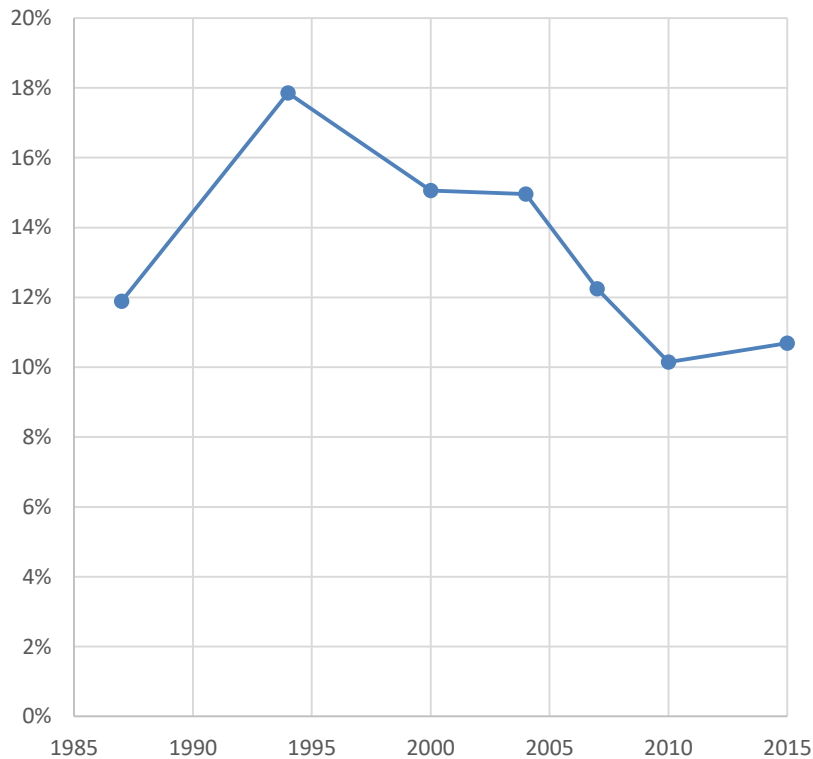
- Non-potable water sources provide significant water for municipal irrigation in the Treasure Valley
- 2005 Idaho legislation requires land developers to use surface water where reasonably available
- Many older neighborhoods also have NPI from surface water or non-PWS wells
- City of Nampa provided diversion data for city-owned NPI system; approximately 2% of irrigation supply is estimated to be from PWS based on 2012 data
- City of Eagle Eastern and Western service areas have surface water NPI throughout, small amount of potable irrigation could occur in shoulder seasons of dry years
- City of Meridian and City of Kuna have mapped parcels with no access to NPI; % of irrigation supply can be estimated from spatially distributed ET data

Landscape irrigation from potable water systems

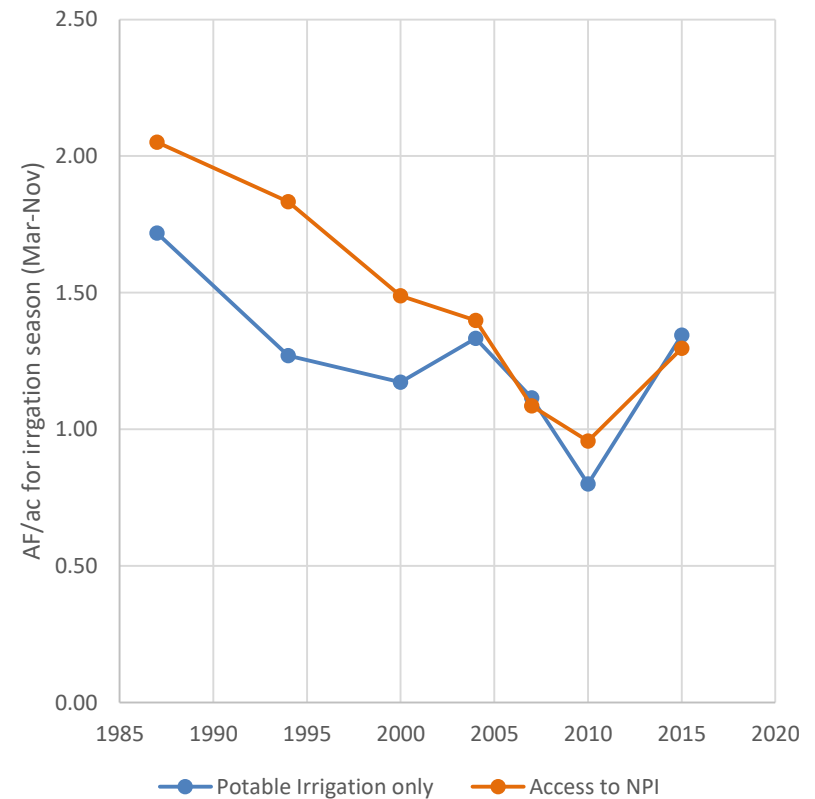


Landscape irrigation requirement for potable water systems

Estimated % of landscape irrigation demand supplied by potable water system within City of Meridian service area



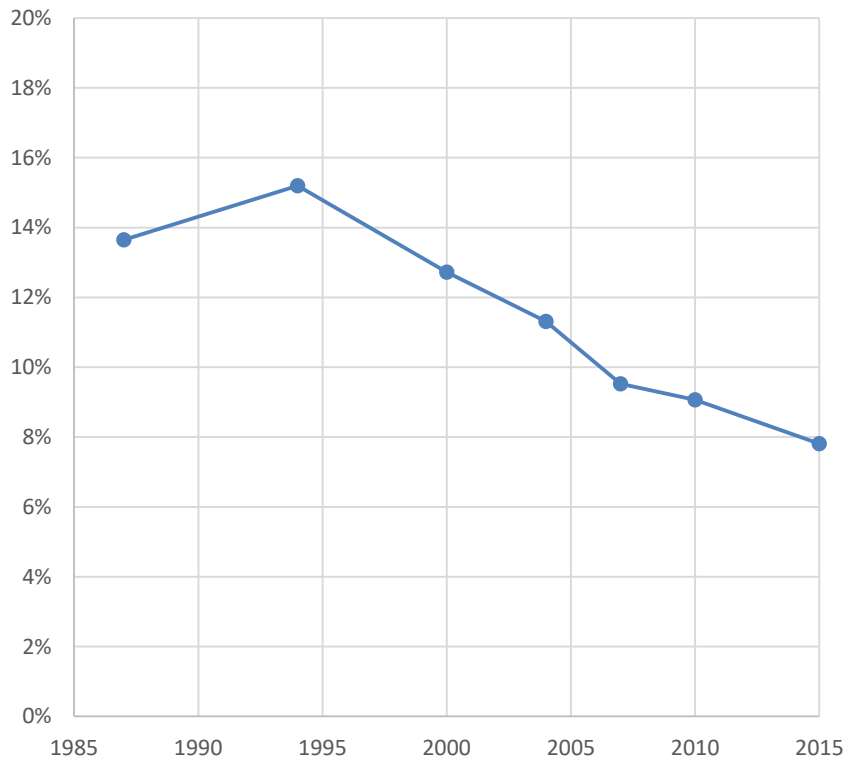
Mean ET on semi-irrigated lands within City of Meridian service area



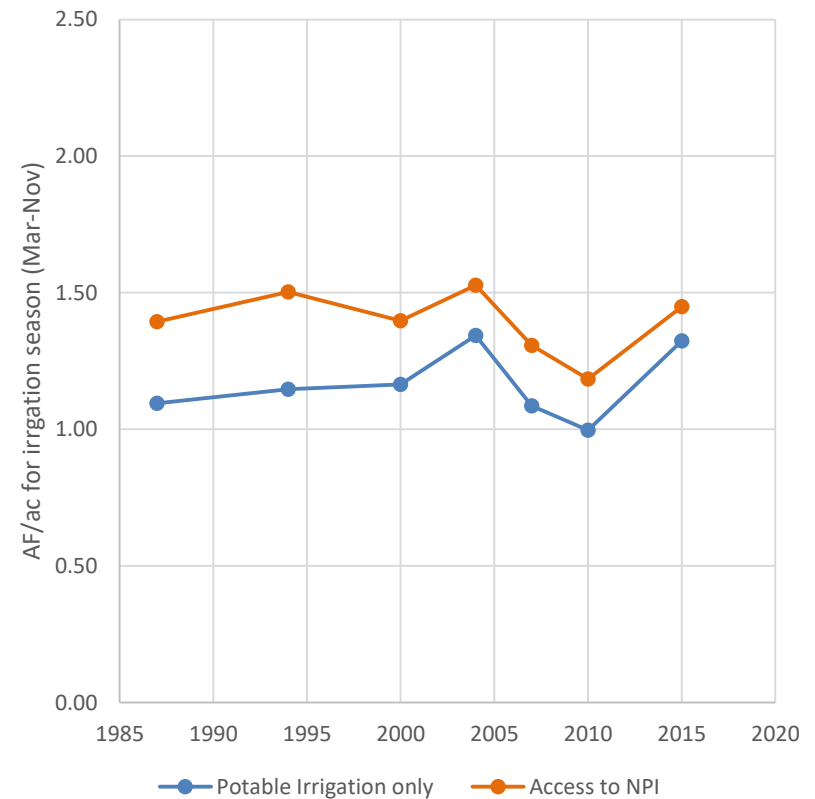
*additional irrigation from potable water system may occur on lands with access to NPI during shoulder seasons

Landscape irrigation from potable water systems

Estimated % of landscape irrigation demand supplied by potable water system within City of Kuna service area



Mean ET on semi-irrigated lands within City of Kuna service area

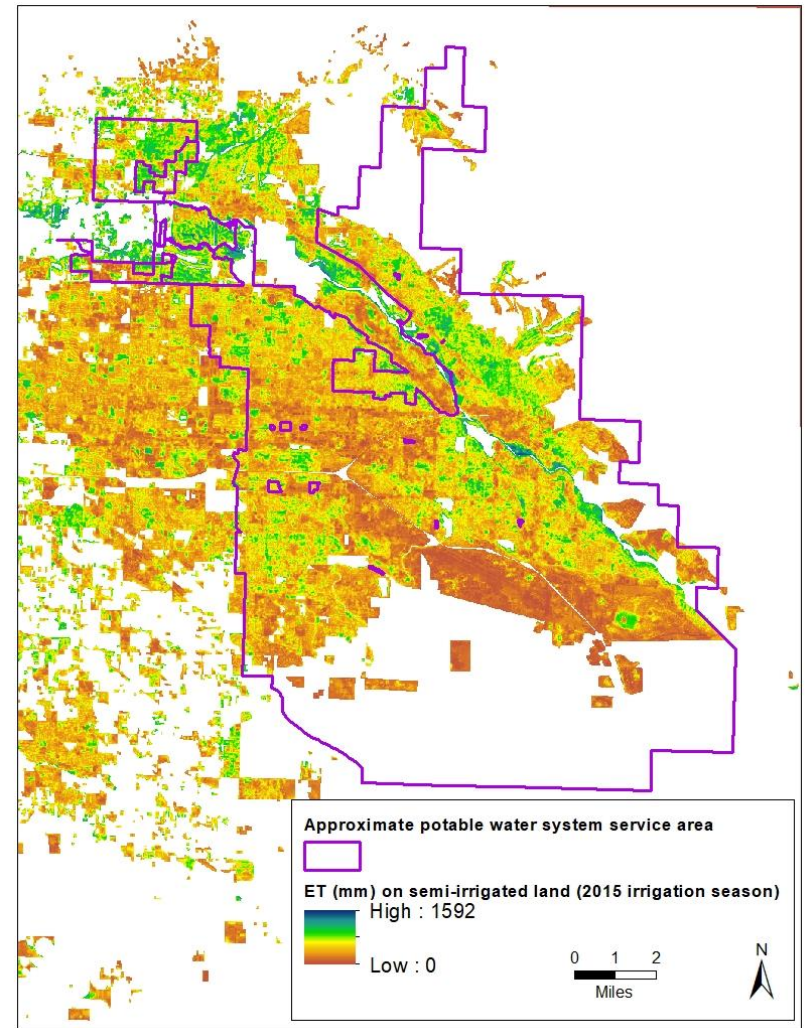
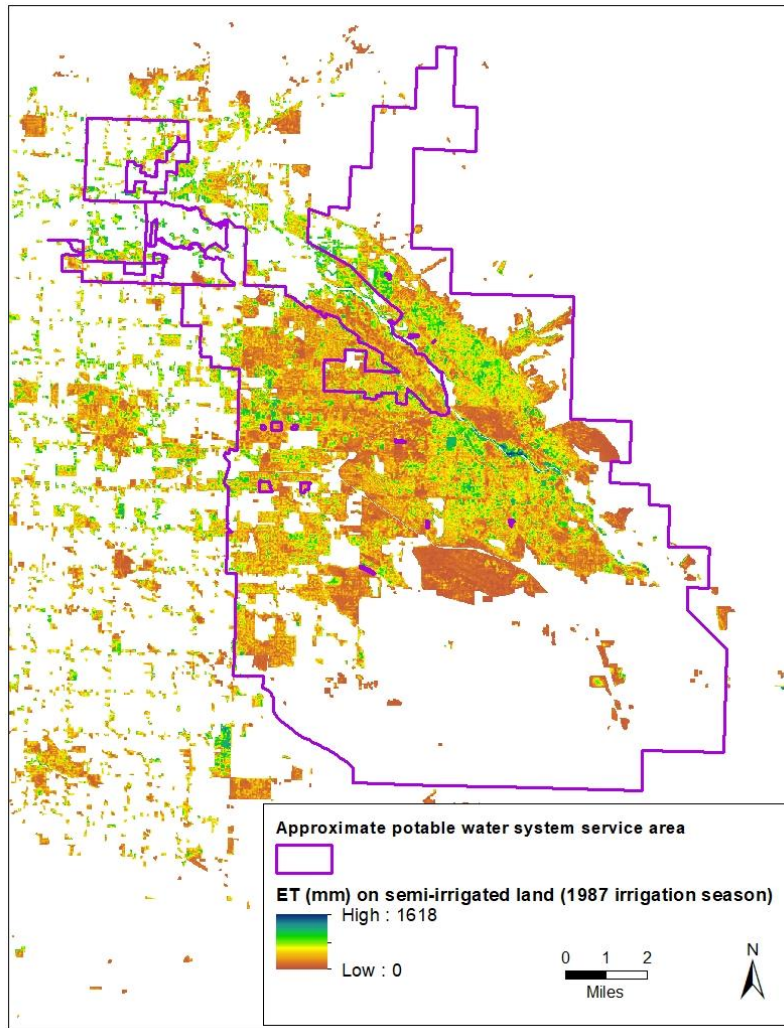


*additional irrigation from potable water system may occur on lands with access to NPI during shoulder seasons

What do we know about municipal irrigation sources?

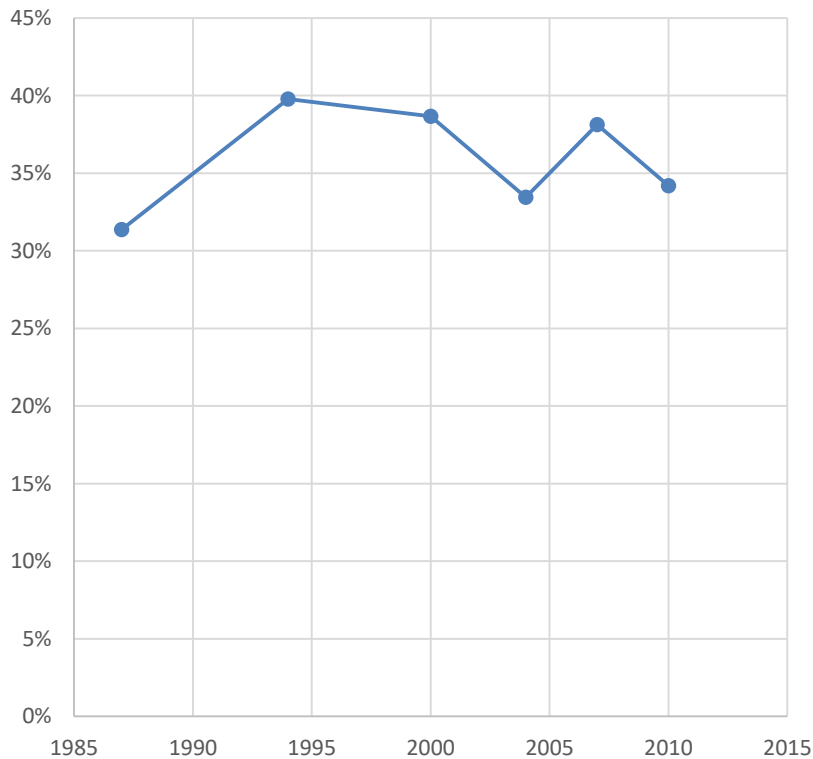
- Suez water system service area
 - Very limited information on extent of customer access to NPI
 - Suez 2016 water master plan presents an average annual water use per customers with and without NPI based on less than 2% of the system's customers, applying these values to the total average annual residential use results in an estimate that about 65% of customers have access to NPI
 - Comparing the difference between winter and irrigation season PWS supply with total landscape irrigation requirement may be best approach for estimating % of irrigation supply from PWS for Suez

Landscape irrigation from potable water systems

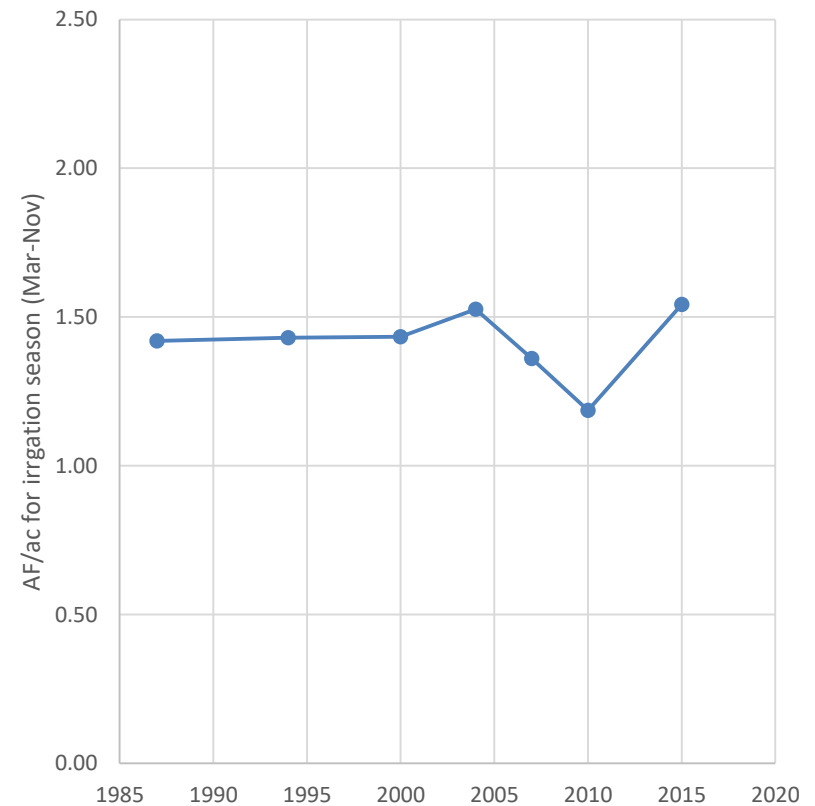


Landscape irrigation requirement for potable water systems

Estimated % of landscape irrigation demand supplied by potable water system within Suez service area



Mean ET on semi-irrigated lands within Suez service area



*additional irrigation from potable water system may occur on lands with access to NPI during shoulder seasons

What don't we know about municipal irrigation sources?

- City of Caldwell, City of Garden City
 - Some customers have access to NPI, no information on extent
 - Compare difference between 2010-2014 winter and irrigation season diversion data
 - Caldwell ~12%; Garden City ~30%
- Other municipal systems
 - No information, some customers may have access to NPI
 - Compare difference between 2010-2014 winter and irrigation season diversion data (Eagle Water Co. ~30%, Capitol Water Corp. ~70%)
 - Where we have no diversion data, assume similar to one of the other municipalities
 - Non-municipal subdivision systems
 - Assume irrigation water rights reflect whether supplied by groundwater or surface water

DISCUSSION