

AGRICULTURAL WATER USE FORECAST

Upper Oconee Regional Water Planning Council
December 8, 2021

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Project Team

- ▣ Albany State University – Georgia Water Planning and Policy Center (Lead)
- ▣ University of Georgia Agricultural and Applied Economics

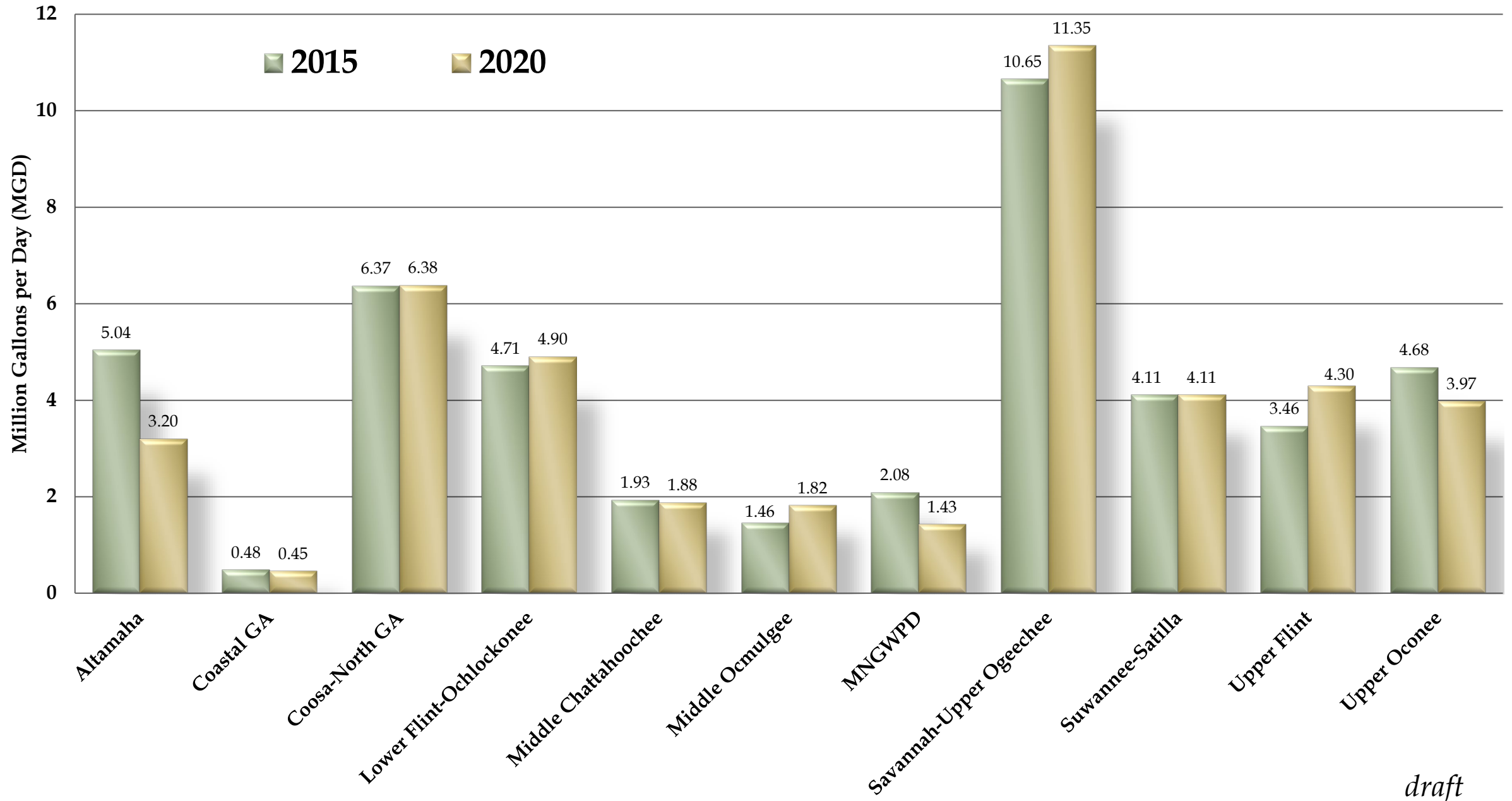


2020-21 Agricultural Water Demand Forecasts - Methods

- ▣ **Acreage – Updated 2020 wetted acreage data**
 - Field observation and aerial survey
- ▣ **Crop projections through 2060 - modeled based on multiple data sources:**
 - Remote sensing and field data
 - USDA Projections, Southeast Model, Georgia Model, Data Trends
- ▣ **Crop water needs - wet, normal, dry years**
 - Expanded use of meter data
 - Review estimates used in 2015-2016 and revise if needed
 - ▣ Surface water method revised to remove “70% assumption”
- ▣ **Animal Ag/Nursery**

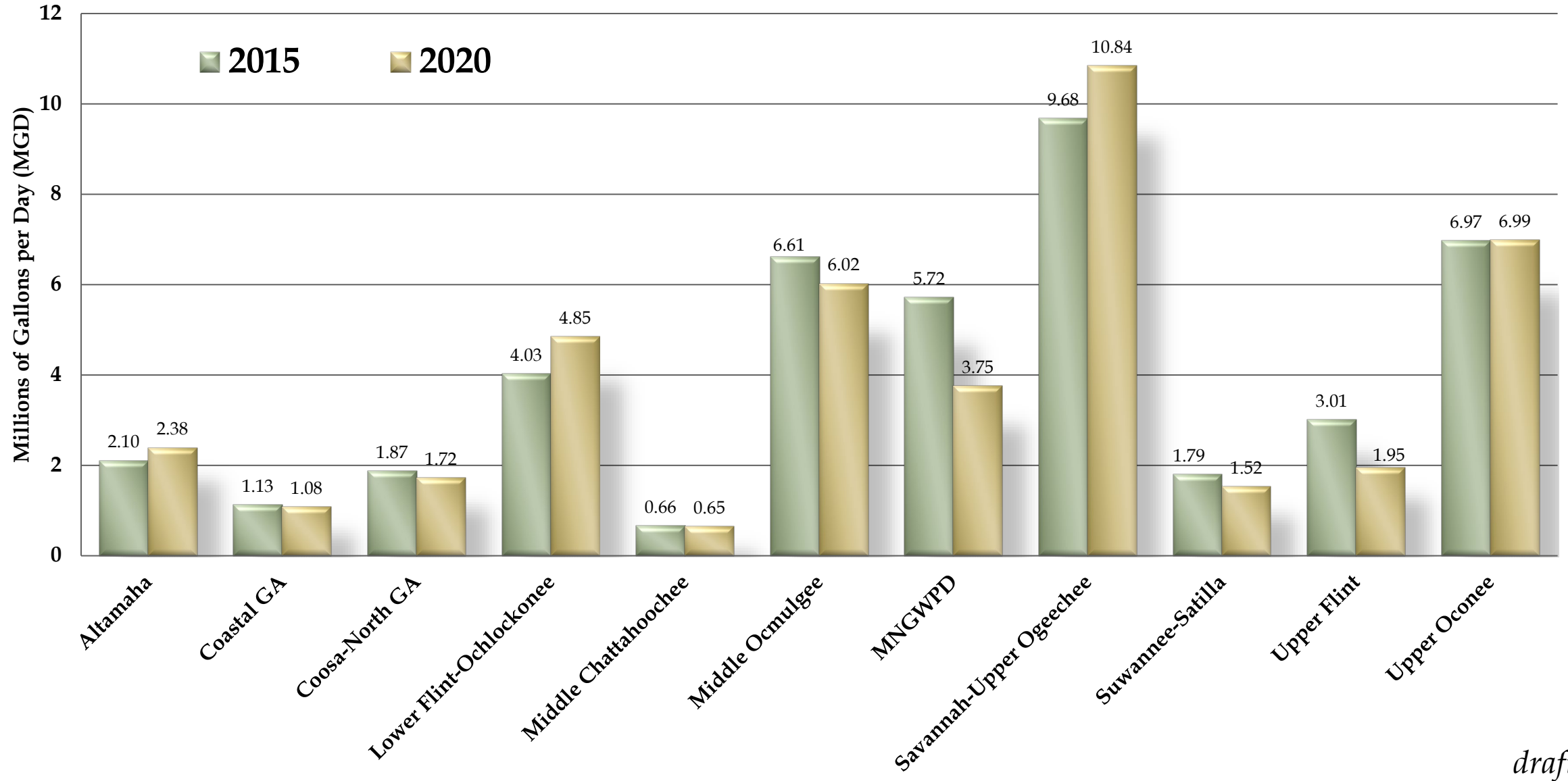
Animal Agriculture - Daily Water Use by Water Planning Region

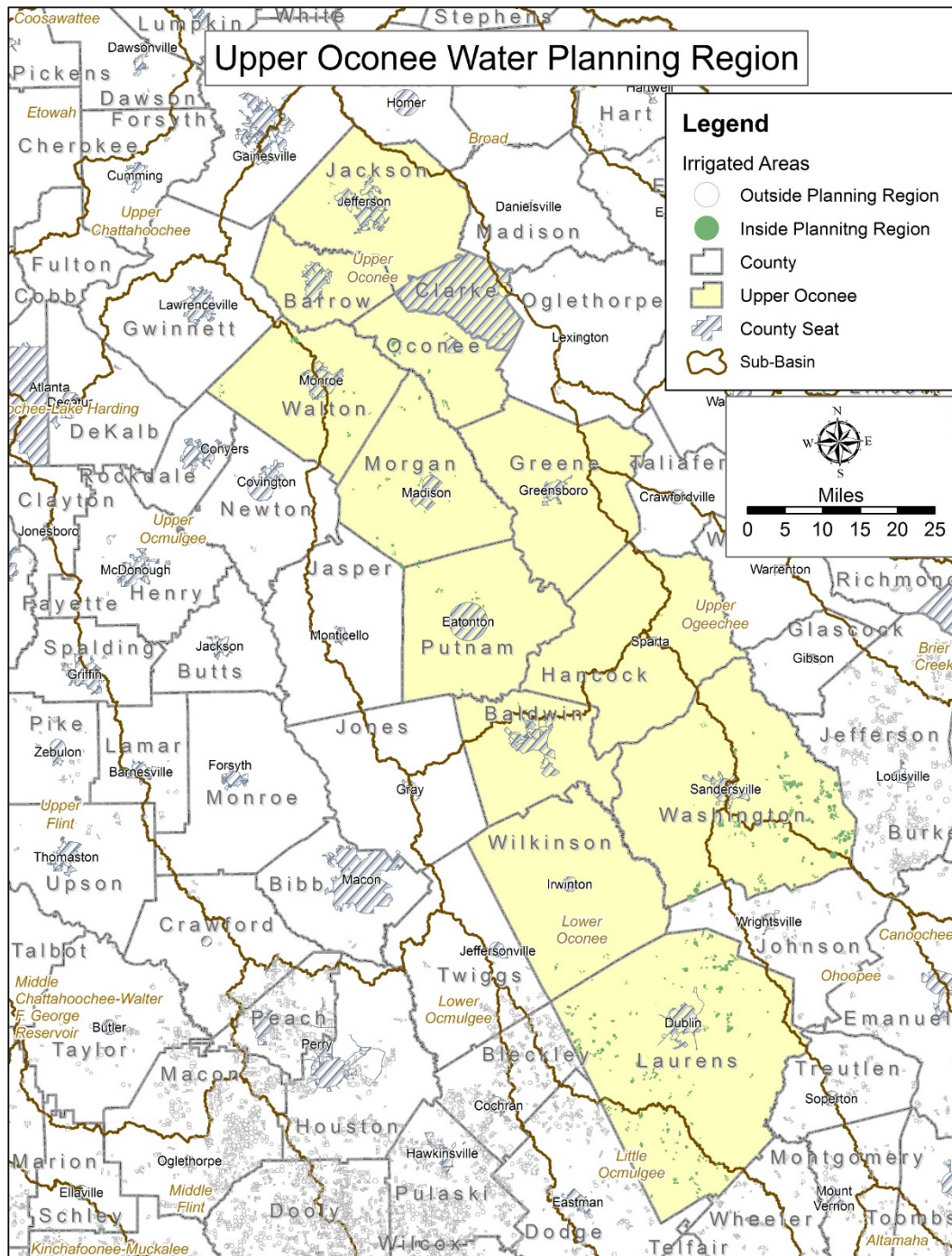
Statewide Total: 43.8 MGD



Daily Water Use by Horticultural Nurseries (Container, In-Ground, and Greenhouse), Millions of Gallons Per Day

Statewide Total: 41.76 MGD - *draft*





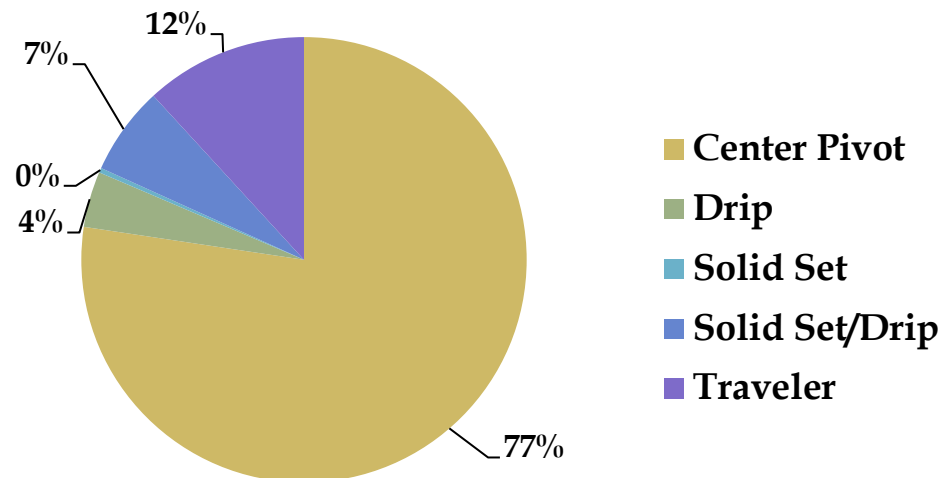
Irrigated Acres

County	2015	2020
Clarke	114	115
Greene	0	4
Hancock	47	77
Jackson	113	113
Laurens	10,774	11,651
Morgan	1,272	1,272
Oconee	1,304	1,304
Putnam	391	654
Walton	930	930
Washington	10,924	12,050
Wilkinson	244	299

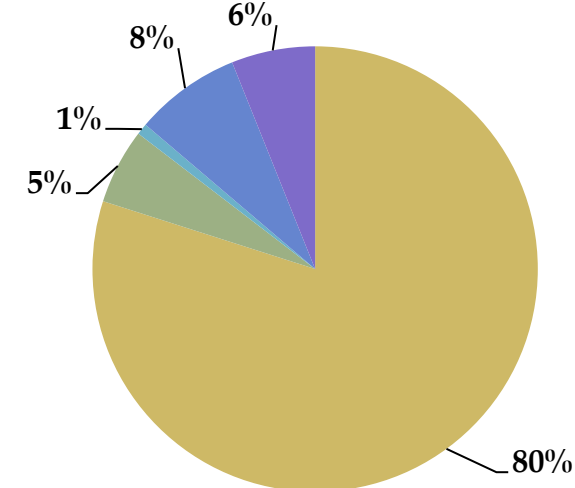
Upper Oconee RWPC

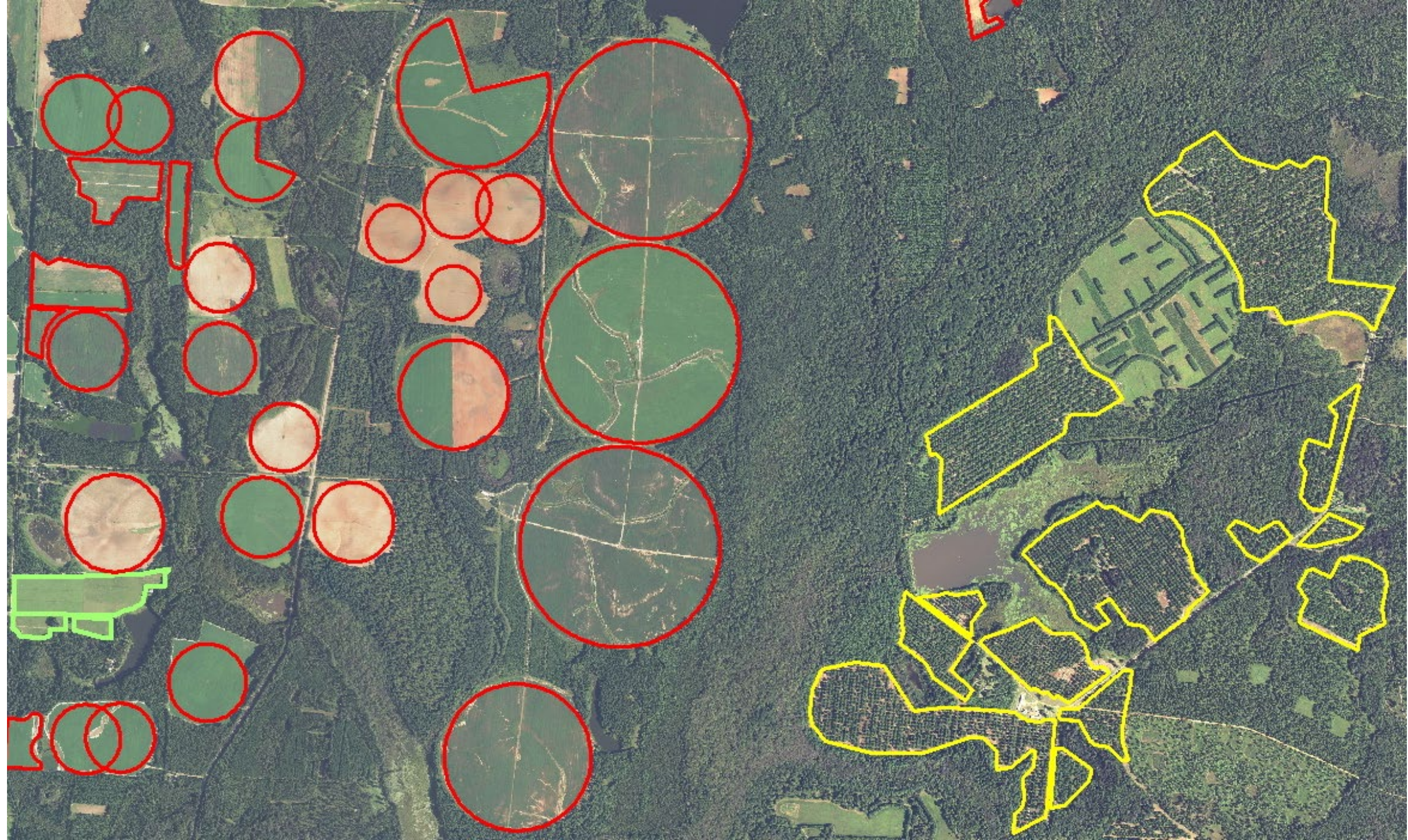
	2015	2020	% Change
Total # of Fields	542	592	+ 9.2%
Total Acreage	26,113	28,468	+ 9.0%
Total GW Acreage	19,624	21,475	+ 11.5%
Total SW Acreage	6,489	6,723	+ 3.6%
Total Center Pivots	368	458	+ 24.5%
Center Pivot Acreage	19,307	22,753	+ 17.8%

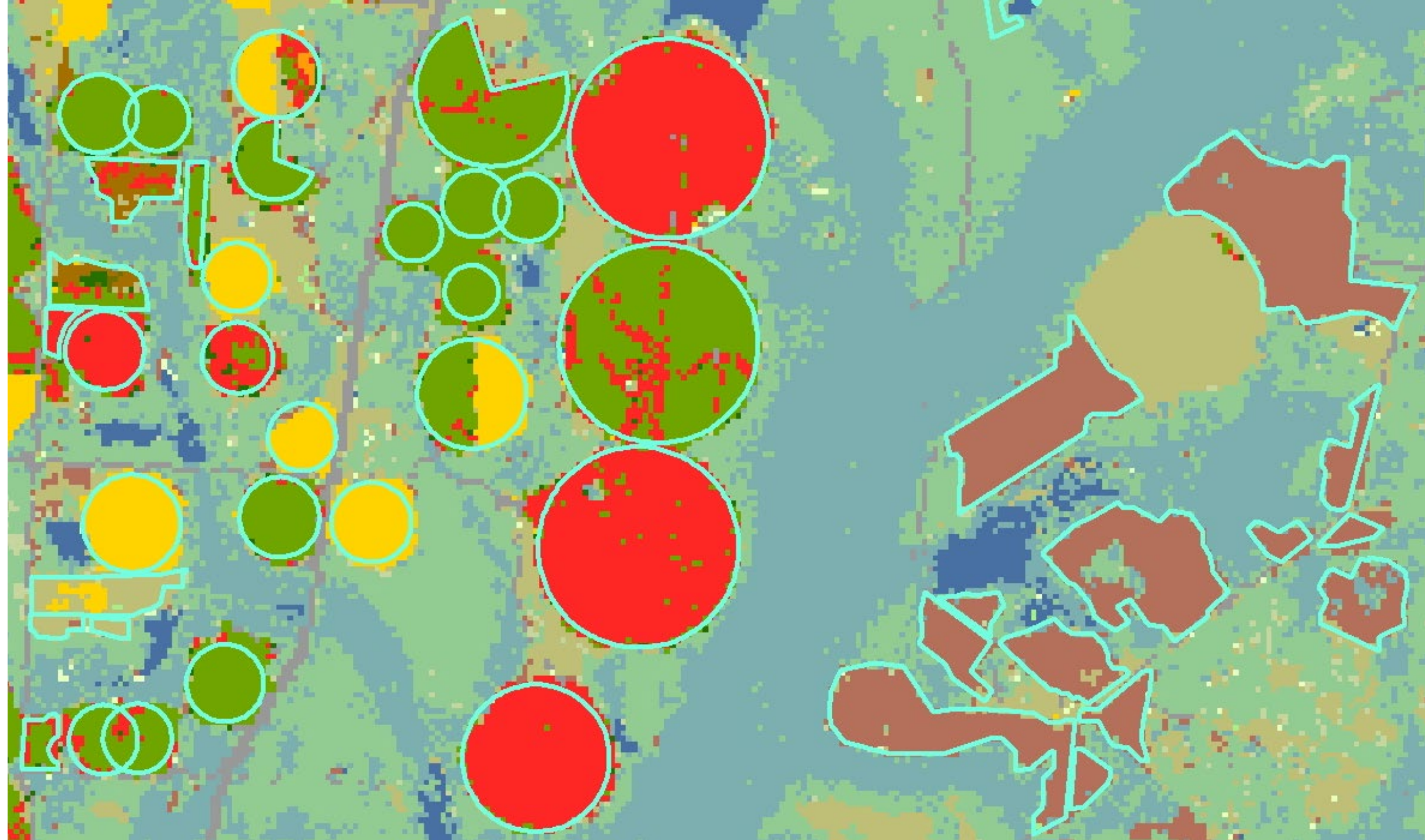
System Type - % of Systems



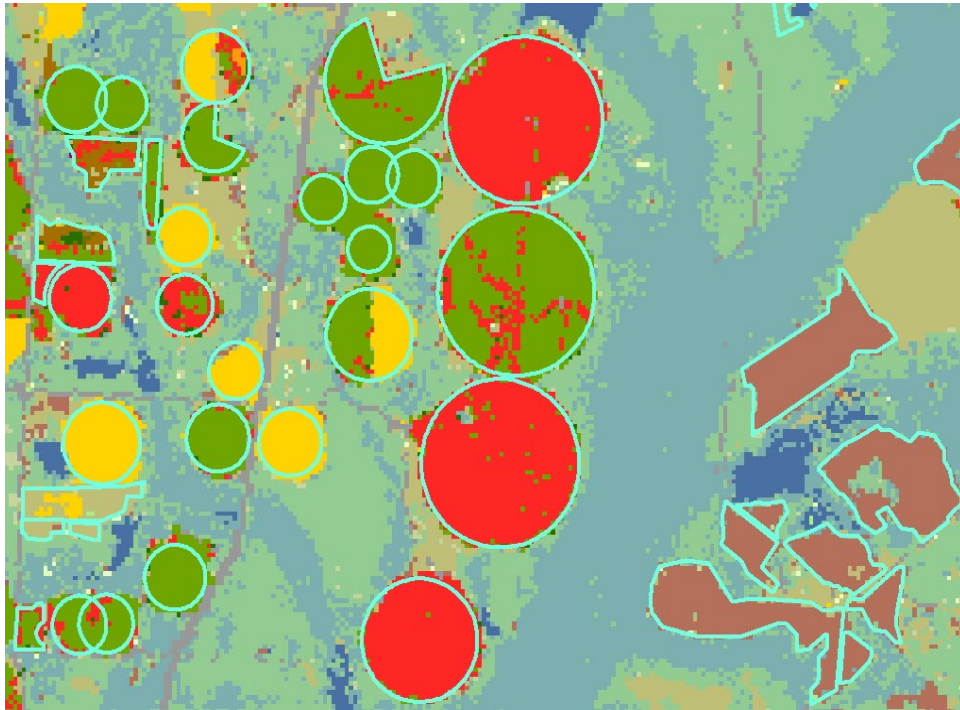
System Type - % of Acreage



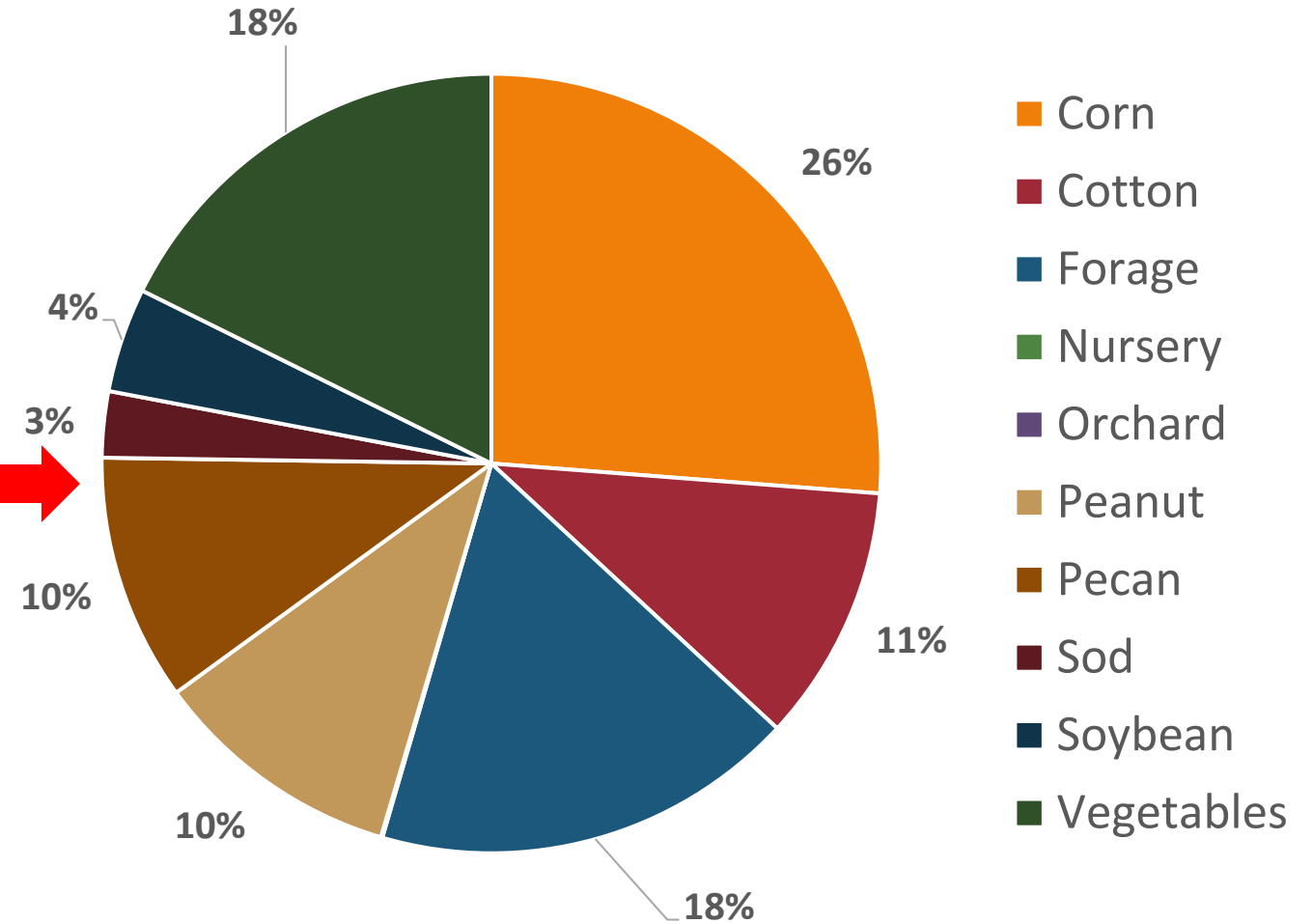


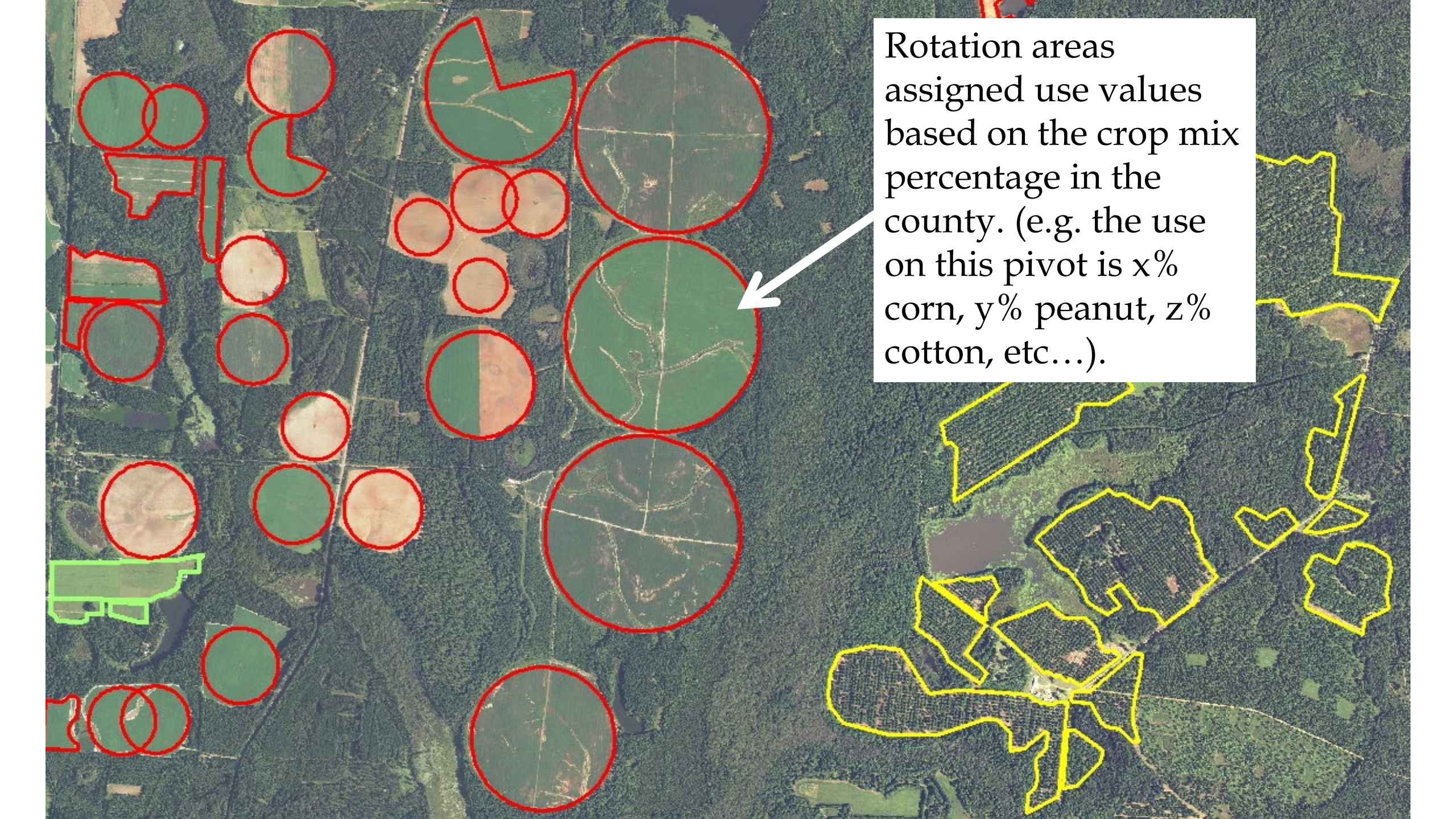


Baseline Crop Mix by RWPC



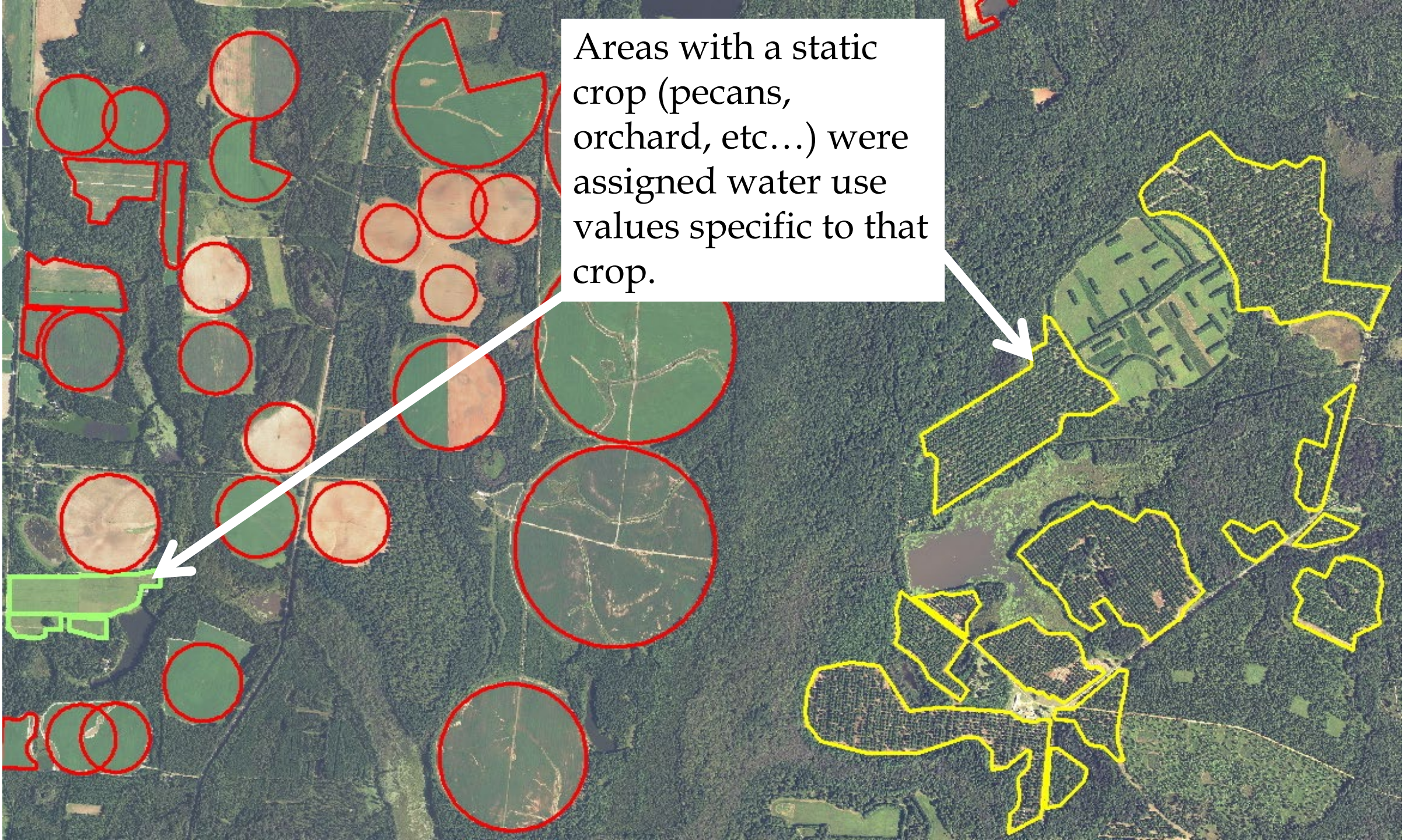
Upper Oconee RWPC



An aerial photograph of a rural landscape. The land is divided into various agricultural plots. Numerous circular and irregular shapes are outlined in red, representing 'rotation areas'. These areas are filled with different colors: some are solid green, some are solid brown/tan, and some are split vertically (half green, half brown). A white arrow points from the text box to one of the green-filled circular areas. In the lower right portion of the image, there is a cluster of irregular shapes outlined in yellow. The background is a mix of green fields and dark, forested areas.

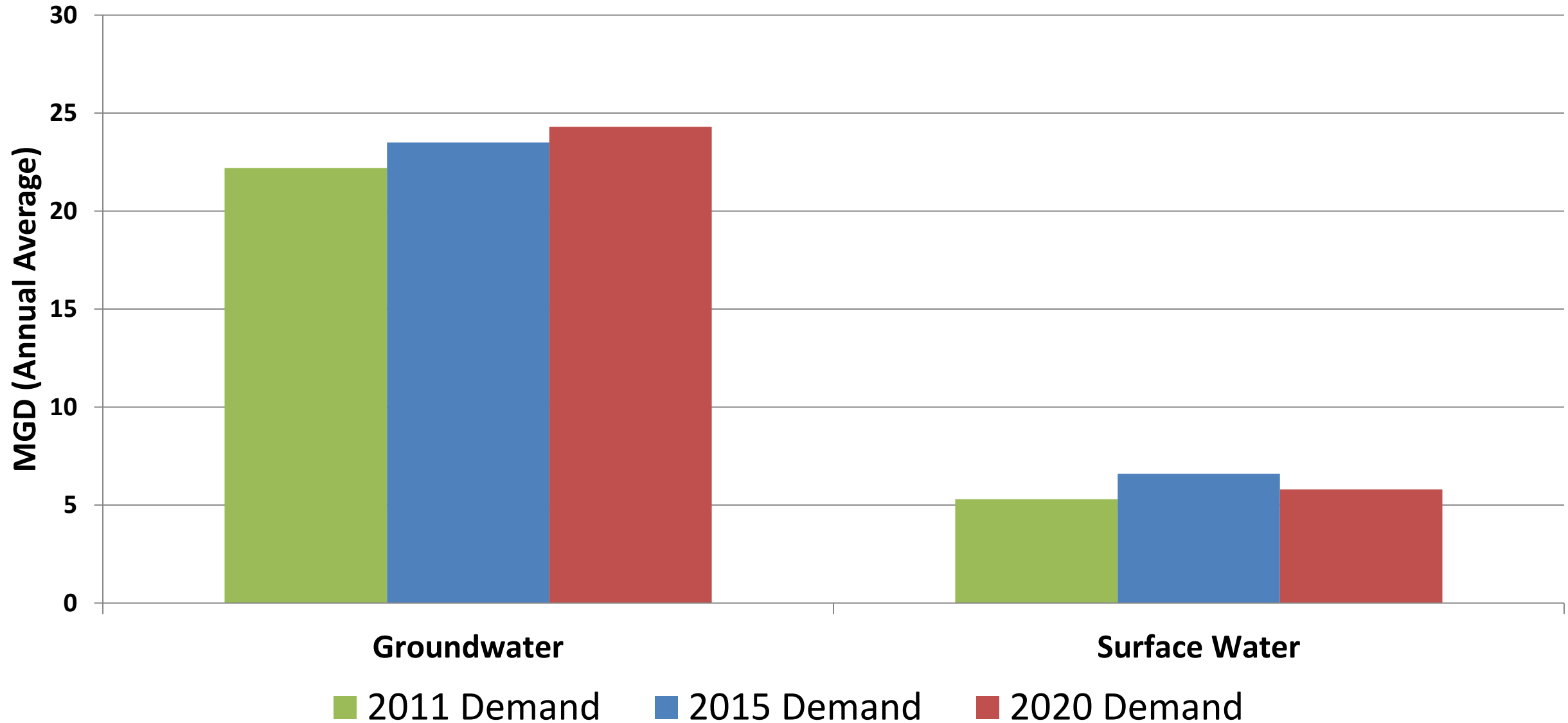
Rotation areas
assigned use values
based on the crop mix
percentage in the
county. (e.g. the use
on this pivot is x%
corn, y% peanut, z%
cotton, etc...).

Areas with a static crop (pecans, orchard, etc...) were assigned water use values specific to that crop.



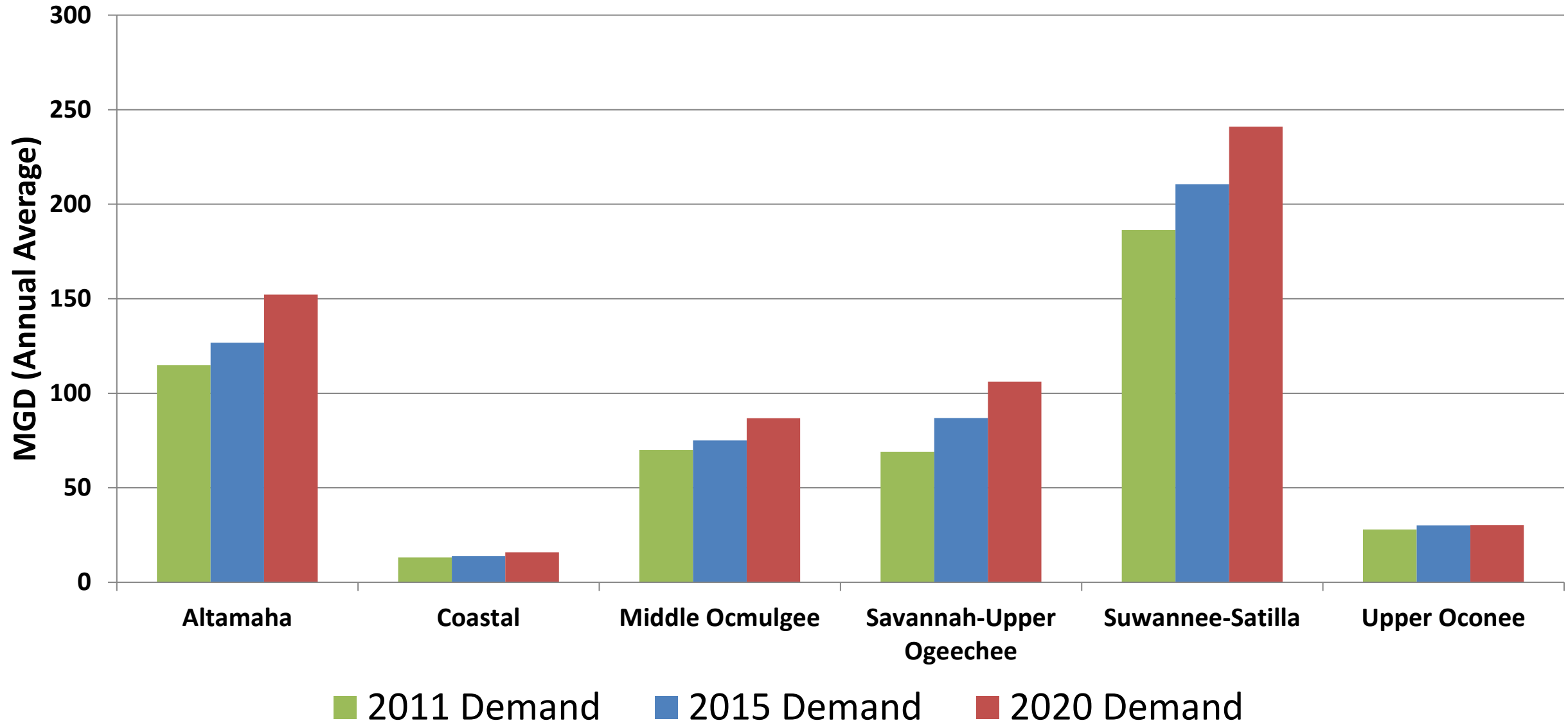
UO Council – Ag Demand – 75th Percentile

Round 1 (2011), Round 2 (2015) and Round 3 (2020)

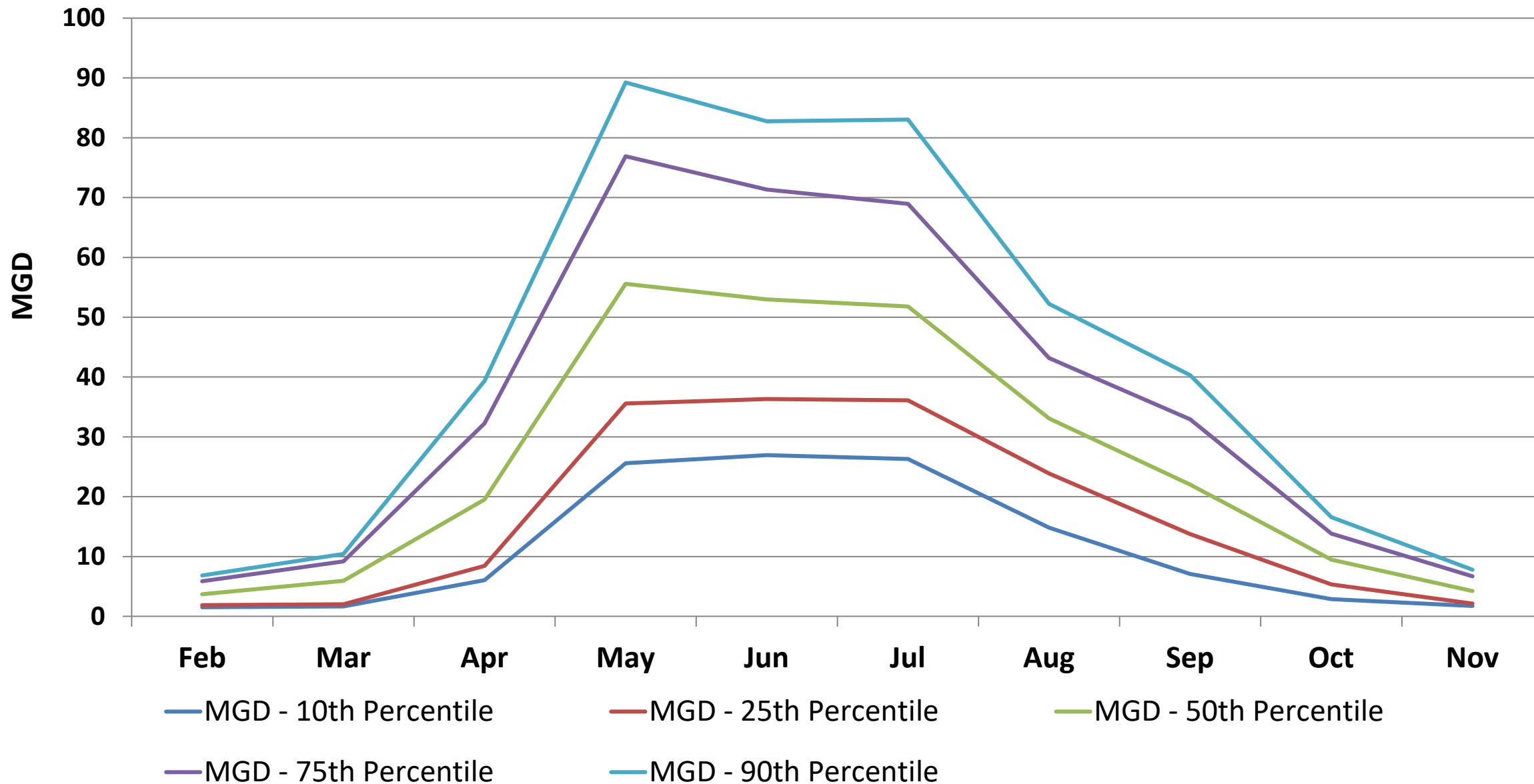


Ag Demand – 75th Percentile

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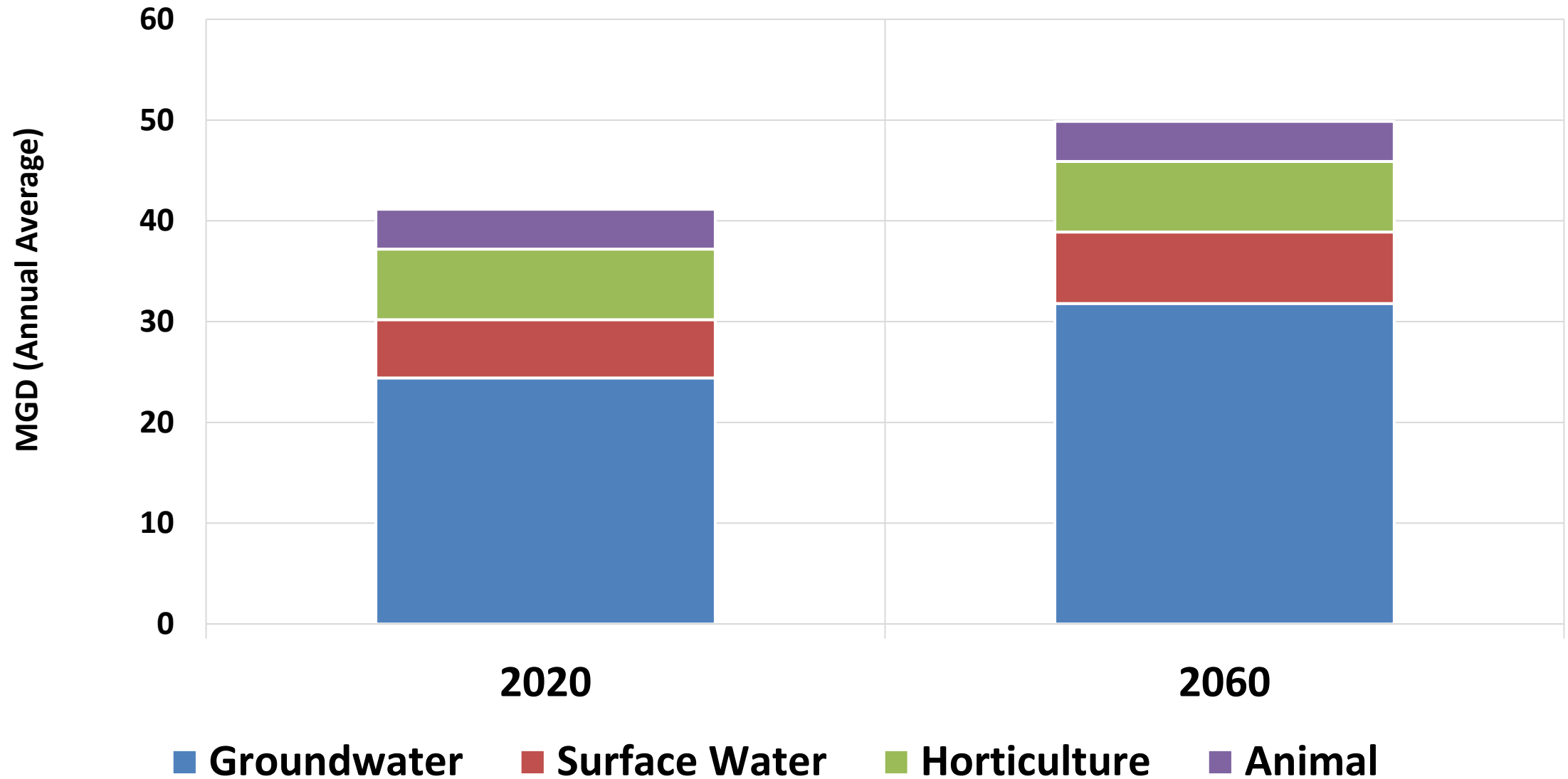


Upper Oconee RWPC - Monthly



Ag Demand – Forecast – 75th Percentile

Totals (2020 & 2060)



Questions & Discussion



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