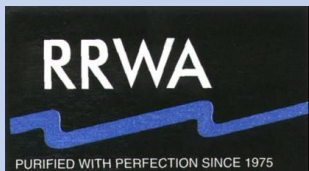
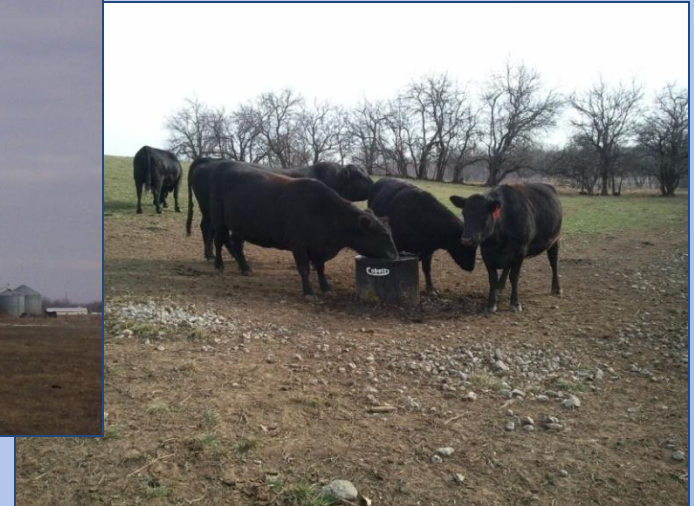


Importance of Rural Water to Southern Iowa's Livestock Industry



**Forty-Second Annual
Cornbelt Cow-Calf Conference**

Rural Water in Iowa

Rathbun Regional Water Association

- The largest rural water system in Iowa.....steady growth since 1975
- Organized as a private nonprofit water association governed by an elected board of directors
- Supplies 8 million gallons of water daily to rural areas in 18 counties and 50 communities
- Water treatment plant with capacity of 8 MGD located at Rathbun Lake



Rural Water in Iowa

Rathbun Regional Water Association

- **Second water treatment plant is under construction with a capacity of 6 MGD**
- **Purchases additional water from Burlington, Fairfield, Fort Madison, Keokuk, and Mount Pleasant**
- **Distribution system has 7,000 miles of pipelines, 34 storage towers, and 37 booster pump stations**



RATHBUN REGIONAL WATER ASSOCIATION Service Area Map



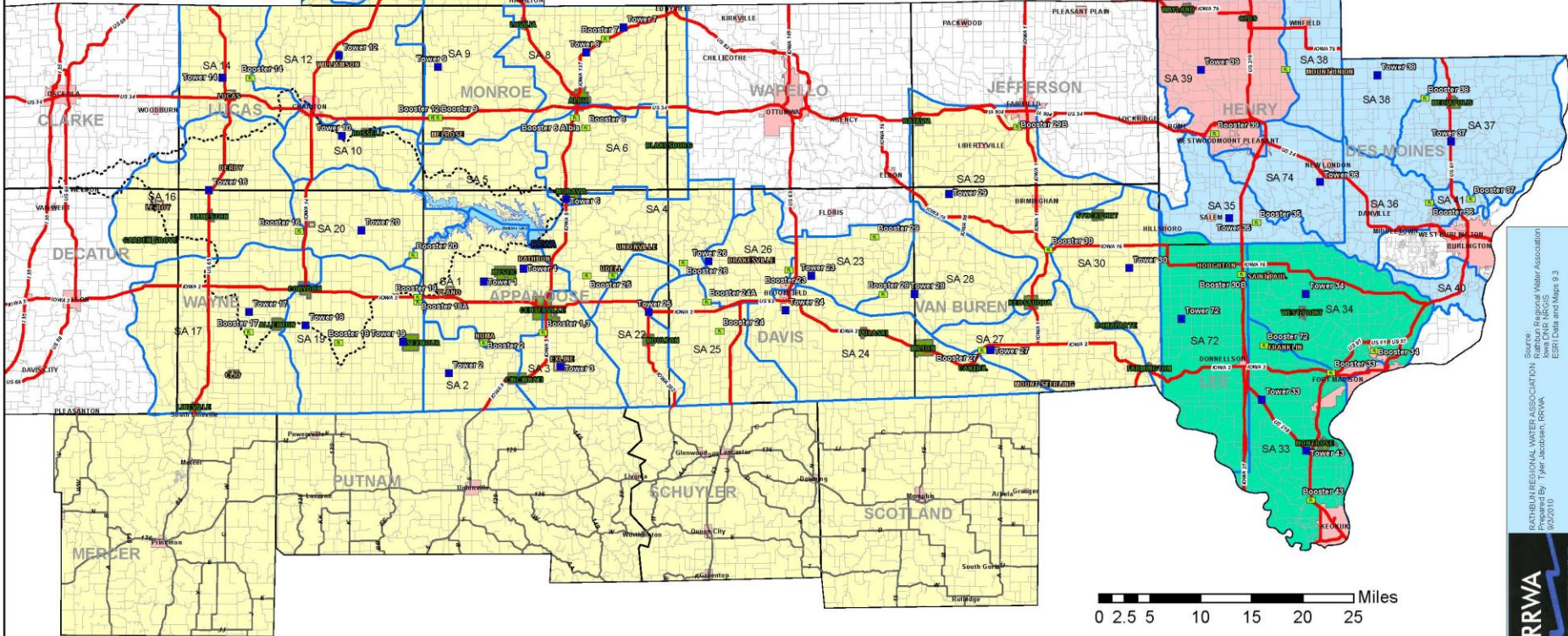
Legend

RRWA Towers and Boosters

- RRWA Water Tower
- Distribution Booster
- Iowa Primary Roads
- Missouri Primary Roads
- - - Rathbun Lake Watershed Boundary
- RRWA Service Area Counties
- Incorporated City/Town (Current RRWA Status)
- RRWA Bulk
- RRWA Franchise
- None
- Road Data

RRWA Service Area Boundaries (Distribution)

- Rathbun System (Missouri is Bulk Service)
- Burlington System
- Ft. Madison System
- Mt. Pleasant System



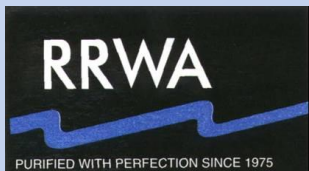
Source: Prepared Water Association
Data: IRRWA GIS
ESRI Data and Maps 8.3



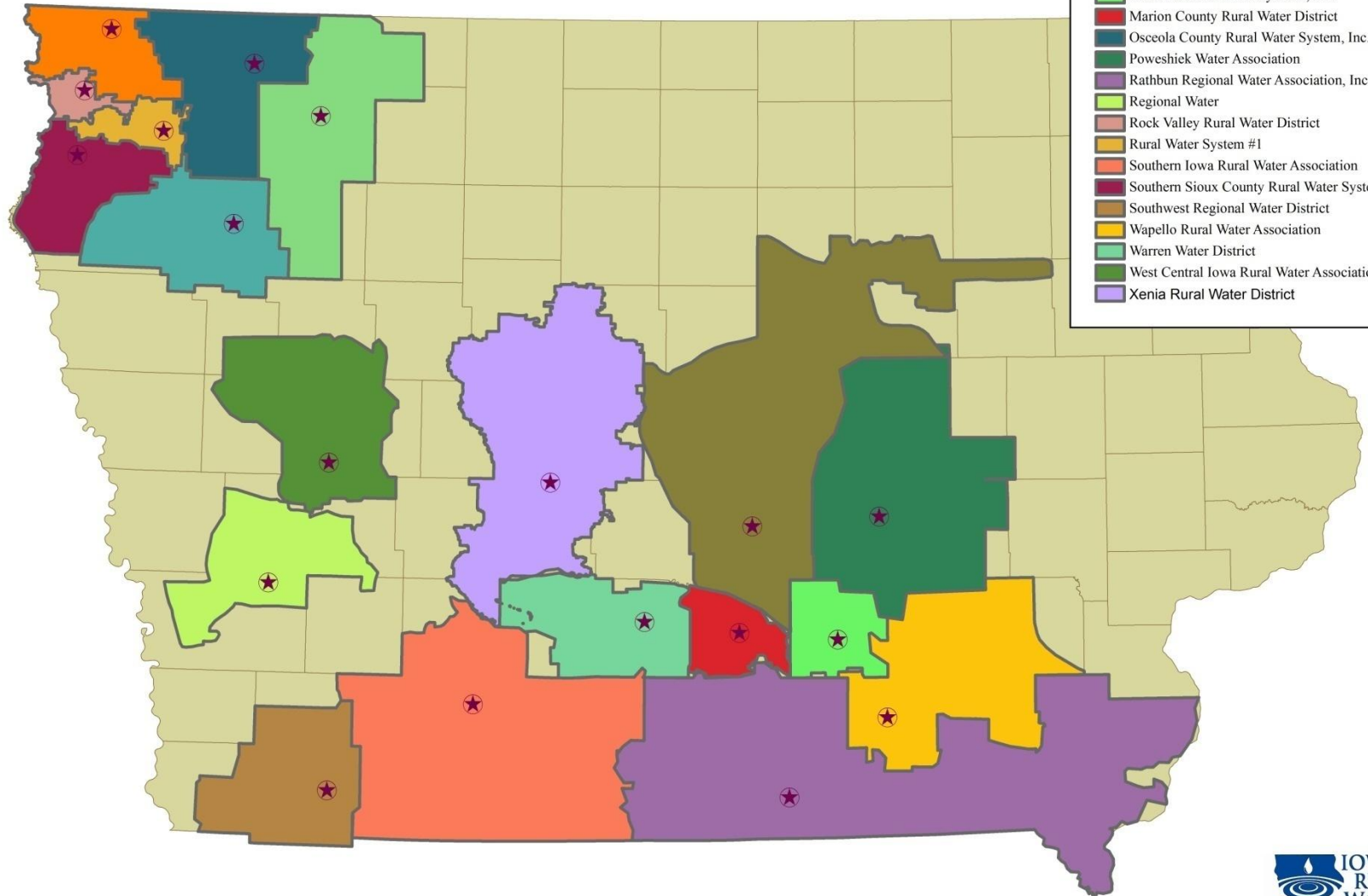
Rural Water in Iowa

Iowa's Rural Water Systems

- There are 19 rural water systems in Iowa
- Rural water systems supply potable water in all or parts of 73 counties in the state
- Systems own and operate surface water intakes, well fields, treatment plants, storage facilities, pump stations, transmission mains, and service lines
- Organized as public water districts or private nonprofit water associations with elected boards



IOWA RURAL WATER ASSOCIATION RURAL WATER ASSOCIATION SERVICE TERRITORIES



Legend

- ★ Rural Water System Offices
- Central Iowa Water Association
- Cherokee County Rural Water District #1
- Iowa Lakes Regional Water
- Lyon & Sioux Rural Water System
- Mahaska Rural Water Systems, Inc.
- Marion County Rural Water District
- Osceola County Rural Water System, Inc.
- Poweshiek Water Association
- Rathbun Regional Water Association, Inc.
- Regional Water
- Rock Valley Rural Water District
- Rural Water System #1
- Southern Iowa Rural Water Association
- Southern Sioux County Rural Water System
- Southwest Regional Water District
- Wapello Rural Water Association
- Warren Water District
- West Central Iowa Rural Water Association
- Xenia Rural Water District

Rural Water for Livestock

Rathbun Regional Water Association

- Livestock operations request and pay for RRWA to install service lines and meters from mains
 - Costs range from hundreds to thousands of dollars
- Operations are encouraged to have onsite storage or alternative source depending on demand for water
- Most farms with livestock in RRWA service territory have rural water service; as many as 4,000 connections



Rural Water for Livestock

Rathbun Regional Water Association

- Use of RRWA water ranges from seasonal to daily, e.g., dry and cold periods, grazing systems, facilities
- An estimated 600+ livestock operations rely primarily on RRWA for water
- These operations use more than 45 million gallons of water per month, or 20% of RRWA monthly supply
- Water use by these livestock operations ranges from 20,000 to 6.5 million gallons per month



Rural Water for Livestock

Iowa's Rural Water Systems

- **Similar to RRWA, livestock operations request and pay for service line installations with other systems**
 - **Some systems require onsite storage if operations rely on an uninterrupted supply of rural water**
- **Rural water systems report that 90% of livestock operations in service areas have water connections**
- **Water usage by livestock operations ranges from a back-up supply to dependent on rural system**

Impact of Drought

Rathbun Regional Water Association

- **RRWA peak demand strongly tied to livestock use**
 - **Water use by livestock operations in summer 2012 up by more than 30% over 5-yr average**
 - **RRWA plant averaged 7.5 MGD in summer 2012 (peak day 10.2 MGD); 2012 average of 6.3 MGD**
 - **Livestock use accounted for up to one-half of RRWA peak water demand in summer 2012**
- **More than 70 new service connections for livestock in 2012; three-times the 5-yr average of 20 per year**

Impact of Drought

Iowa's Rural Water Systems

- **Drought conditions and peak demand stressed rural systems' water supply capabilities**
 - Record low levels in some ground water sources
 - Limit on new connections due to capacity concerns
- **Rural systems installed three-times more service connections for livestock use due to the drought**
- **Significant number of back-up and idle services relied on as primary sources of water for livestock**

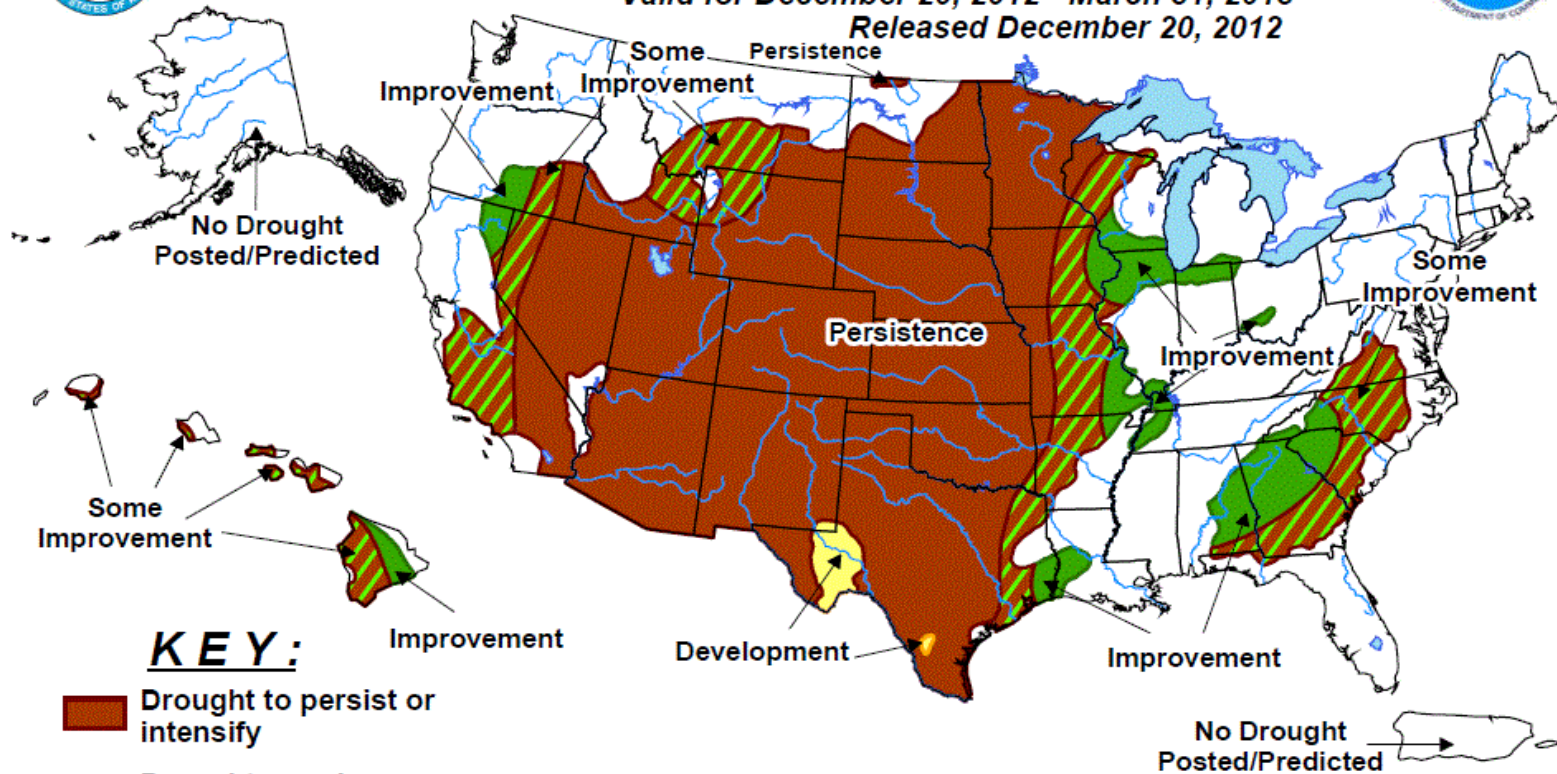
Continued Drought Conditions







U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid for December 20, 2012 - March 31, 2013

Released December 20, 2012



KEY:

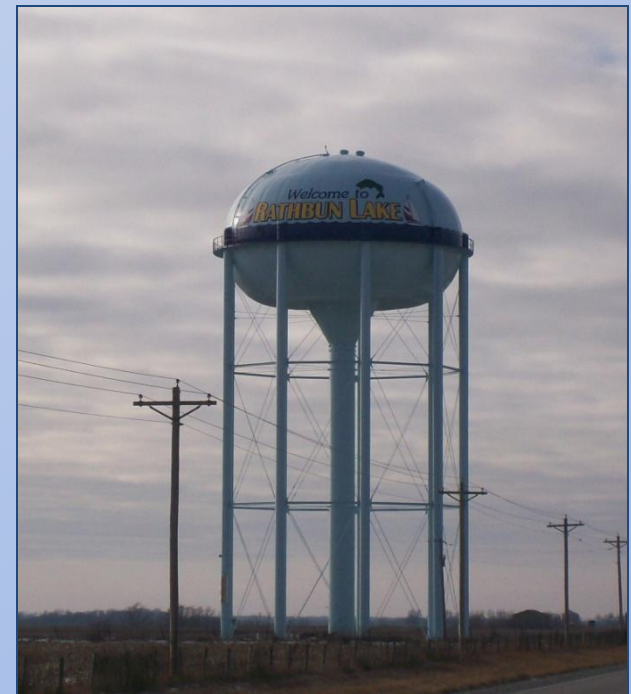
-  Drought to persist or intensify
-  Drought ongoing, some improvement
-  Drought likely to improve, impacts ease
-  Drought development likely

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

Continued Drought Conditions

Rathbun Regional Water Association

- RRWA second water treatment plant scheduled to begin production in summer 2013
- Newly constructed 1 million gallon storage tower and transmission main to increase distribution capacity
- Encourage livestock operations to plan ahead; request service connections as early as possible
- Voluntary water conservation measures if needed



Continued Drought Conditions

Iowa's Rural Water Systems

- **Several rural systems are investing in well field development to increase raw water supply**
- **Systems are installing interconnections between service areas to improve distribution capabilities**
- **Livestock operations should communicate with systems regarding water supply requirements**
- **Some systems may implement voluntary water conservation measures if necessary**

Continued Drought Conditions

Water Conservation in Iowa

- **Water systems develop and implement plans for conservation during periods of water shortage**
- **Iowa Code (455B.265 and 455B.266) authorizes DNR to restrict water usage in following general order**
 - **Water conveyed across state boundaries**
 - **Recreational or aesthetic purposes**
 - **Irrigation**
 - **Manufacturing and industrial processes**
 - **Generation of electrical power for public use**
 - **Livestock production**
 - **Human consumption and sanitation**

Continued Drought Conditions

Cow-Calf Producer Comments

- Most indicated ponds are very low but still primary source of water where possible
- Most used rural water either as additional supply or exclusively during summer 2012
- Some installed rural water connections for first time in summer 2012



Continued Drought Conditions

Cow-Calf Producer Comments

- Most plan to install additional service connections and use rural water extensively if drought continues
- Most did not feel water supply would be a factor in determining herd size
- Some expressed concern about costs to install and use rural water service connections



Questions and Comments

Rathbun Regional Water Association

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Chief Operating Officer

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