

# Welcome!

May 15-16, 2013

**Chas Ariss, PE**

Wastewater Program Engineering Manager

# 2013 DEQ WATER REUSE CONFERENCE 9<sup>TH</sup> ANNUAL

# DEQ Wastewater Program Staff

- ◉ *Chas Ariss, PE*
  - Program Engineering Manager
- ◉ *A.J. Maupin, PE*
  - Program Lead Engineer & Enforcement Coordinator
- ◉ *Tyler Fortunati, REHS*
  - On-Site Wastewater Program Coordinator
- ◉ *Paul Wakagawa, PE*
  - Reuse Permit Engineer/Coordinator
- ◉ *Tressa Nicholas*
  - Wastewater Analyst, Biosolids, Seepage Testing
  - Training & Conference Coordinator
- ◉ *Janette Young*
  - Administrative Assistant/Conference Assistant
- ◉ *Brenda Valverde*
  - Conference Registration Coordinator

# Purpose of this Conference

- ⦿ Promote Water Reuse in Idaho
- ⦿ Discuss Trends in Reuse
  - Guidelines
  - Technologies
- ⦿ Explore Policy on Reuse and Water Supplies
- ⦿ Gain Exposure to Innovative Reuse Projects

# Idaho Water Supply Headlines

**Wednesday, April 17, 2013**

***Short snowpack raises water concerns***

***Dry winter could limit supplies for agriculture***

By [Katherine Wutz](#)

*Idaho Mountain Express & Guide*

**Saturday, May 4, 2013**

***Farmers can expect water shortages in Idaho basins***

*Idaho Statesman/Associated Press*

# Idaho Water Supply Headlines

**Monday, May 6, 2013**

## ***Valley businesses, residents cut water use***

*Experts say education is one of many reasons for a decline in use among home and businesses*

*Declining water use among the utility's customers is a symptom of a wider consciousness about all kinds of conservation, he said, including recycling and energy use*

*By [Sven Berg](#)  
Idaho Statesman*

Boise WaterShed Environmental Education Center opened May 15, 2008



# Idaho Population Growth & Water Use/Reuse

- >55% Increase in Population in last 25 Years has Increased Demand for Water Resources
- Idaho leads all Pacific Northwest States (AK, OR, WA) in Population Growth over last decade
- >98% of Idaho's Public Drinking Water is from Groundwater Sources
- 60% of Groundwater Use is by Agriculture
- Water Conservation and Reuse are keys to meeting Demand

# Water Reuse Permitting in Idaho

## ◎ Reuse Permits

- Idaho DEQ issues Reuse Permits for beneficial use of Recycled Water

## ◎ NPDES Permits

- USEPA Region 10 issues NPDES Permits for discharges to surface waters
- DEQ does not have primacy for NPDES Program

# Reuse Water Facts for Idaho

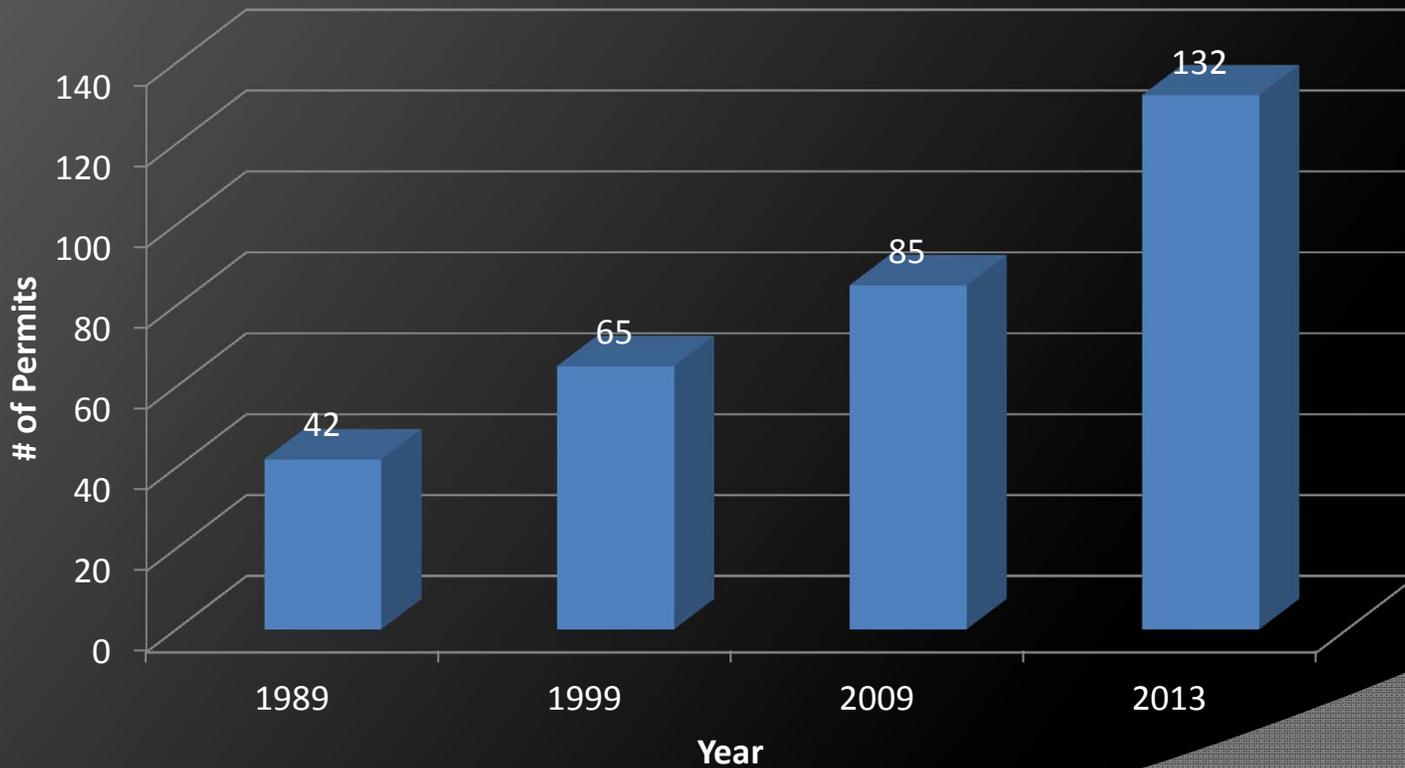
- Wastewater Land Application Permit Program began in 1988
- 1st Municipal Reuse Permits Issued in 1989
  - City of Paul
  - City of Buhl
  - City of Rupert
- 1st Industrial Reuse Permit Issued in 1990
  - Lamb Weston (now ConAgra Foods)
- 1992 – 2 DEQ Staff in Reuse
- 2013 – 24 Technical Staff

# Reuse Water Facts for Idaho

- Over 4 Billion Gallons of Water are Recycled in Idaho Annually (2011 Annual Reports)
- Water Recycled in Idaho accounts for reuse of
  - ~2,340 Tons Nitrogen
  - ~505 Tons Phosphorus
  - Fertilizer Equivalent Offsets Reuse Costs by \$1.3MM

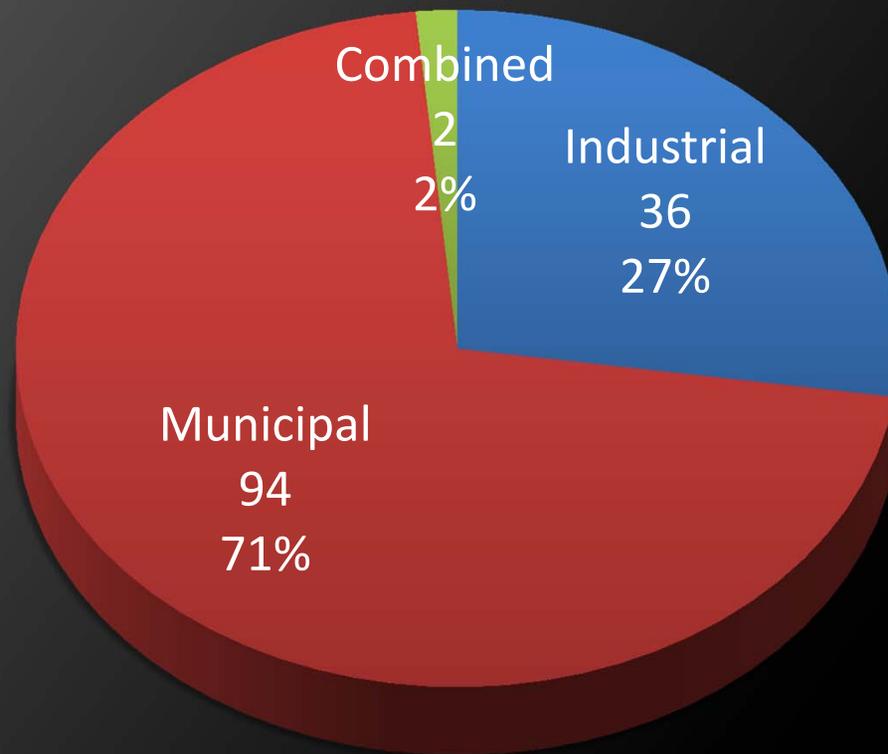
# Reuse Growth In Idaho

## Active Reuse Permits



# Active Reuse Permits Statewide

## 132 Permits Statewide by Type



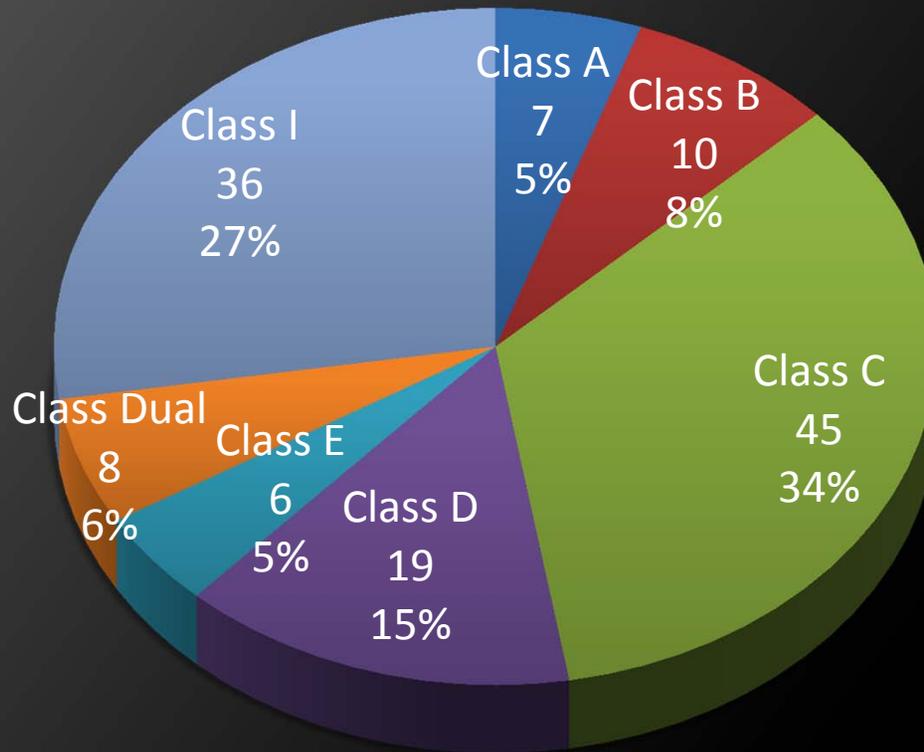
# Classes of Recycled Water in Idaho

- Five Classes of Municipal Wastewater
  - Class A – E
  - Classifications are based on level of wastewater treatment & disinfection
- No Classifications apply to Industrial Recycled Water
- *“Fit for Purpose”* – Treatment Level Appropriate for Type of Reuse

(per 2012 EPA Guidelines for Water Reuse)

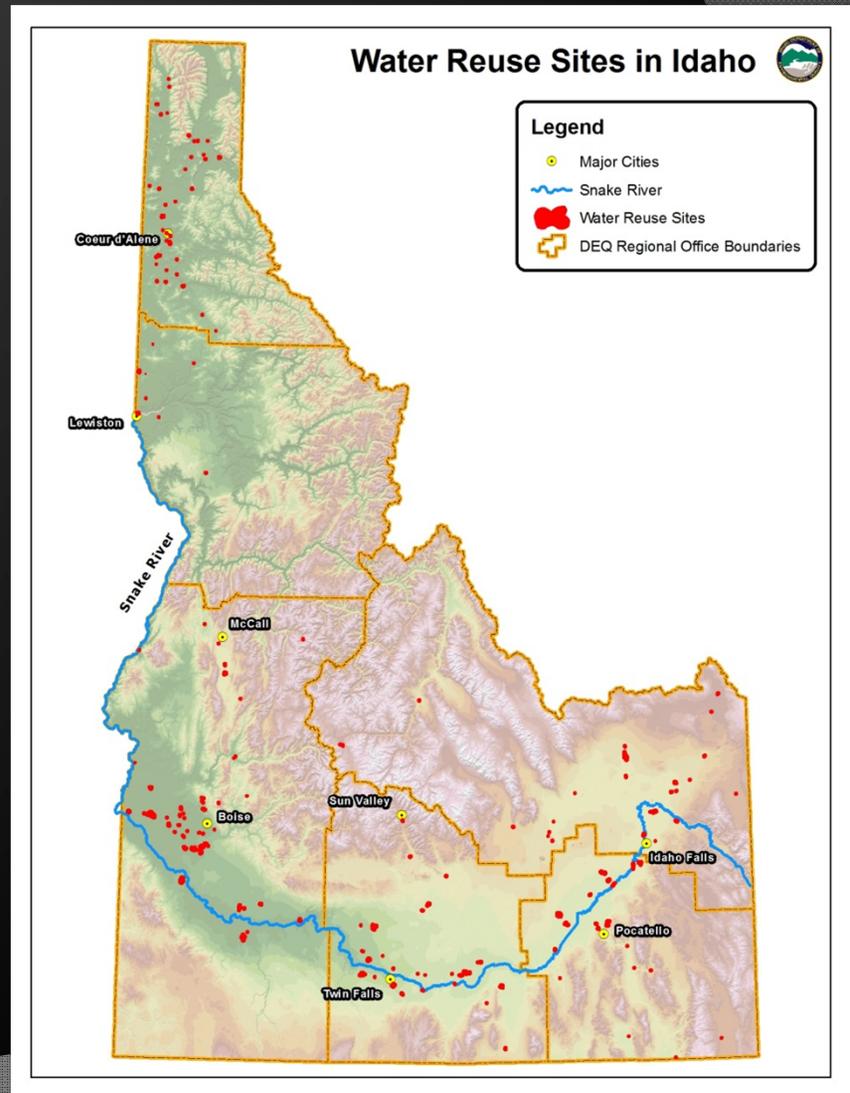
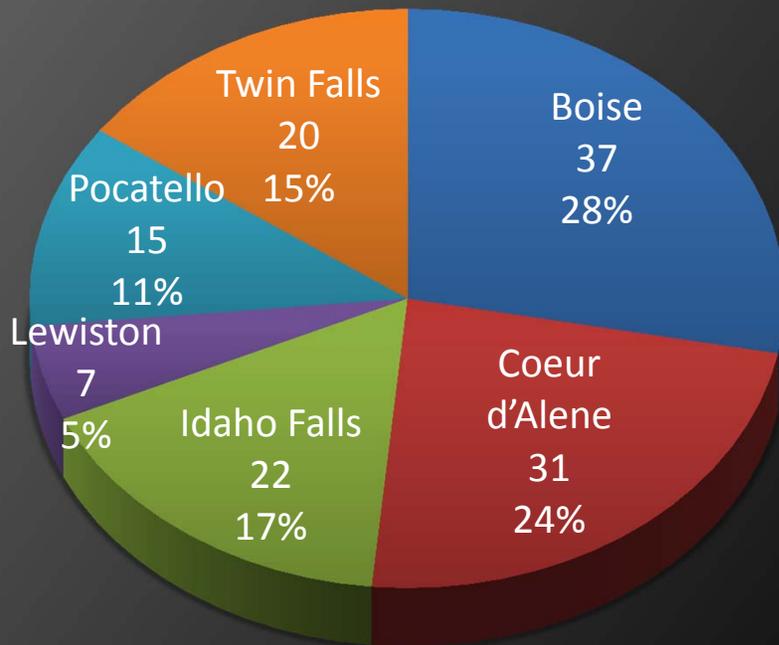
# Idaho Reuse Permit Classifications

# Permits by Wastewater Class Statewide



# Active Reuse Permits Statewide

## Statewide Permits by Region



# Types of Industrial Reuse Permits in Idaho

- Potato Processing
- Sugar Beet Processing
- Cheese
- Other Vegetables (Onions, Peppers)
- Animal Rendering
- Other (Idaho National Laboratory)

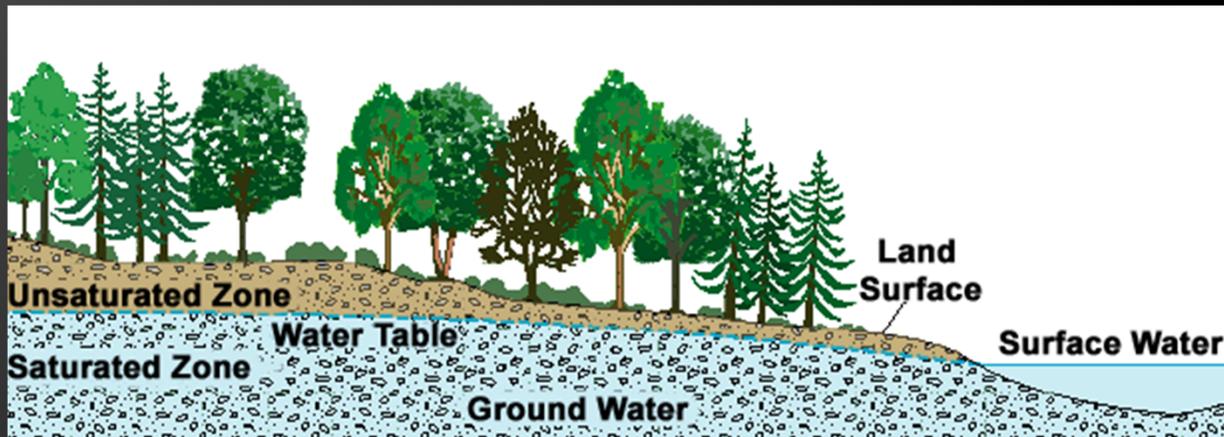
# Idaho Reuse Definitions

- ◎ DEQ Wastewater Rules define **Reuse** as - *“The use of reclaimed wastewater for beneficial uses including, but not limited to, land treatment, irrigation, ground water recharge using surface spreading, seepage ponds, or other unlined surface water features.”* IDAPA 58.01.16.010.71
- ◎ DEQ Recycled Water Rules define **Reuse** as – *“The use of recycled water for, irrigation, ground water recharge, landscape impoundments, toilet flushing in commercial buildings, dust control, and other uses.”* IDAPA 58.01.17.200.35
- ◎ DEQ supports **ALL** types of Water Reuse in Idaho!

# Groundwater Recharge Definition

*The process of adding recycled water to the  
zone of saturation*

*(Recycled Water Rules IDAPA 58.01.17.200.09)*



# Relationship to Ground Water Quality Rule (IDAPA 58.01.11)

- All Reuse Permits in Idaho must comply with Ground Water Quality Rule Standards
- Only Class A Systems may perform GW Recharge
- Class A Systems performing GW Recharge must meet
  - 10 mg/L Total Nitrogen Limit (Alt = 30)
  - 5 mg/L BOD<sub>5</sub> Limit (Alt = 10)
  - pH Limit is 6.0-9.0 S.U.
- Class A-D Systems may perform Subsurface Distribution (IDAPA 58.01.03)

# Reuse Terminology we will hear at this Conference

- ◎ *De Facto* Reuse
- ◎ Nonpotable Reuse
- ◎ Potable Reuse
- ◎ Direct Potable Reuse
- ◎ Indirect Potable Reuse
- ◎ Reclaimed Wastewater = Recycled Water

# Reuse Terminology

## *De Facto Reuse*

- ⦿ Practiced in Idaho
- ⦿ Reuse of reclaimed wastewater for beneficial purposes

## *Nonpotable Reuse*

- ⦿ Equivalent to Groundwater Recharge Projects permissible in Idaho
- ⦿ Must be Class A wastewater
- ⦿ Recycled water may augment potable aquifers but not primary intent

## *Potable Reuse*

- ⦿ Planned augmentation of DW supply with reclaimed water

# Reuse Terminology

## Direct Potable Reuse

- ⦿ *Introduction of Reclaimed Water (with or without an engineered storage buffer) directly into a drinking water treatment plant, either collocated or remote from an advanced wastewater treatment system*

## Indirect Potable Reuse

- ⦿ *Augmentation of a drinking water source (surface or groundwater) with reclaimed water followed by an environmental buffer that precedes drinking water treatment*

# Program Activities

- Issued 21 New/Renewed Reuse Permits in 2012
- Implementing Streamlined “Kaizen” Permitting Process
- Updating Reuse Guidance
  - Land Application of Septage
  - Forest
  - Irrigation
  - Rapid Infiltration
  - Plan of Operations
- Updating WWLA Operator Training Manual & Land Application Certification Exam
- Developing policy on Grey Water Only Reuse Systems
  - Forest Service Fire Camps

# Reuse is a Philosophy

Use your thoughts. They become words.  
Use your words. They become actions.  
Use your actions. They become habits.  
Use your habits. They become the future.  
The future is everything.

*“Watch your thoughts. They become words. Watch your words. They become deeds. Watch your deeds. They become habits. Watch your habits. They become character. Character is everything.”*

**Margaret Thatcher**  
(13 Oct 1925 – 8 Apr 2013)

# Welcome Again & Thanks for Attending!

- ⦿ Questions?
- ⦿ Wastewater Program Staff will be here throughout Conference
- ⦿ DEQ Booth in Vendor Display Area
- ⦿ Reception Tonight!
  - Thanks to All our Sponsors!