



# What's the difference between an Iguana and a GWMA?

**Gail Glick Andrews**

Well Water Program Coordinator

Oregon State University

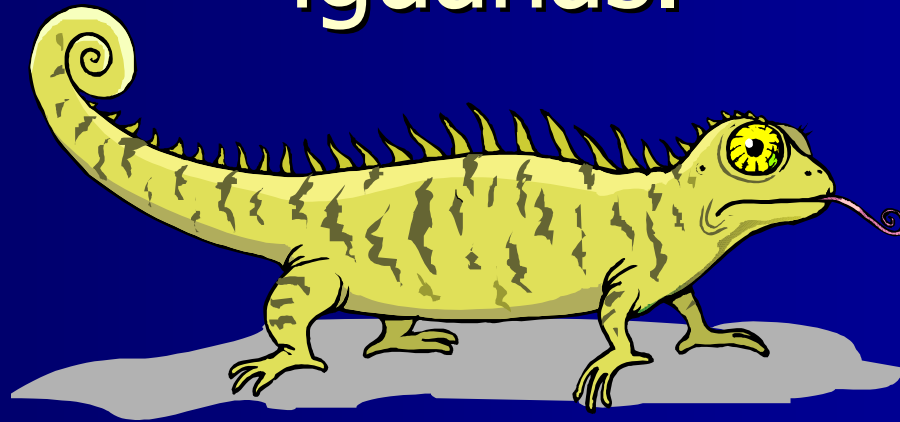


OREGON STATE  
UNIVERSITY

EXTENSION SERVICE

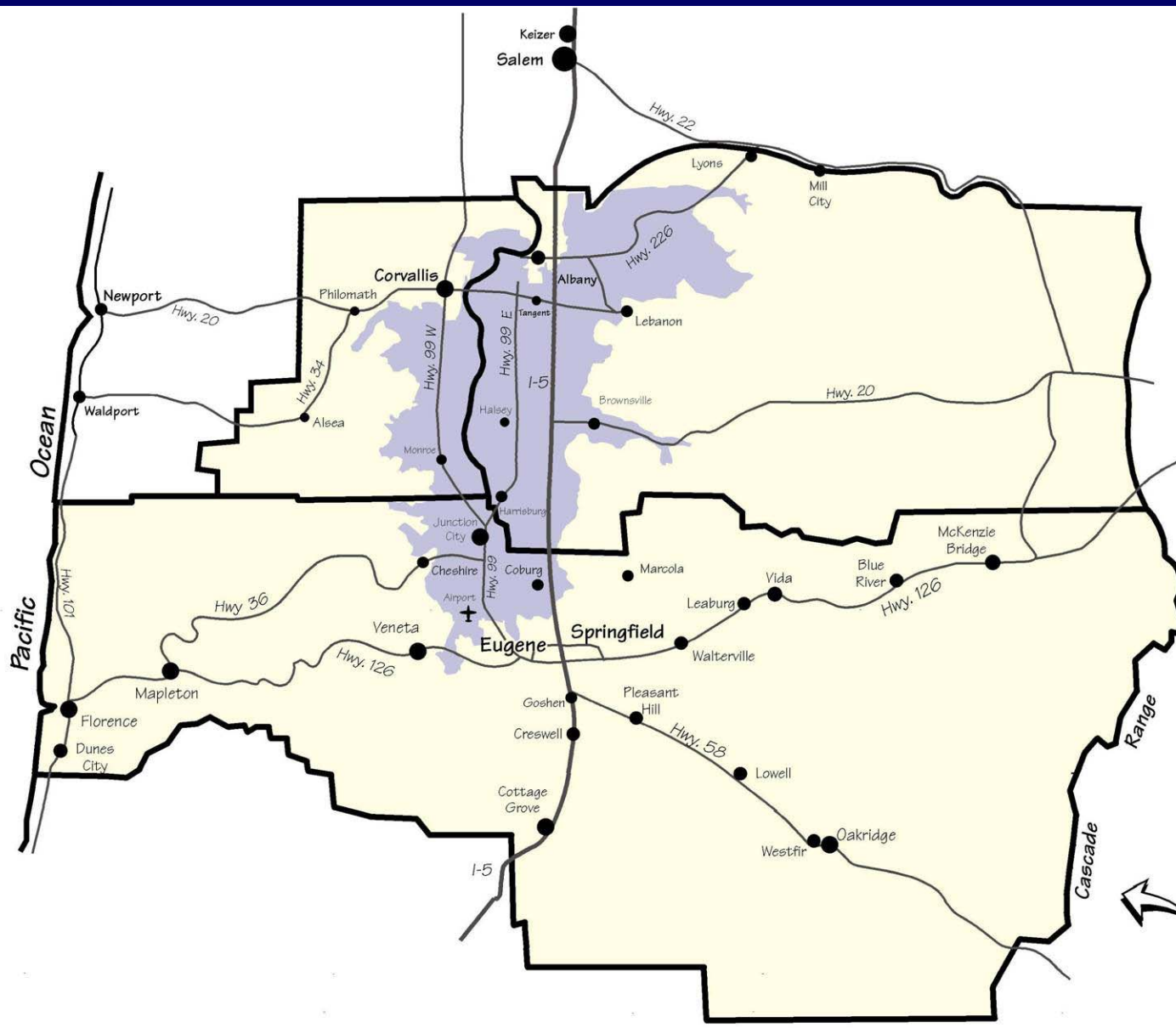
**THE ANSWER IS --**

**A GWMA is a Groundwater  
Management Area. Sorry we  
don't know anything about  
iguanas.**



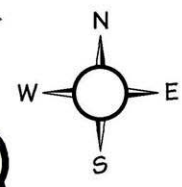
# Groundwater Management Areas

- Prescribed by 1989 Oregon Law
- Addresses groundwater contamination from non-point sources
- Declared by Oregon DEQ if widespread nitrates above 7 ppm
- Establishes stakeholders group
- Focuses on voluntary pollution prevention activities

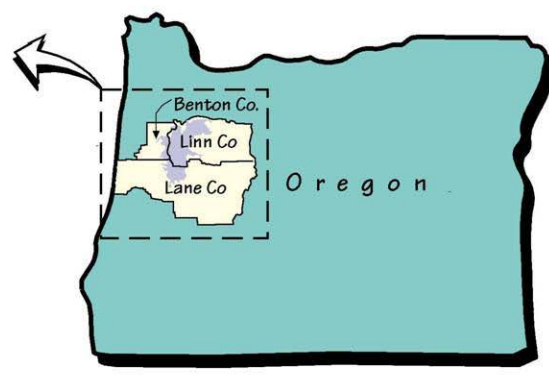


**Legend**

Upper Willamette Groundwater Study Area



August 2003  
Map Prepared by: LCOG



# Upper Willamette Groundwater Study

# Southern Willamette Valley Groundwater

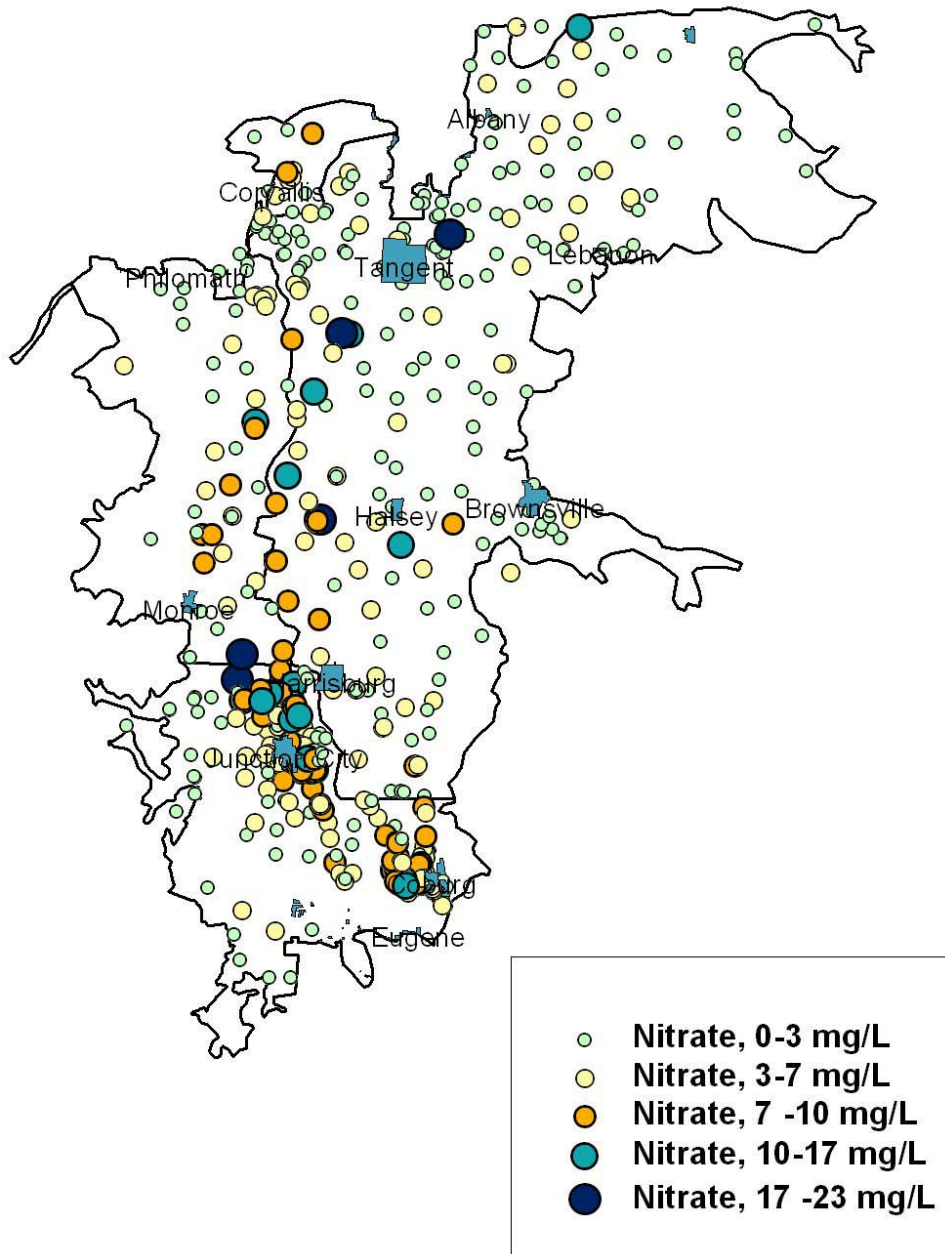
- Shallow aquifer with little gradient
  - Upper aquifer(s) semi-confined with clay lenses
- Connected to Willamette River flow
  - Large withdrawals for irrigation
- Recharged locally with winter rains

# Nitrate in Southern Willamette Groundwater

- **Irrigated agriculture on well drained soils**
- **Semi-rural homes on septic systems**
- **One town on septic systems**
- **Nitrate values 0 to ~25 ppm**
- **Nitrate behavior in system not well understood**

# DEQ Nitrate Data

500 samples



# The Problem at Hand

DEQ needs to make determination about GWMA

- Public involvement required
- Multiple agencies have roles
- More research needed
- Coordination absent



# Extension Well Water Program Steps In....

- 319 Funding
- Outreach to private well owners & others
- Facilitates research
- Promotes agency networking



OREGON STATE  
UNIVERSITY

---

EXTENSION SERVICE

# Partnerships formed

- DEQ funded a project coordinator
  - Audrey Eldridge—hydrogeologist
  
- Lane Council of Governments (LCOG) received 319 grant for local government facilitation
  - Denise Kalakay—planner

# Project Activities



**Web Site**

**Science Meeting**

**Master Gardener Training**

**Groundwater Summit**

**Rural Living Basics Classes**

**Fair Booth**

# More Project Activities

**Nitrate Source Research**

**"Well Water" Training**

**Press Releases**

**Public Hearings**

**Grant Writing**

**Newsletter**



# Master Gardeners Tested for Nitrate at Well & Septic Class







# Fair Booth



225 Pins  
65 NO<sub>3</sub> Tests



# Public Hearings



7 events  
185 attended



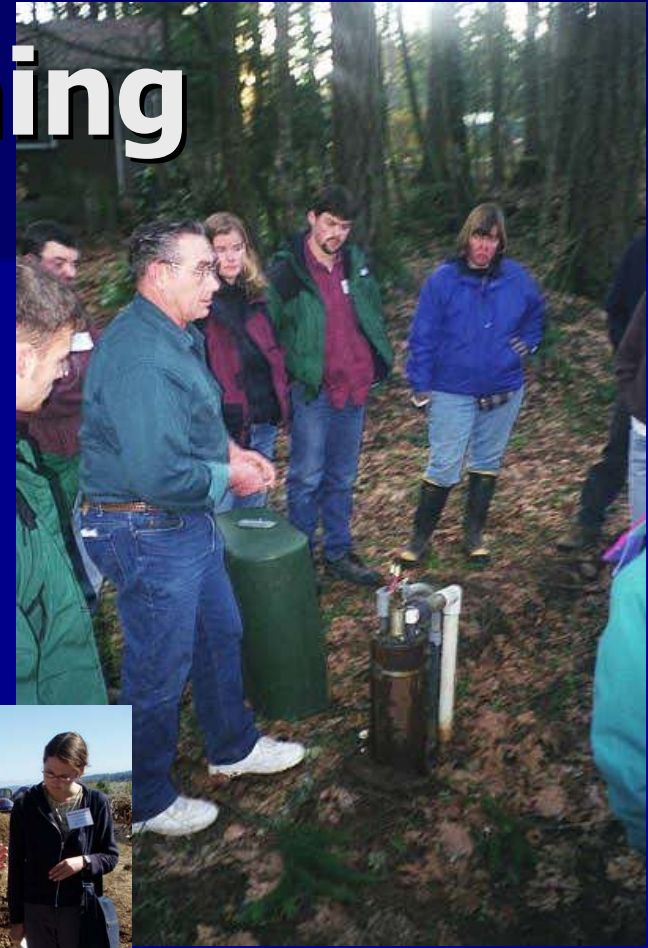
# Well Water Research



- OSU Bioengineering Graduate Student
- Sampled over 100 wells
- Outreach to homeowners
- Analyzing samples to determine nitrate source

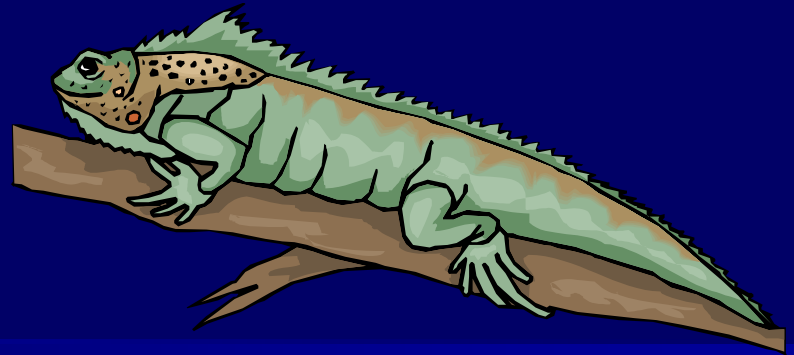


# Well Water Training



Agency Staff  
Extension Faculty  
University Students  
Community Volunteers  
... all trained together

# Successes



- Integrating graduate student research into Extension project
- Partnering with state agencies
- Funding
- Public participation at events
- The Iguana Cards

# Lessons Learned

- DEQ and Extension aren't "natural" partners
- "BMPs" are a touchy issue
- The press is a key player
- There is never enough time to do it all

# Southern Willamette Groundwater Project (SWiG)



On the web at [http://  
groundwater.orst.edu/willamette](http://groundwater.orst.edu/willamette)