

Idaho Washington Aquifer Collaborative

September 10, 2013, 1:30 – 3:30 PM Liberty Lake Sewer and Water District

Officers: President Mike Galante; VP Ty Wick; Secretary Bryan St. Clair; Treasurer Alan Miller Representatives Present

	Organization	Representative	Email Address
	Avista	Linda Kiefer	Linda.Kiefer@avistacorp.com
	Bar Circle S Water Company	Rob Turnipseed	avondalecon@frontier.com
	City of Coeur d'Alene	Jim Markley	jimm@cdaid.org
	City of Post Falls	Mike Neher	mneher@postfallsidaho.org
	City of Spokane RPWRF	Mike Coster	mcoster@spokanecity.org
$\checkmark$	City of Spokane Water Department	Dan Kegley Bill Rickard	dkegley@spokanecity.org brickard@spokanecity.org
$\checkmark$	Coeur d'Alene Tribe of Indians	Laura Laumatia	llaumatia@cdatribe-nsn.gov
$\checkmark$	Consolidated Irrigation District No. 19	Bob Ashcraft	consolidatedirrigation@comcast.net
	East Greenacres Irrigation District	Ron Wilson	
	Hayden Area Regional Sewer Board	Ken Windram Shirley Carter	ken@harsb.org
$\checkmark$	Hayden Lake Irrigation District	Alan Miller	alan@haydenirrigation.com
$\sqrt[]{}$	Liberty Lake Sewer and Water District	BiJay Adams Jeremy Jenkins	bijay@libertylake.org jjenkins@libertylake.org
$\checkmark$	Model Irrigation District	Jim Lahde	jimlahde@netzero.net
	Modern Electric Water Company	Bryan St Clair	bstclair@mewco.com
$\checkmark$	North Kootenai Water & Sewer District	Mike Galante	mikeg@nkwsd.com
	SAJB Program Leader	Tonilee Hanson	sajbinfo@gmail.com
	Spokane Co. Water Resources	Rob Lindsay	rlindsay@spokanecounty.org
	Spokane County Water District No. 3	Ty Wick	scwd3@comcast.net
	Spokane Tribe of Indians	Brian Crossley	crossley@spokanetribe.com
	Vera Water and Power	Todd Henry	thenry@verawaterandpower.com
	Guests		
	WSU – WISDM Grant	Melanie Thornton	melanie.thornton@email.wsu.edu
	Idaho Water Engineering	Bob Haynes	bob@idahowaterengineering.com
	IDEQ	Gary Stevens	gary.stevens@deq.idaho.gov

# AGENDA

**Welcome and Introductions** - President Mike Galante opened the IWAC meeting and welcomed everyone. Representatives and guests introduced themselves.

Agenda Additions - President Galante called for additions or revisions to the Agenda and no changes were requested.

Approval of Meeting Minutes – August 13, 2013, Meeting Minutes were approved as submitted.

**Financial Report –** Treasurer Alan Miller reported income of \$2416.67 in membership dues received from Liberty Lake Sewer & Water District, Vera Water & Power and Consolidated Irrigation District. Expenses to date were \$110.00 paid to Rachel Johns for note taking. The current account balance is \$5306.67.

#### Old Business

#### Membership Recruitment

IWAC members to date are listed in alphabetical order:

- Consolidated Irrigation District
- Liberty Lake Sewer & Water District,
- Vera Water & Power

Membership invitations were sent to regional water purveyors with the September IWAC meeting notice. IWAC welcomes participation by all interested parties and membership will continue to be an option for water and waste water purveyors. Bryan St. Clair requested an IWAC membership invoice be generated for water districts who wish to become members and require an invoice to process payment of the dues.

#### **New Business**

**Guest Speaker**: Melanie Thornton WSU WISDM grant. Allyson Beall King was scheduled to speak and for health reasons was unable to attend. Melanie Thornton, WSU made the presentation. WISDM is a four year grant funded by USDA and NSF.

Slide #1



### Melanie provided a brief outline of the WISDM project: what and why

- It is an interdisciplinary framework to address water resource sustainability
- Shared vision and goals are essential for project success

### The WISDM project's mission is to:

- Understand how climate and land use changes have affected water quantity and quality in recent decades, and how will climate variability and change impact water quantity and quality in the next few decades
- Determine what agricultural practices (e.g., crop mix, fertilization, irrigation, and tillage) will promote agricultural productivity under a new hydrologic regime while preserving water quality and minimizing GHG emissions.
- Explore possibilities for how dam operation could evolve to meet irrigation needs associated with sustained agricultural productivity, along with competing in-stream flow and hydropower requirements, under anticipated climate variability and change.
- Consider how changes in demand and supply-side economic conditions and climate change affect water use across space and time, and how will (or can) regulatory institutions adapt as water becomes increasingly scarce.



 "Linkages and feedbacks present in the basin that WISDM will be addressing. The black lines indicate biophysical linkages and the grey lines indicate social linkages. Heavy gray and black lines: current BioEarth-Land modeling capabilities; boxes are resources (agriculture, municipal and ecosystem services) that are impacted by institutional and climate driven change (red)."

• Red boxes are scenarios developed outside of WISDM AND BioEarth (we're using climate models from Abotzaglu at UI and others as an input of climate trends over time... the

Slide 2:

institutional change scenarios are coming from stakeholder interests or speculations about what might happen)

Slide #3

# What is System Dynamics?

- Approach to studying and managing complex systems that change over time
- Addresses internal feedback loops and time delays that affect the behavior of the entire system



Slide #4



# **Collaborative Modeling Purpose**

Slide #5:

- Can address resource management challenges
- Stakeholders integrate differing perspectives and interests
- Participants build a shared language and to identify areas of agreement and disagreement
- Can clarify assumptions and facts, while building trust in the process.

 WISDM focuses on applying technical information from the integrated and computationally-intensive process-based BioEarth model into a user-friendly system dynamics model through collaborative modeling (CM). The CM process will work iteratively with stakeholders to create web-based simulation models of issues relevant to urban and agricultural systems. Scenarios and interfaces are designed with stakeholders to ensure that information is relevant to specific stakeholder needs and questions. The CM process will feed these scenarios, needs and questions back to BioEarth to provide further guidance towards the development of the linked modeling framework.



# Your Input

- WRIA interests
- Potential policy questions
- Management strategies
- Contact
  - Allyson Beall King, WSU
  - abeall@wsu.edu
  - Melanie Thornton, WSU
  - melanie.thornton@email. wsu.edu

Melanie demonstrated the current state and potential of the Systems Dynamics model. The model is in a very early stage. It has broken the SVRPA into 4 sections for analysis. Questions and comments from IWAC participants



# are listed at the end of the PPT slides.



# Palouse Basin Web Simulation

- <u>http://forio.com/simulation/ns/allysonbeall/p</u> <u>alouse\_basin\_model/</u>
- This is system dynamics model developed by Dr. Allyson Beall King through a collaborative modeling process in the Palouse Basin.
- This is an example of a web simulation that is used by the general public.

# Questions/Comments:

- Idaho pumping rate information: Bryce A. Contor, Idaho Water Resources Research Institute, University of Idaho, <u>contor@if.uidaho.edu</u> 208-282-7846,
- Washington Department of Health has yearly pumping rates for water districts.

- Regarding areal recharge: USGS did not separate pumping from areal recharge. DOE spent time developing areal recharge data.
- Data on "Exempt Wells" is not available and represent a small percentage of use.
- Spokane Gauge: The control point in this model is at the Spokane gauge. What makes the Spokane gauge the lynch pin? Ecology uses that for a point of monitoring but it is not clear why this is the marker. IWAC would prefer to see all gauges included in the modeling.
- What is the purpose and audience for this model? What level of accuracy is required to be useful?
- What is the process for validating the math that goes into the equation floor of the model?
- For conservation:
  - Data on water quantity use should be analyzed by connection rather than population to determine what, if any, result a conservation initiative produces.
  - Population growth can be added in to create an new scenario
  - City of Moscow has provided conservation devices to water users.
  - Rain sensors and potentiometers could be required to see if the water system should be turned on.
  - Irrigation systems are installed by non-licensed, non-regulated personnel. Design standards that are written into city codes and ordinances are needed.
- Management scenarios will be driven by instream flow. How will this model help inform management decisions? How can it be used to provide feedback to elected officials?
- Seasonality is a "magnitude of change" due to irrigation and must be considered in the new iterations of the model.

# Next steps:

- It was suggested that IWAC can gather data for the WISDM model from the Idaho CAMP process. It may be useful to invite someone from Boise to address the Idaho demand forecast. Christian Petre did a study and was planning to update the modeling with population growth thru 2060 and factors of climate change. CAMP adopted moderate conservation with 3% population growth. CAMP is looking at updating and aligning the differences in the models.
- Mike Hermanson from Spokane County will present the WA updated water demand at the October IWAC meeting and can speak to the differences between Idaho and Washington use and recharge forecasts.
- President, Mike Galante suggested that IWAC summarize the information provided by the guest speakers and align that information with the IWAC goals.
- New development is starting to happen in most water districts. What will we do if our region suddenly experiences a dramatic influx of new residents drawn here by the promise of abundant, clean water? Pat Mulroy, General Manager Southern Nevada Water Authority, could not imagine 10 years of drought but it happened. Alan Miller quoted Pat, who said, "Imagine the unimaginable and plan for it."

### October 8, 2013 - Agenda Planning

Welcome & Introductions Agenda Additions or Revisions Approval of Meeting Minutes Financial Report

#### Old Business

On-going Membership Recruitment IWAC Goals review

# New Business

 Guest Speaker – Mike Hermanson, Water Resources Specialist for Spokane County Utilities, will provide an updated Spokane County water demand forecast.

### Updates Around the Table

- 9/24/13 Aquifer Protection Council Meeting will be held 2:00 PM at LLSWD.
- The SVRP Aquifer Atlas 4<sup>th</sup> update is in the initial planning stages. An electronic survey and planning meetings will be conducted as a collaborative effort between Spokane County and IDEQ. Everyone is invited to participate in the survey and planning. Contact Reanette Boese or Gary Stevens if you are interested.
- Alan Miller reported that the APD in Kootenai County just finished installing a monitoring well at the Middle School. 8th grade science classes will learn about water quality and assist in collecting data. Gary Stevens added that IDEQ will be drilling additional monitoring wells and placing them on school grounds. These wells will provide authentic, real-world experiences for students and hopefully provide useable water quality data.
- Bob Haynes reported that Jim Markley had run into challenges drilling a new well near Atlas Road. The work was interrupted because the driller's license had expired. This was reported as a precaution for all water districts to double check licenses and permits before contracting with drilling companies.
- Mike Galante reported that North Kootenai is tightening up line losses. Also, one well that was producing is now is not producing due to developer.
- Bryan St. Clair reported that Modern Electric and Water is replacing a well. They have been repairing leaking pipes and all but four or five are repaired and all production meters have been replaced. This repair work brought Modern's water loss down to 7%.
- Laura Laumatia shared that the Coeur d'Alene Tribe of Indians is developing a new marketing campaign that will be ready to introduce in the next month or so.
- Alan Miller requested suggestion for finding an intern to provide note taking services. Laura Laumatia suggested the INBRE (IDEA Network of Biomedical Research Excellence) and provided the following contact information:
  - The coordinator for NIC is Rhena Cooper. Her email is <u>trcooper@nic.edu</u>
  - Julie Van Middlesworth is a science instructor who works with Rhena and has supervised interns that have worked with the Tribe and DEQ. Her email is: jmvanmiddlesworth@NIC.EDU.

• Other possible sources for Interns are NIC Jim Ekins or SCC Erin Rudders.

The meeting adjourned at 3:30 p.m.