Ground Water Management on the Palouse Palouse Basin Aquifer Committee (PBAC) Steve Robischon

Slides 41-80

Idaho Washington Aquifer Collaborative (IWAC) Meeting December 9, 2014

• 1971

About two years ago, the Committee deliberated the feasibility of relying on the groundwater resources . . .

Because of the many "unknowns" . . . the Committee set aside detailed groundwater studies at that time

The present position of the PMWRC is that the communities should not be placed in the rather untenable spot of deciding yes or no on a surface water alternative on the basis of current information. PULLMAN, WASHINGTON 99163

COLLECE OF ENGINEER RESEARCH DIVISION ALBROOK HYDRAULIC LABORATORY (509) 335-4546

June 18, 1971

Dr. Calvin Warnick, Director Water Resources Research Institute University of Idaho Moscow, Idaho 83843

Dr. A. F. Agnew, Director Water Research Center Washington State University Pullman, Washington 99163

Dear Sirs:

As you are aware, the Pullman-Moscow Mater Persources Committee has been studying future potential water supply sources for the two communities for several years. About two years ago, the Committee deliberated the feasibility of relying on the groundwater resources in this vicinity to supply future water domains many "waknowns" of geologic characteristics and aquifer boundaries and because of the position of the Washington Department of Water Resources (Ecology) and the Idaho Reclamation Department relative to further groundwater withdrawals, the Committee set aside detailed groundwater studies at that time recognizing that they would have to be made at a later date. Reconnaissance studies of surface water sources flave been made, and preliminary cost estimates have been prepared for several schemes by a consultant.

Recently, a paper was presented to the P-MWRC by members of WSU Department of Agricultural Economics illustrating the economics of continuing to rely on groundwater pumpage for the next 50 years. Based upon certain development and operating costs, this analysis indicates that it would be approximately half as costly to continue this pumpage as to import surface waters by the least expenmuch as 40 feet per year. This conclusion is subject to some debate on the basis of capital costs, but cost comparison would still favor the pumping procedure. This comes as no surprise to P-MWRC but the analysis is premised on the availability of water in future years at more or less unlimited quantity. Projections of such availability cannot now be made accurately because of the Moscow subbasin but the P-MWRC feels the procedures here are questionable so that corradulity is extremely doubtful.

The present position of the P-MWRC is that the communities should not be placed in the rather untenable spot of deciding yes or no on a surface water alternative on the basis of current information. They must be advised on the reliability of continued groundwater draft so a decision can be made between this and surface water importation with conjunctive asc. From to that, the P-MWRC must

• Early 70's – Pumped Storage

pool, generating additional power in the process. The upper reservoir could also be tapped for water for this area.

We've supported the idea of a study of a surface-water supply for the area, because it seems likely that such a supply will be needed sometime in the future. Opponents of the plan make some good points, however. Farmers in the area fiercely oppose the idea of taking several thousand acres of productive farmland out of operation. Some hydrogeologists at the University of Idaho and elsewhere say that studies in-



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UPPER

RESERVOIR

• 1975 - Pumped Storage Proposal

We understand a request for funding a study of pumped storage energy _ development . . . is before Congress

Our Committee . . . solicit[s] your_____ support of financing such a study

Uncertainty as to the ability of the present groundwater source . . . has kept the committee . . . evaluating potentialities

Identical letters were sent to: Rep. Steve Symms Rep. Thomas Foley Senator Frank Church Senator Henry Jackson Senator James McClure Pullman - Mascovi Water Resource Committee

May 9, 1975

Honorable Senator Warren G. Magnuson United States Senate Washington, D.C. 20510

Dear Senator Magnuson:

We understand a request for funding a study of pumpedtorage energy development in the Pacific Northwest by the U.S. Sens of Engineers is before Congress at this time one Failman-Moscow water Resolution Solicit your support of letter and the enclosed resolution solicit your support of Sinancing such a study that would be designated for a site near Pulling, Washington.

The Pullman-Moscow Water Resources Committee consisting of representatives of the cities of Moscow and Pullman, the University of Idaho, and Washington State University, was formed in 1967. The committee membership is appointed by the respective city councils and Boards of Regents. Present composition of the committee is shown on the attached sheet. Formation of the committee was necessitated due to a groundwater table which has been falling at a rate of three to five feet per year for an extended period of time. In addition some water quality problems have been experienced, particularly in the Idaho portion of the basin. Since all of the domestic water supply for the cities and universities is from groundwater, the committee was then formed to study these problems to determine their current and potential severity and, if necessary, to determine alternate sources of domestic water supply. The committee was also charged to study the appropriate machinery or district for supplying water to this region since this could be a significant problem with jurisdiction of two states involu

Uncertainty as to the ability of the present groundwater source to continue to meet the demands of the four water supply systems has kept the committee in a continuous program of evaluating potentialities. Water levels in the wells have continued to drop, and difficult well-drilling problems have played water development

City of Moscow O City of Pullman O University of Idaho Q Washington State University

• 1975 - Pumped Storage Proposal

I have been advised . . . that Senator McClure has announced that . . . the Corps of Engineers . . . appropriation does specifically specify money for the Union Flat Pumped Storage Investigation.

	Janssen Engineering Building, University of Idaho, Moscow, Idaho 63843
	December 5, 1025
	December 3, 1973
	FROM: C. C. Warnick And Musuch
	SUBJECT: Recent Development
~	
	I have been advised by Bill Smith that Senator McClure has an-
(nounced that the Corps of Engineers has formally received their appro-
1	Figt Pumped Storage Project Investigation. I am pleased that this
	has passed and have our action was in a small way beloful to getting the
	Possile accion.
	Howard Copp contacted Bob MacNish of the Tacoma Office of the U.S.
	our committee until after January 1, 1976, so we will not meet on Decom
	ber 16 as projected.
	I am writing to the Walla Walls Office requesting information on
	their plan of study and extending our offer of continued interest and
	cooperation.
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	rife. Garon, rawko
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	cc. vice Fresident Sherman Carter
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	City of Montaw . City of Palloran . University at Idata . Washington State University
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V V	A CARACTER AND A CARACTER ANTER A

1976 - Pumped Storage Proposal

coroing to a financial statement area were A fiery confrontation appears brewing between farmers 14 6 in an area southwest of Pullman and the U.S. Army Corps Pumped-Stor N of Engineers . . .

A tiery controntation appears press- of pumping ing between farmers in an area southwest of Pullman and the U.S. Army Corps of Engineers when the two meet, face-to-face in Pullman tomorrow night at a public meeting on a study of a proposed pumpedstorage reservoir in the Union Flat Creek area.

The meeting, scheduled to start at Y:30 p.m., at the Gladish Middle School auditorium, NW 115 State St., is being sponsored by the Moscow-Pullman Water Resources Comreittee, which may find itself caught in the middle of the battlefield.

The purpose of the meeting will be to determine if the people in the Pullman area feel there is a to a pamped storage reservoir is al exposition to the plan, explained Hort, coordinator of the study for

Granite D reservoir¹ water co needed for

tion, irrigation and municipal and industrial power supply.

The study is expected to last for about three years and its estimated cost is \$2981000. Hovt said

Since the study and tomorrow's public heating where announced, a group of farmers in the area being studied for possible reservoir sites tiel Preservation of Agricultural Land, OFAL opposes the proposal because of the loss of farmland that would be lost if the reservoir were built, the group's president, Norman, latley, says.

Not only is it against the construc-

Resources Committee is supporting the study of the pumped-storage reservoir because of the possible additional water supply to the cities of Moscow and Pullman, explains that panel's chairman. Calvin Warnick of Moscow

The committee is also involved with several groundwater studies, sponsering one by the U.S. Geological Survey on the aquifer of the Moscow-Pullman basin, Warnick said. Other sources of supplementary water. must be investigated in the meantime, he said. "We can't wait until the wells run dry to staft considering other sources.

lot companying uns that would be represent an an flooded by such a reservoir, he said

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Col. Nelson Conover. district engineer for the Corps. will preside at the meeting and will make a brief introductory presentation. Hoyt said t U.S. Senators and Representatives or their field agents will be allowed to speak first if present. Hoyt said.

Persons wishing to testify will be asked to sign up as they enter the meeting and speakers will be selected at random from the list, he said. There is no time limit for testimony: Hoyt said, but persons with lengthy statements, are asked to summarise their' remarks orally and then submit

... have formed OPAL. Organization for the Preservation of Agricultural Land. OPAL opposes the proposal because of the loss of farmland . . .

1976 - Pumped Storage Proposal



Citizens, Officials Rap Corps, Reservoir Plan flooding of farmland, he said After

By KENTON BIRD PULLMAN + Col. Nelson Conover of the U.S. Army Corps of Engineers may have felt a little like General Robert E. Lee at Appomatton. And Moscow Mayor Paul Mann said he didn't realize how appropriate his grey coat would be.

It was, though, because with the exception of some muted defense of the Corps by Mann in his "Confederate" evening belonged to wrother

mayor called "the Union Army." a delegation of more than \$00 opponents a pumped-storage reserved proposed for the Union Flat Creek area southwest of Pullman

A' four-hour parade of public of ficials and private citizens told Conver that not only are they against the dick duch a reservoir, there's no

State of the second second

need to even study the proposal. And several suggested a better study would be to determine if there is still n anal for the Person of Vestinteen

per reservoir and then released when needed for power generation and other purposes

the study is completed, it would be upto Congress to authorate the project and pressonate messar for it. Actual

... a delegation of more than 900 opponents

c scory, gapected to se completed in July, 1878, at a cost of rearly \$301.000.

The study's pargose is not to pick a site for construction of a pumpedstorage respression. Conover emphasized, but rather to determine if such a facility is economically feasible.

In a pumped storage system, he explained, water is pumped from a lower reservoir, such as the pool. behind Lower Granite Dam, to an upUNRECTOR OF REVAILED DESIGNED. ONE Palouse and the Snake River, the Union Flat Creek area is ideally suited for such a reservoir system, he said

Preliminary studies showed the area to be a prime candidate for a pumped-storage reservoir because of the possibile use of water for arrigation in the Lacrosse area and for a supplemental water supply for Moscow and Pullman, he said,

Because of the widely fluctuating water levels in the opper reservoir. however, there would be little or no use of it for retreation or fish and wildlife. Conover stated Earlier literature from the Corps Asted recreation. Tish and wildlife enhanceADD DOLIGHT TEMPINE WINTY recommend that it be built." he said

His words fell on deaf ears for most of the crowd, 91 of which expressed a desire to make a statement. By the time [1 30 p m colled around and the last name was called, more than 50 had spoken in opposition the rest had grown weary and left

Mayor Mann was the only speaker net to criticize the Corps plan and he drew scattered boos for his defense of the feasibility study as necessary to provide us with some answers

Mann said the Moscow City Council didn't feel it knew enough about the plan to take a position prior to the hearing but said the council is the past has been interested in the possiwas going to be a need for additional electrical generating power in the future "I hope when the alternatives

on type or reservoir tied to the Cowe?

Granite pool, Mann said, "But we

won't know unless the Corps is per-

mitted to make the study " That

study may turn up a location that

would have a minimal impact on

At the conclusion of Mann's

remarks, Moscow businessman Art

Helbling strode to the podium.

grabbed the microphone from

Matn's comments came amid a

steady stream of citizens against the

plan, who rapped the loss of fertile

farmland, harmful effects on fish and

more of us from Moscow than he

farmland, he added.

jects that will help people not displace them.

Norman Hatley of Pullman, president of an anti-reservoir group called OPAL, the Organization for the Preservation of Agricultural Land, drew the biggest cheers for his attacks on the reservoir plan, the study and the Corps in general.

Although several other members of the Hatley family spoke in opposition. Hatley didn't want the crowd to think "this was a Hatley vendetta." There used to be a story in Whitman County. he said, that the squirrels, the Hatleys and the Druffels (another family in the area, would some day take over the county. "That was befare the Army Corps of Engineers Conover and exclaimed. "There are cater along," he gapped.

Heating called for all impose Gate balt to the study and suggested instead feasibility study "on whether it's feasible to have an Army Corps of wildlife and the displacement of Engineers.

He saw there are only three things families in the area and the increased the Corps understands: hydroelectric chair- power, political power and people power. "Let's stand up and show the éemcolonel some of that last kind of droo the power." whereby all but allow of the crowd stood up and applauded. PDP0-

... suggested instead a feasibility study "on whether it's feasible to have an Army Corps of Engineers."

Organization for Preservation of Agricultural Land Suggestion (1976)

Organization for Preservation of Agricultural Land

Our organization is greatly concerned about the future policy of your efforts in your joint venture in regards to water research

It is our suggestion . . That authority to "secure" projects be greatly curtailed.

... all offices concerned should give formal authorization for each project ...

To further restrict their authority . . .

Provident Rt. 2, Box 402 Pullman, Wash, 99163



Warch 24, 1976

Mayor Karen Kiessling, Pullman Mayor Paul Aiann, Moscow President Glenn Tetreft, WSU President Ernest flattung, U of 1 Latab County Commissioners, Moscow Whitman County Commissioners, Collax

Ladies and Gentlemen:

Our organization is greatly concerned about the future policy of your offices in your joint venture in regards to water research.

It is our suggestion, if the Moscow Pullman Water Research Committee is to still function, that authority to secure "study" projects be greatly curtailed,

We feel that all offices concerned should give formal authorization for each project and the public be notified before any study or project is authorized.

To further restrict their authority we would like to suggest you restructure your committee to include two members from both Lath County and Whitmen County, and that both Whitman and Laths County Commissioners he made a part of the governing body.

It is our understanding the Water Research Committee meetings are open to the public. If this is the case we would like to be notified of each and every meeting and be stal minutes of these meetings.

We understand the need to have water tesearch, and it is our desire that you have control and the public be kept informed.

We hope you understand our deep concern in this matter.

Respectfully,

Norman Hatley President, OPAL

cc: C. C. Warnick, Pullman Moscow Water Person RalpI Scharchorst, JPAL Moscow Charperson Nota Mao Keifer, OPAL Pullman Chainperson Jim Hatley, OPAL WSU and U of I Charperson



Secretory-Treasurer

Rt. 2, Box 404

Pullman, Wash. 99163

WATER RESOURCES RESEARCH INSTITUTE PMWRC Becomes Inactive (1976)

I suggest we better decide soon what the future of our Committee is to be.

... assess what our Administrators' views are

If any agree in principle with the OPAL letter, I'm for abandoning further work.

P-MWRC Members:

Due to recent "controversy" And A letter dated 3/24/76 from OPAL, I suggest we better decide scon what the suture of our Committee is to be. I further suggest that we assess what our Administrators' views Are. If any Agree in principle with the OFAL letter. I'm for Abandoning Surther work. If A study Committee can't study, with it all. 10

Crosby (WSU) dealthepointneptojective/RC/se active/hing/82984



Figure 5. Comparison of Actual and Projected Decline of Water Levels in Wells of Moscow-Pullman Basin.

- Recommend careful monitoring be continued
- Recommend update to Barker model (see Lum et al, 1990)



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TITLE 42 IRRIGATION AND DRAINAGE -- WATER RIGHTS AND RECLAMATION

CHAPTER 2 APPROPRIATION OF WATER -- PERMITS, CERTIFICATES, AND LICENSES -- SURVEY

provided. Water in a well shall not be deemed available to fill a water right therein if withdrawal therefrom of the amount called for by such right would affect, contrary to the declared policy of this act, the present or future use of any prior surface or ground water right or result in the withdrawing of the ground water supply at a rate beyond the reasonably anticipated average rate of future natural recharge. However, the director may allow withdrawal at a rate exceeding the reasonably anticipated rate of future natural recharge if the director finds it is in the public interest and if it satisfies the following criteria: A program exists or likely will exist which will increase 1 recharge or decrease withdrawals within a time period acceptable to the director to bring withdrawals into balance with recharge. Holders of senior rights to use ground water will not be caused 2. thereby to pump water from below the established reasonable pumping level or levels.

A Little Water Law

IDWR Letter to WDOE - 1987

SUR ALSOULD	State of Id DEPART/ STATE OFFI	daho MENT OF WATER CE, 450 W. State Street, Bo	IÁY 2 2 1987 RESOURCES ise, Idaho
CECIL D. ANDRUS Governox A. KENNETH DUNN Director		•	Mailing address: Statehouse Boise, Idaho 83720 (208) 334-4440
	-	1 2. 	
		May 15, 1987	ж.,
Andrea Be	atty Riniker, Dire	ctor	а

This is to advise you of the reason Idaho has protested Application . . . filed by Washington State University . . .

permit to appropriate 2500 gpm for continuous municipal supply. The Notice of Application appears to propose an additional water use. However, in the February 17, 1987, memorandum from Mr. Dillingham of Washington State University to Mr. Earl Moore it is stated: the proposed 2500 gpm well (well No. 7) is intended to replace three other wells as they become inoperable, and the well will not "go online".until it is required as a direct substitute for WSU wells that have either gone dry or become inoperable. The memorandum further states that WSU water consumption will

The model predicts that should withdrawals increase even at a rate as low as one percent per year the aquifer will not reach a recharge/discharge equilibrium and water level declines will continue . . .

> aquifer will not reach a recharge/discharge equilibrium and water level declines will continue. The Pullman/Moscow water supply problem has been subjected to numerous studies over the years and clearly it

IDWR Letter to WDOE - 1987

State of Washington 2 May 15, 1987 is in the interest of both the state of Washington and Idaho to seek a solution to the problem.

I propose . . . meet. A memorandum of understanding between the two agencies could be developed which would clearly identify the conditions under which additional water use development would be allowed, outline conservation programs which would be enforced, and support the development of a long term management plan for the region

A. KENNETH DUNN Director

AKD:alw cc: Water Board Members Governor's Office Clearwater RC&D U.S.G.S City of Moscow City of Pullman University of Idaho Washington State University

WDOE Response to IDWR Letter - 1987

ANDREA BEATTY RINIKER Director



RECEIVED JUL 1 0 1987

STATE OF WASHINGTON DEPARTMENT OF ECOLOGY Mail Stop PV-11 • Olympia, Washington 98504-8771 • (206) 459-6000

July 7, 1987

Mr. A. Kenneth Dunn, Director State of Idaho Department of Water Resources 450 West State Street Boise, Idaho 83720

The Department of Ecology has a great deal of interest. I concur that a meeting between the two agencies should take place to initiate the plan.

action program that would allow beneficial management and development of the Pullman/Moscow aquifer. I concur that a meeting between the two agencies should take place to initiate the plan.

I would suggest that a representative from each of the two cities and universities . . . attend the meeting.

Please contact Hedia Adelsman, our Water Resources Program Manager in Olympia, telephone (206) 459-6056 or George Krill, telephone (206) 459-6119 to set up the meeting agenda, place and time.

Sincerely, Jadua Kencker

Andrea Beatty Riniker Director

cc: Hedia Adelsman John Arnquist U.S. Geological Survey City of Moscow, Idaho City of Pullman, Washington Washington State University University of Idaho Clearwater RC&D

Resolution of Understanding (PMWRC, IDWR, WDOE) - 1989

RESOLUTION OF UNDERSTANDING between PMWRC will pursue and administer funding to conduct and promote studies and research relative to improving knowledge of the water resources of the PULLMAN-MOSCOW WATER RESOURCES COMMITTEE IDAHO DEPARTMENT OF WATER RESOURCES basin. WASHINGTON DEPARTMENT OF ECOLOGY $\ensuremath{\mathsf{PMWRC}}$ will prepare a management plan for the basin in cooperation with the two state agency parties (IDWR and WDE), which will address both water quantity and water quality concerns. 1989 2. management IDWR and WDE further agree to pursue the implementation WHEREAS, the utline the representatives the party University, Whi d schedule of a coordinated Washington - Idaho ground water management and management WHEREAS, the Ic the water Plan for the Pullman - Moscow basin in accordance with their Ecology have th regulate water management to participate respective state law policies. WHEREAS, there tion by all quality ground water resources within the basin; and parties and accomplishment of the filing requirements and approvals as may be necessary. This Resolution shall remain in effect until the completion of the WHEREAS, a ground water management plan developed and implemented in concert ground water management plan or until any party to the agreement terminates its with public nee 20 rules and requ The Pullman - Moscow Water Resources Committee (PMWRC) all parties, resources in th g and notice tee members. agrees to work with the state agencies and to serve as the WHEREAS, the pimplementing su)-89 forum for input from local governments, interest WHEREAS, the pa Understanding f groups and private citizens. NOW, THEREFORE the following:)-89)ate The Idaho Department of Water Resources (IDWR) and Washington Department of Ecology (WDE) agree to commit sufficient staff time to assist in the completion /s/ John Henley Whitman County 5-30-89 s/ Nancy Johansen 5-30-89 Date of such tasks as may be appropriate. IDWR and WDE further agree to pursue the Latah County implementation of a coordinated Washington-Idaho ground water management plan for the Pullman-Moscow basin in accordance with their respective state law policies. /s/ Fred Olsen 5-30-89 Washington Department Date /s/ Wayne Haas 5-30-89 Date Idaho Water Resources The Pullman-Moscow Water Resources Committee (PMWRC) agrees to work with the

of Ecology

Specific obligations of the Committee are as follows:

interest groups and private citizens.

state agencies and to serve as the forum for input from local governments,

Ground Water Management Plan - 1992



September 1992

Ground Water Management Plan – Chapter 6 Roles

The role of the COMMITTEE is to encourage entities to implement the PLAN

... provide a forum for the exchange of successful and effective management policies, strategies, and techniques

... gather, maintain and evaluate a data base of well locations, water consumption and water levels ...

To further refine the MODEL, the COMMITTEE will continue to acquire, maintain, and upgrade information as it relates to the ground water system. Ground Water Management Plan – Chapter 6 - 1992 Goals

- To provide for future beneficial use of the basin ground water without depleting the basin aquifers while protecting the quality of the water.
- To promote a program of public education and awareness regarding basin ground water management issues.
- To promote careful monitoring and analysis of the ground water level and usage data for the basin.
- To continue to explore possible supplemental water sources for anticipated and potential future water use in the basin.
- To review and make recommendations on all water use or land use applications whose anticipated impact on the ground water system. potentially lies outside the stated goals of the plan or policies adopted by the member entities.
- To review and make recommendations relative to the development of an agreement for water transfers across the state line.



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TITLE 42 IRRIGATION AND DRAINAGE -- WATER RIGHTS AND RECLAMATION

CHAPTER 2 APPROPRIATION OF WATER -- PERMITS, CERTIFICATES, AND LICENSES -- SURVEY

provided. Water in a well shall not be deemed available to fill a water right therein if withdrawal therefrom of the amount called for by such right would affect, contrary to the declared policy of this act, the present or future use of any prior surface or ground water right or result in the withdrawing of the ground water supply at a rate beyond the reasonably anticipated average rate of future natural recharge. However, the director may allow withdrawal at a rate exceeding the reasonably anticipated rate of future natural recharge if the director finds it is in the public interest and if it satisfies the following criteria: A program exists or likely will exist which will increase 1 recharge or decrease withdrawals within a time period acceptable to the director to bring withdrawals into balance with recharge. Holders of senior rights to use ground water will not be caused 2. thereby to pump water from below the established reasonable pumping level or levels.

Lum, Smoot, Ralston Model - 1989



• TO PROVIDE FOR FUTURE BENEFICIAL USE OF THE BASIN GROUND WATER WITHOUT DEPLETING THE BASIN AQUIFERS WHILE PROTECTING THE QUALITY OF THE WATER.

The primary goal is to insure that a stable ground water level is maintained in the **BASIN** aquifers. The **COMMITTEE** adopts the standard that the two universities and the two cities shall attempt to limit their annual aguifer pumping increases to one percent (1.0%) of their pumping volume based on a five (5) year moving average starting with 1986. At no time shall the accumulated total pumping exceed 125% of the 1981-1985 average for the two universities and the two cities. These initial limits on pumping rates are based upon historical data and water levels predicted by the MODEL. An estimate of the dispersed county pumping will be made based on an average per capita use for all county residences within the **BASIN** boundaries. Latah and Whitman counties will attempt to limit pumping increases from the BASIN aquifers to 125% of the estimated 1990 pumping levels. Further refinement of the MODEL will be necessary to establish acceptable limits on long term pumping rates which will confirm a stable water level for future users. The COMMITTEE will update the MODEL periodically and





Ground Water Management Plan – Chapter 6 - 2011 Mission and Goals

- Mission: To ensure a long-term, quality water supply for the Palouse Basin region.
- Consistent with the Palouse Basin Groundwater Management Plan, develop and Implement a balanced basin wide Water Supply and Use Program by 2025.
- Create and maintain an action plan for aquifer system sustainability, enhancement and/or alternate water supply development.
- Direct research and implement pilot projects necessary to understand the basin hydrogeology in a manner sufficient to support the Water Supply and Use Program and the affiliated supply projects.
- Encourage and facilitate entities in meeting their specific pumping, conservation, efficient use, water recycling and other goals.
- Educate entities and the public on the state of the basin water supply and the status of PBAC's mission and goals.
- Maintain harmonious and effective working relationships across the state line to fairly meet the needs of all entities.

- Use Less
 - Inside
 - Outside
- Reuse Some
- Find More

• Use Less, But . . .



• Reuse Some



University of Idaho Monthly Water Use



- Find More
 - Ground Water
 - Surface Water



• Find More Surface Water, But . . .



Find More Surface Water, Store ItAbove Ground, But . . .





Find More Surface Water, Store ItBelow Ground, But . . .



• Find More Surface Water, Treat It, But . .

READIN	WASHINGTON STATE UNIVERSITY PULLMAN, WASHINGTON 99163			
87300 A	DEPARTMENT OF AGRICULTURAL ECONOMICS			
3/11/13	April 15, 1971			
TOTAL	MEMORANDUM TO: Pullman/Moscow Water Resource Committee Cal Warnick			
Pay on I	FROM: Walt Butcher			
www.ci.r	SUBJECT: Relative Costs of ground and surface water system			
Check o service I	I am concerned that the investigations of the Pullman/Moscow water supply situation have not provided adequate information about the relative cost of continuing to rely, at least for some time, on the local ground- water resource. The attached comments report some very quick calculations of mine that indicate a switch to surface sources will involve in the neighborhood of a lOx increase in water costs. This should be checked more carefully and a thorough evaluation made of the most probable costs from groundwater supplies ac well as the range of potential outcomes. WRB:bs			

Model Studies – WoW Systems Model



Estimated Water Levels – Year 2100

AGENDA

December 9, 2014 1:30 - 3:30 PM

Liberty Lake Sewer and Water District 22510 E. Mission Avenue, Liberty Lake, WA 99019

Welcome & Introductions Agenda Additions or Revisions Approval of Meeting Minutes 10.14.14 Financial Report

Old Business

Our Gem Symposium 11/18/14 and Spokane River Forum Conference 11/19-20/14 – Feedback

New Business

Guest Speaker – Steve Robischon, Executive Director Palouse Basin Aquifer Committee. The Palouse Basin Aquifer Committee (PBAC) was formed in 1967 because of declining groundwater levels in municipal wells. The Palouse groundwater basin is the sole source of water for over 50,000 residents of Pullman, WA and Moscow, ID and outlying areas in both Whitman County (WA) and Latah County (ID). PBAC is a multijurisdictional, cooperative group with the mission of ensuring a safe and sustainable supply of water for the future. Steve will discuss the lessons learned by PBAC that may assist in the long term success of IWAC.

> re hopefully

Summary - Lessons PBAC (hopefully re) learned

Idaho Washington Aquifer Collaborative (IWAC) Mission and Goals

March 13, 2013

Idaho Washington Aquifer Collaborative (IWAC)

Purpose and Goals Updated March 13, 2013

IWAC PURPOSE

The purpose of the Idaho Washington Aquifer Collaborative (IWAC) is to work together to maintain and/or enhance water quality and quantity for present and future generations by developing management strategies which benefit the Spokane Valley Rathdrum Prairie Aquifer (as defined by the USGS, "the Aquifer") and the Spokane River region. IWAC will facilitate regional dialogues and studies that result in recommendations for policy directions and shared stewardship of the Aquifer and the Spokane River, in a collaborative manner.

IWAC Organizational Goals

- 1. Establish a working relationship between Idaho and Washington water entities
- 2. Agree upon IWAC goals (outcomes & products) and interim objectives
- 3. Establish common objectives regarding water use
- 4. Create a IWAC 'Statement of Purpose'
- 5. Determine and create an organizational structure
- 6. Establish sustainable funding and an administrative mechanism
- 7. Pursue funding to implement goals
- 8. Coordinate a regional wellhead protection, education and outreach program
- 9. Ensure IWAC conclusions/recommendations are credible
- 10. Encourage adaptive management
- Stay abreast of technological advances, public understanding and perception
- 12. Maintain organizational documents (i.e., Meeting Minutes, By-Laws, Goals, Projects, Studies... and A Table of Consensus and Non-Consensus Determinations by IWAC to
 - a. Provide a 'running tally' of aquifer related issues in which IWAC has achieved consensus or non-consensus; an 'at a glance' scorecard
 - b. Inform intermittent participants such as ad hoc 'Resource Network' entities.

CONSTITUENTS

Informed constituencies will enhance the prospects for approval and implementation of IWAC recommendations.

As appropriate, the Members of IWAC will inform their constituents and solicit their opinions about the issues under discussion. They will represent the interests of their constituent group and bring their constituents' concerns and ideas to the deliberations.

Members of IWAC, at their option, may elect to hold regular meetings with their constituent group (a formal caucus), to provide copies of IWAC meeting notes to their constituents and request comments, and to communicate informally with their constituents.

IWAC will explore other means to expand public awareness and encourage broader involvement.

Thanks!

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