2012:

Water Supply Availability

- Project shortage - Early in 2012, the supply water projections looked very similar to 2010, which developed into a drought declaration for the Klamath Basin.
- The WUMP Agreement for 2012 required KWAPA to provide for 10,000 AF supplementation to surface water. Weather patterns indicated that the need might be nearer to 40,000 to 70,000 AF.
- Reclamation asked KWAPA to initiate a water supplementation program for Eastside.
- March 9th – BOR mailed a letter to irrigators stating there would be no water delivery to B contracts.
- Reclamation graph of water forecast dated March 24th indicates according to the BO, there may be too much water in April and May. All scenarios show that by the first of August, minimum lake levels will be tripped and Project diversions will need to be reduced.
- MBK's evaluation indicates a potential 70-91 TAF shortage in July, August, and September.
- Eastside shortage of 6,000 AF possible.
- May – Snowpack melting early resulting in water flowing down the Klamath River that normally would supply the Project in July, August, and September.
- June – BOR predicts anywhere from 0 – 70,000 AF shortage.
- July – 24,982 AF more storage in UKL than BOR forecasted for this date. The forecast is that UKL may drop by 0.054 ft/day through July. It has been dropping at a rate of 0.027 ft./day. Groundwater pumped during June amounted to 5,957 AF. (4,000 AF less than planned – target 10 TAF)
- BOR would prefer to start the 2013 season with UKL above 4137' level and has concerns UKL may be at levels not seen since 1994 going into winter.

Policy development

- January – KWAPA Board approved draft outline of program
- February – KWAPA Board reviewed final draft of groundwater program which was to contract for groundwater pumping of 10,000 AF per month for June through September for a total of 40,000 AF. No changes were made.
    - Policy committee formed to look at past years and provide recommendations to Board to help avoid problems.
    - Began taking applications for the groundwater pumping program.
- February - Reclamation asked KWAPA to initiate a water supplementation program for Eastside. Board approved a groundwater and land idling program for Eastside area – funds allocated by percentage of acreage Eastside and Westside. HID and LVID were asked to present their districts plans under a sub-recipient arrangement.
    - LVID submitted their edits to the draft policy asking for both a groundwater water program as well as land idling as a back-up if more supplementation needed.
    - HID submitted a request to land idle 1000 acres at a cost of $250/acre.
        - Board expressed that the process needed to include separate bids for competitiveness.
- Eastside did not want to operate as sub-recipients after hearing of grant requirements as a sub-recipient.

    - LVID that program mirror the West Side land idling program.
    - HID elected to not participate.
- 2 Special meetings were held in February to discuss the water situation and review policies.
    - Final Groundwater and Land Idling policies were approved.
- March – Board approved contract with CA DWR to monitor groundwater wells in CA.
- Extended the land idling bid deadline to March 30th to allow lease lands to participate.
- Discussed storing water in Barnes Ranch or Agency Lake and the cost of pumping the water back.
- March authorized MBK scope of work for groundwater evaluation.
- April – MBK's evaluation indicates a potential 70-91 TAF shortage in July, August, and September. Early snowmelt has UKL full and spilling. Early land idling will only cause additional water to be released down the river. Board rejected all full-season land idling bids and directed staff to develop a partial season land idling strategy.
- April – Eastside shortage of 6,000 AF possible. Reviewed land idling bids. Board accepted bids on Eastside less than $300/acre and authorized development of partial-season land idling program for those interested. Three applications were received for groundwater pumping – if OWRD approves these wells, authorized contracting with those 3 wells.
- Discussed the Agency Lake Ranch. WUMP authority will not support funds for Agency Lake Ranch operations.
- 2013 Budget, tech position, storage, water exchange discussion took place during the meeting.
- October – Graphs show that UKL is lowest it's been since 1994. KWAPA will begin planning for a major 2013 program.

Policy implementation

- March – 132 wells signed up to participate in the Groundwater Pumping Program.
- March - Groundwater contracts approved.
- May - Board directed staff to implement groundwater pumping in June/July/August and the Split Season Land Idling program on the Westside to avoid triggering project operation minimum. The Board also adjusted the dates of land idling and kept tiered rates. Clear lake water supply indicated likely shortage – implementing Partial Season Land Idling Eastside beginning June 15th and modified policy regarding the rate structure for Eastside.
- May special board meeting – Board approved groundwater pumping of TID wells 1, 4, 5, and 14 and approved TID special contract payment arrangement. Amended groundwater pumping contracts to allow for the actual tariff rate rather than the previous estimated tariff rate. Board extended application deadline for land idling program to try to get 10,000 AF demand reduction.
- Total of 88 applications received for Partial Season Land Idling equating to approximately 4,739 AF. Board approved the Partial Season Land Idling programs for both Westside and Eastside programs.
- August – Jason Phillips requested to the Board that groundwater pumping continue into September.
- September – Board decided to continue groundwater pumping.
- October - Board authorized closing both groundwater and land idling programs effective with this board meeting. Most groundwater wells have been turned off. Also some wells have reached their OWRD pumping end dates.
- Verification issues arise with grain and drainage overflows.

- Draft Implementation Plan developed.
- November: Total 2012 groundwater pumped was 30,620.36 AF at a cost of $915,379.70. Final power bills will be submitted for demand/minimum charges. Land Idling was 4,410.89 acres, saving 7,311.75 AF. Total 2012 WUMP program benefit: 37,932.11 AF at a cost of $532,402.80.
- Refuge received 29,943 acre-feet water provided by the Project.

Contracts to assist in implementation

- OWRD/USGS: Groundwater and Optimization Modeling
    - A computerized groundwater flow model to evaluate on-project pumping effects or effects of drought on the groundwater aquifer to efficiently identify optimal groundwater management strategies. This simulation-optimization model consists of a mathematical formulation of groundwater-development goals and used OWRD constraints that forecasts limits.
        - Assesses impacts of pumping on groundwater levels and ensures simulated short and long-term drawdown is within the constraints set on impacts to other groundwater users.
        - Guides development of groundwater-development strategies making the most efficient use of the groundwater resource yet limiting impacts on Klamath Project drain system.
        - Identifies groundwater withdrawal strategies that support geographic and seasonal water demands for irrigation.
            - Adaptive management
            - Build flexibility into plans
            - Identify alternatives and allow new strategies to evolve.

Successes and Problems of Acquisition

Successes

Staff conducted an in-depth evaluation of the WUMP program, the product of which was presented to the KWAPA Board and resulted in the development of the WUMP Program Implementation Plan.

KWAPA administered successfully the 2012 supplementation programs as deemed necessary by BOR. Through supplementation provided by groundwater pumping and land idling, every farm that wanted to irrigate received water with the exception of some parcels served by Clear Lake Reservoir.

- KWAPA has been able to meet West Side Project demand while balancing the need for groundwater recharge.
- The East Side was also a success in meeting demand throughout the season until the end of September when Clear Lake Reservoir deliveries were concluded.
- KWAPA staff was able to develop programs, react to multiple changes due to the ever changing water supply outlook and the Board of Directors modifications of the programs.
- KWAPA staff handled GIS mapping without assistance from Reclamation.
- Record keeping and payments for groundwater pumped are very streamlined with payments being made in a timely manner now that ASAP is being utilized.
- Groundwater Efficiency Use project complete and approved by Board.

Problems

- Groundwater pumped was 4,000 acre-feet less than what was planned for in June.
- The Partial Season Land Idling program file identification was confusing, in particular for the lease lands. KWAPA used the tax lot numbers, however found it is less confusing to use the lease land # or the TID# to identify them.
- A TID Board member stated that idling of lease lands planted in grain will save 1 acre-feet of water prior to June 15 but will not save any water after that.
- Amending or changing policies several times creates confusion, lack of community perception of KWAPA capabilities, and opens KWAPA to compliance issues.
- Lack of understanding of the authority and responsibility of OWRD relative to groundwater management in Oregon.
- Tulelake Irrigation District requested a different groundwater pumping policy for their district. This should all be discussed in the policy committee meetings and decided on prior to approving any groundwater pumping policy (especially as TID participates in policy setting).
- Scoring of wells needs to be further refined for future program implementation.
- Need to have a more defined method of verifying land idling claims.
- Staff could not verify that lease lands planted in grain was not irrigated by visual inspection. TID delivered water to the leases 1/3rd that was in row crops, but KWAPA could not verify that the water was actually used on the row crop.
- Questions arose on whether or not some lands had irrigated prior to June 15th as required by the KWAPA policy.
- Districts did not make a statement regarding no water delivery on some parcels.
- Verification lacking in strength – there needed to be someone out in the field communicating with the districts and contractors.
- KWAPA's employee that was trained in GIS moved to another state, so another employee had to begin learning ArcGIS. While this is good, it is problematic for KWAPA to have to re-structure staff into other positions when already short-handed.
- Weeds growing on idled land continues to be a problem.

Contracts

Well Monitoring –California Dept. of Water Resources (CDWR)

- A contract was signed with CDWR in August of 2012 for the monitoring of 60 to 70 groundwater wells in the Tulelake sub-basin. The services provided include 1) data collection and analysis and 2) technical review of groundwater pumping participation applications for groundwater related impacts, including short-term drawdown and long-term basin wide concerns.

  At the time of contracting, the agency had just finished monitoring the wells in the Tulelake area. In general water levels were looking good for that time of year. Most of the basin was near or only slightly below the levels from June 1st. The lower end of the basin was showing a more significant decline (around 1.5ft). Overall the basin was looking good.

Concerns

- Staff settling into new roles since the re-organization, but still not performing to proficiency level needed.
- Program policies need to be set up early for realistic amounts of supplementation.
- After conducting inspections, the KWAPA Executive Director felt that under this year's policy, that land idling saved very little water and is very expensive. He felt those that entered the program were either:
    a. Not intending to irrigate anyway
    b. Growing a crop that did not need further irrigation after June 15th.
    c. The crop was largely sub-irrigated.
- OWRD is concerned with the groundwater decline. Groundwater needs to be sustainably managed to avoid the Project being declared a "Critical Groundwater Area".
- The need to attend conferences/meetings and lack of time with current staffing levels.
- Filing and closing out programs completely before needing to focus on next year's program.
- Land Idling litigation for Mr. Simon 2010 Land Idling program.
- A new combined Biological Opinion will have adjusted minimum lake levels and thresholds which will affect the WUMP programs.
- Need a methodology for payment/contract structure to have confidence that KWAPA programs are paying fairly and for a "legitimate" amount.

Benchmarks

a. Technical Capability
    - KWAPA staff handled GIS mapping without assistance from Reclamation.
    - Filing system was refined after implementing programs over the course of the past 3 years. The program file has compilation of each year's participation including application, maps, contracts, meter readings including photographs, billings, payments, correspondence, etc. in one file. The groundwater pumping file identifies the owner/lessee, and the well identifier which is the KLAM# in Oregon and the TID# in CA. Demand Management files have applicant name, and the property tax lot# in Oregon or the TID# if property is in California. If owner changes, the only change needed will be the name as identifying numbers would remain the same.
    - Need to have a technical position (water technician, hydrologist) for land idling verifications of real water created as result of idling.
    - Need staff with increased GIS capabilities to ensure credibility of programs.
    - Now have one employee that is certified in grants management.

b. Fiscal sustainability
    - KWAPA's ability to utilize the ASAP system for requesting funds has provided timeliness and increased customer satisfaction.
    - Indirect Cost Rate proposal submitted – BOR has not responded to the National Business Center emails or phone calls for a discussion on if there is really a need for a "negotiated rate" or if a simple "agreement" could be made for how indirect costs get allocated across the BOR grants between KWAPA and BOR grant officials.

- Increasing capability of KWAPA staff resulted in an audit with fewer findings; however managing all the aspects of the grant is still a learning process, which provides some risk in compliance.
- Need further development of staff capability to improve the ability to apply and obtain grant funds.

c. Professional conduct (conflict of interest)
   - Need better guidelines of when conflict of interest or perceived conflict of interest exists.
   - Board of Directors need to attend the board training sessions – attendance has been very low to date.

d. Dispute resolution
   - KWAPA and KWUA relationship is an ongoing issue as KWUA wants control of KWAPA (as proposed in a paper included in the board of director minutes of February 5, 2013.
   - Still working through the 2010 lawsuits in the court system.

e. Partnerships
   - Executive Director's level of work activity did not allow adequate time for attending meetings (irrigation districts, water meetings, etc.) and building other community relationships.

f. Flexibility
   - KWAPA's practice of allowing a crop, such as alfalfa or pasture, to remain during a year of land idling, as opposed to requiring them to be "disked" under is not the normal practice in the west, however KWAPA believes it to be necessary for control of dust and erosion, as well as for economic purposes. In other areas, it is considered the water used by a crop that is not irrigated is most likely replaced by sub-surface flows.

g. Innovative solutions
   - KWAPA used a published and accepted consumptive use (CU) of applied water (CUAW) by crop to estimate the savings or reduced demand. Depending on how the demand reduction is perceived, greater water than the CUAW must be diverted to satisfy the crop demand. Therefore, using the CUAW could be considered a conservative estimate. Using CUAW is consistent with other similar programs in the west.
   - In an ITRC report, they documented that there are really only a few ways to reduce demand within the Klamath Project. There are only so many tools in our tool box. Thus "innovations" should be viewed in a relative manner. With that, KWAPA is testing "innovations in the use of existing water resources, or market-based approaches" by using a bid process.
   - KWAPA made regular changes to the program attempting to sharpen or use the tools in the most efficient manner.

	Groundwater Acre-Feet	Groundwater Program Cost		Land Idling Acres	Land Idling Acre-Feet	Land Idling (DM) Program Cost	Domestic & Municipal Well Mitigation Program	OWRD Assistant Watermaster	Groundwater Use Analysis	USGS Model Project	(MBK) Consulting Services Water Supply Evaluation & 2011 Water Forecasting
2012	30,620	$915,966.53	Westside	4,051.46	6,662.68	$404,751.35	$75,853.43	$57,176.29	$214,104.07	$42,568.00	$21,984.75
			Eastside	693.95	1,318.51	$127,651.45					

2013:

Water Supply Availability

- Project shortage
  - Upper Klamath Lake was the lowest it had been since 1994. Indicators are that 2013 would be an extreme water emergency year.
  - Jason Phillips planned in October for reduced river flows as much as possible.
  - Early in the season, Reclamation recommended KWAPA plan for 150,000 AF of shortage. The Basin received late rain and snow. The 2013 precipitation percentage of average YTD and the snow equivalent YTD chart showed above average precipitation for most of the Basin and a little below average on snow water content, except for snow sites into Clear Lake and Gerber watersheds, which were above average.
  - Potential shortage 0 – 70,000 acre-feet reported by Reclamation in February 2013.
  - March 1st Reclamation forecast the supply for the Project of 346,000 acre-feet with a demand of potentially 390,000 acre-feet. As of the next Operations Meeting that number had gone down to around 300,000 acre-feet. Clear Lake had a potential shortage of 12,000 acre-feet. Gerber projected to be at full supply.
  - Potential shortage delayed start to the irrigation.
  - May 7th Reclamation forecasted 293,000 acre-feet available from UKL if the new BO was signed, or between 100,000 – 180,000 acre-feet supply if the new BO was not signed.
  - Reclamation advised KWAPA the need to provide an additional 40,000 acre-feet based upon a demand of 390,000 acre-feet. Average demand from UKL has been around 337,000 acre-feet. Reclamation's recommendation for planning for a high demand was based on the warm dry spring that was being experienced.
  - A Joint Biological Opinion (BO) was released in June, 2013 providing an improved level of certainty for irrigation water for Project irrigators. For the first time, the operation of the system will employ real-time management and will be based on actual hydrology instead of a prescriptive formulaic approach that most often, has not worked. Indications were that there would be approximately 290,000 acre-feet (including what has already been used since April) surface water availability for the 2013 season. This was more water than irrigators would have otherwise received under the previous Biological Opinion, but it is still significantly less than what the demand will be in a dry year.
  - In addition to the new BO, Oregon Water Resources Department (OWRD) issued the Adjudicator's Findings of Fact and Final Order of Determination on March 7, 2013. As a result of the ability to make a "call" on junior water rights, the Klamath Tribe and Klamath Project irrigators issued "calls" for stream flow to satisfy their respective water right. These are the first such "calls" of their type in the Klamath Basin. Prior to the recent order in the Adjudication determining the pre-1909 and federal and tribal rights in the Basin, OWRD did not have a basis to enforce for or against junior or senior water rights.

- Refuge
  - Met with USGS on a contract to evaluate a study of the refuge benefit received from WUMP.
  - Met on 12/10/13 with Refuge staff regarding refuge water needs.

Goals and objectives

- Develop an implementation plan
- Pump by the 4 identified groundwater regions utilizing the USGS Optimization Model.
- Contract wells by least costly to pump first.

Policy development

- Policy committee met between October and December and presented draft policies to the Board in January.
- Board changed the groundwater pumping wording from the Reclamation suggested "sustainable" pumping to "acceptable" pumping.
- Board asked for clarification regarding "walking wetlands and other programs". The board removed the "and other programs".
- Board approved the Groundwater Pumping and Demand Management policies at their board meeting on January 8.
- A California Board Director stated KWAPA may need separate policies by state since California groundwater is not yet being regulated and could pump more water if needed.
- The issue of $10 per acre-feet of water pumped was brought up in the February meeting. The committee chair reported that this was discussed in the policy committee and data collected by KWAPA on cost and operation of area wells did not support a higher payment. The fact that Reclamation previously paid $75 per acre-foot is partly the reason for complaints being received that KWAPA is not paying enough. Copic Bay pumpers as well as Tulelake Irrigation District particularly believe the $10 amount is too low.
- TID submitted a request for a special groundwater pumping policy again this year. They requested to pump at their discretion, including the ability to pump for "C" lands, rather than according to KWAPA's policy. The Board approved this request although TID will subtract out the acre-feet pumped on the "C" lands.
- The Reclamation GOTR stated that their spreadsheet of ET was not "applied" water, but rather ET water only lost to the Project. This is not very sensitive to soil types. KWAPA may want to look at "consumed" water.
- The Board amended the groundwater policy and contracts May 7th, 2013 regarding payment structure. Pumpers could elect to be paid according to the 2012 contract method, or the 2013 payment method. This was to encourage the more efficient wells to participate as they could potentially more profitable to pump.

Policy implementation

KWAPA was implementing programs to supplement water supply based on the water supply projections, mapping of parcels, conducting site inspections, and collecting data of parcels enrolled in the demand management and groundwater pumping programs.

- Programs being implemented to align surface water supply and demand include Groundwater Pumping and Demand Management programs.
  - Contracted with 113 wells and authorized 105 wells for pumping.

- Both a full season and a partial season demand management program were implemented. KWAPA targeted 40,000 AF but received few applications. Due to all the issues

surrounding this irrigation season, the irrigators apparently did not feel enough credible risk of curtailment to apply to idle their land.
    - KWAPA contracted for a total of 7,341.23 acres at an expense of $1,791,524.91 in the Demand Management Program.
- Contracted with Oregon Water Resources Department for monitoring wells to monitor groundwater levels and the impact pumping has on levels,
    - Pay attention to areas where excessive drawdown could occur.
- OWRD began notifying junior water rights in the Upper Sprague and Williamson streams to shut off irrigation starting the week of June 17th.

Ideas proposed but not accepted by Board

- The KWAPA Executive Director asked the Board for permission to begin searching for a staff technical position. With the new Biological Opinion, adjudication, tariff power rates, and low lake level, 2013 was to be a difficult year. He stated this position could assist with the following:
    - An inventory of which lands sub-irrigate, soil type, and other conditions of property.
    - Reliable measuring and tracking of water diversions.
    - Water forecasting.

  One of the board members stated there was validity for this position, but that it is too early for KWAPA to hire someone as this person would need to meet a lot of criteria.
- The WUMP Agreement states "total cost of water will not be paid until water has been delivered and verified". The method of measurement for the Demand Management program was the assumed ET of the crop. This method has not proved satisfactory in other regions. Staff proposed a more technical measurement and verification that has not been approved by the Board of Directors (or seriously considered). Instead a flat rate of 2 AF/acre was the assumed method of calculation.
- The Refuge Manager approached the Board and asked for KWAPA to pump for the refuge. The board expressed political concerns of sending water to the refuge when a call was made on the Upper Basin irrigators. For this reason the Board declined his request.
- The KWAPA Executive Director asked for authorization to secure the available office space next to the current office to accommodate additional staff needs.

Successes

The 2013 irrigation season was completed:

- Groundwater Pumping resulted in 64,652 acre-feet pumped.
- Demand Management Programs: 5426.3 acres for 11,319.88 acre-feet reduction in demand for the Westside irrigators, and 1914.93 acres for 4,114.34 acre-feet reduction in demand for the Eastside irrigators.
- No involuntary shortage to the Project irrigators.
- Program provided enough supply to make limited deliveries of 9,789 acre-feet water to the Lower Klamath Lake Refuge.

Problems

- New Biological Opinion was not signed early in the season therefore KWAPA did not have a reliable estimate of the amount of surface water available for timely and efficient planning.
- The unknown supply picture created problems for irrigators as they tried to decide whether to apply, or for which program to apply, for assistance under WUMP.
- Measurement concerns

- MBK Engineers had found discrepancies in Klamath Drainage District point of diversion, sub-region 4, which had not had measurement accuracy verified in 15 years.
- Doppler measurement device was never calibrated to flows. When algae blooms occur the Doppler device cannot read velocity of flow.
- Ady Canal measures more flow at the state line than at the point of diversion.
- Under a secure allocation, if over-measurement occurs by for example 100 cfs, that is a significant number. Without data the Project has no way to know if they received this allocation.

- Verification – KWAPA staff had difficulty knowing what level of verification was needed to comply with terms of WUMP Agreement. The Agreement states in one section that total cost will not be paid until water has been delivered and verified. In another it says that KWAPA will provide available water when necessary to meet Project requirements.
  - KWAPA should establish a procedure to determine if its programs are meeting the goals and benchmarks of the WUMP.
    - Assessment of water not used that would have been had it not been in the KWAPA program. Taking into consideration the following:
      - Appearance of the land (was a crop taken in recent years)
      - Crop type
      - Soil quality
      - Sub-irrigation
      - Other factors
- Reclamation KBAO Area Manager asked KWAPA to conduct a study of the impacts of WUMP on area refuges in July 2013. The Board authorized KWAPA staff to publish an RFP for this process, however with the activities of implementing the WUMP programs and short staff, this RFP was not completed.
  - Met with USGS regarding evaluation of the refuge benefit received from WUMP.
  - Met on 12/10/13 with Refuge staff regarding refuge water needs.

Concerns

1) Klamath Project irrigators in Oregon were at the PacifiCorp tariff rate this season. California pumpers were at the full tariff in 2012. Irrigators have seen an incremental increase over the past 6 years leading to this rate. Project irrigators overall have seen an increase in their electric rates of, in some cases, over 2000%; a huge impact to their costs of operation.
2) The Final Order of Determination (FOD) was in effect with this irrigation season. There were still many unknowns of implementation of the FOD and its impacts on WUMP programs. KWAPA continued to be in conversation with OWRD and Reclamation to discuss issues.
3) Section A.5.1 of the WUMP agreement Task 1 in part states "Provide available water when necessary to meet Project requirements for the direct benefit of fish and wildlife habitat". While providing water to "meet Project requirements" is easy to evaluate success, measuring the "direct benefit to fish and wildlife habitat" is more problematic.
4) Concern over the constraints of the current BO while managing the UKL for the anticipated new BO.
5) One Board member voiced concern that OWRD would dictate how the groundwater pumping program is implemented in the future.
6) If KWAPA has a groundwater pumping program and OWRD shuts off pumps, people that are not part of the KWAPA program or who are outside the OPPA and their primary

source of water is turned off, they could potentially come after KWAPA as being responsible.
    - Need to be mindful not to over-pump and deplete resources where supplemental water is not available.
7) Irrigators participating in the groundwater program need to understand the pros and cons of taking Federal dollars as this could affect their ability to take future action for breach of contract against the Federal government. (Takings case)
    - Do you take WUMP payments or, not take, get shut off – be entitled to more money but have to wait several years to have the court process complete?
8) Concern about conflicting rules and regulations. The State and Reclamation should get together and agree to what the rules are, who is in charge, what is allowable or not allowable.
9) Staff is concerned that KWAPA has only been doing what has been done previously and that since the WUMP is a study per statutory authority there should have been other options for water supplementation attempted as well.
10) OWRD report shows about half of the groundwater wells have exceeded or are nearing the 25' drawdown limit.

Benchmarks

a. Technical Capability
    - Need reliable verification procedures established.
    - KWAPA needs to hire someone with skills in hydrology, or similar field for assistance with measurements and verifications that KWAPA is actually getting the amount of water that is being paid for.
    - KWAPA executive assistant completed the Management Concepts, Inc. Certification Program "Federal Track" by successfully completing the following courses: Introduction to Grants and Cooperative Agreements for Federal Personnel 10/28 – 10/30, Monitoring Grants and Cooperative Agreements for Federal Personnel 10/31 – 11/1, Federal Assistance Law 12/9 – 12/11, 2013.
    - KWAPA project manager completed Federal Assistance Law on 12/9 – 12/11, and ESRI webinar ArcGIS Online – Transforming GIS and How You Do Your Work.
    - KWAPA bookkeeper took additional courses in Grants Management classes towards the Management Concepts "Recipient Track" certification: 1) Applying for Federal Grants and Cooperative Agreements 11/18 – 11/19, 2) Managing Federal Grants and Cooperative Agreements for Recipients 11/20 – 11/22, and 3) Audit of Federal Grants and Cooperative Agreements 12/5 – 12/6.
    - Administrative Assistant began taking online Excel courses and online tutorials in GIS through ESRI.

b. Fiscal sustainability
    - KWAPA needed to have a method of securing additional funds during times when federal funding is not available (non-grant activities).
    - KWAPA received federal approval of its indirect cost rate.
    - Budget process is problematic in that Reclamation multiple times required KWAPA to submit an amended budget and narrative practically overnight without staff and board having time to adequately address it before the need to submit it to Reclamation. In 2013, Reclamation required a revised 2013 budget as well as a 2014 budget very early due to worsening drought issues and the fact that

Reclamation was going to be in a 3 month blackout due to a new accounting system.

- Reclamation conducted a "Procedural Review" of KWAPA/Reclamation Agreements in July 2013. The reviewer did not find material noncompliance or other findings with the terms and conditions of the agreement except for noting three recommendations.

c. Professional conduct (conflict of interest)

- Board of Directors encouraged comments from public at board meetings.
- Staff greeted all customers with professional attitude and respect for their business.
- Staff took the required steps to research and justify procurement decisions.
- Staff at KWAPA respected each other member of the "team" and willingly shared what they know and stepped in to help when needed. They worked towards finding solutions and/or coming to agreement for the good of the Team.
- Staff encouraged feedback from all interested parties.
- Staff met with Reclamation procurement officer and grant officials to discuss cost justifications and avoidance of collusion/conflicts of interest.
- Using the KWAPA process of obtaining wet/dry bids that could be used as justification in the current Takings legal case might be construed, in some opinions, as a conflict of interest.
- The Board of Directors formed a goals committee to identify their objectives and priorities. This would have provided staff with some guidelines for development and coordination of their individual goals. The committee chair was the only board member that provided individual ideas or suggestions. The committee met once.

d. Dispute resolution

- Resolution of the KWAPA/KWUA relationship needed to occur for improved working atmosphere at the office and coordinated communications.
- The Boards of KWAPA and KWUA held a few joint board meetings with the aim of improving the communication and cooperation of both entities.
- The KWAPA Board directed the Executive Director to work with KWUA's Executive Director for a process as the coordination committee is stalled.
    - The KWUA Executive Director was never available to meet to discuss a process, therefore the KWAPA Executive Director put a plan together, shared it KWUA for their edits/suggestions prior to submitting it to the KWAPA Board.
    - KWAPA Executive Director suggested again on September 3rd the need for the two organizations to have a strategic planning workshop.

e. Partnerships

- KWAPA funded the OWRD Assistant water master for 2013 and authorized funding the position again for 2014 and 2015 as KWAPA had the expectation that effective coordination with OWRD would make water available through exercise of water rights more economically than through land idling.
- KWAPA contracted with OWRD and California WRD for monitoring groundwater well levels during the pumping program and resolution of any pumping impacts on domestic and municipal wells.
- Staff attended irrigation district monthly meetings (TID, KDD and KID). In addition, the Executive Director maintained communications with irrigation district managers as needed.
- Attended NRAC meetings.

- Communicated with Oregon State Senator Whitsett, staff of Merkley and Wyden offices

f. Flexibility
   - Water supply picture was ever changing in 2013. Reclamation anticipated the signing of the new Joint Biological Opinion which would provide a level of certainty in the amount of available water for irrigation. That Opinion did not get signed until late in June. The ideal time to implement the new BO would have been October 1st of 2012 to enable the most potential water supply. Because of the June implementation of the new BO it made 2013 a difficult year to anticipate water supply. It was unknown how much supplemental water was needed to be provided to align supply with demand. Additional factors affecting water supply was the drought declaration and the impacts of adjudication. Therefore, KWAPA programs were modified as necessary to adjust to the supply picture. An example is the addition of the partial season demand management program.

g. Innovative solutions
   - While new processes were not studied, KWAPA staff always discussed the programs in an innovative manner, considering how to efficiently and effectively address the problems as they arose.

	Groundwater Acre-Feet	Groundwater Program Cost		Land Idling Acres	Land Idling Acre-Feet	Land Idling (DM) Program Cost	Domestic & Municipal Well Mitigation Program	OWRD Assistant Watermaster	Groundwater Well Monitoring
2013	64,652	$2,307,410.89	Westside	5,426.30	11,319.88	$1,314,520.73	$23,302.88	$24,151.58	$30,329.48
			Eastside	1,914.93	4,114.34	$477,004.18			

2014:

Water Supply Availability

The new BiOp taking effect in 2013 made a significant difference, but because it went into effect in June 2013, the potential to fill the lake was lost; therefore there was a continual possibility of running out of water all season of 2013.

Unfortunately 2014 was again a year of declared drought. Snowfall levels across the State of Oregon were less than half of normal, and the drought index was severe to moderate. Dozens of sites in Southern Oregon showed the lowest snowpack since the 1940's, when records were first kept.

The WUMP needed to close a huge gap between supply and demand. Surface water supply for the 2014 season was only 240,000 AF with the Project demand being 390,000 AF. Surface water usage was a little above average for April through June and there was continual fear that it was being used too fast to last through the end of the irrigation season. Reclamation limited Warren Act contractors to 1 AF/acre. It is presumed that all the Warren Act contractors exhausted their surface water supply.

- Refuge shortage
  - The refuge manager requested 5,000 – 10,000 AF from the CA wells in September.
    - KWUA questioned how this could be done when a call on the Upper Basin is in effect.
    - Board decision was to deny the request
- Benefit to fish and wildlife
  - The Board approved the Refuge Impact Study[6] and allocated $100,000 to evaluate what to study and why.
  - There was water behind Clear Lake dam that Reclamation could have delivered but did not because of the ESA requirements. Therefore, Eastside irrigators gave up their water to benefit endangered species.

Goals and objectives

- Communication
  - Hold WUMP program kick-start meetings with irrigators.
  - Solicit "bids" so as not to adversely impact the "Takings[7]" case and undercut the ability of expert witnesses who say that water is worth $600 per acre when irrigators voluntarily accept $250 per acre to idle their land in a KWAPA program.
- Supplementation of 0 – 70,000 acre-feet.
  - Forbearance program
  - Rank by price and regions utilizing OWRD recommendations for pumping
  - Process "wet" bids first, then "dry" bids
- Do not contract with lease lands

[6] This was not accomplished due to inadequate staffing.

[7] In 2001 the Project was denied water from Upper Klamath Lake and the Klamath River until August. A group of irrigators filed a suit in Federal Court for a "taking" of property without just compensation. This lawsuit is locally referred to as the "Takings Case".

- Per Tulelake Irrigation District manager lease lands do not directly divert from Upper Klamath Lake and creates less "wet" water per acre.
- Per the KWAPA attorney lease lands have no "takings".

- Develop a policy for Eastside
  - Include Gerber

Policy development

KWAPA implemented programs to provide a supplemental water supply based on the water supply projections, mapping of parcels, and collecting data of parcels applied for in the demand management (dry) and groundwater pumping programs.

The KWAPA Board initially approved a "surface water forbearance" policy whereby irrigators could forego irrigation altogether (land idling), or irrigate using groundwater. Offers of participation were solicited with a very large number of offers being submitted. The policy was later amended to be either 1) a demand management program (land idling), or 2) a groundwater pumping program where KWAPA contracted with well owners to turn wells on and off. This program also enabled districts wells to contract for pumping. A full season demand management program was developed and implemented for the lands served by Clear Lake and Gerber Reservoirs and the Lost River in June 2014.

Due to changes that were made in previous years programs, there was a growing concern that KWAPA always sweetens the deal, meaning that if you wait, there is a possibility that you might get paid more, thus KWAPA does not usually get the desired participation level early in the irrigation season. Reclamation tended to avoid strong statements concerning water supply. This allowed irrigators to perceive the Reclamation message to be more positive than reality. Irrigators would refrain from participating in the Demand Management programs causing the board to sweeten the deal to get more participation.

Ideas proposed but not accepted by Board

The new BiOP in effect provided an opportunity to change how the WUMP could help supplement Klamath Project supplies. With more certainty of water supply year after year there was the opportunity to change the WUMP from a crisis management program, to a multiyear approach that might appeal more to the fulltime farmer/rancher. One of KWAPA's board director recommended looking at potentially 5 year contracts; however the Board never approved the multiyear proposal.

Other suggestions:

- look into temporary drought instream leases
- develop a plan to transition towards KBRA requirements
- look into potential alternate funding for being able to 100% pay for mitigation of domestic well problems.

Successes

Fiscal Sustainability

- KWAPA received federal approval of its indirect cost rate and continues submitting for annual final and provisional rates.
- KWAPA WUMP program underwent a Reclamation Procedural Review previously. The reviewer did not find material noncompliance or other findings with the terms and conditions of the agreement except for noting three recommendations
- OMB Audits of FY12 and FY13 had 0 findings on non-compliance. FY14 single audit had only one minor finding.

Dispute Resolution

- Staff developed a method to avoid having multiple contract revisions due to discovering special circumstances with wells after contracting. An amendment clause was signed and attached to the original contract. This also avoids problems when verifying water produced from the Groundwater Program as KWAPA had flexibility in working out contract terms for special circumstances.
- Staff was out in the field numerous times during the irrigation season and thus identified potential problems earlier.

Problems

- A big question was how much groundwater pumping would be sustainable and if current levels of pumping were causing long-term declines that would not recover even over time. It was important that groundwater pumping be limited to an amount that would be sustainable.
    - In order to attempt to find answers to these concerns, KWAPA lead the coordination and efficiencies of monitoring efforts; current groundwater monitoring was being done by OWRD, CDWR, USGS, and TID.
- The high price of hay affected the participation in the dry program.
- TID asked that KWAPA create a "special" program for District pumping as the current policies did not work for their district. A California KWAPA board director stated that KWAPA should not allocate any funds to individual irrigators until it was known the amount of funds it would take for the districts to pump. This is another example of conflict of interest of a "stakeholder" managed program.
- Groundwater policy needed to be amended to allow late applications due to some irrigators submitting for drought permits late in the spring.
- Reclamation turned off the KDD headgates which caused an irrigator who is not in KDD, but who uses the KDD North Canal for transport of his well water, to not be able to access the well water he produced.
- The Board President of KWUA asked to be allowed to move his KID acreage to Shasta View and that if allowed then he would add an additional 10% of his land. The KWAPA board had denied similar requests earlier in the board meeting. Another example of a "stakeholder" conflict of interest.
- The need for privacy for financial staff and the relationship problems between KWAPA and KWUA escalated to the point where KWAPA staff requested to modify the lease for two separate offices. The Board approved the request also Director Derry stated for the record he was "adamantly opposed" to the new lease as it did not have an early termination clause.
    - The Coordination Committee[8] did not complete the process they were tasked with completing by January 1st, 2014. This included not only a discovery phase of what the problems were, but also a follow on of important workshops in Conflict Resolution and Strategic Planning which were never conducted.

8 Because of ongoing concerns how KWAPA and KWUA would work together, a coordination committee was formed. The committee consisted of three KWUA board members and two KWAPA board members. The purpose of the committee was to coordinate the activities of each organization so as to reduce redundancy. One of the duties of the committee was to conduct conflict resolution and strategic planning. The conflict resolution was abandoned after the first draft report was provided to the committee by the consultant. That report was not shared with the whole KWAPA board or staff. Staff was not allowed to attend the coordination committee meetings. Staff advised the board that any committee appointed by the board to provide recommendations to the board for a decision is required to follow public meeting requirements.

Concerns

1) Determining what amount of groundwater pumping is sustainable; in light of the frequency that pumping has occurred over the last 5 years.
2) Stakeholders of WUMP, including the Board, are resistant to considering new ideas, or do not have operational knowledge of possible alternatives to aligning water supply and demand other than groundwater pumping and land idling.
3) The internal politics and rivalries between districts and class of water delivery contracts are very destructive. Many times KWAPA has been used as a forum to advance individual interests rather than the goals of the organization.
4) Still need to have strategic planning.
5) Resolution of the KWAPA/KWUA relationship needed to occur to improve working atmosphere at the office and communications.

Benchmarks

a. Technical Capability
   - The KWAPA Executive Director is extremely knowledgeable in how irrigation systems work and in Oregon water rights including permits and water exchanges.
   - Two KWAPA staff attended the NW GIS User Conference in Washington during the month of October for continuing GIS training.
   - Bookkeeper attended Developing IDC Proposals & CAPs for State, Local, & Tribal Government in October. This completed her Grants Management Certification for Recipients.
   - Staff attended training on Government to Government Purchasing and Resource Sharing in November.
   - Staff had training on GIS Databases in December.

b. Fiscal sustainability
   - The Board is reluctant to assess its members and has put off discussions.

c. Professional conduct (conflict of interest)
   - KWAPA Board in 2014 was primarily controlled by the California irrigation district. This has the potential to compromise decisions based on the agenda of that district over the Project as a whole.
   - Decisions of the Board for enforcement of contract terms and conditions sometimes not upheld in a consistent manner.

d. Dispute resolution
   - Executive Director continued to seek understanding on expenses irrigators incur in the course of pumping their wells in order to justify the payment of cost of power plus $20 per acre foot.
   - Staff developed a method to avoid having multiple contract revisions due to discovering special circumstances with wells after contracting. An amendment clause is signed and attached to the original contract. This also avoided problems when verifying water produced from the Groundwater Program as KWAPA has flexibility in working out contract terms for special circumstances.
   - Staff was out in the field numerous times during the irrigation season and thus identified potential problems earlier. In addition, communication with the landowner occurred earlier allowing them to resolve potential problems.

e. Partnerships
   - Held a meeting at Oregon Institute of Technology with the Off-Project group.
   - An agreement was entered into with OWRD/USGS for a groundwater abundance study. The goal of this project was to better assess and communicate the aquifer response to pumping and improve estimates for reasonable pumping volumes. This would help to ensure water managers are provided with recommended pumping volumes each spring.

f. Flexibility
   - The Klamath Basin was in a drought situation again in 2014. Potential water supply was only around 240,000 AF. Many meetings were held to discuss how the WUMP program could fill the gap. KWAPA programs were modified as necessary to have the flexibility to adjust as the supply picture changed.
   - Through implementation of WUMP programs, A and B contract irrigators all started irrigating at the beginning of the year. The B irrigators were limited later in the season to 1 acre-feet surface water per acre land, however as the season end approached, through the WUMP and adjudication, additional surface water was made available.

g. Innovative solutions
   - The KWAPA Board of Directors was resistant to proposals to implement ideas to study.
   - Staff level of KWAPA was barely adequate to run the repetitive programs of land idling and groundwater pumping. The Board was resistant to considering adding staff to enable KWAPA to study other supplementation options. The Board readily accepted KWAPA's roll of providing programs that would close the water gap, yet resisted innovation.

		Groundwater Acre-Feet		Groundwater Program Cost		Land Idling Acres		Land Idling Acre-Feet		Land Idling (DM) Program Cost		Domestic & Municipal Well Mitigation Program	OWRD Assistant Watermaster	Groundwater Well Monitoring		Groundwater Abundance Study
2014	Westside	83,456		$3,915,609.20	Westside	16,431.78		32,863.56		$4,793,437.62		$135,134.19	$90,313.95	$39,471.37		$14,450.00
					Eastside	4,654.17		9,308.34		$1,062,409.96						
							Land Idling Penalties		Heaton Chin	($350.00)						