



the Owens Valley Committee

# the RAINSHADOW

THE OWENS VALLEY COMMITTEE • VOL. 7 NO. 1 • FALL/WINTER 2012 • WWW.OVCWEB.ORG

w e w a t c h t h e w a t e r

The Rainshadow is the newsletter of the Owens Valley Committee. OVC is a 501(c)(3) non-profit citizens action group dedicated to the protection, restoration and sustainable management of water and land resources affecting the Owens Valley.

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Please Check the Date on Your Mailing Label

### The Owens Valley Committee needs your help!

The date on your mailing label is when you last made a donation to the OVC. If this date is less recent than October 2011, please renew your membership. If it is less recent than August 2011, please consider making an additional contribution. Donations are tax-deductible.

## New Grants to OVC!

Your Donation Will Be Matched by the Metabolic Studio  
Help Us Build a Strong Future for the Owens Valley



Help us fill the glass! We've raised \$14,436 in qualifying funds so far. Matching funds are paid in \$10,000 increments, which will help keep us going and help us to continue protecting the Owens Valley.

The Owens Valley Committee has received a generous grant from the Metabolic Studio, a direct charitable activity of the Annenberg Foundation, led by artist Lauren Bon. This grant has allowed us to continue to support our Policy Director, our only paid position. With matching funds we can add a Development and Outreach Director to help build our capacity to maintain the organization and to expand what we do. Given our history and recent actions by the Los Angeles Department of Water and Power, we want to build a strong foundation for OVC and be able to raise money as needed for legal action.

The Metabolic Studio has been active in the Lone Pine

area for the past four years. Among other projects, they are currently working on a film about the history of extraction and exportation of silver and water from the Owens Valley to Los Angeles. Film locations include Cerro Gordo, Swansea, and the old Pittsburgh Plate Glass site on the west side of Owens Lake. They have also initiated the IOU Garden in Lone Pine in partnership with master gardeners, community members, and DWP. Among other benefits the project builds enriched soil and distributes it to community members for their own gardens.

The Metabolic Studio provided an initial grant in

*continued on page 2*

## OVC Joins in Challenge to DWP's Pumping to Mitigate Pumping

### Hearing Set for CEQA Lawsuit Over Big Pine Re-Greening

The Owens Valley Committee (OVC), Sierra Club, and Big Pine Paiute Tribe of the Owens Valley filed a lawsuit challenging the Negative Declaration for the Big Pine Northeast Re-Greening Project, certified by the Los Angeles Department of Water and Power (DWP) on March 6, 2012. The lawsuit seeks to overturn the decision to approve the project and to order DWP to prepare an environmental impact report (EIR).

The suit contends that operating a groundwater pump to replace surface water supplied to the project may have significant impacts on the environment, that evidence to that effect was presented by the public in the comment period, and that under the California Environmental Quality Act (CEQA) DWP is required to prepare an EIR to properly disclose and evaluate these potential impacts.

The Big Pine Northeast Re-Greening Project is a mitigation measure for impacts in the Big Pine area caused by previous water management practices and groundwater pumping by DWP, as identified in their 1991 Second LA Aqueduct water supply EIR. The project was originally adopted in 1988 by DWP and Inyo County as an Enhancement/Mitigation Project.

The project provides for 30 acres of land northeast of Big Pine to be irrigated and seeded with a pasture mix to support livestock grazing. The Big Pine Canal will provide up to 150 acre-feet of water per year for the re-greening

project. The 1988 scoping document said the project would be supplied by well 375, located approximately three miles southeast of the project, although there was no mention of how the well water would get to the project area.

The 1991 EIR did not propose exempting well 375 from the on-off provisions of the Water Agreement as part of the mitigation measure. Consequently, well 375 has been in off status in accordance with the Water Agreement for more than a decade due to insufficient soil water, a low water table, and poor vegetation conditions. Furthermore, DWP did nothing to implement the mitigation measure between 1997, when the EIR and Water Agreement took effect, and 2010.

In 2010 DWP and Inyo County agreed to a revised description of the project over the strong objections of OVC, the Big Pine Tribe, and others. At the insistence of DWP the revised project description states that irrigation of the project is contingent on DWP being allowed to pump well 375 to replace (for export) an amount of groundwater equivalent to the surface water supplied to the project each year from the Big Pine Canal. This would make the project contingent upon Inyo and LA exempting well 375 from the on-off provisions of the Water Agreement.

It is that exemption that is the cause of concern for the three parties bringing the lawsuit. Given the significant groundwater pumping impacts in the Big Pine area over the past 40 years, any additional impact is significant and should not be tolerated.

"Over the past century, DWP has aggressively pursued the destruction of our homeland for its benefit," commented Big Pine Tribal Chairperson Virgil Moose. "The Tribe wants to see a benefit out of mitigation projects...not more negative impacts on our lands."

DWP has a legally binding obligation to comply with the mitigation measures provided in the 1991 EIR. As a mitigation it makes no sense, however, for DWP to use surface water to "mitigate" for the impact of its groundwater pumping in the area if it is allowed to "replace" the surface water by pumping groundwater in the same area. Instead, DWP needs to accept the reality that mitigation for a negative impact in a given area may sometimes mean that less water can be extracted for export from that area. At the very least, if the mitigation measure includes increased groundwater pumping, the likely impacts of additional groundwater pumping must be fully and completely analyzed.

OVC is pleased to partner on this lawsuit with the Sierra Club and the Big Pine Paiute Tribe. The case will be heard in Inyo County Superior Court by visiting judge Roger Randall. Opening briefs will be filed in September, and the hearing is set for November 15, 2012.

## New Grants to OVC

*...continued from page 1*

2012 of \$50,000, plus a 1:1 matching grant of another \$50,000. The grant is for general operating support to further the OVC mission of long-term protection, restoration, and sustainable management of lands and water-dependent ecosystems in the Owens Valley.

Funds that will be matched include contributions over the basic \$25 annual membership and any other cash donations or grants. (In-kind support of goods or services will not be matched.) OVC has until June 30, 2013 to raise the qualifying funds. To keep us going, the Metabolic Studio will provide the matching funds in \$10,000 increments along the way.

OVC received a \$10,000 grant in 2012 from another foundation that requested anonymity. The Metabolic Studio matched this grant early this year. OVC has also raised \$5,761 from member donations and our fundraising event in February 2012 at the Mountain Light Gallery in Bishop, \$4,436 of which qualifies for matching. Thus, as of July 5, 2012, OVC has raised \$14,436 toward our goal of raising \$50,000 in match-qualifying contributions. As the glass of water on the front cover shows, we are currently close to 29% of our goal.

We have until June 30, 2013 to raise the remaining \$35,564 in qualifying donations. Depending on the distribution of donation amounts, this may require between \$40,000 and \$70,000 in donations. This will be a new high in the amount OVC has raised in a year from individual donations, but with your help, we can do it.

Please consider making a generous donation to OVC that will help us reach our goals. It's a rare opportunity to have your contribution nearly doubled.



*Photo: Larry Blakely*

**Endangered: Owens Valley Checkerbloom (*Sidalcea covillei*)**

## the RAINSHADOW

A PERIODIC NEWSLETTER OF THE  
OWENS VALLEY COMMITTEE

Send suggestions and corrections to the editor. For more information about the OVC, previous newsletters, upcoming events, and environmental issues in the Owens Valley, please go to [www.ovcweb.org](http://www.ovcweb.org).

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Printed on 100% recycled paper, 50% post-consumer waste, chlorine-free, with vegetable-based inks

# OVC Financial Report

John Williams, Ph.D.

For its financial resources OVC has always depended on individual donations and grants from foundations. Historically foundation grants have been the larger income source, but both sources have been essential to OVC's continued existence. As our front-page feature indicates, the two sources are now directly linked. The more individual donations we raise the more OVC will receive in matching funds from the Annenberg Foundation.

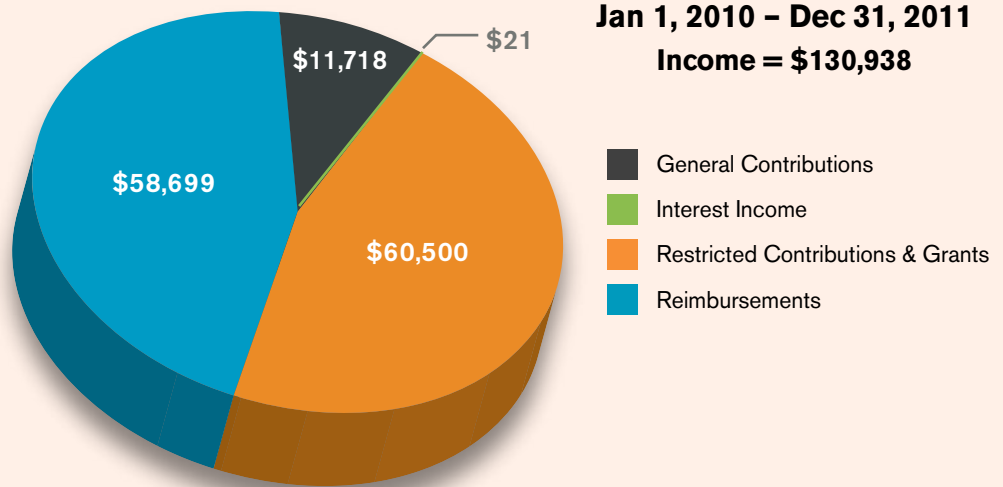
For a relatively small environmental organization, OVC continues to be extremely effective. We have never had an "excess" of funds. We have always kept administrative costs low and spent almost all of our funds directly on achieving our mission of protecting and restoring the water-dependent ecosystems of the Owens Valley.

The Board is working on more frequent newsletters and effective outreach to potential and existing members. The John Walton lecture, fundraiser, and silent auction held at the Mountain Light Gallery in February 2012 in Bishop, CA, and the monthly "water roundtable" meetings to which the public are invited are a few of the ways we are reaching out to involve and inform OVC members and the public.

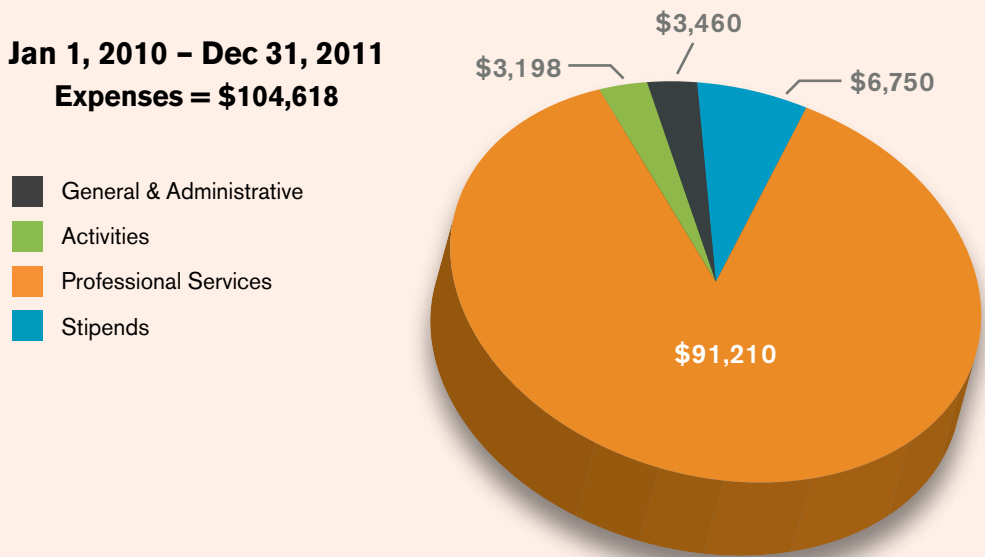
Send us your email address and other contact information if you want to be notified of upcoming events.

We thank all our donors and hope that you will continue to support our work, especially at this time when you can nearly double your donation through our matching grant.

The accompanying pie charts summarize OVC's income and expenses for calendar years 2010 and 2011. More information about the Owens Valley Committee can be found at our website, [www.ovcweb.org](http://www.ovcweb.org).



**Jan 1, 2010 - Dec 31, 2011  
Expenses = \$104,618**



## Categories listed for Expenses include:

**Activities:** membership (postage, stationery & ink), newsletter (printing, design, postage & envelopes), travel (mileage & reimbursement), and website (hosting fees).

**General and Administrative:** bank charges, filing fees, meetings, PO Box rental, and outside accounting & tax services.

**Professional Services:** attorneys and consultants (legal assistance, policy director, and hydrologist).

**Stipends:** membership coordinator and newsletter editor. For the time required, stipends tend to be minimum wage for professional-level work. We no longer pay stipends for treasurer, internal accounting, and webmaster.

**IMPORTANT NOTICE:** The mailing label on your newsletter should indicate when you last donated to the OVC. Please renew your membership if the date is less recent than October 2011. Please consider making an additional donation if the date is less recent than August 2011. And of course, please join if you haven't already. If you would like to donate without "joining," or if you prefer not to receive the newsletter or mail, just tell us your preferences. We need your faithful annual support to protect and restore this valley we all love. Please use the enclosed envelope or mail to Owens Valley Committee, P.O. Box 77, Bishop, CA 93515. You can also donate online at [www.ovcweb.org/ContactUs.html](http://www.ovcweb.org/ContactUs.html). Contributions are tax-deductible. (We are charged a 3% fee for online donations.)

# OVC Settles Pumping Lawsuit with Fish & Game

## DFG Agrees to Support Limiting Pumping to 8,000 AFY at Black Rock

Mark Bagley, OVC Policy Director

OVC and the California Department of Fish and Game (DFG) reached a settlement in October 2011 on the lawsuit OVC filed challenging DFG's 2010 Environmental Impact Report (EIR) for its statewide Fish Hatchery and Stocking Program. DFG determined that 8,000 acre-feet per year (AFY) is adequate for fish production at Black Rock, and they agreed to propose to the Los Angeles Department of Water and Power (DWP) that annual pumping be limited to that amount. DFG also agreed to support limiting the Water-Agreement exemption for the Black Rock supply wells to 8,000 AFY. At Fish Springs Hatchery DFG agreed to do studies on the impact of groundwater pumping since 1970 and the potential for recharge of groundwater using water that flows out from the hatchery.

As reported in our Summer/Fall 2010 newsletter, OVC filed the lawsuit because DFG's EIR inadequately addressed the destruction of springs and critical alkali meadows as a result of groundwater pumping to supply the Black Rock Rearing Ponds and Fish Springs Hatchery. Both facilities are located in the Owens Valley on land that DFG leases from DWP.

Black Rock started operation in 1941 and Fish Springs in 1952 to supply trout for the DFG stocking program in Inyo and Mono counties. The operations were originally supplied by large natural springs. Records from 1936 to 1959, when DWP groundwater pumps were not affecting the springs, show that the flow volume averaged about 8,000 AFY at Black Rock and 16,400 AFY at Fish Springs. These natural spring flows supplied water to the Black Rock and Fish Springs facilities until 1970, when the second LA Aqueduct started operations.

Prior to 1970 DWP installed large production wells in the vicinity of the two DFG facilities and started pumping when the Second LA Aqueduct began operations. During the settlement discussions OVC learned that DWP had conferred with DFG about the new production wells that would dry up the natural springs and that DFG redesigned and rebuilt the two facilities to use the volume of groundwater expected from these wells. This had not been mentioned in either the DWP 1991 second aqueduct water supply EIR or the DFG 2010 Hatchery EIR.

In the early 1970s the production wells dried up the springs at both Black Rock and Fish Springs. Since then, the springs have remained dry, and the wells have supplied the hatcheries and rearing ponds with significantly more water than the springs ever did—an average of about 13,000 AFY at Black Rock and 24,000 at

Fish Springs. This is typically 40-60% of all groundwater pumping in the Owens Valley! Because these wells are now the sole source of water for the two facilities, they are exempt from the on-off provisions of the Inyo-LA Long Term Water agreement. Not coincidentally, nearly all the water that flows through the Black Rock and Fish Springs facilities is discharged to the LA Aqueduct system.



**Fish Springs Hatchery**

The change in water supply at the Black Rock and Fish Springs facilities occurred in 1970, which was also when the California Environmental Quality Act (CEQA) took effect. Not until 2007, however, did a court order finally compel DFG to prepare an EIR in compliance with CEQA for its statewide fish stocking and hatchery program. Since DFG had never done a CEQA analysis of its hatchery program, OVC contended that the EIR should have analyzed the environmental impacts that had accrued since 1970 and the impacts that were likely to occur, if pumping continued unabated. Instead, DFG looked only at the effects of ongoing pumping and operations relative to a 2004-2008 baseline period.

**Black Rock Rearing Ponds.** The settlement agreement provided for DFG to identify an 8,000-AFY-or-less groundwater pumping limit that DFG deems adequate for fish production at Black Rock. Accordingly, by January 3, 2012, DFG presented a proposal to DWP to modify the existing wells that supply the Black Rock facility by replacing the existing pumps with variable-speed pumps, at DFG's expense, to enable DFG to limit

pumping to 8,000 AFY.

The proposal addressed the potential environmental benefits of the reduced pumping and a statement that historic fish production levels in the Eastern Sierra will be maintained by maximizing full production capabilities at Fish Springs Hatchery. Indeed, DFG had previously identified in its draft EIR the 8,000 AFY pumping limit as the amount suggested by the local chapter of the California Native Plant Society that would allow groundwater levels near the facility to rise into the rooting zone of meadow grasses, where it has not been since the mid-1980s.

DFG also agreed in the settlement to support a modification of the current "exempt" status for the two Black Rock supply wells, namely, to limit the exemption for fish production to 8,000 AFY for the combined total for the two wells.

OVC realizes that there has been a long controversy over pumping impacts at Black Rock that DWP and Inyo County are currently grappling with. (See page 6: "We Watch the Water.") DWP actually controls the pumping at Black Rock, and any improvements or modifications to groundwater pumping are subject to DWP's approval, pursuant to the terms of DFG's lease. If any reduction in pumping is to happen at Black Rock, DWP will have to agree to it or be forced into it under the terms of the Inyo-LA Long Term Water Agreement.

**Fish Springs Hatchery.** The settlement agreement provides for DFG, in collaboration with OVC, to examine existing information and attempt to quantify the impacts in the Big Pine Well Field associated with groundwater pumping that supplies the Fish Springs Hatchery. The program's primary goal is to attempt to determine depth-to-groundwater changes and vegetation trends from 1970 to the present, with emphasis on changes both before and after the Inyo-LA Long Term Water Agreement "baseline period" of 1984-1986.

DFG has assigned Kit Custis as the Primary Investigator. A retired DFG employee who still works part-time on special DFG projects, Kit is a certified hydrogeologist with many years of experience and the technical expertise to evaluate historic aerial photos of the vegetation and changes in depth-to-groundwater. In February 2012 Kit came to the Owens Valley to determine the resources available here and to meet with OVC, the Inyo County Water Department, and the Big Pine Paiute Tribe.

Using existing vegetation data and imagery, along with the measured and modeled groundwater depths

over time, DFG will determine general vegetation trends in the groundwater-dependent vegetation parcels mapped in the Water Agreement's 1984-1986 baseline period and, if sufficient data exist, will also evaluate the vegetation trends from 1970 to the baseline period. The Inyo-LA Long Term Water Agreement's thresholds for change from one type of vegetation to another will be used for vegetation-trend analysis in relation to any changes in depth-to-groundwater.

The program will evaluate the potential to infiltrate effluent water leaving the Fish Springs Hatchery back into the Big Pine Well Field and whether such infiltration could positively affect groundwater levels. The feasibility and positive effects of possible infiltration measures will be evaluated along with alternate approaches that may be identified by DFG and OVC.

This program to assess hatchery pumping impacts and possible groundwater infiltration measures is to be completed by April 2013.

If OVC and DFG determine that infiltration of groundwater at Fish Springs is both feasible and would have substantial positive effects on groundwater levels in the Big Pine Well Field, DFG will develop a plan to increase the infiltration of the Fish Hatchery effluent water. The plan may include detention basins, re-injection of water, treatment wetlands, and reconfiguration of the existing hatchery settling ponds. The plan will include, among other things, expected groundwater recharge using hatchery effluent, a basic design of the preferred recharge strategy, potential monitoring requirements to evaluate effectiveness and compliance with permits, and cost estimates for implementation, maintenance, and monitoring.

DFG will develop this plan within 12 months following the completion of the program to assess hatchery pumping impacts and infiltration measures (hence, by no later than April 2014). OVC agrees not to seek pumping restrictions below the current 25,000 AFY pumping capacity at Fish Springs Hatchery until these two studies are completed.

Since the Fish Springs Hatchery is on leased DWP land, surrounded by other DWP land, and uses DWP water, any plan for mitigating pumping impacts by groundwater recharge using hatchery effluent will need to have the approval of DWP. Since infiltration of the hatchery effluent would reduce the amount of water reaching LA's aqueduct system, DWP may not support any such plan. In that case, we would rely on the impact analysis done as part of the OVC-DFG settlement to demonstrate the need for mitigation under the terms of the Inyo-LA Long Term Water Agreement.

OVC believes that our objectives in bringing the lawsuit have been met with this settlement. As usual, nothing seems to move very fast, but through our persistence we expect to see some changes for the better.

## 2010 Minerva Hoyt California Desert Conservation Award Presented to OVC



Photo: Rebecca Unger, Hi-Desert Star

### Mark Bagley/OVC (left) & Mark Wheeler/ Joshua Tree National Park Association (right)

The Owens Valley Committee was selected by the Joshua Tree National Park Association for its 2010 Minerva Hoyt California Desert Conservation Award in recognition of OVC's leadership in the effort to restore water to the Owens River and Owens Lake areas and encourage the recovery of one of the California desert's most important aquatic ecosystems.

The award was established in 2004 to honor Minerva Hoyt and others who have made notable achievements in leadership, protection, preservation, research, education, and/or stewardship on behalf of California deserts. Known as the "Apostle of the Cacti," Mrs. Hoyt dedicated herself to preserving the desert and lobbied Congress and President Franklin D. Roosevelt, who established Joshua Tree National Monument in 1936.

The Joshua Tree National Park Association cited,

among OVC's many accomplishments, the Committee's signature achievement as an advocate for the Owens River and a watchdog on Inyo County and Los Angeles Department of Water and Power during the negotiation of a landmark groundwater and pumping agreement and associated environmental impact documents to restore the Owens Valley. Today an entire desert river system is in the process of being restored. And thanks to government regulations limiting air pollution, the dry Owens Lakebed is receiving water, leading to major improvements in wetlands and migratory bird habitat. A reduction in dust clouds is also helping to improve human health and safety in the region. The positive quantifiable effects have yet to be fully summarized, but the net effect is a significant conservation achievement that resolves one of the longest ongoing environmental conflicts in California history.

OVC Policy Director Mark Bagley accepted the award on behalf of the Owens Valley Committee on January 29, 2011, during the opening event marking the 75th anniversary of Joshua Tree National Park. Held at Copper Mountain College in Joshua Tree, the anniversary celebration included live music, remarks by the Park's Regional Director Chris Lehnertz, introduction of new Joshua Tree Park Superintendent Mark Butler, and presentation of the 2010 Minerva Hoyt California Desert Conservation Award with remarks by Mark Wheeler of the Park Association and by Mark Bagley. The event was hosted by Public Television personality and part-time Twenty-nine Palms resident Huell Howser.



Photo: Mike Prather

### Water birds in flight over shallow ponding at Owens Lakebed

# We Watch the Water

## Groundwater Pumping and Other Issues

Mark Bagley, OVC Policy Director

In 2010 OVC concluded the last of the lawsuits against the Los Angeles Department of Water and Power (DWP) that we originally filed in 2005. These dealt with the Lower Owens River Project (LORP) and DWP's non-compliance with the 1997 Memorandum of Understanding (MOU). As part of the MOU suit, legal documents were negotiated and finalized in late 2010 to implement the ad hoc group's recommendations for additional mitigation projects and the Yellow-billed Cuckoo habitat enhancement projects at Baker and Hogback creeks. (See "Ranchers Have a Say," *Rainshadow*, Summer/Fall 2010).

With the conclusion of these long-running struggles, OVC has focused primarily on three major concerns: 1) the impacts of DWP's groundwater pumping, which fall under the jurisdiction of the 1991 Inyo-LA Long Term Water Agreement, 2) monitoring implementation of DWP mitigation measures, and 3) participating in the development of the Owens Lake Master Plan.

*Editor's Note: Throughout this article "County" refers to Inyo County, and "hatchery" sometimes refers to rearing ponds. "Pumping" always refers to groundwater pumping, not to the redirection and export of surface water, which supplies by far most of the water to the LA Aqueduct. This is the sad and maddening irony of DWP's*

*aggressive groundwater pumping, which wreaks the most damage to the Owens Valley and yet, relative to surface sources, nets so much less water for Los Angeles.*

*The 1984-to-early-1987 vegetation baseline period is variously referred to as 1984-86 or 1984-87.*

### Groundwater Pumping Issues

Since OVC is not a party to the Water Agreement, we primarily attend and comment at Technical Group, Standing Committee, Inyo County Water Commission, and Inyo Board of Supervisors meetings. More informal discussions with Inyo County Water Department (ICWD) and DWP staff and management have also proved useful.

Also regarding groundwater pumping, OVC filed a lawsuit in 2010 challenging the California Department of Fish and Game's 2010 Environmental Impact Report (EIR) for its statewide Hatchery and Stocking Program. (See page 4: "OVC Settles Pumping Lawsuit with Fish and Game.") This is closely related to the Black Rock 94 dispute discussed below.

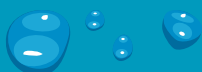
Among other things, the Water Agreement is supposed to protect groundwater-dependent vegetation that still existed in the 1984-1987 baseline period (after the onslaught of DWP groundwater pumping

in the 1970s and early 1980s) from any continuing DWP groundwater pumping and/or changes in DWP surface water management.

Since 1991 when DWP and Inyo County began operating under the Water Agreement, DWP has, except when constrained by the Court or by the 2007-2010 Interim Management Policy, consistently pumped more groundwater than Inyo County considered prudent. For several years in the 1990s the Standing Committee's drought recovery policy kept the pumping lower than DWP wanted in order to let groundwater levels recover to baseline conditions after a six-year drought and massive pumping by DWP in 1987-1989. (In those three years DWP pumped more than 150,000 acre-feet per year!)

DWP unilaterally, without action by the Standing Committee, abandoned the drought recovery policy in 2001 and increased pumping—an action that Inyo County failed to effectively contest. However, in 2005 in response to a suit brought by OVC and the Sierra Club, and joined in by the State of California, Inyo County Superior Court Judge Lee Cooper ordered a reduction in pumping to no more than 57,412 acre-feet per year (AFY) until the LORP base-flows were fully implemented. This was followed in 2007 by a three-year Interim Management Policy between DWP

## Water Agreement Pumping Goals



In a 1984-1986 study conducted by DWP, vegetation on DWP lands throughout the Owens Valley was divided into more or less uniform parcels and inventoried with quantitative sampling. These parcels were classified into five vegetation management types. There is one type for vegetation that survives on precipitation and is not dependent on high groundwater or surface water flows (desert scrub communities) and another type for lands supplied with water, including lakes, ponds and irrigation. The remaining three types depend on high groundwater or surface water: 1) shrub-dominated vegetation that needs to tap into groundwater no more than 4 meters deep (i.e., no more than 4 meters below the surface)—primarily rabbitbrush, Nevada saltbush and greasewood communities; 2) perennial grass-dominated vegetation—primarily alkali meadow that needs groundwater no more than 2 meters deep; and 3) riparian and marsh vegetation that needs surface or groundwater at or near the soil surface during the growing season.

As stated in the *Green Book* (part of the Water Agreement) the overall goal of managing the water resources on DWP lands within Inyo County "is to avoid certain described decreases and changes in vegetation and to cause no significant effect on the environment which cannot be acceptably mitigated while providing a reliable supply of water for export to Los Angeles and for use in Inyo County. This means that groundwater pumping and changes in surface water management practices will be managed with the goal of avoiding significant decreases and changes in Owens Valley vegetation from conditions documented in 1984 to 1987, and of avoiding other significant environmental impacts."

With respect to the three vegetation types dependent on high groundwater or surface water, DWP is required to prevent significant decreases in live vegetation cover and to avoid causing a significant amount of vegetation to change to a drier classification type than it was in the 1984-1987 baseline period (i.e., changing from riparian or marsh to grass-dominated meadow; or meadow to shrub-dominated, groundwater-dependent vegetation; or shrub-dominated, groundwater-dependent vegetation to desert scrub that is not dependent on groundwater).

Another general goal of the Agreement is to avoid converting riparian and marsh vegetation to cultivated agriculture.

and Inyo County that limited pumping to 60–68,000 AFY. This interim agreement ended in 2010. In the April 2010 – March 2011 runoff year DWP increased pumping to over 78,000 acre-feet.

### Vegetation Parcel Black Rock 94

Currently, vegetation in well field parcels that are affected by pumping is generally worse than baseline measurements, while vegetation in control parcels unaffected by pumping generally measures above baseline cover. Pumping is clearly having a negative impact. Because of the nature of the vegetation and the degree of impact, several groups, including OVC, have become concerned about vegetation parcel Black Rock 94, a 333-acre alkali meadow parcel located south of the Black Rock hatchery supply wells.

A permanent monitoring site in Black Rock 94 shows that groundwater levels in portions of the parcel have remained far below the grass-rooting zone since the heavy pumping of 1987-1989 and that grasses have substantially declined from baseline conditions, while shrubs have increased dramatically.

Even at an adjacent permanent monitoring site in Black Rock 99, an alkali meadow parcel farther from the hatchery supply wells, water levels fell below the grass-rooting zone by 1989 in response to the heavy 1987-1989 pumping. It took eight years before groundwater levels returned to the grass-rooting zone, where they have since fluctuated slightly around the lower limit of this zone. Grasses are still predominant in this parcel.

It is clear that the Black Rock hatchery supply wells, which are exempt from the on-off provisions of the Water Agreement and have been pumping about 12–13,000 AFY for the past 40 years, are affecting the Black Rock 94 parcel. Pumping for the hatchery is about 50% higher than the former natural flows from Black Rock Springs that supplied the rearing ponds before pumping from new wells began in 1970.

For at least five years the local Bristlecone Chapter of the California Native Plant Society, along with OVC and Sierra Club, have pressed DWP and ICWD to investigate vegetation impacts in the Black Rock 94 parcel. Large portions of the parcel have degraded from alkali meadow to a drier vegetation type dominated by shrubs. Under the current pumping regime the parcel is likely to continue to decline, contrary to the goal of the Water Agreement to avoid such impacts.

In February 2011 the ICWD completed an analysis of the Black Rock 94 parcel using the three-step evaluation in the Water Agreement for determining if an impact is significant. ICWD concluded that 1)

the vegetation change in Black Rock 94 is measurable compared to 1984-87 baseline conditions; 2) the measurable change is attributable primarily to a lowering of the water table caused by groundwater pumping; and 3) the measurable change is significant.

DWP waited until September 2011 to respond to ICWD's analysis. They stated that their staff disagreed that there has been a measurable change in vegetation but that they were still working on their evaluation

DWP finally stated in June 2012 that 1) they disagree that a measurable change in vegetation has occurred, 2) they object to the monitoring data collection and analysis methodology as invalid, because these are not specified in the Green Book and DWP did not agree to them, and 3) they reject the satellite imagery data and photos from the permanent monitoring sites.

DWP claims Inyo has acted unilaterally in conducting vegetation monitoring in spite of the fact that ICWD has conducted this monitoring since 1991 with the approval of the Technical Group. DWP claims Inyo unilaterally developed its own data analysis techniques and made determinations of impacts, when the Technical Group needs to do those things. Never mind that at a February 2009 Technical Group meeting, DWP agreed to let Inyo conduct the initial analysis of Black Rock 94 vegetation conditions. This years-after-the-fact objection is from the same DWP that for 16 months after receiving Inyo's initial analysis, refused to engage in

any constructive dialog about the County's analysis, indeed the same DWP that has shown little interest over the past 20 years in making the Technical Group a constructive, cooperative and effective body.

DWP's claims are outrageous. Their foot-dragging, obstructive behavior during the past 16 months—and frankly much longer than that—demonstrates neither good faith nor fair dealing.

This Black Rock 94 dispute is scheduled to be taken up by the Inyo-LA Standing Committee at their August 2012 meeting.

### DWP 2011-2012 Annual Pumping Plan and Black Rock Hatchery Pumping

DWP's draft pumping plan called for pumping 91,000 acre-feet of groundwater in the April 2011 – March 2012 runoff year, the highest level of groundwater pumping since 1989. After reviewing the draft pumping plan, Inyo County recommended that with the extremely wet year, and very high projected runoff (from the 2010-11 snowpack), DWP reduce pumping in several well fields to allow for recovery of water tables in areas that were still below baseline groundwater levels due to previous drought and pumping.

At public meetings where Inyo County was considering their recommendation on DWP's draft pumping plan, OVC argued that the County should recommend a lower level of pumping in well fields where the ICWD analysis concluded that groundwater levels would not recover toward baseline levels under the draft plan.



Photo: Ceal Klingler

John Walton lecture and OVC fundraiser at Mountain Light Gallery, Bishop, CA, Feb. 2012

and had more questions for Inyo staff about the statistical analyses used in the ICWD report. Apparently, DWP was “unable” to meet with ICWD staff to ask those questions, because months more passed—into 2012—before DWP even seemed to understand Inyo's statistical analyses.



Photo: Mike Prather

### With shallow flooding for dust control on Owens Lakebed wildlife has returned in large numbers, after a hiatus of 80 years, once again using the “lake” as a migratory stopover and breeding area.

After a number of frustrating and unproductive Technical Group meetings, Inyo raised the Black Rock 94 issue to a formal dispute. In a June 2012 Technical Group meeting Inyo was finally able to get DWP to concede that the Technical Group couldn't resolve the dispute, raising the issue to the Standing Committee and, if needed, to arbitration.

Our understanding of management under the Water Agreement has always been that in drier years DWP may lower groundwater levels to some extent, but that in wetter years they need to allow the groundwater to recover in order to protect groundwater-dependent vegetation. The Inyo County Water Commission and Board of Supervisors agreed with that position and recommended that DWP reduce its pumping in several well fields with overall pumping reduced to 68,510 acre-feet. DWP disagreed and kept their pumping target at 91,000 acre-feet in their final plan.

In June 2011, Inyo County initiated a dispute over the final pumping plan under the terms of the Water Agreement. The County only sought a reduction in the most egregious pumping in DWP's plan—in the two well fields that affect the Black Rock 94 parcel, which the County believes is already being impacted by pumping. DWP planned to pump 31,200 acre-feet in the two well fields—an increase of 33 percent over the previous year. The County wanted to reduce that by 8,400 acre-feet to keep pumping roughly at the previous year's levels. DWP claimed that the County was violating the Water Agreement by seeking to mitigate pumping impacts at Black Rock 94 before the Technical Group completed its evaluation.

DWP's argument was absurd. If the County had been trying to mitigate the impacts that are already occurring, they would have asked for substantial reductions from previous pumping levels. The County was being conservative, while the Technical Group completed its evaluation of Black Rock 94. If pumping is causing impacts (as OVC and others have been saying for years), large increases would only make the impacts worse. The County was asking for less than a 10% reduction in DWP's pumping plan in a very high runoff year (forecast at 150% of normal).

Several Technical Group meetings were held to address the dispute. DWP sabotaged every meeting by refusing to engage in any constructive discussion. DWP would not even agree to vote on the dispute or to bring the issue to the Standing Committee. It was truly disgraceful.

The County nevertheless opted to take the dispute to the Standing Committee, where eventually DWP agreed to reduce pumping in the disputed well fields, but only if pumping in the Laws well field was increased by a commensurate amount. Actual pumping for the 2011-2012 runoff year was 92,000 acre-feet, even more than DWP's proposed—and disputed—91,000 acre-feet.

However, as part of that agreement the County agreed to take the main procedural issue to arbitration. The question for the Arbitration Panel was whether the Technical Group is required to follow

the Water Agreement and Green Book procedures for determining a significant impact and mitigation when deciding if there may be a violation of the vegetation goals under a proposed annual pumping plan.

The County's concern was the lengthy process involved and how to meet the primary goal of the Water Agreement to avoid certain impacts to vegetation. DWP could simply slow down that process and continue to pump for the entire year or more, as they continue to do during the Black Rock 94 impact analysis, while the Technical Group conducts its impact evaluation, thereby making any objection to a pumping plan moot.

The Arbitration Panel's February 2012 decision found in favor of DWP's position that the Technical Group needs to follow the Water Agreement and Green Book procedures for determining significant impact and mitigation in a dispute over likely impacts from an annual pumping plan.

But the Arbitration Panel decision also made clear several points that we believe will be helpful in the future. The panel addressed the underlying question, whether actual harm to vegetation must be shown before modifications to pumping may be considered or whether the Technical Group can look beyond actual present harm and project future harm from other evidence. The panel clearly determined that the latter is valid and sufficient and that the Water Agreement and related documents "commit both parties to the avoidance of negative environmental/vegetation impacts."

Additionally, the panel pointed out that under contract law the Water Agreement "imposes upon each party a duty of good faith and fair dealing in its performance and its enforcement." In the current case, the panel stated that this duty requires the Technical Group to act in good faith to implement the significant impact and mitigation procedures "in an expeditious fashion to allow cooperative resolution" or, if there is failure to resolve the issue, to report it to the Standing Committee without delay, so that the dispute resolution procedure can go forward in a timely manner. This is especially important in this situation where DWP has the discretion to set the pumping amounts and the County seeks to avoid harm to the environment.

OVC was pleased to see Inyo County pushing back on DWP's outrageous plan to increase pumping in well fields that affect Black Rock 94. This was the first time in many years that the County initiated a Water Agreement dispute.

### **DWP 2012-2013 Annual Pumping Plan**

Following a very wet year, the April 2012 – March 2013 runoff is forecast to be only 65% of the 1961-2010 long-term average. Yet DWP's annual pumping plan calls for only a 4.3% decrease in pumping from

the previous year. The intent of the Water Agreement is that DWP can draw down the water table slightly below the grass-rooting zone in dry years but must allow recovery in wet years. Instead, DWP's aggressive pumping is excessive in dry years and prevents recovery in wet years.

With the County disputing last year's pumping plan, DWP clearly designed their 2012-2013 plan to make it harder to dispute by providing a range of pumping between 65,600 and 88,000 acre-feet. The plan provides broad ranges of pumping for more than half the well fields, rather than a single figure for each well field by month provided in previous plans. ICWD commented that the plan's wide range in projected pumping in a number of well fields and the "vague criteria for how pumping will be managed ... does not fulfill requirements for the annual operations plan given in Water Agreement, Section V.D."

We can assume DWP will pump the maximum amount. For example, pumping in the Symmes-Shepherd well field is "planned to range between 1,750 and 7,000 acre-feet, contingent on water needs and environmental conditions." Since the environmental conditions are not specified and we know from their past actions that DWP needs/wants all the water they can get from the Eastern Sierra—their cheapest and highest quality water—these vague management criteria are meaningless. Given that DWP claims, contrary to what we can see on the ground and the evidence presented by ICWD, that there is no measurable change in vegetation in Black Rock 94 from baseline conditions, it's hard to imagine what environmental conditions would cause DWP to pump less than the maximum in any proffered range. Clearly, DWP management intends to pump approximately 90,000 AFY regardless of runoff conditions. With two Water Agreement disputes already scheduled for the August Inyo-LA Standing Committee meeting, Inyo County has decided not to dispute the 2012-2013 pumping plan at this particular meeting.

### **DWP Enhancement/Mitigation (E/M) Project Water Supply "Imbalance" Dispute**

For many years DWP management has maintained that the E/M projects committed to in the Water Agreement must be directly supplied by groundwater or, if surface water is used, it needs to be "replaced" by pumping groundwater into the aqueduct system. In effect, DWP wants to mitigate for the impacts of groundwater pumping by pumping more groundwater and at no cost to their aqueduct water supply.

However, in their 1991 water supply EIR, DWP unilaterally used the Water Agreement E/M projects as mitigation measures for their groundwater pumping impacts. This move by DWP is sort of understandable. Why not claim E/M projects they've already



committed to under the Water Agreement as EIR mitigation as well? Doing so, however, turned these projects, which were mutually agreed to by DWP and Inyo and were mutually modifiable, into projects that are strictly obligatory under CEQA.

DWP committed in the Water Agreement and, even more significantly, in the 1991 EIR to automatic well on-off provisions in order to avoid future groundwater pumping impacts. Many of the wells that were to directly supply E/M projects or provide the “replacement” water were not designated in the EIR, or have not subsequently been designated, as exempt from these on-off provisions. If water supply or “replacement” water wells go into off status and cannot be pumped, DWP still has an obligation to continue with these EIR mitigation measures.

For the most part, DWP has supplied surface water to the E/M projects when needed, even when “replacement” water wells were in off status. However, some projects have not been provided with water. This recently happened at the McNally Ponds E/M project. When the supply well went into off status, DWP chose not to use the McNally Canal to provide water to the project.

This spring DWP raised a Water Agreement dispute in the Technical Group regarding what they consider to be an “E/M project water supply imbalance.” DWP claims that approximately 180,000 acre-feet of surface water have been used since 1991 for E/M projects that have not been “replaced” with groundwater from the designated E/M wells. The “imbalance” they claim for 2011-2012 is 4,659 acre-feet.

DWP wants the Technical Group to resolve the imbalance by evaluating E/M projects without an existing exempt source of groundwater and then take action to either exempt specific E/M supply wells or recommend to the Standing Committee that it consider reducing or eliminating the water supplied or otherwise modify E/M projects that cannot feasibly be supplied with groundwater.

ICWD responded that they have worked with DWP through the Technical Group on E/M project issues in the past on a project-by-project basis. The County requested a more specific proposal for each project. DWP found this unsatisfactory. They concluded that the Technical Group was unable to resolve their dispute and scheduled it for the August Inyo-LA Standing Committee meeting.

### DWP Mitigation Measures

Since the legal documents regarding the ad hoc group’s recommendations were finalized in 2010, DWP has completed required implementation steps on time for additional mitigation measures using 1,600 AFY of water and the Yellow-billed Cuckoo habitat enhancement projects that were promised in the 1997 MOU.



Photo: Dale Finke

**Whether and where healthy riparian ecosystems are established along the Owens River depends on DWP’s management of flows.**

The Baker Creek Yellow-billed Cuckoo project was set back by a major wildfire in 2011, but the area has already recovered considerably.

After 13 years of inaction, DWP finally began working in 2010 on the Big Pine Northeast Re-Greening Project. Unfortunately, their first move was to get Inyo County to agree to a revised project description that would exempt a nearby well from on-off provisions and allow it to pump “replacement” water for the surface water used on the project. This project is now on hold while OVC, Sierra Club, and the Big Pine Paiute Tribe sue DWP over the environmental analysis of the groundwater pumping for the project. (See page 2: “OVC Joins in Challenge to DWP’s Pumping to Mitigate Pumping.”)

OVC is reviewing the status of other mitigation measures required by the DWP 1991 water supply EIR. Fifteen years after that EIR took effect in 1997, DWP still has yet to implement some measures. The recent ICWD Annual Report has a good review ([www.inyowater.org/Annual\\_Reports/OwensValleyMonitor2011-2012.htm](http://www.inyowater.org/Annual_Reports/OwensValleyMonitor2011-2012.htm)). If you think you might be interested in helping us monitor a mitigation project, please contact us at [info@ovcweb.org](mailto:info@ovcweb.org).

By far the largest mitigation measure is the LORP, which is rewatering 62 miles of river channel between the LA Aqueduct intake and Owens Lake. (The intake is located east of Aberdeen and 6 miles south of Tinemehah Reservoir.) Good progress is being made toward many of the project’s goals, but the abundance of tules and cattails and lack of recruitment of riparian trees are still major concerns.

### Owens Lake Master Plan

In 2010 DWP began a broad collaborative process to develop a “Master Plan” for Owens Lake. The plan includes dust mitigation, habitat and wildlife, water efficiency methods, and potential renewable energy development. OVC is one of many interested groups working to reach a consensus on a final version.

DWP has resorted to shallow flooding of portions of the lakebed in an effort to achieve federally mandated dust control, thereby inadvertently producing an abundant wildlife habitat. Although DWP is currently using up to 95,000 AFY of aqueduct water on the lakebed, it remains the worst point-source of air pollution in the nation. Nevertheless, we have reasonable hopes that the Master Plan will contribute to both dust control and the protection of this new habitat, and promote greater water efficiency in these efforts.

A first draft of the Plan was presented to the Planning Committee in December 2011. For more information go to <https://owenslakebed.pubspsvr.com/default.aspx>.

Meetings of the Planning Committee are currently on hold, while DWP develops more plan details and a conceptual map showing where potential master plan activities could occur. Meanwhile, a working group is trying to address how the Owens Lake Groundwater Evaluation Project will be dealt with in the Master Plan. That Project is a DWP and Inyo County study of the potential for pumping groundwater from under Owens Lake and using it for lakebed dust control, allowing DWP to use less aqueduct water. Obviously, such groundwater pumping has the potential for further environmental impacts.

# How We're Killing Owens Valley Alkali Meadow

## (Droughts do not kill meadows. People do.) Alkali Meadows – Part 3

Sally Manning, Ph.D. (Dr. Manning retired in 2008 from a long tenure as Inyo County Water Department Research Scientist –Vegetation.)

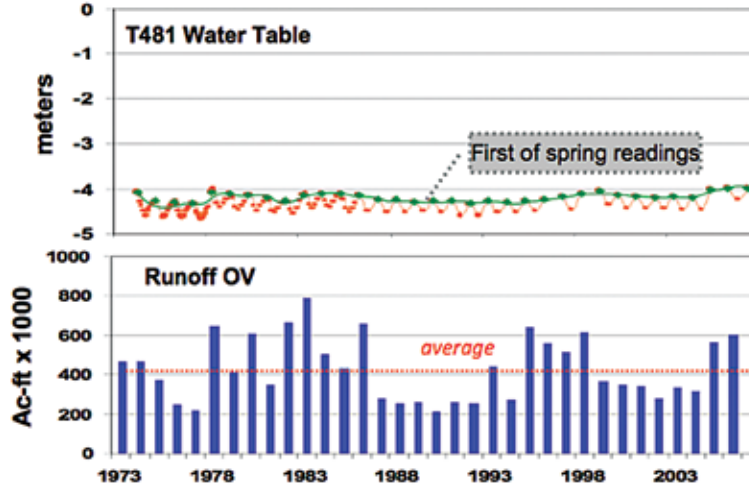
**B**usy persons need read no further than this paragraph. How to kill a meadow? Pump its groundwater. For the ugly details: Keep reading.

In two previous articles, I described alkali meadows and the groundwater that sustains them. Meadows are relicts<sup>1</sup>: As the territory east of the Sierra dried from the Pleistocene into the Holocene, certain species found refuge where water, including groundwater, remained accessible. As communities, alkali meadows are characterized by annual<sup>2</sup>—and diurnal—rhythms of water use. Roots draw down the groundwater during the growing season; then during the cold months when plants are dormant, the water table rises. If depth-to-groundwater were measured only once per year at the beginning of the growing season, changes in groundwater level would be virtually imperceptible. Access to groundwater prevailed through periods of high runoff and drought. Few places in Owens Valley still exhibit this hydrographic signature, but data in Figure 1 for an unpumped area near Bishop clearly show it.

C. H. Lee (1912), the early twentieth century consulting engineer for the Los Angeles Department of Water and Power (DWP), scientifically documented the presence of thriving meadow across the valley floor. He understood

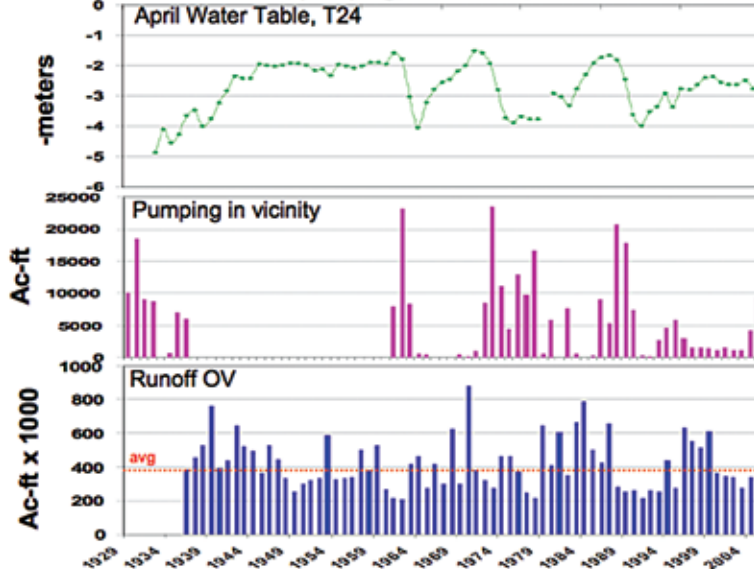
1. Not a misspelling. Google it!  
2. See Figure 2 of "Alkali Meadows – Part 2," *Rainshadow*, Summer/Fall 2010.

**Figure 1** Annual runoff has little effect on meadow water table



Owens Valley alkali meadow experienced relatively constant depth-to-groundwater for thousands of years before groundwater pumping. In the upper graph, data from 1974-2007 are shown for a monitoring well near a meadow southeast of Bishop, where no groundwater pumping occurs. Note the characteristic seasonal decline from first of spring to first of autumn, then recovery during colder winter months. The constancy is striking when viewed against the wildly variable amount of annual snowmelt runoff flowing into the valley (bottom graph).

**Figure 2** Water table, pumping, and runoff, 1929-2005



Long term data for a meadow area south of Independence clearly demonstrate the effect of pumping on depth-to-water table (dtw). When dtw measurements began in this monitoring well, the water table clearly was recovering from heavy pumping of the late 1920s to early 1930s. For nearly two decades when no pumping occurred, dtw stabilized. However, when pumping resumed, groundwater plummeted. The bottom graph shows high runoff years promote water table recovery, but the data also show that water table doesn't plummet simply due to below-normal runoff. Pumping in the middle graph is in acre-feet; runoff in the bottom graph is in thousands of acre-feet.

that, for the meadow zone, climatic drought would not result in water tables dropping below the root zone. Lee pointed out to DWP that the valley's meadows were annually converting large quantities of liquid groundwater to transpired vapor, which, like water evaporating from a terminal lake, was regarded as "waste" by engineers of his day. Lee suggested DWP could pump and thus capture this water. Pumps placed in the meadow zone near the toe of Sierran alluvial fans could easily and economically export this shallow groundwater via the LA Aqueduct. Lee realized the meadows would die as a result.

The LA Aqueduct was completed in 1913, but it was another 60 years before DWP's groundwater pumping efforts commenced in earnest. For decades, DWP was busy acquiring and diverting eastern Sierran surface waters. From about 1913 to 1969, DWP intermittently pumped for export, particularly during drought conditions in the late 1920s to early 1930s and again about 1960. DWP completed the second barrel of its aqueduct in 1970, and since then, groundwater pumping has been continuous.

The effects of pumping on depth-to-groundwater in a meadow area near Independence are shown in Figure 2. This three-part graph spans the period from 1929 – 2005. When pumping ceased in the early 1930s (middle graph), the meadow water table gradually recovered (top graph). No pumping occurred in this area until about 1960, so once the water table recovered from

the 1920s pumping, it remained steady, regardless of wet year or dry. Pumping in 1960 suddenly dropped the water table, which again gradually recovered until 1970. Since 1970, pumping has occurred near this meadow almost every year. When not pumped, periods of high runoff (bottom graph) result in noticeable groundwater recovery, but these are not sustained when pumping subsequently resumes. The last 15-20 years of the graph show a generally lower average water table in the presence of constant, low pumping.

How pumping affects a meadow depends on several factors, such as the pumping rate, proximity of pumps to the meadow, annual runoff amount, and individual characteristics of the meadow.

A healthy meadow has continuous, thus virtually unlimited access to water, allowing the community to persist through drought and deluge. From one year to the next, green plant cover may increase or decrease somewhat, but these changes are believed to be due not to water limitation, but to other factors such as surface disturbances, nutrient availability, herbivory (insects and livestock), and local weather.

Pumping creates an array of hydrological changes not normally experienced in alkali meadow, and vegetation will respond in a predictable manner to the altered conditions. When pumping causes water table fluctuation within and slightly below the meadow root zone, the live cover of the meadow vegetation responds to year to year water table fluctuations by increasing when water tables rise and decreasing when water tables are lowered. While knowledge of this relationship can present a valuable management tool, the fact that a meadow exhibits this direct water table response indicates it's stressed and vulnerable to a change in species composition. Changes in access to

water affect species differentially. Species most in need of abundant water will die out faster than the more stress-tolerant species. The rare plants *Sidalcea covillei* and *Calochortus excavatus* require more water to thrive than species such as *Distichlis spicata* (saltgrass). As the community responds to water stress, sensitive species are lost, species diversity declines, and total cover declines to a level that can be supported by the reduced water availability.

Pumping that lowers the water level beyond the reach of meadow plant roots, especially for prolonged periods, has the most severe effect on vegetation. When roots disconnect from the water table, surviv-

ing plants must rely on Owens Valley's meager and unpredictable precipitation for all water needs. Data for some former Owens Valley meadows show a correlation between precipitation and live cover that is not observed in places where groundwater is within root zones. There are pumped meadows in Owens Valley that used to support 40-50% live cover in late summer that now support 10-20%, depending on how much it has rained.

Certain shrub species in Owens Valley take advantage of pumping-induced lowered meadow water tables. With die-off and lower cover of herbaceous species, shrubs may germinate in the newly-opened spaces, then send roots down deeper than grasses to tap the water table. Often a stressed meadow supports

vigorous shrub growth. However, as the water table continues to be lowered by pumping, the meadow species drop out entirely and sites become dominated by shrubs, sometimes a single shrub species such as a monoculture of Nevada saltbush (*Atriplex lentiformis* ssp. *torreyi*). If the shrub roots lose contact with the declining water table, they too die back to a level that can be sustained by precipitation.

Reduced plant cover exposes meadow soil to erosive forces, particularly wind. Pumped meadows often lose valuable topsoil (see Figure 3). When this happens, it can make recovery of the meadow difficult, if not impossible, even if pumping ceases and water tables rise.

Pumping the meadows affects community resilience, the ability to bounce back from stress. Meadows are not immune to fire, but a burnt healthy meadow will quickly recover, while a burnt near-dead meadow will lose remnant meadow species and soil and perhaps never recover. Such sites in Owens Valley develop a sparse cover of non-native tumbleweeds.

Former meadows are common in Owens Valley. There are some near Laws and Big Pine, and south of

the Poverty Hills to where the LA Aqueduct crosses Highway 395. In my opinion, they are harsh, dusty, quiet, unsightly, and heart-breaking.

There are those who hold that in life, including in a natural plant community, one finds more than simply the sum of component parts. After pumping, it is perhaps possible to restore meadow species and habitat, but to do so requires water. Also, because so little is really known and serious restoration attempts have not occurred, we would probably not replace all that was lost, especially the unbroken link to the Pleistocene. Green, healthy meadows in Owens Valley tell everyone our land is productive, beautiful, and well-cared for: they reflect well on all people. In the end, it's our choice.



**Figure 3**

Figure 3. The researcher (left) stands next to pedestaled remains of a meadow bunchgrass, *Sporobolus airoides*. Remnant roots of the grass still cling to and bind the black, organic meadow soil (detail above), even though the rest of the meadow has eroded away and only shrubs and tumbleweeds currently live at the site. Located south of Independence, this site was pumped during the last century and converted from meadow to saltbush scrub. These pitiful mummies serve to remind us how quickly and completely a meadow can be destroyed.

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Eastern Sierra Birding Trail Maps & our OVC Membership brochures are available. Email outreach@ovcweb.org or call 760.873.5326

# OVC Mission

OVC is a non-profit citizen action group dedicated to the protection, restoration and sustainable management of water and land resources affecting the Owens Valley. The Committee oversees compliance with the implementation of appropriate water management policy, educates the public, encourages participation in local government, and advocates an inclusive and open decision-making process.

# OVC Goals

1. "Watchdog" the 1991 LTWA (Water Agreement) between Inyo County and L.A.
2. Oversee the implementation and management of the Lower Owens River Project (LORP).
3. Educate the public and promote its involvement with water issues.
4. Seek a dual use designation for dust control water at Owens Lake for wildlife as well as dust.



*Peter Knapp*

# YES!

I would love to join the Owens Valley Committee and help with protection, restoration and sustainable management of water and land resources in the Owens Valley.

- \$25 Speckled Dace
- \$50 Tui Chub
- \$100 Owens Pupfish
- \$250 Brook
- \$500 Spring
- \$1000 Aquifer
- Other

Name \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_

E-mail \_\_\_\_\_

Volunteer Skills \_\_\_\_\_

## OWENS VALLEY COMMITTEE

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