



# Alive!



SERVING OVER  
18,000 CITY AND  
DWP EMPLOYEES

Vol. 7 ■ No. 5 | City Employees Club of Los Angeles | May 2008

## Budget Woes Could Lead to Lost Pay, Layoffs

Budget might force City employees to take days off without pay – or outright layoffs – to help solve \$406 million budget shortfall.

**MAYOR'S OFFICE** — In his budget proposal for the next fiscal year, made public April 21, Mayor Antonio Villaraigosa proposed to close a gaping \$406 million budget shortfall by eliminating 767 City jobs, some by layoffs, and raising fees on many City services. The proposal also calls for City employees to take a mandatory six days off, without pay, during the next budget year.

Police Officers, Fire Fighters and Sanitation workers would largely be exempt from the furloughs, and in some cases those departments might actually see an expansion of positions.

The budget must be approved by the City Council, and furloughs must be approved by unions. At *Alive!* press time, no decision had been made.

**What do you think of the possible loss of jobs and pay? See the story on page 31, and send in your letters:**  
[talkback@cityemployeesclub.com](mailto:talkback@cityemployeesclub.com)

## Scholarship Applications Are Available

Applications are now available for Club Scholarship 2008 program. They are available online only.



Brittany Groves, winner of last year's top Club Scholarship.

**CLUB HEADQUARTERS** — Applications are now available online for the Club's 2008 Scholarship Program. Five people will be rewarded for their academic achievement and given stipends.

"This is one of the great ways the Club celebrates the lives of City Employees," said Club CEO John Hawkins. The scholarship

is open to Club Members, spouses and their immediate families under the age of 25, for those who attend an accredited college, or will attend one next year.

A total of \$7,500 is available for the five Club Scholarships. First place is awarded \$3,500. Deadline is noon June 30, 2008; applications must physically be in the Club Store and Service Center, 120 W. Second St. downtown, at that time.

"Go online and download the application," Hawkins said. "We look forward to your entries."

Applications can be downloaded at:  
[www.cityemployeesclub.com/scholar.asp](http://www.cityemployeesclub.com/scholar.asp)

See the story and official rules on page 43.

## The SNOW Surveyors

DWP hydrographers measure the snowpack in the Eastern Sierras each winter to know how much water there will be for lakes, fish ... and more than 3.5 million citizens of Los Angeles. Travel with *Alive!* on a snow expedition in Mammoth.



Get the full story starting on page 10.

From left: DWP Hydrographers Jason Olin and Dustin Taylor, and Lead Survey Supervisor Wade Taylor.

Alive! photo by Tom Hawkins



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Alive! celebrates

## Mother's Day

with photos and messages  
from lots of Club Members.

Catch their tributes on pages 46-47



The Snow Surveyors carry their equipment to measure the Eastern Sierra snow pack.

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# THE SNOW Surveyors



ALIVE! FEATURE



Part of managing the water for Los Angeles means knowing how much to expect from Mother Nature. Hydrographers from the DWP set out on snow cat and foot to take measurements once a month during the winter. That way, DWP water managers can make better decisions.

Travel with *Alive!* on a snow expedition in Mammoth.

TURN THE PAGE FOR ALL THE DETAILS



Alive! photo by Tom Hawkins

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# Meet the Snow Surveyors

## Wade Taylor



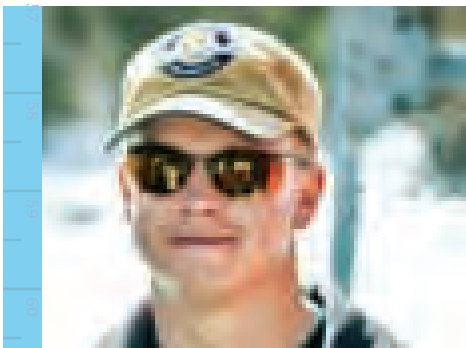
Lead Surveyor Wade Taylor, who spent 10 years at Piper Tech and transferred to the Northern District in 1999, is the fourth generation Taylor to work in the DWP's Northern District, and the third generation to be a snow surveyor. His father, Ron, was a DWP Snow Surveyor, and his dad used to take him on snow surveys. "The easy ones," he said. His grandfather, Victor, also a surveyor, was the head of engineering for the Northern District. His great-grandfather, Homer, was surveying for the DWP in the 1920s, close to when the department started conducting snow surveys in the Northern District. "Homer was one of the original men who brought the surveying equipment in," Wade says.

## Dustin Taylor



Field Surveyor Dustin Taylor, who is Wade Taylor's nephew, is the fifth generation of Taylors to work for the DWP in the Northern District. He grew up in Bishop and wanted to be a surveyor since at least high school. "In high school, I started thinking about how to get the right education and training to do this." He earned his Bachelor's degree in environmental science at Whittier College.

## Jason Olin



Field Surveyor Jason Olin, who is not part of the Taylor surveying legacy, has his own family legacy to be proud of – his great-grandfather, an area rancher, performed snow surveys in the 1930s, on horseback and snowshoes, and also helped build the Los Angeles Aqueduct for the DWP. When he's not performing snow surveys, Jason, who has Bachelor's and Master's degrees in geology from Fresno State, collects, analyzes and records water data as a hydrographer on the Owens Lake dust mitigation project for the DWP.

# THE SNOW

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Photos by Tom Hawkins, Club Photographer

**Alive!** spends a late winter day trekking with DWP hydrographers, accomplishing the all-important task of measuring the rain and snow in the Eastern Sierras.

**DWP** — The instructions were clear:

"Be ready for any snow conditions, wearing snow pants, coat, boots, hat and gloves," advised Chris Plakos, the Club's DWP contact in Bishop. "I suggest they wear layers, because it can get warm and they may want to take layers off."

With that, Club CEO John Hawkins and Club Photographer Tom Hawkins met Wade Taylor, Lead Survey Supervisor, and Hydrographers Jason Olin and Dustin Taylor – the Snow Surveyors – at the Breakfast Club in Mammoth, filling up on "fuel" for their day of adventure in the Eastern Sierra snow pack.

Fun? Yes, but critically serious business, too. For, the rain and snow that the Snow Surveyors were to measure would determine major decisions about Owens Valley irrigation and operations, and how to best prepare for the City's drinking and sanitation needs for the year to come.

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# Surveyors



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## The Plan



Several times each winter, DWP hydrographers trek far into the Eastern Sierra back country to survey the amount of snow that has fallen. They set out on skis, snowshoes or in over-snow-vehicles called "snow cats" to measure the snow depth and amount of water content in the snow at specific mountain locations, more appropriately known as snow courses.

The DWP has measured the same 12 courses located in four major watershed basins since the 1920s. The courses are located at varying elevations between 8,000 and 11,000 feet, and include the Cottonwood Lakes Basin, Big Pine Canyon, Rock Creek Canyon and the Mammoth Lakes Basin, where today's survey would take place. The sites were selected because they accurately represent overall snowpack and precipitation conditions at specific areas and elevations.

Preparations for snow surveys begin well before the snow falls. Big Pine and Cottonwood Canyon surveys require an overnight trip on skis and snowshoes, which means stashing sleeping and eating supplies in the back country. In September, DWP hydrographers load provisions onto mules, which are used to haul supplies to secluded cabins near the snow courses.

While in the back country, the hydrographers also perform maintenance work on the courses and calibrate snow sensor equipment.

DWP hydrographers typically do their first snow surveys at the end of January. Surveys are also done at the end of February and March.

**The day's plan:** The Snow Surveyors pack two snow cats (the snow terrain vehicles) for the day, and then tow them to the end of Old Mammoth Road to start the journey. They first drive the cats about a half hour up to Lake Mary, which is usually frozen solid and blanketed with snow, and take readings at the rain gauge near the east edge of the lake. The crews then drive the cats another hour to the Mammoth Pass snow course, located at an elevation of 9,300 feet. At that point, the crew takes careful and precise snow depth and water content readings around the snow pillow and along the 1,000-foot long snow course.

Then, with the readings in hand, the Snow Surveyors would get back in their cats and head home.

The snow cat is the best — and sometimes only — way through the snow to the snow pillows.



The snow cat is towed to the end of the road, and then unloaded.

## Snow Surveys Provide Forecasting Data



Each winter, millions of people flock to the Eastern Sierra to enjoy the spectacular snow-covered mountains. The Eastern Sierra's abundant snowfall offers great downhill and cross-country skiing, snowboarding, snowmobiling, sledding and many other winter activities. As winter gives way to spring, the melting snow supplies vital water flows that fill the many creeks and lakes in the area. The creeks and lakes provide habitat for fish and other wildlife, while offering countless outdoor summer recreation opportunities for visitors and residents alike.

The Eastern Sierra snowpack plays a vital role as the primary water source for more than 3.5 million City residents. Approximately 50 percent of the City's water comes from Eastern Sierra surface water runoff. The rest of Los Angeles' water supply comes from the Colorado River, California's Central Valley and groundwater sources within the Los Angeles City limits.

Because Los Angeles relies upon the Eastern Sierra for much of its water, accurate snow measurements are vital to forecast each year's water supply. Each winter, DWP hydrographic crews provide the data needed for forecasting by conducting snow surveys. By actually measuring the depth of snow and amount of water content in the snow at specific locations over a period of many years, forecasters can accurately predict the amount of runoff each year.

Many important decisions depend upon accurate water supply forecasting. The availability of water for irrigation needs, reservoir storage and operation, groundwater pumping levels, hydroelectric generation, maintenance programs, recreation availability and even the possible need for water rationing all rely on accurate water supply forecasting.



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ALIVE! FEATURE



The first stop: The Lake Mary rain gauge.



The snow cat's tracks get great traction in the snow.



# Into the Snow

After driving to the end of Old Mammoth Road, the crew parked the trucks and unloaded the snow cats, for the long trek up the Mammoth Pass, so they could measure the snow pack.

For safety reasons and because they often perform difficult work in severe conditions, snow surveyors travel in teams of two or three. All snow surveyors receive intensive training in snow sampling techniques, cross-country travel, avalanche safety, first aid and mountain survival.

Snow courses are marked using distinctive signs. A standard snow course is 1,000 feet long and has 10 measuring points. Hydrographers take a snow sample at each point and record snow depth and water content. These points are then averaged, and an overall water content is determined and recorded for that course.

Snow samples are collected by using a "snow sampling set" consisting of a series of stainless steel tubes about 1.5 inches in diameter and 30 inches long that can be screwed together.

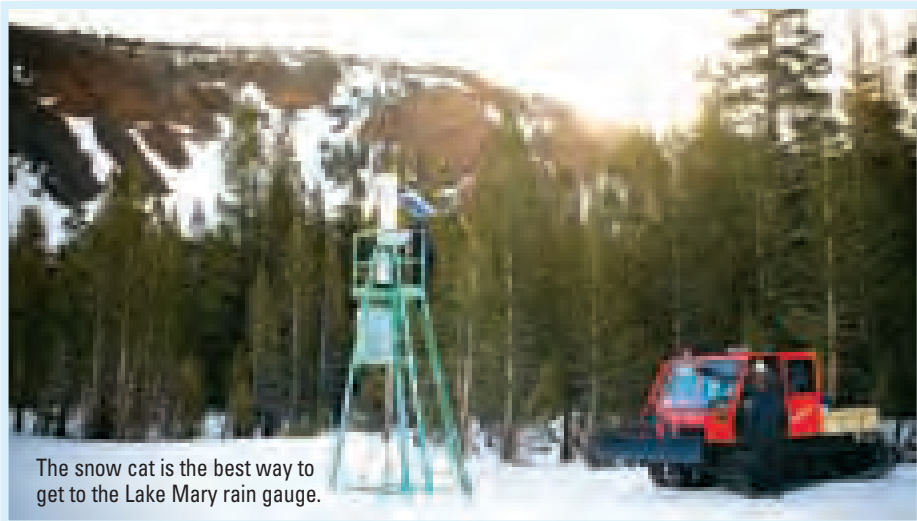
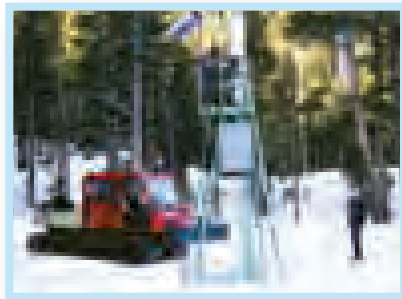
## But First: The Rain Gauge



The first stop was the Lake Mary water store, where the Snow Surveyors took very precise readings.

The Lake Mary Rain Gauge measures precipitation from rain and snow, and also records high and low daily temperatures. Here, they took measurements, and then they changed the paper chart for the gauge.

There is also a solar-powered computer in this unit that sends daily readings back to the State Department of Water Resources where the data is accessible to the public as well as the LADWP (see <http://cdec.water.ca.gov/cgi-progs/queryDgroups?MO1&d=>).



The snow cat is the best way to get to the Lake Mary rain gauge.



The Eastern Sierras provide a dramatic backdrop for the Snow Surveyors.

# THE SNOW Surveyors



## How the Surveys Are Done



Here's how the Snow Surveyors measured the snow pack around the snow pillow. It's a very careful and controlled process, ensuring that the measurements are accurate and consistent:

**1** Hydrographers screw together enough tubes to reach from several feet above the snow surface all the way down through the snowpack to the ground. The bottom tube has a sharpened steel cutter to slice through ice layers in the snowpack.



**2**

The hydrographers weigh the long empty tubes that have been attached together to establish their base weight.

Then, the crew pushes the tubes down through the snowpack until they reach the ground surface. Graduations etched on the side of the tubes indicate the depth of the snow, which the hydrographers record.

**3**



ALIVE! FEATURE

4

The tubes are then raised out of the snow. Slots cut into the tube allow the hydrographers to visually verify that all of the snow remained in the tubes as they were being raised.



How the Surveys Are Done

— continued

5

They then check the bottom of the tubes for signs that ground level was actually reached, such as dirt, pine needles and other debris.



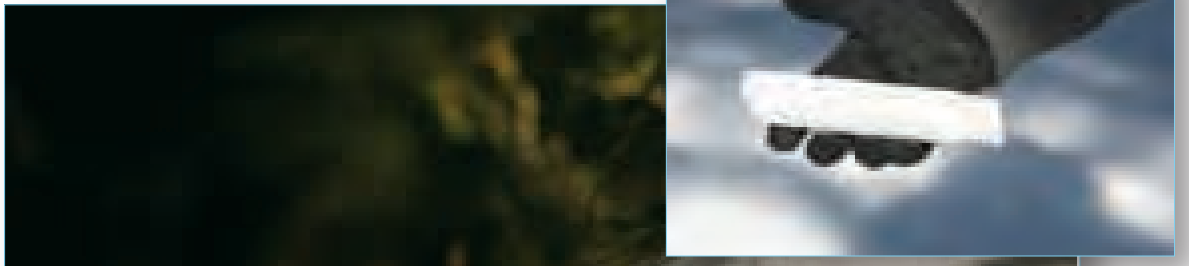
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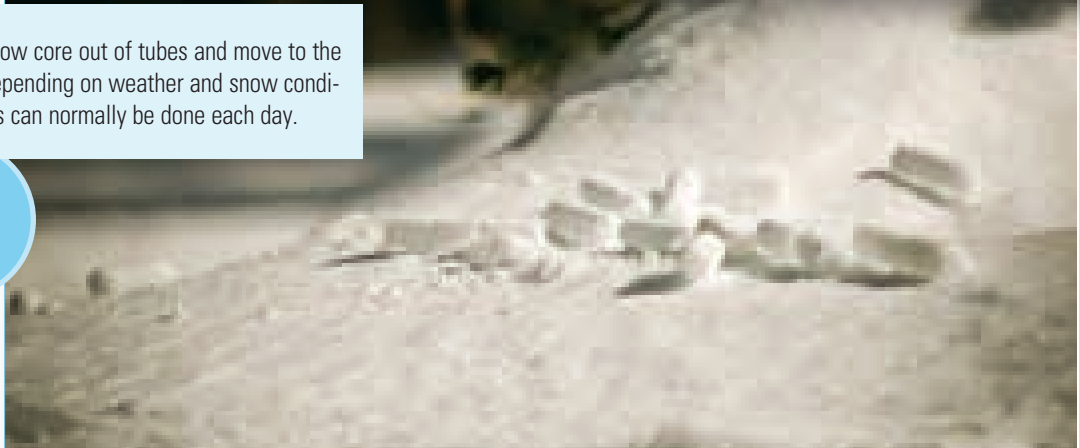
The tubes and snow core are then weighed. The hydrographers then determine the snow water content by subtracting the weight of the empty tubes, and record the data. The first reading called out to the person writing down the information is the depth of snow in inches. The second reading called out is the core depth, and the third reading called out is the inches of water. This is determined by using the Mt. Rose Scale. The fourth measurement is the density number, which Wade calculated on a calculator.

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They then dump the snow core out of tubes and move to the next sample point. Depending on weather and snow conditions, up to three courses can normally be done each day.

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# THE SNOW Surveyors

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## History of DWP Snow Surveys



Snow surveying, or the measuring snow depths to determine spring and summer water runoff, began in California's Sierra Nevada mountain range in 1906 with the work of Dr. James Church of the University of Nevada at Reno. Dr. Church began measuring snow on Mount Rose, just east of Lake Tahoe, to study the relationship between the amount of snow on the ground and runoff.

In 1910, the first permanent snow courses as we now know them were set up and measured in the Tahoe Basin. Hydrographers placed markers on the ground at specific locations and returned on a regular basis to measure the amount of snow at the site, and the water content in the snow.

Dr. Church's measurements helped put an end to battles between land owners surrounding Lake Tahoe and downstream water uses by predicting spring runoff so that water releases could be regulated to prevent both flooding and the waste of water. His pioneering work in snow hydrology continues to be the foundation for water supply forecasting today.

Hydrographers from the DWP visited Dr. Church in 1925 to learn his techniques. Taking what they had learned, DWP crews established snow courses and began regular snow surveys 1926 at four Eastern Sierra basins: Cottonwood Canyon, Big Pine Canyon, Rock Creek and

Mammoth Pass. Today, these four locations continue to provide valuable data used by DWP runoff forecasters.

In 1929 the California State Legislature, after seeking input from the major water providers in the state, enacted legislation that formed the California Cooperative Snow Survey Program. This established a coordinated and centralized snow survey program to provide information for water users across the state. By 1929 there were already 50 snow courses around the state being measured on a regular basis. Most of these courses were located in the Eastern Sierra and provided data for flow into Lake Tahoe and the Mono Lake and Owens River Basins. The CCSSP now has 40 members and measures more than 280 courses throughout California.

In the early years of snow surveying, hydrographers traveled to survey sites using a variety of methods including snowshoes, nine-foot wooden skis and even dogsled teams. More recent times have seen travel by snow-cats, snowmobiles, and even helicopters. However, hydrographers continue to rely on snowshoes and skis to get the job done. And the main part of the work still involves long days in conditions that vary from intense snowstorms to hot

sunshine and can even mean spending a night out in the back country.

Beginning in 1971 and continuing to the late 1980s, the DWP, in cooperation with the State of California, began developing a system to collect snow data from the back country without people having to visit far-off sites. Over the years a number of telemetry sites have been installed that now provide data that is updated automatically several times a day and relayed it to a central information collection location.

Mattress-sized "pillows" filled with an antifreeze-type liquid have been installed at snow survey sites. The weight of snow falling on the pillows displaces the liquid in the pillows, producing a data signal that is transmitted to the California Department of Water Resources in

Sacramento via telephone line, radio or even satellite. Data collected includes water content of the snowpack, temperature, wind and solar radiation. While the data is considered only preliminary until it is verified by hydrographers doing a snow survey, it is accessible over the Internet.

Although this system is still in the development stages, it provides valuable data used to determine trends in the snowpack. Tests are currently being conducted throughout the west with the hope of finding a more reliable instrument for monitoring water content in the snowpack. Until that time the backbone of the snow survey program remains the "snow surveyor," who measures the snow by hand, just like it was done almost 100 years ago.



The Snow Surveyors finish with their work.



After a hard morning's work, it's time to go home.

## Special Thanks!

The Club thanks the Snow Surveyors – Wade Taylor, Jason Olin and Justin Taylor – and Chris Plakos, the DWP's public affairs representative (and the guy who always comes through for us) for their cooperation and assistance in producing this story.

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