

California Streamin'

Bringing classrooms to the outdoors, and inner-city kids to the mountains.

By Mark Fitzgerald

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Walking down Hollywood Boulevard in Los Angeles a few years ago, I noticed a group of teenagers who had staked claim to a certain corner near Grauman's Chinese Theatre, a central tourist site known mostly for the display of celebrity footprints and handprints stamped in the large entryway's cement. There were about five in the bunch, restless youth who flaunted tattoos and baggy jeans. Arms crossed, heads tilted back, they leaned against a shop-building wall and appeared at odds with the lively people passing-by. They were waiting for something—anything, it seemed—to happen. It wasn't until a few blocks later, after a fleet of limousines crawled down Sunset Boulevard towards the fashionable restaurants of West Hollywood that I thought knew what that something was. These were kids who had grown up too soon.

From the low-rent boroughs of Westmont and East Compton to the gated estates of Bel-Air and Beverly Hills, L.A. is a metropolis that hangs from cliffs of opposite extremes. It has one of the largest percentages of poor people in America. In few other cities is the gap between the disadvantaged and well to do so obvious. According to a report last year by the Institute for the Study of Homelessness and Poverty, Hispanics make up more than 60 percent of the city's impoverished and account for over 70 percent of the students in the Los Angeles Unified School District (LAUSD), the second largest district in the nation. Here the need for effective public education, especially programs that expose youth to environments and professions outside of their neighborhoods, is compelling.

"Many of these kids have never been in the woods before," explains Barbara Applebaum, an educational specialist at the Santa Monica Mountains National Recreation Area. "It's not uncommon for their parents to work three or four jobs just to put food on the table, so they don't have the time or energy to take their children to the park." But thanks to a program called Parks As Laboratories (PAL), a field science project directed by the Izaak Walton League's Westwood Village Chapter, the National Park Service (NPS), and LAUSD, more and more of L.A.'s underprivileged youth have been learning through experience about the outdoors.

Started in 1991 by Robert Gagnon, president of the Westwood Village Chapter, PAL evolved through the chapter's effort to promote the League's Save Our Streams (SOS) program. "We wanted to get more kids involved with our stream program," Gagnon recalls. "So we talked to the National Park Service and they invited us to work SOS into a science program with the school district." To incorporate the program into

LAUSD's curriculum, Gagnon needed to write a learning manual for middle school science students that worked in conjunction with pre-established Global Learning to Benefit the Environment (GLOBE) protocols for taking scientifically valid field measurements.

Suddenly the scope of the chapter's outreach skyrocketed. Not only have members been given a chance to teach students from LAUSD's seventy-eight middle schools throughout the L.A. region, they also have benefited from GLOBE's international science program by gaining access to valuable educational resources and communicating with other teachers, students, and scientists worldwide through the Internet. "When we found out that we'd be working with L.A. Unified, we thought, holy cow, we could be wrestling an eight-hundred-pound gorilla," recalls Andrew Kissner, the chapter's vice president who also helped launch the PAL program. "And then it hit us that we were set. We didn't have to worry about funding or getting buses or cancellations. We were part of a larger machine and working to enhance hands-on education."

Using the Santa Monica Mountains National Recreation Area (NRA), a 153,075 acre unit of the National Park System located in Los Angeles County, as a laboratory for learning, the chapter worked in collaboration with the school district and National Park Service to build a course of study capable of meeting state and national standards and balancing classroom learning with hands-on instruction. Before long, the chapter was helping students carry out stream protocols and reporting accurate data to be analyzed through the Internet to advance a scientific awareness of the earth—successfully cultivating the SOS program and making it an indispensable part of the PAL curriculum.

Thirteen years later, PAL is stronger than ever, providing urban youth with a unique opportunity to apply science to the outdoors. Before going to the NRA, students view the League's SOS video and are given details about the sites they will be visiting. "We do pre-visits," explains John Blakenship, an education science program coordinator at the NRA. "We go to the classrooms and show the kids all the equipment and how it's supposed to be used, which saves us a lot of time when they come out, because we can move right into the hands-on stuff."

After learning about air, soil, and water—the three main areas of PAL's curriculum—the students are transported by bus to the Santa Monica Mountains to apply what they were taught in the classroom. During the fall and spring semesters, the NRA runs the program twice a week and hosts about thirty-five students per visit.

Once they arrive, the students are divided into six teams, which are led by field specialists who guide them in measuring the pH of the soil, ground and air temperatures, relative humidity, wind direction and velocity, and water quality. The water team tests nearby streams by examining such benthic macroinvertebrates as insects, larvae, and crustaceans and assessing their tolerance to pollution. "Everyone wants to do the water," says Kissner, who frequently leads the stream group. "One kid caught a bullfrog and everyone went berserk. They talked about it for days."

Keeping careful records of their observations, students also identify plants and wildlife in the NRA, which sustains a vast ecosystem of complex vegetation such as coastal sage scrub, chaparral, valley oak savanna, riparian woodland, and coastal marsh. Extending 46 miles from the Hollywood Bowl to Point Mugu and the coastline from the Santa Monica Pier west past Malibu, the site is the home of over four hundred species of animals, including mountain lions, coyotes, bobcats, and deer. Students usually spend about two hours in the field before submitting their data to the group leaders. The leaders send the information to the appropriate middle school to be correlated and loaded via the Internet into the GLOBE database. The data is also used by National Park Service specialists to monitor the health of the recreation area.

Back in the classroom, PAL students share what they learned and convey the importance of natural resources and conservation. “A lot of these kids learn better when they’re doing things hands-on,” explains Barbara Applebaum. “So PAL enables many of them who might not necessarily have done well in the classroom to shine in the field, and hopefully they’ll be more focused when they return to school.”

According to student evaluations compiled over the last four years, 83 percent of PAL graduates agreed that “National Parks are a good place to learn about science,” and 85 percent said they wanted to “visit parks again.” When asked to comment about the program, many students wrote that “you can learn a lot while having fun.” But perhaps the most promising statistic was that 97 percent of the students confirmed that “we should take care of and protect our national parks.”

More than 27,000 middle school students have completed the PAL program since it began thirteen years ago. Now PAL is in such demand that schools in LAUSD are put on a three year waiting list before teachers can enroll their class in the program. Despite this gridlock, in recent years the NPS has been able to expand PAL’s outreach to schools in Ventura County largely because of funding from the National Science Foundation, the National Oceanic and Atmospheric Administration, and other sources. “The teacher response to this program has been tremendous,” says Blakenship. “Some of the them have been coming out here since PAL started and they’ve spread the word to other teachers, so we get calls all the time from people wanting to sign up, but, lets face it, there’s only so many staff and buses to go around.”

Teachers new to the program are offered summer workshops in the Santa Monica Mountains to learn the scientific protocols before their students become involved. Data collection, ecology, meteorology, hydrology, and biology, are some of the main areas that the training addresses. Teachers earn University credits for the courses they take and are given priority when scheduling their classes for the PAL program. “They get an opportunity to learn things they never studied in college,” explains Henry Ortiz, a science resource teacher. “So the training gives them some content knowledge, but more importantly it actually brings to life the things that they’ll be teaching in the classroom.”

Because of PAL's success, other National Parks have expressed interest in working with schools to start similar programs. "I've mailed out numerous copies of our teacher's manuals to other parks," adds Blakenship. "So they have a good model to work from if they want to start a program." And so do other IWLA chapters. According to Andrew Kissner, it wouldn't be difficult for chapters in other regions, especially urban ones, to create a SOS program that meets state educational standards and present it to the schools. "They would eat it up," says Kissner. "All you got to do is say we'll help, we'll volunteer, and you're set. Then you can think about other things the League does. Air quality, for instance, you could do a whole semester on temperature and atmosphere. Or geosciences. You could focus on the layers of the earth."

The Westwood Village Chapter has also been instrumental in helping the NRA develop a Wildland Fire Ecology program for high school students. Studying the influences of wildfire in the Santa Monica Mountains' chaparral community, students learn process skills and problem-solving strategies. Working in a wide range of areas—from sites recently burned to sites not burned in more than fifty years—students conduct land, air, and water experiments and discover the importance of fire and its impact. "The high school program been phenomenally successful," adds Applebaum. "We can't thank the chapter enough. We've had such a positive experience, and it's been a great partnership over the last thirteen years."

When PAL students were asked on their evaluations whether they agreed "that people who worked in National Parks had interesting jobs," 84 percent said "yes." Well over half of the students said they would consider pursuing a career in the natural resources or park management professions. That PAL has been so promising, especially for the underprivileged, speaks volumes not only about the success of the League's and the National Park Service's effort, but also about the future of conservation in other urban environments.

I imagine this future as a limousine that pulls up to a group of kids whose backs are pressed to the wall. A door opens and a kind voice tells them to get in. *We're going to the mountains*, the voice says. *You don't have to wait anymore.*