Governor Schwarzenegger talks tough about stopping offshore oil drilling and protecting our coast and ocean—but in July he “lined out” of the state budget $950,000 for the California Coastal Commission. For those of us who appreciate clean water when we visit California’s beaches, or public access and beautiful coastal views, cuts to the Coastal Commission hit very close to home.

Among its many responsibilities, the Coastal Commission is the only state agency that can oppose the Bush administration’s push for more offshore oil drilling, and the only state agency with jurisdiction over all proposed California liquefied natural gas (LNG) terminals. Because of the governor’s action, the commission will continue to have only three positions to review all the energy projects along 1,100 miles of coast: the 36 oil leases, the multiple LNG proposals, all coastal power plant upgrades, and more than 20 proposed desalination plants.

For those unfamiliar with the Coastal Commission, any time you visit the coast you will have witnessed the benefit it provides to all Californians. The Coastal Commission was created more than 30 years ago, when Californians, concerned about the increasing urbanization and exploitation of their coast, banded together and passed an initiative to ensure that California’s coast would truly be protected for future generations. Their efforts led to the creation of the Coastal Act, governing coastal protection, and the

See Coast, page 4

The coast belongs to us all:

Elephant seals enjoy the coast at Piedra Blanca. Rasmussen photo
September
General Meeting

“Land of the Midnight Sun”
presented by Heather Anderson

September 21st at 7:00 P.M.
(Third Wednesday)

University of California Center
550 E. Shaw Ave., Fresno
(across from Fashion Fair)

Please see Heather’s article “Land of the Midnight Sun” on page 5 for additional information.

Dinner Date with the Speaker

Meet at the Imperial Gardens Restaurant at 5:15 for our monthly no-host “Dinner Date with the Speaker,” an opportunity to interact with fellow Sierrans. (6640 N. Blackstone, east side, just south of Herndon).

UPCOMING CHAPTER GENERAL MEETING PRESENTATIONS
(The General Meeting has been changed to the THIRD Wednesday of each month, except in December.)

September 21
Heather Anderson: Arctic National Wildlife Refuge

October 19
Rodney Olson

November 16
Helen Gigliotti: Journey to Exotic Burma

December 14
Kevin Hall: Very Important Updates on Fresno’s Air Quality and Measure C

Nominations for Chapter Executive Committee
If you are interested in serving on the Executive Committee, please contact the Nominating Committee by calling a current Executive Committee member. Additional information can be found in the Chapter bylaws located on the Chapter Web site at tehipite.sierraclub.org.
Conservation and Executive Committee Meeting
Thursday, September 1st at 7:00 P.M. (date changed to accommodate the Summit in San Francisco the following week) at Rod Webster’s home, 345 E. 20th St., Merced

General Meeting
Thursday, September 15th, 7:30 P.M.
Sierra Presbyterian Church, 3603 M St.
(M St. and Yosemite Ave., across from Merced College)

“The Politics of Air Pollution: How Will the San Joaquin Valley Get Healthy Air?”
presented by Kevin Hall

Every day millions of people are harmed by the San Joaquin Valley’s dirty air. Every year hundreds die. Kevin Hall maintains that the human health crisis in the San Joaquin Valley is not a scientific problem. The sources of pollution are known, their impacts proven. Nor is it a technological problem. The technology exists to clean our air. The Valley has a political problem.

“Clean air in the San Joaquin Valley is D.O.A.—Developers, Oil and Ag,” says Hall. “These are the political forces that control our regulatory agencies, direct our land use and, as a result, damage our lives.” Hall will lead a discussion to brainstorm local strategies for grassroots activism to achieve clean air.

A lifelong resident of the San Joaquin Valley, Hall has served as the Transportation, Air Quality & Global Warming Chair for the Sierra Club’s Tehpite Chapter since 1999. Along with coalition partners from the Latino Issues Forum, Medical Advocates for Healthy Air, The Sierra Club and Earthjustice, he has been privileged to serve as one of the leaders in the Valley’s grassroots clean air movement. Sierra Club California and the California League of Conservation Voters have honored him for his clean air advocacy.

A resident of Fresno, Kevin is Regional Political Organizer for SEIU United Healthcare Workers West. He is married to Anne Mosgrove and they are the parents of 14-year-old Joey Hall.

Outings
None planned by our local group this month, but see the Tehpite Chapter listings for a good variety of opportunities. AND phone Rod Webster at (209) 723-4747 if you would like to coordinate carpooling with others from our area who might also be going.

Solar Homes Tour – Experience the Solar Solution!
On Saturday October 1st, more than 55,000 people across the country will learn about and be inspired by solar energy technology and strategies on the Solar Homes Tour. Many of the homeowner hosts participating on the 2005 tour originally learned about solar on a previous Solar Homes Tour.

The innovators who have adopted solar technology will demonstrate how it works, what it costs, and why its time has come. Owners, designers, and/or contractors will be available at most sites to answer questions and discuss design options, construction practices, and solar equipment. The tour sites showcase energy.

See Solar, page 4
establishment of the California Coastal Commission to ensure the Act’s enforcement. Together they make up our nation’s preeminent coastal protection program, regulating coastal development and protecting California’s great coastal places.

Unfortunately, the coast is not yet clear for California’s landmark coastal protection program. In spite of strong public sentiment that California’s coast be protected, just days after reaching “agreement” with the legislature on a budget, the governor exercised his line-item veto to cut from it a total of $40 million of environmental funding. In a budget of over $117 billion, these cuts are miniscule, but their impacts on the coast and other environmental concerns will be immense. A third of the governor’s cuts came from environmental programs. “Their relative size to the entire budget makes these cuts very disappointing,” said Bill Allayaud, state director of Sierra Club California.

Especially hard hit, the Coastal Commission has already over the last few budget cycles lost almost 40 staff positions—one third of the agency—as its responsibilities expanded! In his negotiations with the legislature, the governor agreed on the $950,000 increase to allow the commission to hire new staff, but then he cut the entire increase. In addition to preventing the commission from hiring three new staff positions to deal with oil drilling and LNG terminals, the budget cuts also eliminate five new staff positions specifically earmarked for coastal access issues.

Sierra Club’s Great Coastal Places Campaign, with a statewide network of 5,000 activists, is united behind securing a guaranteed, adequate funding source for coastal protection. According to a new report sponsored by the California Resources Agency, California’s “ocean economy” of coastal tourism and ocean and beach related businesses amounts to $42.9 billion annually and generates more than 700,000 jobs. In the face of its ongoing fiscal problems, California must prioritize the coast.

You can help ensure the protection of California’s coast. Inserted in this newsletter is a postcard which you can send, urging Governor Schwarzenegger to renew his commitment to our threatened coast. This kind of action is very important to show decision makers that it isn’t just those who live along the beach, who value a clean and healthy coast. The coast belongs to all of us, and it is up to all of us to ensure it is protected.

Solar, from page 3

efficiency, active and passive solar technologies, and a wide variety of sustainable living solutions.

Eight communities in the Bay Area and Central Valley will provide more than sixty-five sites for (usually) self-guided tours of solar and green buildings. Tour Communities include Monterey, Santa Cruz, San Francisco, Oakland, Contra Costa, Santa Rosa, Arcata, and Fresno. Other sites may be listed at www.ases.org. Check www.norcalsolar.org for exact tour details and to pre-register.

Tour fee is $10 for up to two adults if registered before September 30th. The tour runs from 10:00 A.M. to 4:00 P.M. in most locations. Some tours include guided tour options—check website for details. Pre-registration is highly encouraged. Questions: (530) 852-0354 or info@norcalsolar.org.
Several summers ago, I backpacked in the Arctic National Wildlife Refuge in order to see what I was working to protect. I flew to the Hulahula River by bush plane from Fort Yukon, over acres of wetlands, and viewed differing types and colors of vegetation. As the pilot followed the braided Chandalar River, I saw the landscape gradually turn from forest to barren tundra, from greens to browns, yellows, golds, and oranges. We crossed the Brooks Range over what looked like giant snow-fingers, and then landed on a tiny gravel pad. I remember fording the thigh-deep, icy, silt-laden rivers, and walking through diminutive foot-high forests of willow, spruce, birch, and manzanita, slipping over tussocks, and stepping foot-deep in squishy moss. I read by the midnight sun, braved the glacier-fed rivers for a chilly morning spit-bath, and discovered a plover’s nest with four speckled eggs, just matching the surrounding moss. I marveled at a whole garden of lichen in a small square of tundra, at the endless variety of berry plants and wildflowers. It was a world of nature I will never forget: Dall sheep, a lone wolf or bear, a herd of caribou, arctic birds. Shall we do to the caribou what our ancestors did to the buffalo?

Congress, as you know, has targeted the Refuge for large-scale oil and gas development. “Unfortunately,” observed T. H. Watkins, “we do not have an energy policy; what we have is an addiction to oil.” The week of September 26 is the most likely time for a final vote on the coming year’s big congressional budget, the reconciliation vote to get various budget components coordinated and finalized. Our goal is to defeat any budget reconciliation package that authorizes drilling in the Arctic National Wildlife Refuge.

- Congress should vote against any budget reconciliation package that authorizes drilling in the Arctic National Wildlife Refuge.
- Congress should not use the budget process to advance the controversial issue of drilling in the Arctic Refuge.
- Opening the Arctic Refuge to oil drilling will destroy the pristine habitat of caribou, polar bear, migratory birds as well as native Gwich’in culture.
- Drilling in the Arctic Refuge will do nothing to meet our country’s energy needs. The U.S. should adopt a faster, cleaner, safer energy policy.

We also need to gain votes in the House of Representatives and be sure that all Democratic members stick with their party, especially conservative Central Valley Democrats like Jim Costa and Dennis Cardoza. We need their votes. We urge EVERY member of the Tehipite Chapter to contact these representatives and tell them to vote for the Refuge and against the budget in September:

Rep. Jim Costa: Fresno (559) 495-1621, D.C. (202) 225-3341, fax (202) 225-9308, e-mail congressmanjimcosta@mail.house.gov

If you can travel to Alaska only vicariously, try reading Watkins’ Vanishing Arctic, Miller’s Midnight Wilderness, McPhee’s Coming Into the Country, Lopez’s Arctic Dreams, or Michener’s Alaska. I wish you all a grand summer’s end, to explore and enjoy the wild places we love and work to protect. See you in September, refreshed, with beautiful memories, perhaps even of Alaska.
Death Valley the Hard Way
by Marcia Rasmussen

It's a long way across Death Valley. By car, it takes two hours to skim along that molten stretch of highway from Badwater to Mt. Whitney. By car, you wouldn't notice that the pavement is hot enough to melt the soles of your shoes. By car, you might miss the ripples left in the soft sand by swirling winds. And of course, by car, you surely wouldn't see the tiny dried wildflower arrangements that adorn the roadside. These are just a few of the reasons why I decided to traverse those 135 miles on foot.

The Badwater-to-Whitney course is irresistible to long distance runners—at least, to those with a penchant for extremes. The course begins in Badwater, a dark puddle of brine that is the lowest point in the Western Hemisphere. From there, runners follow a lonely stretch of highway over two mountain ranges, ending on the flanks of Mt. Whitney, highest peak in the 48 contiguous states. The course is traditionally run in July or August, when temperatures soar as high as 130 degrees. This isn't a run for the faint-hearted.

I was attracted to the Badwater course as a physical challenge, but to me it was even more than that. We miss so much as we whiz along in our air-conditioned cars. I wanted to slow down to the desert's own pace, to see and feel the vast expanse on its own terms. So I set out from Badwater, early on the Fourth of July, with several other runners who were attempting the same adventure.

The style of my journey was, well, a little odd, by Sierra Club standards. When most of us want to experience the wilderness, we heft a backpack and disappear into the backcountry. It's even a little embarrassing to explain that, in addition to following a two-lane highway, I was accompanied by a full crew, who fed and watered me every mile and tied ice-filled bandanas around my neck. But I assure you, no amount of coddling will ever make this journey a walk in the park!

People who run the Badwater course always have stories to tell. Mostly, they're stories of struggle and pain, of courage and perseverance. All of those things are very real out there, so real and so huge that they distract us from the other story. I had pain so intense that I sobbed shamelessly for miles. But in the counterbalance, I spent hours and hours when I thought of nothing but the majesty of the desert landscape. The sun moves ever-so-slowly across a brilliant blue sky. In the afternoon, the wind kicks up and pencils a new pattern of ripples on the patches of soft sand. Sparse vegetation, toughened by eons of dry wind, struggles to hold onto every drop of life-giving moisture. The plot is slow-moving, but this is the real story in the desert.

I shuffled along quietly, sometimes running, sometimes walking. In the afternoon of the first day, facing toward the west, the sun beat down on my chest with such intensity that I felt strangely breathless. Someone told me it was 124 degrees. As I slowed to a plodding walk, a raven flew alongside, glancing over his shoulder at me. He decided I was worth a second look, so he landed on the ground and cocked his head up to study me. His beak opened and he panted to cool himself. I wondered at the wisdom of nature, to create a bird so perfectly suited for the desert heat. Our eyes met at close range. Then, after a moment, he decided that there would be no handouts from this strange desert creature clothed in white, and he quickly flew away. Alone again, I wondered if I would fare as well as the raven, if I were wearing my black goose-down jacket!

The heat of the day slowly faded, and the western sky glowed pink and gold as I started up the long grade of the Panamint Mountains. I asked my crew for a Coke, and was glad for a little sugar and caffeine to boost my uphill progress. I sipped from the can for nearly two miles, and then held onto it until I could give it back to my crew. The can, however, had other ideas. It slipped from my hand and began rolling. I lunged for it wildly, but a gust of wind caught it, and the can danced merrily out of my reach. I turned and ran after it, chasing it downhill as fast as I could, but it remained always just beyond my fingertips. Very quickly I realized I could never run fast enough to catch it, so I stopped and helplessly watched as it bounded down the hill. It was an accident. There was nothing I could do. But to this day, I secretly harbor fears that the Litter Police will knock on my door late one night, hold up a Coke can as evidence, and haul me away in handcuffs.

“I wondered at the wisdom of nature, to create an all-black bird in the desert heat.”
As the dark hours of the night unfolded, I witnessed the amazing drama of the night sky. A moonless night, with no man-made lights for miles in any direction, made the stars brighter than ever before. I turned off my headlamp, as millions upon billions of stars illuminated my way. The Milky Way shone as a splash of paint across the middle of the sky. Every few moments, I watched in breathless wonder as a bright green meteor sliced across the western sky. And then, in the last hours before dawn, the Big Dipper tipped and poured its contents onto the Sierra Nevada. We’ve all seen an amazing night sky before. But usually we watch for awhile, and then go back into our houses or our tents. On this night, I watched the entire progression of the sky from dusk until dawn. I saw the path of each constellation as it danced across the expanse of sky. How many people have ever stayed for the whole show?

I can only begin to tell the whole story of my journey here. It was as if an entire lifetime were somehow squeezed into those miles between Badwater and Mt. Whitney. I can only leave you with a few snapshots. I can tell you about the spicy aroma of sage on the early morning breeze, as you climb to the 5000 foot elevation at the toe of Mt. Whitney. I can describe the joy of a 20-minute nap, after going non-stop for more than 48 hours. And I can sing the praises of water. After 123 miles of parched desert, I came upon the rushing, bubbling, gurgling, gushing whitewater of Lone Pine Creek. I have never seen such a beautiful thing in all my life.

I crossed the finish line at Whitney Portal after 53 hours and 36 minutes. It was, after all, something like a race. But it was more than a race. It was a celebration of people pushing beyond their limitations. But it was also a celebration of wide open spaces and the vastness of the desert. We need more places where you can run for three days without passing a fast food restaurant.

And yes, it’s a long way across Death Valley. I always knew that in my head. But now I know it in my heart and lungs, and down into the soles of my feet. Yes, especially in the feet.
Well, well, well...didn’t the summer go fast? And, here we are, revving up for fall and a return to monthly meetings? WELCOME!

Let’s Talk Pests: Nontoxic Pest Control. We’re all prey to the little buggers, so let’s treat them nontoxically.

American homeowners used an estimated 163 million pounds of pesticides in 2001 (That’s the latest year available.) Think of subsequent years since, and you can imagine that’s overkill...literally. Lawn pesticides decimate as many as 7 million birds annually in the U.S. Human exposures result in health problems that include higher cancer rates among children whose parents work with pesticides. And pesticide use in gardens is “a major source, if not the major source” of pesticide exposure for children with gardens, says the director of Pediatric Environmental Health Specialty Unit at U.C. San Francisco.

Know your pesticides: organophosphates (OPs), carbamates and pyrethroids all work by interfering with the nervous system. Chronic exposure to these chemicals can cause headaches, trouble seeing, problems with memory and concentration, confusion, fatigue and depression. Some varieties of pyrethroids can also trigger asthmatic reactions.

There are better choices out there but this article goes on and on. Please call me at (559) 226-0145 and I’ll provide a copy for you.

Please take action against pesticides. San Francisco has banned pesticides in public parks, New York City is phasing out acutely toxic pesticides, and Vedic City, Iowa has banned pesticide use altogether. Why not in Fresno? Wouldn’t it be great to contact our mayor’s office and the city council, to urge them to replace pesticides in parkland with integrated pest management? As I said, lots of better choices out there...call me.

(Thanks to The Green Guide #109)

Death Toll Linked to Shrimp

Last year’s tsunami that swept over Southeast Asia and claimed over 150,000 lives may owe part of its devastating force to the cultivation of cheap shrimp for Western consumption. Along coastlines in the area, vast swaths of protective mangrove forests have been cleared and replaced by shrimp farms. According to a report by the Science and Development Network in India, areas which retained mangrove buffers suffered far less damage than those in which aquaculture pens dominated the coastal zones. Well, what d’ya think? Ignorance or greed?

(Thanks to New American Dream, In Balance #32.)

No Goose Eggs

Scarecrows, noisemakers and fake coyotes haven’t worked, so scientists are testing bait laced with a contraceptive to keep down populations of federally protected Canada geese. The active ingredient in the contraceptive, nicarbazin, doesn’t build up in birds’ body tissues and is undetectable five days after consumption. The makers say that since Canada goose breed earlier than most other birds, the bait may not affect other species. (Very interesting, but we all know that there are those that won’t take the bait or, conversely, those that take too much. Then what?)

Not a Stutter

University of Washington researchers have found that the number of “dees” in the black-capped chickadee’s call of “chicka-dee-dee-dee” corresponds to the size of the predator being warned about. Smaller, more maneuverable hunters pose the greatest threat and get the most vocal response. Some thirteen predators, from pygmy owl to rough-tail hawk, as well as cats and weasels, were involved in the response test.

(Thanks to Eco-Mania/EcoNews 8/05)

Next month? Don’t be a stranger to our meetings—be a regular! ✫
September 3rd - Saturday
John Muir Trail Day Hike (5C)
Tuolumne Meadows to Yosemite Valley floor, 21 miles one way. Must be moderate/fast hiker. Call for details.
Carolyn Ordway (559) 449-7780 or (559) 281-8223

September 10th - Saturday
Day Hike—Strenuous (2B)
Little Shuteye. A wonderful jaunt to a great lunch spot peak.
Walt Taguchi (559) 435-2818

September 17th - Saturday
Day Hike (2A)
Grant Grove. Hike along the Ridge Trail.
Don Redmond (559) 268-1537

September 17th-18th (Saturday-Sunday)
We will car camp at the Laguna Seca County Park, and spend Saturday afternoon exploring the Presidio State Park and the Huckleberry Hill Nature Preserve in Monterey. On Sunday, we will bicycle Seventeen Mile Drive, from Lovers’ Point to the Lodge at Pebble Beach and back. Call early for this one.
Gerald Vinnard (559) 431-5780

September 25th - Sunday
Day Hike—Strenuous (4D)
Up Snow Creek, make a loop and come down Yosemite Falls. Needs an early start.
Walt Taguchi (559) 435-2818

October 1st - Saturday
We will hike cross country from Kaiser Pass to Idaho Lake, approximately two strenuous miles each way.
Gerald Vinnard (559) 431-5780

October 2nd - Sunday
Coyote Lake via Brewer, Tocher, and Beryl Lakes. We will visit four High Sierra lakes, three of them seldom visited, on a ten mile round trip that ascends less than a thousand feet. The hike will be partly cross country and may follow a jeep trail briefly. Coyote is one of the prettiest lakes that can be reached on a day hike. A friendly German Shepherd will accompany us on this hike. Limited to eight people.
John Cameron (559) 896-6919

October 8th - Saturday
Day Hike—Moderate (3C)
Ostrander Lake. A beautiful lake and a stone ski hut just south of Glacier Point Road in Yosemite.
Walt Taguchi (559) 435-2818

October 14th-16th (Friday-Monday)
Car Camp and Day Hike (3D)
Leave Friday evening and meet at Ballarat and camp out. In the morning hike 6 miles to Panamint city ghost town located in a juniper/pinion pine forest. We have seen big horn sheep three times in a row on this hike! Saturday night we will have steaks at Panamint Springs (if it hasn't sold yet.) Sunday we will explore either the lookout ghost town or go to the hot springs in the Saline Valley (and waterfalls in Beveridge Canyon) depending on what the group wants to do. Five dollar deposit required (refunded if you go on the trip) for this trip to handle mailing, maps, detailed itinerary, etc. High clearance vehicles required; 4wd not required. Possible extension trip in north part of Saline Valley for those interested. “You will learn about the environmental geography and history of the area.” Please sign up early for this one.
Richard Sloan 1509 E. Fallbrook Ave. Fresno, CA 93720 (559) 696-2971

October 15th - Saturday
Day Hike (2A)
Pincushion Ridge. Hike to a mesa above Millerton Lake.
Don Redmond (559) 268-1537

October 22nd - Saturday
Day Hike (3C)
Mount Nelson is in the Courtright area above Lake Nelson. Some cross country.
Walt Taguchi (559) 435-2818

October 29th - Saturday
Day Hike (2B)
Cliff Lake is in the Courtright area.
Carolyn Ordway (559) 449-7780

Weather: 1) up to 6 miles A) under 1,000 feet
2) 6 to 10 miles B) 1,000 to 2,000 feet
3) 10 to 15 miles C) 2,000 to 3,000 feet
4) 15 to 20 miles D) 3,000 to 4,000 feet
5) over 20 miles E) over 4,000 feet

Our Tehipite Chapter Outings Chair is Carolyn Ordway (559) 449-7780 jboard606@yahoo.com. Please contact her with any questions concerning our outings program. Contact the trip leader directly if you are interested in one of the listed trips. Tehipite Chapter outings are free and open to the public. All leaders are unpaid volunteers assuming responsibility for a good trip, and your cooperation is mandatory. Please review additional trip and participant requirements at www.tehipite.sierraclub.org/outings.
Water and You in the Central San Joaquin Valley

by Dr. David Cehrs, hydrogeologist

Prior to 1850, the San Joaquin Valley’s hydrology consisted of a sequence of perennial and ephemeral streams flowing from the mountains across the valley floor through a sequence of channels, wetlands, marshes and lakes. This system supported an immense fish and bird population. This environmental water was the first casualty of the coming of modern man. Agriculture then began collecting and redistributing the natural water through irrigation ditches and canals to ever expanding acres of trees, vines, and other crops. Today this agricultural water is being usurped by municipal-industrial (MI) uses of water at ever increasing rates; witness the planting of new housing everywhere in the valley.

Water is a finite resource, even though its replenishment is variable year-to-year, and because it is finite it is impossible to have infinite demands on the resource. A good illustration of this is the central portion of the San Joaquin Valley. Our two major rivers, the San Joaquin and Kings Rivers, regularly never reach their natural terminus, the Delta and Tulare Lake. Most years the San Joaquin channel is dry below Mendota Pool and Tulare Lake is no more. Once every five to ten years both rivers will carry water all the way but this is not the norm. In most years we, as a society, have used all the surface water flowing into our area. Because of ever increasing demand for water, we have been using groundwater (water stored in the subsurface) to make up the difference between our uses and the natural surface water input to the area. Beneath the Fresno Irrigation District (FID), which includes the cities of Fresno and Clovis, the average groundwater table has dropped from 13 feet below the surface in 1922 to more than 70 feet below the surface today. Can we continue extracting, or mining, groundwater indefinitely? No, it is a finite volume of water that has limits. These limits include bedrock at depth which stores little water; natural water quality changes with depth, where eventually it reaches ocean salinities; and groundwater pollution which decreases the volume of potable water in the basin.

So what will happen in the future? There are several possibilities including: (1) reduced irrigated agricultural (IA) consumption; (2) reduced MI water use; (3) buy-out of existing IA by MI users; (4) stopped or limited MI growth; (5) reuse of water; (6) changes in infrastructure efficiency and operations; (7) new infrastructure construction; (8) metering of all water use; (9) tiered water pricing; (10) rationing, re-allocation, and/or quotas for water use; (11) imbedding of water scarcity into land values; or, (12) the complete takeover and decimation of any remaining environmental water. Any one or combination of these options will impact and change our current lifestyles and will mandate greater governmental oversight and abnormally strict controls.

The most easily implemented and effective measure would be water metering and tiered water pricing on MI water use. In 2000 the per capita water consumption for the City of Fresno was 400 gallons per person per day. The national average is 185 g/p/d and the smaller Fresno County cities, including Clovis, averaged 270 g/p/d. We live in a near desert environment, yet we treat our water use as if it were trivial, not a necessity of life. Water metering and non-trivial water costs (the City of Fresno has flat rate water pricing, all the water you can use at one rate regardless of volume used) would reduce Fresno water use to volumes closer to that of the other valley cities. Tucson, Arizona, a metropolitan area similar in size, population, temperatures, and rainfall to the Fresno-Clovis metro area, meters and charges non-trivial prices for its water. Lawns are a luxury in Tucson; most houses have cinders, rock-gardens, succulents, or native plants for landscaping. Even the golf courses have minimal grass.

What about agricultural water use? Again lets look at the historic FID data. In 1939, there were 196,312 irrigated acres in the district and 7,886 municipal (city) acres. In 2003, this has changed to 145,197 irrigated acres and 104,011 municipal acres. So irrigated agriculture has declined with the advent of residential growth, and it will not be long before municipal acres surpass irrigated agricultural acres within the district. Irrigated agriculture uses variable amounts of water and is dependent upon crop type, soil type, irrigation method, and yearly climate. Older surface/flood irrigation methods may use up to 3 acre feet of water per acre per year. But because of cost, yield, and income factors, irrigated ag is becoming more water efficient. Today some crops on drip or micro-sprinkler irrigation use between 1.3 and 1.8 acre feet per acre per year. This is in contrast to the City of Fresno, which in the year 2000 used 3 acre feet per acre per year. In many cases, agricultural water use is now more efficient, on a per acre basis, than MI water use.

Looking at statistical correlations between the various FID data and the groundwater decline is instructive. (Remember that statistical correlations don’t imply causation.) The
correlation coefficient (0 implies no correlation, 1.0 implies a one-to-one correlation) is less than 0.1 for groundwater (gw) and precipitation, gw and Kings River runoff, and gw and FID diversions into the district. It is 0.4 between gw and FID irrigated acres but it is 0.89 between gw and Fresno County population. Increasing populations are demanding more water. This has been noted by FID and Kings River Conservation District reports which state: District (FID) wide, the five-year average depth to groundwater (1997-2002) increased by 0.9 feet with the urban depth to groundwater increasing by 9.1 feet and the rural depth to groundwater decreasing by 2.7 feet; the increased depth to groundwater in urban areas is due to urban pumping exceeding the volume of groundwater recharge and subsurface flow into urban service areas; and it is likely that overdraft conditions will remain as industry, agriculture, and population continue to expand within the Kings River service area, due to the limited natural supply of water available to the service area.

So are there solutions to our water resource problems? There is Fresno County public policy in the general plan that states: The County shall approve new development only if an adequate sustainable water supply to serve such development is demonstrated; the County shall limit development in areas identified as having severe groundwater level declines or limited groundwater availability; the County shall, prior to consideration of any discretionary project related to land use, undertake a water supply evaluation. The evaluation shall include the following: a determination that the proposed water supply is sustainable or that there is an acceptable plan to achieve sustainability. These are fine objectives if enforced, but they do not include the incorporated cities of the county which can ignore the problems and continue issuing building permits. For three years I have been involved with the Upper Kings Basin Water Advisory Panel and Forum which is a collective of irrigation and conservation districts, counties, and municipalities. The Forum is trying to initiate an integrated regional water management plan, which hopefully will address our local water use, domestic and agricultural, with the goal of limiting water use to sustainable quantities. This will not be easy, but the attempt needs to be made, not only for us, but for our children and the environment that sustains all of us.
Inside *Tehipite Topics*
Governor Cuts Cash for
Coastal Commission ..................Cover
Chapter General Meeting ..............2
Merced Group .............................3
Solar Homes Tour ........................3
Land of the Midnight Sun ..............5
Death Valley the Hard Way ............6
Ecoview .....................................8
Outings .....................................9
Water and You in the
central San Joaquin Valley ..........10

Did you know that *Tehipite Topics* is available online, approximately one week before you receive it in the mail? In color!
See www.tehipite.sierraclub.org.