The Building of Skyline, Geologically Speaking

Presented by Paul Heiple

Sunday, January 27, 2013
2:00 pm - Refreshments
2:30 pm - Featured presentation and SSA Board Elections

Saratoga Summit Fire Station
12900 Skyline Blvd.

Please bring a dessert to share. SSA will provide beverages.

Paul Heiple is a naturalist, interested in all aspects of science in the natural world. He is a staff botanist at Acterra, and a geologist by training. He worked for Getty Oil Company exploring for oil in the Williston Basin of North Dakota. The connection between the locations plants grow and the rocks underneath was an early observation that was very useful when mapping the geology in the east were most of the rocks are covered by soil.

Learn the way the rocks of Skyline came to be what and where they are today. The story is a long and slow tale with an end product that is where you live today. The story is written in the rocks if you know how to read them. It is a story of great movements both laterally and vertically.

Bring rocks you have found locally and have them identified and read.

Directions:
The Saratoga Summit Fire Station is located on the west side of Skyline Blvd. approximately 1 mile north of the intersection of Skyline and Highway 9.
What Is Your SSA Board Doing?

- **SSA General Meetings**: The Fall General Meeting was a well-attended meeting. The speaker was Dr. Elinor Gates from the Lick Observatory who gave an entertaining as well as educational talk on Telescopes and Science at the Lick Observatory, fostered by just right weather and a good attendance. Please check out the bio on our January General Meeting speaker Paul Heiple, who is a geologist.

- **SSA Board Turnover**: Three of the current Board members will not be running for election—Janice Compton, Jer Granucci, and Judy Grote. Karim Khaldi is moving out of the SSA area. Marianne Rose was appointed by the Board to fill out his remaining term. Please review Board nominee bios in the newsletter prior to the January SSA General Meeting.

- **Financial Transparency to SSA Community**: Please note that we are publishing a summary of SSA financials in the Skylines Newsletter. If you think we are missing something or the information should be presented in another way, please contact the SSA Treasurer, Bo Gimbal.

- **Public Safety**: An additional week’s work using the Ben Lomond work crew was completed on the Kings Creek Truck Trail (KCTT) using added money to the ‘RCD’ grant. Attention is now focused on the planning for the second grant (WUI grant) to complete the KCTT clearing. Several more community members attended the CDC (CA Dept of Corrections) training at the Ben Lomond Camp to be crew ‘sponsors’ for our work using their crews.

- **Public Roads**: SSA received a letter from CalTrans from District Director regarding the erosion north of Bear Gulch Rd on Hwy 35. This project is scheduled for 2013/2014, and no work expected before then. This area will be monitored so CalTrans can be notified if it gets more dangerous. Complaints also have come to the Board with regard to the quality of the latest chip seal on Highway 35.

- **Parks and Land Use**: SSA is one of the community organizations that received a request, and accepted, to be on a community advisory Board by MROSD. Communication is primarily via email and USPS. Thanks for Gretchen Bronstein for pushing to get the asbestos removed from the derelict cabin at Castle Rock SP. The Portola & Castle Rock Foundation funded this. The cabin itself should be removed soon. Eric Isacson pushed to get the tires removed from Castle Rock via a removal experiment with 200 tires. The P&CRF is looking into grants to help out with funding the removal of the thousands of remaining tires.

- **Adopt-A-Highway**: SSA volunteers conducted their bi-monthly litter pick-up on November 9 as required by the Adopt-A-Highway agreement

Submitted by Judy Grote

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<tr>
<th>Name</th>
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<th>Board Responsibility</th>
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<tr>
<td>Patti Begley</td>
<td>Highway 9</td>
<td>Membership Committee; Communications Committee; Skylines Editor</td>
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<tr>
<td>Brian Beckey</td>
<td>Rocky Creek</td>
<td>Adopt-A-Highway</td>
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<td>Janice Compton</td>
<td>Black Road et al</td>
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<td>Bo Gimbal</td>
<td>Highway 9</td>
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<td>Larry Watson</td>
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<td>Gary Gechlik</td>
<td>Highway 35</td>
<td>Vice President; Programs Chair; BAAQMD</td>
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<td>Jer Granucci</td>
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<td>Secretary; Membership Services</td>
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<td>Judy Grote</td>
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<td>Karim Khaldi</td>
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<td>Kim Hamilton</td>
<td>Oakridge</td>
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<td>Connie Kleijnans</td>
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<td>Larry Myers</td>
<td>Las Cumbres</td>
<td>Public Safety, SSEPO</td>
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<td>Ruth Waldhauer</td>
<td>Portola Heights</td>
<td>Membership; SPUG; Communications Committee; Hwy 35 Fire Safe Corridor</td>
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SSA Board Elections

SSA Board elections will take place at the SSA Winter General Meeting. One board member, Karim Khaldi moved before his term was up, and Marianne Rose was appointed to fill Karim’s term.

Current board members who are on the roster for re-election are: Patti Begley, Brian Beckey, Kim Hamilton and Larry Myers. New candidates are: Eric Jewett and Grace Welcome.

Info on our newest board members and candidates:

Eric Jewett
I am 69 yrs old, born and raised in Southern California until 1959 when my father was transferred to Lockheed Sunnyvale. I have lived in the south Bay Area (Santa Clara, Cupertino) more or less continuously since then.

I am an Electrical Engineer (now retired, 2009) by education and civilian employment, following retirement from the Navy after 20 years in 1986, my wife and I purchased the property I’m living on and commenced construction of a log home in 1989, and I’ve lived in it since.

My primary interests in the Skyline community are:

- Protecting our environment (I'm watching the Los Altos Rod & Gun Club issue closely - it started as a building permit question, now encompasses environmental damage from noise, lead and clay pigeons.
- Public disturbance –
  1) The Gun Club as above (pop, pop, poppoppop, pop); and
  2) (At night) the frequent "sideshow" nonsense in the Saratoga Gap parking lot and intersection: city kids bringing their cars up here late at night and spinning doughnuts in the parking lot, the intersection itself, and a turnout downhill towards Boulder Creek.
- Preserving and enhancing Castle Rock State Park.

Marianne Rose
I helped create the SSA way back when issues were fewer but people were no less passionate about this area. I have served as an officer and as a board member. I have lived on Skyline for over 40 years. I raised my daughter here. I don’t think a week goes by that I don't think about how wonderful it is to live here. Now that I seem to have time to help again, I'm back.

Grace Welcome
I am a transplant from the Pacific Northwest since 1974 and lived in Palo Alto and San Mateo before moving to the Skylon area in 1988. Terry and I married at our current residence in 1988 and have loved living in this area since then. We have two small businesses which we mostly operate from home and love the fact that we are able to do so. I have been for many years, and remain, a board member of the Skylon Area Association. I look forward to working with the SSA Board and membership in the coming year.

Thanks to Outgoing SSA Board Members

Four board members, Judy Grote, Jer Granucci, Janice Compton and Karim Khaldi will not run for re-election. The time they have spent volunteering for this community is much appreciated.

A special recognition goes out to Judy Grote for her many years of service on the board, most recently as the board President. Along with the South Skyline Association she is also President of the Portola Redwoods & Castle Rock Foundation Board and has been an active member of the South Skyline FireSafe Council. Her time and dedication to the Skyline community and State Parks is much valued.

SSA TREASURER’S REPORT 2012

Credits
Membership dues: $12503.00
Interest & other Income: $67.00
Donations: $480.00
Total Credits: $13050.00

Debits:
Newsletter & Postage: $4742.00
General Meetings & Speakers: $1989.00
Miscellaneous Expenses: $418.29
Grants: $7000.00
Total Debits: $14149.00
Bank Balances: $50063.00
Skyline Propane Users Group (SPUG) was formed to benefit SSA members. For information about joining, or for members wishing current information on the agreement with Amerigas, Kamps Propane, or Suburban Propane, please contact Ruth Waldhauer at ruth_waldhauer@yahoo.com, or 650-948-1466. Information is also available on our website at www.southskyline.org.

Recent SPUG prices with Amerigas/San Jose:

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<td>2.399</td>
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Recent SPUG prices with Suburban Propane/Scotts Valley:

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<tr>
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Northern Energy is merging with Amerigas. The process will take a year or more. In the interim, Northern Energy will honor the Amerigas SPUG price for SSA members who use Northern Energy.

Do what you can to conserve! The open market price is about $1.00/gallon higher than the SPUG price. Prices are subject to change as frequently as wholesale prices change. The prices we post are for the first of the month. Our SPUG rate is based on automatic regular route deliveries on a keep-full basis, not “will-call” service. Some propane suppliers offer members 55 years of age or older a 2 cent/gallon discount in addition to the SPUG group price.

Those whose membership in SSA has lapsed will be disqualified from receiving the benefit of SPUG price for propane.

The La Honda Fire Brigade Presents CERT Training

The La Honda Fire Brigade will be holding Community Emergency Response Team Training (CERT) on four consecutive Saturdays starting February 23rd through March 16th. No registration fee is required. Materials will be available along with a personal response pack and a CERT field operations guide. A drill will be held on the last day to practice the skills you have learned. The class will provide 20+ hours of FEMA designed training for citizens to become certified and trained to assist First Responders during disasters.

Sign up @ www.lahondafire.org. Capacity will be limited to 25 participants. Sign up early to ensure you can take care of your family and help your community when the next emergency strikes. Training dates are:

- Saturday, February 23rd! 9:00-5:00
- Saturday, March 2nd! 9:00-5:00
- Saturday, March 9th! 9:00-5:00
- Saturday, March 16th! 9:00-5:00

For questions please Contact: Linda Bennett 650-747-0462. To register online: www.lahondafire.org
CDC Crew ‘Sponsor’ Training Class March 6 at Las Cumbres

To ‘cash in’ on the great deal of having CA Dept. of Corrections (CDC) crews clear brush and trees along the Kings Creek Truck Trail and our public and private roads, we usually have to supply two trained observers. We are likely to be short of trained people this year, so come to the training! They call us ‘sponsors’, but we are mostly providing eyes to help the Cal Fire Captain in charge watch the crew. This training must be RENEWED ANNUALLY!

We have arranged for the annual training on *March 6*, at Las Cumbres Community Center, 9am - 1:30p. Please bring a lunch.

Call or email either of us to sign up (see below), or indicate on the back side of the SSA Membership form insert in this *Skylines*. We need your name, email or phone number. John Drew, South Skyline FireSafe Council (SSFSC), is again coordinating the training for us.

Other training dates are:
- **Jan 30**
  - 9am - 1pm at the Woodside Community Hall (behind the Pioneer Hotel building)
- **March 7**
- **March 27**
- **April 10**
- **April 11**
  - 9am - 1pm at the Ben Lomond Conservation Camp, located at 13575 Empire Grade Road, Santa Cruz Ca, 95060 (but above Boulder Creek)

Since the crews only work weekdays the training sessions are also only on weekdays. Sign up for those dates by calling the camp, 831-423-1652, with number coming. Names are not required.

Use Ben Lomond crews on your road??
Do the sides of the road into your home need fuel reduction for safe access in case of a large wildfire? The CDC crew (varies, about a dozen inmates lead by a Cal Fire Captain) can be qualified for clearing along private roads. The SSFSC will help you plan your project and get started requesting crew time. However, you should have some of your residents take the ‘sponsor’ training described in the above article, say, a couple per mile of road. Call us for information. The changes in the CA Dept of Corrections, sending inmates back to county jails may jeopardize this system, greatly reducing their future availability. So plan now to use them!

John Drew 408-395-9955, johnnydrew@msn.com
Dick Schwind 408-867-9422 dschwindr@yahoo.com

Book Review

**Room to Breathe**
Edited by Kristi Britt
Published by Heyday in collaboration with MROSD

This book is a community celebration with photographs, paintings, prose, and poetry by MROSD preserve users, an inspiring homage to the gift of wilderness in our midst! It serves as a keepsake for those who know this land well; for those that don't, it will be a revelatory introduction.

Available at local bookstores and at [www.openspace.org](http://www.openspace.org)

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HAM RADIO CLASS

The SC4 Amateur Radio Club is offering a two day class for everyone who would like to prepare for the Technician Class license exam.

**Saturday, April 6 and Sunday April 7**
9:00 to 4:30
La Honda Fire House,
8945 La Honda Road, La Honda

Getting your amateur radio license is easy and fun, and there's no longer a requirement to know Morse code: It's a simple, 35 question multiple-choice test. Pre-registration is required. Class fee of $25 includes text book and material.

For more information or to sign up: Contact Peter Chupity before March 23 by calling 650-747-0316 or by email ki6fao@arrl.net or visit [http://www.sc4arc.org](http://www.sc4arc.org).

Be Storm Ready!

See the information and registration form inserted in this newsletter.
Big Year for the SSFSC!

By Dick Schwind

The South Skyline FireSafe Council had great success in 2012, major accomplishments are listed here. We are making good progress at making our Skyline community more resistant to wildfires.

* Our great achievement was the completion of our first grant -- much more clearing ('shaded fuel break') along Skyline Blvd between Rte 9 and Black Road, and clearing down the first two miles of the Kings Creek Truck Trail (KCTT). Kudos go to Eric Isacson, our KCTT program manager, who did a magnificent job starting with the grant request and following through to completion. John Drew organized the turnout of volunteer sponsors for the innumerable days of monitoring the Ben Lomond crew. THANKS to all those VOLUNTEERS! Over 1500 hours of volunteer effort went into this project! This was quite a learning process for us, working within the world of grants!

* We finished the planning for the next grant, finishing the shaded fuel break down the remainder of the KCTT and a spur road. Fred Glover is now the program manager. The clearing has now started and many more days of crew work will require trained volunteer sponsors.

* We coordinated several defensible space free chipping projects with Santa Clara County FireSafe Council paying with their grant funds. We do partially reimburse defensible space and private road clearing costs.
  - We and MROSD shared the costs of more shaded fuel break along Skyline Blvd north of Rte 9. We keep improving our resistance to wildland fires.
  - We are starting a new program, offering homeowners a comprehensive evaluation of how resistant their home is to wildland fire and what improvements they should make. See the separate article on the program in this issue. Do make use of this free service!

Home Wildfire Defense -- SSFSC Enhanced Advisory Program

By Dick Schwind and George Johnson

The South Skyline FireSafe Council (SSFSC) is starting a new program, a comprehensive review of the ability of a home to withstand a wildfire. Yes, good home defensible space is the first element of your defense. However, is a good water supply available where a fire engine can reach it? Then can the home withstand an attack of embers or weaknesses to the intense radiation from the fire?

If you request it, a SSFSC volunteer team will come to your home and give you a FREE careful evaluation of the most effective actions you can take to improve your home wildfire defense. We have a lot of information to share with you and expect to leave you with a written evaluation including specific suggestions for how to proceed.

We will look at your house perimeter, how to protect your deck, your roof, skylights, gutters, vents, siding, windows and screens. We anticipate needing about an hour for this process. We will have a kit of samples to show and have handouts and a list of important web sites to visit.

You can sign up for this program on the enclosed SSA membership renewal form in the SSFSC section, sign up at the SSA general meetings, or by emailing or calling us. (You can also contact us if you have questions about this program, or other wildfire defense questions.) However, we will only offer this program to residents in our SSFSC area (roughly along or near the Skyline from Bear Creek Road to Old La Honda Road West, down Alpine to Middleton Tract, and about a half dozen miles each along highway 9). We are not offering this service to those in the Woodside Fire Protection District, as those residents should contact their Fire Marshall, Denise Enea, at 650-851-6206 for advice on wildfire defense.

Disclaimer: We volunteers believe we are well trained to provide this free service, but there will be a liability disclaimer for you to sign.

We welcome volunteers and donations - see the back side of the SSA Membership insert in this Skylines.
Dick Schwind  
President, SSFSC  
schwindr@yahoo.com  
408-867-9422  
George Johnson  
South Skyline Volunteer Fire & Rescue, retired, & SSFSC  
schwindr@yahoo.com  
ghj.2904@gmail.com  
408-867-9422  
408-354-1401
Native Plants Along Skyline

Oso Berry Bears a Closer Look
by Sarah Schoen

Oso berry (Oemleria cerasiformis) is a plant you might not notice, except when in bloom. And when the hanging white clusters of flowers appear, spring cannot be far ahead.

Oso berry is an erect, loosely branched shrub to small tree, 3 to 15 feet tall. The twigs are gray or reddish brown, and have chambered pith inside. The thin bright green leaves are 1 ½ to 2 ½ inches long. Appearing first as small bunches in late winter, they are narrowed at each end. When crushed they smell like cucumbers. In late summer they turn yellow before being shed in the fall.

Flowers are mostly dioecious, with separate male and female plants. Occasional flowers are bisexual. Blooms are in terminal clusters, the drooping white blooms have 5 clawed petals and sepals. Female flowers have 5 ovaries. Male flowers have 15 stamens and their petals are slightly longer than the females. Female flowers are fragrant and sweet smelling, while male flowers are said to smell like cat urine. Flowers appear February to April, just before or at the same time as the leaves emerge. The flowers are pollinated by bees, flies, and hummingbirds.

Oblong fruits are in clusters of 1 to 5 per female flower, about ¼ inch long. They ripen green to yellow to red to blue/black in midsummer, and look like little plums. The plant is also known as Indian plum. Fruits are bitter. They are eaten by birds, such as robins and cedar waxwings, who distribute the seeds. Mammals, including squirrels, deer, coyotes, fox, and bears also eat the fruit. Oso means bear. Fruits were also eaten by Indians, primarily those in the Pacific Northwest. Some modern westerners eat the fruits after they are cooked, sieved, and sweetened to moderate the bitter taste.

In the absence of flowers or fruits, the plants look a bit like leatherwood, (Dirca occidentalis). Leatherwood can be distinguished by the ability to have its twigs twisted into a circle, without breaking.

Oso berry is found from British Columbia, south to central California below 5000 feet, on shaded slopes and canyons. In the Santa Cruz Mountains, plants are more common on the eastern than western slopes.

Take A Hike...

Russian Ridge Open Space Preserve
by Ruth Waldhauer

On those clear winter days when you can see forever choose Russian Ridge.

From the Russian Ridge parking area at the northwest corner of Skyline Boulevard and the Page Mill/Alpine intersection, follow the Bay Ridge Trail and climb the steep rise. After a long switchback you pass a trail that leads left (south) to a trailhead on Alpine Road. However continue along the Bay Area Ridge Trail, go 0.2 mile to another junction where you can go right to the summit of Borel Hill (2572'). Few spots can beat this ridge for views that take in the Peninsula from Bay to ocean. From Borel Hill on a clear day in winter, with binoculars you can see the snow-capped Sierra Nevada through the gap of Niles Canyon to the northeast and the Farallon Islands to the west.

If it is too cold, just hike back to the parking area. But try to keep warm by continuing on to explore the Ancient Oaks. From Borel Hill return to the Bay Ridge Trail and turn right for a very short distance to meet a trail leading west which will bring you in 0.4 miles to the Ancient Oaks Trail. Turn left. Oak limbs arching over the trail form a welcoming canopy. Many of the oaks and buckeyes here are cloaks with a thick layer of moss. Many of the trees have multiple trunks rising from massive bore holes. Did they sprout from the stumps of ancient trees after a long-ago fire?

On about 0.3 miles you will meet a trail leading uphill to the left. Ignore it and continue on for another 0.2 miles where you meet a nameless trail. Turn left (uphill). Here open views are exhilarating. About half way along you will find a memorial bench. Enjoy! After 0.4 mile uphill you will meet the Bay Ridge Trail. Turn right and you will soon be at the Russian Ridge parking area. Maps are available at the sign board in the parking lot.
South Skyline Fire & Rescue News
By Andy Seigel, Captain, SSF&R

A Look Back at 2012
We’re wrapping up 2012 with over 150 incidents: 73% medical and vehicle accidents, 16% smoke investigations, 5% fires, and 9% other (including trees/wires down, public assist, etc.).

We were plagued with fire engine mechanical problems throughout the year. Our engine (2921) is out with transmission failure. We sent one reserve engine back with electrical problems, and the other with a stuck brake caliper. Getting parts for these old vehicles can be difficult, so they can be stuck in the shop for a long time! All of these engines, owned and maintained by Santa Cruz County Fire, are over 20 years old. Maybe something better will come along in 2013.

We put the new water tender to good use at several fires, including the “Las Cumbres Fire”. We planned to install two compartments in the rear of the vehicle, but the cost is higher than expected. We are looking to raise another $1500 for that project. We are grateful for any donations. The South Skyline Volunteers is a 501(c)(3) non-profit. Our business address is: Saratoga Summit Station, 12900 Skyline Blvd. Los Gatos, 95033.

Firefighter Spotlight
This month, we’ll swing the spotlight over to our youngest 2012 graduate: Austin Rugg. Austin grew up in the Santa Cruz Mountains, attending school at Lakeside and Los Gatos High. He currently lives in Indian Trails. He was attracted to the fire department as a means of giving back to the community. As well, he is considering a career in the fire service.

Over the summer, you might have seen Austin at Castle Rock State Park, where he was a senior park aide. Currently, he is working in resource management with State Parks. Austin really enjoys training at our monthly drills, as it is often “an opportunity to practice things we don’t do very often, so we can do it right when it happens”. He is wise beyond his years!

Would you like to join Austin? We are always recruiting candidates for the next Volunteer Academy. No prior experience is necessary as long as you’re over 18. We lost two members who moved out of the area in 2012, but with the four new members we finished the year with seven. We’d like to increase that significantly and make up for the inevitable attrition, so there’s always room for more! Please contact us to learn more if you’re interested in joining the team -- use the contact form on our website, http://southskylinefire.org.

Adopt-A-Highway
By Ruth Waldhauer

On Friday, November 9, Brian Beckey, the new SSA chairman for Adopt-A-Highway, lead an enthusiastic crew. Admire the photo.

Left to right: John Flood from Jikoji, Robert Bradford, Katherine Hargrove, Brian Beckey photo by Ruth Waldhauer.

Ami Jaqua and friends gather litter on November 13 along their adopted area of Skyline from Rapley Ranch Road to Old La Honda Road. Much of the litter they collected was debris left behind by the crew who recently did the paving on Skyline Boulevard. Shame on the paving crew!
Mountain Living with Solar Power and an Electric Car

By Adrian Cockcroft

We live at the Los Gatos end of Skyline Blvd, and over the last few years I’ve blogged about installing solar power and running an electric car. For Skylines, I’ve gathered together some of those posts and updated them.

We have two banks of panels from SolarCity, the first was installed early in 2009 on the house roof, and the second was added on the garage roof in spring 2011 when we justified additional electric use from installing a heat pump for heating and cooling our house, and ordering our Nissan Leaf. We got our Nissan Leaf at the end of June 2011, and are very happy with it. It’s fun to drive and is our first choice for any journey within range. Since the car is nearly silent and has over 200 lb-ft of torque it has great acceleration away from the lights, which quietly leaves the other cars behind. The low noise level is also great for listening to speech or music, and the steering wheel controls and Bluetooth integration with our iPhones works well for phone calls and music.

Laurel usually takes the Leaf for her 66 mile round trip commute, and if not, I take it on my 20 miles round trip commute, and any shopping trips at the weekend. So far we have averaged about 1000 miles per month, mostly mountain roads and freeways, which is the worst case for electrical consumption. The Leaf collects its mileage and power use, and we can go back to look at the activity.

The record for August 2011 shows 1003 miles at 3.8 miles/KWh and a total of 264.6 KWh. We pay about 10c/KWh, so if we had charged at home that’s $26.46. Since we also charge at work for free it’s more like $15. We have grid-tied solar power and time of use metering for a cheaper overnight rate. The meter runs backwards during the day at a higher price, and the Leaf has a charging delay timer so that we can plug it in when we get home, then it starts charging when the cheapest rate starts at 9pm.

1003 miles in the cars we would normally drive, which get about 20mpg, uses 50 gallons of premium gas at about $4.10 totaling $205. So we actually saved $190 in August 2011.

If Laurel drove to work in the Leaf every day, 22 work days a month at 66 miles is 1452 miles, she tops up the charge at work each day and gets about 4 miles/KWh on that route so that’s under a dollar a day. Our gas cost would be $298, so she could be saving about $280/month. That takes a big chunk out of the cost of buying the car in the first place. On top of that, the servicing costs are minimal, no engine oil changes, no complicated gearbox, and the brakes last longer because the regenerative braking system takes a lot of the load. The main maintenance cost is replacing tires. We could have saved on gas costs by buying a hybrid, but they are less fun to drive and you are still paying to maintain a gas engine and a very complex transmission.

The icing on the cake is our white (for pure electric) car pool lane stickers, so Laurel can take the freeway in rush hour and zip silently past all the Prius drivers whose yellow (for hybrid) stickers no longer get them in the car pool lane. It took a total of ten weeks to get the license plates, then apply and get the white stickers.

So the value proposition for the Leaf is that it is much more fun to drive than a high mpg economy car like a Prius, gets you in the car pool lane (if you live in California), and the purchase cost is offset by ultra-low running costs if you use it regularly.

We aren’t alone in figuring out that this is a good deal. At last count (end of 2012) there are more than ten Nissan Leaf owners at Netflix, along with several Volts (the latest version gets a green carpool lane sticker) and several Teslas. At Informatica in Redwood City, Laurel is among several Leafs and Volts sharing the chargers.

We leased our car on a three year 36,000 mile plan. We included the home charger installation in the payment (about $2K), put down a $2K initial payment and got a $7500 federal rebate bundled into the deal. Actual payment including taxes as one of the first Leaf owners was over $500/month, the current deals are much lower than this and Nissan is about to release the cost reduced US built Leaf in January 2013. We got a $2500 state rebate paid directly to us after signing up for it, which covers the initial payment. We leased because we think that in three years time there may be big advances in electric car technology, we could decide to keep the Leaf, or give it back and get the pick of the 2014 models.

For much more discussion about the car, the MyNissanLeaf forum is quite active.

http://www.mynissanleaf.com/ One thing I found there is that upgraded springs and dampers are available, since we do a lot of mountain driving, I upgraded the suspension to be stiffer and better damped than stock.

The first question everyone asks is how far will the Leaf go, and the answer is between 60 and 100 miles per charge, but it depends on where you live and how hard you drive. The usable capacity of the battery pack is about 21KWh, the actual spec is 24KWh, so there is a little bit of extra capacity beyond it’s "I'm empty" point. if you drive a lot of freeways at speed and climb mountains like we do, 3-4 miles/KWh gets you 60-80 miles. In a flat urban environment 4-5 miles/KWh is quite possible to get 80-100 miles.

Since we live at the top of a mountain (2400ft) and work near sea level, it’s a good idea to charge the car to 80%

[Continued on pg. 10]
Mountain Living with Solar Power and an Electric Car  [Continued from pg 9]

full at home, and 100% full at work. This way there is regenerative braking for the initial downhill run, which is free power and also saves the brake pads. It takes about 1KWh to drive to downtown Los Gatos, and about 6KWh to drive back up the hill, so we need about a third of the battery left to get home, and sometimes top up at a public or work charger in Los Gatos.

Our Nissan "carwings" summary page for August 2011 is shown in this link: http://2.bp.blogspot.com/-87l2LbFlha8/Tnr1c2gWylI/AAAAAAAADAV4/PE-e5zgsVE0/s1600/Screen%2Bshot%2B2011-09-22%2Bat%2B12.54.35%2BAM.png

We just completed our first full year where we didn’t change our solar installation or usage patterns over the period that PG&E measures, so we have a clear baseline of how much we generated and used. Solar electric charges are quite complex, so having a real example may be helpful, although everyone’s situation will be different.

Our system is a grid tied net metering setup. This means that we generate more electricity than we use during the day and run the meter backwards in the summer, then use (cheaper) electricity at night and on rainy winter days from the grid.

Once a year our PG&E bill is netted out and we pay the difference. In the period ending September 2011 our total electric bill was about $500 but during the year we charged everything by adding a second solar array, a Nissan Leaf electric car and a heat pump for heating and cooling. This year, with a consistent setup for the entire period, our bill was negative, so we didn’t owe PG&E anything. However, this didn’t mean that PG&E paid us the difference, because the payback rule is based on how much KWh you generate rather than how much you would have paid for it. In our case, although our net bill was minus $495, we used 610 KWh more than we generated for the whole year. The details of our PG&E bill are shown below.

In effect, we could have used another $495 worth of electricity for free. Going into next year, we will set the heat pump to work harder at lower temperatures before it switches over to propane, which will reduce our carbon footprint and save us some propane costs. For some of last winter we used propane when the outside temperature fell below 45F, and at some point we reduced that to 40F. Unfortunately the controller setting we have is in increments of 5F, and I’m doubtful that we can pump heat out of air at 35F, but it’s worth a try. We already converted our other appliances from propane to electric, and other than the heat pump our major consumers are a large tank electric water heater, induction range, clothes dryer, hot tub and well pump. We did around 11,000 miles in the Nissan Leaf in the year-long period measured by PG&E, but estimate that about a third of our charging was at work, as Laurel’s commute is far enough to be an easy one way run, but requires a charge to get home again up the hill (we live at 2400ft, and she works at sea level!). She can take the car pool lane with the "white sticker" that pure electric cars get, which saves a lot of time, but running at high speed on the freeway uses a lot more power than around town. When I get to use the Leaf my commute is much closer and I don’t bother charging it at work. Our long term average consumption for the year is 3.7 miles/KWh, which is worse than most Leaf owners because of the freeway miles, hill climbing and "having fun". We don’t pay for charging at work, and the marginal cost of electricity at home is zero because we are generating a negative net bill for the year, so we only use the "ECO" driving style if we are pushing the limits of its range on an unusual trip. The Leaf is the first car we pick for drives in range, it’s entertaining to drive as well as having extremely low running costs. With a total of over 16,000 miles we’ve had one free battery check at the Nissan dealer and it’s now due to have its cabin air filter changed and have a software update.

Here’s the year so far as recorded by the Leaf’s "Carwings" system.

http://4.bp.blogspot.com/-i4h5WNaE5hU/UEMRxxxEbI/AAAAAAAADAZo/dZbrdgkFw7Q/s1600/Screen+Shot+2012-09-02+at+12.57.19+AM.png

The PG&E tariff we are on is called E6 Net Energy Metering, it has three rates for the summer, and two rates in the winter. The rates and rates are described in these documents at the PG&E web site:  Rules - http://www.pge.com/tariffs/tm2/pdf/ELEC_SCHEDS_NEM.pdf


The rate that PG&E will pay us for any extra KWh we generate is about 3 cents/KWh as described in this document:

http://www.pge.com/includes/docs/pdfs/shared/solar/AB920_RateTable.pdf

Our base overnight rate that we pay to consume power is around 10 cents/KWh, the afternoon rate that we run the meter backwards on is around 28 cents/KWh, this is why we can generate hundreds of dollars in a negative bill while using hundreds of KWh.

Our setup is in two arrays that I described on my blog before: http://perfcap.blogspot.com/search?q=solar. The total summer peak output is about 10KW, and we get up to 70KWh per day. In the winter this drops to about 40KW per day, and clouds and rainy days greatly reduce the output. We’re in a sunny spot on top of the mountains, and the monthly output from the 6.5KW array is shown in the plots below since we turned it on in April 2011. [Continued on pg. 11]
Mountain Living with Solar Power and an Electric Car [Continued from pg 10.]

The other array adds about half this amount. Our annual true-up period runs from the beginning of September to the end of August. http://1.bp.blogspot.com/-01uliCRVEmow/UEI9rGMRIii/AAAAAAAAAZA/D56seSEdgnml/s1600/Screen+Shot+2012-09-01+at+11.32.36+PM.png

http://3.bp.blogspot.com/-66R_kOINGyc/UEI9rBB5rI/AAAAAAAAY4/u1lXz2ZM2wY/s1600/Screen+Shot+2012-09-01+at+11.32.09+PM.png

PG&E sends us a bill every month for about $11 of connection fees and taxes, and the current running total. Our final bill for the last year is shown in the link below. http://perfcap.blogspot.com/2011/02/solar-power-more-panels-on-garage-roof.html

Our solar costs were described in a blog post in 2011; current costs for solar installations are much lower. http://4.bp.blogspot.com/-DOef95JAU/UEMUXcS8-I/AAAAAAAAAZ4/x-E1fbN87Kk/s1600/pge2012-1small.JPG

http://1.bp.blogspot.com/-KWVP9NJQP0/UEMNs5aQ-9I/AAAAAAAAY4/hU19u-jL3vo/s1600/pge2012-2small.jpg

In summary, we’ve spent the last few years converting our house and part of our commute energy footprint to solar, the technology is mature and reliable, the costs and payback made sense for us when we did them, and are now even lower, and now we have enough spare solar electricity left over each year to run a second electric car.

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