THE CALIFORNIA ACORN REPORT Making acorn counting great again since 1980

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The Official Newsletter of the California Acorn Survey Walt Koenig and Jean Knops, co-directors

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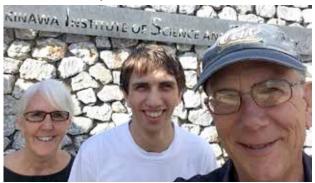
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What does it take to make acorn counting great again? For that matter, when wasn't it great? Personally, I can't think back that long ago, but then again, I'm only a spritely 68, so no doubt many of our more mature subscribers look back fondly on those halcvon days when the acorns were huge, sweet, and chocolate-covered. In any case, whatever it takes for acorn counting to be great, there's no doubt that this year provided it. First, the year got off to a fabulous start with our house-warming party on 27 January, complete with 79 fellow acorn enthusiasts. For those of you who didn't make it, you missed one of our signature perfect days as well as a lot of great food, company, and yes-a look at our wonderful new house, now having risen Phoenix-like from the ashes of the 2015 Tassajara fire. Please come and visit when you find yourself in the vicinity of the Monterey Peninsula, or are just in need of a *tête-a-tête* to discuss the current state of acorn counting in America.



Here it is, for those of you who haven't made it out yet: the brand-new, improved, all inorganic, GMO-certified Rancho Searcho-no-Moro. Thanks again to Mike Newton, Angel, Carlos, and Wayne for building it for us. This was taken in August after a summer of intensive landscaping by Janis, Angel and yours truly. If we can manage to keep the gophers at bay the place should be looking pretty spiffy by next spring.

With the new house finally underfoot, we celebrated by immediately running off and visiting our F1s, starting with Dale, who's currently a postdoc at the Okinawa Institute of Science and Technology (OIST) located in beautiful Peoria, Illinois, just outside of Chicago. Just kidding: by a remarkable coincidence, OIST is in fact on the island of Okinawa, Japan, which we visited after going to Taiwan, where our ex-Cornellian friend Shen-Feng had gotten me invited as part of the biannual acorn festival at the Biodiversity Research Center of Academia Sinica, his home institution.



Janis, Dale, et moi at OIST last winter. OIST focuses on several modern fields of interest including topology (Dale's field), cosmology, and the science of acorn enumeration, or as they like to say there, ドングリ Whatever the state of acorn counting, Okinawa definitely IS great again, and we had a fabulous time being introduced to shabu shabu, spam sushi, and several local dishes I've now forgotten the names of, but which Dale

pronounced in flawless Japanese.

By the way, I would like to assure all my friends and former colleagues that despite traveling and conducting the annual acorn survey. ľm keeping up my rigorous retiree's schedule of weekly mani-pedis. L♥ve Nail in Okinawa kept me in shape on our trip to see Dale thanks to their generous policy of "Walk-in OK!"



Next up was visiting Phoebe, who has relocated back to Ithaca—where she is under the misimpression she grew up—and masterminding the takeover of the universe by honeybees. Our trip to see her in mid-July was a whirlwind of visiting not only her and her partner Benjamin (yet another mathematician), but getting together with our friends Ron and Sarah, Barbara and Chuck, Steve and Natalia, and, last but not least, Jim and Anne, all of whom, I might add, are overdue for a visit out west to check out the new improved *Rancho Searcho-no-Moro*. And even then we missed people we would have liked to have seen, including Chief Beewrangler Tom Seeley and Cliff Kraft, who was presumably off juggling fish in the Adirondacks.



Ithaca was practically one nonstop dinner party after another, which was fabulous, if a tad exhausting. (How was I ever going to rest up for acorn counting?) Here, perfecting my selfie-taking technique at the first of our well-attended dinner parties in our cabin on the west side of Cayuga Lake, are (withershins from the right) moi, Natalia, Benjamin, Phoebe, Jani Lou of the ravishing white hair, Sarah, Ron, and Steverino.



And here, posing for the 25th anniversary of their UC Berkeley graduation portrait at the side of their lovely house on White Park Road in Ithaca, are Anne and Jim, who were kind enough to host us for a couple of days after the raucous shenanigans of the purple martins drove us out of the lake house. Many thanks, guys!

Finally, I have to include this photo of Phoebe and Janis of the ravishing white hair simply because they're both so adorable. This was taken on 19 July at the Westy in Ithaca where Phoebs and Benjamin pick up their weekly box of organically-grown



acorns from Plowbreak Farm CSA.

UP AND OUT FOR THE COUNT

In addition to our time in Ithaca, we underwent an especially rigorous precount training period thanks to on-site inspections by not only local officials (long-time California Acorn Survey supporters Robert and Tania from Los Altos) but also the international team of Hugh and Sylvia from Mexico City. I wish to particularly thank Robert for lucidly explaining blockchain to me, which I can now add to the list of modern phenomena I thought I understood for at least a few minutes. Meanwhile, Hugh and Sylvia, colleagues from UNAM who generously hosted me in Old México last fall, spent a week basking in the upper Carmel Valley sunshine before investigating the acorns in Napa and Sonoma Counties. Other visitors included long-time oak enthusiast Dick Sage, up from his home in Argentina, Patty Gowaty and Steve Hubbell during their escape from LA, Bruce Lyon from Santa Cruz, and Janis's sister Sandy, who apparently got tired of keeping the squirrels from eating the acorns in her

yard back in Iowa City.

While I'm on a roll with portraits, here's one of Tania and Robert feigning interest as I regale them with stories about all the acorns we counted while waiting for the end of rush hour on my way home the last



day of the statewide survey. Robert, incredibly enough, was my freshman college roommate and met Tania our senior year when we were all Stanford trailer trash and counting acorns was but a twinkle in my eye. Since then, they've fed us more times than I can count while passing through the Bay Area.

BURN ACORN BURN!

Last but not least, *California Acorn Survey* official gin-and-tonic maker Bill Carmen and General Counsel Karen Nardi enticed us into attending *Burning Acorn*, the world-famous event celebrating the beginning of acorn-counting season, in Black Rock City, Nevada, the last week of August. For those of you who have never heard of, much less been to, *Burning Acorn*, all I can say is that it's an adventure the likes of which you're unlikely to find anywhere else. Even Jani Lou of the ravishing white hair enjoyed it and is up for going again, at least as long as we bring a hexayurt to stay in rather than dragging along a Cruise America RV, which was loud, scary to drive, not all that comfortable, but very, very expensive.



Bill and Karen's hexayurt out on the Playa at Burning Acorn. We were instantly converted into hexayurt fans, especially after lounging in the downstairs rec room. We never did figure out how Bill managed to get a hot tub in there, however.

There's a truly incredible amount of creative art at Burning Acorn. On the left c'est moi in the tiny house made of old pieces of discarded





corregated iron perforated with hundreds of bullet holes as a memorial to the many children who have been similarly decorated by god-fearing second-

amendment-loving mericans over the years. On the right is one of our favorites: a 40' jellyfish make out of hundreds of pieces of blown glass. The whole event is really quite amazing.

ARE WE GOING TO COUNT ACORNS OR WHAT?

Why ves we are! (Thanks for asking.) The count season was especially prolonged this year, starting on 19 August when I drove to Davis to meet Ian, who had come from Fort Collins to count the isolated valley oaks and then spend several days with a colleague from Colorado (Rachel Sitz) looking for drippy (or is it droopy?) acorns. They found lots of the latter, but once again the valley oak crop was marginal around Davis, both in isolated and non-isolated trees. We keep hoping for that mast year that will allow us to say for sure whether isolation reduces acorn production (presumably because such trees are more pollen limited), a question that, as an inveterate curmudgeon and contrarian, I'm voting no on, despite a lot of evidence (some from our own study) suggesting they are. We'll have to wait and see. Fortunately, there's always next year.

In the meantime, we got to catch up and see what Sacramento Valley farmers are growing this year, which seemed to be particularly heavy on sunflowers. Why sunflowers? Heck if I know, although Ian had an hypothesis that it had to do with producing hybrid sunflower seeds, or something along those lines. Seemes unlikely to me, but what do I know? I don't even work here anymore.

Ian admiring a small portion of the many acres of sunflowersapparently on the order of 50,000growing in the vicinity of Davis this year. These sad-looking specimens are. obviously. past their prime; apparently they're quite a sight when they bloom in the spring.



Next up was meeting Bill at Jasper Ridge on 5 Sept. on the heels of our return from *Burning Acorn*. With only two of us, Jasper Ridge took most of the day, especially after we spent time tracking down a mystery bird making odd chirping noises hiding high in a tree that turned out to be a white-tailed kite. (Or is it a black-shouldered kite? Make up your minds, guys!) In any case, when we finally finished, Bill headed home to Mill Valley while I picked up Kyle at the Stanford Student Union and drove down to our tanoak site in Santa Cruz. As usual, the tanoaks had a good crop. The bad news, however, was that two of our trees had died, possibly the first casualities of SOD for the *California Acorn Survey*.

Kyle pigging out at Taqueria Santa Cruz on Monterey Street on the way to Carmel Valley after the count on 5 Sept. Kvle kindly volunteered to not only come on the entire acorn survey but count the acorns on the marked valley oak branches abandoned by Mario when, after 4+ vears, he left Hastings to grovel to the Mother Ship



as a postdoc in Cornell's Lab of Ornithology. Good luck to Mario and many, many thanks to Kyle.

But all this was, of course, just the beginning. Bill took the bus/train to Monterey on Saturday, 8 Sept., after which we sped through the Hastings acorn survey, counted the tanoaks at Chews Ridge, and rested for a good half day before heading south for the statewide count on the morning of 11 September.



Acorn-counting is always hectic, but nonetheless Bill, Jani Lou of the ravishing white hair, and I squeezed in a dinner and a selfie on the back deck of our house before embarking on the statewide survey the next day. Smile everyone: it's acorn time! Not to mention yet another of our patent-pending perfect days.

A BRIEF TRIBUTE TO CALIFORNIA ACORN SURVEY POSTDOCS

Speaking of Mario, it's time for me to take a brief break and thank all the postdocs that have been a part of the project over the years, starting with Jean, who hung around after finishing his thesis back in the '90s. Jean inspired the expansion of the oak project from its humble beginnings in 1980 and instigated the statewide survey with me in 1994.

Perhaps this has you wondering: "what the heck happened to Jean, anyway?", given that he's been part of the statewide survey every year since 1994 except for 2012, when he was on sabbatical in China. Jean has always had a "thing" for Chinagoing back at least as far when he hosted Xiaoan and Wenjin-the Chinese Dudes-on the survey back in 2010, and this year he gave into the urge to embrace his passion for the Orient and has, at least tentatively, moved there for good as Head of the Department of Health, Environmental Sciences, and Counting at Xi'an Jiaotong-Liverpool Acorn University in Suzhou, Jiangsu Province. Can't say as I know exactly where that is, other than far, far away, but having just moved there in August, Jean had to skip the survey for only the second time in 25 years. With luck he'll be back, assuming he can handle eating tacos and enchiladas for a couple of weeks after a year's diet of Suzhou specialties, which apparently include squirrel-shaped Mandarin fish, Fengzhen noodles, and mooncakes.



Jean looking appropriately Headlike in a photo published on the University website shortly after taking control of its entire Acorn Counting Division in September. We miss him, but look forward to his bringing a Sino-Dutch twist to the current taco-centric survey in future years.

After Jean, the project was postdocless until I scored an LTER grant from NSF in 2008, which shepherded in an era of intense monitoring of flower production and phenology of the valley oaks. Without quite enough money to hire a "real" postdoc for the entire length of the grant, I initially recruited Kyle, who had previously been helping with the woodpeckers, to fill in, which he graciously did for the first two years until he went to the University of Nebraska as Jean's Ph.D. student to start a project of his own.

After Kyle came Brian Barringer, who did a fine job for a year until he left for the Midwest where he's current a professor at the University of Wisconsin Stevens Point. To fill in, Kyle returned along with Tom Kraft, another fabulous former FA, to count flowers in 2011.Then, in 2012, I was lucky enough to hire Ian Pearse straight from UC Davis. Ian stayed for a couple of years but once again the call of the Midwest was too great and he left in 2014 for Champaign-Urbana, where he stayed until getting his current job with the USGS in Fort Collins.

Last but not least was Mario, who I have to say was not necessarily the obvious choice but turned out to be great, not only doing excellent work studying the acorn-harvesting habits of scrub-jays and acorn woodpeckers but immersing himself in the mysteries of oaks and masting behavior, in and among his annual trek home to Switzerland where he helps out with some kind of Satanic sand sculpture ritual. I guess you can't expect those Swiss to spend ALL their time yodelling in the Alps and stuffing themselves with fondue.



admiring one of the tanoaks at our Santa Cruz site back in 2017. Mario was great; I've even forgiven him for forgetting remind to те to

Mario

retrieve the new GPS unit I left on top of the minivan before we drove off that day.

This summer time finally ran out for Mario, but in his usual smooth fashion he succeeded in talking Fitz at the Lab and Scott Sillett at the Smithsonian into hiring him for at least another year. Hence, after being a Cornell postdoc for the last 4+ years, he's still a Cornell postdoc but one who actually hangs out in Ithaca. Have fun shoveling snow, Mario, and keep up the good work. And thanks to all the postdocs who worked on the project, especially including Kyle, who returned yet again to become the unofficial "last" postdoc on the project when he kindly volunteered to help out with the survey this fall.

BACK TO THE SURVEY

First stop was Pozo, where mortality of our oaks has been scarily high, after which we made a detour to Santa Maria after Bill noted that one of my front tires was not only bald but practically worn down to the steel belts. (I'd been meaning to replace them, but had gotten sidetracked by the rescheduling of my mani-pedis.) Fortunately, that didn't hold us up too long and we still made it to Sedgwick in time to count most of the trees before dark.

The big news at Sedgwick is that the old Ranch House has not only been fixed up but there's been some lovely landscaping done that the docents were busy tending when we arrived at dusk. The grand piano is gone, but in its place is a gigantic flat-screen TV hooked up to Netflix, Hulu, and practically every other streaming service out there. Bill and I watched the pilot of Ozark (his recommendation) followed by Disenchantment (my preference). Congratulations to Sedgwick Director Kate McCurdy!

Gone too are most of the random books people had left in the Ranch House over the years, replaced mostly by environmental classics and tasteful coffee table photo books. I tried to do my part to change that by leaving "The Strange Odyssey of John Walker Lindh", which we picked up during the Hastings acorn survey on 8 September after someone left it at the base of tree 90 on Carmel Valley Road. In case you want to read it, it's in the remodeled living room next to "The Life and Legacy of Rachel Carson." You can't miss it.

Day 2 of the survey involved the long drive to the James Reserve in the San Jacintos, stopping along the way to count the valley oaks at Malibu Creek State Park and the oaks at Switzer's in the San Gabriel Mountains. Day 3 was our clockwise tour of Southern California, ticking off Palomar Mountain State Park and the ever serene Santa Rosa Plateau and ending, as is traditional, at *Chez Brad et Louise*. Special thanks to both of them for their continued support and generous willingness to host us for not one, but two—count them: 2!!—nights of the survey in their charming and intimate west LA bungalow.



My favorite information kiosk, located in the Silvercrest picnic area of Palomar Mountain State Park, which burned in the Oct. 2007 Poomacha Fire along with many of our trees, 49,410 acres, and 217 structures. Inevitable? You better believe it. Be ready. You could be next.

Day 4 involved renting a Ford Explorer to facilitate the long, dusty trip to our black oak site at the top of Liebre Mountain. The bad news was that there was an unanticipated locked gate $1/3^{rd}$ of the way up, forcing us to retreat back down the mountain after a brief discussion of whether we could hike the rest of the way or not. (We eventually decided 'not' which, given that it would have been another 8 miles oneway, was the right decision.) Instead, we checked out the house Bill's been fixing up for the past couple of years in Silver Lake for his son Nick. A lucky boy that Nick.

Day 5 sent us back over the Grapevine to Visalia, Three Rivers, and finally to Coarsegold near the San Joaquin Experiment Range, where we were again hosted by Ken and Kathy Purcell. Having heard rumors of Bill's gin-and-tonic expertise, Kathy had requested a tonic taste-off. Little did she know this is exactly the kind of event Bill lives for.

Bill with the 5 kinds of tonic waters competing in the first annual [gin and] tonic blind taste-off at Kathy Purcell's amazing haybale house in Coarsegold. The winner? Heck if I remember. It was, however, a lot of fun comparing



run-of-the-mill tonics like Canada Dry with exotic brands such as Fever-tree, harvested by blind Indian pilgrims during the Ganesh Chaturthi festival honoring the beloved Hindu acorn-god Lord Quercesha. Next up were Yosemite, Sierra Foothills, followed by the fire-ravaged north, including Tower House charred by the Carr Fire—and Hopland—burned by the Ranch Fire—both last August. In case you're keeping count, that makes four of our sites seriously burned by wildfires, including the coast live oak site we finally abandoned in the San Jacintos following a fire in 2013 but not including Switzer's, which was untouched even though unreachable for two years following the Station Fire in 2009. Don't forget: if you live in California, the whole place is adapted to to burn. Need I repeat? Prepare for the inevitable.



Our most dramatic fire porn from 2018: the skeleton of the bridge over Clear Creek leading from the parking area to the historic Camden House at Tower House Historic District in Whiskeytown. Watch your step; the river is a long way down and not all that deep.

While I'm on the subject of fire porn, here's Prahlada Papper, UCBgrad а student who's been traveling around the state even more than we trying have to understand the California white oak complex of species. (The "porn" part refers



to the scorched landscape, not Prahlada.) Prahlada followed us around for part of the day at Hopland in order to grasp some of the finer details of our technique in preparation for a workshop at the recently-held International Acorn-counting Symposium at Davis.

Finally, on 19 September, I dropped Bill off at his house in Mill Valley, Kyle at his uncle's house in Mountain View, picked up a hexayurt for next year's *Burning Acorn*, hung out at Robert and Tania's house in Los Altos for an hour to let rush hour traffic calm down, and arrived home at 9:05 pm PDST, 9 days and 2,264 miles later. Yet another statewide acorn survey for the record books.

Well no, not quite. There was still Liebre Mountain. Best we could tell, it was a marginal year for black oak acorns down there, but our site high on the mountain is often loaded with acorns (we've counted a mean of 20 or more acorns per tree in 15 out of 25 years), so I really wanted to be sure that our usual site was equally bad. Hence I left *Rancho Searchono-Moro* at 6 am on 24 Sept. to meet Vilius, our friendly contact in the USFS, at Bushnell Summit. Vilius opened the locked gate, allowing me to get to our site, which was, as hoped, almost devoid of acorns. Quite a relief.

AND SO?

In short, the acorn crop was not bad. Could have been worse. Could also have been better. In other words, kind of a normally variable year.

Valley oaks did well at Hopland, Tower House, and Hastings, but crapped out at Jasper Ridge and Kaweah Oaks. Blue oaks were very good at Hastings, Sedgwick, Hopland, and San Joaquin, but crummy at Sierra Foothills and Jasper Ridge. Coast live oaks were good at Sedgwick but nowhere else. Black oaks did particularly well at the James Reserve and Palomar Mountain, while canyon live oaks were good in Yosemite Valley and Kaweah River. Engelmann oaks at Santa Rosa Plateau were bad, and interior live oaks didn't break any records anywhere. Garry oaks did quite well, but then again, they do well almost every year, having pooped out in only two of the 17 years for which we have data (2005 and 2015 and no, I have no idea why). Finally, tanoaks did well at all three of our sites, again like they pretty much always do. Get in touch if you're desperate for more details.

In case you're keeping score, we counted a total of 15,656 acorns this year, for a rate of 6.92 acorns mile⁻¹. All told, we're now up to 532,009 acorns counted since 1980. At ~15,000 acorns year⁻¹, it's only about 31 years (2049) until we break the 1 million mark. Mark your calendars, acorn fans!

THE RESTAURANT REVIEW

The Red Shoe Pub, Mabou, Nova Scotia

As part of our post acorn counting cool down, we ticked off yet another of our bucket-list items by attending the *Celtic Acourns* Music Festival in Cape

Breton Island, Nova Scotia. Cape Breton is famous for its fabulous music, to which food has unfortunately taken second fiddle, as it were. The good news is that one of the local traditional music sites, the *Red Shoe Pub* in Mabou, has excellent food, and we ate there whenever we managed to escape the local church dinners. Among the items we sampled included excellent fish & chips (missing only the greasy newspaper wrapping that we enjoyed in Cambridge from the Thursday night Newnham food truck), outstanding meatloaf (!), and a fine seared scallop dish with sauteed potatoes and peas in a creamy fondue sauce.

While we were at it, we spent a week listening to an amazing array of talented people playing fiddle, dancing, and singing, sometimes all at the same time. Particularly nauseating were the kids—not just big kids, but little kids, and there were LOTS of them—whose talent was truly enough to make old farts like me toss my acorns. It was great.

On our way to and from Celtic Acourns we got to spend time harrassing our old friends Marty (aka Dean

Leonard) and Andy in Halifax, here shown with Jani Lou and myself on our failed attempt to hike what turned out to be the frigid and



windy North Atlantic Coast. (Who knew?) Good thing I brought my Cornell hat to keep my head warm.

Burger My Way, Hopland

After counting at Hopland, we've often been lucky enough to find a taco truck parked at the corner of 101 and Hwy 175. Not this time around. So instead we went to *Burger My Way*, stuck inside the gas station a short way down on 101 just before leaving town. Jean and I have eaten there in the past and been reasonably satisfied. I was less convinced this year. Kyle's burrito and Bill's tacos were apparently OK. My *carne asada* taco, however, was one of the greasiest messes I've had in a long time—something I expect from chorizo and maybe even carnitas but not *carne asada*. OK, so maybe expecting great Mexican food from a place with a name like this is asking too much; next year if the taco truck is still missing I'll give up and go for burger and fries.



Grease. Lots of it. I'm usually happy with an unseemly amount, but what oozed from Burger My Way's carne asada taco was too much even for me. So in case you suspected otherwise: the claim that

I've never met a taco I didn't like is Fake News.

Casa Lupitas, Castaic

After our failed attempt to reach our black oak site on Liebre Mountain we took the back road to Castaic and looked for someplace to eat. Being in the middle of I5, there isn't much, but tucked away behind one of the gas stations was a promisinglooking Mexican restaurant called *Casa Lupitas*. Kyle got a California burrito (which, oddly enough, is stuffed with french fries as well as the normal items), while Bill had tacos and I had *chiles rellenos*. All were good enough to make up for the marginal Mexican food we would get in Hopland a few days

later. Best of all, however, were the *cajeta churros*, which I don't think they have all the time but would be worth making the trip when they do.

Bill giving a satisfied "churros up" at Casa Lupitas. The rest of the food was fine, but if they have these again next year I may skip the main dish and just stuff myself with these puppies.



THE PUBLISH OR PERISH DEPARTMENT

One of the ugly truths about retirement is that you have to get used to being permanently stuck in the "perished" category, whether you publish or not. Nonetheless, the *California Acorn Survey* continues to rack up pubs. Many thanks to Ian, Mario, and Xoaquín—a Spanish colleague—for making my CV look like I'm not dead yet. (Actually, I did manage to write one paper in between my daily bike ride to Cahoon Summit and my mani-pedis; so there!)

AND WHAT ABOUT HASTINGS?

Eric was back this spring along with two postdocs (Sahas on the woodpeckers and Mario on the oaks), two grad students (head mouser Rada and Mickey, studying the cognitive mysteries of woodpecker vocalizations), along with a pleasant assortment of FAs, kids, spouses, and visitors. As usual spring was alive with weekly seminars and potlucks, and was capped off by Mario and Dana's wedding on June 2^{nd} shortly before their departure for the gray, dismal, yet memorable skies of Ithaca, New York.



The Hastings crowd enjoying the sunset up at The Point at Rancho Searcho-no-Moro after one of last spring's potlucks. (Gosh it's beautiful up there, if I do say so myself.) From the left: Sahas, Eric, Julie Joe, Rada, Mario, Amber (mouser FA), Dana, Madeline (mouser FA), Russell (ACWO FA), Mickey, Ben (visiting Cornell grad student), Emily (ACWO FA), and her parents Gail and Howard. In front are Torrey, Riley, Beezelbub, and, last but never least, Jani Lou of the ravishing white hair.

And that's it for the 2018 *California Acorn Report*. Our editorial office remains:

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The California Acorn Survey, founded in 1980, is an international organization dedicated to the understanding of acorn production by Californian, and sometimes a few other, oaks. Names and years of service include

Ron Mumme, Meadville, PA (1980-83) Mark Stanback, Davidson, NC (1989-90, 1992) Elizabeth Ross-Hooge, Glacier Bay National Park, AK (1991) Jay McEntee, Gainesville, FL (2005) Xiaoan Zuo & Wenjin Li, Lanzhou, China (2010) Eric Walters, Norfolk, VA & Melbourne, Australia (2006-2010) Maria Dolores Carbonero Muñoz, Pozoblanco, Spain (2013) Kyle Funk, Normal, IL (2018) Ian Pearse, Fort Collins, CO (2012-2013, 2015-18) Mario Pesendorfer, Ithaca, NY (2014-2018) Bill Carmen, Mill Valley, CA (1981-88, 90-92, 94-98, 2000-18) Jean Knops, Suzhou, China (1993-2011, 2013-2017) Walt Koenig, Jamesburg, CA (1980, 1984-2018)

We also wish to thank our dedicated staff: Janis Dickinson (Chair of Risk Management) Tamara Kaup (Chief Operations Officer, Suzhou Division)

Karen Nardi (General Counsel) Dale Koenig (Chief Topologist) Phoebe Koenig (Senior Beekeeping Specialist)

We are greatly indebted to the National Science Foundation, which currently supports the California Acorn Survey (and all its running dogs).