Tucker Wildlife Sanctuary — Big News

by Paula Orlovich

Mr. & Mrs. Tucker

Under the supervision of owners Benjamin and Dorothy Tucker, the 12-acre Tucker Wildlife Sanctuary in Orange County started life as a hummingbird-feeding way station in 1929. As more people came to see the “hummingbird cafeteria,” Mr. and Mrs. Tucker decided to create a dedicated sanctuary. Buildings, shops, and trails were added and the public responded enthusiastically.

Having worked closely with San Fernando Valley Audubon during the sanctuary’s initial growth period, the Tuckers deeded the property to SFVAS in 1941, a legacy conditioned on perpetual maintenance of the property as a wildlife sanctuary.

In 1968, SFVAS gave title to the property to nearby Cal State Fullerton for use as an educational facility as well as the already-existing public attraction. For many years, CSF honored the conditions of their stewardship, and by last year the property featured a natural history museum, bird feeders, a small amphitheater, picnic areas and a gift shop.

In January of this year we were notified by Cal State Fullerton that they no longer wished to own and maintain the Tucker Wildlife Sanctuary. Under the terms of our deed to CSF, this meant the property would revert to SFVAS. Population growth and the general chaos of modern life put the sanctuary, tucked into Modjeska Canyon and adjacent to Cleveland National Forest, impractically out-of-reach; SFVAS needed to find a local entity prepared to take on the responsibility of preserving Benjamin and Dorothy Tucker’s original legacy, in keeping with the values expressed in our chapter’s mission statement.

Fortunately, a committee tasked to connect with possible grantees located the right fit. Environmental Nature Center located in Irvine. ENC has demonstrated that they appreciate the property and understand that the location offers an opportunity as an education site. They are committed to thoughtful stewardship of the property, and will continue to have a relationship with the neighborhood in which the sanctuary is located.

The Environmental Nature Center will keep our chapter informed regarding the changes that take place on the property and the progress of their educational programming. The board is very relieved to have found the perfect conservation organization to step into our shoes, one that we believe will honor the Tucker Family’s original intent.
Four Areas Cleaned in Four Weeks!

By Pat Bates

A collaboration of Friends of the Los Angeles River (FoLAR), SFV Audubon, Los Angeles City Council District 6, Encino and Lake Balboa Neighborhood Councils, and the US Army Corps of Engineers (USACE) executed trash cleanups in four areas of the Los Angeles River watershed in the Sepulveda Basin on four consecutive Saturdays in June. A big thank you to Zoe Witt of FoLAR for organizing and coordinating these and keeping them on track. The numbers of volunteers was restricted due to the pandemic, to avoid disrupting bird nesting habitat, and in some cases to follow protocol regarding encampments. Nesting bird surveys were conducted before each cleanup. The first cleanup was the Los Angeles River bottom west of Balboa Blvd. with FoLAR in charge. The second cleanup was Bull Creek, with prime leaders Lake Balboa Neighborhood Council and Los Angeles City Council District 6, thank you Ruth Doxee and Jonah Glickman. The third cleanup was Haskell Creek, thanks Muriel Kotin and SFVAS volunteers for site coordination. We were able to finally get some of the debris out of the portion of Haskell Creek north of Wildlife Way—and we all know where that ends up when it rains. A huge thanks to the City of Los Angeles Department of Recreation & Parks for removing the bagged debris and letting us conduct these events. The fourth and final cleanup was the South Reserve coordinated by the US Army Corps of Engineers. UCACE Ranger Linda Babcock worked tirelessly on paperwork and site surveys to make this event happen. There was a full contingent of rangers and supervising personnel from the USACE at the clean up, which would not have been possible without their hard work. We can not wait to collaborate on future activities in the South Reserve! Large amounts of trash was removed from all locations. Due to restrictions on entering some areas due to birds or encampments, in due time we should start organizing some Fall events to get these areas cleaned out before the rainy season.

Cleanup of Haskell Creek Cleans Up

by Muriel Kotin

Volunteers came to the aid of Haskell Creek in the Sepulveda Basin Wildlife Reserve the morning of June 19. A cleanup sponsored by Friends of the Los Angeles River (FoLAR) and San Fernando Valley Audubon cleanup brought around 30 volunteers for a morning of removing trash from the creek, around the Wildlife Lake, and along the trails. They even cleaned the closest part of the creek to the north of Wildlife Way, meaning less trash will flow into the reserve when we eventually get significant rain.

The creek and surroundings got cleaned. The Wildlife Reserve made new friends. The Resource Conservation District of the Santa Monica Mountains (RCD) organized nature/bird walks during the late morning. These walks were greatly enjoyed. Many of the volunteers had never visited the reserve before. The walks helped make them likely to return and some planned to try our bird walks. Walks will be a feature of future cleanups.

Alexander deBarros, Kris Ohlenkamp, and Pat Bates taped off areas where birds had active low nests to protect them from being disturbed. They and other SFVAS stalwarts also led the nature walks, while others handed out trash bags, lent tools and gloves, reviewed safety procedures, and explained what to do. Dave Weeshoff and Carole Hill set out directional signs provided by FoLAR to help volunteers find the staging area at the amphitheater. Mike Smith, Paula Orlovich, Rose Leibowitz, Teri Carnesciali, and Wendy Barsh formed the rest of SFVAS’s “management” team.

The Wildlife Reserve is looking amazingly good. The comparison to how it looked in late September following the fire on September 6 is huge. Nature has shown itself to be amazingly resilient, with trees killed by the fire sending up strong shoots from their base or from their roots. Many of the shoots are already considerably taller than me, and this in a year when very little rainfall followed the fire. A lot of work, including planning, will be needed to shape the recovery and allow the reserve to thrive.

When the weather begins to cool in the fall, the Youth Activities Committee will lead scheduled tours/easy bird walks of the Wildlife Reserve. In the meantime, you are encouraged to join Kris Ohlenkamp’s bird walks on first Sundays of every month.
I first heard about Scott Weidensaul's new book, *A World on the Wing, The Global Odyssey of Migratory Birds* on NPR. It's available as an E-book at Los Angeles Public Library, and frankly, there are about four other books that Weidensaul has authored that looked so good I immediately placed a hold on them. He has written extensively on birds, and is an entertaining writer as well. Richard and I listened intently to *A World On The Wing... on our drive up to Mono Lake, and all the way back, and it was such a good read I purchased the book so we could check out the pictures. Weidensaul's fieldwork has taken him all over the world, and in this book he takes you to many locations where migration's impact is massive; thousands of birds in the air, turning the sky dark, and some of the problems they have with climate change (shifting resources) and human predation along the way. In this book we learn about CABS, Committee Against Bird Slaughter (based in Germany) and their efforts to stop traditional harvesting of birds, and BirdLife International's networking with 400 NGO's to achieve protection of large areas of migratory pathways, just a few of the organizations out there trying to save migrating birds before it's too late. As you can tell, this book is international in its perspective, and there is so much to learn. An amazing armchair journey...http://www.scottweidensaul.com/
Bluebirds are Burgeoning with Help from SFVAS  
By Richard Davis

Under a SFVAS program led by Carolyn Oppenheimer, there has been a very successful effort to assist in improving breeding success of Western Bluebirds (Sialia mexicana) in our area over the last decade.

So, what's the problem facing Bluebirds? Bluebirds are obligate cavity nesters, meaning that they usually do not build their nest on a tree branch or on the ground or on the face of a cliff. Instead, they rely on pre-existing cavities, typically a hole in a tree excavated by a woodpecker in a previous year. So, as humans take over Bluebird territory, we clear out messy-looking older trees or prune them to remove unattractive dead snags. Unfortunately, this dramatically reduces the availability of suitable nesting sites for all obligate cavity-nesters.

In a nationwide effort to address this problem, a number of groups have organized to replace the missing cavities with nesting-boxes designed specifically for Bluebirds (or other obligate cavity-nesters). For instance, the California Bluebird Recovery Program (http://www.cbrp.org/) has participating members hanging nesting-boxes in about 23 California counties and has reported successful fledging of nearly half a million bluebirds over the years. These groups produce and distribute information on how to build nesting-boxes, how and where to place them and, how to monitor breeding success and to document and report these results.

**Male Western Bluebird with grub for his chicks**

His brood is in a nest-box placed by Carolyn Oppenheimer and her team from the SFVAS.

A lot of thinking has gone into design and placement of these nesting-boxes. For instance, the entry hole is 1-9/16 inches in diameter (but only 1-3/8 inches for the Eastern Bluebird (Sialia sialis)) centered about seven inches above the nesting platform which typically measures 4.5 by 4.5 inches. You are probably thinking, as I did, that the woodpecker-created cavities that we are replacing were probably not created to such exacting criteria. In this, you are correct. But we are trying to specifically make our boxes comfortable for our Bluebirds and not so much for any larger bird that might be trying to take over the real estate. (I don't know who is doing it but, I find that, for many of my boxes, there has been a serious effort to enlarge the entry hole, particularly for boxes that never attract a Bluebird.)

Other design considerations include drainage holes at the bottom and ventilation holes at the top as well as features to discourage predators. For instance, no perches, please!! The Bluebirds do fine by just gripping the edge of the entry hole. No need to provide a platform for a squirrel or raccoon or hawk to stand on while they try to figure out how to reach the tasty morsels inside. And, depending on the predator, you may want to put steel reinforcement around the entry hole to prevent its enlargement by a determined chewer or, you may want to include a longer entry-hallway to frustrate someone with long arms or a long neck from simply reaching inside. Also, it is considered good form to provide a rough surface or even a ladder on the inside for new fledges to climb as they exit the nest. More recently, it has become popular to provide a mesh platform to keep the physical nest about 3/4 inch above the floor as an additional protection against moisture that might otherwise promote blowfly infestation or growth of deleterious mold. (Woodpeckers in the neighborhood have gotta be turning green with envy!)

Placement of the nesting-boxes is another issue on which I've spent way too many hours trying to put my mind in a Bluebird groove. So, although there are rules-of-thumb about which direction the box should face and how far above the ground it should be and, what species of tree is best, these factors don’t really seem to play a huge role. As in human real estate transactions, what counts is location, location, location. Bluebirds like open grassland with low to medium-high places to perch while they look for meals on the ground that they can snap up and haul back to their young. Golf courses, cemeteries, and parks with open grassy areas work really well. My yard, with copious food, water and shelter draws a trove of other birds but, with no grass, it seems to hold no interest for Bluebirds. The same nesting-box that instantly draws multiple bidders at the golf-course has no attraction for anything but spiders in my yard. To get Bluebird nests, you gotta go to where the bluebirds are. But, even with Bluebirds present, there clearly are other factors at work in those bright little minds.

Inside a Bluebird Nesting Box. Nest is made of grasses and long pine needles. Entry hole for the box is at top left with a ladder below it for chicks to climb out.

**Mesh platform to keep nest off floor.** (Below) Corners of the floor-board removed to provide drainage.

We hang the boxes in early spring, lifting them into position with a basket on the end of a swimming pool pole. Each week thereafter, the box is checked for signs of nest building. This can happen right away or be delayed for several weeks, a decision we assume is determined by weather and the availability of food. At some point, a nest-box in a good location will be claimed by a male and, if he is lucky enough to

(Continued)
attract a female who also thinks it is a good site, we will find the pair guarding the box. If we find a few twigs inside the box, that is a strong sign that the pair is committing to build a nest. From there to a full nest can happen in a few days and egg-laying will commence shortly after that. On average, the female will lay one egg per day for five or six days but she will not normally warm the eggs during this period. After the clutch is complete, there is a two-week incubation period during which the female warms the eggs continuously at night and for most of the day with five minute breaks every half hour or so. Because incubation begins at the same time for all the eggs, they all tend to hatch within a day or two of each other, even though they were laid over an interval of nearly a week. However, this synchronization of hatching may be disrupted if warm weather speeds the development of the first-laid eggs before formal incubation begins.

The newly hatched birds remain in the nest for about three weeks with both parents providing food and removing fecal sacs. Bluebirds typically fledge within a few hours of one another. We avoid disturbing the nest during that last week for fear of triggering premature fledging which might threaten survival of the young birds. And while the parents provide their fledges with food for another month or so, this usually takes place away from the nest and is not something we can routinely observe.

So, we last see the young birds a week or so before they leave the nest and then they are out. Often, if conditions are right, the parents will raise a second, or even a third brood in the same nesting-box and it is known that young bluebirds from the original brood will help with feeding of chicks in these subsequent broods. We do see birds with immature plumage near some of the nest boxes and presume that they are hanging around to help with their younger brothers and sisters. (See the picture at the end of the article.) It has even been reported that Violet-green Swallows will sometimes assist in caring for Bluebird nestlings but we have not seen this.

Typical clutch of five or six eggs will vary in color from brilliant turquoise to pale blue or sometimes white.

Hatching Day: Three newly hatched chicks with two more eggs to go in the next few hours.

Recently, I have been given permission to hang Bluebird nesting-boxes at the Balboa Golf Course. We have received great support from the staff there, including permission to use a golf cart to transport Marianne, myself and the nesting-box lifter in our routine monitoring visits. The boxes are spread over a large area and, even with the electron-pedal fully depressed, it takes about two hours to check all the boxes. Of course, Covid-19 severely disrupted our first year because the golf courses were closed shortly after we hung our boxes. We could only pick up our boxes at the end of the season and count the nests. In this new year, we have had five of sixteen boxes used by bluebirds and are hoping that the chicks generated will increase the use of boxes next year.

Of course, bluebirds are not the only cavity nesters out there. Our boxes on the golf course are also popular with wrens. We’ve gotten nearly as many boxes claimed by wrens as by bluebirds.

Five Bluebird chicks midway through the nesting phase. Primary feathers are starting to come out of their sheathes so, we are about seven or eight days old. Also, looks like mom or dad need to come back and clean out that fecal sac in the lower left corner. (Continued)
The wren’s nest is dramatically different, with coarse sticks filling the box to the very top and spilling out the entry hole. Judging from this nest structure, it likely belongs to a House Wren. Wrens are about 1/3 the size of a Western Bluebird and their light tan speckled eggs are commensurately smaller. These seven eggs have been deposited in a feather-lined pocket deep within the jumble of sticks.

I mentioned that there are other unknown factors that strongly influence whether a nesting-box is chosen for use by bluebirds. For about five years, Marianne and I have maintained a string of eight nesting-boxes at the VA National Cemetery in West Los Angeles. In that time, rarely, if ever have we seen more than a single nesting-box occupied. We presume that the same pair occupies that box year after year. Normally cemeteries are prime locations for blue bird nesting-boxes. But, even though we routinely see many bluebirds in the cemetery during springtime placement of the boxes and, we even see males guarding boxes, these seemingly favorable circumstances have not routinely progressed to nests and subsequent production of a new bluebird generation.

So what is going on? Is it my boxes? (Some people eschew the use of plywood but, my boxes work fine at the golf course.) Is it noise from the 405 freeway and Wilshire Blvd? I don’t know but the one box that is routinely occupied is located in one of the noisiest sections of the Cemetery. By contrast, the golf course is close to the 101 freeway, Burbank Blvd, Balboa Ave and is directly under the flight path of aircraft using the Van Nuys airport. And that doesn’t seem to deter the bluebirds here.

I’ve tried to get into the mind of a bluebird by box placement (orientation, tree-type, height, etc.) without any reward for my efforts. My remaining hypotheses? Perhaps, the cemetery is just too darned manicured with constant power lawn mowers, weed-whackers, leaf blowers, chemical sprays, and giant automatic sprinklers going on and off all the time. Perhaps there is some huge local reserve of nesting cavities so my efforts aren’t needed. Or perhaps I just haven’t learned to think like a bluebird. In any case, it is always a joy to see that new nest, those eggs, those hatchlings and their attentive parents, even if it is just a single box.

Want to know more?


In addition to the California Bluebird Recovery Program mentioned above, you might want to look into the Southern California Bluebird Club

Finally, check out this video with Huell Howser: California Green 128

It was seeing this video years ago that spurred both Carolyn and me to start building and monitoring bluebird nesting-boxes.

Western Bluebird: Female (left) and Juvenile (above) with spotted chest.

Book Review: The Bird Way, a New Look at How Birds Talk, Work, Play, Parent and Think,
By Jennifer Ackerman

You may have read Ackerman’s The Genius of Birds, which was a New York Times bestseller in 2017. This latest work (2020) is a delightful compendium of topics about bird life, which is perfect for bedside reading, as each chapter is about a different aspect of bird behavior and current research. Examples of some topics are: birdsong, which has been previously thought to be a male function, is frequently actually a male-female duet (humans just don’t hear that well). Mobbing behaviors go beyond the usual raucous calls, and can include poop-bombing the target so badly that their feathers get soaked and they have to land…and bird alarms can be very specific in their alarms...the threat is flying, or on the ground, or climbing. Ackerman talks about remarkable mimicry (the famous lyrebird, who serenaded David Attenborough with camera clicks, saws in the forest, and LOTS of other birds), and several birds are actually tool-using. Many birds love to play, but Keas are the champs, their happy warbles are more of a laugh, and they are more motivated (in scientific experiments) by play than by food. Makes you want to meet a Kea for sure (New Zealand). Available for loan from the Los Angeles Public Library system. —Submitted by Marianne Davis
# SAN FERNANDO VALLEY AUDUBON SOCIETY

## EXECUTIVE OFFICERS

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>Paula Orlovich</td>
<td>(818) 481-5605</td>
</tr>
<tr>
<td>1st Vice President</td>
<td>Teri Carnesicali</td>
<td>(818) 892-5029</td>
</tr>
<tr>
<td>2nd Vice President</td>
<td>Marianne Davis</td>
<td>(310) 529-8871</td>
</tr>
<tr>
<td>Treasurer</td>
<td>Pat Bates</td>
<td>(818) 425-0962</td>
</tr>
<tr>
<td>Corresponding Secretary</td>
<td>Barbara Heidemann</td>
<td>unpublished</td>
</tr>
<tr>
<td>Recording Secretary</td>
<td>Kathy Barton</td>
<td>(818) 929-2516</td>
</tr>
</tbody>
</table>

## AT-LARGE DIRECTORS

<table>
<thead>
<tr>
<th>Name</th>
<th>Phone/Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard Davis</td>
<td>(310) 529-8865</td>
</tr>
<tr>
<td>Natalie Beckman-Smith</td>
<td>(818) 926-7825</td>
</tr>
<tr>
<td>Wendy Barsh</td>
<td>(818) 398-2104</td>
</tr>
<tr>
<td>Jolene Herz</td>
<td>(818) 636-3764</td>
</tr>
<tr>
<td>Luisa Bergeron</td>
<td>(661) 755-7223</td>
</tr>
<tr>
<td>Rebecca Marchall</td>
<td>(818) 219-2649</td>
</tr>
</tbody>
</table>

## STANDING COMMITTEE CHAIRPERSONS

- **Bird Boxes:** Carolyn Oppenheimer ([phone number](818) 885-7493)
- **Bird Observatory:** Mark Osokow (unpublished)
- **Conservation:** Dave Weeshoff ([phone number](818) 618-1652)
- **Editor Phainopepla:** Rebecca Le'Vine ([phone number](818) 776-0881)
- **Finance:** Dave Weeshoff ([phone number](818) 618-1652)
- **Programs:** Joanne Millus ([phone number](818) 335-5331)
- **Web Coordinator:** Jim Houghton ([phone number](818) 389-7207)
- **Youth Activities:** Muriel Kotin ([phone number](310) 457-5796)

## SPECIAL COMMITTEES

- **Annual Awards:** Paul Orlovich ([phone number](818) 481-5605)
- **Audubon-at-Home:** Alan Pollack ([phone number](818) 340-2347)
- **BirdFest:** Rose Leibowitz ([phone number](818) 579-4976)
- **Birdathon:** Richard Davis ([phone number](310) 529-8865)
- **Christmas Bird Count:** Alexander deBarros ([phone number](818) 919-3425)
- **Community Outreach:** OPEN
- **Education Classroom:** Dave Weeshoff ([phone number](818) 618-1652)
- **Education-SBEEP:** Paula Orlovich ([phone number](818) 481-5605)
- **Field Trips:** OPEN
- **Finance:** Dave Weeshoff ([phone number](818) 618-1652)
- **Hansen Dam Rep:** Dave Weeshoff ([phone number](818) 618-1652)
- **Hansen Dam Birding:** Pat Bates ([phone number](818) 425-0962)
- **Hospitality:** Teri Carnesicali ([phone number](818) 892-5029)
- **Malibu Creek Birding:** Dave Barton ([phone number](310) 966-6996)
- **Kathy Barton** ([phone number](818) 929-2516)
- **Membership:** Lynn Maddox ([phone number](818) 845-4688)
- **O’Melveny Bird Wader:** Carolyn Oppenheimer ([phone number](818) 885-7493)
- **OneWaterLA Group Rep.:** Mark Osokow (unpublished)
- **Publicity:** Marianne Davis ([phone number](310) 529-8871)
- **Sales & Service:** Diana Keeney ([phone number](818) 998-3216)
- **Scholarships and Grants:** Marianne Davis ([phone number](310) 529-8871)
- **Sepulveda Basin Steering:** Muriel Kotin ([phone number](310) 457-5796)
- **Sepulveda Basin Birding:** Kris Othlenkamp ([phone number](818) 521-8799)
- **Social Media:** Jim Houghton ([phone number](818) 388-7207)
- **SSFL Special Representative:** Mark Osokow (unpublished)
- **Young Birders Group:** Rose Leibowitz ([phone number](818) 579-4976)

## MEMBERSHIP

**Regular 1-yr Chapter Membership:** $25
**1-yr Online Chapter Membership (No paper copy of Phainopepla)** $25
**Student 1-yr Chapter Membership:** $10
**Tax Deductible Contribution to SFVAS**

<table>
<thead>
<tr>
<th>Amount</th>
<th>Intersection</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>$25</td>
<td></td>
<td>$25</td>
</tr>
<tr>
<td>$25</td>
<td></td>
<td>$50</td>
</tr>
<tr>
<td>$10</td>
<td></td>
<td>$10</td>
</tr>
<tr>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
</tbody>
</table>

**Total:** $85

New Member ___ Renewal ___ School _____________

Name __________________________
Address ______________________________________
City, State, ZIP _________________________________
Phone __________________________
E-mail (PLEASE INCLUDE): ________________________

How did you learn about SFVAS?

---

The PHAINOPELA, published six times a year, is the newsletter of the San Fernando Valley Audubon Society, P.O. Box 7769, Van Nuys, CA 91409. San Fernando Valley Audubon Society is a chapter of the National Audubon Society, a non-profit conservation/education organization, and is dedicated to “the conservation of wildlife and natural resources.”

Articles, letters, drawings, and photographs concerning conservation, ecology, birding, chapter activities, and articles of interest to the membership are welcome for publication in the PHAINOPELA.

Material from other newsletters or newspapers should include the source and date. Copy for the PHAINOPELA should be in the hands of the editor by the 3rd of the month to be included in the following month’s newsletter.

Membership to National Audubon is separate and can be initiated on the website www.Audubon.org.

If you have any questions about membership, renewals, change of address or any other membership concerns, please contact Lynn Maddox at (818) 845-4688 or e-mail her at Lynn.Maddox@sfvaudubon.org.

---

**PHAINOPELA** is copyrighted ©2021 by the San Fernando Valley Audubon Society. All rights reserved. All photographs used in the PHAINOPELA are used by permission and are copyrighted material of the credited photographers.

---

**For Chapter leaders’ e-mail addresses, see our website:** www.SFVAudubon.org

**Follow us on:**
- Instagram @sfvaudubon
- Twitter #sfvaudubon
- Facebook Like

---

Found an injured animal? Call Wildlife Rescue Center at (818) 222-2658

---
Conservation Corner by Dave Weeshoff, Conservation Chair

In my October/November 2018 Conservation Corner article I expressed that I was hopeful about our ability to reduce the impact of future global, anthropogenic climate change by way of advanced technology and political action.

I wrote at that time:
“I have learned why there is now hope if we wish to change the future. Among the reasons for hope are:

• Renewable energy alternatives (wind, solar, battery) are getting cheaper
• The electric vehicle market is booming (cars, trucks and busses)
• Climate-smart agriculture is improving (plant and animal production)
• We know that clean energy creates jobs
• We know that clean energy can save lives
• Governments at all levels are taking a stand (every nation on the planet has signed the Paris Accord)
• Major cities in the USA have banded together to address the issues, including Los Angeles
• The negative consequences of climate change are becoming even more clear
• The tide is turning on public opinion, driving the necessary "political will"

And so, momentum is now on our side."

And, I also wrote:
“We finally have the tools to make the global shift away from the dirty fossil fuels driving climate change, and we can power our lives and economies without destroying the planet. The question is “Can we act quickly enough?” while the trajectory of the severe consequences can be mitigated to the degree we will still have a livable planet-home at the end of this century.”

Well, the answer to the above question – “Can we act quickly enough?” so far has been clearly NO. It hasn’t worked out that way. We have failed to create the political will to appropriately deal with this crisis to any measurable degree. The amount of green-house gasses released into the atmosphere continues to rise at the same or greater rate than before.

We must understand that these impacts are irreversible for thousands of years and our planet will continue to get hotter and hotter - the existential questions are how much can be tolerated, when will it stop and what will be the consequences for all life on Earth (including birds!).

We are already experiencing the undeniable effects – deadly heat waves (Canada, Pacific Northwest, Alaska), huge uncontrollable wildfires, droughts, severe flooding, more storms, etc. And things will continue to get worse. We are clearly in a climate emergency.

So, you ask, Dave, what can I do?

There are many on-line resources to help you answer that question considering your personal circumstances, but I'll not list them here. Rather, they can be summarized as:

• Reduce your fossil-fuel consumption as much as possible, (gasoline, aviation fuel, natural gas, electricity)
• Reduce your water use (delivering water to your home/office requires a lot of energy)
• Reduce your consumption of meat dramatically
• Buy less “stuff”
• Install roof-top solar
• Express your educated opinions your governmental policymakers
• Join a group and become an active member of a concerned community

As usual, please call me at (818) 618-1652 or email Dave.Weeshoff@SFVAudubon.org with questions, comments, criticism, or to enlist in our conservation activities on behalf of our feathered friends.