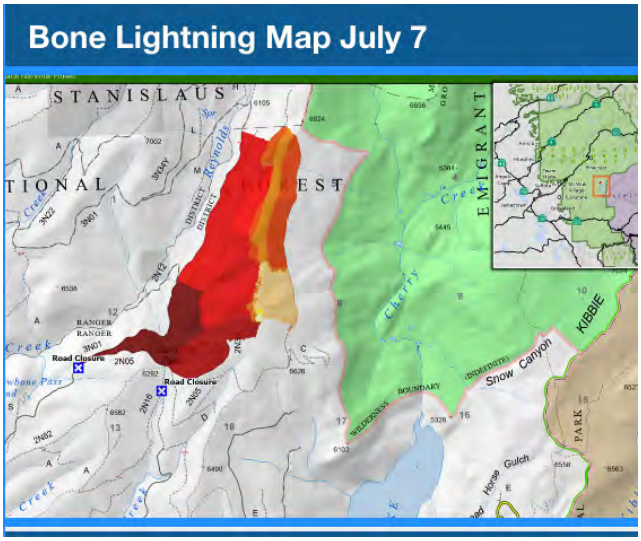
The CSERC Newsletter

Like a stone tossed into still water, knowledge about environmental issues can ripple outward far beyond its beginning point, and perhaps return in a wave of concern, active involvement, and greater awareness of nature in the mountains and foothills around us.

Insight worth knowing – how the local region became a key national example for testing "good fire" at a larger scale

Pika Fire 7.15.2023 NPS photo M.Ruggiero



CSERC has long been a leader in trying to get far more beneficial fire back into our region's ecosystem. We've helped publicize why broadcast burning during cool times of year results in safer, healthier forests.

Forest Service and Park Service officials have solidly supported the increased use of beneficial fire, but complex challenges have generally limited both agencies' burn treatments to less than what's desired. Unexpectedly, this summer the Stanislaus National Forest became a show piece for the Forest Service by demonstrating how much prescribed burning can be accomplished when weather conditions, agency support, adequate funds, and other puzzle pieces all fall into place.

To bolster that prescribed fire success, **both the Stanislaus Forest and Yosemite Park each carefully managed lightning-caused wildfires** this year**.** The **Bone Fire** in the national forest and the **Pika Fire** in Yosemite were allowed to reduce forest fuels while being confined by fire crews to stay within pre-planned containment lines. **The Pika Fire (*shown in the photo*)** produced pulses of occasional dense smoke, but mostly crept slowly within natural barriers. After six weeks, it only reached 900 acres in size. **The national forest's Bone Fire (*as shown on the fire map*)**, was managed to end up at less than 1,200 acres with positive results.

This newsletter provides an in-depth update about local "beneficial fire" use, as well as other key topics.

For years conservation groups have pushed prescribed fire as the key strategy for managing forests. It's not quite that simple.

For decades environmentalists have urged the Forest Service to significantly ramp up the pace and scale of broadcast burning to reduce flammable fuels that often feed high-severity wildfires. Yet year after year, drought conditions, or air quality issues, or demands for crews to fight wildfires in Southern California, or other factors got in the way. In most years, only a small amount of prescribed burning has been done in the Stanislaus Forest.

This year there was a truly amazing turn-around. The Forest Service managed to treat thousands of acres with broadcast burn treatments across a wide buffer of forest lands around Pinecrest Lake and nearby communities. At last, the agency was able to point to a significant amount of forest acres treated.

But like many complex environmental issues, the increased use of prescribed fire creates complicated results. This section of our newsletter focuses on giving praise to the agency, describing a number of lessons learned from the weeks of burn treatments, and discussing some of the trade-offs that come from actually getting what CSERC, the Forest Service, Yosemite Stanislaus Solutions, and others have long sought.

FIRST – THE WELL DESERVED PRAISE

At the end of last year, CSERC and others on the Leadership Team for the Yosemite Stanislaus Solutions (YSS) forest stakeholder group met with Stanislaus Forest Supervisor Jason Kuiken to discuss how the local forest could do far more prescribed fire treatments than had been done in recent years.

Jason and his staff responded by investing a huge amount of time and effort in the planning and organizing that went into this year's stellar prescribed burn outcome. **CSERC applauds Jason's leadership and the excellent results. The Stanislaus Forest leadership team has set a new standard for how many acres can be treated with prescribed fire.** The Forest even managed to accomplish a lot of additional work to prepare not-yet-treated areas for possible burning later this fall. The Forest staff overcame many challenges to get so much done under difficult conditions.

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CSERC is a 501(c)(3) non-profit organization working to protect the water, wildlife, and wild places of the Northern Yosemite region. CSERC relies entirely on grants and donations from people like you to do that critical mission.

The thousands of acres of treatments done in the Stanislaus Forest this year help reduce the risk of extreme wildfires

For numerous reasons -- including climate change causing longer fire seasons -- huge wildfires with destructive impacts have burned more frequently over the last decade. The 2013 Rim Fire that burned 400 square miles and the 2018 Donnell Fire that roasted 30,000 acres of upper elevation forest habitat are two local examples.

Scientists and forest managers have repeatedly called for using more prescribed fire treatments to consume the surface and ladder fuels in the forest so that there is much less fuel and fewer high-severity wildfires.

Despite decades of promoting more large broadcast burns during cool, moist times of year, many challenges have blocked getting vast areas treated. But late this spring, the Forest Service began lighting burn units along Highway 108 in the Pinecrest Lake area.

Over 4,000 acres were effectively burned over many weeks of work as the fire crews adapted to rain events, crowds of holiday weekend visitors, and other challenges.

HERE ARE HIGHLIGHTS OF WHAT WENT WELL THIS YEAR AND WHY:

One reason the Forest Service was able to treat so many acres was because, at the national level, **the Stanislaus Forest was selected to be a pilot project** to test how to ramp up the use of prescribed fire. That meant funding and a high level of agency support that brought hundreds of firefighters to the forest. More than a dozen hotshot crews came to assist with the lighting of units and to "hold" burns within the carefully prepped fire lines. A major fire camp was set up along the highway to provide crews with food and supplies.

Another reason that so much acreage got treated was the lingering snowpack, cool spring weather, and the lack of wildfires elsewhere in the state. Crews were sitting idle, so they came to the Stanislaus Forest to gain more prescribed fire training and to help get acres burned.

Lots of preparation also aided the success of treatments. Grants awarded to YSS paid for contract crews in past years to prepare fire lines so that units were ready to burn. Last year's approval of the large landscape SERAL project had identified priority areas to treat. And years of planning by Forest staff meant that burn plans were timely. Success was also due to fire crews working long hours over many weeks.

Beyond the views from the highway, this year's prescribed burns reveal a range of mixed results

Most of us have grown up loving green, lush, often-dense forests without blackened tree trunks, charred bushes, half-burned rotting logs, or roasted smaller trees. It can take time to adjust our views of what makes up a "healthy" and desirable forest. But as CSERC has preached for decades, overly dense thickets of unburned forest and too many surface and ladder fuels make a forest ripe for being incinerated. High severity wildfires are almost always negative for wildlife, recreation, watershed conditions, and scenic values.

WHAT'S THE "GOLDILOCKS EFFECTS" WHEN IT COMES TO BURN TREATMENTS?

Prescribed fire is usually ecologically beneficial, and it's one of the only fuel reduction treatments that can be used in remote areas or in places too steep for heavy equipment or thinning logging. **But prescribed burning is a blunt forest management tool. It's imprecise, and even when done by experts, the results can vary widely** due to winds, different mixtures of fuels, the slope of the terrain, and other factors.

In one area, prescribed burning may create a treatment that's "too cool" with not enough forest fuel consumed to justify the treatment. **In another area** (*such as at right*), **burning may be "too hot,"** with the flames flaring up to kill medium and large trees that are intended to be protected by the prescribed fire. "Too hot" fires can also be due to firefighters not taking extra care when igniting.

The obvious goal is to ensure that fire effects are "just right" (*lower right*) – with low flames killing back surface and ladder fuels, but minimizing harm to the medium and large trees. Ideally, a mosaic of unburned vegetation is left underneath.

SMOKE IS ALWAYS A CONSIDERATION

Where there's fire, there's smoke. Native vegetation in California will eventually burn at some point, one way or the other. Smoke can either be dense and extremely unhealthy from an out-of-control wildfire, or smoke from a prescribed burn can be mild to moderate as agencies balance air quality with the goal of treating fuels.

During the Stanislaus Forest's prescribed burns this summer, the Forest Service staff bent over backwards to work with local businesses, schools, and affected residents to manage smoke conditions and minimize complaints. CSERC heard from a number of locals who felt that overall the smoke was acceptable, and there was praise for how the Forest staff listened to local input.

Here are lessons learned, plus some trade-offs that come from greatly increasing the number of acres burned

Because prescribed fire is an imprecise management tool, **the more slowly and carefully a treatment is done leads to more of the "just right" outcome. The more acres that the Forest Service attempts to burn, the less "extra care" can be given to igniting fires slowly and carefully** across a treatment unit. More acres burned each year will likely result in more large trees killed and more habitat degraded by burn treatments.

Just within the national forest portion of the SERAL large landscape project, the Stanislaus Forest needs to burn 7,000 acres or more each year to get the total amount of approved burning done in 7 or 8 years. **A low estimate of what's needed for the overall Stanislaus Forest is 15,000 to 20,000 acres of prescribed burning each year. That translates into forest crews needing to burn many hundreds or thousands of acres every week during times when prescribed burning is allowed.** To do that, project burners can't burn with a high degree of sensitivity – carefully minimizing the potential for flames to damage old growth trees, clusters of aspens, or sensitive habitat areas.

In contrast, thinning logging and other mechanical treatments precisely take only the trees designated, avoiding harm to medium large or old growth trees that have the highest value for wildlife, scenic values, and recreation. That's one of the trade-offs of choosing prescribed burning instead of mechanical treatments.

A second lesson learned from this summer's burn program is that **it's extremely expensive to ramp up to do broadcast burning across thousands of acres.** Small prescribed fire projects can be done by local forest crews who go home at night. In contrast, large scale prescribed burn treatments require mobilizing many firefighters from other national forests. That means an extremely costly fire camp to feed the crews, lots of money spent for transportation and shelter, and enormous staffing salary costs. Initial estimates for this year's Stanislaus Forest burn treatments were near $14,000,000. Few national forests that aren't pilot projects can find that level of funding.

What all this means is that there are trade-offs when national forests aim to greatly increase the pace and scale of prescribed burning. With any major increase in burn treatments, there's higher risk that applying fire on a large scale will mean more big trees killed and more sensitive habitat affected. And with any significant increase in burn treatments, there are likely to be significantly higher overall expenses to get the work done.

This exceptional weather year has resulted in an exceptional number of butterflies to delight those taking the time to observe them

Chelsea Lewandowski


Boisduval's Blue


Common Buckeye

LOTS OF WINTER SNOW AND SPRING RAINS PRODUCED ABUNDANT FLOWERS

The record-breaking precipitation that fell in various forms over our Northern Yosemite region earlier this year helped create and sustain an explosion of wildflowers. Those wildflowers need to be pollinated, and the butterfly community seems to be taking their job as pollinators very seriously. While our staff has been busily completing our field work we have seen a prolific number of butterflies. This caused us to reflect on "What makes a butterfly a butterfly?" and "How can novices identify some of the species in our region?"

So, what is a butterfly? On the most basic level, a butterfly belongs to the *Insecta* Class (which means they have, among other required *Insecta* attributes, an exoskeleton, a three-part body, one pair of antennae, and three pairs of legs). True butterflies, skippers, and moths belong to the *Lepidoptera* Order. (The similarities and differences between the three are mind-boggling and confusing with more exceptions than rules and is beyond the scope of this article and author.)

The species within this order generally have a proboscis (a straw-like mouth which curls up beneath the head when not feeding), two sets of wings (a front set and a back set) and scales covering the body and wings. **It's the scales that give butterflies their varied colors and patterns.**


Lorquin's Admiral

A butterfly's life cycle begins as an egg, which then hatches into a larva (also known as a caterpillar). Once the caterpillar matures, it develops into a pupa (cocoon), which then metamorphosizes into a mature, sexually reproductive adult. It's noteworthy that the larvae do not necessarily feed upon the same plant species as the adult butterfly.

These pages show a few of the species you can see in the local region

WELL, IT'S A BUTTERFLY...

Identifying a butterfly without a net - *aka* "butterflying" – can be difficult, but it's often rewarding and is almost always educational. Once you start looking for them, you'll start noting butterflies nearly everywhere. On one of our staff's recent days spent setting up wildlife cameras, butterflies were fluttering and alighting on flowers at all six of the areas of the forest we visited.

Pale Swallowtail

Here are some key factors to note to help with your identification:

(1) Consider the location, including the elevation,
(2) Identify the type of habitat,
(3) What kind of plant, if any, is the butterfly is feeding on?
(4) Note the wing size and shape, and
(5) Focus on the colors and patterns of the wings, noting whether it's the upper or lower side of the wing that you're viewing,
(6) And finally, use a good butterfly identification guide.

We encourage you to take a moment when out in nature to look for butterflies and appreciate their complex life cycle and their important role in our ecosystem.

Fritillary

Pipevine Swallowtail

We thank these photographers who shared with CSERC the photos shown on these two pages:

Lee Machado
Billy Davis
Joanne Sogsti
and Cierra Torrez.

Completely separate from national forest burns, a prescribed fire last fall at Big Trees State Park ignited controversy over the "Orphans"

Based on reports from Calaveras Big Trees Park staff, a mostly positive prescribed burn was done last fall adjacent to the extremely popular North Grove. Fairly heavy snow fell right after the burn treatments were completed. Over the long winter, no one drove on the main road that loops to the east of the North Grove. **No one noticed that two large giant Sequoias had been severely scorched by the burning.**

When deep snow finally melted this spring, passionate fans of the Sequoias happened upon the two trees - commonly known as "the Orphans" - and saw that they appeared to be highly damaged or perhaps mortally wounded by the burn treatments.

In response to the initial outcry, the Park staff didn't promptly explain publicly how the hotter-than-desired burn effects happened or whether the incident would be used as a lesson to avoid future similar accidents. Indignant Park critics contacted the media and arranged for news coverage to vent their views.

CSERC staff was asked our perspective. We shared with numerous reporters that any harm to iconic trees was highly troubling, but we still supported State Park staff continuing to apply prescribed burn treatments "with extra care."

In the following weeks, we met with Park officials; we met with Park critics; and we continued to try to push for the incident to lead to extra protection for giant Sequoias in future broadcast burns. It is not yet clear exactly how the Park will act to prevent similar accidents in upcoming burn projects. It's also unclear to what degree media coverage of the Orphans incident will affect public views about the use of prescribed fire.

As summer crowds cause traffic delays and congestion, Yosemite Park re-opens the public comment period for how to manage visitor use

"This summer is demonstrating very clearly that doing nothing is not working," Yosemite Superintendent Cicely Muldoon told The Chronicle in early July. ***"We can't keep going like this. It's more gridlock than granite. This is not the kind of experience visitors should be having at this world-class destination."***

As CSERC has previously shared, the Park Service chose to cancel any Day-Use Reservation System in Yosemite this summer due to strong opposition by business interests and local politicians. As a result, at times an extremely high level of visitation has resulted in hours-long traffic jams. During many busy weekends and at times on weekdays, congestion and crowding at popular Park destinations have led to complaints as well as resource effects from illegal parking and from visitor impacts extending out into natural areas.

Photos from Yosemite Park's Visitor Access Plan webpage

Rarely has an opportunity for public comment provided a more meaningful chance to shape long-term Park policy. This is when your input can make a difference!

1) CSERC supports a clear, reasonable, and balanced Day-Use Reservation System to be in place for at least the busy summer season.

2) We also support creating a Visitor Access Plan that doesn't just manage the number of cars, but that also controls the number of visitors at key destinations to levels that provide for a good visitor experience and strong resource protection.

Because more and more local region businesses are promoting visits to Yosemite to boost their profits, there's no question that Park visitation will ramp up higher and higher without a clear limit. As one of America's iconic legacies, Yosemite should be managed to avoid traffic jams and congestion.

We encourage each of you who care about Yosemite to go to the Park website and submit comments by September 6th.

SEARCH: Yosemite National Park – Visitor Access Management Plan – Summer 2023

CSERC's wildlife surveys help to inform agency biologists and planners

A marten takes the bait at a high elevation site.

A bobcat hunts during a tough Pinecrest winter.

For over three decades, CSERC has maintained wildlife camera stations year-round in our local region. We do this work so that the photo results can help inform agency biologists and foresters to know where extra protection is needed for important wildlife habitat when forest projects are being planned.

One of the rare species we search for is the Pacific fisher, an elusive mammal that thrives in mature forests. We also place our camera stations with a goal to lure in the rare Sierra Nevada red fox, porcupine, and wolverine – species whose numbers have plummeted due to human activity over the past century.

So far in 2023, we've set up and maintained 20 cameras in carefully chosen forest areas ranging from near Yosemite to sites along Highway 4 and areas east of Pinecrest. Detected wildlife visitors include marten, bear, deer, flying squirrel, chickaree, gray fox, coyote, mountain lion, bobcat, and a variety of birds.

Each time our staff conducts wildlife surveys, it feels as if we're on a treasure hunt. We never know what we'll discover. While we've only been successful in finding some of our targeted rare species so far this year, the results always provide useful information. We hope you enjoy these photos of some of the visitors.

A healthy-looking mama bear and cub near Bear Valley...

A gray fox investigates the bait at a site near Yosemite.

What has CSERC done for nature just in the past week?

As this newsletter goes to press, our staff can look back over the past week and note that we helped protect a key meadow area from illegal livestock trespass. We monitored 7 other grazed meadows, set up or maintained 11 wildlife cameras, and visited numerous prescribed burn units.

We testified at the Planning Commission and submitted detailed comments to the FERC after six years of hydroelectric relicensing negotiations for the South Fork Stanislaus River. We drafted comments for a Stanislaus Forest plan that allows logging of debatable "hazard" trees along 1,200 miles of local forest roads.

We participated in key meetings, gave input to the media, and submitted comments on national level forest management policy. We also spent countless hours networking with activists about biomass projects, Yosemite Park's management planning, and private timberland clearcuts.

Sometimes nature can take your breath away.

That mini-summary shows how our small CSERC staff works to make a big difference - with the support of those of you who partner with us on behalf of our precious region. Thank you!

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In case you haven't noticed

The wildflowers of spring in the foothills have been replaced by an even more abundant display of summer wildflowers growing across the middle and upper elevations of our forest region. Wild iris, mule ears, lupine, shooting stars, and much more... **Now is a peak time to go see them!** (*Note that you may need mosquito spray when visiting wet, lush meadows*.)