

Bark Beetle Infestation in Nevada County

Summary

The Nevada County Grand Jury (Jury), acting on the authority granted by California Penal Code Section 925, undertook an investigation into the issue of bark beetle infestation and the impact of that infestation on the pine trees and tree mortality within Nevada County. Although there is no one local entity solely responsible for solutions to the problem, its resolution is critical to the way of life that we all enjoy.

The drought has exacerbated the bark beetle infestation to the extent that over 100,000,000 trees are dead and still standing in the state of California. During the course of this investigation, the Jury was cautioned that the problem is not over and that citizens have a number of misconceptions. Chief among them is that the intense rain received this winter will cure the problem. No matter how much rain we get, nothing can make dead trees come back to life. They will continue to pose a threat until they are felled and safely removed.

The Jury also heard from a number of sources that decades of improper forest management and the recent drought have created a perfect environment for the beetles. In other words, we are loving our forests to death.

This report is an effort to inform Nevada County citizens of the issues and consolidate a list of resources available for their use. At the conclusion of the discussion portion of the report, the reader can find a list of agencies that may be able to help.

Glossary

Cal Fire	California Department of Forestry and Fire Protection
Fire Safe	Fire Safe Council of Nevada County
Jury	Nevada County Grand Jury
PG&E	Pacific Gas & Electric Company
SPI	Sierra Pacific Industries
USFS	United States Forest Service

Background

California Penal Code Section 925 states, in part: “The grand jury shall investigate and report on the operations, accounts, and records of the officers, departments, or functions of the county ...” Pursuant to that authority, the Jury undertook an investigation into the issue of bark beetle infestation, and the impact of that infestation on the pine trees and tree mortality within Nevada County. Although there is no one local entity solely responsible for solutions to the problem, its resolution is critical to the way of life that we all enjoy. This report is an effort to inform Nevada County citizens of the problem and to consolidate a list of resources available for their use.

Approach

As part of its investigation, the Jury interviewed staff and representatives from:

- the cities of Grass Valley and Nevada City,
- the Nevada County Board of Supervisors,
- the Nevada County Information and General Services Agency, and
- the Nevada County Community Development Agency.

The Jury also interviewed staff and a former board member from the Fire Safe Council of Nevada County (Fire Safe), a representative from Pacific Gas & Electric Company (PG&E), and a member of the Sierra Club. Members of the Jury attended a meeting of the Tree Mortality Working Group and reviewed numerous Internet websites which describe the problem and offer suggestions.

Discussion

The problem with bark beetle infestation began about five years ago in Southern California and has slowly moved north. During the course of the investigation into the bark beetle infestation, the Jury learned that there were two main issues that contributed to the critical condition of our forests. The first is the severe drought experienced over a period of several years. The second is the lack of prudent forest management.

In multiple interviews, the Jury was told emphatically that our forests are now very sick. Prompted by the drought, the bark beetle is killing an untold number of trees. The latest count is over 100 million dead trees still standing within the forests of California.

There are many varieties of bark beetles, and each requires a unique remedy. Bark beetles, a type of pine beetle, are prolific due to a perfect storm caused by the lengthy drought. Because of the drought, trees have lost their ability to process nutrients in the soil. This stresses the trees and makes them vulnerable to the increased reproductive cycles of the bark beetle.

Throughout many interviews the Jury was cautioned that the bark beetle infestation is an ongoing problem that cannot be solved by any amount of rain. Once a tree is dying from the infestation, it will not recover. Furthermore, during the winter healthy trees are dormant and will not absorb any of the ground water available to them. The perfect time for tree removal is fall and winter. During spring and summer pheromones can be released, attracting other beetles, thus furthering the infestation.

Jurisdictional issues between Federal, State, and Nevada County agencies have prevented coordinated and effective action. The standing dead trees are being removed but far too slowly to make any substantial difference. There is no cohesive plan to deal with the amount of felled logs that will be necessary to be removed from the bark beetle's proximity. This must be done if we are to stop the forest's death spiral.

The county is responsible only for clearing dead trees from Nevada County rights-of-way and from county-owned properties. They had a plan for accomplishing this, and were giving the downed trees to a private company for disposal. Some of the cut timbers from the local infestations were being sent to China. For a variety of reasons, these options are no longer available. Nevada City cleans up small infestations on city owned property and rights-of-way and stockpiles downed trees at the old airport.

A tree mortality task force has been established to, among other objectives, facilitate emerging funding. Various task forces are suggesting that we do nothing, i.e., “let it all burn.” In five to ten years we could see a sizable piece of our state “up in smoke.”

In October 2016 Governor Brown declared a state of emergency in reference to the severe tree mortality in California. Information gathered and shared during a Tree Mortality Task Force meeting was instrumental in the creation of the Governor's Proclamation. Governor Brown has directed cooperation among state departments to expedite the removal of dead and dying trees and has sought help from the U.S. Secretary of Agriculture. He has asked for assistance in mobilizing additional resources to address public lands, particularly where they pose a threat to nearby communities. At the time of this report there had been no results.

During a meeting of the Nevada County Tree Mortality Working Group in December 2016, a representative from the California Department of Forestry and Fire Protection (Cal Fire) gave a presentation with many photos of hundreds of acres of dead trees with no green in sight. A ten-county swath of affected areas in the Sierra Nevada running from Kern County north to Placer County has been classified an extreme emergency area with huge tree mortality rates. Nevada County is not quite in that classification yet, but the presentation clearly showed that during the last few years the tree mortality rate has jumped in our county with some severe pockets.

Bark beetles have increased their life cycle penetration in the affected areas from once per year to between two to four times per year following the severe drought. The areas running north from Nevada County to the Oregon border have extreme pockets of dead trees, but not to the extent of the ten counties south of Nevada County.

Following the presentation, there was a round table opportunity for various representatives to speak to the problem.

- A State Park representative stated that the recent fire in the area between Empire Mine State Park and South Auburn Street in Grass Valley was in an area that included a large group of dead trees.
- A PG&E representative indicated that they have removed over 8,900 dead trees from areas affecting their transmission lines during the last year. He stated that typically the annual tree removals along their transmission lines had been approximately 2,000 per year.

Removal of the downed trees was discussed. Storing the felled trees is problematic due to unavailability of land to stack them without posing a fire danger. A biomass plant to dispose of the infected trees is in the planning process. This plant is in the environmental approval phase.

Completion is estimated to take four to five years at a cost of approximately \$100 million. The United States Forest Service (USFS), using the California Environmental Quality Act, has a new process wherein anyone objecting to any submission must have their objections stated up front. This should reduce the time required for processing, but it is still a lengthy process.

We have too many trees, of the wrong varieties, in the wrong places. Lumber harvests formerly thinned the forest and provided ample light, moisture, and nutrient support. Forest fires provided the remainder of the thinning. With the movement of people into areas that were largely uninhabited, fire suppression is now mandatory. An interviewee stated, "Forestry is not rocket science; it's much more difficult."

There is a need for sun and soil nutrients to produce and sustain large trees, but undergrowth is out of control, competing with native plants and creating fuel. Some demand that no trees be cut because they are needed to support forest creatures. Our vision of a healthy forest has too many trees and attendant underbrush. All of this creates a huge amount of fuel for wild fires. Several interviewees said that we are loving our forests to death.

Due to decades of systemic mismanagement of our forests, we have depleted their gene pool, creating an overstocked forest. It's a disservice to the Sierra and a super-market for the beetles. The devastation may be too late to stop.

One interviewee related a story about the simplest example of proper forest management. Centuries ago, a large portion of the local Native American population resided at what is now Lake Wildwood. During the spring/summer they hunted and foraged in the upper foothills and returned in late fall. When they came down the hills, they set fires behind them and let them burn out naturally. This reduced the brush/vegetation and created easier access to the deer population in the succeeding spring. More light was provided to the forest vegetation and more nutrients and moisture were available. The forest was healthy and alive and entirely usable.

Our fire support resources are placing themselves in the extreme position of having to protect inhabited areas which are largely unreachable by large fire equipment. Air tankers have done a remarkable job of knocking down unreachable fires, but they cannot be counted on to put out every fire. We are reaching a situation where the only defense will be to attempt to guide a wild fire around as many structures as possible and let the fire burn itself out. There were recent examples of this tactic around Yosemite and Monterey.

According to several of those interviewed, forest management education is sorely needed. Restrictions placed because of environmentalist concerns have contributed to putting the forest in severe danger. Sometimes clear cutting is a solution. There are too many trees, some of them the wrong kind, not enough loggers, and no place to put all the logs. Landowners also create a problem when they don't want their trees removed or cannot afford to do so.

The Jury asked interviewees what can be done? Their responses included the following:

- We need to start harvesting again. We need to grow millions of seedlings of the right variety.
- There is no funding mechanism to help the private citizen and to contribute to the removal of infected trees. We need grants developed to address this.
- State Prison Realignment removed many inmates from the Cal Fire inmate teams and we need to plug this gap to make the teams available again for prescribed burning and underbrush clearing.
- We have to rethink our way to recover a method of forest management that is workable. What we have now is a disaster.

Grass Valley has developed a reforestation program. Tree seedlings will come from a USFS nursery in Placerville and also from the Sierra Pacific Industry (SPI) nursery. SPI has been collecting the best species of seeds for the last 35 years. The USFS has a similar program. Grass Valley hopes to use Condon Park as a model of a healthy forest. The seedlings to be used are tailored to the local environment and will be planted to ensure proper diversity and density. There will be an education component to the program so that the community can understand the proper planting procedures.

PG&E currently has a program which identifies and removes potential hazards to their lines, as required by California Public Resource Code Section 4293, which follows:

Except as otherwise provided in Sections 4294 to 4296, inclusive, any person that owns, controls, operates, or maintains any electrical transmission or distribution line upon any mountainous land, or in forest-covered land, brush-covered land, or grass-covered land shall, during such times and in such areas as are determined to be necessary by the director or the agency which has primary responsibility for the fire protection of such areas, maintain a clearance of the respective distances which are specified in this section in all directions between all vegetation and all conductors which are carrying electric current:

- (a) For any line which is operating at 2,400 or more volts, but less than 72,000 volts, four feet.
- (b) For any line which is operating at 72,000 or more volts, but less than 110,000 volts, six feet.
- (c) For any line which is operating at 110,000 or more volts, 10 feet.

In every case, such distance shall be sufficiently great to furnish the required clearance at any position of the wire, or conductor when the adjacent air temperature is 120 degrees Fahrenheit, or less. Dead trees, old decadent or rotten trees, trees weakened by decay or disease, and trees or portions thereof that are leaning toward the line which may contact the line from the side or may fall on the line shall be felled, cut, or trimmed so as to remove such hazard. The director or the agency which has primary responsibility for the fire protection of such

areas may permit exceptions from the requirements of this section which are based upon the specific circumstances involved.

PG&E contracts with a company to patrol the lines and determine whether a dead or dying tree poses a risk to power lines. If it does, the tree is marked and referred back to PG&E, which then negotiates with the property owner to get permission to remove the tree. The removal is done by an outside contractor. From start to finish, the process can take as many as seven months.

Fire Safe has provided an annual information guide to help the public prepare for the upcoming fire season. The guide may be delayed waiting for the USFS and Cal Fire to provide articles that are still in process. The release date will probably be in June 2017.

The Jury was repeatedly told that involvement of the citizens of Nevada County is crucial. Things that homeowners can (and should) do include the following:

- Remove the stress under trees by clearing and limbing up.
- Contact PG&E if they have a tree that poses a hazard to power lines or transformers.
- Welcome woodpeckers and spiders because they eat beetles.
- Educate themselves.

Fire Safe has special programs for seniors and low-income families, and maintains a list of available companies to assist with removal.

Additional information can be found at the following:

- Fire Safe – <http://www.areyoufiresafe.com>
 - Click on any of the links for Bark Beetle Information or call 530-272-3232.
- Nevada County – <https://www.mynevadacounty.com/nc/cda/Pages/Bark-Beetle-Infestation-Outreach.aspx>
- Cal Fire – <http://www.readyforwildfire.org/Bark-Beetles-Dead-Trees/>
 - Click on the link for Bark Beetle Epidemic.
- Nevada County Resource Conservation District – <http://ncrcd.org/>
 - Click the link for Bark Beetle Infestation or call 530-272-3417.
- PG&E – <https://pge.com>
 - Click the Safety box, click Digging and Yard Safety, click Power Line Safety or call 1-800-743-5000.

Findings

- F1** Although tree mortality in Nevada County is not yet at the catastrophic rate experienced by the ten counties to the south, it is up to the citizens of our county to be watchful and promptly deal with any observed infestations.
- F2** Numerous agencies are providing information and resources to ameliorate the bark beetle problem.

- F3** There is no coordinated effort underway to get all of the stakeholders to participate, review and recommend changes to forest management practices currently in place.

Recommendations

- R1** Residents of Nevada County are encouraged to take advantage of the services described herein.

Request for Responses

Pursuant to Penal Code section 933.05, the Nevada County Grand Jury requests responses as follows:

None required