

# Overview

## Background

In the summer of 1999, winegrape growers in Riverside County experienced a sudden and alarming increase in the death of grapevines in a number of area vineyards. In August, after experiencing the rapid destruction of over 300 acres of vineyards in the Temecula Valley, the Riverside County Board of Supervisors declared a local emergency. The culprit of the destruction was the deadly Pierce's disease accelerated by a new carrier of the causal bacteria of the disease, the glassy-winged sharpshooter.



Riverside County and the City of Temecula each contributed \$125,000 for research to combat Pierce's disease. Within days, Secretary William J. Lyons, Jr. of the California Department of Food and Agriculture (CDFA) adopted an action plan and appointed a task force to develop long-term strategies and resources to combat the emerging threat. The CDFA resources were redirected to meet

with stakeholders, coordinate activities and develop plans for action. Governor Gray Davis signed legislation allocating \$2.25 million over three years for Pierce's disease research and creating the Pierce's Disease Advisory Task Force while Secretary Lyons successfully sought federal assistance to reduce sharpshooter populations in Temecula.

January marked the first meeting of the Pierce's Disease Advisory Task Force and subcommittees were established to review research proposals and develop management and control plans. A preliminary survey uncovered a significant presence of the glassy-winged sharpshooters in eight southern California counties.

By February, the CDFA had already expended thousands of hours of staff time to meet with stakeholders, coordinate activities and develop protocols for regulatory action and treatment. Concerned about the spread of the glassy-winged sharpshooter through nursery stock, the nursery industry adopted a voluntary inspection and treatment program while Secretary Lyons met with federal government officials to seek their assistance.

In the Spring, a number of significant developments affected the fight against Pierce's disease and the glassy-winged sharpshooter. The CDFA developed and released protocols and guidelines for counties to determine the presence of the

glassy-winged sharpshooter. Concerned that nursery inspections at origin still left destination counties somewhat vulnerable, several non-infested counties began to inspect nursery stock shipments from infested areas upon arrival. Mandatory inspections were implemented statewide after the CDFA upgraded the pest rating of the glassy-winged sharpshooter.

Meanwhile, scientists from the CDFA and the University of California traveled to Mexico in search of natural enemies of the glassy-winged sharpshooter.

Responding to the need to keep stakeholders informed, the CDFA developed and activated a website dedicated to Pierce's disease and the glassy-winged sharpshooter.

In May, a glassy-winged sharpshooter was trapped in a San Joaquin County nursery distant from the infested areas. The subsequent large-scale survey effort helped establish the protocol for responding to sharpshooter discoveries in the future. Later in the month, an infestation of the sharpshooter was discovered in a residential area of Tulare County. Multiple state and local agencies were mobilized for rapid response.

The end of May marked the formal establishment of the Pierce's Disease Control Program as legislation (SB 671 by Senator Wes Chesbro) was adopted outlining specific requirements for county agencies and authorizing the Secretary of CDFA to adopt program regulations. Governor Davis sponsored the legislation approving \$6.9 million in program funding from the State's

1999/2000 budget and supported an additional \$6.9 million in the 2000/2001 Budget Act.

While treatment activities continued in Tulare County, action on the part of alert residents led to the discovery and treatment of two new infestations in Fresno County.



On June 23, the federal government responded to Governor Davis' request for a federal emergency declaration. Federal assistance of \$22 million was committed to control the spread of the glassy-winged sharpshooter and support research to cure Pierce's disease.

During the summer, survey and detection efforts uncovered new infestations in the counties of Fresno and Sacramento and concerns about the movement of nursery stock and bulk grapes intensified. On July 25, the CDFA adopted emergency regulations for nursery stock and bulk grapes and coordinated statewide systems for compliance.

In August, scientists from the CDFA and the University of California initi-

ated a pilot project by releasing limited numbers of a natural enemy of the glassy-winged sharpshooter. Small numbers of the tiny, stingless wasp from Mexico were released in test locations in Kern, Riverside and Ventura Counties. The wasp parasitizes the sharpshooter by laying its eggs inside those of the larger sharpshooter.

In the final quarter of the year, new glassy-winged sharpshooter infestations were discovered in Butte, Contra Costa, Fresno and Tulare Counties. State and local agencies worked together to treat over 250 residential properties and the Environmental Protection Task Force created by the CDFA began a series of meetings to review the potential environmental impacts associated with program treatments.

In November, significant numbers of the glassy-winged sharpshooter were discovered in bulk citrus shipments moving from Kern County to packing facilities in Tulare County, leading to the immediate suspension of shipping activities. Following an assessment of citrus processing activities, the CDFA adopted emergency regulations requiring citrus to be free of the sharpshooters prior to shipping.

The CDFA conducted regional stakeholder meetings in Napa, Orange, San Luis Obispo, Stanislaus and Tulare Counties to gather input regarding program activities. Hundreds of grape growers, vintners, nursery operators, environmental organizations and general public members attended and expressed their opinions about the program to combat the disease and the glassy-winged sharpshooter.

In December, an international symposium focused on research for Pierce's disease was conducted at the University of California in Davis. More than 60 scientists from around the world who are undertaking research participated to review critical research and define the best directions for future research. The symposium provided the first opportunity for researchers to collectively share progress, critical information and identify gaps in current research efforts. A follow-up symposium is scheduled for early 2001.

Throughout the year, the program was encouraged by significant progress on a number of research projects. The DNA of the *Xylella* strain that causes citrus variegated chlorosis, closely related to Pierce's disease, has been completely identified enhancing our ability to determine how the Pierce's disease strain works and where it might be susceptible to attack. Several DNA-based identification kits are in the final stages of testing. They will greatly enhance our ability to determine if a plant or the sharpshooter has the Pierce's disease strain of the bacteria. Movement of the sharpshooter and how the pest transmits the disease has been studied and documented to assist in developing effective pest management activities. A pilot test for lowering insect population without extensive spraying has initially produced encouraging results. A number of insecticides were tested and appear to be effective against the sharpshooter. Approximately \$3.7 million dollars is currently funding 32 research projects with an additional \$4 million earmarked for other research projects.

# Program

The Pierce's Disease Control Program accomplishes many of its activities through county agricultural commissioners supported by the CDFA employees located throughout the state. Industry, federal and other state agencies also play a critical role in supporting the program and providing feedback to maintain program effectiveness. The program has five central elements:

### 1. Contain the Spread

Preventing the spread of the glassy-winged sharpshooter to new areas of the state by regulating shipments of host plants and plant materials.

### 2. Statewide Survey and Detection

Identifying and monitoring glassy-winged sharpshooter infestations and populations through trapping and visual inspection.

### 3. Rapid Response

Providing guidelines and oversight to local authorities to develop and implement work plans for response to new infestations.

### 4. Outreach

Raising awareness about Pierce's disease and its vectors while responding to the concerns of growers and the general public.

### 5. Research

Developing solutions to reduce or eliminate the risk of Pierce's disease.

Additional information on the Pierce's Disease Control Program and its activities is contained in the following sections of this report. An electronic copy of this report and further detailed information can be found at the program website: [www.cdffa.ca.gov/gwss](http://www.cdffa.ca.gov/gwss).



## Major Accomplishments

Since the discovery of the serious new threat presented by the glassy-winged sharpshooter, the accomplishments of the cooperative program have been significant. Program highlights include the following:

- A task force with broad representation from industry, research communities, and local government was appointed to advise the CDFA Secretary on each phase of the program.
- Inspectors performed an initial survey statewide and determined that 45 counties were apparently free of glassy-winged sharpshooter.
- Following a review of the risks posed by glassy-winged sharpshooter, CDFA designated the pest as one of limited distribution and major economic importance.
- The CDFA adopted emergency nursery, bulk grape and citrus regulations to prevent the artificial spread of the glassy-winged sharpshooter.
- County staff inspected over 52,000 nursery shipments, finding less than one-half of 1% of the shipments carried life stages of the sharpshooter.
- Counties inspected close to 115,000 loads of bulk grapes resulting in zero sharpshooter finds.
- The CDFA developed protocols for a statewide detection program to provide guidance to counties for their work plans.
- County staff, with the help of the public, detected new glassy-winged sharpshooter infestations in five counties.
- Local groups met to establish 17 pest management groups to provide input into local county work plans to combat glassy-winged sharpshooter.
- Counties treated over 2,000 glassy-winged sharpshooter infested properties in five counties.
- State staff participated in over 200 outreach meetings for growers and the general public to provide status reports and opportunities to contribute feedback to the program.
- The CDFA established an interactive website providing program guidance and information. This site has been visited over 500,000 times since its unveiling in March 2000.
- State, local and university cooperators have worked in partnership to distribute over 100,000 brochures (in English and in Spanish) to increase public awareness of the pest and its potential impact.
- Outreach efforts and program activities have generated over 500 press releases and articles in national and international publications.

- CDFA, working closely with industry and the University of California, has coordinated the investment of \$7.7 million in research to seek short and long-term solutions to Pierce's disease and the glassy-winged sharpshooter.
- Scientists from the University of California, CDFA and the U.S. Department of Agriculture (USDA) have imported and released a limited number of parasitic wasps to determine if they reduce the sharpshooter population and survive California conditions.
- An independent panel was appointed by the CDFA to identify environmental concerns associated with the treatment element of the program and made recommendations to the Secretary in a formal report.
- The USDA committed \$22.3 million for the fight against Pierce's Disease and its vectors.

Additional information regarding program accomplishments may be found in the following sections of this report.

## Organization

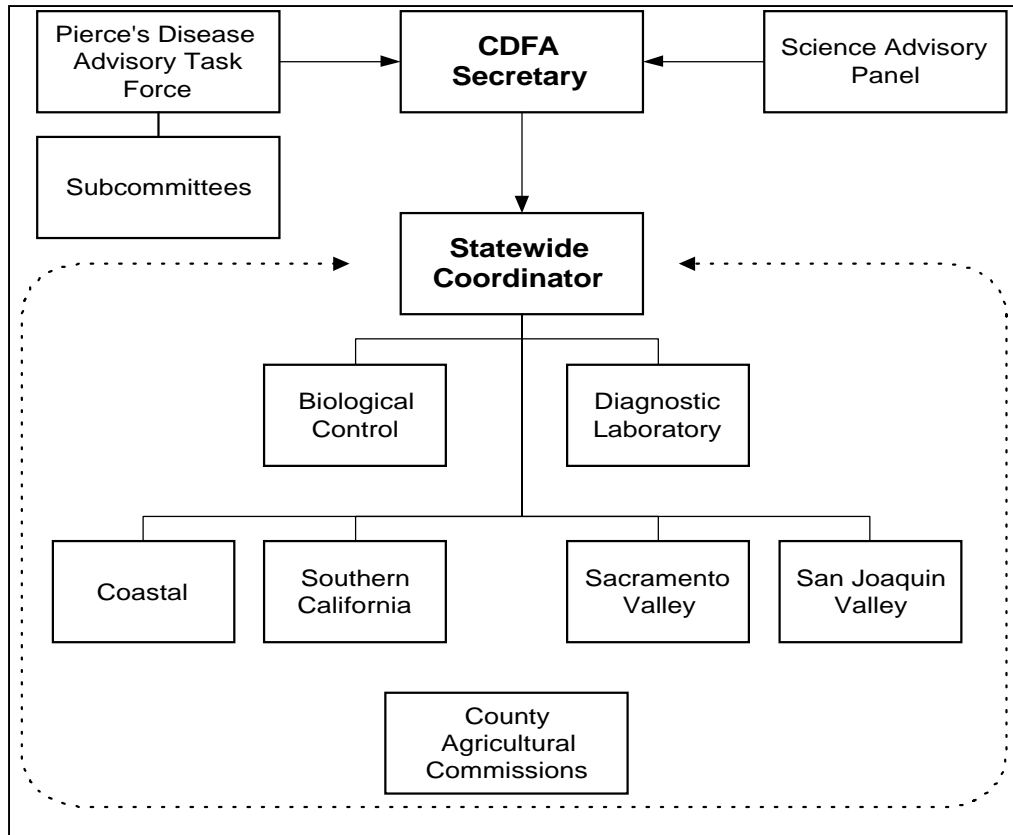
The Pierce's Disease Control Program is a partnership with county agricultural commissioners, universities, federal agencies, other state and local agencies, and agricultural organizations throughout the state.

They work in partnership with the offices of county agricultural commissioners to ensure that activities are being conducted in accordance with all statutory and regulatory requirements.

The Pierce's Disease Control Program is advised by a task force and subcommittee structure. A Statewide Coordinator directs the program in accordance with the policies approved by the Secretary.

Identification of the disease and the sharpshooter is performed by the systematists at the CDFA's Plant and Pest Diagnostic Laboratory. Natural enemies of the sharpshooter will be reared in the CDFA lab facilities. Research is being performed statewide by researchers under contract and coordinated by the CDFA and industry.

Offices located throughout the state are responsible for overseeing and implementing various elements of the program, as well as communicating with program stakeholders.

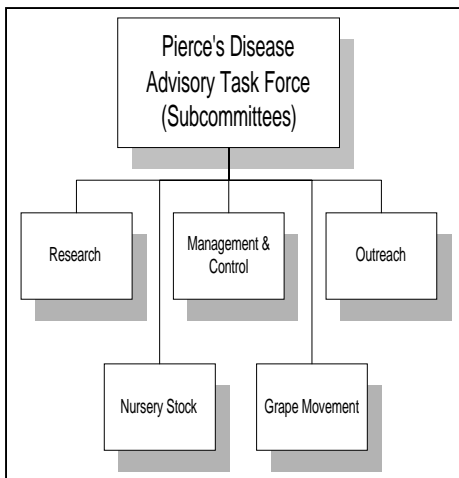


## Planning

Recommendations from the Pierce's Disease Advisory Task Force, the Science Advisory Panel and internal technical expertise guide the program's structure, goals and objectives.

### Pierce's Disease Advisory Task Force

The Pierce's Disease Advisory Task Force and its subcommittees serve as the key management advisory group. Composed of county agricultural commissioners, scientists, agricultural representatives and other experts, the task force meets regularly to review and make recommendations for program improvements.



### Science Advisory Panel

Members of the Science Advisory Panel (SAP) are experts in glassy-winged sharpshooter. The panel regularly reviews the scientific elements of the program and recommends direction in the

biology of the vector and the most effective means of containment and control.

### Local Management

The county agricultural commissioner of each county has lead responsibility for conducting local Pierce's Disease Control Program activities. Agricultural commissioners are responsible for developing and seeking CDFA approval for program work plans addressing the disease and its vectors. As stated in legislation (SB 671), county work plans must include the following minimum elements:

1. Proposed response to the discovery of the disease and its vectors (including delimitation and treatment);
2. Identification of a local coordinator;
3. Ongoing training to employees in the biology, survey and treatment of Pierce's disease and its vectors;
4. Outreach information and training to local communities to respond to local concerns; and
5. A system to track and report new infestations.

Seventeen local management areas and task forces have been formed throughout the state and are instrumental in mobilizing local resources to assess and combat the glassy-winged sharpshooter.