

California Invasive Species Advisory Committee (CISAC) Meeting

Invasive Shot Hole Borers Sub-Committee Research and Technology Development

Wednesday, April 3, 2019 2pm to 4pm

Meeting Minutes

Meeting Action Items

- Next Meeting: Thursday, April 18th from 9am to 11am
- Working Groups:

Working Groups	Charge	Participants
Biology	<ul style="list-style-type: none">● Compile list of research questions● Indicate whether questions are for short or long term projects.● Estimate cost for each.● Develop a list to be voted on by whole sub-committee	Coordinator: Shelley Bennett
Monitoring	<ul style="list-style-type: none">● Compile list of research questions● Indicate whether questions are for short or long term projects.● Estimate cost for each.● Develop a list to be voted on by whole sub-committee	Coordinators: Chris Shogren Richard Stouthamer Participant: Kyle Beucke
Control	<ul style="list-style-type: none">● Compile list of research questions● Indicate whether questions are for short or long term projects.● Estimate cost for each.● Develop a list to be voted on by whole sub-committee	Coordinators: Akif Eskalen Richard Stouthamer
Epidemiology	<ul style="list-style-type: none">● Compile list of research questions● Indicate whether questions are for short or long term projects.● Estimate cost for each.● Develop a list to be voted on by whole sub-committee	Coordinator: Shannon Lynch
Integrated Pest Management (IPM)	<ul style="list-style-type: none">● Compile list of research questions● Indicate whether questions are for short or long term projects.● Estimate cost for each.● Develop a list to be voted on by whole sub-committee	Coordinators: Akif Eskalen John Kabashima Participant: Shannon Lynch

Other Action Items:

- All Review [SANDAG](#) for 4th sub-committee meeting
- **Sheri Smith** to reach out to Larry Swan regarding research on BioChar. – Larry will be back in the office next week.
- Identify social scientists in California that are looking at the behavior of moving wood from South to North.
 - **Shannon Lynch** will reach out to Patricia Winter this week
 - **Dr. John Kabashima** will reach out to Amanda Crump
 - **Dr. Stacy Hishinuma** reached out to John Boland. He submitted input and will be involved in future meetings
- **CCP & CDFA** Pluralize Invasive Shot Hole Borer (ISHBs) to Invasive Shot Hole Borers.
- **Dr. Beatriz Nobua-Behrmann** UCI Study of already infested trees. Needs to be a follow-up that includes non-infested trees.
- **Tabled to Control Working Group:** Research into Management strategies other than tree removal.
- **Tabled to Control Working Group:** Figuring out how small the chips needs to be in order to remove the bug completely.
- **Tabled to Epidemiology Working Group:** Restoration, which species are resistant and should be planted. Matrix may work.
- Identify someone to continue McPherson's work on economic impacts 5-10 years showing impacts of 50% mortality rate and 80% mortality rate.
 - **Dr. John Kabashima** and **Sheri Smith** will follow up with Gregg McPherson.
 - **Kyle Beucke** will investigate if anyone at CDFA can do an economic impact or working with UC Davis.
- **Tabled to Emerging Tree Pests Working Group**
 - Develop a mechanism for collaboration between researchers and county staff.

Meeting Proceedings

Background

Dr. Stacy Hishinuma reviewed the subcommittee mission. This funding will be focused on short term goals. Once we have built a list of priorities, we will rank them and then create a budget we will propose to meet those priorities.

David Pegos presented background for the convening of the subcommittee. In January of 2018 the California Invasive Species Advisory Committee (CISAC) convened a statewide summit. Out of the summit came suggestions which were incorporated into AB 2470, signed by the governor in 2018. The bill allocated \$5 million for a coordinated statewide effort against invasive shot hole borers (ISHBs). The funds are ready to be disbursed and these subcommittees are tasked with advising how the funds should be allocated and helping develop the RFPs. Each subcommittee will meet four times at two-week intervals, while taking actions between meetings to make progress. The consensus of the subcommittees will be compiled by Shannon Lynch into a single report document. Simultaneously the subcommittees will utilize boilerplate RFP language from CDFA and CAL FIRE to begin developing the RFPs. Mr. Pegos noted that the prioritization of this subcommittee may also help inform the farm bill suggestion process especially for more long-term research priorities.

Dr. Hishinuma went over the proposed schedule for the research subcommittee meeting. The plan is to vote by April 10th to pull items together. To allow people to prioritize, Dr. Hishinuma asked that there be four working groups created.

- Dr. Richard Stouthamer proposed postponing the voting to between the 3rd and 4th meeting. There was a consensus to make the shift to give ample time to building the research topics list.
- Forest Service cannot fund research, but they can fund technology development. Future drafts of materials will make sure that we are not limiting ourselves to research but research and technology development.
- There was a suggestion to include integrated pest management (IPM) however it was noted that all four categories are involved in integrated pest management.

Tabled to Outreach and Education: ensure that research is utilized in IPM.

(5) SUB-COMMITTEE BUSINESS/DISCUSSIONS

Dr. Hishinuma introduced some researchers currently working on ISHBs research and their suggested research questions.

John Boland Research Questions

- What levels of nutrients make trees more susceptible to ISHBs?
- Determine how the ISHBs are dispersing?
 - Dr. Stouthamer noted that past studies using suction traps have found that TSHB mostly fly below the canopy. Most of their long-distance dispersal by is through moving firewood.
 - Spring may be an optimal time to study.
- Why re-sprouting willows have resistance to ISHBs?
 - Resistance possible to the fact that ISHBs do not like small diameter branches.
 - Akif has found that re-sprouting willows do get re-infested as they grow larger.
 - May be worth monitoring over longer time.

Richard Stouthamer Lab

- Determine relative abundance of the three species in Taiwan.
 - Funded through September 2019.
- Test Parasitoids for their effect on beetles.
- Test Nematodes effect on the beetles.
 - Currently being researched by graduate students.
- Flight patterns of beetles, in fall beetles are attracted to well-watered orchards.
- Using stable isotopes which may help determine where beetles came from.
 - No funding currently.
- Need a natural control which will follow the beetle.
- Add all but the Nematodes research to the project list.

There was some discussion of the effectiveness of short-term research projects. The funding set aside in AB2750 is for the next 1-3 years.

Akif Eskalen Lab

- Mrs. Lynch is monitoring trees.
 - Monitoring trees is in avocado groves and wildlands.
 - Timeline 3 more years to get a 5-year dataset.
 - Has a diverse funding base currently--will put together budget of what is needed.
- Biotic Factors of Resistance.
 - Test inhibition efficacy of endophytes in greenhouse and field settings to see if they might be useful for curative or preventative measures.
- Chemical Trials on Native Trees.
 - Need to test tissues to determine whether systemic pesticides leave residue
- Experiments on bio activating chemicals that stimulate increases the natural defense mechanisms of trees.

There was discussion of Ambrosia Beetles and what they might carry that kills off fusarium.

Public Comment

- John Kabashima commented that there is a need to develop the host list for Kuroshio Shot hole Borer.
- Kevin Turner noted that the green waste pathways group has items that they will bring to the working groups.

Adjourn

Dr. Hishinuma reviewed the next steps and action items. Mrs. Lynch adjourned the meeting at 4:16pm. The next meeting will be Thursday, April 18rd from 9am to 11am.

Meeting Participants

First	Last	Affiliation
Dr. Stacy (co-chair)	Hishinuma	UC Davis
Shannon (co-chair)	Lynch	UC Santa Cruz
Matthew	Abbott	USDA
Dorothy	Abeyta	Davey Tree Company
Laura	Arellano	Imperial County
Shelley	Bennett	UC Santa Barbara
Mark	Berninger	City of San Diego
John	Boland	JohnBoland@sbcglobal.net
Gregg	Bratcher	gregg.bratcher@fire.ca.gov
Kyle	Burke	CDFA
Corin	Choppin	Consensus and Collaboration Program, CSUS (notetaker)
Andrew	Cline	CDFA
Kim	Corella	CAL FIRE
Rosi	Dagit	Resource Conservation District of the Santa Monica Mountains
Akif	Eskalen	UC Davis
Mel	Graham	Agricultural Commissioner's Office
Nathan	Gregory	Irvine Ranch Conservancy
Donald	Grosman	ArborJet Inc.
Katie	Harrell	Forest Service
Andrea	Hefty	USDA Forest Service
Gretchen	Heimlich	Disneyland
Stacy	Hishinuma	UC ANR
Ann	Hope	
Anne	Jarque	Community Planners Committee, City of San Diego
John	Kabashima	UC ANR Emeritus
Kalee	Koeslag	Irvine Ranch Conservancy
Danielle	Lefer	California Department of Parks and Recreation
Dario	Lombardo	County of San Diego - Parks and Recreation Department
Martin	MacKenzie	USDA Forest Service
Beatriz	Nobua-Behrmann	UC ANR
Pat	Nolan	Plant Pathology Laboratory - County of San Diego
Mike	Parker	Alliance Land Care
Bronti	Patterson	CA State Parks
David	Pegos	CDFA (Convener and facilitator)
Mark	Porter	Arborist
Madeleine	Rauhe	Disney
Joe	Scheele	Customs and Border Protection
Michael	Scholl	CDFA
Matt	Slattengren	Contra Costa County Agricultural Commissioner
Tom	Smith	CAL FIRE
Sheri	Smith	US Forest Service
Monika	Sowinska	US Forest Service
Jason	Stajich	UC Riverside
Richard	Stouthamer	UC Riverside
Jim	Suero	CA State Parks
Kevin	Turner	CAL FIRE
Jerrold	Turney	LA County Agricultural Commissioner
Mayra	Valdez	National Forestry Commission of Mexico
Sophia	Yun	Orange County Public Works