UNITED STATES

ENVIRONMENTAL PROTECTION AGENCY

PESTICIDE PROGRAM DIALOGUE COMMITTEE MEETING

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Conference Center - Lobby Level

2777 Crystal Drive

One Potomac Yard South

Arlington, VA 22202

P R O C E E D I N G S

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DR. BRADBURY: Welcome, everyone, to the Pesticide Program Dialogue Committee. Glad you're all here. Looking forward to a good meeting coming up. What I'd like to do first before we get into the agenda itself and start the session, I ask if Steve Owens, the assistant administrator, could provide some opening comments.

MR. OWENS: Just let me take a few minutes. I don't want to take up much time because I know you have a busy agenda today. I was able to get to the last one of these as well. I try to get to them as much as I can. Unfortunately, I can't stay very long. That's one of the hazards of the job I have, but I'll be here through about 10:00 this morning to hear at least the beginning presentation. Then, I'll have to scoot out.

But, at the last meeting, I know it was the first meeting for a number of you. There were a lot of people at that meeting. There are a lot more people at this meeting, in part because there have been some delays in getting the membership ratified and everything else

for the group. But, I'm hopeful that we've now got the new PPDC constituted. Everybody is organized and raring to go on a lot of issues, because we really do need your advice, which is a primary function of this group.

It not only gives us the opportunity to bring all of you up to speed on things that we're doing here, but, more importantly, to get your feedback and your perspectives on some of the things we're doing, as well as your insight as to how we can do the things that we are wanting to do here, either better or in a more responsive way to make them more effective as well as to make them work better in the real world.

What you're going to spend the morning on today, and what I really wanted to just spend a couple minutes talking to you about, is the notion of integrated pest management, IPM. I think you'll see on the agenda that up until, I guess, about lunch time, there are various presentations and an opportunity for all of you to have a discussion and to give us your perspectives on some of the things we're looking at doing with our IPM effort here at EPA. In particular, an endeavor that we've just initiated -- really, I guess it's been coming

up on a year, but that's a short period of time for government work, I found out -- we started working on this really last summer with our staff and the offices bouncing ideas off of people, working with our folks in our regional offices, and then discussing them at various meetings we had.

Then, formally, I sent a memo out in December of last year discussing a new focus that we're trying to place on integrated pest management in schools. That's a subject that I spent a considerable amount of time on when I was the director in the Arizona Department of Environmental Quality under Governor Napolitano. She placed a strong emphasis on children's environmental health and on reducing children's exposure to pesticides and other chemicals, as well as working very closely with children's advocates and trying to provide additional support for pollution prevention efforts.

At EPA, under Administrator Jackson's leadership, I think as everybody here probably knows, the administrator is placing an extremely high priority on children's health considerations. She's also made it clear to all of us, which we're very pleased with in my

shop, that pollution prevention activities are going to be given much greater attention in the agency.

Also, she has made a focus on reducing exposures to chemicals, especially among children. One of the highest priorities for the agency articulated seven priorities at the beginning of her tenure in January of 2009. Number three on the list was assuring the safety of chemicals. Part of that is just trying to reduce children's exposure to chemicals across the board.

So, what we are trying to do in this office is to refocus our energies and some of our resources and our work to begin to provide greater attention to and greater assistance with efforts to develop integrated pest management programs for schools across the country.

You know, I think the statistics I've seen is that there are about 50-plus million children and 6-odd million adults who every day are present for part of their day in one of the 120-plus thousand schools in this country. Roughly, only about 20 percent, at least the statistics I've seen, only 20 percent of those schools really have effective and well thought out integrated pest management efforts.

So, we have a big job cut out for us. We don't have a lot of resources in the agency, but we're committed to making this happen. We're working now on a strategy for getting that done, of how we can transition from the current work we're doing to a greater focus on integrated pest management in schools. See where that may take us in the long term, as well.

How can we can develop integrated pest management programs that make sense that provide assistance where it's most needed in the schools where they want the assistance and also where we believe the help is going to be most beneficial? Then, lastly, in our shop, as well as across the board at EPA, that we are getting it right, that the focus that we're placing is going to maximize the benefit that we think that children can receive from these efforts.

But, we want to make sure that as we move down the road towards a greater focus on integrated pest management in schools, that we're doing it in a way that makes the most sense, that maximizes the available resources we have, and also reflects the interests and needs of the schools themselves, the children

themselves in the local communities.

So, other than that, there's not a lot going on in the agency, but we really need your help in helping us to make sure that we move in the right direction as we begin to put a little more substance to this program and to develop the strategy, as I said, and that we have the benefit of your thinking on this.

So, that's part of what's going to go on this morning. I know Steve is going to talk about that. Mark Lame, who is a member of this committee, who is on the faculty at Indiana University, has spent a lot of time over the years working on this issue. He's going to make a presentation. I'm not going to stick around for the pop quiz that he's going to give after that.

Then, later on, the other folks in our office, like Keith Matthews and others, will talk about some of the work. I know the folks, I believe, from USDA are also giving a presentation this morning.

So, there's going to be a lot of good information, a lot of good ideas articulated. But again, more significantly from our perspective, we hope that we'll get a lot of your thoughts out in the course of

this meeting and will give us some food for thought as well.

With that, I want to thank all of you again for your participation on this panel, for your commitment being involved in this process, because I know it's not easy for some of you to get here to DC or to take time off from your day jobs to be here. But it's extremely important to us to have you all involved in this. We look very much forward to getting your thinking on these and other issues during the course of the next couple days.

So, thank you all for being here, and I'll turn it back over to Steve.

MR. BRADBURY: Thanks, Steve. I'd also like to extend a welcome to everyone. I remember last time there was a big snow storm that came through. I think Matt Keifer was among several stranded because of flights. Matt was telling me before the meeting that he just snuck out because Wisconsin has got three or four inches of snow and more coming. So, it worked out pretty well. So, I appreciate you all getting here. We've got a nice turnout.

As Steve said, this committee is very critical to the program and as the program moves forward in terms of getting insights on how to take on a number of challenging issues that we have before us. If you take a look at the agenda, which we'll spend a little time going through -- this one is starting to get back to where the committee should be, which is time spent at this meeting and with work groups outside this meeting, spending quality time really getting into the issues.

We start to get some feedback and some advice. Certainly, we'll make sure, like we do in this agenda, we've got some time for just some quick updates so people are aware of some issues that are happening at the time, so to speak, and getting you some information through electronic means or other means so we can stay current. But, what we really wanted to do at this session is spend some time on several in-depth topic areas, which I'll talk about to you in a little bit.

So, before I get into the agenda and kind of give you some sense of where we want to go with some of those bigger topics, I thought it's probably a good idea we go around the room and at least spend the time it

takes to make sure we reconnect names and faces.

So, if you could just introduce yourself and maybe what part of the country you're from, and some of your interests. If you're sitting in for somebody who is a regular member, if you can make sure you make that clear as we go around the table. So, why don't I start on my left. Make sure you turn your mic off once you're done talking.

DR. KASHTOCK: I'm Mike Kashtock. I represent the Food and Drug Administration. I'm out of the Center for Food Safety and Applied Nutrition in College Park.

MR. JACKAI: I'm Louis Jackai from North Carolina A&T State University. I share both as one of the department chairs there, and I teach IPM and the recession area of IPM as well.

DR. KEIFER: My name is Matt Keifer. I'm an occupational medicine physician and internist at the Marshfield Clinic, National Farm Medicine Center, formerly at the University of Washington.

MS. BAKER: Cindy Baker with the Gowan Group, Yuma, Arizona.

DR. WHALON: Mark Whalon, Michigan State

University, IPMer.

DR. CLEVELAND: Cheryl Cleveland. I'm from Dow AgroSciences. We're located in Indianapolis.

MR. COX: Darren Cox, representing the US Bee industry out in Logan, Utah.

MR. KUNKEL: Hi, I'm Dan Kunkel from the IR-4 program. We develop data for specialty crops. I'm sitting in for Jerry Baron, our executive director.

DR. WILLETT: I'm Mike Willett with the Northwest Horticultural Council. We're in Yakima, Washington. We represent deciduous tree fruit growers in the three northwest states.

DR. KEGLEY: Susan Kegley, Pesticide Research Institute and representing Pesticide Action Network.

DR. LAME: Mark Lame, Indiana University School of Public and Environmental Affairs.

MS. LAW: Beth Law, Consumer Specialty Products Association.

MS. STARMANN: Allison Starmann with the American Chemistry Counsel Biocides panel.

MR. SHEEHAN: Pieter Sheehan with St. Charles County, Department of Community Health and the

Environment, which is on the eastern side of the State of Missouri.

MR. VUKICH: Good morning, Jake Vukich, DuPont Crop Protection, manager of the registration and regulatory affairs team.

MR. SMITH: Steve Smith, SC Johnson, from Racine, Wisconsin.

MS. BECK: Nancy Beck from Physicians Committee for Responsible Medicine. I'm here for Kristie Sullivan today.

MR. SCHERTZ: Scott Schertz from Schertz Aerial Service, Bloomington, Illinois, representing the National Agricultural Aviation Association.

MR. FRY: I'm Michael Fry with American Bird Conservancy here in Washington, D.C.

MR. McALLISTER: Ray McAllister with CropLife America.

DR. SASS: Jennifer Sass with the Natural Resources Defense Council, NRDC.

MR. HANKS: Doug Hanks with National Potato Counsel over Environmental Affairs in Idaho.

MR. NYE: Ken Nye, Michigan Farm Bureau,

representing American Farm Bureau.

MS. COX: Caroline Cox, Center for Environmental Health, California.

MR. GUSKE: Marco Guske, Yakama Nation in Washington State, representing the Tribal Pesticide Program Council.

MR. CONLON: Joe Conlon, American Mosquito Control Association.

MR. THRIFT: Jim Thrift, Agricultural Retailers Association.

MR. BUHLER: Wayne Buhler, North Carolina State University, representing the Pesticide Safety Education Association.

MR. TAMAYO: Dave Tamayo, Sacramento County Stormwater Program, and I'm representing the California Stormwater Quality Association.

MS. FERENC: Sue Ferenc with the Chemical Producers and Distributors Association.

MS. HERRERO: Maria Herrero with Valent BioSciences in Illinois. I'm here representing the Biopesticide Industry Alliance.

MR. DELANEY: Tom Delaney, Professional

Landcare Network with National Lawn and Landscape Association, and I'm out of Atlanta.

MS. VERDER-CARLOS: Marylou Verder-Carlos from the California Department of Pesticide Regulation, and I'm representing the states.

MR. CALVERT: I'm Geoff Calvert. I'm an occupational medicine physician with the Centers for Disease Control and Prevention in Cincinnati, Ohio. I coordinate with state agencies, coordinate pesticide poisoning surveillance across the country.

MS. KUNICKIS: I'm Sheryl Kunickis. I'm the director of the USDA Office of Pest Management Policy.

MS. MONELL: Marty Monell, Deputy Office Director for Pesticide Programs.

MR. OWENS: Steve Owens, the Assistant Administrator for the Office of Chemical Safety and Pollution Prevention, just in case.

MR. BRADBURY: I'm Steve Bradbury, and I work for him in the pesticide program.

MR. BRADBURY: And I won't forget it.

So, again, welcome, everybody. We really

appreciate you all being here. We've got a very tight agenda, in that we've got a lot of information and discussion that we want to get through over the next day and a half. Let me just, real briefly, touch on the agenda just to make sure we're all working off the same page.

The first session, as Steve discussed, is going to be focused on integrated pest management, in particular, looking at all sectors, the school area, where we're really pushing into a new area and trying to advance that area, but also discussions around public health and agricultural aspects of IPM as we try to maintain a balanced approach. We'll be talking about that a little bit more in a second.

After we do that session and lunch, session two will be some brief updates. You can see on your agenda the topics, going over where we are with public interest finding and IR-4, spray drift, and some updates on water quality and drinking water coordination with the Office of Water.

Session three will be another in-depth time to get into some detailed discussion. We'll be taking a

look at pollinator protection. In particular, we will be wanting to talk about issues around risk management and stewardship in terms of protection of honey bees and native bees as well. I'll come back to that in a second as well.

For the latter part of the afternoon, Tina Levine and colleagues will give an update on our efforts with the new Children and Worker Risk Assessment Policy. That was a topic from last time where people wanted to spend a little more time getting some background on where we are and have some time for some questions and discussion.

Then we'll have some updates, taking a look at some of the activities going on in the Federal Government as well as EPA in terms of taking a look at current regulations and deciding what they all mean in terms of efficiency and effectiveness. We'll also give you some updates on our work group on comparative safety statements. Marty Monell will give you an update on inerts disclosure.

Then, we'll rap it up today with a brief overview of some strategic planning we've been doing in

the pesticide program with all the staff, and share with you some of our initial thinking as we take a look at what we think the world will be like in five or seven years, and how we hope to be helping to lead as we go forward in five to seven years and not chasing what's happening in the next five to seven years.

Then, tomorrow we will spend some time on endangered species, give you an update, briefly, but actually spend a fair amount of time talking to you all and getting some feedback from you as we think about the process in moving forward and getting information into that decision-making process around endangered species.

We'll spend a little time, then, on NPDES permits for pesticide use in aquatic ecosystems. The colleagues from Office of Water will help provide an update on that. There will be a little bit on 21st century toxicology and the effort of that work group. Then, we'll spend a fair amount of time talking about what we want to do in our next meeting and, more importantly, what we're going to do in between this meeting and the next meeting through our work groups, where the real work of the PPDC gets done, which is

through our work groups.

So, we can bring in members of this committee as well as other members from the public to delve into topics in some detail and do the roll-up-your-sleeves work in terms of making sure detailed information is getting to you and, more importantly, ideas are coming from those work groups to give the agency advice. As those work groups develop some approaches and some ideas and bring them back to the big committee, we then have the discussion at the committee on advice to the agency for moving forward.

Two areas that are on the agenda where this concept of a work group is something the agency is seriously considering, where we really want to hear your views, but I'll telegraph where we're coming from in terms of our sense that we could use a work group to give us some advice and guidance as we go forward, is in the are of IPM and in the area of pollinator protection.

IPM has quite a broad portfolio, moving ahead in the school arena but maintaining a presence and a role in agriculture and public health. There's a lot of ideas out there, a lot of smart people that are doing it and

making sure we're connected to a good cross section of the practitioners and the users of IPM as we go forward. We feel it's very important.

We've been having a lot of good conversations with groups one on one, which is good, and we always do that, of course. But it's helpful to get everybody in the room at the same time so you can really sort of think through all the different ideas and perspectives that comes to bear.

The same thing with pollinator protection. There are very challenging issues in terms of stewardship and risk management and how to integrate that with other aspects of honey bee protection and native pollinator protection. They're having lots of great one-on-one conversations, which are great. We'll always do it. But it's really helpful to have everybody in the room so you can see how different ideas come together and hopefully create something that's bigger than the sum of the parts, and to get that feedback.

So, examples of some of the places I would hope -- if you all agree and we've got interest, we may end up in these two areas and expand our work groups. We

already have several work groups that are dealing with everything from the 21st century toxicology to web distributed labeling.

We're not proposing necessarily to stop those work groups, unless they've decided they've done all they can do. But yes, we are thinking about expanding sort of the scope of what we're doing, because the challenges and the interests out there are expanding, which they should be, in getting that kind of integration in our effort as we go forward.

So, just to remind you about what a work group is, as we kind of go through the morning, a work group is made up of at least one representative from the PPDC, but, historically, they've been quite a good cross section of membership from the PPDC. While the regs don't require us to maintain a balance, like we have to for the full PPDC, we always try to strive that the work groups have a balance of representation that's reflective of the balance of representation in the PPDC.

What's nice about the work groups is that we can bring more people to the table. We can bring folks that aren't members of the PPDC to those work groups and

be part of that conversation. Again, we try to get a good spectrum of viewpoints and ideas and perspectives into that conversation.

So, with that, I'll stop, since I've already chewed up five minutes of the first topic, which is in the IPM area. Again, I wanted to stress that today and tomorrow we're going to spend a lot of time trying to get your ideas on the table and get you all involved in conversations. Then we'll use that conversation to help guide our next steps as we get ready for the next six months and before we meet again and beyond.

So, with that, I'll turn it over to Keith Matthews, who's the director of the Biopesticides and Pollution Prevention Division, which is our division that sort of organizes our IPM efforts. Keith is going to lead the conversation. You might take your card up there.

One last thing I'd like to point, too, in the agenda is, as with several of the conversations we'll have over the next day and a half, we have members of the PPDC actually involved in making the presentations and really getting engaged in the conversations. We think

that's really important.

Go ahead.

UNIDENTIFIED MALE: Yes, thanks very much, Steve. As we get into this discussion of integrated pest management, a critical aspect of this is what the congressional funding for IPM will be and whether or not EPA will be able to assist if the funds at the congressional level are eliminated. So, in the discussion today at some point, I'd really like to hear about the budget for IPM and how it's going forward. Thanks.

MR. MATTHEWS: Thank you, Steve. As Steve said, I'm Keith Matthews, the Director of the Biopesticides and Pollution Prevention Division. I'm very pleased to be here to speak, to lead this session on IPM. IPM is an extraordinarily important topic.

I'm actually very pleased that as I was speaking to Margie earlier, she said that the amount of time that has been allocated to this discussion on IPM this morning is as much, if not more, time than has ever been allocated to one particular topic at a PPDC meeting. I think that reflects the importance of IPM and the

importance of our IPM going forward in OPP and EPA, as Steve Owens had mentioned.

So, just very briefly, because actually we are into Mark Lame's time now, I'm going to try to do this very briefly. Hopefully, by the time I'm done, if I can work this out right, we'll be back at 9:30 by the time I'm finished.

I'll say that, for BPPD, we have a fundamental mandate to register biopesticides, reduce risk pesticides. That's the biopesticides portion of our mandate. But we also have a mandate for pollution prevention. Pollution prevention encompasses IPM. So, promotion of IPM is a very major role that we have in BPPD. I'm going to speak later on the importance of that role in the BPPD and what we do with respect to IPM, what we have done and what we plan to do in the future with respect to IPM.

But, for now, I'm pleased to go ahead and begin the session by introducing our very distinguished panel of IPM experts. As Steve Owens had mentioned, we're going to start off with Mark Lame, who is at Indiana University, to speak to IPM, where it is and where it's

going. After that, Joe Conlon, who is a technical advisor to the American Mosquito Control Association, is going to speak on integrated mosquito management.

We'll take a break and then we'll hear from Herb Bolton, who is coming here to speak to us about IPM at USDA. USDA has played a very major role in the promotion and development of IPM in America. I'm very interested to hear what's going on USDA when we hear from Herb.

After that, I will speak to IPM at EPA, what we're doing at BPPD and EPA in the past and going forward with respect to IPM. Then, perhaps the most important aspect of this session will be a discussion from the PPDC.

As Steve says, we're very interested in hearing from the committee on some questions, some issues we have concerning IPM. We're going to make sure -- I'm going to take on the responsibility for making sure that we have the full 45 minutes, if not more, time that will be remaining for us to hear from the committee itself.

In the interest of doing that, one thing I would like to ask is that when we do take our break --

our break is scheduled for 10:25. We may be a little bit later than that. But I'm going to ask everyone to please indulge me and keep that to no more than 10 minutes. We have a very full agenda this morning.

There's two things that I do not want to lose time on. I don't want to lose time on the time allocated for the PPDC to speak, as well as time for lunch. So, if we can try to keep that to 10 minutes, then I think we'll be able to move forward.

It looks like I was somewhat unsuccessful in trying to get this back to 9:30, so let me go ahead and move on to our session.

Mark Lame is going to kick this off. The title of his talk is "Where IPM Is At And Going To." Dr. Mark Lame is a professor at Indiana University School of Public and Environmental Affairs where he teaches environmental management, environmental policy, and insect in the environment.

By personally inspecting, assessing, and making recommendations, Mark has implemented school IPM programs to reduce the risk to the school community from pests and pesticides in 18 states over the past 18 years. The

Monroe IPM model, which he developed with 20 other nationally recognized IPM implementers, is now considered a standard for the implementation of IPM programs in schools nationwide. Mark was recognized by EPA and USDA, sponsors of the national IPM symposium, with the first ever IPM achievement award in 2006.

So, with that, Mark.

DR. LAME: Thank you, Keith.

When I initially talked with Steve Bradbury about this, we came up with an idea of, you know, he wanted me to speak to where IPM is at and going to. That's a little bit presumptuous, since I'm not everybody, but I'm going to give you my experience with this. I'm going to talk about IPM as a publicly known innovation from agriculture to urban. So, I'm not going to be just talking about school IPM here, although I will be talking about it a bit.

I'll be talking about looking at getting outside the FIFRA box with regard to integrated pest management, demand side versus supply side IPM, and just a few minutes on balancing the FIFRA mandate, which we'll discuss.

Where I'm coming from is I'm an ex-cooperative extension IPM specialist. I was a cotton entomologist. A few people in here knew me when I was a cotton entomologist in Arizona. I do currently implement integrated pest management. You can see me in my best position in that picture doing so. I'm an ex-environmental regulator who has turned professor.

I don't teach entomology anymore. I teach environmental management and integrated pest management. I'm a taxpayer and a parent. That's the way I always have to look at things as a member of the public. Then, of course, I'm an entomologist, which means I'm pretty excited about everything.

So, IPM, what are the major drivers? In other words, IPM is not going to happen unless we have these things. We have to have an awareness of the integrated pest management innovation by consumers, whether they be agricultural, or urban, or public health.

They need to be aware of the relative advantages of integrated pest management with regard to the reduction of health, environmental, and economic costs over the way we used to do things. There needs to

be a government initiative to implement, which is, of course, hand in hand with the idea that there needs to be change agent resources and activities.

If we don't have these, IPM does not move forward. Of course, I would say that we've had some of this, and IPM has come a long way. We'll talk about that. In fact, pediatricians are supporting integrated pest management. IPM has become a publicly-known innovation from ag to urban. Dr. Calvert, we've worked together, and he can tell you that pediatricians have been involved with this.

Environmental health specialists, which we know as county health inspectors or state health inspectors, are becoming change agents for integrated pest management. In fact, they are the only folks that are, on a regular basis, mandated to be in schools, childcare facilities, and, of course, our food serving establishments.

There is, of course, school integrated pest management which has come a long way. We'll discuss that. There are state mandates for policies and plans. And most, if not all, facility managers in school

districts know the phrase integrated pest management.

Then, finally, the bed bug epidemic is the new window of opportunity for integrated pest management. In fact, CBS news coverage said that in the last summit that integrated pest management was the solution. I can tell you that's the first time I ever saw that on national news, saying integrated pest management.

So, the basics of IPM as the non-ag community sees it is don't attract pests. As you can see here in the upper corner, that's a fairly conducive condition. That's what we call a conducive condition. Keep them out, and get rid of them, if you are sure you have them, with the safest, most effective methods.

This is the way that the public, the non-ag community, looks at IPM. I used to come up with all kinds of ideas for how to describe IPM to people, and this basically is the way they decided to do it, at least the people I work with.

So, IPM is a shift from a scheduled treatment of pesticides to an integrated program based on education. You can see that the robust pillars here are more prevention. Cultural control, mechanical control

are what we also call sanitation and exclusion with also the pillar in the middle of chemical control to provide a safe environment.

The bed bug epidemic, for instance, requires leadership. So, this goes way beyond the idea of well, we're going to handle this technically. There has to be awareness, surveillance, ethical response, and what we call protective communication. The public has to be aware of what's going on because, of course, they are the host. It's our own special pest.

Interestingly enough, this is a public health protocol. So, this, again, is where is IPM at and where is it going to, the idea that we have to involve public health and public health professionals as change agents. This is just one way of looking at it. Nobody gets a bye on this one, and you all know that.

It requires a community action. So, where is IPM going to? It's going to and is at, in fact, the idea of going to a community. People are starting to understand that. Now, working in cotton, I can tell you that when we used to do bowevil program, bowevil eradication programs, those were community bowevil

programs.

So, this is not a new idea, but it's where IPM is going to as far as the whole public. Of course, the public knows how to identify bed bug infestation, how to prevent them, and how to safely and effectively address infestations with the earliest possible interventions. When people start understanding that they have that responsibility and they take that on, they become better consumers. We'll talk about demand side IPM.

As far as who's doing integrated pest management, if we look at schools, for instance, when I first started at this, all schools had licensed pest control folks involved, not necessarily -- the PTOs weren't the technicians, as we all know, but it was basically pesticide applications by an individual in isolation and in his move to, again, a community approach to provide a safe learning environment with the pest management professionals involved in that. They have to be involved in education.

What we've been doing in integrated pest management -- and this is published data. There are many more states in this type of information, but as far as

looking at 14 years and 14 states and 7 EPA regions, we've had a 71 percent reduction in pesticide applications. That's how we measure the pesticide exposure. There's a 78 percent reduction in pest complaints to school administrations.

So, for those of you that are statisticians, you'll recognize that not only were the pesticides reduced, but, in fact, they weren't working that well in the way they were being used. Now, was that a technical situation or human situation? I'm not going to answer that. But that's what the statistics show.

So, what we want in this particular case is a safe learning environment. I had all these little bugs helping me. This is a lot of fun, by the way, doing integrated pest management.

So, moving on, again on where is IPM at and going to, we know that IPM is involved with FIFRA and the Food Quality Protection Act. ESA, we kind of knew that but it's moving beyond it and accepted internal partnerships.

There is a ONE EPA initiative, as the agency folks know, where air, water, children's health, American

Indian Environmental Office, are beginning to really partner up and say this is a mission-oriented program. That's what I'm seeing. Again, I'm an outsider, but that's what I'm seeing.

External partnerships and beyond USDA, USDA has always been part of integrated pest management. CDC is involved as far as bed bugs and also working with environmental health professionals. Of course, the Armed Forces Pest Management Board. So, these are external partnerships that are beginning to come forward to us, and they should. There are tremendous resources out there.

The laws themselves, I'm not an attorney. I don't even play one on TV. The Clean Water Act, when we look at NPDES -- of course, we'll talk about this tomorrow or later today, but the idea that there's IPM with (inaudible). As we know, the Clean Water Act has fairly hefty regulatory powers as opposed to FIFRA. So, that is something that is going to move forward, and has in the courts. You can do what you want with it and believe how you want with it, but it is moving in a certain direction.

The Pollution Prevention Act allows us to look at IPM in terms of is it verifiable. I'll discuss that. TSCA Title V, in fact, requires the agency to provide guidelines regarding school by 2012. So, where is it going? Again, this presentation is also for folks in the agency. This is where it's going. People always say, well, what's our mandate? It's way outside the FIFRA box now.

Then, of course, there's professional standards, pest management professionals. NPMA has developed professional standards with regard to integrated pest management. The environmental health professionals. Also, the National Environmental Health Association has developed professional standards. Then, school IPM coordinators. These groups, in particular in Texas, they're saying to every school district that they have coordinators not only in name but in training and in qualification. So, moving forward with certain mandates.

Step back and look at strategic plan. I know they'll be talking about this later, but it's really important to have a strategic plan. This is something we haven't had much of. It's difficult to have until the

agency has an initiative, which they do have now. It prevents past mistakes, provides leadership, reduces uncertainty by charting the way. It provides better headquarter/regional coordination, and it's a path for partnership with those folks that I talked about.

It can prevent past mistakes. I know with strategic ag initiative -- hold tight on that. You'll see ag coming in here. The IG's report said there was a lack of coordination between headquarters and regions, that there wasn't a strategic plan that demonstrated success, and there was a lack of guidance. So, strategic planning provides that guidance, planning, and coordination. That is really important. I see that as a responsibility for the agency and for us.

ONE EPA for Kids, this is one way of looking at what I've been talking about as far as partnership, the Indian Environmental Health Office, the pesticide programs, and children's environmental health protection, or children's health protection. Basically, coordinating. This is the idea of developing an infrastructure. This is important, the idea of developing an infrastructure.

So, with the objective of regional training for integrated pest management, you have these teams. Every region has folks from these offices that have a similar mission, if not identical mission. They can be in each region and they can develop a change agent core in each region, and have, but separately. They can bring in the environmental health folks.

The objective of strategic implementation to the audience, for instance, beginning with the school integrated pest management audience, that's where it's important to have a pest management professional involved with that audience. Those are the ground troops.

Then, of course, there's a goal of verifiable IPM. We'll talk about metric here in just a minute or two. So, this whole idea looks at school integrated pest management. So, schools, pesticides, pests. But if you have an infrastructure in place, both in terms of the agency but also your change agent core, you can then bring in other health problems and solve other health problems, environmental health and otherwise, with regard to whatever venue.

You can have a serial audience of schools,

childcare, housing, residential. The change agent core is virtually the same, once the agency develops the infrastructure. This is what strategic planning can do.

IPM is a pollution prevention innovation. I'll explain pollution prevention as I understand it here in the next few slides. But, by and large, the idea of pollution prevention is source reduction. So, source reduction for pesticides is preventing pests from triggering pesticide applications.

So, my definition of IPM is a cluster of technologies which is an integrated application designed to allow humans to compete with other pests. Everyone has their definition; mine is the right one.

Paraphrasing the Pollution Prevention Act, when feasible, pesticides should be prevented or reduced at the source. When prevention is not feasible, chemical control should be regulated to non-toxic options. When prevention or non-toxic option is not feasible, treatment should be regulated to the least toxic option.

Only when prevention, non-toxic or least toxic options are not feasible should pesticides be used in environmentally safe ways, according to the label. So,

this really shouldn't gore anybody's ox. This is just good common sense. It's a different way of thinking about it in terms of pollution prevention.

What IPM is not, a job description added to an unwilling or unqualified individual. This is something I use when I go to schools all the time. It's not a low bid process. It's not an out-of-sight, out-of-mind contractual function or an after-hours program, a scheduled pesticide application program. It's not a program prohibiting all pesticides, and it's not a program that does not educate the school community.

For years, I've been in debates with people about what is integrated pest management. I find it much more productive to talk about what it's not. That goes to demand side IPM so it's easier for customers to understand what it's not, rather than get in arguments of what it is.

So, that leads us to demand side versus supply side IPM. Implementing integrated pest management, this is from my grad school days, insects can be managed, but management is people oriented. Pest management is people management and do what you're doing now, just think

pests. So, it really gets down to people. If we focus on the technologies, we're really going to miss the boat, and we have. I mean, we've been doing IPM for a long time, but we focus on technologies rather than management.

So, supply side IPM, basically, we have training to manage pests via integrating strategies. I did that when I was in extension 20 years ago. There's materials for monitoring and treatment of pests. The industry uses these materials all the time, whether it's managing cutting cotton bolls in fields for pink boll worm or whether it's using monitoring stations in restaurants.

Time to educate the consumer, there's problems. Standards for trained versus route technicians, for instance, that's a problem. Time, these route technicians that are out there doing schools or restaurants or homes don't have time to do the education that is necessary. Then, partnership for people management, is there time for that or even is there willingness to have this partnership.

Are professionals willing to bring in partners? In other words, it's just like we all have learned in

recent times, that if you're not a partner with your physician, it's pretty hard to prevent health problems. If the physician just works without partnering with you, it's a matter of prescribing products which they hope will help, and it doesn't always work that way. So, pest prevention is everyone's job.

This is a Kentucky dinner, as I hear it from southern Indiana anyways. Is there anyone here from Kentucky?

So, you have to be a partner with your pest management professionals for figuring out the problems and for fixing the problems. Some of you guys might recognize Bobby Korrigan (phonetic) here, actually working with a physician on roof rat problems in Arizona.

Demand side IPM, this is a fact. The vast majority of pest management activities are conducted by food service, administrative, and building maintenance professionals, not pesticide applications. That's an everyday function that these folks do. They provide cultural control and mechanical control. That's demand side IPM. So, we need to really relegate pesticides to their place, and they have a place, but to their place

with regard to prevention. Of course, this is based on education.

Implementers must demonstrate IPM is compatible with the built environment's current operations. So, we have a saying - do what you're doing now; just think pests. Security, energy conservation, sanitation, clutter control. So, for instance, security is monitoring. Ever since Columbine, every school district in the United States has had training to recognize and confront invaders, two-legged invaders. The communication and observational skills are the same as recognizing and confronting four-, six-, many-legged invaders.

Do what you're doing now, just think pests. Whatever you're doing to keep the cold air out in the winter and the hot air out in the summer keeps out pests. So, all schools these days, almost all schools, have energy conservation programs. Whatever you're doing now, just think pests. Sanitation, same thing. Clutter control.

So, what we do when we go to schools, or daycares, or any built environment, is we work with the

people that actually are managing that environment with other functions that they're comfortable with and say, hey, listen, this is nothing new or nothing that's really complex, just think pests when you do it. So, that's what we educate them on, and it works very well.

What is verifiable IPM? This is a biggie, folks, because these days, everyone knows IPM and everyone wants to do IPM. So, they just say they're doing it and there's more to it than that. You have to verify it.

It's a documented and evaluated working partnership of a trained, diagnostician/educator and the school community based on pest monitoring and information sharing regarding how to monitor, how not to attract pests, how to exclude pests, and how to control pests with the safest, most effective methods possible. This can all be measured and verified.

Minimum standards, you guys can read this. I'm going to kind of zip through this stuff. By and large, the school administration has to be aware of what their program is. They have to have a partnership. They have to practice the "do what you're doing now, just think

pests." If folks are using pesticides, they have to be trained and licensed.

They need to be aware of what pests are being managed in buildings and grounds at all times. I can tell you, not one school that I've worked with in the last 17 years had that awareness when I started working with them.

Who is responsible for quality assurance and quality control? They need to have someone who is responsible for that, including being responsible for partnering with their pest management professionals. They have to have internal programs in place, and they need to understand the costs and how their program compares with state and national standards. That's what we do.

So, the informed consumer. For instance, what are they getting? Oftentimes, schools that I go to are charged by the square foot. The fact is, they're really charged by the minute. Basically, as a consumer, they need to understand that. We need to understand that.

The public needs to be an informed consumer such that they demand the pest management professional to

be what I call a diagnostician/educator. Just like with a doctor, before they start anything else, they need to take a history. They need to talk to someone and find out what's going on. They're not there all the time. They need to inspect for conducive conditions.

You might not have a heart condition, but you have high blood pressure and diabetes. That's conducive to heart conditions. A pest management professional needs to look for conducive conditions in the built environment or in the agricultural environment.

Inspection for pests, they need to know identification biology and monitoring. They need to perform regular inspections for pests and conducive conditions. There's Bobby Korrigan's better side. There has to be monitoring. That's the only way to justify a pesticide application. In other words, it allows for proper diagnosis. Would you take a blood pressure pill if the doctor did not check your blood pressure?

Then, there needs to be that diagnostician, and now there needs to be an educator to teach the affected community identification, biology, conducive condition, remediation, and management alternatives. Teach them how

to prevent pests, inspect for pests, ID, monitor, and remove pests. That's Riccardo Zubiantay (phonetic) in Salt Lake City who used to be a custodian, and now he is one kick-butt IPM specialist.

So, metrics -- I'm just about done here. We have to have metrics. Of course, that's all part of a mandate and budget, but metrics are important. They're a truth serum, they're a barometer, and they're a decision-making tool. In fact, what we found, again in Salt Lake City, that to develop these metrics, they had this integrated pest management program (inaudible), and it so happened that the facility manager of the school district is also an engineer. He is one anal, vertical guy, I can tell you.

This engineer came up with this program. It's a web-based application that aids in identification of pests, provides a means to report pests, tracks mitigation effort to eliminate pests, tracks IPM-related costs, pesticide use, and compiles various pest reports. This is a program that was developed with EPA dollars, works really, really well at the school districts, and they want to give it to all the school districts in the

United States. This can be a real time metric that the agency can use to find out what's going on. It's an innovation, again from EPA funding, developed by a school facility manager.

Finally, and just in time, the FIFRA balancing mandate. Where is IPM at and where is it going to? Scientific studies, again like Jeff's article in the Journal of American Medical Association some years back, is that there are more and more scientific analysis of the risks of human health in the environment from inert ingredients, synergism, and cumulative effect. That's going to rebalance the risk/benefit mandate in terms of unreasonable and adverse effects. It is happening and it is going to happen more so as science gets better.

Thank you very much.

MR. MATTHEWS: Thank you, Mark. Our next presenter will be Joe Conlon. One think I'd like to mention, for all of those who are participating on the phones, could you please make sure that you have your phones on mute. We're getting feedback here in the room. So, I just want to make sure everyone is on mute when you're on the phone.

So, an introductory for Mr. Conlon, he retired from the United States Navy as a medical entomologist in 2000, having conducted vector control operations in 37 countries around the globe. He's now serving as a technical advisor for the American Steel Control Association.

He has provided over 41,000 telephone or written consults on vector biology, pesticide usage and disposal, and equipment use and repair to individuals written, broadcast in media, county, state, national, and international agencies. He's also appeared on the Today Show, the Morning Show with Mike and Juliette, (inaudible), Fox, and PBS National TV newscasts. Now he can add to that list the EPA, OPP, and PPDC.

He has presented over 200 invited papers on vector control at the universities, national, regional, and state mosquito control associations and medical public health associations. He has published 27 papers and peer review (inaudible) and has published over 248 articles in various trade magazines and major newspapers. He's also testified twice before Congress regarding West Nile Virus control.

So, Joe.

MR. CONLON: Thanks, Keith. Let's talk about mosquitos for a minute. I can talk about this for days, as you can imagine, but the time being what it is, I'm only going to scratch the surface with this, so to speak.

Mosquito control doesn't come to this IPM lately. Actually, the first principles in integrated mosquito management were published in 1883. So, we're not new to this game. We lost our sight when DDT was out and a few other (inaudible), but we're getting back our religion now.

So, what is integrated mosquito management? It's knowledge-based. There's no substitute for knowing your critter. You have to know your critter. It's surveillance driven. You shouldn't be out there doing any type of intervention methodologies without having a good reason to do so, provided by surveillance. It's resource limited. It would be nice if everyone did everything. However, that's just not going to happen.

The resources available to Lee County, the mosquito abatement district in Florida, which has a $24 million budget, isn't the same as in Lizard Ticket,

Idaho, which has a budget, you know, of $3,000. They're just not going to be able to do the same thing.

There are certain elements that should be in place in a properly functioning, integrated mosquito management context, public education. You can see those there, and we're going to go through all of those.

Okay, now let's look at the mosquito. Mosquitos are variations on a (inaudible). You've got eggs that are laid in water. They all require water, period. There's no mosquito that doesn't require water. They lay their eggs. Eggs turn into a larva. Larva is an eating machine. That's all they do. They eat, and they're generally easy to control at this stage because they can't get away from you. They're generally concentrated in an area.

The larva turns into a pupa, and the pupa is merely a factory that makes an adult out of a larva, essentially. Generally, pupae, once they've reached this stage, are very, very difficult to treat. Then you've got the adults. They all take blood. The female imbibes blood just to produce eggs. The female and male both take in plant nectars for nourishment. They do serve a

very minor pollinating function in that regard. I emphasize the very minor.

Their flight ranges very drastically, anywhere from 300 feet in some of your paradomestic species to more than 70 miles in some of your salt marsh species. So, it's very, very difficult to just rely upon removal of habitat in your general area in order to get rid of mosquitos, because they can migrate for some spectacular differences.

As I said, all of them partake of blood except this species right here, (inaudible). It's our largest species of mosquito. It does not imbibe blood. It makes eggs out of plant nectars. Interestingly, this mosquito was the one in Amber that they utilized in Jurrasic Park that they were ostensibly taking blood out of, and that's the only species that does not take blood. If Stephen Spielberg had asked me, I would have told him for a nominal fee. But, nooo.

Another interesting thing, the larvae of this species is cannibalistic. So, it eats other mosquito larvae. So, it's been tried in some cases to provide a predatory control, but they're too hard to raise, and it

hasn’t been economically feasible.

They have staggering reproductive capabilities. Now, this is, at the most, what you could expect out of 4 generations and 16 weeks. A single male and a female can produce, with 25 percent mortality, 49 billion mosquitos, okay. When you start lopping into their reproductive capabilities, it goes down substantially. What we’re trying to do is make that even more so. But, if left to themselves and you keep predators away from them, they can overrun you in a minute.

Like here. This is a dredge spoil site. Those are all mosquito larvae. Millions of them. Each one of those could be capable of producing billions if something wasn’t done about it. In dredge spoil spots, there aren’t any predators nearby in large, and we have to treat those.

That’s the Alaskan National Wildlife Refuge. That gentleman, the photographer, was photographing wolves there. You should have seen the poor wolves. They were lying on the ground just covered with mosquitos. Just unbelievable numbers of mosquitos can come out of places like that in the Alaskan National

Wildlife Refuge.

So, when you don't have any control operations -- and there they don't have a lot of good predation going on -- it can really get ugly. These mosquitos do not transmit any diseases, but the nuisance factor would drive you crazy within minutes, I guarantee you. I've been up there. If you aren't dressed like that -- even if you are dressed like that, they'll drive you crazy.

Public education, community involvement, like Mark was saying, is extremely important. There's no excuse for any mosquito abatement district, no matter how small, not getting the community involved, because they can be a big help or they can be a big hindrance also. I went to one fair. The person invited me over to his house to find out where his mosquitos were breeding. I found 176 different places on his property, which was a half acre, where they were breeding, some in discarded coke bottle caps. You've really got to be really good at trying to find these things.

But we try and emphasize, like at county fairs and things like that, going out and talking to the people there, having booths. We go out to schools. The

American Mosquito Control Association, when we have our annual meeting, we have an outreach program in an inner city school where we go talk about mosquitos. It's a lot of fun doing that.

But community, public education is extremely important, because you have a lot of people out there that are demanding mosquito control when they don't really have mosquitos. They've got midgets. That's a whole different ballgame talking about midgets. So, you have to educate them as to what constitutes a problem and what doesn't constitute a problem.

Surveillance, as I said, it's all surveillance driven. Surveying for larvae gives you an opportunity to find out where these critters are breeding. If possible, take care of the problem right there. As I said, they're concentrated. They're not going anywhere. This is the time to get them. When you do a dip, like this gentleman is doing here, you come up with mosquitos.

Just me looking at that, you've got several different instars of mosquito larvae. You've got pupae in there. Utilizing something like BTI in a situation like this isn't going to work, because you've got too

many different types of instars, you've got pupae. These things are ready to come out. You'd have to utilize something else in order for a control method if you can't just remove the source. So, doing dips like this can give you an idea of the magnitude of the problem, also the type of the problem, and help drive some of your intervention measures.

Now, source reduction, modification, we do that quite a bit in mosquito control, particularly on the coast. We do a lot of ditching that would allow tidal flushing of places where mosquitos are breeding. However, this is not always available to us. If you're abutting a national wildlife refuge, you just can't go in there with a ditcher and do something about it.

As a matter of fact, national wildlife refuges, wetlands, things like that, produce enormous numbers of mosquitos, and there's nothing we can do about it, except deal with the adults coming on. That's the way it should be. I don't want to be going in there and tearing up those things anyway, but it's just a fact of life that first reduction can't always be the answer.

We've got problems like this in Virginia, tire

piles. You talk about places that are driving enormous numbers of mosquitos, tire piles like this. Most states have tire buybacks and things of that nature. However, they get overwhelmed quite easily by these things.

But these things produce enormous numbers of Asian tiger mosquitos, and they're extremely difficult to treat. These tire piles here, very, very difficult to treat with larvicides, so you really have to just get rid of the tires to get rid of the problem.

Here's a holding pond, retention pond for floods. These can be sources of mosquitos also. Really, the best thing to do with something like this is clean it up. To the extent that you can reduce the emergent vegetation on the margins of these things, you're going to knock down the mosquito population. You don't have to treat it with anything. But that's creating a problem right there.

Now, this would be another place where you could probably use larva predators in here. Like, down at the bottom right there, gambusia (phonetic). Gambusia, mosquito fish, ostensibly is an incredibly efficient predator of mosquito larvae, primarily because

it feeds at the top at the surface of the water, not feeding down at the bottom. It's feeding at the top where the mosquito larvae are.

This one up on the left here is not a gambusia, but you can see this (inaudible) larvae is out to go see Elvis. But they're very, very good at it. They have their own problems. You can't put gambusia everywhere because they're racist predators, and they will eat each other. If you put them in a pond that's got bass in it, they will eat the bass fry.

So, you've got to really watch them and you've got to get together with your fish and wildlife folks before you put those in. There's a lot of programs in the United States that utilize these almost exclusively because they're so good at what they do.

Someplace like this, this is a salt marsh south of Little St. Simons Island in Georgia. All that black you see there, those are not shadows. Those are mosquito larvae, billions and billions of mosquito larvae, okay. This occurs in the real high marsh where you've got the equinox tides twice a year. Tides will come in and these things will start growing in there.

There's no fish in there to get rid of them. Something like this, you really have to deal with it with larvicides, and, generally, BTI is what you're using. But if you don't get those things, you've got serious issues, as they found at a G8 conference, because it was right south of Savannah when it happened. They got eaten alive.

We've got a number of different larvicides that are used. They're specifically designed and registered to be used in water, so they tend to be quite environmentally sensitive. But, nothing is perfect. You have microbials there, and each one of these has specific occasions where they should be used. They have different formulations that allow them to be used in certain things. None of them is perfect for each separate incident.

Monomolecular films, that slide I showed you with the pupae and larvae, the number of different instars in it, monomolecular films would be good for something like that because it kills the pupae also.

Survey, you find larvae. You try and get rid of larvae. But, believe me, you're never going to find

all of them. You just can't do it. Besides, adult mosquitos are going to be migrating in from elsewhere, so you're going to have to deal with adult mosquitos whether you do source reduction or not. I guarantee it.

There's a number of different ways of surveying. If you've got access to grad students, the top left is a real good way to do that. Been there, done that. There's other types of traps. Like, this one down on the bottom left traps mosquitos that are overpositing.

This is good because once the mosquito overposits, you know that that mosquito, that female has fed on something. So, you get it sucked up into that container there. Then you can test it for virus to see whether there's virus in the population. That's really the best way to do it.

The one on the right is a CDC trap. That's the one that's most generally used. The CDC life trap. It's generally baited with carbon dioxide in order to imitate human exhalations. Depending upon where you put these things, you can get enormous numbers of mosquitos with them. They put up traps outside the Everglades every night, and here's a trap catch from one trap. That is a

pound and a half of mosquitos. That's two million mosquitos.

If you were standing at that place where that trap was put, those two million mosquitos would be feeding on you, okay. This is not drawing mosquitos in from any further than you would. Obviously, in a case like this, IPM is kind of superfluous in a way because if you get this many mosquitos in a trap, you already know you have a problem. If you ever spit outside on Alligator Alley at night, oh, my God, it's unbelievable.

So, many times you're going to have to use adulticides. There are a number of different adulticides available. You've got residual barrier treatments. Not used very often here in the United States. They are being used in jungle areas, elsewhere overseas, not very much use in the United States. They have some significant nontarget problems, I think. But there's some research going on into by the Armed Forces Pest Management Board.

Thermal fogs are not generally used anymore. They used to be used quite a bit. They're resource intensive. I mean, in order to take care of an area,

you've got to get barrels and barrels and barrels of this stuff because it's got, you know, a liquid that has to be ignited for it.

So, by and large, the adulticides that are most likely to be used are the ultra low volume adulticides which require specific calibration and maintenance, certification, the applicator. They are a real resource intensive ways to control adult mosquitos. The one on the left there is a truck mounted ultra low volume. This is the one that if Lizard Ticket, Idaho, is going to do adulticiding, they're generally going to be using a truck mounted sprayer of that sort.

You've also got fixed and rotary wings. If you've got a large area that needs to be adulticided for whatever reason and you need to do it quickly, i.e., there's an outbreak and you've got infected mosquitos running around, that's the way to do it, with a rotary wing or a fixed wing asset. You can do up to 200,000 acres a night with these things, if they're done properly.

I've got to emphasize here that the reason you can do ultra low volume is that it's utilizing extremely

small amounts of pesticide in order to kill an adult. Here I've got a vile here. This is half an ounce. This is enough to cover four acres, active ingredient, four acres via aerial spray. It's not a whole lot.

So, how do you cover four acres? Well, because of the droplet size. You've got sheering effects. That the machine is producing a sheering effect to sheer off a certain size of droplets. One shot here that says a 20 micron droplet produces almost 10 million droplets, the size of a BB. One hundred and seventy-five BBs will fit in here. So, just think of how much it's actually going to produce in order to get that column flowing through an area.

It's estimated that about a 15-micron drop of (inaudible) technical grade of pesticides is enough to kill a mosquito (inaudible). So, this is the reason why we can do it with very small amounts of pesticides. It's because of the droplets that we're producing.

Now, this is a fundamentally different application paradigm than the agricultural folks. We do not want deposition, absolutely do not want deposition. What we want is drift, which is exactly the opposite of

what they want.

So, if you get a droplet size, say a 20 micron droplet size, the time for it to fall 10 feet is 3.2 minutes in a downwind drift of 559 feet. That's with a two mile an hour breeze, gravity only. So, you're getting significant drift with these things. The smaller the drop, the more downwind drift you're going to get. This is extremely important.

What we're doing here again is fundamentally different from agriculture. Here's a fly that shows an aircraft coming towards you. When the pesticide is released and atomized, it does not fall directly down, because you're going to get drift and you're going to get an offset. Our helicopters fly anywhere from 75 to 200 feet off the ground when they apply. They're not doing a 25 foot off the ground application. Our fixed wings are generally anywhere from 200 to 300 feet off the ground.

So, when they release that pesticide, it's not coming straight down. That's why we take a little issue when things are depicted as mosquito control applications over water. It's kind of a misconception because you can fly this over water and none of that stuff getting down

into the water because it's going downrange where we want it to go.

Now, the droplets that we produce are not all uniform. You're not going to get all 20 micron droplets out of one of these things. You're going to get droplets maybe 70, 80, some of them, and some of them even smaller than that. There's a spectrum. What we're trying to do is to close that spectrum to the point where we can more accurately depict where these things are going to go. But we're not producing droplets high enough that are large enough to fall straight down from that aircraft. So, we do have offsets.

As you can imagine, this is an imprecise process. There's no question about that it's an imprecise process. We're working to try and make it more and more precise. Hopefully, we can come up with something else that's even better than this. For right now, this is about as good as we can get.

When we're doing stuff like this, we have to take into account meteorology, big time, humidity, wind obviously. But there's a lot of different meteorological parameters that will affect that droplet spectrum and how

it disperses downwind. How we accurately determine what the droplets are on something like is this machine on the right. It's a (inaudible) machine and it's got a platinum wire in there that is charged. When droplets hit it, it will note the charge and actually give you a printout of how many of these droplets, what type of size, what spectrum to spread, et cetera, et cetera.

There are a number of different pesticide distributors, particularly from mosquito control chemicals, that have these that go around to the different areas and make sure that the equipment is calibrated utilizing these types of machines. These are like $25,000 machines. Your basic, one each, government issued smallest district doesn't have the money to do that by themselves. So, they have people come around to do it. It really should be done at least once a year or, if not once a year, every 50 hours of operation.

You've got mosquito control in the air. You've got a whole lot of things going on in there. I'm sure Scott can talk to this more than I can. But there's a lot of technology being put there so that we can try and determine and try and control that drift. Again, it's

not perfect, but this is about as good as we can get doing this.

So, we've got integrated mosquito management, what it is -- it's all of these things -- and what it is not, just like Dr. Lame was saying. It does not seek eradication of the mosquito. We're not out to do that. We couldn't do that. It would be environmentally disastrous if we did that, not because we just killed off all the mosquitos, but the mechanical and environmental disruption would be absolutely unacceptable. So, we're not going to do this.

It is not pesticide immerse, okay. It's not pesticide immerse. It just utilizes pesticides when required in their proper context. A lot of people when they talk about IPMs say, you know, pesticides should be the last things that you ever do. Well, it's not necessarily true. It depends upon your magnitude and the type of problem.

You've got St. Louis encephalitis issues in Florida. (Inaudible) palpa is a vector of that. A considerable amount of evidence exists that says if you go in and you spray pesticides early in the year,

adulticides early in the year, around those (inaudible) where the mosquitos are amplifying that virus, you can knock that virus down so you never have a problem with St. Louis encephalitis, and you've got that first cohort of mosquitos dead. You're not going to have issues later on. So, it may be the first thing you do, but that shouldn't be generally your first choice. That's a very specific circumstance.

Unless circumstances dictate, you don't solely rely on source reduction. There may be instances where you do, but that shouldn't be, you know, the default (inaudible) or (inaudible) larvicides, adulticides, traps, repellants, or natural predators. This is why you've got to know your critter. You've got to know what its vulnerabilities are, when it's vulnerable, where it's vulnerable, and where you can find it. So, it's not sole reliance on any one particular technology.

With that, with the natural predators, I get phone calls all the time about people telling me, well, the way you can stop mosquitos is just inundate the environment with dragonflies. No, no. Dragonflies are actually very poor predators on mosquitos, and there's a

number of reasons for this.

Dragonfly nymphs are bottom feeders. They don't feed at the top of the water where the mosquitos are. They will feed on anything. They will feed on your mosquito fish, so they can actually be a problem for you in many cases. Now, do they eat mosquito larvae? Yes. If you walked along the edge and a mosquito larvae dived down to the bottom, they're fair game. Yeah, these things will eat them. But, to rely upon these things as your sole means of control isn't going to cut it.

Same thing with the dragonfly adults. They're day feeders. They're sight feeders. As you can see there, they eat each other, too. They're very good predators on butterflies and bees. Those are two of their favorite things. So, they exist in our natural environment and they should stay there, but you've got to be real careful about touting these things as the answer to your mosquito control problem. There's less intrusive ways of doing that.

The same thing with purple martins and bats. These are beautiful critters in their own right. Believe me, mosquito control professionals welcome their input.

But we're under no delusions as to the fact that they're going to control the mosquito population because they won't. Purple martins feed (inaudible) during the day. That's not where the mosquitos are.

Bats are opportunistic feeders. If bats run into a whole bunch of mosquitos, yeah, they'll feed on mosquitos. But, by and large, they're opportunistic. They're going to feed on moths and things of that nature that provide a lot more return on energy investment. So, again, this is not to say we don't utilize them, but to utilize them as your sole means of control is a folly.

So, as Mark said, this is my definition of mosquito management, and it's the right one -- for mosquito management, Mark. You can read it. I don't need to read that for you.

By golly, I'm on time. There is a God. Keith, that's all I have. If anybody wants to discuss this further, there is a number of bars around here.

MR. BRADBURY: Thank you. Both presentations were very helpful. I think we can start to see some of the different concepts that integrate, no pun intended, as well as some of the unique aspects of taking a look at

different kinds of pest pressure and different kinds of scenarios. As my notes were going, I've seen a lot of overlap and a lot of common things and maybe some areas for discussion as we go forward.

So, we're going to take a 12-minute break with this clock, which means we'll start at 10 to 11 off of this clock. See you promptly back at 10 to 11.

(Whereupon, a brief recess was taken.)

MR. BRADBURY: If everybody could get your seats, we'll get started. We'll turn it over to Keith and introduce our third speaker.

MR. MATTHEWS: Thanks, everybody. If you can start to filter back in. So, those were actually two very helpful and informative presentations this morning. I, myself, am very pleased with how this is developing. I think so far we're heading in exactly the direction that we were looking for with respect to this session.

So, what we're going to have now is a presentation by two government officials on IPM in the government. Kicking this off is Herb Bolton from USDA. He's going to talk to us about IPM at USDA. Herb is a national program leader at NIFA, the Plant System

Division in Washington, D.C. His program portfolio at the institute includes urban entomology and integrated pest management.

As the NIFA liaison to the U.S. Army from 2000 to 2010, he provided technical support to the U.S. Army installations in the United States and the Pacific region on all aspects of IPM and invasive species. He's a board-certified entomologist in the areas of medical, veterinary, and urban structural entomology.

So, with that, Herb.

MR. BOLTON: Thank you, Keith. Can you hear me all right in the back? Well, thank you for inviting us to come to speak today to the PPDC. On behalf of our director, Dr. Vecci (phonetic), we appreciate the opportunity. There's three things that I'd like to do and try to get us on schedule so there's plenty of time for Keith and the discussion.

The three things I'd like to do is, one, I would like to briefly talk about the importance of agricultural IPM, but I won't leave out examples through my talk of natural resource IPM and urban IPM. I would like to, after doing that, talk about the 2008 Farm Bill

and how it changed our organization and how it changed the direction of our programs. I'd also like to cover specific NIFA programs and where IPM opportunities are found within those programs.

Well, what's the importance of agriculture and agricultural IPM research? We, in the United States, are very fortunate that we have a low cost for our food. The average cost is less than 10 percent, about 9.8 percent, for the average American that they spend on their disposable income. This is a result of the spectacular agricultural productivity we've had in this country since Abraham Lincoln started the U.S. Department of Agriculture and the people's department.

But this is continuing pressure from new pests on all of our agricultural commodities and all aspects of agriculture. California reports one new invasive threat every 60 days. Florida has identified 587 new pests from May of 2007 to December of 2009. APHIS reports one new pest detected every 8 to 12 days. So, NIFA continues to be concerned about funding ag research, extension and education activities.

There are a number of examples on the bottom of

the slide, whether it's wheat stem or citrus greening transmitted by the citrusillid or stink bugs, the morata bugs, stink bug from out in the west or the brown (inaudible) stink bug or the fungus laurel (inaudible) beatles. There's dozens and dozens and dozens of examples that could be put on this slide, but that's just a couple.

Well, I need to stop and carefully review with everybody the 2008 Farm Bill. Many of you, of course, in this room are familiar with out old organization, the Cooperative State Research Education and Extension Service, CSREES. The Farm Bill changed our name to the National Institute of Food and Agriculture, NIFA. Our director reminds us that we can pronounce that NIFA because NIFA is nifty. It's not NEEFA, it's not NEYFA, it's NIFA. That's the only way we're allowed to say it.

So, Dr. Vecci is our new director. He's our first political appointee. The goal of NIFA was expanded and changed in direction because of the Farm Bill. The purpose was to allow for the creation of a system to integrate basic and applied research, education, and extension, to transfer and address some important issues

facing agricultural production, global food supply to the environment and rural communities. So, I'll expand on that in a moment.

So, we have had a complete reorganization of our organization internally and in the direction of some of our grant programs. So, we have institutes within the institute. So, we have an Institute for Youth and Community Development, an Institute for Food Safety and Nutrition, an Institute of Bioenergy, Climate and Environment, an Institute of Food Production and Sustainability, which is where my office is, two divisions for plant systems, one on protection and one on production, and we have an international program center. This is like the NIH model. We have institutes within institutes.

So, as of the first of October, we kicked off a new internal staff structure. Forget the graph/chart here for a minute. I don't intend for anybody to see any of the wording on there. It just reflects the institutes that I just mentioned.

What has happened is, as of the first of October, we have Dr. Vecci, our new director. We have

new institute directors. We have many new division directors. We're filling in a number of vacancies. Each of the institutes is getting a chief scientist. So, each institute will be co-led by an experienced person from our previous staff as a chief scientist, who we're in the process of interviewing and hiring.

All these changes have brought together people of like disciplines. For example, in the old CSSR organization, plant science people were in several different organizations. Now, all the plant science people, as an example, are all together. So, we feel that we have brought together the expertise in our organization into an organization that will allow us to have the focus, scale, and outcomes that the Farm Bill has asked us to do.

So, the focus in the Farm Bill for the NIFA was global food security, climate change, sustainable bioenergy, childhood obesity, and food safety at a scale that had the promise of delivering potential major breakthroughs and with outcomes that were tangible and meaningful.

Like CSRES, NIFA still embraces the concept of

research to discover new information, new scientific (inaudible), education to train new scientists and bring them on board for a new generation of expertise, and extension to provide outreach to the public who need the information that was discovered by the scientists to get their job done and to maintain our agricultural productivity.

USDA has many agencies. We have many sister agencies. I don't have the time, nor am I qualified without a lot of checking with a lot of agencies on all their IPM programs, but leave it to say there are other IPM programs and other USDA agencies. Here are some of our sister agencies listed. We do try to cooperate with them on a program-by-program basis to get our work done. I should point out particularly that ARS, Agricultural Research Service, conducts intramural agricultural research, and they do have large IPM programs.

I should also mention I'm not covering in any detail today work that's covered through with other federal agencies. We do try to cooperate as best we can program by program on those areas. For example, we have an interagency agreement with HUD and NIFA for IPM

training in public housing. We've done a pilot study over four years, and we're expanding taking IPM training out to public housing authorities. For years, we've worked with EPA on interagency agreement with the pesticide safety educator program.

So, I'm going to start talking about some of the funding sources for IPM at NIFA and some of the changes that have occurred. All of these monies and programs that I'm referring to are program titles. They all are not for IPM, but these are places where you could find IPM research, education, or extension work being accomplished. I want to make sure I try to cover as many of them as I can so you have an understanding of how the programs are organized.

So, for a long time, we've had formula or capacity-building programs, Hatch, money for 1862 agricultural experiment stations, Evans-Allen for 1890 ag research, Smith-Lever for 1862 cooperative extension, 1890 Extension, and McIntyre-Stennis formula funds for forestry and natural resources.

Those funds go to universities on a formula basis, and the universities decide what programs they

want to accomplish. They send those proposals to us for verification, and there could be IPM programs being accomplished under those formula funds going to the land grant university partners. Hatch, for example, there's projects on IPM, on ticks, some on bedbugs, and there's commodity IPM projects also.

Smith-Lever 3D, which is a special line for the Smith-Lever funds, are competitive programs now. Their states come in with programs for state extension IPM programs. For example, if states want to have school IPM, bedbug IPM, fire ants, or some ag commodity IPM program, they could put their extension proposal in through the Smith Level 3D program.

Now, by far and away, the largest program that we have for our grants and funding through our land grant partners and other eligible recipients is AFRI, the Agricultural Food and Research Initiative. The Farm Bill created AFRI out of two programs that combine the authorities from the Natural Research Initiative, NRI, and the older Initiative for Future Agricultural and Food Systems, IFAFS.

So, those two authorities were combined to

create AFRI and their foundational programs, fellowship programs, and challenge area programs. This is where the majority of NIFA funding is in our grants, to give us the scope, the scale, and the impact that was required from the Farm Bill.

These AFRI grants tend to be -- they're not exclusively, but they tend to be multi-institutional, multi-disciplinary, integrated programs where there are at least two of or three of the research, education, and extension components and multi-year projects. So, they are larger projects than the agency has typically funded in the past, and with those requirements that they be multi-disciplinary in focus.

The foundational programs in AFRI I've listed there for you. For the sake of time, I won't read them all. This is $6.9 million in this fiscal year. There could be opportunities for IPM in each one of those six areas. I specifically point out to you the two under number one, understanding plan associated microorganisms and controlling woody and invasive plants. In Section E, IPM has specifically mentioned in the insect nematodes RFA, request for proposals or request for applications.

The foundational program is a much small program, $3.6 million. Frankly, these are grants that are designed to bring the funds to graduate students and post-graduate students in our major focus areas. The idea of these funds are to bring a new generation of scientists into agricultural research, education, and extension.

The largest area in AFRI are our challenge areas. These repeat the areas that I mentioned earlier in my presentation, global food security, food availability, food accessibility, climate change, bioenergy, renewable energy, food safety, and childhood obesity in nutrition.

So, going one by one through those very quickly, let me just show you what some of the focus areas and the challenge areas could be, what emerging issues could be covered under each one of those AFRI challenge areas.

Under global food security, there will be changes in pest levels that are acceptable, changes in pesticide use, pesticide regulations, changes in crops that we're growing, threats from new invasive species,

new pest protection predictions that will need to handle those new situations. Funding in 2011 will be $12 to $19 million. It was $19 million last year.

Sustainable energy/bioenergy, some emerging issues are changes in pest damage thresholds, spillover of pest and biomass, changes in pest complexes, changes in beneficial biological controls, impacts on plant and animal biodiversity. I don't have the number for 2011. We just got our continuing resolution, and that funding has not been released by our budget office. But last year it was in the $40 million range.

Climate change of emerging issues are changes in pest and beneficial species composition, relative abundance and geographic range, changes in severity of damage, changes in crops and pest adaptation. Again, we don't have our number yet because of the CR, but it was $55 million last year.

Food safety, some emerging issues are changes in packaging and food storage, handling of food from the farms to the table, influence of production practices, changes in pesticide use, pesticide regulations, mycotoxin accumulation, changes in the way crops are

grown. Again, we don't have our number for this year. It was $20 million last year.

Nutrition and childhood obesity, emerging issues are changes in quality due to pest pathogens and microbial contaminates, documented quality differences between organically grown, conventional production practices, changes in pesticide use, pesticide residue issues, potential of arthropods as food sources, believe it or not. That included the $8.5 million this year. It was $25 million last year.

Now, besides AFRI, we do have some other programs that we continue to fund. One of them is out of the area of the Food and Agricultural Defense Initiative, FADI. That funds the National Plant Diagnostic Network. The National Plant Diagnostic Network is a consortium of plant diagnostic laboratories around the country that are designed to early detect and properly identify plant pathogens and other pests. There's a network across the country that's been set up to do that. Similarly, there's a system set up for animal health across the country. FADI pays for both of those.

FADI also pays for EDEN, which is an extension

disaster information, not primarily focused on IPM, but there could be some IPM outreach information, particularly information resulting from natural disasters.

The IPM PIPE, the Pesticide Information Platform for Extension and Education, was also funded out of FADI. It's useful tools for IPM practitioners and farmers in the field. It provides real time data on disease outbreak and occurrences. The classic example that came out with the IPM PIPE was soybean rust and tracking the introduction of soybean rust in the United States. It's also tracking diseases of legumes, (inaudible) and they're looking at southern corn rust. So, you can go on the web and you can track the occurrences of these diseases as they actually are occurring in the United States.

SARE is the Sustainable Agricultural Research and Education program. It's looking at sustainable ways to do farming, nontraditional sustainable ways. I should mention the extension. We contribute to the funding from our land grant partners in creating communities to practice across the country so that each state does not

have to create its own extension material state by state by state.

Instead, experts across the country participate in the community of practice, puts the best of the best on the web site so that anybody can go to those web sites and all the states don't have to contribute all the money and time and expertise to develop their own resources. It's called e-extension. It's available at eextension.org.

The two that I'm familiar with that have IPM in them are Urban IPM and Fire Ice. I suggest, you know, it's an interesting thing for you to look at for opportunities to, in a more economical way, get extension information out to the public.

I did mention the extension IPM coordination and support grants before. We also have RIPM, Regional IPM Research and Extension grants. These are grants on regional IPM commodity or non-commodity IPM issues that each of the regions of the United States can competitively award. Again, the focus area changes year by year, depending upon what the requirements are, the priorities in that year. That's still being funded.

IPM and specialty crops research initiatives can occur. Specialty crops research initiatives is about $20 million a year. It's a required line item in our budget. If the university wants to do IPM work on a specialty crop, that's a source of funding.

There can be IPM, also, with organic research and extension initiatives. Under the Section 6 integrated programs, you could find IPM in the organic transitions programs, the pest management alternatives programs, and obviously the regional IPM centers, which were funded this year for $3 million in the CR. Crops at risk were not in the CR, which is a program we've had in the past. It got zero funding in the continued resolution, as did risk avoidance and mitigation. Methyl bromide transition is funded this year for $2 million.

I should also mention we do have a number of taps. The one that's probably most appropriate in discussing the IPM is the CAP, which is a coordinated agricultural project. Again, this is a large multi-institutional project on colony collapse disorder. More information is available at that web site. We're in year three of four of that CAP.

Just some general findings from the CAP of the causes of TDD are complex. There's no one single source. The research is looking at pathology, immunology, nutrition, toxicology, genetics, ecosystems management, and bee husbandry is all issues concerning that disorder.

So, what are the challenges that we continue to see for United States agriculture that we see as NIFA? We have pressing problems in childhood obesity, environmental stewardship, energy security, food safety, and climate change. We have a growing world population that's supposed to increase from 6 billion to 9 billion people in 40 years. We're trying to help maintain agriculture as an important employer in the United States. There is more than 2 million farmers and 19 million people who are in allied industries supported by farming.

We have a trade deficit problem in the United States. We have a $46.3 million deficit, but ag exports are a positive part of the story. We have a $4.4 billion trade surplus as of February 2011. So, agriculture tends to be providing a positive influence on the trade deficit. Again, we have new insects, pathogens and other

pests that are impacting our agricultural production.

I know I've covered a lot of material. There is a lot more information on our web site, nifa.usda.gov. I'm trying to keep us on time. I'd be happy to talk to any of you and try to answer any of your questions. Thank you very much.

MR. MATTHEWS: Thank you, Herb. Very informative discussion of IPM at USDA. USDA is a valued and trusted partner with EPA in the development and promotion of IPM. It's very useful to have that comprehensive discussion of IPM at USDA.

Next, I am going to speak to IPM at EPA. I am going to do my absolute very best to keep us on schedule and get us to the PPDC discussion at 11:30. I know that I'm not particularly well known around this building as far as (inaudible). I think people probably recognize that if you can say something in 15 words, I'll be able to craft a way to do it in 25. But I'm going to do my best this morning to move through this presentation.

So, what we're going to talk about is IPM, what it is, how it's done at EPA. I really don't have that much to say. I really don't need to say that much about

what it is because we've heard that for the past couple of hours now. We're going to talk about a school IPM update, public health IPM update, and ag IPM update at EPA.

So, very briefly, in EPA, what is IPM? A sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools in a way that minimizes economic, health, and environmental risks. That's a definition that comes straight from the Food Quality Protection Act.

If you take a look at the chart here, as Mark Lame and Joe Conlon both pointed out, what you're really trying to do is prevention, the maximization of prevention and minimization of utilization of toxic mechanisms. So, that's what this pyramid shows. Moving up the pyramid, you are going to greater interventions and greater toxicity, and we're trying to avoid that.

We have statutory authority that directs EPA to further and promote IPM under both FIFRA and the Food Quality Protection Act. We also, from a policy standpoint, promote IPM because it's beneficial. It protects human health. It protects the environment. It

provides for appropriate use of pesticides. The mantra that we have in our environmental stewardship branch and my division, BPPD, is that IPM is relevant where we live, work, play, and farm.

So, how do we promote IPM? We offer grants and technology transfer initiatives, provide technical assistance for our transitioning to IPM practices, try to increase public understanding of pests and pesticide risks, coordinate IPM efforts within OPP and with our partner federal agencies, and we collaborate with IPM practitioners and growers at regional, state, and local levels. I should actually mention that our regional offices are very important players in IPM at EPA.

So, we have another pyramid. This time we have an inverted pyramid. This inverted pyramid demonstrates how we try to leverage our resources to promote IPM. So, we have resources that we distribute from EPA to federal partners to IPM partners, and ultimately to pesticide users. We try to leverage our resources to increase the utilization and development of IPM.

I won’t go through this. This just shows how IPM can be very important in terms of where we live.

This is, I think, just further speaking to the points that both Mark and Dr. Conlon made earlier.

So, OPP programs for implementing IPM, we have a pesticide environmental stewardship program, PESP. It helps to reduce the risk of pesticides and pesticides to IPM and other innovations in a partnership program. This is a very important partnership program.

We have the newly energized, if you will, IPM in schools, which the acronym we typically use for that is SIPM. So, Herb, maybe we'll call that SIPM, since USDA has RIPM. We also have regional agricultural grants, which were formerly known as the PESP regional grants. We have PRIA2 partnership grants, and biopesticide demonstration grants that we collaborate with USDA's IR4.

So, school IPM, as Steve Owens mentioned earlier, this is a new initiative that we have trying to promote additional utilization of IPM in schools throughout the country trying to increase that 20 percent level to a much higher and much more significant level of utilization of IPM in schools. This is the first year of that.

Recently, in March, late March, we had a headquarters and regional school IPM management and technical contact so that to further our policies and policy development for this. We discussed strategic planning, internal and external stakeholder collaboration, national program measures. Again, as I said, the regions are very important partners in this and activities at the regional level to promote IPM in schools and school IPM grants.

So, this is moving forward. We're actually making excellent progress. I know there's been some question among some of the stakeholder communities in terms of how fast this is developing and how fast we're moving, but for a new initiative in the federal government, I think we've made absolutely excellent progress in very few months and are moving forward with this.

So, school IPM, national program measures, we are encouraging the adoption of IPM practices to reduce exposure to and risk from pests and pesticides in and around schools. The focus is going to be in public schools, grades K-12. The goal, the ultimate goal, is to

decrease exposure to children to pests and pesticides through an increase and adoption of verifiable and ongoing IPM programs. As we'll discuss later, the descriptor, verifiable, is actually very important to us and we're going to be asking for some assistance from the PPDC on that particular descriptor, if you will.

We have a 2012 national program measure here. It's the number of children in schools, grades K-12, under a verifiable, ongoing school IPM program. As we said, our intention and our hope is to increase that number significantly.

So, this is a fairly busy slide. I'm not going to read it and go through it, but we have a lot of important activities through our regional offices to help promote IPM, including issuing grants and contracts, sponsoring IPM events, conducting training, providing IPM templates for school districts to encourage implementation, and outreach and coordination efforts.

So, verifiable school IPM, this is an ongoing activity that include these documented elements. This is how we are currently describing at this stage verifiable school IPM, which is that you must understand your pests.

This actually goes very much --

I think this dovetails very closely with what Dr. Lame was talking about earlier. You must understand your pests, you must set action thresholds, you have to monitor for pests, you have to remove conditions that allow for pest infestation, cultural practices as he pointed out. When you're monitoring -- in this case, you've reached action thresholds -- for pests, then it's appropriate to use one or more effective pest control methods, which may include pesticides.

Very briefly, in addition to school IPM, we also have public health IPM. I'm going to talk about this very briefly because I think there's going to be a report out from the PPDC public health work group. But I just want to point out that ESB, under the auspices of the public health work group, held a community IPM for preventing tick-borne diseases conference, again, in late May. Very well attended. A hundred and fifty attendees plus over 100 attended through a webinar. It was very successful. I think you're going to hear more about that later in the meeting.

So, agricultural IPM, agricultural IPM is still

very important to the agency. One point that we want to make sure that there is not misunderstanding is that the promotion, the movement toward our school IPM initiative is not meant to indicate that agricultural IPM is no longer important to the agency. It is still very important to the agency.

Our support has and will include continuing to work closely with USDA promoting voluntary programs, having grants or research in field demonstrations, using the extensive IPM network to get feedback on regulatory initiatives, and crop tours for federal educational opportunities.

We have our Pesticide Environmental Stewardship Program. It's a very important component of our ag IPM activities. We have very diverse membership that includes agricultural partners. Just in the past year or so, we have modified this so that we are now ranking our partners, our pest partners, as either bronze, silver, or gold. Those are based upon clearly delineated and defined criteria. Obviously, as always, the hope is for people to aspire to and attain goal status.

We also have OPP grants supporting IPM,

agriculture specific grants, PRIA2 partnership grants, and biopesticide demonstration grants and outreach. For our grants, the focus is OPP identified areas of emphasis. We want research, field demonstrations, education, and outreach. We have $500,000 for agricultural IPM grants and $500,000 for our PRIA2 partnership grants.

I'm actually very close to the end here. Again, we believe a very important focus of what we do is interagency coordination. There's a federal IPM coordinating committee, national IPM evaluation group. We have EPA tools for schools for healthy homes and programs, interagency agreements with NIFA. You can see all the federal IPM projects are at www.ipm.gov.

Also, a very important component is IPM cubed, which is a consortium of federal agencies and land grant institutions delivering IPM training. Actually, there were a number of individuals from my division who just took an IPM cubed training program, and they were very, very impressed and had a lot of really positive feedback on what was presented there.

We also have regional and local coordination

with the USDA regional IPM centers, regional IPM in schools working groups, regional USDA/SARE panels, and regional ag and school IPM coordinators.

I also want to mention another very important aspect of our program, the biopesticide demonstration grant which we do in collaboration with USDA IR4. Over the past seven years, we've had over 85 projects, $1.2 million that we have expended and matched by USDA IR4. So, these have encompassed successful projects to demonstrate effective use of biopesticides and IPM systems. That's another area where we think we can leverage our resources.

We've put out, more or less, if you will, seed money to demonstrate the effective use of biopesticides which then will enable farmers, growers, extension agents to have more confidence in the utilization of these biopesticides. That's how we try to promote and increase the utilization of reduced risk biopesticides in agriculture.

So, IPM and stewardship efforts complement our regulatory program. IPM is a proven approach to reducing pesticide risk. We do this through partnership

collaborations, initiatives, and competitive grants. We promote IPM adoption as well as IPM development. So, these efforts are intended to address risks, again, where we live, work, play, and farm.

MR. BRADBURY: Thanks, Keith. Where we want to move now is into some conversations around specific areas to tee up. I just want to clarify for everybody, this part of the conversation is with members of the PPDC. We have two public comment periods today and tomorrow where members of the public who would like to comment on this topic or other topics will have an opportunity to do so.

I wanted to have Tom Green introduce himself. Tom, if you could, for everybody before we get started.

DR. GREEN: Tom Green, president of the IPM Institute. We're an independent nonprofit based in Madison, Wisconsin. Our mission is to use marketplace mechanisms to protect health and environment through IPM and other best practices.

Apologies, the snow cancelled my flight last night in Wisconsin.

MR. BRADBURY: Are there any members of that PPDC on the phone? If so, could you identify yourself?

During the course of the conversation, just pipe up and we'll make sure you get an opportunity to speak.

(Whereupon, there was no verbal response.)

MR. BRADBURY: Keith, do you want to tee up the first topic?

MR. MATTHEWS: Yes, absolutely. So, again, as I said, we want to make sure that we stay on schedule because we want to have the full time allotted for hearing from the committee on the issues that we have identified here in the 11:30 time slot.

So, what we want is a discussion with the committee regarding the formation of a potential work group to advise EPA on these areas that we've discussed this morning, including school IPM, maintaining engagement on agriculture and public health IPM, and on measuring the benefits of IPM.

If I could expound a little bit more on that, other than what you have in your agenda, we're looking for input and advice and guidance from the work group, and ultimately from the committee, on the definition of verifiable IPM. What is, in fact, the best way to characterize verifiable IPM? In addition, metrics for

success, how do we know when we're being successful?

One thing I actually meant to mention earlier is to dovetail off of what Steve said earlier; the whole point here is we want to get it right. I constantly tell people in my division that what we're trying to do is to work smarter and better and more efficiently. That's what we're trying to do here with respect to IPM. We want to make sure that we get it right as soon as possible, which is why we're coming to the committee for advice on these particular topics.

So, what's the best way or what would be potentially best ways to measure success of IPM, the metrics for success? In addition, benefits of IPM, how do you measure benefits of IPM? What constitutes the benefits of IPM?

In my shop, the experts on IPM are Tom Grenate and Frank Ellos (phonetic). I've had many discussions with them over the past few months about IPM. One issue that has come up a number of times is, well, what are the benefits of IPM? I think everybody --

You know, IPM is one of those things that if you say, are there benefits to IPM, the obvious answer to

that is yes, of course there are benefits to IPM. Well, what are they? How are they quantified? How do you know what they are? So, it's the sort of thing where it's a feel good answer that, obviously, there are benefits. But how you quantify those, what's the best way to quantify those, how do we start thinking about quantifying those?

So, those are the three topics that we really would appreciate getting some not only discussion this morning but also consideration of the formation of a work group to help us in the coming months to work on those.

MR. BRADBURY: Thanks, Keith. What I'd like to do is do an initial sort of discussion and just sort of see what's out there if we go through some of these topics that have high level and get some initial standpoint. I don't know if it will be statistically based, but it will be hopefully somewhat reasonably representative.

If we're here, oh, there's no question, EPA, everybody knows exactly what a verifiable IPM program is, bang, bang, bang, we're good to go, and we'll just report back to you. Or, if from an initial survey of

conversation, metrics were a success, it's been filed. You just go to www dot whatever and you're done. You don't need us. Just come back and report progress.

To the extent that we sort of get a sampling that there may be some different nuances to these issues and different approaches we should think about, that would be helpful and kind of get us some footing in terms of charge and the kind of activities we want to take on with the work group.

I may be proven wrong, but I bet there's some viewpoints out there and some different perspectives. It would probably be healthy to have some conversation. So, why don't we first just put out what is verifiable IPM for 15 minutes of the discussion and then from practitioners to people using IPM, what are your experiences thus far? Does it look like there's a well established principle or is there some differences, say, across the different sectors?

We'll start with Thomas Delaney, and then Tom Green, and then Marc Whalon.

MR. DELANEY: Well, first of all, it looks like you've mentioned 20 percent verifiable programs, so

somebody has established some criteria already for that. So, I'm interested as the base where you got that percent from and what was your definition to come up with that?

Then, somewhere along the lines, we need to know what is the state of the industry right now. What is out there? There's discussion of whether there's 38 or 40 states that already have IPM in school programs or laws on the books, laws and regulations. So, there's some assessment of that so that we have kind of where are we right now.

MR. BRADBURY: Thanks.

Tom.

DR. GREEN: First of all, I really wanted to show some appreciation for EPA's effort with IPM. IPM was part of the headlines at the tick conference, and I really appreciate the time and effort that's gone into organizing this session today.

The verifiable IPM, to me, is a little bit problematic. I think it's really helpful for us to think about IPM as a continuum. That idea was first raised by Steve Balling (phonetic) at Del Monte in the early 90s. An example of that would be, say, a school is getting

lots of complaints about insects on the floor in the school. So, they put out a request for bids. A lowest bid comes in. The company comes in and what they do is a perimeter barrier treatment around the school. They're going to do this once every week. It works. All of a sudden, there are no more insects. Well, you know, that's not IPM.

But a first step along the continuum might be somebody coming in and he's going to be a diagnostician, as Mark indicated, and he's going to look and say, boy, you've really got a scattering of ground beatles and flying insects and stuff. What's going on here? And he says, well, what's happening is these insects are drawn to the building by the lights over the doors at night, and then they're crawling underneath the gap in the door. So, let's back off on our pesticide use and let's only spray the thresholds of the door. That solves the problem as well. That's a baby step along the continuum.

But a diagnostician and an educator comes along and looks at the situation and says, let's move the lights away from the doors and put them on poles so we're not drawing the insects to the doors. Let's put some

door sweeps on the bottom of the doors, and that's works as well. (Inaudible) has shown that just putting effective door sweeps on the bottom of the doors can reduce pests by 65 percent.

So, if we're talking about verifiable IPM, what level of IPM are we verifying? Is it okay to just spray the thresholds when we can in that situation and get further along the continuum? I think there are very valid reasons for limiting pesticide use to situations where reasonable alternatives don't provide adequate control. Resistence is one of the reasons why IPM was developed to begin with.

There's a long history of pesticides that have been removed from the market because of what we've learned about their impact after they've been introduced to the market. So, I think there's solid reasons for working toward the end of that continuum. What we really want to verify is the highest possible continuum IPM, the high level IPM or high continuum IPM rather than just the presence or absence of IPM, which may not get us where we want to go. Thanks.

MR. BRADBURY: Mark and then Scott.

MR. WHALON: Thanks, Tom, that was a good definition, and I'll try to build on that. One of the things I think about IPM programs today is that we can measure input, we can measure management strategies through monitoring and threshold. We can do environmental impacts. Especially today, at least in agriculture, ecological long term impacts are really important.

But, one of the things that I would challenge us to think about is the whole arena of stability. What we've created, at least in ag, but also in home building structures, IPM in schools, conditions of greater instability by emphasis more and more on residue limits and the issues around them. Invasives certainly impact that whole system so there needs to be metrics there and changes, adaptability for that. Resistances, as Tom mentioned.

I have an internationally used resistance database on insecticides, miticides, et cetera. That database last year had almost 700,000 kits lasting longer than 10 minutes from around the world. I think that it could be used a lot more because there's six tables in

there. One of the big things that collapses IPM and shouldn't occur if IPM is really working well is resistance. But, FQPA and a number of other external kind of features have driven resistence, actually.

So, we have today, at least in agriculture, a harbinger of species like the Colorado potato beetle, which acquired resistence to the (inaudible) culprit on the East Coast. Now we see broad cross resistance. So, when you look at something like cockroaches and the history of resistence in cockroaches, there's a similar kind of monitoring thing that needs to happen.

Last, but surely important, is in schools or buildings, you don't really have the market structure except -- by market structure, I mean adaptation or adoption or recognition by the public. That's really important in this case in schools, is the public education process, particularly those who are served by it, i.e., (inaudible), et cetera. So, I think those are some principle ways and issues.

MR. BRADBURY: Thanks. Scott and then Gabrielle.

MR. SCHERTZ: Thank you. This is Scott

Schertz. An observation on this, though, is that verification is going to look a lot different depending on what sector you're looking at, whether it's in school, field crops, specialty crops, et cetera. I don't think it's going to necessarily be absolute cookie cutter of taking it as a (inaudible) IPM approach.

Also, as the previous comment, at least in the specialty crop and production ag side that I'm primarily aware of, is that it is very dynamic. The needs of responding, particularly later in the season, and the verification could be very, very detrimental to the actual aim of controlling the pests and providing the food production.

So, that's basically just to make sure that we look at the different sectors and the unique parts and dynamic invasive species, et cetera, the rapidly changing situation.

MR. BRADBURY: Thanks. Gabrielle and then Susan Kegley.

MS. LUDWIG: I guess my first comment is even though I've listened to the session this morning, I'm still not entirely clear what EPA is trying to get out of

the question you're asking. Basically, my interpretation is you're saying we're going now beyond knowing what pesticides you're using or not using and registering a pesticide.

We're now going to say we want to know specifically, in some verifiable way, what steps you're doing to meet IPM criteria. I just want to make sure whether I'm understanding that correctly, just because (inaudible) in all these presentations it got mentioned, but it's not fully clear to me how exactly EPA wants to use this information. That's question one.

Then, I have some comments. Any responses?

MR. BRADBURY: Yes. As we've indicated, our program all along, in addition to labeling and the registration decision, is marrying that up with promoting integrated pest management as part of the overall strategy for managing pests in be they agriculture, public health, or in a school setting, residential setting. We would like to be able to get a handle on how well that's working in terms of to what extent is the country using different kinds of IPM approaches and different kinds of settings.

Being able to do that, one needs to have a definition of what IPM is. What are you measuring? So, part of our discussion around how do you verify or what is an IPM program that's in play gets at how do you define what it is so you can track it.

Some of the other conversations or topics that we're curious about is the metrics of success. If you can define that, how do you go about tracking its implementation. Ultimately, what kind of benefits are you seeing? Presumably, different aspects of pest management, different attributes of pest management. One could link back to IPM, but we heard some discussion about that in terms of resistence management, maybe, in agriculture.

So, what we're trying to do is get some feedback from people in the area to give us some guidance as we go forward.

MS. LUDWIG: And then, a comment on that, in the almond hoard, we've been working on a sustainability program that's focused on assessing which measures growers are using, basically the concept, trying to get some data. It's a voluntary program.

It's been an interesting debate because the first question is -- and this is the question I think you'll face with any of these trying to do verification -- why should I write it down. I mean, the whole point of this is basically the government saying, we don't know what's going on, we need some data, or the consumer, whatever it is.

So, I think that's one thing you need to think about, which is coming back to somewhat the question I was just asking, is really having a clear idea of how this information will be used and why it's relevant to take the time to write it down. That's something we've had to debate internally for us.

I would say that as we've written our pest management module, the way it's gotten divvied up is basically by the three principles of IPM. It wasn't going pest by pest, which is how we traditionally talked about pest management. Instead, it's saying, what are all the things you can do to prevent the pest problem, and are you doing these practices.

Then, the next session is, what are you doing to monitor or assess whether you have a pest problem of

enough level. These are the practices that fall into that category. Then, the third was, if you do need to do pest management, how are you making the choices and things to factor in?

Then, coming back to, I think, Tom Green's point, that it is a continuum. There is no absolute right or wrong. There's complexities in these situations, as Mark Whalon was just saying. So, be very careful on your definition of success.

Part of what this particular sustainability program is going about is that it's not a one-time measurement. It's looking at, okay, what are growers doing now and two or three years later come back in and see where are they. So, it's a continuous process, acknowledging that both the environment and growers can change.

So, those are some things to think about. But I think part of the struggle is -- and this is coming back to what Mark Lame -- to what extent can you use computer programs, checklists, things that make it easy to hand off the information. So, I think there's actually a lot of models that are already out there. I

don't think this is rocket science. You've got several people in the room that have been working on these issues for years.

I think, coming back to the definition, I'm really thinking about that definition of what it means for EPA, not so much what's the definition of IPM. I mean, I think the University of California just celebrated their 50th year of IPM. So, hope we're beyond just definitions. But those are some things to think about in terms of verification.

MR. BRADBURY: Susan and then Darren.

DR. KEGLEY: I have so much I want to say that you have to cut me off if I go on and on. As far as the verifiable IPM, one metric for success that you should be thinking about is reduced use of the higher toxicity pesticides. That, in itself, will show a lot about how people are managing their IPM programs.

Back on verification, like Gabrielle said, there's a number of programs in California that are based on looking at what steps growers are taking. You know, are you creating buffer zones around your field to keep runoff from going into the river?

The LODI Rules Program (phonetic) for the wine grape growers is particularly well documented, and I think EPA could learn a lot by talking to those folks and seeing what they're doing to verify that growers are participating in this program. It's a voluntary effort. It can be a voluntary effort, but if they want to be certified in LODI Rules, there's a set of certifications that they need to verify.

There's certification programs as far as leveraging your resources, certification programs that EPA sponsors that will document that applicator's PCO's. Pest control operators are well versed in the methods of IPM. It would be something that could leverage your ability to do something.

Benefits of IPM, quantifying benefits of IPM. We just had at the last PPDC meeting someone get up and say we're going to lose hundreds of acres, thousands of acres of land, these buffer zones that are going to be required to protect the salmon and the other endangered species. Well, with certain IPM techniques that don't require toxic pesticides, you can reduce or eliminate those buffer zones. You gain that land back.

You can reduce or eliminate non-target effects on people who live in housing developments close to application sites on endangered species. It can solve your endangered species problem, or begin to, overall fewer unreasonable adverse effects, which is what you guys should be striving for and what FIFRA strives for as well, reduced resistence programs, as Mark said, and reduced impacts on pollinators.

So, there's many, many benefits for EPA taking on the integrated pest management approach that don't eliminate pesticides from the arsenal, but basically take a look at first, whether they're necessary and second, what can we do that's the least toxic option that has the least non-target effects and still solve the pest problem. Thanks.

MR. BRADBURY: Darren and then Dave.

MR. COX: Regarding the IPM impacts on where we live, I'm going into the 200,000 miles of the high voltage transmission lines moving toward integrated vegetation management. I guess my question is, have they identified or put together a list of pollinator friendly vegetation? If so, will that be implemented? Do you

foresee any of that being implemented on any of the buffer zones or any of the public --

MR. BRADBURY: I'm not prepared to answer that, Darren.

Keith, are you aware of --

MR. MATTHEWS: Actually, I can't answer that question. We do have a very strong IPM program, but I can't answer that question directly. I can get it to him later, if you'd like.

MR. BRADBURY: We can get back to you on that, but I think what you're raising is one of the topics that would be relevant to some of the conversation we're going to be having in that area.

Dave and then Ray.

MR. TAMAYO: With regard to some of the reasons for having verifiability, from our perspective, is agencies that are supposed to promote integrated pest management because we have pesticide toxicity in our waterways. It's really important for us, and I'm going to speak mainly to structural pest control.

It's really important for us to be able to recognize where there are really good practitioners of

IPM and structural pest control so that we can inform our constituents that if you go with this program or this practitioner that has this certification or makes this particular (inaudible), we know that they're implementing this. So, it's important to us to have verifiability so that we can promote it to our constituents.

It's also important for the constituents to know so that they can make a choice. Then, finally, say like if you're a school board and you want to do IPM, well, you want to have some assurance that your district is actually putting time and effort and money into a system that's doing something worthwhile, that it's actually occurring and that the people who are supposed to be doing it really are doing it, whether that's your own staff or whether it's the people that you contract with. So, I think it's really important to have that verifiability.

I realize that if you're doing it on your own, there's a lot of things that you can do and you can keep in your head. But even with that in an IPM system, a lot of this stuff is so knowledge-based. In general, it seems you're going to increase your effectiveness because

if you document what you're doing, you'll have a historical record that you can go back to.

That may not be the case for single practitioners. But, in a lot of systems, especially where you have different people coming through, if you don't have the documentation, then everybody that comes after you loses the benefit of what you did to solve problems or what problems there were.

Finally, as far as benefits go, I think that one aspect of benefits that we really need to talk about is, did you achieve better pest control. It's getting past, oh, well, we're going to get rid of this particular product or we're going to use this type of product -- and I agree that there are certain things that really probably should be used less.

But, I think if you look at IPM as the real goal of IPM is to achieve better pest control, even if you're -- you can avoid certain uses just because you're using a system that starts backing off of reacting to working back in that continuum and learning more about your system, where you're getting more into prevention and long term prevention and solving management and

maintenance issues that are making you do things in a reactive way and an ongoing system.

I think if you have really -- it's going to be system by system. There's certain systems that are probably more universal than others. You'll have commonalities from place to place. I think there's probably a lot of that with structural, being able to show that you've got a system in place where you're gradually moving back along the continuum and being able to write that down and show that we're not using these pesticides, not because we define them as terrible, but we realize that this is the better way to manage fleas or yellow jackets or whatever you have in your system.

I think there are ways to do it. I think where we are with that, we're struggling with that. I'm working with Green Crow (phonetic) on that. I think we're kind of just starting to look at what are the concrete things that we can do to verify that IPM certification programs really work. We're going to try to fine tune that and make sure it's something that we're all comfortable with and can promote. Thanks.

MR. BRADBURY: Ray and then Cindy.

MR. McALLISTER: I wanted to echo Dave's comments that verifying IPM must include improved pest control. If we don't achieve that, then we're not managing the pests very well.

I think it was the 1990 Farm Bill or some other piece of early 1990's legislation that established a nationwide goal of 75 percent of agricultural acreage under IPM practice by the year 2000. We received periodic reports in this arena, in this forum, as well as others, about progress towards that goal.

I believe we ultimately declared success, and the emphasis sort of faded into the background on that particular number. But I hope we don't lose the wisdom gained from past exercises like that about what -- that's more than 10 years ago now. How did they verify those numbers, and what can we still learn? Have we regressed from the 75 percent goal of agricultural IPM implementation?

It's occurred to me that in the interim, we've had several new pest problems, which one of the presentations brought up here of the number of new pest problems that occur on an annual basis. I did a rough

calculation that the new pest problems showing up in Florida account for about more than one every two days. Does the occurrence of an emerging pest problem have the potential to suddenly throw thousands or millions of acres out of compliance with what has been established as verifiable IPM?

We've got Asian soybean rust which has occurred in that interim, soybean aphids. We are always subject to pre-audit grasshopper plagues of varying degrees of predictability which you can't ignore. They have to be treated. They have to be treated quickly.

We're gaining now to brown (inaudible) stink bugs. If you suddenly have to bring in some emergency treatments for brown (inaudible) stink bugs, does that mean you no longer have verifiable IPM? These are all questions that have to be considered in what is verifiable IPM, how do we measure it? So, you've got to consider successful pest control and emerging pest problems in this discussion.

MR. BRADBURY: Thanks, Ray. Cindy and then Cheryl.

MS. BAKER: Thank you. I guess I would just

like to start by saying I think these presentations were extremely useful because I don't have any products used in schools. I'm strictly an ag person. So, I don't have any knowledge in that. So, I appreciate Mark and Joe's presentation to inform a lot of us about what the realities are and USDA's and EPA's roles there. I think they were really very helpful.

I tend to try to go to themes. I think for this workgroup, there's a couple of themes that have played out in the discussion. One is, I think, defining the scope. What is the goal? Is the goal what Mark had on one of his slides, verifiable IPM? Is the goal reduced use of certain products? To that extent, you can't use metrics until you know exactly what it is that you're trying to get at there. So, I think that would be very important.

I think in terms of the definition of IPM, I would support some of the comments along the lines of what Gabrielle and others have made, which are that there are definitions that exist today of IPM. I would start with one of those and say, is there something wrong with this? Does it not apply? The schools, for some reason,

are where you're going. But I wouldn't reinvent the wheel on IPM.

Then, I think it's also important to understand the point that I think Michael Fry raised at the very beginning with Steve Owens, which is, what are the resources here that we're talking about? What's really available to us today? What does EPA have to spend versus what USDA or the states or someone else might already be expending in this area, so that you understand the scope of that?

Then, what are the resources of the people you're trying to impact? School districts today are facing a lot of challenges in terms of budgets, as are states. So, what's the reality of resources? That's where to focus what you can do, because we're not going to be able to do everything in this arena for sure.

Then, the last thing I would comment is that I think it's really important to keep in mind that I think people have good intentions about IPM all the time. Usually, what happens to us is something outside of our control, like the emerging pests that Ray mentioned or a budget crisis or whatever it might be that force people

out of an ability to follow IPM perfectly like we would want to do it every day.

So, I think we have to always remember that things are situational. I mean, how you're going to treat some ants that are coming into the school cafeteria versus how you're going to treat the scorpions that Mark had up in his presentation are two very different things. So, I think we always have to keep in mind that there are situations that impact our ability to address these things.

MR. BRADBURY: Thanks.

Cheryl and then Caroline.

DR. CLEVELAND: So, you asked the question of what is a verifiable definition. What comes to mind for me is are there two definitions for documentation at a federal level versus at a local level? Much of this occurs down at a local level to understand what your programs are. I'm trying to understand what's the mandate at the federal level of EPA to get in here and, quote, verify.

That level of documentation, that level of recording, that level of verification may look very

different than needing to write something down for the local school board or the local program that you're trying to implement.

When you say verifiable, it can start like it can turn into reporting burdens and stuff like this. If instead what you're trying to do is get your handle around what are the existing programs that are working, maybe it's starting with a survey. It's not trying to come in at a high level and verify it, but try to understand. Those are my main impressions.

MR. BRADBURY: Thank you. Just for clarification, I wasn't trying to imply how are we going to go verify; it was more the conversation around what is a verifiable IPM program? How would you define it, which may or may not lead to a process in terms of people writing things down. But, it's sort of what is it, I think sort of what Dave was getting at and some others in terms of it could be a spectrum of activities.

I'm sort of curious if a pest that wasn't known before you had IPM for corn or for certain kind of ants in schools and an invasive species comes along, I'm sort of intrigued with the idea that you still wouldn't use an

IPM approach to deal with the new critter. The tools you may have to use for the new critter may not be the same tools you use with the old critter, but is it necessarily deemed to throw IPM out the window just because you have a new pest pressure?

Anyway, so those are some things I'm hearing already from my intriguing part of the conversation down the road. I'm watching the clock and watching the cards come up. So, I'll stop talking.

Caroline and then Mark Lame.

MS. COX: I have to confess to being a little ignorant about this whole concept of verifiable, but it seems to me that one place that EPA could start would be the FQPA's statutory definition of IPM and try to translate that into something that people could actually see how their particular IPM program stacks up against that definition. Like Tom said, obviously, there's this continuum.

I always thought that the green building standards was kind of a useful model so you have like bronze and silver and gold and platinum. Maybe the same thing could apply to verifiable IPMs so different levels

and different IPM programs could show that they meet whatever level and then aspire to move up to a higher level as the program is improved.

MR. BRADBURY: Thanks, Caroline. Mark Lame and then Michael Fry.

MR. LAME: Thanks, Steve. The reason that I started talking about verifiable IPM is because IPM became so popular, there were sham IPM programs. In all my years, I have never been to a new school district that said they were doing IPM where they were really doing IPM the way I was taught as an entomologist to do IPM.

It didn't have anything to do with whether they were using pesticides or not. It had to do with whether they were integrating systems to have the most effective pest management. So, they say they're doing it. In fact, they're told they're doing it by their providers in some cases. So, that's where I started thinking.

I think we're taking too big of a bite here, for one thing. If we look at agriculture and the built environment and public health and everything else, it's too big of a bite. I think if we're going to do something here and be productive, if that's what the

committee decides to do, they need to take a small bite on something that can work.

I would say eliminate the private sector as far as any kind of reporting goes. That's what I would do if I was running the program. I would go to a more accountable system, for instance, school districts that have accountability with regard to taxpayer money. That's the direction I would go.

So, the idea for verifiable IPM has to do with making sure that the customer understands that they're really getting IPM. We all have a vested interest in that if we're taxpayers versus the private sector.

The other thing is to, in fact, look at the accountability of the agency. Is the agency being accountable in its performance, for instance, the school IPM. If they have an initiative to implement integrated pest management in schools, there needs to be some verifiability. So, that looks at their accountability. Again, I think that's why we're here as well.

So, I would take a small bite. I would understand maybe why we're doing it and go from there. There are tools in place to do that.

MR. BRADBURY: Thanks. Michael Fry and then Wayne Buhler. What I'm going to do is I'm going to hit people who haven't had a chance to speak before I go back to second helpings, and also check the clock.

MR. FRY: In listening this morning to the presentations by both Bolton and Matthews, it seems that primarily the programs that fund IPM are competitive grants programs rather than core programs in the agencies. If we could get some breakdown as to what core funding really is, it would be great.

Mr. Bolton did say that the regional IPM centers funded through the NIFA program get $3 million a year. Out of 50 states, that's $60,000 a state. Funds a secretary for the entire state, and not a secretary in the agency sense either.

If you really want to find out what the commitment from an agency is, you need to look at their budget breakdowns, where they spend their money. I would really like the Office of Pesticide Programs to tell us how much money is spent in support of conventional pesticides, antimicrobials, biopesticides, and IPM.

I understand perfectly your problem, Steve, in

defining things because I know IPM really does use conventional pesticides. What portion of that program goes to IPM versus goes to other things? It's partly a definitional problem, partly an operational problem. But we'd really determine the mission of the agency if we knew how much money was actually spent on IPM.

MR. BRADBURY: Wayne and then Ken.

MR. BUHLER: Thank you, and thanks also to the speakers in this session. It's been excellent.

I think this kind of reflects a lot of what I learned in graduate school, in that IPM is a philosophy. So, it has different definitions for different people. There's at least 100 definitions that I've seen over my short lifetime of working with pesticides.

This also seems to parallel well with perhaps what are the limitations to the use of a program. I think if 20 percent, as some of the data indicates, of the schools have been using IPM, what are the other 80 percent doing not to adopt IPM?

In other words, what are those key limiting factors? I think identifying those would go a much farther way of actually improving whatever it is we want

to improve out there. You could check off something on a long list. If a soybean grower is scouting for soybean aphids, he or she can then say, I am using IPM.

So, I don't know if you could create this list of certifiable things that IPM is, but rather, I think the energy could be much better used to determine why some of the so-called practices of verifiable IPM, as they stand now, are not being used.

MR. BRADBURY: Thanks.

Ken and then (inaudible).

MR. NYE: Well, IPM is an extremely important program. There have been some comments here regarding the resources that go into this. Obviously, we're speaking to the EPA, but also I think USDA has a role here, to maintain the resource going in and the priority so that -- I speak from an agricultural standpoint -- that growers have the ability to utilize these programs and reap the benefits of them.

We need to make sure that that is a priority and that we are maintaining the resource there. We have declining opportunities for those public funds, both at the state and the federal levels, so we need to be very

conscious of that.

Commodity groups are placing money into IPM programs from a research and development standpoint. They don't have unlimited amounts of money either, so we need to make sure we're coordinating this as well as we can. When we've got 8 to 12 new pests showing up every few days, that is a significant challenge just to try to get done what we already have on the table, let alone let's add a new pest every few days.

So, this is extremely important. I don't believe that the answer is a new level of statutory authority as it relates to IPM. I think we need to make commitment to this and allow the users to implement those programs as necessary to control pests.

MR. BRADBURY: Okay. Louis, and then Maria, and then Susan, and then cut it off and wrap it up.

MR. JACKAI: I think the discussion has been very interesting and very useful for me. I'd like to piggyback on some of the points that Wayne brought up, particularly, the fact that to verify anything, you almost have to know how far ahead -- if you can define the progress that is being made and then you want to put

down the metrics or the rubrics that are used to determine how much progress has been made.

I'm a basic kind of guy, and I would even go back one step and say that the first question that you probably want to ask is where is IPM not being practiced, because there are areas. I'd probably have that as my first point because of the subset of people that I work with, and that's the minority groups, rural communities, and rural housing, and all that.

For everything that we've said and heard said here, it's surely applicable to a lot of people, but there are lots of minority folks who don't even understand what IPM is about. If we go back to the 2000 plan, the national IPM plan for 75 percent grow adoption, certainly, that group of people will always make that impossible to attain unless we begin to look at why they're not adopting some of the IPM practices that are known that everybody ought to be doing. With that, I think it's going to be a lot easier to move forward.

Even where there has been some progress, we have to then define how much progress is being made and where is it. It might not be in the agricultural sector.

It might not be in the medical and veterinary sector. But all of these are the things, I believe, that needs to be looked at in trying to answer that question, what is verifiable IPM.

MR. BRADBURY: Maria.

MS. HERRERO: I wanted to talk about this third question that was raised by EPA, and those are the benefits of IPM. I think what we've missed here in the discussion so far is there is a lot of IPM out there already, but maybe benefits are not being communicated well enough.

Everybody, right now, their main concern for not doing something is time and money. So, prove to them that they can take time, they can save money through the programs that already exist. Educate them on that, and that will get greater (inaudible).

MR. BRADBURY: Susan.

DR. FERENC: There have been great presentations and great comments. It's always interesting to hear people talk about IPM because it is different for everybody. So, I'm going to step back in sort of a previous life when I was in that school and

then practicing some livestock veterinary medicine.

You think about IPM, and we learned it in school. If you think about raising sheep, well, sheep get pests and they get diseases, and then they get resistence pretty quickly that the pests do. So, you rotate whatever pesticides you give to your sheep.

At the same time, if you moved them and shipped them off pasture every two weeks, let the pasture go foul for a while and then eggs die, it's a whole system. That is integrated pest management. How do you measure success? Well, your sheep don't get sick. You get to take to slaughter when you go to slaughter. That is integrated pest management.

Somebody who is producing sheep learns that and they do that and they keep practicing that. They figure out better ways to do it, but it is such a continuum over time that how could you say what's a success or not, when it's basically your method of production. It's still integrated pest management. Nobody wants to use expensive products if there's some other way to take care of it. If you can't rotate your sheep, then you've got to use more products.

So, I think it's going to be so diffused and so different across the different systems that verifying when you've done it and having a metric for the success could be back to this issue where is somebody not using it? Or, when you don't use it, are you failing at something?

MR. BRADBURY: Thanks. I want to follow up on Susan's and other people's comments and thinking. To the presenters, I thought the presentations were very helpful and helped to shape some of the concepts, some of the issues. The resource issue that came up, Michael, before we even started, that was good, and you followed up with it.

I think, as Mark Lame was indicating, EPA investment, be it people or dollars, how our dollars and people are integrated with other public sector or private sector investments, at the end of the day, we all want to get a handle on is it worth investing those resources. Are we getting something out of that, be it better pest protection, better integrated systems?

So, part of the conversation I thought was really interesting in that it sort of banged around those

various themes. I also appreciate Gabrielle's comments about while there may be some issues here, sort of tightening up this workgroup (inaudible) hearing the range of conversations.

EPA would like to continue this conversation to help hone in at figuring out why people aren't doing it. That's what we should be trying to get our hands on, a better understanding of what the benefits are so you can then feed back to the people who aren't doing it to convince them why it might be a good thing to do.

There's a lot going on in this conversation that I think we could benefit from. So, what we'll do between now and the closing, which is less than 24 hours from now, we'll tighten up some of the concepts, at least, and get started for the workgroup in terms of areas to focus on to get some conversation going in the workgroup. We'll tighten that up in the last session that we have on Thursday.

But, my feeling right now is, just based on the range of ideas and the range of concepts that came out, I certainly wouldn't feel comfortable -- I don't think Keith or our other colleagues would feel comfortable in

EPA -- that we know exactly where to go, what to do, what some of our options are in terms of, at a minimum, from Michael's point, how do you know what you're investing right now, or could invest in the future, if you wanted to invest more, getting your dollars back and hopefully getting your dollars back even more than what you invested.

So, at a minimum, having that kind of a conversation as a workgroup I think would be very helpful. So, we'll tighten up, at least a beginning charge for a group to work with us and tune that charge up, talk about that on Thursday in the last session.

So, with that, why don't we call it a break for lunch now. I know I went a little bit past 12:15. But, given we have a very busy afternoon, let's make every effort to get back here at 1:15 so we can try to start on time. There are a number of places that are close by that you can grab a salad and what not pretty quickly.

So, thanks everybody, and we'll see you at 1:15.

(Whereupon, a luncheon recess was taken.)

AFTERNOON SESSION

MR. BRADBURY: Hello, everybody. If you could get to your seats, we'll start. So, if everybody could take your seats before pineapple does what pineapple does sometimes, that would be good.

So, we're starting a little bit late, but that's okay. It's my registration review schedule and PRIA commitments coming out in terms of staying on time and on resources and on schedule. I appreciate you all getting back.

What we're going to be doing right after lunch is Session 2, 15 minutes of an update. An update is an update, so we're not going to take questions. It's not up for debate. It's just to give you a snapshot of where we are on a handful of topics. That's Session 2. Then we'll move into the pollinator protection session, which will be a session for lots of time for discussion.

So, our first topic, Marty Monell will lead, and that's the update on the IR-4 public interest finding under PRIA.

MS. MONELL: I'm just going to give you a moment's background because I know there's a lot of new

folks on the PPDC that aren't necessarily as imbued in PRIA as we are. PRIA is the Pesticide Registration Improvement Act. It was passed in 2004. Essentially, it provides a fee for service for the government processing of registration actions. It also provides a fund to help manage the costs of our reevaluation of chemicals that are already on the market.

In the course of developing this statute, there was a coalition developed which was comprised of various trade associations, obviously industry representatives from various companies, the Farm Bureau, various NGOs, academics, and so forth. It was quite an unusual and noteworthy coalition that evolved around and created PRIA. It was passed in 2004 initially and then reauthorized in 2008.

One of the provisions of PRIA is that there will be waivers for small businesses and that there will be waivers, now called exemptions, for applications submitted in conjunction with a tolerance petition submitted by IR-4. IR-4 stands for the Interregional No. 4 program authorized by USDA, and encourages, essentially, help for minor crops.

So, this exemption has two provisions to it. One is that it be submitted in conjunction with a tolerance petition submitted by IR-4, and that it be found to be in the public interest. So, as with all of the other provisions of PRIA, when we first implemented the statute, we issued interpretive guidance, if you will, on our web site.

So, all of the 90 categories had interpretations on the web site on which we received comment and we've adapted, as appropriate. The same thing occurred with the IR-4 exemption. Only, since no one had any experience with applications coming in in conjunction with IR-4 petitions, we decided that we would wait until we had some experience and simply say operate under the principle that if it comes in with an IR-4 petition, we'll deem it to be in the public interest, until such time as we have sufficient experience in dealing with the exemption to come up with a more interpretive guidance on what is in the public interest.

So, now, flip forward to PRIA-2. It's passed. Same provision is there. Only now the waiver became an exemption, which means that no fees are paid by

applications that come in with IR-4 tolerance petitions and are found to be in the public interest.

We decided that we now had four years of experience implementing this under our belt. It's time to develop some interpretive guidance for all of our stakeholders so that we could be totally transparent with what kinds of considerations we used when we were making a determination whether or not a particular application was in the public interest or not.

What we had developed, obviously, was not as well communicated as we had hoped. But essentially, it provides for three various indicia ingredients, if you will. If your application satisfies these particular ingredients, then it will automatically be deemed to be in the public interest.

It also recognizes that there are situations where it's appropriate for the IR-4 exemption to be applied, but that might not fit squarely into the three items that we have outlined. So, as we have been doing right along, we review cases on a case-by-case basis. So, an application comes in, there's a specialty crop situation involved. We can fit it into a crop grouping.

We'll allow that application to come forward.

So, what the interpretive guidance is designed to do is to just outline the no-brainers and to say if it doesn't fit squarely within those three areas, we will continue to review things on a case-by-case basis.

Why is this important for us to do? It's transparency. Our stakeholders have a right to know how we are interpreting the statute. We've done it in every other provision of PRIA. It made sense to do it in this case. And we were asked by the PRIA coalition to do this as well.

Secondly, it's important internally to our OPP staff -- there's one person right now who essentially makes these sort of calls about the IR-4 exemptions. That's just not an appropriate way to proceed. If you were a business, you'd never allow that to happen. So, we are operating in a business-like fashion. We felt it was appropriate to have an SOP. So, this interpretive guidance is intended to act as transparent discussion for those that are interested in our stakeholder community and to be a guide for our staff as well.

Clearly, from all of the comments we've

received on it, we haven't done the best job in the world communicating what I just said. So, we will be adapting that. But I just wanted to reassure folks here, particularly those that have submitted comments or intend to, that we do not intend to change what we are currently doing. We're just putting it to paper. So, that's it.

MR. BRADBURY: Thanks, Marty.

Spray drift, Rick Keigwin will give us an update.

MR. KEIGWIN: Spray drift in five minutes, I like that. So, again, just by way of background for new members on this committee, spray drift and language involving spray drift has been an issue that we have all worked on very closely over the past many years.

In 2006, there was a work group under the PPDC that tried to reach consensus on this issue. In 2007, they issued a report that indicated that while there was a lack of consensus over what the exact spray drift labeling language should be, there was general agreement that better labeling was, in fact, needed.

Following that activity, the agency formed an internal workgroup that also had some representatives

from state agencies. In 2008, that culminated in the November 2009 release of a draft PR notice on spray drifts. In response to that notice, we received approximately 34,000 comments. About 33,000 of those 34,000 were a letter writing campaign, generally wanting an even stronger standard than what had been proposed in the draft PR notice.

Beyond that, there were about 600 unique comments, substantive comments, many of which had great concerns with the language that the agency had proposed regarding prohibiting drift that could cause harm or could cause an adverse effect.

Some believed that this was a no drift standard and others believed that, again, it had not gone far enough. Again, there was general consensus across all of the comments that a clearer target for users was necessary, and that better labeling language was necessary.

Subsequent to that and in evaluating the comments, the agency has modified its position and has moved off of the could cause harm or could cause an adverse effect language to proposing a standard that

would prohibit drift that causes harm.

Earlier this year, we convened a small group of stakeholders that included registrants, growers, nongovernmental organizations, and state agencies to receive their feedback regarding this proposed language. We also provided lists of the types of spray drift examples that had happened in states where we thought would be examples of incidents that we would not want to see occur.

Those types of harms would include things that would have a negative impact on humans, would have a negative impact on beneficial for non-target wildlife or would have damage to crops. Those are just a subset of the examples that we provided.

We've received feedback from all of those groups at this point. There's not too much of a surprise that it's still not a unanimous agreement over what direction the agency should go. Some have suggested that we pull back the proposal; others have suggested that we move forward. We're currently developing a response to comments of all these 34,000 comments that have been developed and hope to push forward with issuing a final

(inaudible) later this year.

MR. BRADBURY: Thanks, Rick.

Don Brady will give us an update on surface water quality and drinking water quality.

MR. BRADY: This is just a quick update on what we call the common effects methodology. There was a presentation, a joint presentation from Betsy Beal (phonetic) in OW and us in OPP, I believe at the last PPDC meeting.

This is the project that is aimed at assuring that OPP and OW characterize ecological effects consistently. It arose from questions that have been raised by stakeholders in both programs about how we were characterizing effects in the aquatic environment.

So, with ORD's help, there were three white papers developed. The white papers explored methods for the use of tools to estimate aquatic toxicity data, approaches for deriving community level benchmarks, and addressing plant effects. Those three white papers were the subject of six meetings around the country and one large public meeting here in Washington.

Now, the next step in the process is the

internal work between OW, ORD, and OPP. It's going on to prepare a consolidated white paper which addresses those three topics, and to bring that white paper to a joint meeting of the Science Advisory Panel and the Science Advisory Board in the Office of Water, and to propose some questions for which we would like advice from that joint advisory panel structure.

The schedule for that meeting is -- that meeting is scheduled November 29th through December 2nd this year. Look for the consolidated white paper about September 15th or so, which will be the public white paper that can provide the basis for our discussion with the SAP/SAD, and also for folks to see what we're asking advice on. So, that's pretty much it.

MR. BRADBURY: Thanks, Don. Thanks for the concise reports, everybody. Let's move on, then, to Session 3 which has to do with pollinator protection. Again, similar to the discussion we had this morning with the integrated pest management topic, there will be some presentations by the agency, as well as some presentations by members of the PPDC.

Again, as we go through the conversation, Rick

and Don will try to scope it for you, another area where we've been having lots of discussions with individual parties on the broad issue of pollinator protection, which has been good. It's been very helpful.

I've personally been in situations where I was thinking, gee, it would be really good to have other people in the room at the same time so that we could more efficiently and effectively integrate all these different ideas, rather than the agency hoping that they're understanding all of the myriad of ideas correctly and bringing them together.

So, part of what we want to do today is sort of shape some of the issues that we're coming up against and some of the areas we'd like to get some advice on, and then we'll go from there.

Jennifer, you had one question?

DR. SASS: My agenda, the electronic version, said we were going to get a quick nurse update from Marty. Is that still available?

MS. MONELL: Later this afternoon. It's on at 4:15.

DR. SASS: Okay, thank you.

MR. BRADBURY: I'll repeat what Cindy just said. If you didn't open your book and look inside, you wouldn't be looking at the most recent agenda. My apologies.

With that, I'll turn it over to Rick Keigwin and Don Brady.

MR. KEIGWIN: So, I will just start by reiterating I think what Steve indicated earlier this morning, that this is a session which is responding to advice from the panel last time on providing an opportunity for folks, more in-depth discussion of some of the issues, therefore, providing good quality advice to the agency, as well as to hear a number of different perspectives. So, the session is set out in a way to to that.

So, what we want to focus on for the next hour and a half is to begin to engage you all in a dialogue on what activities the agencies can undertake in the area of risk management for pollinators while the scientific methodology for how we would do scientific assessments develops and matures.

So, how we structured this session is first, by

way of background for everyone on the committee, Tom Moriarity and Tom Seeger are going to come up for about 10 minutes or so and give you all an update on what's been happening both on the scientific assessment front as well as risk management.

Then, we've asked for a subset of you all representing a cross section of interests, be it the beekeeping industry, or grower perspective, or registrant perspective, and a state perspective to talk about different successes that have occurred at a local level that might have broader applicability nationally, or the challenges that you have encountered in trying to manage pollinator issues locally that we should be mindful of as we think about taking the program more national. So, we'll have that session.

Then, we'll open it up more broadly to you all, and we've got some charge questions that we're going to pose to you all to facilitate some conversation for the remainder of the time.

So, with that, I think we'll let the Toms come up and give you a quick update.

MR. SEEGER: Thank you for this opportunity to

speak today. In the past, we've presented on the likelihood that there would be a SETAC, Society of Environmental Toxicology and Chemistry, workshop, a Pellston workshop on pollinators. We're pleased to say that that workshop actually took place.

The intent of the workshop was to draw together the best available science on exposure and affects assessments for pollinator related science and to try to come up with a process representing a harmonized way of doing risk characterization/risk assessment for insect pollinators, specifically honeybees Apis malifra (phonetic) and for non-Apis bees.

The focus of the workshop was on four major areas, exposure assessment, laboratory effects studies, field effects studies, and on the risk assessment process itself. A fifth element, which was another group that was formed, was to focus on the potential risk of pesticides to non-Apis bees. How well does the current process account for non-Apis bees? To the extent that it does, come up with mechanisms or studies that would better account for that type of affect.

The workshop itself is consistent with the

SETAC process. It needed to be split, roughly, equally between industry academia and government. Thirty-eight percent of the panelists -- there were a total of 48 panelists, and 38 percent were government regulators or government researchers, 25 percent were industry, and 25 percent were academia.

It was intended to be a global conference. Just the way it broke out, roughly 49 percent of the panelists were from North America and 41 percent were from Europe. We had representation as well from South America, Africa, and Australia.

The conference considered a bunch of different things. One of the important things that was accomplished was to identify potential protection goals for pollinators. These protection goals were identified as pollination services, honey production, and biodiversity.

Again, because of the four focus areas, the conference also looked at hazard assessment. In doing so, it looked at exposure and, again, field studies and laboratory studies, what type of studies they would be, and how they would be interpreted, and how they would be

fed into an ecological risk assessment process that would be harmonized throughout our global partners.

Workshop products will include a book. That would be the major product. The most immediate products are an overview of the workshop, the products of a workshop that will be published by the Society of Environmental Toxicology in spring of this year, ideally in May.

In Milan, at the SETAC Europe conference, there will be a presentation on the output of the SETAC conference. Again, in the parent society's meeting in November of this year, there will be a presentation and a dedicated symposium on the products of the SETAC Pellston. The book is intended to be published or scheduled to be published in January of 2012.

With that, Tom Moriarity will take over.

MR. MORIARITY: So, the current protective language on pesticide labels for bees and (inaudible) is (inaudible) statements or a specific language limiting the timing of applications. Comments that OPP has received over time has called in the question of the adequacy of the current label language.

In 2000, we tried to address some of these uncertainties or these comments on inadequacies through a PR notice. There were a lot of comments that we received from that PR notice with a lot of divergence in the comments. Lack of consensus prevented us from going further at that time.

But here, as noted by some of the comments that Tom made, the advances that we've tried to make in our risk assessment tools, perhaps puts us in a different place than we were in 2000. It's clear that pollinators present perhaps different new challenges the pesticide program in terms of risk management. It's a collective expertise of the stakeholders that we think is probably best suited to help us address some of those challenges.

A key element for the Office of Pesticide Program to move forward in risk management for pollinators is to build the groundwork to engage appropriate stakeholders on the issue. This includes both our federal partners, as well as our advisory committee.

We've always encouraged good communication and cooperation, but it's particularly important on this

issue. While we work on broader efforts to bring stakeholders together, we have been trying to work on communication and cooperation among stakeholders where we can.

We recently have been speaking and trying to work a little bit with the Colorado Department of Ag and our regional office out there to set up some meetings to speak with some of the stakeholders about ways to clarify processes and communicate and build the tools to protect pollinators.

So, you know, it's situations like this and other anecdotal comments that both Tom and I have heard and spoke with various stakeholders over time. In our pockets where things are going well, whether it's something going on in cranberries or blueberries or alfalfa and things like that, there are situations where we hear that there's positive relationships, there's positive communication and cooperation between the stakeholders. So, it's those sort of things that we like to try and capitalize on and see if we can't repeat those in other areas as we move forward.

We have been trying to, as part of our risk

management, to sort of coordinate some of the registration review actions that we've had. We've sort of moved up and organized some of the neonicotinoids. (Inaudible) started in late 2008, but some of the other neonicotinoids are starting opening registration review dockets in the first quarter of 2012.

In those efforts, we've been trying to coordinate with our state and our federal partners as well, (inaudible), but also be looking to some of the other neonicotinoids to sort of coordinate the policy or some of the science and the approach to evaluating these compounds.

We have been trying to move ahead in other certain areas. We've been active in trying to work with technical registrants and equipment manufacturers to reduce potential for (inaudible) drift. We know that applicators are important components to the issue, so, as part of the proposed revision to CFR 171, we've included language specifically identifying protection of pollinators.

We've been working with the NAFTI (phonetic) partners. One of their efforts -- they've got multiple

things going on, but one of the things that they've been working on that we're interested in and actively working on with them is development of education programs. That could be implemented through a state recertification program.

As Tom said, we've made a number of presentations. We like to use those as additional ways of getting out and talking about our process and trying to build relationships and gain information to increase our stakeholder relationships.

We've developed a web page, so you can go to visit that. We'll be trying to update that frequently to talk about the actions that we're talking. In addition to some of the domestic stuff, we have been working with our international partners. OPP was an active participant in the survey back in 2008 to try and identify among 17 different countries what were some identified needs on the issue of pollinators.

From that, emerged a particular workgroup with four specific objectives. One, to advance and harmonize the science of risk assessment. The second is to share management approaches, risk management approaches. Third

would be to develop a tool to share and communicate incident information between each other more readily, or more rapidly, rather. Finally, recognize the need to share information about research, developing an index for research.

That's about it. I just want to put up our web sites there. There are two web sites for USDA, our federal partner on this. So, that's about it.

UNIDENTIFIED MALE: So, I think at this point we're going to turn things over to Darren who is going to sort of help us facilitate this next section of the agenda.

MR. COX: Greetings. I'd like to thank the EPA and the PPDC members for the time given to address pollinator concerns in the U.S. Pollinator declines are ongoing with some insect pollinators now extinct, while other pollinators are in rapid decline.

National agricultural statistics survey data have documented a 45 percent decline in the number of managed honeybee colonies in the U.S. over the past 65 years. The rate of that decline has increased considerably over the last five years with the advent of

colony collapse disorder and other maladies facing managed honeybee colonies.

According to the research of the USDA Agricultural Research Services, bee research laboratory, the primary factors facing managed honeybees contributing to these declines are diseases, nutrition, and pesticides. While specific causes of decline in managed and native bees are not clearly understood by academia, and there are varying opinions, there appears to be an agreement that the declines are real.

From my perspective as a beekeeper, imported bee viruses (inaudible) and parasite (inaudible), an increasing resistence to traditional patrol measures, miticite resistence and pesticide use in both beekeeping and agriculture for all suspect is negative contributing factors.

During the last PPDC, a panelist requested to identify issues associated with pollinators. Working with beekeeper representatives on the National Honeybee Advisory Board, I compiled a list of issues confronting beekeepers related to the management of pesticides. The issues have been submitted to the EPA Office of Pesticide

Programs.

Beekeepers concerns centered around three major themes: pollinator health, the process used to evaluate risk to insect pollinators, how potential risks are managed through labeling and communication. The poll is depicted on this slide, and I realize that the document is too small to be readily viewed, but it is presented to underscore that beekeepers have been responsible for the request by EPA for input. If any PPDC members wish to have a list, please contact me after this presentation.

Since I've already communicated these concerns to the Office of Pesticide Programs and given that a number of stakeholders are represented on the Pesticide Program Dialogue Committee, I'd like to broaden the context of my presentation to reach out to all other stakeholders and articulate issues facing the broader group as it relates to the regulation of pesticides.

Beekeepers, like myself, realize that the risk assessment process for insect pollinators used by EPA is currently being redefined. The Pellston workshop that was held in January of this year was intended to develop a global process for evaluating risks to bees and to

identify the data, exposure, and effects needed to inform that process.

As that science is considered by EPA, there is a need to develop risk management options that can be implemented in the near term to take steps to reduce the negative (inaudible) pollinator decline as they relate to pesticides.

Label language must be clear and viewed as enforceable by primacy partners. Today, when beekeepers report pesticide complaints to states, there appears to be little to no enforcement related to incidents involving pollinators. Many states view the language as vague, ambiguous, and unenforceable.

Applicator education, the industry recommends pollinator education promoting safe application be required for all pesticide applicators, users in this time of marked insect pollinator decline. Beekeepers have absorbed small substantial losses in the past, but with the current complications of pollinator health, the gross misapplication by growers can be fatal to a struggling ecosystem and bee business. The bee industry urges safety first when applying pesticides.

Communication between applicators and beekeepers is not necessary when the product is applied according to the label directions. However, one popular misconception is for the applicator to tell the beekeeper to move their bees. However, in many cases, this is not possible and frequently amounts to a label violation, since labels restrict application (inaudible).

Also, native pollinators, some of which nest in the ground, cannot be moved. From a beekeeper's perspective, placing the burden on the beekeeper to relocate their colonies equates to throwing the canary out of the mine and is not risk management.

(Inaudible) is the act of combining chemical solutions, creating a new compound with unknown risks. Have the risks from these mixtures then fully evaluated. Soil residuals, there's a concern of agricultural products built up in soil and can be taking up by (inaudible).

Habitat modification, the industry is very concerned about the indiscriminate use of herbicides on broad leaf plants. The loss of marginal plants represents the loss of bee habitat and sources of diverse

forage. USDA has identified nutritional stress as a major factor in managed honeybee losses.

Spray drift, contaminated pollen and/or nectar is a serious problem from a bee colony nutrition standpoint. Bees that are nutritionally stressed are more susceptible to pathogens, parasites, and chemical assaults. The time of day, the wind, the bloom, type of product used must all be carefully considered.

State enforcement, past pesticide related incidents reported by beekeepers have frequently resulted in harassment of the beekeeper or further claims by state representatives that there is no funding for pesticide investigations, and there is no required record examples. No use reporting for them to determine who sprayed what where or why, making pesticide enforcement impossible.

In my opinion, pollinator issues do not just affect beekeepers. Honeybees serve as an environmental health indicator and act as a barometer for determining the overall health of our ecosystems. Pennsylvania State University has reported as many as 121 different pesticides in bee colonies. On average, seven pesticides are found in pollen samples collected from migratory bee

operations.

Again, in my opinion, there's plenty of opportunity for doing things both in the near and long term towards improving how pesticides are used by beekeepers, applicators, and regulated for the federal, state, and local levels.

Again, thank you for this opportunity to speak on behalf of my industry. I look forward to working with other members of the PPDC and EPA toward achieving a better balance of stakeholder interest in dealing with the serious decline of managed native bees and honeybees. Thank you.

UNIDENTIFIED MALE: I think Gabrielle Ludwig was going to come up next.

MS. LUDWIG: So, I was asked to provide a grower perspective on the pollinator issue. I have to admit, this filled me with some trepidation. So, here I am.

I work with the Almond Board of California, as I will explain why I'm here. Almonds are the biggest user of the pollination services in the country. First, as a reminder, there is a strong interaction between

pollinators and food supply, as this initial slide is trying to indicate. You have several crops that are completely dependent on pollination services to produce a crop. Almonds include that.

Some crop yields are enhanced by adding pollination services, mainly, honeybees. Then, there are a few examples of where the crops are actually being used by the beekeepers for honey production, where maybe not the crop or the grower benefits so much directly. But all of those are scenarios with honeybees. I also listed some cross species that use non-honeybee species for pollination, like (inaudible), the leaf cutter bee. Greenhouse tomatoes use bumblebees, just as some examples.

This is not necessarily encompassing all the native pollinators that are out there doing work as well, but just to give you a sense of the breadth of it. As someone puts it, sort of everything that’s colorful on your plate probably had a pollinator involved.

So, why do almonds need bees. Basically, the almond flower, the pollen of an almond cannot pollinate itself. Pollen from the same varieties cannot pollinate

itself. Each almond orchard, even though you think it may be all one variety, it's actually more commonly three different varieties.

I don't think the images are that clear, but the lower image you can see toward the later part of the bloom, the one row is still in full bloom, the other row is already past full bloom to give you a sense that there's two different varieties there. So, we need pollinators to come in and move these not just within the tree or within the flower but move pollen from one tree in one row to a tree in another row. So, we're very dependent on honeybees.

We need these pollination services in mid-February through mid-March. We're one of the first crops that bloom in California because it's still in the middle of the rainy season. So, just, why do we need bees?

The demand for honeybee services has also been increasing. The acreage has basically doubled in about 25 years. We're up to about 750,000 bearing acres. That means we're using about 1.5 million colonies out of roughly 2.4/2.5 million total, in the United States, commercial colonies available every spring.

What you can also see is that production has been increasing. Our acreage has been increasing. Production has been increasing beyond just the acreage just because of other production practices being improved. But also, the cost of pollination services has really increased. So, depending on where you are and your water cost, honeybees can be the single most expensive crop input on an annual basis in almonds, about $300 an acre.

The other point to bring up is, at the same time as bloom, we need fungicides. A number of key almond diseases are incurred when you get rain and blossoms together at the same time. That's when infection can take place.

So, almond growers are managing -- wanting the bees to be available for pollination services. At the same time, they're also keeping their eye out on the weather predictions. If there's going to be rain, then they're probably going to be spraying a fungicide to protect their crop.

This is not just damage to yields and so forth. With the (inaudible) crop, we're also talking about

maintaining the health of the tree in the long term. Some of these diseases will cause limb buyback, really long term damage or early loss of leaves, which affect the health of the tree.

So, that's the tension that we're dealing with here, is that from a grower's perspective, we need both the bees, and we need pest control materials. We need them often at the same time in terms of (inaudible). That's, I think, part of what this discussion to me is about, is how do we best balance that tension where both are needed. Then, you also have the crops that need plant protection materials that may not be directly dependent on pollinators, per se.

What almond growers have been doing, we have been investing in pollination related research since 1976. After USDA, after the taxpayer, we have been the biggest supporter of honeybee research in the country. Just to give you some sense of the partnerships that we have been developing -- and that's been looking at things of how do we maintain honeybee help, are there better ways to control the (inaudible), are there better ways to control (inaudible), nutrition of bees. At times, we

have looked at pesticides. So, all of that has been a research project that the almond board funded, which means growers have funded that.

As I was trying to put this program together, I reached out to members of the Minor Crop Farm Alliance to see what other measures are going on and try to put together a list of measures that currently different grower programs have to try and reduce the interaction between pollinators, primarily honeybee, and pest management needs.

In the case of almonds or fungicides, we recommend spraying in the late afternoon or in the evening for the fungicides because pollen occurs in the mornings. That was originally a reminder to those people that don't like pollen in the D.C. area, do your jogging in the afternoon or evening because there's less pollen out. That's just plants. So, that's one major recommendation that was given to almond growers but also to other growers that are using pest materials during bloom.

There are certain fungicides that we do know have an impact on some bee life stage and the

recommendations to avoid using those directly at bloom. For other crops, the bigger issue is more with insecticides that might be needed during bloom. There, I mean (inaudible) or insects who have more of a direct toxicity.

So, they are the questions that become more of, how do you select insecticides, how do you protect the crops? Examples are, they have actual tables that tell you the relative toxicity of various insecticides and the relative residual times of insecticides to help growers and pest control (inaudible) choices based on that as one of the factors of the consideration.

There's been recommendations in cases where you know you need to use a particular material that will be detrimental to bees to go through and (inaudible) blooming crops inside orchards. That's something that the northwest orchard growers are recommending because of what their pest management needs are, as well as when bloom times are. This is actually a cover crop.

Registries for local beehives with various states and counties, I think Marylou will be talking about that, about their different efforts to know where

the bees are to improve communication. The citrus growers in California have a system that once bloom is over, they have an ability to communicate with beekeepers and that those beehives do get moved out. But that's part of the moving through the cycle of different bloom periods.

Then, the standard recommendations of trying to minimize spray drift and read the label. Those are some of the general recommendations that I've seen in various of these documents. The next couple images are trying to give you a sense of some of those documents. This is from the UCIPM guidelines. If you go to their web site, if you read from the top, the general information, the second one down is relative toxicities of insecticides and miticides use in cherries to natural enemies and honeybees.

So, that's a list that's available on the web site. There's a similar one for almonds. The bottom one is from the Almond Board's web site that describes some of the possible lists of honeybees and what you can do about them.

Maine native wild blueberries, similarly, the

Extension Service has put together lists of (inaudible) insecticides that control these particular pests. These are the relative toxicities and the visuals for those insecticides.

The tree fruit, again Extension has put together a list based on the label language, the classification, the toxicity. It lists all of the products by brand name, as well as recommendations of how to avoid applications -- places that bees are foraging, not just on blooming crops, but, as I say, also anything that might be blooming inside the orchard.

Then, there's also some general information that's been out, something that -- the Coalition for Urban and Rural Environmental Stewardship has a pollinators and pesticides guide. This is something that goes out to pest control advisors, farm bureaus, county ag commissioner's offices in California, NAPPC, which is the North American Pollinator Protection Campaign. They've put together brochures to go out to pest control advisors. The Famber Institute (phonetic) also has an annual list of which products are available and their relative toxicity.

When we were told we had five minutes for an issue that is complicated, I was, like, you must be kidding. So, I just try to figure out some of the things that I would like the committee to consider. There are a number of efforts out there to try and reduce interactions between pollinators and pesticides, to what extent can we build on those. As Darren already indicated, it's a very complex issue.

There's a number of other factors that are impacting pollinator and honeybee health well beyond pesticide issues. There's also a bit of the chicken and the egg question of how much do we do now versus how much do we wait until we have a better understanding of exactly what the issues are. I cannot reiterate enough the issue of that growers need pest control materials.

I will site citrus that at the moment in Florida is truly fighting for survival because of citrus greening or a bacterial disease that gets transmitted by something called the citrus phyllida (phonetic). The primary tool for controlling the phyllida, the vector, is amiticloprid (phonetic).

California doesn't have the disease yet, but it

has the vector. Florida truly has lost about 25 percent or so of its citrus (inaudible) acreage in the last 5 to 10 years because of disease, inability to manage these kinds of diseases. So, I just want to reemphasize that part of the struggle here is the need for pest control materials as well as the need for pollinators.

How do we balance that? It's a question for the PPDC to consider. Perhaps I'm not using the right term here. How do we improve pollinator consideration in pest management choices? I will say that I think the information I see are with crops that are using pollinators and have it as a direct input. I'm not sure so how much awareness there is on crops that may not be using pollinators directly. So, how do we improve that understanding?

How do we improve the communication between beekeepers and locations and so forth? I realize Darren says, no, I can't necessarily move it, but at least knowing so we can have discussions about what's going on. Improving applicator licensing education, whether the programs can be extended.

I think the other thing to add is how do we

help beekeepers have a strong pest management program for themselves, because that is one area that also has been struggling both from a research and from a registration perspective. With that, thank you.

UNIDENTIFIED MALE: Next up we have Ray McAllister.

MR. McALLISTER: I'm Ray McAllister with the CropLife America. Our member companies are the ones who produce the fungicides, insecticides, and herbicides to protect crops within the United States. With respect to pollinators, our current status is that for many years, the label language on pesticide products has been used to mitigate the potential risks of those products to pollinators.

It's not to say that we're living in a perfect world and protecting against all of those risks perfectly, but this is the primary source of information that has been provided. We believe that improvements can be made, and we're dedicated to help make those improvements. It's very important that the mitigation of potential risks is based on risk assessment, and that this guides the language that goes on to those labels.

As an organization and as our respective member companies, we continue to work at the state, the federal, and international levels to support pollinator protection. Listed here are just some of the activities we've been involved with.

We heard from the Toms about the Pellston Workshop and estimating the risk of pesticides to pollinators. This started out, not sure how long ago, as a gleam in somebody's eye, and EPA has taken that on with great enthusiasm. We've had a number of our key pollinator experts within the CLA member companies actively participating in both the organization and carrying out the workshop.

We expect to see the summary shortly, this spring, a final publication in early 2012. We understand that would be followed by consultation by the agency with the Science Advisory Panel on this subject in order to identify the appropriate modifications or additions to testing requirements that will help us to collectively, as regulators, regulated community, and users of products, to better assess the risks and to mitigate those risks.

CLA and several of its member companies have been very active in the North American Pollinator Protection Campaign, their pesticides task force. We have worked collectively in a give and take process on producing two brochures that Gabrielle mentioned. She mentioned the one about the brochure for applicators. There's a corresponding brochure for consumers or homeowners who may be using pesticides in their yards. It's important for them to understand how they can use them judiciously without affecting pollinators in their yards or in their neighborhoods.

There's ongoing, right at the moment, development of a training initiative which the agency, I think also mentioned by the Toms, was intending to use or make available to the applicator training programs around the country. There's another coalition based primarily in California, Coalition for Urban, Rural, and Environmental Stewardship, which has also produced a similar brochure on pollinators and pesticide stewardship.

Now, this doesn't say anything about the extensive activity of scientific research extending into

millions of dollars conducted by individual companies to determine the risks and concerns of their products or pesticides -- or for pollinators and how to use them appropriately to avoid and mitigate any problems that potentially occur.

We see that the principle goals for pollinator protection is closely aligned with what we've heard the others mention. Pollinator protection must be informed and achieved by a robust, science-based risk assessment process to determine the potential risks posed by pesticides. The science which is conducted here must be adopted into a regulatory testing framework.

Pollinator protection needs consistent label language, consistent from product to product, which makes it readily understood by the applicator, which must be appropriate to the individual crop, the application method for the pesticide product, the specific pest problems that the grower faces, and the specific pesticide product.

All of this label language has to be based on the results of risk assessment. We bring much caution about taking precipitous action either in label language

or other areas that could be harmful to crop protection without significantly improving pollinator protection.

It's very important that there be a robust and coordinated stewardship of several factors in crop production. The pesticide products must be stewarded appropriately by the registrant. The crop producers have to exercise good stewardship in producing their crops. The beekeepers, those who manage pollinator populations, also have to practice good stewardship. These all have to be coordinated.

We've heard about some of the potential conflicts. That's where we see a benefit of a work group in helping to identify and work through some of those potential conflicts. Applicator training, as well as education of growers, is essential to ensure the use of best management practices, both for crop protection and for pollinator protection.

CropLife America supports strongly the role for a PPDC work group on pollinator protection. Protecting pollinators while at the same time ensuring effective agricultural production and efficient agricultural production needs the input of the multiple stakeholders

represented by the PPDC.

We probably have a larger cross section of potentially interested and effective stakeholders than any other forum which is investigating or looking into concerns about pollinator protection. The PPDC provides this excellent forum for information to flow from the scientific community out to a much broader stakeholder audience.

However, the scope of this initiative should be clearly defined so we avoid duplication or minimize the duplication with other groups also looking into it. We would recommend that such a group start by making an inventory of the ongoing efforts and forums by federal government, state governments and agencies, the academic community, as well as non-government forums, which are addressing pollinator protection and health in order to ensure that there's coordination of effort rather than unnecessary duplication.

Just a few points to consider. This is shorter than the list we've seen from Darren and from Gabrielle, but the agencies acknowledge that many faceted components are involved in bee health and decline. Pesticides is

one issue to consider, but it's certainly not the sole one and may not be the most important in terms of the potential stress to honeybee populations and to other pollinators. It's fundamental to ensuring that optimal solutions are found.

Efficient agriculture is dependent on good crop protection. The more efficient agriculture is, the more we can allow for setting aside more of the marginal land to provide habitat for native pollinators, rather than forcing that land into crop production.

The PPDC should ensure that pollinator protection activities of USDA and other federal agencies, as well as the states, are considered. We think it can be an excellent forum for bringing those interests together and ensuring cooperation and collaboration. Thank you.

UNIDENTIFIED MALE: Then, to wrap up this panel, we've asked Marylou Verder-Carlos from California's DPR to make some remarks.

MS. VERDER-CARLOS: I don't have a Power Point presentation, but I do have a handout in your packet. It says Session 3 - Pollinator Protection. It's actually

just a tabulation of the information that I received from the states regarding four or five specific questions that I had asked.

What we did was we had questions on five different aspects of how they're dealing with bee protection in their states. I received actually 19 responses. On your handout, it's only 18 because I just received the 19th one this morning. That was Texas. I sent them the inquiry middle of last week, so I probably didn't give them enough time. I sent it via the Apco people.

Anyway, from this tabulation, you'll find that the first question that we asked was, do you have a certified applicator program for bee protection. Do you have specific drift control measures that would protect bee colonies? Do you have a beehive registry in your state? What methods of protection do you have to ensure bee protection? Then, what of your methods, if you have any, worked and what did not work?

Just to summarize what I found out from these inquiries, most of the answers to the questions on certified applicator programs is that some of them have

some questions they put into the certification program, but they do not necessarily have one that is for bee protection, per se.

It's just one or two questions in the certification program. Right now, California, we are developing a certification program for the bees, but we just started that. We contracted with UC to do that for us. Also, New Jersey has some certification manuals that reference notification requirements, but essentially, there is no certified programs just for bees, to protecting bees.

Same thing with specific drift control measures. Most of the states enforce it through the labels. So, most of the methods for protection for the bee colonies really are through enforcement of the federal labels. Some of the states have some state regulations specific to them. Like, California has within one mile of a known beekeeper, then you cannot spray. Then, there is one state that has one within 500 feet you cannot spray.

So, this is just an inquiry on the 19 states that replied. But most of them really don't have

certified applicator programs, no specific drift control measures or beehive registries. However, they had really said that enforcement of the federal label is what they do. So, if there is language on the federal label for bee protection, that they enforce it through that route.

I was thinking that this would probably be a good segue to the discussion that we're going to have, because all these 19 states out of the 50 states that we have are the only ones that have responded. If you have any questions at all, this would be a good segue for us.

UNIDENTIFIED MALE: Okay. Thank you for the presentations. I think we got a number of interesting perspectives that will set the groundwork for the next part of the discussion here. That next part of the discussion allows us until 3:00 to deal with the discussion topics that were identified on the agenda. The first one I think picks up on the point that Marylou just made which is how can the PPDC provide OPP with information and guidance on managing potential risk from pesticides to bees. So, that's clearly a question to get us in the ballpark, I think.

Just to be clear, the idea will be to get ideas

on the table here today. Then, tomorrow, in session 10, there will be a more focused discussion on what the actual next steps will be from this meeting. So, we'd like to hear people's perspectives on that question first.

I see Michael and Scott. Rick is helping me with my eyesight. Thank you. So, Michael.

MICHAEL: To continue the discussion a little bit on the pollinators, I participated in the Pellston Workshop and was struck by two amazing facts to me. First off, longevity of queens used to be three, maybe even five, years. Longevity of queens now is six months. Something is killing queens in the hive.

The second factoid that I was amazed by was that neonicotinoids used as seed treatments are sufficiently potent. So, when those compounds are transported through the plant into the pollen and into the nectar, they remain toxic. Can be taken -- perhaps not acutely toxic to the forging bees when they get them, but these are taken back and fed to the larvae and fed to the queen.

The application restrictions really can't apply

to something you use as a seed treatment, which, when it blooms, is still toxic. So, there are some unknowns here in terms of toxicity to larvae and to queens, longevity of these pesticides systemically in the plant, and the toxicity that really are mind boggling and need to be addressed, I think, quite quickly.

MR. BRADY: Michael, thank you.

Scott.

SCOTT: Primarily, I would like to reinforce Gabrielle's statements that agriculture needs to coexist with this, with the bees. Many times it's a partnership. Also, when the discussion starts narrowing around on label language, let's face it, you can't do everything after 7:00 at night. You have to prioritize.

When there's huge areas that need treatment and when we have game changing insects, such as the soybean aphid a few years ago coming into the midwest and the potential of some other insects being a developing issue, you have to be careful sort of what we ask for. The language needs to prioritize the intersection of the primary activities, and we need to be careful to keep both interests attentive. Thank you.

MR. BRADY: Thanks, Scott. I think Mark was up next.

MARK: So, about this time of day I start fading. So, if I'm asking a question that doesn't make sense, bear with me. That's the last time I'm going to admit to that.

I agree that there needs to be some robust science here, and some robust economics is what I'm interested in as far as the costs go. Has there been any work looking at the long-term costs of the loss of pollinators versus the other costs that folks were talking about to the crops and to the pesticide products?

I'm not quite sure if that makes sense, but to me that's the overall question. There seems to be a huge cost to American agriculture, to American economy, to nutrition, to whatever else, to losing pollinators. I'm not quite sure which is the greater cost to us if we lose some of the crops or the products or if we lose the pollinators. Is there work in progress on that anywhere?

UNIDENTIFIED MALE: I think that's the kind of thing that we could capture as the kind of advice that we might want to generate.

UNIDENTIFIED FEMALE: NAPC through congress commissioned the National County of Science Studies on Pollinator Health. That goes through some of those losses or some of the economics with different models. That's available up on the web site. So, that's one area to take a look at. It does try to address some of those questions.

But, in my mind, some of the things that you're saying is we also have a pest management issue in honeybees itself. The varroa mite is truly -- it takes every evil scary movie -- you take and combine vampires and disease inducing -- and it does it all in one.

So, I just want to be very clear than when we talk about pest management, we're talking about pest management not only from crops, but pest management in beehives -- one of the first steps that really hurts honeybee health has been the varroa mite introduction, which occurred about 20 years ago. With that, you had about a doubling in the hive losses in the winter.

So, it's a very complex issue, very complex. So, pesticides is only one small piece to the honeybee issue when you're talking about the losses as a whole.

Look at the NAF study.

UNIDENTIFIED MALE: Rodney Guske.

MR. GUSKE: I think the common thread through here is training for applicators. Just from my own perspective working in Washington State on an Indian reservation, I have to get out and do the outreach and some of the regulatory updates and all this type of stuff for some of the dealers that are present on the reservation when they do their meetings.

Now, in Washington State, you've got to take a test and pass it in order to get your private applicator's license or any license to apply an RUP. There are some states that don't do that. Further, you need to take continuing education credits to maintain that license.

But for the number of years I've been doing this, I really question the value of going into one of these training. The trainings that WSU puts on with Carol Ramsey are excellent. But what I found, I go to those every year. There's two days of them and generally they're for non-ag, because the people that are involved in ag go to the grower meetings.

What they're going to get at the grower meetings is a big slug of what's happening with the newest pesticides. I think that's well and good and educational, but a lot of these (inaudible) no other educational substance that's going to improve what they do as applicators. That's something I think probably should be looked at.

UNIDENTIFIED MALE: Thank you. Jennifer Sass.

DR. SASS: Thank you. A question and then maybe a comment. My question is for Marylou. With your presentation, can I ask you how many of the states reported that they had actually investigated bee kills? Most of them report that they enforce the federal label, but then everybody else seems to think that the federal label isn't much to talk about. So, how many report that they had actually investigated it maybe per year and then many over 5 years and maybe over 10 years, so we can get some kind of trend?

Also, how many of them actually took any kind of regulatory enforcement action based on that? Again, per year, over 5 years, and over 10 years, so we can get some kind of trend?

MS. VERDER-CARLOS: We did not ask that question, so it wasn't necessarily addressed, but I can ask the states for that information. I know that Washington State, they do their compliance investigations for bee kills for sure.

DR. SASS: And you're in California, right?

MS. VERDER-CARLOS: Yes.

DR. SASS: So, do you have a sense about your state?

MS. VERDER-CARLOS: We do investigate bee kills, but I don't have the statistics for you. But I can find out.

DR. SASS: I don't have to tell you how important that is, right?

MS. VERDER-CARLOS: Yes.

DR. SASS: So, this isn't meaning much if it doesn't have that. I mean, none of this means much if you don't have any kind of an enforcement and any kind of a -- it's so critically important.

MS. VERDER-CARLOS: It's actually one of our priority investigations, one of their details. So, it's one of our investigations for enforcement when there's

bee kills. We have to investigate that. I just don't have the statistics for you right now.

DR. SASS: I mean, you got to love California for sure, but you've got 17 other states here. Your state responded, right?

MS. VERDER-CARLOS: Yes.

DR. SASS: Anyway, if you could ask that question -- I think you said if we had more questions to ask, we could tell you. I think those are really, really important.

MS. VERDER-CARLOS: Okay.

DR. SASS: Then, I guess the second thing is just a quick comment. I think my perspective is probably out on the table, so I don't think I'm surprising anybody here. I know everybody here agrees that this is a really big issue. Pollinator decline is a big issue. I think everybody agrees that pesticides are maybe a part but definitely not the whole thing. I think we all agree it's complicated and beyond pesticides and beyond chemicals and beyond any one cause.

I think there's probably disagreement maybe around the table about whether pesticides are a

significant contributor or not. I don't think there's a research answer to that. So, I guess my opinion is I don't think it's a very wise choice to wait.

I think when we decide whether or not we're going to wait to take stronger actions, to take more meaningful actions to, in this case, prevent exposure to do more to prevent exposure, to potentially harmful chemicals to pollinators, we have to ask what are the consequences of not acting. That's always part of a risk management and risk assessment strategy.

What are the consequences if we made the wrong decision at the beginning? In this case, I think the consequences are very serious. I'm going to quote Tom Seeger in a meeting once that we had together with a bunch of people there, so it was a public meeting. He said, I think, this is the biggest issue we're facing in terms of national security if we can't produce our own food 10 years from now. That is a big deal. I think everybody around here values growers and agriculture and the ability to do that.

So, the consequences of failing on this are so severe that I don't think it takes much of a risk

management thoughtful approach to realize that we don't want to have that as an option. So, if there are pesticides that we are concerned about, I think we need to take preventive action, or precautionary, or whatever you want, to prevent exposure while the data is coming in.

MR. BRADY: Thank you, Jennifer. Cindy is next, but I would just like to point out that there's a second question here, so maybe we can start moving into that second question in the next four or five minutes. That question is, what does the PPDC view as the best way to integrate pesticide risk management actions or elements with other management activities designed to address the potential of bee management practices, nutrition, parasites, and pathogens to bee declines. So, I would just cede that question for the next round of comments so we can complete the discussion by 3:00.

So, the next up was, I believe, Cindy. You were up next?

CINDY: Thank you, Don. I'm try not to repeat comments that have already been made. A good chunk of Jennifer's comments she just made I agree with. We don't

know today what the cause is. I would agree we probably would disagree around the table what the role is that pesticides play. But we also don't know today definitively what role that is either specifically for pesticides.

I think it was in one of your presentations that the science and methodology are still maturing. I think that's an important process. I don't think that has to mean we do nothing and we just wait. I don't think that's what has been suggested by the people on the PPDC.

I think the establishment of a workgroup is a good first step to look at what are the kinds of things that are happening today that are working, which I think was either Tom Moriarity or the other Tom that talked about.

How can we share those in other crops? If they're working in alfalfa and they're working in some of those other crops, there's a good chance that there's just a lack of information transfer in many cases to get there. It supports the comments around training and just getting people to be more informed about where bees are.

To your second question about what are the activities that can take place as a result of that, I think in the cases where you understand how the product is used and what the crop needs are at the time with respect to bees, you can probably put out pretty good guidance about when to use it and when not to use it. I'm not a technical registrant of the neonic, so I don't have a neonic in this fight. But I can say that I've got bee language on some of my labels.

The labels don't apply when bees are in the area or near the area or whatever that may mean. So, explain that to people, what that means about it. Is it 24 hours before? I think there's some educational work that can go on along the lines of what yours has done, and others, that can be spread out.

I think there are meetings, PACTA (phonetic), for example, in California would be a great forum for getting applicators to understand. I'm sure there's a lot of discussion that happens. Can we duplicate that in other states, because people get together in those kinds of associations to do that. So, I think there's a great possibility to be very active while the science and

methodology matures in sharing information, and best management practices, and things like that.

MR. BRADY: Thank you, Cindy. I think the next card up was Caroline Cox.

MS. COX: I share the sentiment that this is probably too important a problem to not -- and try to deal with quickly. It's important that we take some action now and more action as there's more science and more data.

I think one of the ways that this problem has developed is because the focus of the toxicity testing that's part of the registration process for bees is on acute toxicity, and there haven't been requirements to look at sublethal effects. That seems to me a really critical information piece that we need.

So, while we're taking immediate steps to reduce exposure and get whatever we can do in the short term, I think in the long term looking at those data requirements would be really important, and maybe not just for pollinators. It could be that there needs to be kind of a larger look at ecological effects testing, but definitely at least for pollinators.

MR. BRADY: The next one I had was Marylou Verder-Carlos.

MS. VERDER-CARLOS: One of the things that I was not able to tell you earlier was that in Washington State, they found that the combined approach of compliance investigation, collaborative work with the US EPA and the registrants and also development of outreach materials for their pesticide applicators has worked for them.

They said that the University of Washington, under Carol Ramsey, or Washington State University, I'm sorry, they are the ones that have been developing outreach materials to notify or to educate their pesticide applicators about beekeeping and how to protect the bee colony.

Also, they had a compliance investigation on bee kills that had -- they did a collaborative work with US EPA and the registrants so that they could work with them on their labels as well. So, that was one of the successes, I would think.

MR. BRADY: Thank you. So, I will try to keep to the order, but I don't always see exactly when the

card goes up. The next one that I had coming up was Thomas Green.

DR. GREEN: Thanks. I found the information that Marylou put together was really interesting. I'd be interested in hearing more about those programs from states that feel like they are being successful and how they're measuring their success and cost benefits as well.

Mark, my other idea was, if we could train that brown (inaudible) stink bug to pollinate some of these crops, we'd be doing well.

MR. BRADY: Thank you. Next, I had James Thrift.

MR. THRIFT: I actually agree with what Jennifer said a few minutes ago about preventing pesticide exposure to bees. I agree with that, but I also want to balance that that in all of the pollinator meetings and the PPDC meetings I've been to, there's been no definitive data presented to tie pesticides to CDC or colony collapse. I agree with what Gabrielle said about it.

I may have, though, an idea that if you look --

I agree that this information that was presented on how many states have registries or not is kind of interesting. I would have thought there would have been a national registry database. But there is something that because of web distributing labeling discussion that we've had for several years that there are actually commercial web providers, CDMS -- Gabrielle, you're probably familiar with -- and the ag grain group. They both have the capability to layer data.

If, in fact, there was the location of the bee boxes and you knew where they were, and you were going into these sites, which are actually quite commonly used by -- particularly in California, and that's where I believe most of the almonds are.

So, if there's already a system set up, I believe both of those people's presidents have told me they would be willing to enter negotiations or discussions to layer the location of the pollinator's bee boxes in the situation where they have to enter a longitude and latitude of where the boxes are, GPS coordinates for the fields. That could actually alert people where the bees were, because no one in commercial

agriculture wants to spray pollinators.

Everybody knows what the problem is. So, I'm not saying that direct applications can be a problem. There are some materials which are more toxic, LD 50s to bees in legal concentration, also that cause problems. But I don't think any orchardess or any almond grower wants to have a situation like that.

If there was some sort of organized registry that could be overlayed with some of these commercial web sites, it could at least be an answer to direct something of the problem of preventative applications for pesticides going on a non-target pest. But we're not saying that that's the problem. I think the problem that's been indicated is far greater than that. But that at least is one of the areas.

So, that may be an offer. I'd be more than happy to give you the names of the people that told me that at those two companies. There could be other companies, too. I'm not trying to say that. I'm just saying that I know most of our members use those web sites, and we've had a lot of discussion with them because of the web distributed labeling.

They're all going into the web site. They can easily do overlay data. So, you pop up the crop, the location, the lawn or GPS coordinates, and it tells you where the bee boxes are. Of course, that would throw it back to the bee people that have to have good data where the boxes are going in and out or whatever. So, that may be something that can address part of this.

MR. BRADY: Thank you. I'd ask presenters to be conscious of the time, as I see quite a few cards.

Geoffrey Calvert is next.

DR. CALVERT: Thank you. So, I agree that this is a vitally important issue. I think maintaining the bee population, the pollinator population, is so important to protecting the food supply, protecting the health of our country. As an employee of CDC, that's one of our missions. It is our mission, to protect the health of the country.

I see a lot of parallels between protecting the health of the pollinators with protecting the health of farm workers. Some of the things that Darren talks about in terms of unenforceable label language, need for improved applicator training, problems with spray drift,

problems with enforcement of pesticide regulations would help both farm workers as well as the pollinator population.

Also, it's interesting how this morning we talked about IPM and the importance of doing better IPM. So, I'm wondering do we need to do better IPM to protect the pollinator population in possibly reducing our use of pesticides or avoiding use of pesticides that are toxic to bees in the vicinity of where these beehives are located.

I noticed in some of the materials that Marylou passed out, there are some states that have regulations that you can't apply pesticides or pesticides that are toxic to bees within a certain vicinity of where these hives are. There's laws like that in some states. Why don't all states have similar laws? Maybe that's something that this subcommittee can explore. Thank you.

MR. BRADY: Thank you.

The next card I had up was Darren Cox.

MR. COX: I think that there's a situation here where we can have the best of two worlds. We can have pollinator protection, and we can also have crop

protection. Gabrielle pointed out some interesting viewpoints. For example, moan the cover of your orchard before you go to apply it if you're going to hit something with an insecticide. Not only will it save the managed honeybees, but it will save the native honeybees. That's something that we've really got to look at.

We've got honeybees that (inaudible). We've got native bees that are extinct. You can't identify the native hives. You can't expect them to be able to be moved. There is some situations that you can just look at across the country and pretty much everywhere there's going to be native pollinators.

This is something that's going to take a lot of time for us all to develop and try to work together to find the best way to move forward on finding the steps to achieve it, being able to apply the product for an applicator's viewpoint. Scott said that everything couldn't be applied through the whole course of the day or after 7:00. I understand that constraint. Maybe it'll mean that with hotter products, that we have to have more applicators to be able to spray during those time zones.

I think it's a good point for all of this to come together and see what can work and what can't work. Obviously, from the state's perspective, there's a lot of room for us to get things that are common and put in place throughout all the states to where the safety barriers are represented equally.

As far as talking about the step two of it when you're talking about different diseases that's been affecting the honeybees, we've had the verroa mite for 25 years. We've had nosema (phonetic) for at least two decades. Beekeepers have managed around that. Sure, it's a problem, but we're doing our best management practices to stay on top of it.

But like Mr. Fry said, the queens aren't living like they used to. Something has changed. There's something else in the matrix. I don't know if it's a chemical relation or a pathogen, but this is a time when we all can step forward to pick the little hanging fruit when it comes to risk management that can be obvious that we all can work on. I'd encourage a workshop to be put together to address that.

MR. BRADY: Okay, thank you, Darren.

Next I think was Mike Willett.

DR. WILLETT: Thank you, Don. Gabrielle showed you some information about protecting pollinators that was from a document that I spent probably 15 or 20 years helping develop. But what I've noticed, and I guess this is sort of a question of the group, is that in the last 10 or 15 years, there's been physicians lost at state universities who -- physicians where people were working on looking at and evaluating the impact of pesticides on pollinators, direct toxicity, as well as to some degree sublethal effects of repellants and those kinds of things.

I'm sort of curious if one of the issues regarding communication information is that across the country that the universities have lost those types of positions, because they weren't really the kind of hard science positions that were being valued and rated more highly within the university system.

I think that while that information that was developed 115 years ago still is valid today for those pesticides, in the last 115 years, we've got another whole layer of pesticides added to the system that we may

not have as much information on as we have the old chemistries. I guess I'm raising that as a question that needs to be looked at if that's one of the solutions down the road.

MR. BRADY: Mike, thank you. Next, I had Ray McAllister.

MR. McALLISTER: I'm sure that the beekeepers have a short list of key problem areas where they know there is interactions between management of the hives and specific types of pesticide use and application. I think if we can identify a handful of those to start with, we can get some quick victories in terms of removing some conflicts, in terms of use, and improving both the use of the pesticide in-crop and on-crop situations and improve the protection of the pollinators.

So, beginning the dialogue here I think is very important. Those few wins can get us inspiration for tackling some more difficult problems in the very near term.

MR. BRADY: Thank you, Ray. Next up is Cheryl Cleveland.

DR. CLEVELAND: I think you've got a pretty

nice mandate here for some additional work. Your proposed work group probably is a good thing to move forward with.

The one thing that I would like to say from a registrant standpoint is when we hear a quick precautionary action, I'm not actually opposed to taking some of that, but we need to be as flexible as possible if you move forward with something like that. When you start talking about labels, in the past sometimes we get kind of boilerplate language.

I think it's really important if you're going to take quick action, which could probably be translated as label action, that you really work hard to provide as much stakeholder input into those labels. Maybe think of it more as label options. Talk to the whole group of stakeholders, maybe in a work group, to figure out what's working or what's not before you start to mandate (inaudible) to the label action.

I think a PPDC work group could be a great place to get that together so that you're not just in a boilerplate situation. Then, leave open the fact that if a registrant has a specific set of data that they

developed for Europe or other places, that that can be brought in on a case-by-case basis.

MR. BRADY: Dr. Buhler, I think you were next.

DR. BUHLER: Thank you, Don. Just a quick point of consideration. North Carolina has a beekeeper registry, and it is online. But, from what I gather, and have been told by the Department of Agriculture, is that our beekeepers are very reluctant to be registered on that site, not because they don't want to be known before pesticides are applied, but because they don't want to be known by the North Carolina Revenue Service who will collect property taxes on their hives.

MR. BRADY: Ken Nye, I think you were next.

MR. NYE: Well, for Darren and the fellow beekeepers, we certainly need to find a way to identify and work on the problem areas. I think, as Ray indicated, we can probably get started at the top of the list as much as possible. There's already been a lot of work done. We need to preserve the pollination services that we have here in the country.

At the same time, I think we need to refrain from taking preemptive regulatory action until we have

some of those clear scientific answers to those questions and clear scientific evidence.

MR. BRADY: So, I don't see any additional cards. So, I was taking notes. I know Rick was taking notes. My notes are probably a little fragmentary trying to keep track of the cards, but I will start with one or two observations and then pass on.

So, I think I did hear interest in a PPDC work group expressed from members around the table. I heard a couple of themes which I'll just put out there with the caveat that they're certainly subject to amendment or clarification.

One thing I heard was around the idea of more information, both in terms of what the science -- what we can say in addition about the science in terms of what we know about what the cause of some of the issues related to bees are. I think I also heard some information ideas around some of the economics and following up on some of the early work that may have already been done in the National Academy report.

I think I heard some information about finding some questions about information in terms of adding to

what we can about the state information that Marylou had and possibly adding more to that. I also heard some information related to training and management, I think, of hives and applicators.

So, I also heard some information and some comments related to the seriousness of the issue and looking at exposure management as a first step, but also not overreacting, I would say, but making sure that our actions are based on what we know of the science. Also, that we try to be as targeted as possible in any actions we might take in that regard in terms of labeling and things like that.

I'll stop there and see if my colleague had clarifications or additional comments.

MR. KEIGWIN: The only additional ones that I had were tapping into more of the more information theme, which was how do we apply some of the local success stories that have been developed through government interactions, state government interactions, or local government interactions, also likely within grower communities themselves or best management practices that may be a group in Maine (inaudible) developed that

thematically might have some applicability in other areas of the country either for blueberry production or other production, because it's that type of a management practice that has some success that can be applied.

Then, again focusing on extension, it's sort of the value of collaboration. No single group has sort of the solution, but that it's sort of groups interacting together is where the greatest successes have been found.

Jennifer.

DR. SASS: It was also mentioned to keep in mind that it's not just bees we're talking about. It's not just managed bees or commercial colonies but also pollinators generally. So, I'm sure that solutions will include those, but just to keep that in mind. For instance, moving colonies might not actually do anything for pollinators generally. Or, applying after 7:00 pm might not generally. So, just keep that in mind.

MR. KEIGWIN: Okay, thanks. Was there any other -- Susan?

SUSAN: A quick comment. Basically, it would be worth looking not just to the other states for solutions that have worked but also Europe. They've been

on this and have this issue going as well.

MR. KEIGWIN: Mark, did you have -- Tom, I'm sorry.

TOM: I just had two quick comments. It would be great to invite someone from NRCS to a work group because they have a number of programs, new programs starting to support pollinators. Then also, Office of Ecosystem Services within USDA, there are some market-based programs out there to encourage the private sector to support pollinator habitat, for example, created in agriculture.

MR. KEIGWIN: Mark, I think you were next.

MR. LAME: So, I think this is my second meeting. I'm not quite sure how far we go other than talking about the issue. One thing I think might be helpful for the agency and for a work group to look at on your list is the idea of internal accountability as far as how can you improve the process to make sure nothing falls through the cracks.

I'm a huge believer and supporter of the agency, on the one hand. On the other hand, I teach management. It's always a good thing to keep doing,

reviewing things internally. So, I would put that down as one of the things that a work group should be doing, is look at the folks inside and the process inside to make sure that nothing has fallen through the cracks where there was information and maybe it should have been acted on before a permit was issued, or registration, whatever you want to call it.

MR. KEIGWIN: Dr. Ferenc.

DR. FERENC: I just have a question. I hate to be sort of a backup question, but I was looking at the stuff Marylou brought in and it said that North Dakota is the largest producing honey state and doesn't have many complaints of bee deaths. How different is colony collapse across the states? Are there states where it's not a problem but they still have large colonies?

MS. VERDER-CARLOS: To be honest, I can't answer your question because this was -- when I asked this question, I didn't know that North Dakota is the largest honey producing state in the country. This was a comment -- we did this all by e-mail. This was a comment that was sent to me as one of the things that they had mentioned that they don't really have a big problem with

bee death.

UNIDENTIFIED MALE: Colony class disorder is all the way across the country. It's even overseas in Europe. It's ongoing. No state is excluded from it. As far as pesticide problems, beekeepers are very hesitant to report pesticide violations. I know of incident reports that have been turned in from South Dakota, so it pretty much happens everywhere. There's room for improvement here that we can look at and address.

UNIDENTIFIED MALE: I think I see Gabrielle's card up there.

MS. LUDWIG: Well, looking back at the questions, especially number two, I think one thing that we do also need to talk about is how do we help the beekeepers with their pest management, because it's not just the growers using pesticides. Beekeepers are using some pesticides. That's in a sector that really hasn't been part of all of these discussions about how best to do it, the whole IPM. Do we have the data to do IPM, all those kinds of things.

I know that there's various research programs trying to deal with that, but I know there's also issues

on the registration side. So, just keep that in mind that we also have pest management in the broadest sense of the word on the bee side that's part of this whole discussion in my mind as well. Is there anything that we can help in that area?

MR. KEIGWIN: Okay, thank you.

Darren, did you have --

MR. COX: Just a comment. One point of interest, South Dakota, when the beekeepers do come in, they have the safety inspector that's in attendance. He's not another beekeeper either. It's his job. He goes out and assesses to make sure that the hives are not diseased. If the mite loads are too high, then they address them to be medicated to have that problem corrected. I think that could be replicated in other states for better management practices.

MR. BRADY: Steve, did you want to put any comments in?

MR. BRADBURY: Let me wrap up this session. I want to thank everyone for a lot of really great comments. It's very appreciative of everyone working through the various issues. I think we found some common

ground to start working with a good cross section of folks and organizations that have some different kinds of perspectives.

Just for me to try to share with you what I'm trying to absorb in the conversation, we're going to be trying to look not only at the threat to managed bees and native bees in the context of crop production but also in the context of managed bees. Be thinking about that aspect of the issue, at least in terms of what we can do in the pesticide program as part of that overall effort.

We're going to be spending some time sharing information and tapping into information, which I hope members of the work group can bring in terms of what's working and why it works and what's not working and why it didn't work, and how can that be used in terms of maybe tackling some low hanging fruit that's out there that we could start to learn by doing.

I hear the need to make sure we're tapped into lots of other entities to make this happen, make sure what we're doing in the pesticide office with all of you is contributing to the larger efforts that are ongoing in terms of nutrient management, habitat quality, things

that we can't directly do but we can be part of a wider organization. So, we'll make sure that colleagues from the USDA and from the states are part of the work group.

We'll be continuing our connection with Europe and the Organization of Economic Cooperation and Development where we're working with about 20 different countries on this so we make sure that our work group stays connected to that broader international area.

I think the importance of doing this now is because there is some opportunity to start making some progress. As the science matures, I'd like to have this group alive and doing well so as the science matures, we're ready to figure out how to use that science in advancing the program. It's sort of like our 21st century toxicology work group.

All that science isn't (inaudible) yet, but we have a group together starting to think about how are we going to use that science? How can that science be used as we go forward? So, having a work group deal with some things we can deal with today is important, but also give us a foundation to start to deal with the science as it comes before us. Then, we'll be prepared to use it to

hopefully learn some things over the next year or so and trying to go forward.

I'm appreciative of grower community, the pesticide companies and others realizing there's room here. There's room to try to figure something out, you know, the spirit of let's try something, let's make sure it's informed. Let's make sure we're all sharing these ideas because it's really important.

So, we appreciate the conversation. I think we've got a pretty good handle on (inaudible) our initial sense of what the scope would be, realizing once we form a work group, one of the first tasks is to fine tune what that scope is and what the charge is. I think we've got a good foundation for going forward.

Hopefully, tomorrow we can just sort of conform if we're going forward and at least have the first part of the framework for the group to share with you, realizing the work group would finalize that when they get staffed out.

So, with that, why don't we take our break. We're doing well on schedule, so we'll reconvene at 3:30. Thanks.

(Whereupon, a brief recess was taken.)

MR. BRADBURY: Okay, folks, if everybody could get to their seats, we'll get started. Thanks, all, for reconvening. The session that we're going to be holding, session 4 from 3:30 to 4:15, will be an update and overview of where we are in the children worker risk policy that Dr. Levine will provide, and Polly from HED.

At our last PPDC meeting, there was a lot of questions that came up during the update session. We felt for this meeting it would be good to set aside 45 minutes, step back, review what the policy is, give you some updates on where we are with the policy, and then make sure there's some time so you can ask us some clarifying questions on the topic.

We're not, in this case, talking about forming a work group or anything like that, but more of an expanded information sharing and making sure we can clarify some questions. As Tina will indicate, we're in the process of wrapping up our response to comments on the public process to get feedback on the policy.

So, with that, I'll turn it over to Dr. Levine.

DR. LEVINE: Thank you, Steve. I'm happy to be

here today to give you an update on where we are with the worker policy. We're going to give you a brief status update and also tell you about some of our recent activities and what we'll be focusing on in the near term, like the next year or two.

I'd like to introduce Kristin Rury to my right and Jeff Dawson to my left (phonetic), who both have been working on the near term parts of the policy. They're going to talk to you about it in more detail today. Jeff will do that part of the presentation.

So, this is a review for a lot of you who were probably here at the last PPDC when we talked about this. The idea here is to strengthen and include the consistency in the risk assessment process for all pesticide exposures.

We want to consistently apply the kind of techniques that we use for the FQPA to other pesticide exposures and particularly to address environmental justice concerns and improve children's health detection for pesticides, not just for those pesticides that are used on food and around the home, but for farmworkers and farm children in rural communities.

There are several key factors in this policy. There's the uncertainty factor. What we're trying to do is make sure we come to the same place, whether we start with a default 10X in the FQPA and decide that we have to retain part of it or we don't have any defaults but we feel that for uncertainty purposes, we have to increase some of these factors that we use in our risk assessment. But we should be using the same general level of concern for whatever the pesticide exposure scenario is.

We also want to make sure that we take into account youth workers, workers that are legally doing the agricultural work in the fields, workers in farm families that are working the fields, children that are in agricultural fields for various purposes.

We also need to think about aggregate and cumulative exposure or the worker situation just as we do for the dietary and residential situations. There is some overlap with some of the other topics, some of which have been discussed today, some of which you're going to hear more about later, like spray drift modeling and volatilization data and modeling. That also factors into this policy.

This is sort of a summary of where our status is. We're near completion of the part about the uncertainty factors and applying them consistently for various exposure scenarios. It's undergoing final review, and we expect that shortly it will be finalized.

We have some ongoing work, and that's the work that I mentioned earlier that Jeff is going to be discussing with you. That has to do with analysis of use, agricultural workers farm children. We expect over the next year or two we'll be working on this and trying to tighten it up.

Then we have other work that is certainly ongoing now, but we think that it's the longer range effort to develop the policies that have to do with aggregate, and cumulative exposure, and spray drift, and volatilization. Of course, through all of our efforts, our process will be open. We'll still give you updates. We'll have opportunities for comments. We'll have scientific peer review as appropriate, the way we always do.

We have gotten public comments to the policy. Up to now, we've gotten about 25 public comments to date.

There's some major themes that are illustrated on the slides. Some commentors asked for clearer language about the uncertainty factor, clarification as to whether it's a default 10X or an extension of FQPA. There's been concern that there might be data requirements added to address these additional uncertainties. We have gotten comments about science issues.

Some comments were supportive of the idea of cumulative aggregate risk assessment for workers. There were comments about how do we consider drift and volatilization as an exposure source, as well as the exposure of farm children and those in bystanding rural communities. We're working out these complex issues, as I said, and it's going to take some time.

Some commentors identified additional information related to the exposure to farm children, which we're going to review and use as appropriate. Others discussed the importance of appropriate toxicological consideration of prenatal development and delayed effects of exposure with respect to what you consider like critical windows. It's developmentally based age bracket.

There's some legal topics that were commented on, the need for improved education, the need for more rigorous enforcement of labels, the existing law, the worker protection standards, and also comments about maintaining the fiscal risk benefit standard. I think Bob McNally will be talking about some of these topics later today.

We want to be as clear as possible about the uncertainty factors. I think there's been lots of misunderstanding about this. The reality is that we use the most sensitive endpoints to risk assessment. So, in many cases, our assessments already reflect this, whether it be for workers or for dietary.

What we're trying to do is -- the strategy for defining uncertainty factors that applies regardless of who is exposed. Of course, there is some legal consideration related to how the results are considered, which the next slide talks about.

First of all, as I said before, the workers were non-dietary exposure scenarios. We're not talking about a default 10X to all workers. What we're talking about is whatever uncertainty preclude us from reducing

the FQPA factor also are uncertainty factors that we feel increase the uncertainty around the worker exposure. So, they need to be added in those situations.

For tolerances, we have an absolute safety standard. For workers under FIFRA, we have a risk benefit standard. So, there are different standards that are used in regulation, and the risk management decision will take that into account.

So, right now, our proposed policy, in terms of the status, is undergoing OPPC new management review, and we're developing some implementation guidance for the OPP staff.

Now, I think I'm going to turn this over to Jeff to talk about what the youth workers are doing. But I did want to emphasize that this particular work relates to the exposure part of this equation. Obviously, there's a whole issue about sensitivity related to age (inaudible) toxicity. That's a different issue.

MR. DAWSON: Thanks, Dr. Levine. What I'll be doing is just quickly going through some of the work we're doing right now, focusing on the exposures of children who are actually working in the fields. Then,

the other kind of group of children we're focusing on, which we're generally calling non-working farm children. That could be kids are getting exposed just because they live around farm fields or they're actually in fields with their parents, or whatever. We'll talk about that in more detail.

I think it's worth reiterating that the administrator has an emphasis on environmental justice issues and focusing on children's health. So, just to kind of set the context for this discussion -- I went the other day to the Department of Labor, the Fair Labors Standards Act page, and kind of pulled up the verbiage for what constitutes a legally working child. That's reflected in these two bullets here. So, children ages 12 to 17 and then children of any age group can work on a family farm.

Basically, what we're doing now represents -- it really expands on what we've done previously, kind of the latest iteration of this analysis that we did was 2003 to 2005. We're using more data at this point. We're also conducting a much more rigorous kind of statistical analysis. Our purpose here is really to look

at are risk assessments protective of these children that are working in the fields.

So, right now the data that we're focusing on are data that were generated by -- that we funded through a joint effort with the Department of Labor in 1980 and 1986. It was called the Pesticide Hazard Exposure Assessment Project. It was a collaborative effort with many universities across the United States. There were seven universities that served as the principal investigators. There were other universities that collaborated. So, we just didn't do this here; we involved a lot of people.

They conducted 22 different exposure studies over multiple growing seasons. The kind of final tally that we think we're going to end up with is about 1,000 days of exposure monitoring of children of all ages and different crops, basically doing harvesting activities, a variety of states, and 36 different pesticides.

In that cohort, if you will, of exposure monitoring days, there are children as young as six years old that were monitored under certain circumstances. We're also trying to be conscientious about the ethical

issues surrounding the use of such data. We've screened these data and we feel that they are viable for us in this assessment and meet our criteria for ethics concerns.

We've also identified some other studies in the literature that will be considered along with these in this analysis. I'll put a plug in for those of you who might be aware of data or other information that you would think would be germane to this. Please let us know so we can look at that as well.

This is one example to show you the kind of thing that we started doing at this point. This is one particular study of those 20 some. This was a harvesting study on tobacco where they had applied the organophosphate insecticide acephate. The different bars just represent different statistics. The blue bars represent the exposure rates for children compared to the exposure rates for adults in this study. This study was done in the coastal plain in North Carolina in 1983.

It's still consistently a tobacco growing area. Standard monitoring techniques much like we would use today. In this study, there were 17 subjects. Eight of

them were under the age of 18. Most of the children were in the age group 15 to 16 years old. There was one child in this study as low as 10.

So, as I said earlier, we're focusing right now on these Department of Labor studies. It's around 1000 different worker days. Right now we've gone through about 420 of them. The general trend in what we've done so far is more or less similar to the slide I just presented. So, in general, what you see are lower exposure rates for children.

When reading through these studies, we see the general theme by the investigators. It's kind of our theory as well, I guess, our working theory. That is, younger children are less productive. Because they're less productive, they have less contact with the treated foliage, and they end up getting lower exposures. There are also some physical characteristics with children of different age groups that might contribute to differences in exposure. In these situations, (inaudible) exposure is the key exposure. It's by far the predominant source of exposure.

What you see is that children from, let's say,

12 years old on up, the relationship of their skin surface area to their body weight is essentially about the same as adults. They end up getting about the same dose as they go through and do the activity. We're kind of looking at it from monitoring data but also taking it apart and trying to theorize what mechanistically is contributing to the exposure.

So, to change gears, the other group of children that we're focusing on at this point are children in agricultural fields. But it's really a broad umbrella that we're focusing on, children who are near agricultural fields are in them because they're there with their parents working.

Those that happen to live nearby the fields, that live in rural communities or be next to fields that are treated, we call them bystanders. Or they have parents or other family members that might bring residues home because their work clothing is contaminated, they haven't showered, and they have contact with the children. It's in the car interiors and so forth.

So, there's a lot of different sources of exposure here and, as I said, we're trying to cast a

broad umbrella and get as much information related to all these possible types of exposures that we can and try to make sense of it in our analysis.

Again, we've done some of these before. We're expanding on the previous analysis. We're also doing some literature searching and trying to find more current research. There was a lot of funding for different research projects over the last several years, so we're trying to see where they are as far as the state of the art, and again, applying some more rigorous statistical type analysis than we've done before. We've also tried to engage in a lot of outreach on this.

I'll make another plug here as well for additional data and information. If people are aware of those kinds of information that you think would be important for us to look at, we'd like to know about it.

As far as the context of this analysis, we're doing this -- and we have several related activities that are ongoing, for example, what we're doing in the worker protection standard, the scientific methodology type of things that we've done related, for example, to volatilization and our residential exposure methods. So,

we're trying to integrate all of that and, as well, put this in a similar context.

Then, Rick Keigwin had talked earlier about the labeling and other initiatives on spray drift as well. So, that's part of the discussion here related to how these types of children can potentially be exposed.

I'll turn it back to Dr. Levine.

DR. LEVINE: As I mentioned earlier, we expect to be working on the aggregate and cumulative issues related to this policy, but those are fairly complex issues and it's going to take a longer range project than the work that we've been talking about today, and also the uncertainty factors which was a relatively quick short range project.

Also, those aggregate and cumulative exposures are impacted by the volatilization spray drift policy. We have identified additional data needs in terms of usage or (inaudible) in terms of the worker situation which is a little different than the way we do the aggregate and cumulative for dietary and residential.

Our next steps are to finalize the response to comments document, to finalize the uncertainty policy, to

continue to do this ongoing data analyses, and develop a work plan to address the more complex science issues. We will keep you informed and have future updates on the progress as we work this.

Thank you. With that, I guess it's open to discussion.

MR. BRADBURY: Cheryl and then Mark.

CHERYL: So, lots of questions. Can we expect that a new policy will come out? Will it be just in response to the docket or is there actually going to be a new uncertainty factor policy that gets put out? Along with that, regardless, you're coming out with something new.

So, how do you expect it to be implemented? Will it go through registration with you or will there be a different way to implement the policy as you move forward on current pesticides? How will it be used? How much of the data in the database or your analysis will be publicly available?

DR. LEVINE: We had a policy document there were comments to, so there will be a revised policy document. After it undergoes review, it will be publicly

available, probably. I guess it will be posted on the web site. That was the first question.

CHERYL: Well, that policy had a number of components. What you're saying here is only one part of it will be kind of finalized?

DR. LEVINE: The part about the uncertainty factor.

CHERYL: But it still stays as a single policy or are you going to reissue just an uncertainty policy?

DR. LEVINE: I think there's going to be a policy issued about the uncertainty factor.

CHERYL: How is it implemented and what is the data behind some of the -- it's actually referring more to the youth worker. How publicly available is the data?

DR. LEVINE: I would imagine the data is pretty publicly available if it's government data.

MR. DAWSON: The 1986 data that I was discussing, it's actually an EPA report that's available through the Government Printing Office or something. There's a record number. I haven't actually gone to see how complete it is. That's one thing we're going to have to go through and doublecheck because we had that in

house, but it has been a publicly available set of documents for a number of years.

DR. LEVINE: In terms of the implementation, I would imagine that most of it would be implemented through registration review. But that would probably be applied to new chemicals that come through the door. We'll probably try to fold it in as much as possible as quickly as we can.

UNIDENTIFIED MALE: I have a couple questions relating to -- I didn't understand very well when you said that children ran at a lower ratio of exposure than adults because of their intensity of interaction with the plant. I can see that, but I was just thinking surface area to surface area, even a lower intensity interaction would still yield a higher exposure.

MR. DAWSON: I guess it depends on how much. If they're harvesting and they're harvesting at a lower rate, because they're just less productive, our theory is that intuitively you're making less contacts and getting less exposure. How much that is altered because of their age is another issue to consider.

I guess I didn't explain it very clearly, but

if they're 12 years old and above, the amount coming in relative to their body weight is essentially equivalent because that ratio is essentially equivalent. If they're younger, that ratio tends to change a little bit. They actually can end up with mechanistically a higher exposure.

But what we've observed in these studies and what several of the principal investigators commented on is they tend to have lower exposures than what the principal investigators thought or that they basically end up getting lower exposures because they're less productive.

Again, this is something we're going to look at more definitively. When we come out with the final analysis, this is going to be very clear about the conclusions that we came to. This is our preliminary look at this information and looking at what we had available at this point.

UNIDENTIFIED MALE: I think this is a really important point to really look over again, having grown up in a community where truck farming was going on, truck cropping was going on. I picked strawberries and then

black caps and then beans and then went back to school in the course of the summer. Look at exposure of kids versus adults picking strawberries. Kids sit down on their butts and pick strawberries. Adults are up on their knees or on their legs bending over picking strawberries.

I'm hard pressed to see -- the same thing with beans. A kid has to really get into those string beans to -- anyway, I would really question that assumption. The last thing I want to ask you about was, have you come to any kind of preliminary hypothetical or hypotheses associated with what drives uncertainty factors and exposures? I mean, what are you going to test? If you're going to test something, you've got to have a hypothesis, right?

MR. DAWSON: Correct.

UNIDENTIFIED MALE: So, I just was wondering what some of those hypotheses were so that maybe I could understand better what you're going to be looking at in that data set?

MR. DAWSON: So, basically, the process that we're going through now is to go through the data,

summarize the data in the way that we feel is consistent and regimented. When I say consistent, consistent with the way we handle other data of this type. So, that's the first order of business.

The one slide up there, I think I said we've gone through about 40 percent of it, 420 worker days. Because of the way the research was done, the monitoring differs sometimes between the different universities. It's going to constrain some of the analyses that we can do. I think these are the kinds of things that we'll be talking about with you all in the future as far as how we're handling the data and getting insights into that. That's, I think, pretty much as far as we are at this point.

MR. BRADBURY: Susan.

SUSAN: I have one question for Jeff and one for Tina. Along the lines of the difference between children and adult exposure to farm fields, I also am kind of puzzled by that. But I suspect that there may be something in the experimental section of that study that may shine some light on that.

You said they use standard monitoring methods,

which usually means pads attached to the clothing so you can see how much pesticide residue ends up there and extract it. That might better be done as a biomonitoring study because you can look at exactly what's absorbed.

But, depending on the placement of the pads, the type of crops, are the kids reaching up to get to the branch of an apple tree and they're not making any contact with things on their bodies? Where were those pads placed? I think there's a lot of variables in there that may explain that and maybe it's a function of height of the child, for example. Anyway, those would be something to look at.

And then I had a question for Tina. The uncertainty factors analysis, this last slide you said it's not a default 10X to all worker or non-food use assessments. In the next sentence, it says workers non-food use assessments still regulated under FIFRA.

Where does (inaudible) fall in that, because bystanders and pregnant women are working -- bystanders are near the fields where fumigants are off-gassing. Female workers are working in those fields next to fumigated fields. It seems like in places like that, the

uncertainty factor is very important in protecting public health.

DR. LEVINE: I think that's the whole point behind the policy. We have to apply to the consistent level of concern to those situations. In some cases, you're not necessarily dealing with the tolerance situation; you're dealing with exposures in the air from bystanders. It's a different situation.

But, if you're not dealing with the tolerance situation, you're regulating under FIFRA. You're not regulating under FSDCA. That's the law. So, in terms of when you make your risk management decision, there's a greater need to do risk benefit balancing in one case than there is when you're establishing the (inaudible). So, that's all I'm saying.

But, in terms of the uncertainty factors, what we're trying to do with this policy is make sure that we don't sort of say, well, if you're establishing a tolerance, then this is a level that's safe. But, if you're a bystander, then it's 10 times higher. I mean, we're trying to sort of make sure that we're using the same level that we're comparing for purposes of the risk

assessment. Then, the risk management has to sort of fall within what the law allows. That's for the second part.

MR. DAWSON: You're correct in the timing of those studies, and mainly pad studies, that they actually did incorporate in a number of those biomonitoring as well. That's on our agenda as well.

UNIDENTIFIED MALE: I want to take Susan's comments a little further because I agree with her that biomonitoring (inaudible) studies are really more important than the exposure studies for a number of reasons.

First off, children's skin is different, and their hygiene habits are probably substantially different. How long they wear their clothes, how often they bathe, the kinds of things that will lead to the same exposure creating a different dose situation is pretty important to consider. I think that's important.

The other thing I'd ask is, how many children are we basing this on?

MR. DAWSON: Most of the studies have about -- the population of most of the studies is 40 to 50 percent

are children under the age of 18.

UNIDENTIFIED MALE: And the total numbers, then, are what, so I can calculate a number?

MR. DAWSON: Four hundred and some, maybe, monitoring.

UNIDENTIFIED MALE: And half of them are kids?

MR. DAWSON: Yeah.

UNIDENTIFIED MALE: (Inaudible) tobacco?

MR. DAWSON: No, no. The one slide up there had 36 different chemicals. I think it was 22 crops, or whatever.

UNIDENTIFIED MALE: I just want to know that these are standard kids.

MR. DAWSON: Right.

UNIDENTIFIED MALE: You know, an (inaudible) of the kids that we're not looking at a specific group of kids who are working less than other kids.

MR. DAWSON: Yes. Like I said, 22 different studies, so probably 22 different groups of kids, and then multiple states. So, there's a lot of different children in here.

UNIDENTIFIED MALE: Okay, thanks.

MR. BRADBURY: Cindy.

CINDY: My comments will be really easy for you guys. I just want to thank you because I think I was the one who raised this at the last December meeting. I think this kind of a dialogue where you're sharing with us more about how you're going at this -- I mean, I think going at it and saying what's the need here and if there is a need. If the current risk assessment process is not protective of children, here's what we've discovered, why it is, and what we're going to do about it.

So, I think getting more details about articulating what you're doing and why and Cheryl's point about being really transparent about what you're going to do and when you're going to do it are all really valuable things for all of us to have.

So, I just wanted to say that I appreciate that you put it on the agenda and you gave us more details about where we are. I think that's the right path that you're following for how you analyze how you go forward.

MR. BRADBURY: Jennifer.

JENNIFER: Will this -- after this process go through Office of Management and Budget?

MR. BRADBURY: Let me see if I heard you. Will it go through OMB?

JENNIFER: Yes.

MR. BRADBURY: No.

JENNIFER: Oh, it doesn't? Oh, because it's a guidance.

MR. BRADBURY: It's a guidance risk assessment process. Jeff and Tina said as we go through near term to long term, there's going to be some advances in the science that we're going to want to bring to the Science Advisory Panel. So, there will be external peer review on some. We'll make sure that it's open to public process around the various (inaudible). So, it will be a process around it, but it's a process that doesn't require OMB oversight.

UNIDENTIFIED MALE: So, I also want to express my thanks for raising this topic and addressing this issue about this very vulnerable population.

Back maybe about eight years ago, we published a paper on pesticide poisoning and working youth using data from our state health departments and CDPR, as well as Poison Control Center data that we got from EPA. We

confirmed the findings that you guys have where the rate of pesticide poisoning among agricultural youths is less than the rate of poisoning among agricultural adults.

It's been a good eight years. That data was from like '98 or '99, so we probably should repeat that. The one complication would be you guys don't get Poison Control Center data anymore, so we'd have to find an alternative source to get that Poison Control Center data.

The other thing I was intrigued about was the mention about kids being less productive. The issue that we're currently dealing with is in our analyses of farmworker pesticide poisoning, we find that female farmworkers have a two-fold elevated risk for pesticide poisoning compared to male farmworkers. We found that it seems to be confined to the non-handlers.

We looked at other issues like the crop they're working on, their tasks, training, and are women more likely to report poisoning. None of those really give us a satisfactory answer, but we never considered this issue of productivity. Do you have any data on whether are women more productive in agricultural fields compared to

men?

MR. BRADBURY: I think Jeff is saying you're leaving that one alone. He doesn't know yet, but he'll find out.

Ray and then Caroline.

RAY: Jeff, you mentioned a 6-year-old and a 10-year-old in that study. I'm curious as to how many of those children were in the fields illegally?

MR. DAWSON: I couldn't answer you at this -- I mean, given the context of the time it was done, we would have to go back and see how that overlayed with labor requirements. But I haven't got an answer for you. And it could have been farm families, as well.

RAY: That leads to my second question. Would those same children from across the age range that you looked at in the study, would they be allowed in the fields today? Have there been labor law changes in the intervening 25 years that would affect the potential for exposure of children compared to the data you have to look at?

MR. DAWSON: For farm families, they could have certainly been there legally.

RAY: And do we have any idea how actual labor practices, whether they are legal or illegal, compare to today, 25 years later, with respect to who is actually hired, who is actually in the fields doing these tasks?

MR. DAWSON: That's a really good question. It's actually something that we're planning on comparing with some of the more recent monitoring data that we have for farmworkers and overlaying the results for these studies with those studies as well.

The good thing is, in this research that we're talking about, it's pretty much all the activities are hand harvesting. So, a lot of those we don't believe have significantly changed over time. But we're going to look at those individually and compare.

RAY: Just for curiosity's sake, understand there's a significant risk of a disease among tobacco harvesters from exposure to the tobacco itself. How does that affect children? I don't anticipate you have an answer to it, but that's probably a much higher risk than the exposure to the pesticides in tobacco fields.

MR. BRADBURY: Thanks, Ray.

Caroline.

CAROLINE: I just wanted to comment on the slide about aggregate and cumulative exposures. The first thing it says is it involves complex science issues which is, no doubt, true, but sometimes when you start off that way, it's sort of an excuse for, well, we can't really do this or it's going to take us decades to get through it. I think it's a really important issue, so I just wanted to urge you to dive into those complex science issues and get through that analysis. I think we really need it.

MR. BRADBURY: Mark, and then I think we'll wrap up the session. Oh, sure, I didn't see your card.

MARK: Sorry to come back again. I'm just fascinated by this study for a number of reasons, but maybe because it relates to my own longevity. I don't know.

I wanted to know, is it going to be possible to follow up on any of these cohorts that were participating in this study?

MR. DAWSON: I would think that would be very difficult. I'm not sure how you would do it.

MARK: Then, the second question I had was, if

the study was done between 1980 and 1986, how many currently registered chemicals were registered then? A couple of the ones I'd be really interested in are copper, sulphur, and KLN clay.

MR. DAWSON: Copper and sulphur definitely are not in there. Most of the chemicals that were monitored in that study are still currently registered.

UNIDENTIFIED FEMALE: I'm really interested in the policy itself and how it's going to be implemented. So, when you say uncertainty factor, that typically means you're missing a piece of data. Can you tell us what piece of data you think you're missing in the children's world that you're not missing for normal workers? Will there be data requirements to address that uncertainty factor?

That's question one, and I have one more. Is your uncertainty factor a precautionary factor or is it something you're missing data on right now? You can do an uncertainty analysis for which if you had more data, you would sure it back up.

DR. LEVINE: It's pretty analogous to the way we use it for the FQPA, only instead of removing, we're

adding. It generally would relate to -- there are a couple of ways it could come out. One could be that you're actually missing a piece of data and that you have a reason to believe that it's critical in this situation.

The other could be sometimes you have data derived uncertainty factors where you have reason to believe that kids are twice as sensitive based upon a comparative study. So, there's lots of different possibilities there. Does that answer your question?

UNIDENTIFIED FEMALE: Kind of. I mean, your FQPA factor came in as a 10. Then, it was addressed many times by a data set.

DR. LEVINE: Right.

UNIDENTIFIED FEMALE: And it was taken off.

UNIDENTIFIED FEMALE: Yes.

UNIDENTIFIED FEMALE: I'm asking, is that the same paradigm that you're going to work through for this or have you identified something different this time around for children?

DR. LEVINE: No. This is an effort to try to be consistent in the standard that -- the level of concern that we use. So, if, for example, you have a 10

default for the FQPA factor, but if you have enough data that you believe you don't have that uncertainty, we remove it. In that situation, there wouldn't be something added to a worker situation.

On the other hand, if you can't remove the uncertainty factor for some reason, the chances are good that you'll be adding it for the worker because you have the same uncertainty there that you have in the case of the FQPA.

UNIDENTIFIED FEMALE: One more question, and that is, in a preliminary look at the policy when it came out last time around, there was some analyses, kind of worst case analyses, done that said if you apply some of these things, you're going to change the re-entry interval from hours to days, 12 hours to maybe 13 days if you apply (inaudible) scenario, which might be appropriate.

But, my question is, are you going to drive a national re-entry interval from a children's risk assessment? Are you going to have the ability to look at the label as a way of looking at adults versus your youth workers?

DR. LEVINE: I would assume so. As I said, we're operating within FIFRA here, so there's a lot of back and forth that you have to use.

MR. BRADBURY: If I was understanding your question, in an analysis where somebody just decided let's add 10 to every risk assessment and see what their re-entry interval would be, it would be an improper thing to do. Our point is that over the years, we've generally been taking off or adding on.

What we're trying to do is set up a policy that essentially makes it more straightforward for the risk assessor just to be sort of using a common logic as opposed to changing the real fundamental outcome of what we're doing. In other words, to go through and just add 10 no matter what wouldn't be how our policy (inaudible) looking at the data to sort that out.

UNIDENTIFIED FEMALE: But what I am saying is that it could be that if you end up with some real different analyses for a youth worker, you may need to be able to use a label to have a different re-entry level.

MR. BRADBURY: Right. That was the second part. The second part was, first, just to make sure

people understand we're not just -- now, you could end up where, in fact, the risk picture does play out the way you're saying. Tina's point is that under FIFRA, we have to do a risk benefit analysis around what that risk looks like in the context of -- lead to a re-entry and make a decision. But it's still a FIFRA decision but with a science that we've sort of looked through in a consistent manner, what the potential risks could be.

UNIDENTIFIED FEMALE: I think you are getting at it, but I think the question is a little more specific in my mind as I heard it from Cheryl. Could you be looking at a situation on a label where you have an REI for adults and an REI for youth workers? We have two different REIs because the risk assessments are actually different. I think your answer was, we're going to do a FIFRA risk assessment, and you didn't say yes or no.

MR. BRADBURY: Because I'm not going to answer a hypothetical until I see the first case in front of me where we have to sort that out. But, you're right, that could be a scenario. But, until we start to see the fact pattern -- I'd like to see the fact pattern.

UNIDENTIFIED FEMALE: The reason I asked is I

feel like we have a paradigm where we're shifting further and further some population risk assessments, which is fine. But then we come back to a national label. The implication is that you have to use the lowest common denominator or the most restrictive piece on a national label. But when you're getting down to something so specific as a youth worker, it could make sense from a (inaudible) perspective to use your label to cut out different REIs.

MR. BRADBURY: I feel like we're coming into a little bit of strategic thinking. But, broadly speaking, the concept of having science take us where it takes us, go under FIFRA and let's take a look at what the different benefit situations are. Then, what capabilities do we have spatially, temporally, in terms of what protections where and for what subpopulation. All that has got to get looped back in.

Is it enforceable? Is it rational to expect something that detailed in the label? You're raising all the various issues that we have to wrestle with. We won't do it in a dark room with the doors closed. We will do it out in the open and be talking to people as we

start to --

We're going to sort of wrap up this session. Thanks for the questions and the input. So, we'll go to the next session which again is an update session. So, folks will be talking heads, and we won't get into questions. The first update will be from Bob McNally, who is the acting director of the Field and External Affairs Division. Bob will be providing an update on regulations and regulatory updates.

MR. McNALLY: Thanks, Steve. What I want to do is give you an overview of where we stand with implementing the executive order. I think many of you participated in that activity last March that we had at conference call. So, as you know, the president issued the executive order in January, outlining his strategy to support continued economic growth and job creation, and also maintaining the protection in terms of our work, in terms of human health in the environment.

Now, in that executive order, by the end of April, all agencies have to develop and submit to OMB two things, a plan that shows how we're going to periodically review existing significant regulations and two, a list

of candidate rules for review.

Now, as part of the executive order, it directed the agency to seek public feedback on implementing these requirements. So, what we did, and what you all were part of -- I think it was on March 10th -- Bill Diamond hosted a conference call where we had sort of a listening session to get your input on these issues.

In addition to hosting that call, which lasted about an hour or so, we also had a public meeting on March 14th here in DC that I think we had over 60 members of the public participate in. In addition, many of the regional offices around the nation also had similar listening sessions in their regions to get input.

As a result of this, we had 15 dockets that were established. They covered specific program areas, as well as issues of interest, such as issues important to state, local government, tribal entities, the environmental justice area, small business, as well as cross cutting issues.

So, at this point, we've received comments from you all, which we appreciate, as well as about 30

additional public comments that deal with our issues here in OPP. Now, as I mentioned, the two things the president was looking for was one, a preliminary plan to periodically review existing significant regulations. It's interesting, on that we did not get any input from the PPDC suggesting that we do any kind of retrospective review or analysis at some interval.

What we did hear from members of the PPDC, though, however, was urging us to continue with the rulemakings that we outlined in the materials that we sent you on March 10th. I think all of you should have a copy of all of those materials, as well as today, of the different rulemakings that we have going on.

In terms of areas of interest, they really ran the gamut of everything that we're dealing with. There wasn't sort of one or two areas we heard a lot about to the exclusion of others. So, we had interest on comments on endangered species, materials, efforts which you'll hear about, I think, in terms of our work in that area in the next day or so, interest in spray drift, interest in endocrine disruption screening program, human studies, as well as the work we're doing on worker protection. So,

the main point there, it ran, really, the full gamut of the different activities that OPP deals with.

As far as the agency goes, I think we received over 800 public comments. So, this is the Office of Air, the Water Office, all the different other parts of the agency. So, the next steps we're planning to take is that we're going to recommend a candidate list of rules from across the agency, EPA will, and forward that to the Office of Management and Budget. That's that date I mentioned at the end of April.

Two, OMB will then review these proposals. Obviously, OMB is reviewing proposals from across government, not just EPA. We understand they'll be doing that during the spring and into the early summer.

Now, as I mentioned, I think in the materials we handed out, we have a list of all the different rule activities we have going on currently. You'll see in that attachment, some of those are rules that have recently gone final, some of them are out for comment at this point, some of them will be proposed over the next year or year and a half of time.

So, that's what we have going on currently.

That's the current schedule for implementation of the executive order. Let me stop there to see if you have any questions on the executive order and how we're implementing that.

UNIDENTIFIED FEMALE: You mentioned you were going to submit the candidate list, but what about the plans for how you're going to conduct periodic review?

MR. McNALLY: Well, I think, as I mentioned, there were no comments that we received in terms of -- from the PPDC or others for a plan for periodic review. So, in terms of the comments we received, to the best of my knowledge, OPP did not get any comments in those areas.

UNIDENTIFIED FEMALE: You missed ours, sorry.

MR. McNALLY: Well, we'll check. Those were in the comments you submitted by March 20th? Okay. Well, we'll take -- right, but in that initial phase, you supplied those comments. Well, we'll make sure we take a look at that. But those would be the two components of what the president asked for, the periodic review and then any rules that are ongoing currently.

MR. BRADBURY: Thanks, Bob. The next topic

that we've got is update from the PPDC work group on comparative safety statements. Pat Quinn and Marty Monell.

MS. MONELL: I just want to again give you a little background because some of you are newer and aren't familiar with a project that the previous PPDC started a couple years ago. It was a time when there was a lot of consumer interest in green products, and pesticide products stuck out, particularly in the consumer product arena because we did not allow certain claims about greenness or safety or effectiveness to be placed on pesticide product labels because they could potentially be false and misleading under our statute and regulations.

So, the PPDC of yesteryear requested the agency form a work group to look into the feasibility of allowing certain statements to be made on pesticide labels or endorsement in the form of logos to be used on pesticide product labels.

The long and the short of it is that we ended up with a recommendation to this body and ultimately a recommendation back to the agency that we have a pilot in

the arena of allowing the use of a DFE logo -- that's our sister organization, the toxics program -- program for identifying and screening less toxic chemicals, less hazardous chemicals, I should say. In return for receiving that kind of designation, cleaning products, for instance, right now can use a DFE logo on their products.

So, there was an interest in having pesticide products, particularly antimicrobial products making disinfection claims, hard surface sanitizing claims, and the like, to be able to use this logo if they can pass the DFE screen and the process in our antimicrobial division.

So, that got kicked off. There's another pilot to allow factual statements with regard to whether or not there is a dye or a fragrance in a pesticide product, again primarily in consumer products. So, it's a fact that's easily checked by looking at a CSF. So, those two factual statements were allowed to proceed as a pilot.

At the time that this group, the previous PPDC, had the discussion about factual statements, there was some anguish that we had not gone far enough. In fact,

we really ought to pursue the possibility of having the biodegradability of a pesticide product allowed to be on a pesticide product label.

So, we agreed to take it back and discuss it. You're going to hear from Pat Quinn who ultimately shared this subgroup's efforts to bring something to fruition. I draw your attention to your folder. There's a paper on the biodegradability claim.

We also recently heard from Christy Sullivan from the Physicians Committee and Responsible Medicine. She's approached our work group to offer up the suggestion that perhaps we might want to consider at allowing a statement on product labels that had to do with whether or not animal testing was used in the production of this product.

So, Christy came a couple weeks ago to a work group meeting and presented her proposal. We've got a lot of work to do around it, but just to let you know, and this group know, that we are considering other factual statement possibilities. Obviously, the animal testing one is going to require a lot of work. Hopefully, we can engage the current members of the work

group as well as if there are other volunteers, please send me an e-mail if you're interested in this particular topic because we welcome all the help we can get.

So, I'll turn it over to Pat now to talk about biodegradability.

MR. QUINN: Okay, thanks, Marty. I think, as Marty has introduced the subject, she mentioned that when we launched the factual statements and DFE pilots, it was just about a year ago. The factual statements, which were permitted to describe the environmental characteristics of a pesticide product, were limited to dye free and fragrance free.

A fair amount of work had been done at that point looking at trying to develop biodegradable criteria that would allow for a statement to be made that was grounded and recognized test methods.

We weren't able to get that fully mature and to the finish line at the time. We heard from NGOs, as well as people on the industry side and elsewhere that this was kind of a core environmental value and that the agency needed to come to grips with being able to measure and recognize biodegradability and allow consumers to be

informed about that.

So, we went back to work. Basically, what we've come up with over the last 9 to 12 months is a two-tiered proposed claim, which would become an eligible factual statement under the pilot. The first year would say something like 100 percent of the ingredients in this product are biodegradable. You have to talk about ingredients in terms of biodegradability because there are no methods that have been designed that measure the biodegradability of a product as a whole.

So, what we have utilized here are OECD methods that have been in place for some time that have been recognized by all regulatory institutions as the definitive methods to determine whether an ingredient is readily biodegradable in water. Those methods are listed on the four-page description that you have in front of you. The OCSPP guideline, harmonized guideline, on biodegradability is based upon the OECD methods. So, we try to utilize things that were in place and had some integrity as the basis for the standards.

It's going to be very difficult for products to make that claim, because the fact of the matter is that

most consumer products contain a fragrance or they contain a preservative or they may contain a polymer, none of which are going to be biodegradable. So, we sort of wondered about that.

We had some folks in the NGO community, frankly, say you need to leave that in there. You should set it up as an incentive for reformulation of products which are entirely biodegradable, even if the universe of eligible products now is not very large. So, that's the first tier.

The second tier focuses on the class of ingredients we call surfactants. The reason we're focused on surfactants is they have a history of aquatic problems. They are, in some cases, aquatically toxic. They are, in some cases, persistent. We've had historically a group of surfactants called MPEs which have done a lot of aquatic harm.

The agency has encouraged movement away from aquatically toxic surfactants. In fact, they had a program called the Safer Surfactant Stewardship Initiative. I think we called it SUDSY, where the administrator recognized companies that had made efforts

to move to safer surfactants.

In fact, the DFE program that Marty mentioned that signed for environment programs, has a set of criteria that combine aquatic toxicity and biodegradability to look at whether surfactants are, in fact, safe. So, what we did was we focused on that class and we said, if you can pass the surfactant criteria that DFE has set up, then you can say that the surfactants in your product are biodegradable.

Now, there's one other set of criteria that are important, and I want to emphasize. When we got to that point, there are purists within the biodegradability community, if I can call it that, who think you only ought to think about whether something is biodegradable. There were many other stakeholders in the group who said, no, we think it's misleading to a consumer to put biodegradable on a label of a product that's otherwise toxic. So, we don't think that's the way you should go.

So, we have adopted other criteria to try and guard against that. They are the following. Only products which are category three and four in the FIFRA acute toxicity category scheme will be allowed to make

these claims. So, category one and two products, which are more acutely toxic, will not be allowed to make the claims.

Secondly, we -- and Caroline Cox, who is sitting here and was a viable member of the work group and gets most of the credit for this, Caroline said, we really ought to be screening for carcinogens, mutigens, and reproductive toxins. Those things are easily identified. We have lists that have been developed by the EU, by the NPP, by I-ARC, by EPA. We can screen and make sure that there's no concentration of any known or likely human carcinogen, mutigen reproductive toxin in these products. We ought to do that. So, that is also part of the criteria.

So, if you can pass all of those hurdles, you will be able to, as part of the pilot, make a statement that your product is biodegradable or that your surfactants are biodegradable. I imagine, although this is more of a resource question for Steve and Marty, that this will be a combined review involving the expertise of OPP and DFE. That is the story.

I want to recognize Michael Fry as well as

Caroline, as well as Beth Law, all of whom were viable members of the work group. I also want to say something nice about Michael Hardy, as I always like to do that. Michael played a valuable role on behalf of OPP. Although I don't see them, I want to also acknowledge Clyde Davis and Libby Summer from DFE who were very helpful.

MS. MONELL: Thanks, Pat.

MR. QUINN: Questions?

MS. MONELL: This is just update time. If you want to talk offline, I'm sure Pat will be around, as will I. So, we can have a discussion about those. But in the interest of time, I'm going to roll right into the next update, which is on inerts disclosure.

Again, I'll give you a little background. Several years ago, we received two petitions, one from 22 NGOs and one from 15 state's attorney's generals, basically requesting the disclosure of inert ingredients and pesticide products that had been otherwise declared to be hazardous under other environmental statutes. There's a long history behind these petitions and litigations and so forth, but that's the nub of the

petition requests that we were responding to.

So, we responded actually in October of 2009, I believe, by partially granting the relief that was sought and also committing ourselves to, by rulemaking, explore the possibility of going even beyond the requirement that hazardous ingredients, inert ingredients, be disclosed on pesticide product labels.

So, we initiated rulemaking by virtue of advance notice of proposed rulemaking, ANPRM. Comments were due in April of 2010. We received a little over 400 comments. Then, as you can imagine, efforts -- you heard from Bob McNally and you see the list of rulemakings that we have in progress.

This is a very resource intensive project to engage in for rulemaking starting from scratch and then responding to comments and so forth. So, the bottom line is we suffered a bit of a setback in the review of the comments. But we are now back up and running, fully engaged in reviewing the comments.

We expect them to be totally reviewed and analyzed within the next month. Then, through our internal processes, we will arrive at the point where we

will have a decision made on next steps by October when this group meets again. We will be able to announce what our direction is going to be.

If you recall, the ANPRM suggests two approaches that we could take to a rulemaking. One would be to just go forth and do as the petition suggested, which was require that hazardous inert ingredients and those that hazard characterization being determined by other environmental statutes already, to require that those ingredients -- there's about 374 of them, I believe that were identified in the petition -- have them just be required to be disclosed on pesticide products. Or, conversely, approach number two could be require more, a larger set of ingredients. Perhaps all inert ingredients be disclosed.

Then, there was a subset of questions that we wanted to have addressed under each of those approaches which would be, how would you envision -- for instance, if we stuck with the hazardous ingredient approach, how would you envision the screening process for the hazardous determination should go forward, because clearly those other statutes you use different kinds of

processes to arrive at the hazardous determination in their scheme, their statutory scheme.

Then, alternatively, the same kinds of questions, well, if it's going to be all inert ingredients, are there any exceptions that should be made for inert ingredients that should not necessarily be disclosed because there's truly trade secrets involved.

So, as I said, we've received tons of comments. We're reviewing them closely and analyzing. What we're also doing, though, simultaneously, so that we're not wasting any time, is there are two sort of resounding themes that have come out of this exercise thus far.

One is, the agency's legal authority to require either of those approaches. We address that to a certain extent in the ANPRM itself. But a lot of the comments, particularly from trade associations, have really raised this as a significant obstacle to our ability -- in their minds, to our ability to go forward.

So, we've got OGC in a track right now working on that particular issue. At the same time, we also, in the ANPRM, had the discussion of the market failure. This is an economic theory whereby the reason government

has to intervene by engaging in a rulemaking process is because the market itself has not provided a mechanism that allows for the disclosure of the ingredients, which is critical to society.

So, that particular argument also was addressed in many of the comments that we received. So, we have our economists working on developing sort of a response theory, if you will, to the comments that we received in response to the ANPRM's assertion regarding a market failure.

So, we've got three things going on. We fully intend to move forward. As I said earlier, it is resource intensive and it has caused a delay in our ability to get through it. But I'm confident that we will, the next time we meet, have some next steps.

MR. BRADBURY: Thanks, Marty, and Bob, and Pat for the updates. It's much appreciated and good progress and progress that's coming down the road.

What I'd like to do now in the last session is just spend a little bit of time -- I don't think it will take the whole half hour -- but spend a little bit of time with you sharing some efforts that we've been

undertaking in the program over the last several months in terms of the strategic direction setting and some of the activities we've been doing internally.

Think about where the program is today, where the program has been, what the world is going to be like, say, five to seven years from now, and, in that context, asking ourselves is doing everything the same way we do it today going to be a sustainable and effective approach to what the world will be like five or seven years from now.

We concluded no. Doing things the same way we do today isn't going to be the proper way to be a leader in the world that we're in in terms of being able to advance forward and deal with the change that's clearly coming.

So, what I want to do today is just share with you some of our initial thoughts. You can sort of view where we are right now in the context of registration review, where we've been working internally and we're getting ready to put together our preliminary work plan. Then, we'll put that preliminary work plan out for comments and get feedback from everybody, stakeholders

and PPDC. It seems like a logical group to at least start to introduce some of the thinking that we've done thus far.

So, yes, it's been internal thus far because, frankly, I want our folks in OPP to internalize the process of thinking about where we are, where we've been, and where we want to be five to seven years from now. Clearly, we're not going to do it in isolation, and we're looking forward to getting their input.

So, back in the fall when we started thinking about this with the senior management team, we started by just thinking about what's been happening over the last several years and what we think could be happening into the future. Looking at trends, if you will, and not in any fancy sophisticated think tank way, but some gut instinct and knowledge about what's around us.

Some of the issues that we saw changing and that tend to be interconnected is one, information. The kinds of information that is used in making decisions and transmitting decisions is changing rapidly, more of it, different kinds of it. It comes faster and faster. Our stakeholders want more information, more complete

information, different kinds of information. We envision that they would probably want that information in a number of different platforms.

In other words, the technology of -- probably, the platforms of information comes in today isn't going to be the platforms of information that comes to us in five or seven years. We'd like to be in a position to be in the front end of figuring out how to use those platforms rather than trying to react to the change in information technology.

Related to that is the idea that we need to be able to get at this information quickly and to be at our fingertips, for ourselves to be efficient in getting the work done we need to get done, but also so that all the users of our information can get it quick and get it in any kind of format they want. So, we asked ourselves are we ready to deal with that by just doing the same old same old. We said, no, we need to do something different to be prepared for that.

We also spent some time thinking about where the state of the science is and some of the decision making that's going on around the way the science is

evolving. For example, the National Academy of Science's report of 2007, the 21st century on toxicology testing, has already got a work group that's helping us deal with that. But the reality of that technology happening is becoming more and more evident every day, essentially, in terms of the research and what we know is going on in the R&D labs.

So, the kinds of information that will come into the agency to inform our decision making process five or seven years from now isn't going to be the same data that we're dealing with today. We're confident that that's a reality. That's a big change. Do we want to chase the change or do we want to help lead the change in terms of how do we put that kind of information into play?

The National Academy of Sciences also published a report in 2009 around the evolution of decision making in terms of changing science, in terms of risk assessment, as an example. That document has a lot of far-reaching implications. We felt to be a responsible and leading organization, we should embrace the concepts in that NAS report and start to figure out how to move

forward with those recommendations, rather than be chasing those recommendations.

Also, realizing the kinds of decisions we make, and we talked about some of that today, aren't made in isolation. So, decisions about ensuring our beneficial products and respective test management strategies and safety around those technologies aren't in isolation. They're intertwined into higher level kinds of decisions that are being made in terms of water quality or habitat modifications or controlling basic species.

So, the complexity of decision making, we felt, is likely to be even more complex five to seven years from now than it is today. The spatial and temporal scales at which we'll be making decisions and the demographic scales at which we'll be making decisions five or seven years from now we don't think is going to be like it is today.

So, we're looking at these kinds of changes and reflecting on whether or not, just for the study as she goes, is a way to deal with this change, or do you want to grasp that change that's coming and help lead the change that's coming.

Also, taking a look internally in terms of our work force and our resource base in terms of doing the kinds of work we envision we'll be having to do over the next five or seven years. I'm not telling you anything you don't know by reading the newspapers and seeing how we're up to 12:00 to see if we're going to come to work one day or not.

The budget scenario, the resource base in which decisions will be made in the pesticide program and throughout the government, obviously is going to be quite a bit different over the coming years. That's a reality, not something to be afraid of, but it's change.

So, how do you get yourself ready to take on that change and move forward, realizing these other issues are going to play out in terms of what the science is going to be like, what the information technology world is going to be like into the future. So, we reflected on the fact the resource base would be changing. Again, do you just try to be reactive to that or do you try to be proactive in how to move forward.

Then, also looking at our work force and the demographics of our work force, and what the age class

structure looks like, and we didn't hire any (inaudible) to come in, but one, I think, takes a look at that in terms of the kinds of skills we're going to need five to seven years from now in terms of retaining folks, recruiting folks, training within the organization, partnering with other organizations to make sure we've got the skill sets and the capability of handling what's going to come in the future.

In some of that conversation, we realize that the future is going to be probably faster and faster, and we'll need to be nimble. To be able to adapt, there's going to be an important part of the future which gets to terms of the kind of folks that are in the organization, that you hope you can bring into the organization, and hope you can keep in your organization, but they're well connected throughout the federal government and beyond in terms of how they interact with folks and how they help bring information into the organization.

So, in going forward, we realize the only thing that's certain is change. The way to ensure that that change doesn't create uncertainty is to try to take a leadership stance with regard to the change and try to

establish the concepts in going forward.

What I'll share with you today is some of the early thinking, some of the early returns and some words we're trying to put around some of these ideas. At this stage, we're really working within our organization and then with you all in getting some feedback.

We're sort of at the stage of change which deals with your heart. It's the part of describing where you want to be and describing how you're going to move forward that frankly appeals to your emotions. It's a rallying point around where you want to be, where do you want to go, what's the target, what are we trying to get to.

It has some vagueness to it because we don't want to paint ourselves in a corner. It has some raspiness to it, i.e., do you think you can really do that. Well, if it isn't a really challenging goal, then what's the point of doing strategic planning and setting a target for yourself.

Where we're at right now is sort of laying down what those markers are, what some of those visions are, what some of those emotional sort of targets that we're

shooting for. We'll get someone to put those out formally for comment. I'll show you the words here in a little bit (inaudible) with you in a little bit.

Once we get past getting that stabilized, then we'll start doing the work that starts to put the meat on the bones in terms of what are the steps we're going to have to use to be in a place to implement those concepts in the next five to seven years so we can be the organization that we want to be, as we take a look and move the time machine up five or seven years and see what we look like.

Margie is going to go over the next slide.

This is sort of the overarching statement that we're working with right now. We describe a little bit about how we're doing this within the organization. Working with the division directors and deputy division directors and branch chiefs, coming to the end of the calendar year and then to the front end of this calendar year. We're sort of playing around with variations on these words.

As we started to feel like they were getting close, we then used a lot of different venues within the

organization so all 800 folks could be part of weighing in on this. I did all-hands meetings with every division, walking through sort of where the words were. The division directors are getting with the divisions and talking about it. We've got a wiki set up so people can be using a wiki to get ideas in and get things kicking around.

This is where we are in sort of a broad concept of the vision statement, the idea of looking forward, maintaining that idea of while we know we've got to get our PRIA deadlines done, we kind of look down at our feet to make sure we're walking straight and making sure things get done on time.

We're also looking up and looking to the distance to make sure we don't walk into an open manhole cover as we go forward, and that we know what the terrain is going to look like ahead of us in order to adapt in moving towards that. It's highly valued and trusted, the concept that what we do is open. It's transparent. People are involved in what we do.

At the end of the day, they trust that the decisions we make ensure there are beneficial products to

support agriculture, to support public health, to support habitat restoration, and they're safe products that can be used effectively. Trusted in terms of people trust us, what the word means. What does trust mean? That we're open. We're transparent. We work with people. We partner with people. We don't think we know all the answers.

In part, we're trusted because we're open and we want to interact with people and we want to try to trade something that's bigger than the sum of the parts -- our partners in Europe and in Asia that are also pesticide regulatory authorities, as well as working with all our states and tribes, and the integration that needs to happen, as well as with all our stakeholders.

So, we want to be forward looking, and valued, and trusted in sort of what kind of context, in the context that we're implementing and effectively communicating, the state of the art risk management decisions. The state of the art will always be changing. We want to hopefully be leading that change and what the state of the art is in terms of the science and the decision logic that goes underneath those decisions.

Why do we want to implement effective decisions, and what's the point? The point is that we want to support healthy and viable communities. We want to protect the ecosystem that those communities rely upon. By communities, we mean agricultural communities. We mean neighborhood communities. We mean everything the word community can mean. It can mean ecological communities.

Communities is open ended, the vagueness that I was referring to before. It means lots of different things. It's the health and viability of those communities to help with agricultural production, to help with people and the communities that they live in. The concept that they're intertwined.

In fact, the ecosystems that we all live in are sort of the foundations from which that viability and safety and health is openly dependent upon, realizing how we have to integrate human well being with the well being of ecosystems and how we do that. Frankly, FIFRA lays out those are the things we need to be thinking about.

We're getting at the fact that five to seven years from now, those kinds of decisions are going to be

becoming more and more complex. We're getting into different kinds of issues and values, something we need to be forward looking and able to take that on. Hopefully, working with others (inaudible) the kind of work that it's going to take to do that.

If you go to the next slide, we then spend some time articulating five of the themes that we think are important to help us get to where we want to go. This is where the vision or the direction setting starts to get a little bit more specific, so it's still kind of hitting at your heart strings, hopefully, but starting to lay down the more practical words that will start to create the process, the plan by which we start to create what we need to do.

What we've done at this stage is, again, working throughout the organization, in fact, with those divisions, one-on-one meetings with divisions and division directors, using a wiki, we put together these five thematic areas. I'll walk through them a little bit and try to get at what we're talking about in those words.

One of the activities that's going on right now

is the organization is putting together three to five paragraphs for each one of these things. What we did is we reached out across the organization so we have teams of 12 to 15 people per thematic area that are a cross section of our organizations, all sorts of different (inaudible).

Some people have been in the organization a year. Some people have been in the organization 25 years. Some are scientists. Some are risk managers. They've worked together to put together about three to five paragraphs per thematic area to sort of more clearly articulate what we mean by these phrases.

They start to lay out how one would go about achieving those statements, and starting to lay out what would be the phases our organization would go through to achieve what those sentences mean. We're in the process of still working through within the organization comments on that using wiki and all sorts of different ways so that all 850 people can be part of weighing in on what some of these words mean.

So, let me just quickly go through these words. They get back to some of the world around us that's

changing and what we want to be dealing with in going forward.

So, our first concept is that if we're going to be a highly valued trusted organization that makes these state of the art risk management decisions to support the health and viability of communities and the ecosystems they depend upon, we need have instantaneous access to quality information to support sound decision making. Today we don't have instantaneous access to the information we need to make sound decision making.

We want to be in a world where the risk assessors can be at whatever that IT box is going to be five or seven years from now. If they imagine in their head the kind of information they need to help inform that risk assessment, as long as it took me to say all this, they should have access to that information.

It should also be a world that if I'm (inaudible) be in this seat five to seven years from now and going through a risk assessment, risk management decision making process, they could be asking what if, what if, what if, and be able to visualize what the risk profiles would look at a sub-watershed level on that

screen as soon as I get done asking the questions. Instantaneous access to information so that we can look at different scenarios.

We can look at different scales. We can play with issues any way we want to. To be able to do that means there's a whole lot of change that has to happen in terms of how information comes to us and how we store that information and how we integrate that information, not only within the pesticide program but beyond our program with parts of EPA and beyond.

The second thematic area is to ensure the public has clear and useful information to using pesticides and pest management alternatives (inaudible) and effectively. Part of this information challenge we see before us is sort of internal in a way, although information is coming into us, of course, and we've got to work through that. As we make decisions, make sure that what we've decided and goes back out to the world through open processing and dialogue and input from the public and makes sense and that people can understand it.

They can understand it in the future in all sorts of different ways. It will certainly be words on

something that will undoubtedly be part of the way that information is communicated. But we envision five to seven years from now the information that's required to use a product safely could be coming in all sorts of different ways. It could be geospatial information that's linked to satellite. It could be all sorts of different kinds of technology and information beyond words that's helping to ensure the products are used properly.

We can't even imagine what all the possibilities would be in the future, but the notion of this thematic area is that we need to be on top of that in helping to think about how emerging technology, information technology, can help reach all sorts of people in our country, no matter what language they're speaking or what kind of format is the most useful for them to be able to make the kind of decisions they need to be able to make.

The third area is getting at some of the aspects that I talked about before in terms of the way the science is going to be changing in the future and the kinds of information that will undoubtedly be coming to

us in the future in terms of the risk assessment process.

So, aspects along the line of the 21st century toxicology but also the kinds of science it will take to be able to make decisions at different spatial scales and different temporal scales, and looking at different parts of the country, being able to zoom in/zoom out of different kinds of ecosystems or different kinds of cropping patterns and different kinds of neighborhoods as we (inaudible) and the science of being able to do that, and to be moving into different scales (inaudible) as well as being able to use DNA information and molecular information, all the way up to geospatial landscape ecology.

The science is moving that way. We need to be able to take advantage of that science because we think it's going to help make more informed decisions and more effective decisions as we go forward. Some of this we have anticipated for a while. That's why we started the one work group on 21st century toxicology almost two years ago, in anticipation of the change that's coming. Again, we don't want to wait for the science to be done before we start thinking about how we're going to use

this.

That's why this third component isn't just about science; it's also about how we're going to use this new science in our regulatory decision making and risk management decision making. So, we're thinking about it sooner rather than later (inaudible) with the change going forward.

The last two thematic areas get at who is going to do this and how are we going to do this and what kind of people does it take to do this. It's going to be a world where being nimble, being multi-talented either as individuals or as an organization is going to be essential because it's going to be a lot more dimensioned. There's going to be a lot more texture to what we do.

So, the last two thematic areas are getting at what do we need to be doing in terms of our work force planning and (inaudible) need as we go forward so that we're capable of hoping to lead this effort and to work with our partners around the globe and in this country and being able to do that.

So, the fourth area gets at, I think, a

foundation that we can build from quite well in the context of teamwork, teamwork within our organization, teamwork beyond the organization in terms of how to solve the problems of the future. Clearly, the kinds of challenges that we're going to take on in the future (inaudible) pesticides and what we have to do under FIFRA and FQPA (inaudible) or whatever statutes will emerge over the next five to seven years (inaudible) is going to be connected to a lot of other kinds of issues.

So, that teamwork isn't only within our organization but teamwork across all sorts of organizations (inaudible) informal and formal networks across lots of organizations. What do we have to help our staff learn how to do to be able to do that? Also, be adaptable. Realize that today's challenges aren't going to be tomorrow's challenges.

So, in the environment of constant learning, an environment where we're always learning new things, and that we're encouraging our folks to do that. Take some risks in learning new things and exploring new things because that's the only way we can be adaptable and nimble as we go forward.

The last area gets at the idea that we want to be the most exciting federal office in this country to work for. One of the ways we describe this is when we, in the future, put out an ad to fill a position, me and my colleagues want to be in a situation where there's so many people that apply for that job, that we go home at night just staring at the ceiling wondering what are we going to do.

We can only fill one slot and we have 25 people that it's impossible to make a choice because they're all fantastic people. Our phones are constantly ringing with people wanting to know when the next position is going to open so that they can be part of the organization.

So, we want to have an organization that people are beating down the doors to get into it. Why do they want to get into it? It's because it's an environment that fosters innovation. It's an environment that fosters continual learning. It's an environment that fosters leadership. It's an environment that's pushing the envelope.

But it's not pushing the envelope in an arrogant way; it's pushing the envelope because we're

working with lots of people and we're reaching out to people to help create something that's bigger that the sum of the parts, bigger than what we can do by ourselves. But with others, we can create something that's new.

We want to make sure people go on details and they're visiting other places so that they can broaden their horizons. But at the end of their detail or their rotational assignment, they want to come back home because home is the best place to be trying to make all this happen.

So, what I want to do today is just share with you some of the concepts that we're working on now, which clearly are, at this stage, appealing to our organization's heart, although we have a group that likes to do stuff. So, there's a lot of hard work for me just to get everybody to back off and say, well, we've got to do this, we've got to do this.

We're going to do all that, but where are we going. What we've been spending our time on is trying to articulate where we're going, where we want to be. Then, in a bit, we'll start to move into the phase that gets at

how we're going to get there. What are the phases we're going to have to go to get there? What are the milestones we're going to have to go to get there? That will, in turn, inform us in the resource choices we're going to have to make, getting back to what I talked about before.

The resource base is going to change. That's inevitable. But with this kind of thinking, these kinds of concepts in going forward, we want to use that to help inform the choices we're going to have to make in our resources, the choices we're going to make as we adapt as our work force goes forward, the choices we're going to make in the milestones (inaudible) as we go through these stages.

So, we're, as I said, sort of wrapping up (inaudible) months approximately we'll set up a process so public, you all, can comment on these words and what we're thinking about these words and get some feedback. Do they make sense? Do they resonate? Do they create confusion? It's a little vague (inaudible). It's full of chaos and we've got to do some work.

We'll be also, further down the line,

continuing to work on the page or two that goes with each of these thematic areas that the staff is working on now. Once those get a little further cooked inside the organization, we'll definitely put those out for comment to get feedback from all of you in terms of how we're communicating. Are we grasping the issues? Are we missing issues that we should be thinking about? So, we can get your feedback on that as well.

So, what I want to do today is just give you a head's up. This is what we're working on. Again, it's sort of like registration review. We're doing our internal work first. It's not to hide anything or keep anything from you. But we need a chance to kind of work internally. I want our organization and everybody in it to be a part of this, to have a chance to contribute to it, to think about it, to talk to their colleagues.

Once we get that a little bit further down the line, maybe in a month we'll start putting some things out to get some comments from all of you. So, again, like I said, are we missing things? Are there issues we haven't thought about? Is there sufficient clarity in some of the concepts that we're putting together so we

can refine? We'll keep working with you as we go forward.

So, I wanted to use today about 20 or 25 minutes just to share that with you. In another time and place, we'll have (inaudible). So, with that, I'll wrap up this session.

Margie, do we have any public comments? We don't have any public comments. So, I want to thank everyone for a very good set of discussion points that were raised. We all did a good job collectively in sticking to the agenda, which is important. These are long days and lots of in-depth discussions. I appreciate everybody (inaudible) keeping track of that.

Tomorrow, we start at 9:00. We'll start off with endangered species session and we'll give you some updates. Again, the endangered species session is going to ask you for some input on some specific questions we have in terms of the endangered species program moving forward.

We'll then have an update on where we are with the NPDES rule for pesticide (inaudible) in here and over water. Then we'll have an update of our 21st century

toxicology work group. Then we'll spend about 45 minutes (inaudible) where we are with the discussions about new work groups and (inaudible) kicking around some ideas for agenda for our meeting six months from now.

So, with that, I need to hold you all for one second. Margie reminded me I should check with the people -- members of the public that are on the phone. If any of you would like to make a comment during the public comment period.

MR. SANCHEZ: This is Valentin Sanchez. I'd like to make a quick comment.

MR. BRADBURY: That would be fine. Repeat your name again.

MR. SANCHEZ: Valentin Sanchez from the Oregon Law Center. I just wanted to go back to the children's work risk policy. I encourage you to question the analysis that lists that (inaudible) workers are less exposed. I know that children are less likely to have received (inaudible) trainings. They're less knowledgeable about pesticides. I think they're less likely to wash their hands when they're working. They're less likely to wear appropriate working clothes.

I worked as a kid picking strawberries, orange, and I can say that even though I was less productive, I spent the same amount of time breathing and touching residues (inaudible). So, I strongly suggest that you review that analysis.

MR. BRADBURY: Thank you. Good observation, thanks.

Any other public comments from folks on the phone?

(Whereupon, there was no verbal response.)

MR. BRADBURY: With that, we'll adjourn for today. Again, thank you all for a very good day of discussion.

(Whereupon, the meeting was adjourned.)

CERTIFICATE OF TRANSCRIPTIONIST

I, Marilynn H. McNulty, do hereby certify that the foregoing transcription was reduced to typewriting via audiotapes provided to me; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were transcribed; that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of the action.

MARILYNN H. McNULTY,
Transcriptionist

DAY 2 - April 21, 2011

UNITED STATES

ENVIRONMENTAL PROTECTION AGENCY

PESTICIDE PROGRAM DIALOGUE

COMMITTEE MEETING

April 20-21, 2011

Conference Center - Lobby Level

2777 Crystal Drive

One Potomac Yard South

Arlington, VA 22202

P R O C E E D I N G S

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MR. BRADBURY: Okay, why don't we get started. I realize that it's taking a little longer for some folks to get in due to the security screening today. But we're about 10 minutes into the session, so why don't we get started.

Folks on the phone, thanks for calling in. I'd like to check to see if there's any member of the PPDC who is calling in.

(Whereupon, there was no verbal response.)

MR. BRADBURY: For folks that are calling in, I'd ask that you put your phone on mute. Otherwise, we get feedback in the system. We have a public comment period at the end of today's meeting. Any public comment coming in from the phone, we'll make sure that that happens appropriately.

So, today's sessions include starting off with endangered species topic. We've got some specific questions that we want to pose to you all to get a conversation going on that front. Then we'll have an update on the NPDES permitting process for pesticide use

in near water. We'll take a break. Then, Vicki Dellarco will give an update on the 21st century toxicology science workgroup. Then, the last session we'll go over where we are with the workgroups and an agenda for the next session.

So, with that, I'll turn over the mic, if you will, to Rick Keigwin and Don Brady to start the endangered species session.

MR. BRADY: Thanks very much. This is Rick and my second session here at the PPDC where we're teamed up. I asked him a minute ago, I said, so, it looks like Batman and Robin are at it again. And he said, well, I always feel like Robin. I said, well, so do I. So, I don't know where that leaves us.

Anyway, today we've got a good block of time here to go through some topics on endangered species. We're going to talk a little bit about litigation, just to give an update on the current work that's been done in response to litigation. We're not going to talk about ongoing cases today. A little bit about contemporary science issues.

Then, Rick will take us through our current

thinking regarding the process for endangered species work as it relates to registration review and the public process that we're thinking about. As Steve indicated, there are some specific questions that we'll get to when we get into that part of the agenda. So, that's what I just said.

This table summarizes the status of our litigation work as it stands right now. I won't spend a lot of time, but if you look at the total column or the total line at the bottom, that will sort of give you the summary statistics for the number of chemicals, 231, 149 requests for formal consultation, and so on, just to give you a status of where we and OPP are in regard to working through our litigation commitments.

The next slide shows the NMFS BiOps. We just numbered these 1, 2, 3, 4, and we'll give you a bit of an update on what's happening in terms of time frame there in a second. So, this is sort of the current list of chemicals that will have BiOps from NMFS under their settlement agreement.

So, in regards to implementation for BiOps 1 and 2, we've produced a draft bulletin to implement the

first two BiOps. The registrants of the pesticides in BiOp 1 declined to voluntarily adopt the measures that we had drafted for the bulletin. The registrants of the pesticides in BiOp 2 have not yet been requested to adopt voluntary measures. So, that's where we sit on those right now.

On BiOp 3, I wanted to just make the point that the RPAs that were included in that BiOp were a little different from the RPAs in BiOp 1 and 2. They provided a concentration number for us to try to meet, and provided greater flexibility than the first two BiOps for us and OPP to use the suite of FIFRA tools available to us to implement those RPAs. So, I think most folks who are following this are aware of that, but I just wanted to make that point.

On BiOp 4, an initial draft was provided to EPA on March 1st with the final BiOp due to be completed by April 30th. NMFS requested EPA input by April 12th. EPA requested public input to the draft RPAs and RPMs by April 5th so that we could consider that input in our response to NMFS. EPA committed to send all comments outside the scope of the draft RPAs and RPMs to NMFS for

their consideration. This is the standard way that we've been working, which is to publish the draft RPAs and RPMs for comment to inform EPA's response.

On April 4th, NMFS and the plaintiffs were granted a 60-day extension of the due date for the final version of BiOp 4, making the new due date June 30th, 2011. NMFS intends to consider all comments received by April 12th in the new draft BiOp. They anticipate the next draft will come to EPA by mid-May with the expected 30-day comment period that we're used to seeing.

We will post to the web with new instructions for providing input to those set of draft RPAs and RPMs. Any comment received outside the scope of the RPAs and RPMs will also be provided to NMFS for their consideration in finalizing this opinion. So, again, it's pretty much the way we've dealt with the earlier biological opinion.

At the same time that extension was granted, the court allowed the remaining 13 pesticides covered by the schedule to be completed by NMFS in one or more additional biological opinions, and granted the fourth BiOp the same extension -- extends the due date for the

final set of biological opinions by 60 days, to April 30th, 2012. I think I've got that right. So, that's the current date for NMFS to complete the consultations on that list of chemicals.

So, the next thing I just want to give an update on is the science issues that we're addressing. There are two threads here that are ongoing. The first is that there is a staff level group of scientists that has been working between EPA, NMFS, and Fish and Wildlife Service. They're exploring ways to address the issues that have been raised between the agencies in the earlier biological opinions. That's what I would call the standard litany of issues, issues related to best available data, issues related to sublethal and cumulative effects, mixtures.

These are the things that have been looked at by that group. They've been drilling down and had a lot of communication discussion about how the agencies do their business, and where the commonalities are, and where, maybe, there are issues that require further discussion. It goes without saying that these are complex and highly important issues for ecological risk

assessment and for the ultimate protection of federally listed species.

The federal government believes that resolution of these issues could be informed by an independent review. That being the case, EPA, the Commerce Department, the Interior Department, and the Agriculture Department have requested the National Research Council, the National Academy, to undertake an independent review of science issues.

Those topics are pretty much the ones that I just mentioned, best available data, mixtures, sublethal effects. Inert ingredients is part of that. Also, geographic data sources and information available to inform consultations. So, that letter has gone over to the National Academy of Sciences.

This is just a little more detail on the kinds of issues. The agencies are working right now on what we in EPA parlance would call charge questions, which is simply more specific elucidation of the issues that we would ask the Academy for advice on. I won't read that list except to point out that we're going a couple levels down in terms of detail when we're requesting advice.

So, we're not just saying what's best available data. We're saying what's best available data in light of published peer review studies, non-published studies, gray literature, et cetera. That's the kind of detail that we're trying to provide. So, that process is ongoing within the agencies.

The status of that request is that the request has been sent forward to NRC. We're, as I said, developing the charge questions around those science issues. Our expectation is that there will be an 18-month project length when the NRC initiates their review. We anticipate the standard NRC open process where all affected parties and interested parties get to provide input.

So, the next step in this is to look for the formal opening of that process or formal initiation of that process by the NRC. At that point, I think we turn over to Rick to deal with some of these other topics.

MR. KEIGWIN: Thanks, Don. So, just as Don walked through some of the science issues and challenges that are facing us in endangered species, there are also some public process and public input opportunities that

we want to explore.

The first thing I'm going to do is walk you through sort of traditionally how we've been doing things, and then to share with you some of our initial thinking on how we might expand public input opportunities. Then, at the end of this part of the session, we want to turn it back over to you all to get some feedback on a couple of different ideas that we have or approaches that we might pursue.

So, just to make sure that we're all talking from the same handbook at this point, our plan has always been to meet our ESA obligations as part of the registration review program. As we are going through that program and determine that there's a need to consult with the services, we had been traditionally playing more of a facilitation role with the services as we seek public input.

Essentially, what we've been doing is we've been serving as a conduit for information from the applicants, which has been defined as the registrant, to provide information in this case to NMFS as part of the litigation, to make sure that NMFS has available to it

the information that the registrants think is important about their registrations and how those products are used.

So, as part of that effort, EPA identifies who the applicants are, essentially who the registrants are, who have particular rights under the ESA regulations. We provide the information that the applicants provide to us to the services for consideration in developing the draft biological opinion.

There are meetings that occur between us, the registrants, and the services both at the point where they're starting their development of the biological opinion, as well as at the point at which they've issued a draft opinion. EPA facilitates those meetings. We also provide the draft biological opinions that NMFS has been developing to the applicants for their comments.

Generally speaking, however, beyond that, the role for broader public input has been limited. What we have been doing with each of the past four draft opinions that we've received is we have made those draft opinions available through the EPA web site for broader public input to help EPA in developing our input that we

subsequently provide back to NMFS on the feasibility and the ability to implement the draft reasonable and prudent alternatives, RPAs, and reasonable and prudent measures, RPMs.

Then, any other general comment that we receive on the draft product we have been providing to the services for their consideration. But that's not been historically the purpose of the public comment period. The purpose of the public comment period that we've done has been specific to the draft RPAs and RPMs.

I think one of the challenges that we've heard from some in the public is that it typically is part of the biological opinion process. There is not a response to comments document that is traditionally developed for public release by the services when they get input.

I know that's different than how we have traditionally done things as part of our process either in re-registration or registration review. I think that concerns have been raised to the extent to which or how comment that was provided was considered.

As part of this public outreach process, we have typically relied upon our regional offices. In the

case of the opinion today, it's largely been our regional offices in San Francisco and Seattle, Regions 9 and 10, as well as our state and regulatory partners, to get input from broader stakeholders, including grower groups or users.

As we've developed draft bulletins in response, particularly to BiOps 1 and 2, we've asked for their input on accuracy of the maps that are included in the bulletins, how best to capture the limitations that have been identified in the RPAs and RPMs, so that there's clarity in terms of landmarks or other types of geopolitical or landmark type of information that can help a user best understand where our limitation applies and does not apply, and also to help us identify where certain local conditions might preclude the ability to implement one of the limitations in the RPAs or RPMs.

For BiOps 1 and 2, we've tried to follow these approaches to the extent feasible. We've received fairly extensive comments from some stakeholders. Particularly, grower groups that have indicated they want more direct ability to participate throughout that process, both in terms of information that feeds into the development of

the biological opinion, but also to have a role in helping to figure out what measures can be implemented or how they might be implemented.

We remain committed to seeking increased opportunities for interaction and building awareness. We've been working very closely with NMFS to expand public participation opportunities as part of this process.

We are continuing to meet with any and all interested parties, and we're identifying the registrants as we move through the remaining biological opinions that are subject to the Washington Toxic Coalition Litigation. What we're trying to do in each of these is we're finding that the earlier we engage, particularly with the registrants, the more information, the more opportunities there are to bring information forward.

We're trying to keep our web site up to date on the status of when biological opinions are due. And, to the extent to which NMFS can identify for us when they think they'll have a draft opinion, we're trying to make that information available as soon as is practicable so that people can plan for when they might need to provide

comment or want to provide comment, understanding that NMFS, based upon the schedules that they're on, they're on very tight court mandated clocks.

So, each of these opinions has become more and more complex. So, knowing or being able to forecast when there's a public comment opportunity I know has been appreciated.

And then, we're looking to expand opportunities for involvement in the process beyond the applicants. I wanted to just take a short minute to ask Mike Willett to talk about an event that's coming up next month. But this is an event that the grower community came together and said, here's something that we would like to try. Both EPA -- both Services and USDA have said that we would participate in this effort. So, if Mike's slides could be put up.

MR. WILLETT: Rick, why don't we just do this. We'll just leave your stuff up. Then, during the break, we'll just throw that up there in case people need contact information, unless you can do it very quickly. This is just for contact information.

Well, just briefly, the Minor Crop Farm

Reliance is an organization that represents about 60 specialty crop organizations throughout the United States and has been doing that for about two decades now. Many of our members, of course, are involved in the whole issue on the West Coast very deeply with the existing biological opinions and the litigation and the court orders.

But the Minor Crop Farm Reliance is trying to step out of that direct issue and look through the bigger picture of how this whole question of biological opinions and endangered species issues affects the re-registration process for all the active ingredients that are going to move through the system starting very soon.

So, to that end, the Minor Crop Farm Reliance has invited representatives of the USDA Office of Pest Management Programs, USEPA, US Fish and Wildlife, National (inaudible) Fishery Service, to participate in a facilitated discussion regarding the role of our organization in pesticide effect determination under the ESA. We're putting that workshop on on May 24th and 25th in Denver, Colorado.

We have three goals of that workshop. The

first is to provide grower representatives an understanding of the processes and analyses leading to identification of risk and mitigation options by each agency, identify grower level data that would enhance the risk identification and risk mitigation decision process, and initiate discussions on the mechanisms to try to provide such data back to the services and to the EPA where those are appropriate.

I have some registration forms and also a preliminary agenda. Of course, as in most things we do, Dan Botts, who is behind me, has played a major role, the major role in helping to organize this and move it forward. He's here for a short time, maybe through the break. Dan, is that right? He'll be here through the break. So, if you have questions for Dan or for myself, or you're interested in registering, we do have limited space. So, it's first come, first serve. But it's an open meeting. Thanks.

MR. KEIGWIN: Thanks, Mike. So, now we're going to turn it back to you all to begin to get some input from you. We've developed three areas which we'd like to get some discussion on for about the next half

hour or so.

The first relates to how EPA can best get information to inform its work planning process for each registration review. The second involves when it might be most effective to consult with the services when we identify risks of concern for federally listed threatened or endangered species. Then, the third is to begin to get some input from you all on the best mechanisms for the services to get information and public comment or public input during the development of biological opinions related to pesticide action.

Let's start with the first one, how can EPA best obtain information to inform its preliminary work plan in registration review. Just for everyone's background, the registration review program provides for multiple opportunities to seek public input during our decision-making process.

The publication of the preliminary work plan, which coincides with the opening of the registration review docket is that first stage in the process where we formally seek public involvement in the registration review decision-making process.

Part of that preliminary work plan, there are at least four types of analyses that feed into how the agency is going to scope the registration review for that particular active ingredient. Our scientists in our Biological and Economic Analysis Division do an analysis of current use and usage patterns and what current label statements say.

Our Health Effects Division conducts the scoping analysis looking at the state of the current human health assessments that have been done recently, and looking at what either additional analyses might be necessary as part of registration review and/or what additional data might be necessary to inform those future analyses.

Our Ecological Fate and Effects Division prepares a problem formulation which parallels the work that HED does. It again looks at what types of analyses will need to be done both for ecological fate and effects assessment but also endangered species assessment and similarly determines what additional data might be needed to refine or inform that assessment.

Then, there's a regulatory history that's

prepared by either Registration Division or Pesticide Re-Evaluation Division to get some contacts around that. Those four analyses feed into our work plan, which typically says over the course of a typical six-year review what the steps are going to be, what data are going to be analysized and over what time frame.

Then, as part of that docket opening, we provide a list of questions which we think, if we get information on those lines, would help us refine what our assessment methodology and pattern might be. Then we subject those to a 60-day comment period culminating in the issuance of a final work plan a couple of months later.

So, the question in the dialogue that we'd like to get from you all today is, knowing that this is the process that we currently use for registration review, how can we best get information to help inform before the preliminary work plan is issued, information to help us develop more refined scoping and problem formulation as part of registration review?

MR. BRADBURY: Why don't we start with that first question? (Inaudible) and then Cheryl.

UNIDENTIFIED FEMALE: Well, I just sort of had a basic -- as you mentioned, when you actually open a preliminary work plan, you've already got a list of questions that you want response to. So, you've already gotten to a certain point there. I understand why you're going back and saying, what about these four components first.

But, it might be helpful to look at those questions that you're asking and whether or not -- because we all respond to the questions that you put in when you have things out for public comment. Sometimes it's not -- it's hard to answer that question instead of -- you know, you step outside of that question to provide what you think you really need to provide.

But those questions are based on, are they different every time? Are they based on the specific preliminary work plan for that particular active ingredient? Or, is it more based on, do they come out of your initial preliminary plan -- I mean, your initial four components?

UNIDENTIFIED FEMALE: When you open the docket, you've already done a good bit of work. A really simple

answer is, have a pre-meeting, especially with your major registrants, to see if there's something that's changed over time. It's our experience as registrants that you all do a lot of work on your databases or what is still hanging on as a registration and you could eliminate some work right up front. We all know as registrants that's not being used, that's not being supported, we're going to cancel that.

There's some things that are truly -- we've seen in opening dockets, use patterns that are no longer viable for us. So, a quick consultation, I mean an hour, could save lots and lots of work on certain use patterns that are going to be dropped or something like that.

It's my understanding that there were traditionally some SMART meetings. I don't know what the acronym stands for, but that was done in the -- I could come up with one. That was done in the past, but then, in registration review, those were dropped. We've actually requested a couple on some of ours that are opening up.

We've gotten a lot of push back about it. We're thinking it doesn't have to be major, but a quick

consultation, especially on uses -- we find a lot of differences between what comes out on use patterns versus what we know as registrants are -- and those use patterns then drive all the rest of the assessments.

I've also seen that the scoping analysis on the health effects is somewhat historical and it also doesn't take into account maybe everything that's there. Again, we could save a lot of time, I think, if you just consulted with the registrants. What data do you have in the cue that maybe hasn't come up through regulatory actions, but you've already got it? Really quick kind of consultation. A couple hours with the registrants would help. That's one.

Then, in particular, with regard to ESA, I was informed by one of my colleagues that there was a CLAESIMP team document. Again, I don't know what that acronym is. Maybe some of our other CLA -- thank you. Endangered Species Issue Management Team, thank you. It's a historical document that CLA spent some time on that specifically addressed this question of how do you engage in that preliminary work plan for ESA at this stage. So, copies of that are available.

MR. BRADBURY: Thanks.

Dave.

DAVE: From a stormwater perspective, we'd really like this invitation to get in early. I mean, there may be plenty of things that we don't really have a concern with, but if we know things are coming up and you're starting to work on these scoping exercises and trying to gather that preliminary information before you do the public comment period --

I realize that getting certain pieces of data very early on would be very important to the types of questions and problems you identify. So, early communication about what you're planning to do. I'm thinking a happier heads up, hey, you know, we're working now on doing these scoping exercises and we expect to have a public comment period, whenever it's going to be.

Once the public comment period comes in, it's such a rush. That's way after we think it would be most effective. So, early notification of opportunities and have that input would be really helpful. Thank you.

MR. BRADBURY: Joe, then Gabrielle, then Susan.

GABRIELLE: I'm just sort of going to reiterate

Susan's message that the extent to which you can outline where you've got questions that people can more specifically respond to, the easier it is for us. I'm just being very simplistic. It's much easier to respond to something more specific than to, generally, we've opened up the docket, do you have any new data kind of request.

JOE: I'd just like to add my two cents from the American Mosquito Control Association's perspective. Preliminary, it's nice if you get in touch with the user groups to find out how these things are actually used. Oftentimes, I notice in the (inaudible) BiOp, we were playing catch up the entire time because their usage pattern designations, the models that they were using were totally flawed. We were in a catch up.

So, we need to get those things adjudicated right off the bat so that they're not using 25-foot above-ground level discharge heights for mosquito control and things like that. So, the earlier that can come into the process, the more we can try and prevent some issues later on.

SUSAN: This may be part of -- these are pretty

general descriptors, so it may be this is part of what you do. Looking at data from outside sources that are related to the particular active ingredient would be useful; for example, the USGF monitoring data, are you seeing this in the water. Then, also, the peer review literature.

MR. BRADBURY: Michael and then back to Dave.

MICHAEL: A couple of things. In terms of ecological problem formulation, it would be a lot easier for the agency if you had decent incident data. Your system is broken. I know you have a workgroup working on it. But it really needs to be fixed because it's the incident data.

Colony collapse disorder is a perfect example of that problem. Other avian problems over the years have demonstrated that. So, the agency needs to be able to collect data all during the time of pre-registration review to be able to have the data to look at what questions you guys need to ask.

The second thing is, the analysis of data that comes in in terms of quality control is often at the agency so strict that many peer-reviewed published

publications can not get entered into your data set because they're either analyzed differently or the data isn't structured in such a way that it's easy for the agency to use it. We need to get over that.

We need to use peer-reviewed science as it was intended in the publication stream. So, when there are university publications that give results, they need to be evaluated carefully and not just eliminated because they don't fit into the correct boxes at the agency. That's a harsh way of saying it, but I think a lot of data has been not used when it really -- the kernels of the information are extremely important and need to be taken into consideration.

MR. BRADBURY: Okay. I want to interject here a little bit, and I'm watching the clock. We've got two more charge questions to go. So, to the extent possible, try to keep your comments focused on the question as best you can. You can say whatever you want, but I'm trying to get some insights into that first charge question of how and when (inaudible) information in.

I appreciate Mike's comments about what do we do when we get the information and are we using it

appropriately. I'm not dismissing that point at all but trying to keep focused on that first charge question.

With that as a filter, Dave, if you go quick, you're getting a second bite at the apple, then Darren and then Mark.

DAVE: Yeah, it's real quick. I just wanted to clarify that my comment before was intended as a more general comment about registration review, not just in the context of ESA. So, that would be helpful all the time. Thanks.

MR. BRADBURY: Okay.

Darren, then Mark.

DARREN: I'd just like to point out that they do not report or forward incident data information for incident reporting back up to the region or to federal. I think that could be an area that needs to be fixed.

Also, as far as regulatory history, we need to come online to have a clearly defined and accepted label that will be accepted by all (inaudible) partners. Thank you.

MARK: My comment really relates to a lot of the transitions that's happened since ESA was passed in

terms of what USDA and RCS has done in terms of equip and other projects that have restored a lot of habitat. Farmers are involved in that, shelter belts, things like that.

So, the game, the series, the system is really changed out there and there's a lot of incentives now for growers to participate in restoration or habitat. I wonder if there's any mechanism now at this stage for that material, that information to come back into the system.

MR. BRADBURY: Okay, that's helpful. While I'm still thinking of it, a couple of snapshots and we'll get on to question two. One thing I'm hearing is how do you have engagement prior to the PWP. One thing we want to make sure we're communicating well is we have our schedule posted so you know when the dockets are going to open. We'll be clear in communicating when that means our teams are starting to pull information together.

But to the extent there's some things that we all think are important, do you know that the data setting (inaudible)? Do you know that this web site exists? Do you know that this package of information

exists? We'll be clear in letting you know X number of months before the docket opens. That will be a good time to make sure we're aware of that.

Pre-meetings, we'll think about that. Part of the idea of reg review is that SMART meetings turned into a whole process into themselves and it created some drag on the system. We didn't really get to where Cheryl was talking about where people are coming in and saying, we're never going to use this use again. We don't want to support it. Let's cancel it now and get that out of the risk assessment process.

That rarely happened, so the meetings happened. But we still carried along a lot of issues that didn't get resolved until (inaudible). But if we can change that so that we start to strip things out, that would be cool.

The other thing I'm hearing is how well that preliminary risk assessment, PWP, is articulating the degree of uncertainty that is currently going to exist in the risk assessment. So, we can focus better on why certain kinds of information we think could have a big impact.

For example, right now, because of the lack of a certain amount of information, this is the uncertainty we're going to have to carry through the risk assessment, which is likely going to have this kind of regulatory impact at the end of the day.

So, if we get X, Y, Z kind of information, that uncertainty bound may shrink X-fold in which case the regulatory risk mitigation issues that may or may not unfold, if they're going to unfold, they're going to be much tighter in going into this process with a wide open -- which means we have to kind of basically do a first-cut risk assessment in the PWP to be able to reasonably articulate what that risk pattern looks like (inaudible) uncertainty bound on that risk projection looks like.

That's something we've got to think about in terms of how we're burning resources through the process. We might gain more at the end by pushing more into the plan. I just wanted to synthesize a few things I heard at this point.

Susan, we'll see if we have time at the end. We've got to get to question 2, if that's all right.

MR. KEIGWIN: So, moving on to question 2. Now

we've moved past that preliminary work plan stage and we're actively in risk assessment, the data that we've identified as part of that preliminary work plan, and that final work plan has come in.

The question that we have for you is, given where we are in the process, and we're at a preliminary risk assessment stage, when might it be the most effective time to consult with the services in instances where we've identified risk to federally-listed threatened or endangered species?

So, here's sort of a broader view of how the current paradigm was envisioned when we put registration review together. We would open the docket, get the data in. We'd conduct the preliminary risk assessment. At that stage, once we had completed the preliminary risk assessment, we would start the public comment period and simultaneously initiate consultation, where necessary, with either National Marine Fishery Service and/or the US Fish and Wildlife Service, with the idea being that we'd completed the consultation process.

We'd have completed the public comment process. So, as we moved forward to finalizing our risk

assessment, we'd be at that stage where we could propose a risk management decision, take comments on that, and then issue the final decision.

We've utilized this now for two compounds, for clomozone and phameciphine (phonetic). We've received a great deal of public comment. I think those two pilots have also highlighted some of the science issues that Don talked about earlier. I think one of the challenges has been that because we're still at a preliminary risk assessment stage, it's not really at the point where the services may, in fact, be ready to engage in consultation because it's too early.

We're not at the point of what the agency's final action is going to be, which has traditionally been the point at which federal agencies have initiated consultation with the services. We're well before that. We're probably a good year, year and a half before that. So, we're starting to think that maybe this isn't really the model that we should be using for when we engage. So, we have a couple of ideas to just get some thoughts going and then -- but there may be other ideas.

So, one idea is to consult later on in the

process, which would essentially be after we've taken public comment. Some of the refined analysis or data have come in from registrants or users or other groups for consideration and consult at the point where we're proposing a decision, so closer to that final decision.

Or, a second concept might be to issue an interim final decision so we've gotten as much mitigation as is achievable at that point in the process. Then, based upon that highly refined decisions, but maybe not gone all the way to a complete no effect or endangered species, we initiate consultation where necessary at that point with the services.

So, those were the two options. There may be others that we wanted to seek some input from you all on.

MR. BRADBURY: Of course, (inaudible) fairly early just to get some initial reactions or if you see a different angle.

Susan, and then Cindy, and then the other Susan, and Ray.

SUSAN: That's okay. It kind of circles right back around anyway. I wanted to ask you about -- because you mentioned that you've already done it and then you go

out and some of the questions are gathering data. What kind of time line -- each time you go out looking for additional data or additional information, it might take you eight months to get to the point where you've got something preliminary and 30 days for people to supply data or more information. It seems pretty short to be able to truly inform the process. So, that was why I had wanted to respond when you had mentioned it.

But that leads right into this. Part of the question is, for each one of these stages where you have public comment opportunities, at which point are you really looking for the most data or additional information to really refine what you're doing in your assessment? The timing of that, how much time you allow for that -- the last comment period is going to be quite a bit shorter if you've gone most of the way down the road that you think you can go.

But, I guess my question back to you is, when you're going through these, and since you've already done this a certain way before with when you reached out to the services for a consultation, how much change happened in your assessment after? If you're thinking about

giving it to them earlier, which is a little bit scary, if you think there's a chance that there's going to be a change, then you've started them down a path that would be very -- I think it would be difficult to kind of change that off.

But, a follow up to that would be, we know what the problem has been with the timing of the consultations and the services not doing them in a reasonable time. So, is there going to be an establishment of the time line from once you've come up with a decision, whether it's final or start the consultation process, that makes that fit in with what you're doing on that entire registration review?

MR. BRADBURY: The latter part of your question -- let's hold to question 3, which (inaudible). I think we've got good concepts there. What kind of information is readily available? What kind of information is being generated? Where is that (inaudible)?

UNIDENTIFIED FEMALE: I'd just say if we're just going to go to option 1 or option 2, I think it's option 2, because I think that there is a lot of things that can change in that time period. We know that one of

the concerns for the services is resources and people. So, I would think that you don't want to start them off on that road.

I think that the experience in some of these early BiOps has been that I'm not sure they understood what exactly was the final label that's out there in every case. So, I think that it is important to wait until you've got a final decision.

MR. BRADBURY: Susan.

SUSAN: I like a hybrid of the two. I'm thinking that in the early stages, before the preliminary risk assessment, that maybe you have kind of a boilerplate questionnaire that goes out that takes someone -- it's not a full review, but it's like, is there any other data that needs to be included in this assessment so that you hear from them early on things that they know that you don't know.

Are there any unique species or habitat sensitivity that you guys need to take into account when you do the risk assessment? Whatever. There's a lot of questions you can make up, but have it be relatively simple and straightforward and the same for each

pesticide so you're getting the same types of feedback.

Then, include that in your final risk assessment. Then you're going into it so that you're not going to run into any surprises or things that they would have told you early on that you really should have considered this and now it's kind of too late to do anything about it.

MR. BRADBURY: Thanks. Ray.

RAY: I'm a little confused about the ability and willingness of the services to consider a proposed decision or proposed changes rather than an absolute final decision in conducting a biological opinion or consultation.

It seems it would be more helpful to have the views of the services earlier in the process so that when we approach a final decision, you're not sending to them a final decision that you'll have already had to put in place. Then they say, no, that's not right, you've got to change everything. And then you go back and you start over. Yet, you don't want to get so early that you're doing duplicate work from a different perspective.

So, if you send over a proposed decision, say,

at that third stage on this chart, how much flexibility can the services demonstrate in their consultation, such that they are considering the changes you're proposing, as opposed to the label as it strictly occurs in commerce and actually used today or the label of the changes you are proposing.

MR. BRADBURY: Cheryl, and then Mike.

CHERYL: This is a huge dilemma and there's a couple of questions that aren't really being answered here. If you really want to have consultation, it has to be early. You can't cut people out of problem formulation and expect them to buy in at the end. So, earlier is better if you want real consultation. Again, maybe the idea of what are the questions in that scoping exercise that Susan articulated is good.

The other one is resources, which is what Ray just said. What level of consultation are you looking for? If you want resource intensive level of consultation, they've got to be involved throughout, and they've got to be stacked appropriately, and they've got to move on a timely fashion.

If, instead, you're looking for engagement at a

different level, what kinds of questions are they needing to have information for if it's a different kind of consultation? It's something different than what's happening today. It's redefined as a set of more generic questions that have to be addressed in each. Then you can move that consultation to a different time frame. So, it comes down to resources and depth of consultation.

MR. BRADBURY: Thanks.

Michael, and then Carolyn, and then we'll move on to question 3.

MICHAEL: Certainly, I agree with Susan that early on, in terms of identifying which endangered species and their biology might be affected is really important. I agree with Ray that if you present a final decision, it's going to get muddled.

The biologists and the other people at the services know a lot more about the biology of the organisms involved. Going to them early to get species information and then again at the final risk assessment stage so that you can say, these are the proposed label changes, do you think that these will work for solving the problems that you're seeing in the biology of these

organisms, whether they be fish, or birds, or longhorn beetles, or whatever is appropriate.

Then, getting the consultation then in terms of mitigation for the label so that the label can go forward in the best way. I think sort of a two-pronged consultation would be most useful. What happens after the registrant says, well, we're not going to participate in this, that's a different story.

MR. BRADBURY: Okay.

Carolyn.

CAROLYN: I hope that you're asking these questions to the services as well as to us, because it seems like to me the most efficient process is one where -- and it's supposed to be a consultation between agencies.

So, the more collaborative that process can be and the more helpful each agency can be to each other, the better. I would hope that between OPP and the services, you could work out a process that works really well in terms of both complying with the law and coming out with the best final product. All of us around the table hopefully would understand why that's the best

possible process and work out our public comment schedules and stuff to help that.

I think it should be a really, really collaborative process. That's the whole point. That's what the law asks for.

MR. BRADBURY: Thanks.

Why don't we turn it over to Rick for question 3.

MR. KEIGWIN: So, the last one (inaudible) OPP and the services are looking at expanded public input opportunities. We wanted to get some preliminary feedback from you all on when you all think the services can best obtain and consider public input as they're developing biological opinions.

MR. BRADBURY: That's an easy one. Any takers? Mike, Ray, Mark.

MIKE: Well, it's hard to know if the process going forward is the same as the process we've seen in the past. But I think that one of the challenges we've had in commenting, at least from the user's side, is to try to understand in the biological opinions what actually is driving the risk that's being assessed.

In the past, when the agency did risk assessments on, say, dietary, you could tell it was driving the risk. What use pattern on what crop was the real thing. The residues would drive risk. But in the case of these biological opinions, it's not clear what is driving risk when you see those.

So, that would help. That piece of information or some way of targeting and looking for that kind of information, when those biological opinions are written, and then presenting that so that you just can find ways of commenting and determining whether or not those uses are still being used or whether or not those are uses that are maybe on labels that are not being used.

MR. BRADBURY: Thanks.

Ray, and then Mark.

RAY: Your question here brings up a number of questions from my perspective. Are you asking these questions on behalf of the services? Are they represented here to hear these responses?

MR. BRADBURY: Theresa is right here from National Fishery Service.

RAY: Okay. What statutory/regulatory

obligation do the services have to seek this input from the public when they are developing the biological opinions? It seems like the only avenue we have had is through the agency. Is that correct?

MR. BRADBURY: The question we're posing right now is, from the PPDE's perspective, what is your opinion about opportunities to provide comment on biological opinions. Clearly, the government has to work through what the regs say and all that business that needs to be dealt with. But having said that, what are your opinions about opportunity to provide comments on the biological opinions?

RAY: Well, I think, from my perspective, they have appeared to be quite -- the opportunities to date have been quite restricted. I would certainly like to see that process opened up more where there is more opportunity for direct interaction of the stakeholders with the services during the process of developing those public opinions, the biological opinions.

Whether that means beginning at the very -- when they first receive a package or halfway through or at some intermediate point they can identify, it needs to

be certainly well ahead of the final endpoint in order to get useful information.

MR. BRADBURY: Thanks, Ray.

Mark, and then Cindy, and then I've got --

MARK: As a biologist that's done quite a bit with endangered species, typically those in the upper midwest that are arthropods, I would say that it's fairly difficult at times to have input in the process, even with outstanding information, even with cooperation with some of the services.

Part of that is the mechanisms involved and the restrictions involved in terms of manipulation of habitat, particularly successional habitat where endangered species may be -- take the carnal blue butterfly, for example. When Michigan literally burned, after the white pines were removed, the carnal blue butterfly's habitat was greatly improved because the fire vernalized lupin which is its primary host and it exploded. There were huge populations everywhere. They appeared in insect collections everywhere.

Then, as succession was arrested, fires weren't allowed to burn from one great lake to another, people

didn't die as much from forest fires that were uncontrolled and succession was allowed to go on, habitats really declined.

Recently, habitat has been restored. Forest service has done a lot of good work in looking at that. Growers, in fact -- the cherry industry, for example -- would be willing to extend a lot of new habitat on buffer zones and things that would provide for primary hosts for that insect to survive.

Numbers seem to stay about where they're at because the habitat hasn't expanded that much. So, having input into that process as a biologist or as an industry, like the cherry industry, is fairly limited into the services, and limited into the processes that people can get engaged in because the experts manage it.

MR. BRADBURY: Thanks.

We'll go Cindy, then Michael Fry, then Gabrielle, then Dave, and then we'll close the session.

CINDY: So, I would support a couple comments that have already been made. One is Mike's point about the drivers. I think this is a really important issue. We've talked about it, I think, a couple of different

times here in identifying what really drives the concerns. From the historical work with the agency, those have been easy things to figure out. There's usually an endpoint or an exposure assessment or something along those lines.

In this case, it's completely difficult to figure out. I don't know today what the driver is in some of those biological opinions for the compounds that I have. I think that that really is a critical piece of information for stakeholders to have so they can provide some input around that.

I also think the resource issue that was raised and the ability of the services to do this is a critical issue because we had pre-meetings for BiOp 3. We provided information on the compounds that were in there, and it's not reflected in the BiOp. So, that, to me, says that it's not that they're ignoring us; they don't have the time and the resources to go back and make those changes and do it.

So, I think that has to be addressed because I do think it's important for the services. They should be engaged with stakeholders upfront, but that information

has got to be used then or people are just going to be frustrated in the process and they're not going to provide information. So, I think you've got to address those things.

MR. BRADBURY: Michael Fry.

MR. FRY: Well, I think that's -- the biologists and the services focus on the organisms that they're trying to protect. I don't think they have the expertise that growers have or that the registrants have in terms of what kind of management things are really possible.

So, I think getting input from growers on buffer strips, on tail water ponds, on other management techniques, getting input from the registrants on exactly what kind of label things are appropriate, possible, these kinds of things, is all very important.

True, the agencies, the services may not incorporate all of this into their comments, but I think it would frame their response differently and provide a better responsiveness to the EPA in terms of how to deal with some of these issues.

Some of the BiOps have been unrealistic in the

demand for protection, and it's been extremely difficult for either registrants or growers to accommodate those. So, I think getting their input early to the services before the BiOp is done and consulting with EPA would be very useful.

MR. BRADBURY: Thank you.

Gabrielle, and then Dave.

GABRIELLE: Well, a lot of this is ditto. I mean, basically, the way I put it is Office of Pesticide Programs has spoiled us because when you changed the re-registration process to put in two public comment periods and opened that up to -- the risk assessment to public comment, opened up review of how you're doing the risk assessments under the FQPA process, you set a standard that I'm not sure anybody else in the government meets in terms of public transparency.

I mean, I'll just be upfront with my limited experience. So, just to give services some understanding of why we're saying, what the hell are you doing not talking to us -- because this is what we're used to.

But the other thing that I learned from that is the EPA at the end of the day had a much stronger process

because of all of that feedback. Everybody believed the risk assessments a lot more at the end of the day. We all had quibbles with it, but there was a lot more strength in those assessments.

So, all I can say is we absolutely need more participation. I think Michael's Fry's comment (inaudible) --

MR. BRADBURY: Excuse me, people on the phone, you have to put your phones on mute. Please put your phones on mute.

UNIDENTIFIED FEMALE: Can you please put your phones on mute, please?

GABRIELLE: So, coming back to also -- I mean, I think one of the frustrations here is also the different levels of expertise. The services have the expertise on the biology and locations. EPA has the best expertise in terms of how pesticides move. The different stakeholders have different expertises to bring. How can that be part of the process?

I think PPDC to a year ago is very clear that this is not something that's a statutory issue under ESA; it's a question of policy within the services, how they

choose to incorporate and have processes for public comment. So, I think there is the option for flexibility. It's a question of how to deal with it given the limited resources. So, all I can say is do open it up for more comments.

MR. BRADBURY: Dave.

DAVE: Well, I think it's pretty clear that the way of consulting at the very end I was going to say leads to a lot of uncertainty, but it's actually a lot of certainty that there's going to be a really messed up decision at the end.

Things can come to a grinding halt, which is not really in the -- well, it's certainly not in the interest of the growers and the people that sell these chemicals, and really not even likely to be in the best interest of the best way to achieve the goals of the Endangered Species Act. It's just kind of a mess.

What Cindy said was it's a matter of resources. I think really it ought to be looked at as okay, is there a way of getting the resources to the services so that they can engage in a more meaningful and productive way early in the process? There's a number of points where

it really makes a difference, where it's going tot make a difference if they participate in a meaningful way early on so that people don't waste their time and end up with a disaster at the end. I think growers and registrants might want to look at a way of supporting services.

I know it's easy to spend somebody else's money, but it might be a really good investment to figure out look, if it's a resource issue and we know they're probably not going to be raising taxes, look at it as an investment to have a much better process that everybody can live with and that will result in a more efficient process overall. You're going to spend the money at the end anyway.

MR. BRADBURY: All right.

Two people put up their names after I was very firm that Dave was going to be last. If Susan and Ray can promise that their comments will be no more than 30 seconds each, I'll indulge you, but that's it.

SUSAN: Just to tie this discussion back in to what we talked about yesterday, it seems like growers are feeling that if buffer zones are imposed, they're losing that land to production. So, this is a place where EPA

could certainly provide some guidance to growers about related IPM techniques that may allow them to continue to feel like that land can be productive in spite of limitations that may be put on for endangered species.

MR. BRADBURY: Ray, 30 seconds.

RAY: I didn't want to lose the opportunity to ask about the science issues for the NRC panel on the endangered species issues. Your slide 12 listed 8 or 9 questions. What will be the process for seeking public input into those questions?

MR. BRADBURY: NES will handle that process. One of NES's first steps will be to say, here's the scope, here's the issues, and get public comment back on that. We're in the process of turning it over to the NRC that runs their public process.

Okay, I want to thank everyone for very good comments. We went through these three questions which I know are hard. It's a beginning to start to look at it. But it was for me a very helpful conversation to start to see some comments threads, some common ground, which I think is going to be very important for moving forward. So, thank you all very much.

We'll go to our next session, Session 8, which we'll get an update on the NPDES pesticide general permits for pesticide use in, over, including near waters of the U.S. Allison Wiedeman, who is the branch chief of the rural branch of the Office of Water, is going to give the overview.

MS. WIEDEMAN: Good morning, everyone. So, this is about EPA's pesticide general permit and where we are now. As some of you may know, we are in the process of developing this pesticide general permit. We have proposed it in June.

I think I'm going to start here and go back.

The latest court mandate before April 9th is that permits were necessary by April 9th, 2001, and as mandated by the Sixth Circuit Court. EPA requested an extension of that until October 31st, 2011. EPA was granted that extension by the Sixth Circuit Court. So, what that means is that NPDES permits are not needed for pesticide discharges to U.S. waters until October 31st. So, we have some more time.

The reason that we needed that time was to do four things. One was to allow us to engage with the

services under the Endangered Species Act to consult with them on this permit. Another was to complete development of an electronic database that would be able to accept the notices of intent to be covered. NOI is a document permittees would submit telling the permitting authority that they wish to be covered under the permit.

Also, authorized states to finish developing their state permits. As the April 9th date approached, states were complaining that they were very close but hadn't yet been able to finalize their permits. Many states were developing their own permits and were not meeting the April 9th deadline and needed more time. So, now they have that time.

Also, we all needed more time to get to the regulated community and work with them and provide outreach to help them understand the requirements of this permit so that when the permit does become effective, which will now be October 31st, they'll be in a position of compliance.

I'm going to go back and start where I started.

So, while we got an extension, we were still on a path to making significant progress to finalizing this

permit. The permit has, as I said, gone through public comment. We finalized the permit based on input from those public comments. We were able to have the permit undergo interagency review through Office of Management and Budget, which is something that all of our regulatory actions have to go through before they become final.

So, we have gone through OMB review. We felt that it would be a good idea to post the permit that was completed after interagency or OMB review. So, we have done that. It's rather a precedent setting action, but we have posted that permit online. What that permit represents is the final permit without having any permit requirements in it that may or may not be included because of Endangered Species Act consultation.

So, it's a pre-ESA version of the permit, if you will. We felt that it was important to post it now because 44 states that are developing their own pesticides general permit. Again, EPA is only developing this permit for six states that are not authorized under the NPDES program. The 44 states that will be developing their own permit do not have to go through ESA consultations.

So, they don't need to have that part of that information to be able to move forward and develop and finalize their permit. So, they have what they need now. This is not a final permit that's posted on the web. It's not a final action. It does represent everything that the permit will contain except for what it may not contain as a result of ESA consultation.

This is just to again reiterate and remind folks that the permit that EPA is developing is for six states, for Alaska, Idaho, New Mexico, Oklahoma, Massachusetts, and New Hampshire, as well as the District of Columbia and some federal facilities that exist in the states of Washington and Colorado. All other states are in the process of developing their own permits in response to the Sixth Circuit Court decision.

Back to the new time line for a moment. Now that we have an extension until October 31st, 2011, the time line, then, in terms of the next steps and what we plan to do from here until October, is that we are working with the services right now to develop whatever requirements may be necessary to meet the requirements to not cause jeopardy to endangered species.

Assuming we can complete that, we plan to have whatever conditions may go into the permit completed by May 6th, so that's coming up very shortly. Any additions to that permit, then, will need to go through a second round of interagency review through OMB. So, we'll do that between May 9th and June 9th.

If we find that there are changes or additions to this permit that are significant, we also know that we need to allow for a 30-day public comment period. So, we will accommodate for that if there are significant additions to the permit.

Then, we would like to publish the permit July 30th in the Federal Register but not have that permit become effective until October 31st. That again is in order for us to -- we have that time between July 30th and October 31st to complete our electronic database and to continue working with the states to finalize their permits in working with industry.

That is some of the process that we've been going through and what we plan to have done by when. This is just a little bit about what the requirements are in the permit and what the permit covers. We'll start

with what the permit doesn't cover. That includes activities that are outside the scope of this permit, which include off target spray drift. We never intended to address that.

And also discharges to waters that are impaired for the pesticide that's being discharged. We thought that if a pesticide is being applied to a water impaired for that pesticide, that this permit wouldn't cover it. A situation like that would need to be covered under an individual permit.

Of course, the Clean Water Act exemption, which include agricultural runoff and irrigation return flows, are not covered under this permit. They remain exempt under the Clean Water Act. The court decision did not affect that.

The third bullet tried to clarify that when pesticides are applied to land and there is no discharge to water, that a permit is not necessary. So, the permit coverage is not required for pesticide applications that do not result in a point source discharging to waters of the U.S., such as terrestrial applications for controlling pests on agricultural crops, forest floors,

or range lands. That's just meant to reiterate that. If you're not discharging water, you don't need a permit.

The contents of the pesticides general permit is outlined as the same as when we proposed it. There will be, in terms of scope, discussions of who's covered, who needs to submit a notice of intent, the effluent limitations that are in there, both for technology and water quality base, the monitoring that's required, the recordkeeping and reporting that is also required.

I have about six slides in your package in the presentation that goes over the changes from the proposed rule to what now is in the final permit that's posted on the web. I'm not going to go through all of them. I primarily put it in there for your information. I'm just going to go over some of the major changes from the proposal in a way that tries to tell you both what changed and what the final permit looks like.

In the final permit, we have tried to make a more clear distinction between permit responsibility for the applicators and permit responsibility for the decision makers. They do different things, and we tried to make it clear what they're responsible for in the

permit, separately responsible for. That, we heard from commenters, was something that definitely needed clarification.

We also had in the proposal a linkage between who had to submit a notice of intent to be covered and what the requirements were that they had to meet. In other words, for everyone that had to submit a notice of intent under this permit, then they would all have additional requirements as well. That is not the case in the final permit.

There are different entities that need to submit notice of intent to be covered, but the requirements for all of the folks that are covered under this permit are different but are more tailored to what it is they do and what we believe are requirements that they should be able to meet.

In terms of some other additional changes, which this will be the slide that I'll talk about, we included coverage for different kinds of biological pesticides, some of their fungi bacteria and other microbials that wasn't clear.

We also are allowing the discharge of

pesticides and allowing coverage under this permit for discharges into tier 3 water bodies or our natural resource water bodies. We found during public comment that, in fact, sometimes pesticides are used in these water bodies to keep them pristine and that pesticides needed to be kept in them. So, we've made special provisions that under certain circumstances, pesticides can be covered that are applied to tier 3 water bodies.

We've also clarified that research and development activities do not need to submit notices of intent. Also, and very importantly, for hire applicators are not permittees that we believe need to submit an NOI. They are covered under this permit. They do have certain obligations to meet under this permit, but they do not need to submit a notice of intent to be covered. We've primarily made that change also in response to public comment.

We feel that the most important folks for us to know what they're doing and where they're doing it are the decision makers and those that hire the for-hire applicators. The land owners, the government, the state and federal agencies, the large mosquito control

districts, and the irrigation control districts are those that we feel are the ones that are making the decisions, the ones that know what they need to do to implement IPM-like practices, and the ones that are responsible for hiring the applicators and the ones that are telling them where they want to apply and for what reason.

The decision makers are the ones that we want to get notice of intent to get coverage from and to get the most information from in terms of a recordkeeping and annual reporting.

Under 1.2.2 of the permit, the folks that will be regulated in terms of submitting notices of intent and notice that will be required to perform IPM-like practices are the ones with all three tier discharges, all federal and state agencies with pest control responsibility, all pest control districts, such as the Mosquito Control Association, all irrigation controlled districts, and others that exceed an annual treatment threshold.

We have a threshold for other entities besides federal and state organizations and those listed here that if they fall below a threshold, they're generally

small businesses and we wanted to accommodate for the burden that this would have for small businesses. So, for those that are larger than the threshold, the full suite of requirements would apply. But for those under the threshold, it would not.

The threshold that we had in the proposal for applications of mosquitocides and for forest (inaudible) was that if you applied it in an area of 640 acres, that you would need to submit a notice of intent to be covered. We've changed that based on public comment to 6,400 acres. Then also, the threshold for water bodies where water is applied directly to them but just for aquatic needs control, we changed the threshold from 20 acres to 80 acres.

Just very quickly I want to show you a tool that we have put up on the web, as well as the permit itself. This is a tool -- because it is very intimidating and challenging for a permittee to figure out whether or not they're covered and what the requirements are that apply to them in this permit.

So, in an effort to make it as easy as possible -- and this is an iterative program that we've developed

and will be seeking folks as to how well this works -- it's a tool that's up on the web. You can go to it now and you can go through all of the questions.

Basically, I'll just go over it quickly so you can get a feel for what it looks like. You go and there's a question number one, will you be applying or hiring someone to apply pesticides that will result in a discharge to waters of the U.S. If yes, then you go to the next question.

Is the pesticide that you will apply a biological pesticide or chemical pesticide that will leave a residue? If yes, the next question, will your discharges to waters of the U.S. be solely a result of agricultural stormwater runoff or irrigation return flow? If no, then you go to the next question. Then it says, will you need an NPDES permit.

Then you go on to the next sections, which are in your package, that run you through a series of questions like this to know whether or not you're an entity that needs to submit an NOI or not, and then what requirements are applicable to you.

While all of this work is going on, of course,

Congress is watching this. The House has already expressed their will in terms of what needs to happen for pesticide discharges in the U.S., at least in the House anyway. When the House passed Bill 872, that essentially would exclude pesticide discharges to the U.S. waters. They need to have an NPDES permit.

A similar bill was referred to to the Senate Ag Committee. We do not know where that's going. We do not know what the outcome of that kind of thing will be in the Senate, but, of course, we are watching. That's it. There's our web site where you'll find the posted permit and also that tool. If you have comments, contact Jack Faulk or myself.

MR. BRADBURY: Thank you, Allison. That was a very helpful update. Again, for this session, we just wanted to get you information so you could be current on what's going on. Allison has got the web site and her name and Jack's name. If you have follow-up questions or your colleagues have follow-up questions, Allison and company will be happy to answer those. So, with that, thank you, Allison. We appreciate it a lot.

We'll take our five-minute break and come back

at 10:45 to get a report on our 21st century toxicology workgroup.

(Whereupon, a brief recess was taken.)

MR. BRADBURY: Okay, if everybody could start to get to your spot, that would be great. Okay, Willette, Fry, and Gabrielle, find your seats. Why don't we get started on Session 9. Vicki Dellarco, who is the senior science advisor for OPP who is working closely with Jennifer McLane with our 21st century science workgroup, is going to give a report out from the workgroup.

We have members of the workgroup here as well. I'm sure they'll keep open mics to feed in any additional information as Vicki tries to give you all a summary of what we've been up to over the last several months. So, Vicki.

MS. DELLARCO: Thank you, Steve. Updating you on our 21st century science activities has been our regular thing that we do. We've talked to you about our vision and strategic direction in this area that very much ties to the 2007 National Academy of Sciences report on testing in the 21st century. When we use that term

21st century, we're referring to the advances that are happening now in molecular, in vitro, and computational sciences, and looking towards using technologies like (inaudible) and high throughput screening.

I actually want to update you in three areas to tell you what our workgroup is doing, but also our plans to go through the FIFRA Scientific Advisory Panel with our vision, and lastly, what we're doing in terms of the endocrine screening program to bring in some of these technologies.

So, let me start with our PPDC workgroup on 21st century toxicology/new integrated testing strategies. I just want to start with the objectives of that group. It's made up of a number of different stakeholders from environmental groups, animal welfare groups, industry groups. It pretty much reflects the composition of this panel. Their role is to really help us on communication and transition issues as we try to phase in these new methods and to provide us input on some key activities needed for the successful transition.

Last December, we reported out on the one-day stakeholder workshop that we had on our vision with our

case studies to kind of broaden the dialogue. I won't say too much about it except the workshop synopsis is now available on our web site. So, you can go there and take a look at that.

The other thing that we mentioned to you last December is that we were working with our group to plan another one-day workshop which will be held in conjunction with the October PPDC meeting. I think we've made good progress on the themes for this. It's going to be on diagnostic tools and biomarkers in pesticide medical management and overexposures, as well as the use of biomarkers in population surveillance and epidemiologic studies.

I think we're getting pretty close to a good agenda with the committee where it's divided up into three important parts. One part is to stress the need and the role of the biomarkers in the context of medical management surveillance and epidemiology.

Another part of the agenda will be to look at the current state of science. What are some of the limitations in the methods that we have now? What are the issues around interpretation? What are some of the

promising methods that are emerging on the horizon that we can look at?

Then we're going to end that one day with a panel discussion sort of looking at what approaches and policies are needed in this area. What can we learn from existing monitoring programs like those at OSHA? And some perspectives on bringing 21st century tools to help us better protect vulnerable populations.

So, we've been working with our group in identifying potential participants and presenters. We hope to be able to kind of finalize our agenda at our May meeting and to kind of move forward and start inviting people and announcing this meeting.

The next topic is our SAP meeting. It's going to be a consultation on again our strategic direction. It's towards the end of May. The documents that we've prepared in support of this meeting should be available next week for you to take a look at. Basically, what we're doing here is getting early input.

We're at the point, although we've been thinking about this and working on this for a couple years, we're really at the point to go to our SAPs and

get early input from them in whether we've articulated a clear path forward. Have we described all the building blocks? Have we laid this out in a logical progression of activities in achieving our vision and making our testing and assessment process more timely, effective, and relevant? We plan to invite some of our researchers from the lab to present what they're doing to help build certain tools.

We're going to also provide two case studies. One case study is to illustrate how you use knowledge of what a chemical does. I mean, this is what this new paradigm is. It's being able to predict what may happen by understanding how it happened by using these mechanistic methods.

So, we want to illustrate that knowledge of the event once the chemical interacts with the target, what happens at the cellular level and tissue level, how that knowledge itself can be used to provide insight into how you can better (inaudible) response. How can you better characterize susceptible and vulnerable populations? That will be one case study.

The second case study, the purpose of that is

to show a method to lay down an understanding of a pathway and taking integrative approaches using OMIX and some traditional methods. We've also talked to our PPDC workgroup about one or two members coming and doing a presentation on the stakeholder view of some of the scientific issues. So, they're working on that also.

With that said, because SAP is a FACA process, everybody is welcome to give a view during the public comment period.

So, with that, I'm going to switch to the endocrine screening program. Before I get into the 21st century stuff, you've heard about the background, and that FQPA required us to develop a screening program for evaluating endocrine effects. Safe Drinking Water also provides provision for the testing of chemicals in this area for contaminates found in sources of drinking water. How we have shaped that program, looking at the EDSTAC recommendations, it's sort of a hierarchical approach, doing two tiers.

The first tier purpose is for screening, just to determine whether there's going to be a potential interaction with the estrogen, androgen, thyroid system.

The second tier is meant more to really confirm that in terms of leading to an adverse effect and being able to quantify the dose response. So, that's just background that you've heard before, so we'll just move on.

So, with respect to thinking about how to bring in some of these new in vitro or kind of computer-based computational methods into the endocrine screening program, this is not new at all. In fact, back in 1998, EDSTAC talked about the use of high throughput in vitro screening and QSRs.

It was acknowledged by the SAD and SAP in 1999. The technology just wasn't there for us to utilize it. But a lot of work has gone on in the last couple of years. So, this is the time now to think about how we might transition and work on transitioning these methods into how we screen.

So, in moving towards these methods, we plan to take a stepwise approach. I think it's clear what the benefits are in trying to bring these technologies in from our experience in implementing the tier 1 screen. It requires a lot of resources, both in time to implement the program, the cost of the assays to review them,

document that data.

So, there is important needs to see how we can increase the capacity to efficiently screen more compounds, make timely decisions about next steps and effectively allocate our resources where they are most needed. I also want to make clear that we're not sort of just throwing the switch. We're going to move away quickly from the tier 1 screen that has been developed. Again, it will be a stepwise approach when the science is ready for us to bring it into that program.

So, we're working with ORD and laying plans down to get there. The near term goal is to use a high throughput in expert kind of QSAR models to help us prioritize chemicals into the tier one screens. So, it would be something that we'd start doing perhaps after list two.

But we don't only want to use this technology to tell us what chemicals should we try to get in early in the program, but to use the knowledge from these mechanistic-based screening tools to tell us what pathway should we be focusing on. So, as the high throughput systems and the expert models improve, to actually use

that knowledge to select the appropriate subsets of the tier 1 studies.

So, perhaps for certain chemicals -- not all chemicals are going to do the same thing. So, in one situation it may be important to focus attention on the estrogen pathway versus the androgen pathway.

As we move forward, it will be transparent so there will be an opportunity, there will be peer review processes, public participation. The long term goal is to eventually make that tier 1 screen virtually a non-animal approach so we can do it very quickly. We'll have to build the science foundation to get there. As we see, it's going to be an iterative process of testing, learning, and refining. What does long term mean? It could be five years; it could be a little longer than five years to move in that direction.

So, let me move on with some other updates in the endocrine program. The evaluation of tier 1 data, we're expecting most of the data from the first list to be in by the end of 2012. We'll look at that data to analyze the performance of the 11 assays in the battery. We've made a commitment to go to SAP with that analysis.

A prediction is we might be able to do that sometime in 2013. It may fall over to early 2014. It depends again on the availability of the data how long it takes to go through that.

The other thing that we've done recently, late last year we put out -- how are we going to interpret the results of tier 1 to determine which chemicals need no further testing, which chemicals should move on to the tier 2 testing, which are multi-generation assays across (inaudible). Of those that need more testing, which tier 2 tests should you do?

The comment period closed for that back in February. We've gone through all the public comments. The common comment that was given to us was that we needed to go back, do some more work, and provide some more explicit criteria and guidance upon which we're probably going to make those decisions. So, we're working on that right now.

The other thing that we're making good progress on are the standard evaluation procedures for each of the tier 1 assays. We're predicting that we might be able to have those all up on the website this summer, perhaps

sooner for certain ones that are ready. So, we've made a promise that when certain SEPs are ready, to go ahead and provide those on the website.

The other thing is we put out the candidates for list two. In developing list two, we drew on several sources, the National Primary Drinking Water Regulations, the CCL 3. We also have pesticides, additional pesticides on list two whose registration review schedule was open in 2007-2008. So, we're reviewing the comments on that.

We also put out for public comment the amendment to the information selection request, which was amended to reflect the burdens in (inaudible) list two. So, the next step will be a second public comment period and an OMB review. Also, we put out when reviewing the public comments on the procedures and policies related to the SDWA orders; in other words, being able to get information on the drinking water chemicals.

Let me just go back to tell you what the purpose of the standard evaluation procedures are. That will be the guidance on how we review each of the tier 1 assays as they're conducted with the harmonized

guidelines. The product of a standard evaluation procedure is the data evaluation records, the DER. That will reflect how well a study conforms to this test guideline and the conclusions drawn on the data from that study.

So, I think that's it. I'll open it up for questions, comments, on any of these topics.

MR. BRADBURY: Maybe first if there are any members of the workgroup that has any additional comments. Matt or Carolyn? Carolyn?

CAROLYN: The FACA workshop that's planned for the next or in conjunction with the next PPDC meeting is a really important topic. I think one thing that's going to be critical to making it successful is being able to schedule the next PPDC workshop soon so that speakers can be invited for the FACA workshop.

So, I just wondered at what point can you nail down exact dates of the next FACA meeting or the next PPDC meeting?

MR. BRADBURY: Well, maybe in our next session we can see if we can't start to triangulate at least on a window. We get that nailed down pretty quick.

MS. DELLARCO: I appreciate that comment because you're right. As soon as we get a date, then we can start calling our speakers and getting us on their calendar early before they book their calendars up.

MR. BRADBURY: Cindy.

CINDY: So, this is way over my head. I fully admit that upfront. So, hopefully this isn't a really stupid question. What I'm wondering about is to go to the exposure level, which is what it looks like you're proposing we do at the next FACA, I would think that some of the non-animal methodology would be validated by then. Is that not the case? No? You don't need it? You can go right to the exposure? You don't need to have that part?

MS. DELLARCO: Not necessarily. But the vision in the NAS report for biomarkers is you understand how chemicals perturb normal cellular functions that can lead to some disease. As you understand those events, the biochemical molecular events, out of that knowledge would come the development of more specific diagnostic markets.

Now, that's going to take time to lay that understanding down. That understanding is not going to

all of a sudden happen in 20 years or 10 years; it'll happen all along the way. So, for some effects, we might be able to predict things earlier than other effects. But there's work now going on in biomarkers and various techniques that it's important for us to have a handle on where that is --

CINDY: What's available? That's what we're looking for there is more like what's available.

MS. DELLARCO: -- and what's available and how the area is moving.

CINDY: The other question I had is around the endocrine and its connection to this. So, you guys know that a ton of resources are being spent by industry, and I assume a ton of resources are being utilized at EPA going to this first tier 1 and what's going to be done with that data and all those things.

So, how far away is it? When you say you're close and you're moving there, are we talking 5 years, are we talking 2 years, are we talking 10 years? What are we talking about?

MS. DELLARCO: I'll give you my opinion and then Keith can either agree or disagree with me. For a

couple of years, we've been working very closely with our researchers to stay on top of this. Actually, to modernize the endocrine program, this was put in the 2012 president's budget, so there's funding designated for this. We feel that we could use this for priority setting now to cue up things. I think maybe in the next two years we could start using it to inform us what pathways we start looking at in terms of EA&T.

Now, with that said, there are some limitations with the technology. Our researchers are aware of it. They're drawing up plans to address these. We have to solve the bioactivation problem (inaudible) metabolic system to activate the compound, although they can use predictive models for how fast a compound may be cleared. But we haven't got the bioactivation.

Also, with respect to thyroid effects, the systems that they have now really don't cover the different lasik chemical. Chemicals can perturb the thyroid axis. They're working on that. So, again, for certain pathways, certain knowledge, they're making greater progress with so we can bring that in.

But we will have to rely on a subset of in vivo

assays for certain endpoints for a couple of years until we address some of those limitations. So, it's not an all or nothing.

MR. BRADBURY: Let's go with Ray, Cheryl, Dave, and then we'll finish the session.

RAY: It sounds like the computational tox methods, the 21st century computational tox methods have a potential to substantially improve the endocrine testing program. Is that what we're hearing?

You talked about modernizing the endocrine program. Does that mean you could end up scrapping a lot of the current endocrine testing programs?

MR. BRADBURY: Let me do that one, Ray. Let's all step back and think about what we did two years ago or so when we created the 21st century toxicology workgroup on the PPDC. That was done because we were all looking at the 2007 NAS report which said across the board the science is changing and the way to be thinking about how to do testing is coming.

It's coming not only -- the potential for it to be actually used is what the research and all the public process will bring to bear. But the notion that the way

we do testing and risk assessment of the 1990s probably isn't going to be the same kind of technology and information that we'll have in the 21st century. It's not just endocrine; it's all sorts of different endpoints.

So, what you're seeing with the endocrine is just a reflection of where some significant amount of resources have been invested in the research, in part because we know a lot about hormones. So, the idea of toxicity pathways and the whole concept the NAS laid out is pretty (inaudible). It's a logical place to start because we know so much about biology.

So, I view it as it's not that anything is wrong now; it's the fact that science changes and technology changes and information changes. We're just working with those changes with the outcome that we should be able to make better risk assessments, more effective risk assessments, understand issues around (inaudible) species extrapolation, subpopulations, mixtures, a lot better than we can now. Hopefully, we do it quicker so we can focus on the issues that need to be focused on and invest our resources where they need to be

invested most wisely.

So, I don't view this as a criticism or a rejection of where we are today, quite the contrary. It just reflects the natural evolution of science and technology and how we start to put them into play.

RAY: Well, we're in the midst of spending $100-plus million on an endocrine testing program which may be substantially improved at potentially lower cost in the not too distant future. Does it make sense to continue with that investment which may not be yet necessary?

MR. BRADBURY: I appreciate your comment, and I also appreciate what the statutes require. That's part of moving forward with the policies. But I appreciate your point.

Let's move on to Cheryl and then Dave. Jennifer, I see you've got your card up, too.

CHERYL: It's my understanding that the endocrine program is coming from a congressional mandate. But the Tox 21 activities are free of any of that type of burden. It's really an exploratory science. I guess I'm just a little surprised that you're tying those two

things together in substance because I would think you'd have more freedom --

I know you need information to validate and work with, but I would think you'd have more freedom if you didn't tie those things together and you used your tox 21 resources to really go after the single most important need, which is to try to do some validation independent of any kind of regulation for the validation from in vitro and in vivo. So, I'm just kind of surprised.

And then, it also looks like you're deluding your efforts a little bit by chewing up a workshop at the tail end on the biomarkers when the most fundamental piece that I understood you were supposed to be working on was that initial validation of the tests themselves.

So, it's a little surprising. It looks like the efforts are getting deluded and expanded. The devil is always into details.

UNIDENTIFIED FEMALE: Okay. So, the endocrine program and tox 21, they're interrelated because tox 21 is all about understanding pathways, including endocrine pathways. We're not going to jump the gun on anything,

so anything that we bring in to the endocrine program will have its due scientific process to evaluating reliability and allowing for peer review and input there.

In terms of the biomarker issue, whether that's premature, it's not only important to promote and drive the area on the toxicology side, but also on the exposure side. That's what this meeting is about, to raise the importance of the need and where (inaudible) and really start a science dialogue on that, too.

MR. BRADBURY: Just one clarification, as I break my rule to try to stay on schedule, what we're describing here on the endocrine is part of a much larger ORD investment. Their internal planning session is actually wrapping up the end of April, and ORD will go through a public process to let people know what the whole big portfolio is of this effort. So, this isn't just the only thing that's going on in the agency in terms of advancing.

So, we'll go Dave, Michael Fry, and Jennifer Sass.

DAVE: Well, first I'd like to comment on what Ray said. Really, I think that what you're doing now

with the endocrine work is actually helping build a base of knowledge that can be used to help validate a lot of the newer tools. So, if you don't have a lot of the information that's going to be developed in that, you won't have anything to compare it to. So, it's really sort of building on an opportunity -- that information is an opportunity to move it forward.

The other thing is about the biomarkers. Establishing biomarkers is not necessarily dependent on having a clear understanding of all the mechanisms that are behind it. You can still have very clear biomarkers for something using new technologies that are going to be much more powerful in indicating exposure and even disease.

You don't have to understand all the reasons why that's occurring. The same thing with environmental markers as well. When I started preparing for that workshop back in December, I started asking people in California, what do you guys see being able to use this for. They started talking about using it as screening for environmental endpoints. I was, like, whew, wait a second. Identify and get more problems.

I think what we really want to do as we move forward with this, with the biomarkers and the screenings and the environmental endpoints, those two things need to move forward sort of in concert and using techniques and knowledge that makes it so that those at the end won't be comparing apples to oranges.

The technologies that are used to develop that can really be tied together so that the two things aren't two different types of information you can't really use together. That ties back to what are the policies of -- how are you going to decide which standards you're using and things like that.

I think that's something we need to start talking about now, too, so that we don't end up with the mish mosh of unuseable information in 15 years. But I think it's great. I think it's going to end up being a much more powerful tool and have much more certainty that will be beneficial to all the parties here.

MR. BRADBURY: Michael and then Jennifer.

MR. FRY: Well, I certainly don't want the hope of the perfect to be the destroyer of the good. Frankly, people have been publishing scientific results on

endocrine destruction since the 50s. People in this room, some of us, have published in the 70s. The problem is not identifying the activity and the endocrine disruption; the problem is developing a test that you can use in a kind of universal way. That has just taken way too long. Congress gave you until 1998 to come up with this information that you're coming up with now.

I'm really glad you're getting on with the tier 1 stuff. I certainly don't want industry to say we're going to have much better things in a couple years, so let's scrap what we're doing now. That is insanity. We have way more information already than we need to regulate some of these chemicals that aren't being regulated simply because of the bureaucratic mess that this whole thing has created.

I encourage you very much to go through with your tier 1 screening and the other 134 chemicals. Please, as you're doing this, try to develop a regulatory framework for getting these chemicals out of commerce. Thank you.

MR. BRADBURY: Jennifer, and then Cindy gets 30 seconds.

DR. SASS: So, I think it is a little confusing to talk about tox 21 and the endocrine disruptor screening program together. I'm glad that you're thinking of them together, for sure. For sure, the data that's generated will inform the tox 21 or com tox sort of initiatives, but I actually think it's confusing to maybe present them together.

So, on the topic of com tox or tox 21 or computational toxicology or predictive toxicology, I just want to add that this is a very large initiative across a number of different agencies. Pesticides is a very small part of this very large initiative.

These methods have been going on for a long time as pharmaceutical and other private industries as a way of predicting toxicology cheap and fast, basically, getting somewhat reliable predictions that air on the side of predicting hazards because a pharmaceutical company doesn't want to invest in a drug that later -- they don't want to go too far down the investment road if later they're going to have to pull it.

So, they've always been quite protective or precautionary in their predictions. They've used these

kinds of methods. There's some methods that, of course, Vicki and other people, know very well that are really exciting as part of this program that I think would help to give people some confidence that this is going to produce some fruit.

The ones that I really like are the virtual -- they're sort of developing some virtual organs and some virtual little organisms that are computer virtual based, like a liver, like a virtual liver, that then you can feed information into this computer liver and it will predict what's going to happen in there. Some of those are reasonably advanced and they're stocked with information that we know about.

So, all of the testing that's being done in EDSP and in all sorts of different industrial chemicals and pharmaceutical chemicals as well is all being fed into these kinds of models to help inform them and to help make them realistic. So, it's an incredibly large initiative.

I mean, it's exciting but the pesticide is one small part of it. So, there's no way that the EDSP will be replaced in the new future, and we very desperately

need the information of the EDSP, both to inform us but also simply to inform regulatory agencies about this.

The other thing I want to say quickly is that I think that -- Steve, you gave sort of a visionary speech to end our day yesterday. I want to support what Michael is saying. I think this is sort of a failure of vision. The EDSP has been a failure of vision in a lot of ways. I think it's getting back on track now, and that's really good. I wouldn't want to (inaudible). But we've known about endocrine (inaudible) chemicals for a long time.

So, I think there's actually a lot of ways that the pesticide office actually has been visionary. I want to drive you not to the 2007 National Academy's report that you've been citing several times, but the 2009 one, Science and Decisions. Science and Decisions primarily confronted industrial chemicals and the way EPA under TASCA regulates industrial chemicals, which is far less visionary than the way the pesticide office actually has authority to tackle pesticides.

It makes a number of recommendations that the pesticide office has been doing, I think, quite successfully with PPDC stakeholder (inaudible) for a very

long time. I mean, not for a very long time, but for long enough that it's been a real success. I think that's something that you guys should maybe go out in front with. I certainly have been praising you in lots of other places. You'd be surprised how much I praise you, in fact, on these issues.

But, at the same time, I also think, also related to this -- my last comment -- related to the comment yesterday on vision, you will never be visionary if you wait for all the data to come in in absolute scientific certainty. That is not the definition of vision. The definition of vision is getting ahead of the curve, at the very least riding the wave, but certainly not sitting in the trough drowning.

So, if you're going to be visionary, you can't also wait for -- do like an endocrine disruptor screen program that takes my adult lifetime before you get going.

MR. BRADBURY: Thanks, Jennifer. I'm going to have to cut it off because we're really burning into our next session. But, in closing, I want to make sure, Jennifer, that before I leave this seat, we've actually

got some of these things happening. So, I definitely agree with you that there's incremental stuff that we can start to go forward. I want to see some fruit from that tree pollenized by healthy bees at the same time.

So, why don't we move to section 10. We've got two sort of topics that we want to do in terms of planning for the next meeting and things that will happen in between now and the next meeting. One topic we want to go over is status of workgroups, in particular new workgroups.

There's three things we want to talk about in that regard. One is the IPM and the pollinator workgroup concept that seemed to be gelling yesterday. And then, there was a proposal from CLA and other colleagues about the potential for a workgroup around benefits.

I'll turn it over to Ray after we sort of get through the IPM and the pollinator topics. Ray, you can kind of summarize what the perspectives are from that front. Once we get done sort of talking through workgroups, we'll switch gears or evolve to talking about some specific agenda items we might want to have on the next meeting.

What we promised you all what we would do overnight was to at least draft a beginning of what the workgroup charges could be for the IPM group and the pollinator group. This isn't to say this is exactly what it'll have to be, but it sort of tries to capture a beginning point for a workgroup to then tweak this a bit and then get on with what they need to do to try to get through those (inaudible).

So, I can't read it all that great from here, but I think you all can. You can sort of see what we've been putting together, what Keith and company put together in terms of the IPM workgroup and initial shot at some of the topics. You'll see the last phrase, give us a little wiggle room. For once, the workgroup actually gets together and kind of everybody goes through your notes and they make some adjustments.

All I'm looking for now is is the cup half full or is the cup half empty? Are we within the zone or is there something wildly lacking or something that's completely off from the conversation yesterday. If you think you were within the margins and you're interested in being in a workgroup, those things we can kind of

polish and fine tune.

So, Tom.

TOM: Well, thanks, Steve. I just wanted to echo the comments yesterday about developing a specific focus and potentially considering schools for that focus for the workgroup so that we really concentrate our efforts and try to get something done rather than try to address too many things at once.

Schools really need our help. In just about half of the school districts in the country, anyone can apply a pesticide without any training or life (inaudible) certification. When we go into schools, we find kitchens overrun with German cockroaches, sometimes classrooms as well. Cockroaches are associated with asthma, which is an epidemic in the country and growing in kids.

So, I'm really arguing for working with schools. Gabrielle said yesterday, IPM is not rocket science, and that's certainly the case in schools. We know how to do IPM there and achieve 70 to 90 percent reductions in pest complaints and pesticide use.

We're really close to getting critical mass,

and I think a workgroup focused on school IPM initially could really achieve some goals in terms of getting EPA input on its strategy, on better coordinating efforts within the agency, including with other offices like Office of Air, CDC, Department of Ed. We need much better coordination there. Really help to focus EPA to make the most efficient use of the new resources that it's bringing to the table for school IPM, including the metrics piece for PSP.

For those in agriculture, I think one of the potential benefits for setting aside ag priorities for the moment and focusing on school IPM is that we have such low awareness in the consuming and taxpaying public about IPM, less than 15 percent awareness. And the schools are a great opportunity to help make tomorrow's taxpayers and consumers aware of IPM and appreciate its benefits and understand why they should support producers who are using IPM. We've got much greater awareness of organics in the country than IPM; yet, IPM can deliver many of the same benefits.

So, with that, I'll close and then just -- I really wanted to thank you for your facilitation of the

meeting. I think you did a great job.

MR. BRADBURY: Thanks.

Mark.

MARK: I think it's a good idea, what I heard yesterday from the assistant administrator and the fact that IPM really had the unprecedented length of time. The agency is serious about it. It's something that its time has come from 1968 or something like that, but its time has come. So, I think it's a good idea.

I echo Tom's desire to make sure that it's something that we can really focus on and move forward on. So, I think that working at least in non-ag stuff as a beginning -- of course, my bias is schools, but at least non-ag at the beginning to move forward.

I also might say that the ag community, the majority of school communities in the United States, or school districts in the United States, are rural. The ag communities are folks, oftentimes the progressive farmers, that are part of those school boards. I particularly always use those progressive farmers who know and use IPM as change agents. So, I don't see a separation. I see it as an enhancement and as a benefit

to agriculture.

All that said, I would assume that a workgroup, because I'm new at this and unfamiliar, would not -- I'm certain that it would enhance the implementation. But I want to make sure it doesn't delay any implementation or give an excuse for delay. Because I am new, I would certainly say that or ask that it would not.

MR. BRADBURY: I don't want to open up the whole -- I appreciate the comments so far, but I'm watching the clock. So, what I'm trying to capture from the name tags that are up, quickly -- and I've got one sense of some focus that some people have. It's really quick comments because I'm going forward and we're going to have a group.

I'm just trying to capture some nuances, or maybe not nuances, as to what that workgroup will start to tackle based on the feedback I get here. So, I want snappy comments so we can keep moving.

Mark and then Darren.

MARK: At the risk of arguing against mothers and apple pie and the U.S.A., et cetera, I'm hesitant to totally move away from agriculture because of -- IPM and

agriculture because of the crisis we face in invasives, MRL changes, and the whole dynamics of the system.

If we abandon that process, if EPA moves away from that process, I think that there's going to be lots of consequences downstream. I don't want to move away from IPM and public schools. I think for all the reasons that have been discussed, it should go forward. At the same time, we're facing unprecedented times right now.

MR. BRADBURY: Darren.

DARREN: I would like to add that objectives and goals for the new workgroups include pollinator protection and if we could do a nomination to perhaps include NAPSI and some of their expertise in pulling that together. I think a focus point should be on how to improve regulation status and also have a national standardized policy amongst all the states that's common and is reflective of the goals of protecting pollinators.

MR. BRADBURY: Okay.

Jennifer. I can't tell whose is up. Oh, sorry.

UNIDENTIFIED MALE: I just want to quickly say that agriculture does participate in IPM and does have

some of these practices that we hope to put on the table soon. So, I would like to see that left open in there and discussed with issues at schools.

MR. BRADBURY: Okay. Before I hit the next placard, if some people are going to keep schools high on the radar screen and others are going to say don't leave agriculture behind -- in other words, if you're going to say something new, I want to hear it. But if it's just cheering somebody seconding or thirding something else, let's try to use our clock carefully.

I didn't get any placards down, so I'm looking forward to brand new insights that we haven't heard in the last few speakers. Gabrielle.

GABRIELLE: I mean, in some ways, it's still the same thing. I'm actually not for including ag in this because I see this as something -- we have a lot of other efforts going on. It's not clear to me how EPA is going to use it, and it's something that is already standard, part of our extension, of our USDA, so forth.

I think the school system is a good model to figure out how EPA interacts with it. I mean, the whole ideas come from the ag system, so that's where I'm coming

from. But I just don't see where EPA fits into this whole ag IPM system.

MR. BRADBURY: Okay.

Susan Kegley, something brand new.

MS. KEGLEY: How about two workgroups because the people are different and the expertise is different. They should talk to each other because school IPM has to include agriculture because there's so many schools that are in rural districts that are -- you know, even if they're doing IPM programs in their schools, they're getting blasted from the fields that surround them.

UNIDENTIFIED FEMALE: Just two I hope you consider new things. First, as a 10-year school board member of an elementary district in the middle of an agricultural town, you're going to have to address resources in this workgroup for the school districts to be able to do anything about it.

The second thing is, I think you need to prioritize the scope of the problem because nobody is going to pay attention to it if they don't have an understanding of the scope of the problem.

MR. BRADBURY: Louis, and then Carolyn, and

then Dave, and we'll wrap it up.

LOUIS: I believe that the focus of the school IPM is worthwhile. It's great. But the number of kids who are at risk from pesticide issues are rural and the vast majority of kids. So, I think we need to find a way that would focus on school IPM without necessarily getting back (inaudible) of rural areas. What happens in the agricultural setting (inaudible) probably more than the cockroaches and the asthma. So, we need to find some middle ground to not completely leave out agriculture in this thing.

MR. BRADBURY: Carolyn, or Mark. It's hard to see the cards sometimes.

MARK: One thing I'd like to see added in here is ways to identify these barriers for implementation and ways to overcome those.

MR. BRADBURY: Thank you.

Dave.

DAVE: It seems to me that part of the role of the workgroups should be to advise EPA on what its best role is in promoting IPM in schools. It was a little unclear to me, and it seemed like it was unclear to other

folks in this group as to what that role is. I'm guessing that you could use that type of advice.

UNIDENTIFIED MALE: I'll keep it very brief, I guess my link is just for making the group proactive. So, if there's a link to APHIS or some kind of radar up there on what some of the new pests that could be expected, is there a link that we want to have into that group?

MR. BRADBURY: All right. I'm going to wrap it up and use some of the authority I guess I have in terms of the FACA, providing advice to the agency, and what the agency needs for advice, taking into account everything you all said.

So, the way I'm synthesizing this is that we're generally going to use some phrase here, but I'm picking up the concept of schools as an initial emphasis and a focal point. I'm not comfortable in creating two workgroups right now because I want to see what one workgroup does in terms of sort of staging for how we might phase in things.

We're not going to ignore other kind of IPM activities, but that doesn't mean you don't have a sense

of priority and sort of first step, second step, and sort of background information that keeps on happening. I heard the pollinator comments, and some of it will interface, but some of it may show up in our pollinator workgroup as well.

So, with that initial verbal synthesis, I'm picking up the school as being the non-ag, sort of being a focal point to get started. We're not going to ignore connectivity to the agricultural world as we go forward. We'll look for the workgroup to maybe give us some advice on how we strike the right balance. Ignorance isn't good for us in terms of non-ag or public health, but that doesn't mean how we invest our resources has to be equally distributed across all these different sectors.

I don't know if that helped. It probably muddied it, but, number one, we're there for a reason in the way they were ordered. So, kind of keep that as a concept. I think one of the tasks of the workgroup working with the EPA folks would be to kind of tune this up a bit.

So, why don't we move to the next workgroup which was the pollinator workgroup, the pollinator

protection workgroup. Here's a crack at trying to capture that. Again, we were focusing not on the science in this workgroup but instead focusing on the evolution of the risk management kinds of issues that could play out with this workgroup, and giving us some advice in terms of --

Some of the discussion was maybe there's already sufficient kinds and certain scenarios that we can tackle some low hanging fruit and actually maybe get some pilots moving forward, including training as well as labeling changes that we maybe could do today to help clarify some things. It could be a precursor for other efforts.

The workgroup helping give us some advice and working with our state colleagues in how to better integrate what the states are doing and some of the authorities that spread between the feds and the states.

Reaching out to the beekeepers in terms of management issues, in terms of managing pests in the hives, as well as that interface with managing the pests that are outside the hives, with the bees that are in those cropping systems and how that gets integrated.

Continuing with this group being at least a contact for the international communication that's going on. Dan giving us some flexibility in terms of evolution of the workgroup and things that may come up.

Again, this isn't designed to be perfect. It isn't designed to exquisitely and elegantly capture the conversation yesterday, but to at least get a frame to the activities the workgroup would be taking on. As the workgroup meets, clearly, like we talked about last time, starting to create some focus and some areas of emphasis to get started.

So, if there's something that's completely missing in this sort of synthesis of what the potential scope of the workgroup can be, that would be important to hear.

Darren.

DARREN: On my prior comment where I related to IPM and also the urge to have NAPSI be a part of it, I just would want to say I wanted to point out that they could be an integral part of pointing out some preventative biological controls for that management part of that process. I failed to mention that part of it.

I would also think that they would also be pivotal on trying to help put this together because they do bring in more insight and perspective. So, I still have that same recommendation for this pollinator protection workgroup.

MR. BRADBURY: Let me just insert one point of clarification. When we create the workgroups, there needs to be at least one PPDC member on it. Typically, we have many more than that. The PPDC members reflect the makeup of the committee. And we can have non-PPDC members on workgroups to kind of work with PPDC members to find that pool of people that can join a workgroup.

So, comments that have come up already in terms of people that aren't sitting on the PPDC would be valuable contributors. That's very doable. All our workgroups are made up with non-PPDC members. There's a process just to do it, and we do it all the time.

Gabrielle.

GABRIELLE: I guess I'm fine. I think with number three I might change the wording. I'd just say transfer lessons learned by various stakeholders to improve existing management practices, because I'd say

grower groups, other groups, have input in that area.

MR. BRADBURY: Very good. All right, so we'll move forward with this workgroup as well.

Questions on the pollinator group? Ken, go ahead.

KEN: Question on point five. Why wouldn't that be part of any workgroup mission? Why is it in this one? It wasn't in the IPM.

MR. BRADBURY: I believe it was in the IPM one.

KEN: Was it in that?

MR. BRADBURY: Yes. It's pretty typical. It was in the IPM one as well. We just had three instead of five. It just gives us a little flexibility as we go forward to let the workgroup kind of thrash some things out.

UNIDENTIFIED FEMALE: Just to clarify for me coming back to this NAPSI question, I assume the workgroup was just a PPDC workgroup, but I don't know. I don't know how a workgroup is made up.

MR. BRADBURY: So, PPDC decides or gives us advice through a collaborative process like we've done the last day and a half to decide if we should create a

workgroup or retire a workgroup. Based on our conversations we had in terms of IPM and pollinators, my sense of the dialogue is that we should create workgroups in these areas.

We started to establish what their makeup would be, what their charge would be, realizing they'll get fine tuned as the workgroup gets together and actually gets into the details a bit more. The creation of a workgroup is done now for these two.

Margie will receive requests from all of you as to whether or not you'd like to be on one of these workgroups. At the same time, you can be forwarding to Margie suggestions for individuals that you also think who aren't PPDC members would be good contributors to the effort. I would encourage you to visit with those folks before you forward their name to make sure they can meet the commitment that may be before them.

Then, we'll take a look at the numbers. We'll have to do a little bit -- you know, if we get 55 people that want to join the workgroup, that's probably not going to work. So, we've kind of got to do a little bit of work with you all to get a manageable number together.

There will be probably a couple of EPA folks that will be part of -- or more, but at least two folks that can kind of help get the process started and help facilitate getting the first teleconferences going. Then, the workgroup goes along, I would imagine.

On our next agenda, these two workgroups will be prominent on our next agenda to report out how they tuned up what's their charge and report back to us to make sure that we're all pretty comfortable with it. They'll probably give us a first sense of what their first steps are going to be in their process. Then, periodically report out.

Eventually, workgroups provide recommendations to the larger workgroup in terms of recommendations to the agency. Typically, workgroups in their report outs and their activities are heavily leveraged with the contributions of the members of the workgroup with EPA folks sort of helping facilitate the process, as opposed to EPA folks doing all the heavy lifting. Did that help?

Mike, did you have a process question?

MIKE: Yes, actually. The expertise on the PPDC is limited on this. Certainly, within USDA and

within other agencies, there may be real expertise. What's the mechanism for which we would go to nominate names of people from outside the PPDC to work on the workgroup?

MR. BRADBURY: Well, certainly for non -- you can recommend any name you want, of course. For the federal family, it would be helpful to make nominations, but clearly, we're working closely with USDA. USDA's Cheryl is here listening to the whole meeting. So, Cheryl and I will be working together in terms of how to get -- what are the right parts of USDA to be involved.

But if you have organizations within USDA, as an example, USDA, or specific names, certainly send them to Margie and then we'll work with USDA on that. Both of these groups (inaudible) other feds involved ad hoc or whatever. We do on the other workgroups as well. Twenty-first century has folks from HHS and other parts of the government involved.

So, my clock management is totally taint. So, why don't we turn it over to Ray to give an overview on a proposal for benefits workgroup.

RAY: Thank you. This proposal was made by Jay

Vroom in the public comments period at the last PPDC meeting. We have submitted a letter to Steve a couple of weeks ago. You all have a copy of that. We don't need to go over all the details there.

FIFRA has a risk benefit statute. The agency has certain obligations to consider risks and -- well, benefits in its pesticide registration decisions. I don't think there's a broad understanding of which decisions and how those benefits are considered among all stakeholders. We see workgroups such as this as a means of broadening that understanding as well as highlighting where stakeholder input is and should be appropriate.

It seems in some decisions that the stakeholder community is scrambling at the last minute on a particular decision to provide input on benefits for use by the agency. So, if we can identify these opportunities and needs, that could be a useful exercise in such a workgroup. We didn't make this proposal with a specific work product in mind to come out of the workgroup, but would leave this for consideration by a workgroup once it is organized.

MR. BRADBURY: Thanks, Ray.

Any comments from PPDC members? Susan Kegley and then Jim Thrift.

MS. KEGLEY: I think if you're going to have a workgroup that focuses on the benefits of pesticides, you also need one that focuses on the externalities of pesticides that are not accounted for by the risk assessments, the extra medical costs, the extra loss in work time or school time. There's many downsides that should also be highlighted. If you're going to do one, you need to do the other.

MR. THRIFT: Basically, the agency registers chemicals as pesticides because of the risk benefits. We support this workgroup because generally we think of the agency as a regulatory agency as to the regulated community. Actually, we believe that the registration of pesticides outweighs the risks, which are in FIFRA.

So, we also believe that we hear a great deal about the regulation of the products without really hearing the benefits. So, we supported it and we're on the letter. We think it's a relatively simple process. We understand that, and we realize that in this particular forum, we are probably not going to reach

total consensus.

But we think it's an important part, and there were quite a number of people on the letter. Probably more folks, after reviewing this what we're doing right now, will see some benefit to looking at not just the regulations of the pesticides themselves, but more of the net benefits.

MR. BRADBURY: Jennifer and then Mark.

DR. SASS: So, Ray said he didn't see a real specific work product or they didn't have an idea in advance of what kind of things would come out of this. But I actually think it would behoove the agency to come up with some kind of guidance or guideline or directive on how they do calculate benefits, because I actually think it's completely misunderstood. I have the understanding that it's incredibly ad hoc. That's my understanding.

So, I think there would be a value in actually figuring out, number one, what the agency's guidelines are to do it. Number two, if there isn't actually a written document or something, then maybe to try to develop one. Of course, I agree with Susan and a lot of

other people on this committee, I'm sure, that it's going to have to be an open conversation. It's going to have to entail the things that aren't counted as well.

I feel like there's a lot of information that we put -- remember the spray drift workgroup that we developed? Do you remember at the end we ended up with like two parallel reports with a complete division at the end? Do you remember that?

MR. BRADBURY: Oh, do I remember that.

DR. SASS: So, I feel like that that was a productive process. Like, I actually think that was a good learning experience. I think the end report that went to EPM sure was informative, even if there was two reports. So, maybe that's what we get at the end, but I do think there's a value in a workgroup like this. But we would have to work very carefully to make sure that the -- do you call that the charge for a workgroup or the scope -- was something that we felt good about.

MR. BRADBURY: Mark and then Dave. They'll be the last two.

MARK: I think it's a good discussion to have. This is a discussion group and they can work on it. But

I think the focus of benefits is probably incomplete in that there's a -- typically, when we say risk benefit, there's a slash, but it's a full word between risk benefits instead of really two separate words. It's a whole concept.

To me, the discussion is on balance. I think that would probably give most benefit to the agency, to have a workgroup that discusses the balance. Of course, in that balance, they would look at the benefits and the risk. But it alludes me how -- or escapes me how there's a good bit of evidence out there, but yet, it doesn't affect the balance, evidence pro and con.

So, what's that about? I would be curious to see what happened on there. I think it would be a benefit to the agency.

MR. BRADBURY: Dave, and Mike, and then we'll stop.

DAVE: Well, when I first heard of this idea and saw the letter, I was thinking, oh, great, we're going to be subjected to a series of ads, better living through chemistry. I really didn't -- been thinking that this is kind of like a -- would be sort of a wasted

exercise. But I'm actually very intrigued by what Jennifer had to say.

I think that it is important to figure out how to really analyze the benefits, not just the benefits of the use of a particular pesticide in a vacuum, but also even considering is there another way to achieve that particular benefit because -- that should be part of the consideration as well.

You can make all sorts of claims, and some of them could be perfectly true, that you would have a particular loss or whatever if it weren't for a particular chemical or a particular health hazard without something. But you also have to compare what are the other options. If you're going to claim that benefit, you have to say, well, can you get the same benefit or even more of a benefit if you --

That should be part of the equation. If we're going to have that type of discussion rather than just what I'll characterize as better living through chemistry advertisements within a workgroup, then I would welcome to have that sort of discussion.

MR. BRADBURY: Michael and then Carolyn, but

please quick.

MICHAEL: I'll try to be brief. I think originally in FIFRA you talked about a cost benefit analysis rather than a risk benefit analysis. The cost benefit analysis has been done and was done by the agency prior to registration. I think we need to look at costs in a very different way, ecological costs, cost to, say, municipal drinking water providers having to get pesticides and residues out of the water. That's a cost to pesticide use.

If this workgroup goes forward on benefits, I would really like to see a corresponding real analysis of cost. I'd like to see that actually put into the registration division where the costs are actually assessed prior to registration of chemicals.

MR. BRADBURY: Carolyn.

CAROLYN: I think for decades now when public interest organizations have evaluated or studied benefits, assessments that have been done for pesticides, it doesn't actually happen all that often. The big complaint is that the benefits assessment just compares use of the pesticide with doing nothing.

So, if we're going to have a workgroup that's going to talk about benefits, I think it would be really important to get stakeholders like in the agricultural arena, get the Robale Institute (phonetic) or California Certified Organic Farm Reserve, some other group that can really -- I mean, if we're talking about the agricultural uses of a pesticide -- can really express clearly what they're doing without the chemical to achieve the same benefits. Then that should be written into the sort of guidance that Jim was talking about about how benefits assessments should be done.

MR. BRADBURY: Okay. This was a good discussion. It certainly hit on a lot of issues that we're facing. At this point, though, I'm not prepared to propose that we create a workgroup, but here's what I would like to propose. I'd like to see if we can get some volunteers in this group, staying within the PPDC right now, that's reflective of the different range of opinions or ideas that we had.

You don't have to show hands now. But if you could let Margie now, say within a week, if you'd be interested to be a group to work through what we all

heard. Then, Jack Housinger's (phonetic) division will be a point of contact in the EPA to work with this group. Kick this around some between now and the next PPDC meeting. Be prepared to come forward with a proposal that we can then talk about with more information and more time to wrestle with the issue.

So, my proposal is not to say yes now, but to say yes to it needs some more work before we can really have the kind of discussion we need to have. But I need to get a sense that there will be a good cross section of this organization that would be willing to work with Jack Housinger and the Biological, Economic, and Analysis Division to help put together a discussion that we can have six months from now.

So, as I know where Jim, and Ray, and colleagues are coming from, I'm looking to the Susan Kegleys and the Mark Lames and the Jennifer Sasses and the Caroline Coxes. Is there a willingness to be a part of small group -- Michael Fry to be part of a small group to kick this around to bring a proposal?

MR. FRY: Yep.

MR. BRADBURY: That's good enough for now.

Then, we can ponder and talk. We don't need an army of people to pull this together, but in addition to the first two workgroups, indicating if you're willing to help on getting these ideas better or more fully articulated, then we can talk about it at the next PPDC meeting and get the views of me and the rest of the agency, as well as all your viewpoints, about whether or not to go forward with the workgroup. Make sense?

Let's move to the last bullet which is agenda items for next time around. We already know we're going to have some key agenda items. One is going to be the pollinator group reporting out sort of where they're at, where they're heading, and get some feedback from us in terms of continuing down that road. The same with the IPM group.

We just talked about the potential benefits workgroup. I'm using benefits in quotes just as a place holder for now. We'll hear from that group and decide where we're going to move ahead with that. I'm imagining, although it's not too hard to imagine, that we'll probably have an ESA session to continue where we are at that point. The NAS process will probably be

kicking in. We want to talk some more about public input and the various process that's going to play out.

I know we also -- Wayne Buhler had provided you all a paper to take a look at for this meeting, not so much to get into it, but I think as a teaser or a tickler in terms of maybe a topic for next time. So, Wayne, if you just want to spend a few minutes describing that.

MR. BUHLER: Thank you, Steve. I appreciate -- this kind of a late entry, but I was able to put together a background paper with several of my colleagues. Just by way of re-introduction, I represent the American Association of Pesticide Safety Educators on this panel, AAPSE for short.

We have most of our members working within the extension service at land grant universities, like myself. We represent backgrounds in weed science, agronomy crop science. I'm an entomologist. Like my colleague across the table here, Mark, I'm excitable most of the time, except for the afternoons.

But, in this case, we have groups that are represented also outside of universities. I think many of them are all working together with a mission. I took

this right off of your slide yesterday, Steve. Really, it's to ensure the public has clear and useful information for using pesticides and pest management alternatives safely and effectively. I think that sums up our role, our mission, our objectives as educators, primarily.

It is interesting to be part of this. This is my first PPDC meeting. I'm excited to see the range of agenda items. These are all items, of course, that we talk about and distribute, deliver information about. Just two weeks ago, I was at a meeting where I distributed over 90 of these particular pamphlets that we spoke about yesterday with pollinator protection. So, all of this fits in nicely, hand in glove, to PPDC objectives.

With this background paper, I can simply go through that. It would save time. We are, again, in the arena of developing, delivering, and distributing educational programs. These are pre-certification programs for our certified applicators, whether they be private applicators, growers, and farmers that need to use restricted use pesticides or commercial pesticide

applicators, landscapers, forest managers, structural pest control operators, and the like.

As you can see, in the third paragraph they number close to a million, over 900,000 national pesticide applicators as our target audience. It also includes dealers and consultants. In North Carolina, I'm quite active in providing training materials for both of those groups as well.

We do have groups kind of extant to the certified or licensed community. As you can see, we have probably outreach to over a million other pesticide users, whether they be master gardeners, ag teachers, homeowners, those that aren't required to be licensed or not regulated in the communities.

The congressional legislation that supports our goals and those from EPA, NIFA, land grant universities and statement departments of ag. Also, we've just provided, by way of a sample, a few of the programs of note in the last page, or actually page and a half, of this background paper to give you an idea of the diversity and scope of our work, also the collegiality or cooperation between states that is so often needed

administratively and financially.

The main reason for this, really, is to point out the need for money, as is the case in nearly every situation these days. As you can see in our current funding, we share amongst ourselves about $1.3 million now. Just being more personal, in North Carolina, I receive about $32,000. Those monies go to support an administrative assistant. She is kept busy like Santa Claus throughout the year in terms of providing packages with training materials. I use those for printing costs, as well as travel within North Carolina to attend to all these duties that are mentioned earlier.

The funds range within state programs anywhere from 4 to 50 percent of state programs. So, without it, especially states in the northeastern part of the U.S., would probably cease to exist because they do a match with state funds in places like Connecticut and others. So, this particular money is critical for the continuation of the program.

There's more on historical context. I don't need to go into that. Essentially, what these monies do are, going through an IAG or interagency agreement in

terms of USDA, acting as the conduit to the land grants. That enables us to bypass any kinds of in-kind contributions or overhead on those cost bases.

Then, in our contemporary funding challenges on page 2, we've been thankful for the monies being available through the Pesticide Registration Improvement Act. Essentially, we've had $500,000 earmarked for education for five years. As you can see, at the end of that introductory paragraph there, our contract is due to end in 2012. So, unless this is renewed, it kind of spells a certain (inaudible) to opportunities that we have to continue on with our educational efforts as we do now.

Again, more examples provided at the end of this document. But this is basically just kind of a heads up to our situation, what we do. I appreciate the time to be able to at least enumerate some of these issues here.

MR. BRADBURY: Wayne, are you proposing or would you like to have this topic on the agenda for next time with some specific -- we'd have to talk offline a bit -- or is getting out this information in your write

up and your summary sufficient?

MR. BUHLER: I think this is sufficient for now. I don't really think I would need to elaborate on any more, but we did want to make sure that this issue is certainly up or at least made to the attention of the PPDC and, again, encourage this support or financing is used for good purposes in extending all that we're involved with in terms of our mission.

MR. BRADBURY: Okay, thanks.

Gabrielle, go ahead.

GABRIELLE: Well, I was actually going to add as a possible agenda item, and this ties in with what Wayne just said, which is we have congress making decisions -- I won't get into that. They're cutting budgets. To the extent to which congress allows, actually, agencies to make decisions or the stakeholders involved to help be involved in deciding where those budget cuts have an impact, I think that is something that might be worth bringing to the PPDC.

I don't have any clue about which parts of your budget -- I mean, I know that some of it is from PRIA. That's a whole different ballgame. But which parts of

your budget -- let's say there's a 10 percent across the board cut. I know EPA's budget as a whole got significantly cut, certainly more on the greenhouse gas side, but I don't know what the impacts are right now for OPP.

So, there's a lot of different sectors, from the little bit I know of OPP, that I'll call a little bit more on the discretionary side. So, on the educational side, Michael asked yesterday about what's available for IPM. Make this a priority that's available. I just came back from a Codex (phonetic) committee meeting where we're funding processes there that from our perspective are critical. I'm sure every year they have to be sort of lobbied internally.

So, there's a range of issues that relate to the budget that I don't know where but I think there may be some opportunities to get some feedback from this committee as you're struggling with those issues. Again, I don't know if I'm exceeding our authority, but I think that's something we should be hearing about. To me, this ties in with that. So, just to sort of say, hey, is this something to bring forward to us.

MR. BRADBURY: I jotted that down. It may be more in the context of an update than feedback on where the federal government is going to invest its resources, but at least working towards transparency on how things are playing out. Having said that, October of 2011 we may not be able to tell you much because the state of flux may still be high.

But I've jotted that down (inaudible) one way, shape, or form, at least communicating we don't know yet where we're at. So, if there's uncertainty, we're all sharing the uncertainty. But we'll look at least toward some kind of an update we could do.

GABRIELLE: I think it would be helpful to also give a feel for which parts -- I don't know how to put this -- are -- you have certain parts that are fee funded. You have certain parts that you have some discretion over. There's certain parts you don't have discretion over. That would give us at least some sense of at least knowing where you have discretions. Those are the things that are most likely to be up for debate, depending on how much of a budget cut comes down.

MR. BRADBURY: We can certainly do an update on

what's common knowledge but hard to find by digging through all the stuff, all the papers. I may cut it at making sure everybody sort of understands what our different budget lines are or incoming lines and maybe not get into feedback on where they put the money, but at least help with the communication.

Any other topics? I'm first interested in topics that people feel need in-depth and could benefit from discussion. Right now, from my perspective, getting feedback out of these forming workgroups and some other reports we'll get from some of our existing workgroups and -- I'm feeling pretty good. ESA, we're going to have some back and forth on that.

So, I first want to hear about in-depth topics that you'd like to propose. Updates, I don't really want to get into here. You can send Margie requests for updates and we can balance that with paper, electronic updates or five-minute snapshots. So, I'm interested in in-depth topics for the next time.

Tom and then Susan.

TOM: Thanks, Steve. I just want to repeat a suggestion I think I made about a year ago, which would

be I think it would be great for this group to hear from USDA's Natural Resources Conservation Service on their role in terms of protecting natural resources from the impacts of pesticides and their new things going on there in terms of the IPM conservation activity plan, and also the conservation effects assessment program reports that -- there was one just finalized for the Chesapeake Bay that addressed pesticide impacts and opportunities for improvement.

MR. BRADBURY: Susan.

SUSAN: I had one idea that kind of taps into what Tom just said. But the ARS is doing some really interesting work in alternative approaches to pest management. The agent citracilid (phonetic) is an example that I've had need to interact with lately where they're trying all kinds of interesting things. So, adding in some case studies would be really great from what ARS is doing.

The other idea I had was looking at (inaudible) drift. I think it should be more than an update because it's complicated enough that it takes a little time to wrap your mind around it. The agency will have had about

a year almost since the SAP meeting on it. It will be interesting to see what direction the agency is going on that topic.

MR. BRADBURY: Susan, I don't really want to do an in-depth science discussion. So, with that as a boundary I'm going to put on it, did I cut you off?

SUSAN: You think it's better as an update? Is that what you're saying? What are you thinking, Steve?

MR. BRADBURY: Generally, I've learned that in-depth science -- this is an in-depth group that --

SUSAN: I see what you're saying.

MR. BRADBURY: -- dig into the physics of droplet movement and things like that.

I lost track. I think Carolyn, Dave, and then Michael.

CAROLYN: I wanted to suggest as a topic methyl iodide (phonetic) and petition that the comment period is closing next week. It seems like by the next PPDC meeting, it should be possible to kind of report out what the agency has done in response to the comments and plans for responding to the petition and that sort of thing.

MR. BRADBURY: Noted. We'll do an update

either written or really quick, but we don't respond to petitions in the PPDC. But we can at least keep you posted on where we're at.

Dave and then Michael.

DAVE: I'm not quite sure how appropriate it is for PPDC or even what EPA's role in this is, but -- well, maybe that would be an interesting topic to explore. Is it EPA's role or really what's going on with invasive species? I mean, a number of people yesterday talked about how frequently new species are coming in and disrupting pest management systems and there's just constant new threats that we have to deal with, at least as a nation we need to deal with.

I'm really curious as to how OPP ties into that. It seems it would be helpful to have some sort of a discussion about that, because it obviously causes problems for this whole system of pest management.

MR. BRADBURY: Michael.

MICHAEL: I may get too far deep into the weeds just for my own interest, but I would like to see some discussion of the National Agricultural Statistics Service, the kinds of information that they've been

collecting, and would provide, actually, a huge amount of information, I think, for the PPDC, just in terms of crops, and pesticide use, that kind of thing.

I'm very interested in new kinds of pesticides. The systemic pesticides have mushroomed, as it were. There's some information on the amounts of these pesticides, the types of -- well, mechanism of action, but also the crop usage, to get an idea of what the new trends in pesticides are. We all know organophosphates and carbamates, but a lot of these other newer pesticide types I think would be wonderful to learn about.

The third thing, Vicki Dellarco gave us a nice thumbnail sketch on what's going on with the endocrine disruptor program, but a little more in depth on how you're going about the tier 1 and planning for the tier 2 I'd really like to hear more of that, if possible.

MR. BRADBURY: Okay.

UNIDENTIFIED FEMALE: So, this isn't about a topic; this is a question about how we operate as a PPDC. We have formal meetings twice a year and we have one phone call or two phone calls. I have to admit, those phone calls are really difficult. I have a hard time as

a member on the end of a two hour phone call with 20 people on the line.

I'm wondering, tying back into your vision of being -- moving with mutual for information collection and communication, have you considered other ways of communicating with this group prior to these really effective (inaudible) face meetings? I'm thinking of tools that would be available from pre-surveys or collections of pre-opinions so you could find where the sticking points are. So, when you come, this session could be even more effective. That's a question of, is that in scope for you?

MR. BRADBURY: We can look at different mechanisms to get feedback from you, different kinds of technologies, different approaches. We can kick that around and I'd like to get some input from all -- that's a good idea, Cheryl, and I think getting some ideas that work for you all and sending them to Margie.

The other thing I want to stress is that assuming our workgroups are capturing important issues that we're facing, the workgroups is where most of the work -- a lot of the work should be happening in between

our twice-a-year meetings.

Your point about different ways to have that communication happen, face-to-face and video links and whatever, it's still something to work through. That's where small groups of people can really dig into the issues and get recommendations and approaches to bring back here to talk about. If they're doing their work right, they're getting you options, pros and cons, different scenarios well in advance of the meetings so that you all can be thinking about it. So, when we meet, we can effectively go through what the workgroups are recommending.

We want to have one or two topics like we did with ESA where we're not necessarily having a work group, but we want to dig in and get some dialogue going and hopefully get to your questions and be minimal on the updates as best we can in terms of giving you written material and electronic material ahead of time or maybe a five-minute verbal snapshot. But we're looking at different ways to deal with 50 people on the telephone, that's for sure.

Some of the topics that have been brought up, I

can see angles down the road as to how the agency can get some advice on how to better use ARS, (inaudible) zone management plan or whatever it may be. I'm kind of balancing that with the session just being a seminar for an hour with what USDA is doing or what we're doing.

But I think I did an accurate job of getting names down to some of the topics that just came up, like Tom and the topic you had, or Michael and the topic you had, Susan. Be thinking about if we had a more in-depth presentation on that, what is it that you think EPA needs advice from you all on what we may be missing or what we may not be taking full advantage of or those kinds of things, so it's more than just a seminar.

A seminar is okay if it's a piece of a broader discussion around here's an opportunity that's been missed or here's an opportunity that hasn't been fully realized. So, it could be maybe something that leads to something as opposed to just information sharing. I'm not negating the importance of information sharing, because that's partly how you figure out, oh, we missed something, we need to work on that.

I'd like for you all to have those ideas and be

thinking about that next step so it's more than just an information dump that, with all due respect, (inaudible) things that we can be pulling off USDA or DOI web sites already.

So, I wrote those down. We'll get back to you in terms of some of those ideas and see if we can't turn them into a more meaningful effort. We've got the workgroup report out. At least for me, I think I'm pretty good with notes. I know Margie did a better job than I did in keeping track of what we just talked about.

Let's move to proposed dates, because I know that's important for a number of you. Right now Margie is proposing October 12th through 13th. It's a Wednesday and a Thursday. That would mean if some of the groups wanted to meet on Tuesday, Tuesday is available. Some could meet on Friday. That will give you a little room for groups before or after, usually before. That's when everything gets figured out as to what you're going to say to the full group.

So, why don't you all jot down the 12th and the 13th. Unless we hear from a large cross section that there's some collision with some big meeting a big chunk

of you go to in that time frame, we'll stick with the 12th through 13th.

I think I'm ready to wrap it up. Before I wrap it up, I want to thank Margie for all her hard work in getting us all ready for the meeting and having the meeting happen. Without Margie, I don't think we'd even come close to trying to get through all the topics we want to get through and have all the logistics come together. So, I want to take this time to thank Margie for all her hard work.

(Applause)

MR. BRADBURY: I want to thank all of you for your time and investment preparing for the meeting and participating in the last couple of days and all the work I know you're going to invest as we go forward.

So, safe trips back home and look forward to seeing you again in October. Thanks.

(Whereupon, the meeting was concluded.)

CERTIFICATE OF TRANSCRIPTIONIST

I, Marilynn H. McNulty, do hereby certify that the foregoing transcription was reduced to typewriting via audiotapes provided to me; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were transcribed; that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of the action.

MARILYNN H. McNULTY,

Transcriptionist