Wisconsin Tribal Conservation Advisory Council Meeting Minutes
Wednesday, November 20, 2013
Ho-Chunk

Meeting called to order at 8:16am by Pat Pelky.

1. Roll Call

Present: Bad River (Lacey Hill), FCPC (Nate Guldan, Al Murray), Ho-Chunk (Tina Warner), LCO (Brett McConnell), Lac du Flambeau (Scott McDougall), Menominee (Jeremy Pyatskowit), Mole Lake (Tina VanZile, Roman Ferdinand), Oneida (Pat Pelky), St. Croix (Katie Stariha), Red Cliff (Chad Abel)

A quorum is present.

Others Present: Jerry Thompson (WTCAC), Keith Sengbusch (WTCAC), Randy Gilbertson (WTCAC), Susan Hunter (FSA), Jim Ruppel (USEPA), Mike Conner (USFS), Greg Yakle (NRCS), JoAnn Cruse (APHIS – PPQ), Chris Borden (NRCS), Dan Cornelius (IAC)

2. Approval of Agenda

MOTION: Motion to approve agenda. Motion by Menominee, seconded by Lac du Flambeau. All ayes, zero opposed, motion carried.

3. Approval of Minutes

MOTION: Motion to approve the October 1, 2013 WTCAC Meeting minutes. Motion by LCO, seconded by Menominee. All ayes, zero opposed, motion carried.

4. NRCS Update

Chris Borden – Continuing resolution until January 15. They may get a significant amount of their funds in December. They are expecting a reduction in funds but they really won't know where they are at until end of the continuing resolution. They are expecting to have about the same about in EQIP as last year. No CSP sign up has been announced. They are still assuming there will be a CSP sign up sometime this winter. If Tribes are interested please initiate the process right now. December 20th is the EQIP sign up deadline and the ranking deadline is January 24th. April 1 is the deadline for obligating the contracts. The Aquaculture Subcommittee met on October 23. The meeting was very helpful for all the NRCS staff to get the tour of fisheries since that is involved with stocking decision. They do not have it settled as far as resource concerns, but they are close. They now know enough about the science to fit it into their operating procedures. There are scenario limitations in the draft cookbook Chris handed out. WI NRCS was planning to eliminate the scenario limitations. If they would have limited payment limitations, they would have had a limited amount of contracts with a very large amount in each of them. We will discuss the NRCS agreement with WTCAC later this afternoon. There may be an opportunity for federal agencies to work together on issues in the Lake Superior Watershed; his understanding is that this is separate from GLRI. He also wanted to express appreciation to WTCAC for everything they did that made the ONE USDA conference a success. Harmony Training – They may know in December when they get most of their funding if they will have the funds to proceed. Training Center is waiting on a budget for this.

Are there plans for how to proceed if another shutdown occurs? Good question for Jimmy.

5. FSA Update

Susan passed out her WTCAC report and a handout on the Wisconsin Farm to School Program (both attached). Loans are not available to Tribes only Tribal Members or separate entities with different EIN numbers.

6. APHIS Update

JoAnn Cruse – Jerry asked if she would talk about the Farm Bill Program. They have not heard about their budget. They have been looking at survey results for EAB and gypsy moth. They are looking to add Iowa County to the gypsy moth quarantine. EAB – the last find they had was in Douglas County, 85 new counties in the country in 2013 but only 1 in Wisconsin. Missouri is in the process of quarantining the whole state; Iowa is looking at quarantining 13 counties along the eastern part of Iowa. Kentucky is looking at quarantining the entire state. Wisconsin is not looking at this yet. Farm Bill Funding (handouts attached) - Surveys not for common things or things they already fund (gypsy moth and EAB are not eligible). Jerry is on the APHIS review team for Goal #5. They have decided they are going to open this up next Wednesday and will only be open for a couple weeks. It would be helpful for JoAnn to know if you are submitting and she would be willing to review it ahead of time. Oak Wilt? Good questions, USFS could help with this. Submit for oak wilt and see what happens.

7. USFS Update

Mike Conner – Handed out minutes from Forestry Subcommittee meeting on September 23, 2013 (attached). Everyone take a look at the minutes and see if there is more you want to hear about. They are under a continuing resolution as well. If they follow past history, they will be really limited in what they can do. They automatically have a 5% reduction so they are already operating under that.

They have had several RFPs out. The competitive one is closed that was run through the state foresters. They are expecting an RFP for GLRI upcoming. Ash seed collection could be funded. They funded some first detector training. They can also do diagnostic work and training for insects and diseases. This is done by request. He will get a letter out to Tribes on what training is available. They also have hazard tree training. They have survey data digitized for defoliators, fly end of June or July. He will bring a presentation to WTCAC and then have a webinar after that. Pat requested that USFS put together a booklet of all services that USFS could provide to Tribes.

Barb is retiring on January 1. Mike will be the official representative for the time being. He will be acting for the next 120 days. We really appreciate all the work she has done as she put in a lot of effort on behalf of WTCAC and we all wish her well and hope she enjoys her retirement.

8. Federal Resources Coordinating Committee

Al Murray - The committee is non-industrial private forest land owners, it has been expanded to all forested lands in the country. All agencies at the table, mostly upper levels, reps from Tribes, state conservation agencies, non-industrial private land owners, and conservation organizations.

The non-agency people bring forward the recommendations to the Secretary of Agriculture. Main charge is to provide recommendations to Secretary Vilsack on steps that could be taken to improve the forest. They have spent a lot of time talking about policy and procedure. They had a meeting in August to establish work groups and each group was supposed to come up with recommendations by October to Secretary Vilsack. That got lengthened because of the government shutdown. The next face to face is in February. Five different work groups were formed. He is on a group on forest markets and retention as well as forest conditions and health, another group on climate change, another group on delivery systems. He brought up WTCAC as an example of how the agencies could be involved to show what they have to offer. If we can get Secretary Vilsack to provide a list of all services that are available, the Tribes and general public do not really know what is out there. Any recommendations WTCAC comes up with he can get to whatever group it needs to go to. Each group is supposed to come up with 3 – 4 essential bullet points and that will be taken directly to Secretary Vilsack. Pat – Tribes have not have the same services States have had, Tribes are 60 years behind. At a minimum it should say "and Tribes". Don't go to loans right away, Tribes still need to develop infrastructure so offer grants not loans directly to Tribes not through states. There is a special relationship with Tribes versus state, county and private land owners.

Al will send Jerry the 5 focus areas with little descriptions of them. In the future put him on the business meeting section of the agenda.

9. EPA Update

They are in a continuing resolution as well as everyone else. No news on filling Indian Office Director in Chicago. Can they get money upfront instead of a reimbursement? Mining call every 3rd Thursday of month from 10:30 – 12. December 12 make up call with Susan to have a conversation with Tribal leaders. Section 319 Proposals are out there. TEPM Conference coming up on February 25 – 27. RTOC will be with this meeting. Look into why we can't use BIA GLRI funds for construction? Issues for RTOC agenda will be passed through the 2 Tribal reps (Eric Chapman and Melinda Danforth). WI Tribal Caucus plans to meet in conjunction with a WTCAC meeting a couple months before RTOC. Jim is not expected to be there unless invited.

10. IAC Update

Dan Cornelius – IAC Meeting is December 9 – 12 in Las Vegas. He will be giving a presentation on internship program and be there to answer other questions. What does membership mean? $200/year they have regional caucuses throughout. They have a Board of Directors – board member from each region. Travelling Farmers Market - They want to focus on an area within 3 hours of were the van is based. They were at 23 of the 32 tribes in the Region. He plans to take the van across the country to try and think about economic development potential of food and agriculture. They are working on setting a schedule for next year. They have a 3 year grant to put on Sustainable Agriculture Workshops. USFWS has landscapes conservation cooperatives. There are 22 across country. The Great Lakes LCC covers most of this area. Value added producer grant, Oneida had a successful application. It is an RD grant program; it is supposed to be out by the end of the month. Dan has $80K in matching funding for it, 1 – 1 match. It can be used for feasibility or working capital. $300k is max for working capital and $100k for feasibility. He is looking at starting an inter-Tribal maple syrup coop to

help with the marketing and distribution. Food Sovereignty Summit is scheduled for April 14 – 17 at Oneida. He is looking for Tribal success stories and other things. IAC is requesting the Directors go back to their Tribes and get the contact info on people do maple syrup back to Dan. Maple sap is insurable under FSA.

11. Forest Service Northern Research Station

Their presentation is attached.

12. AIANEA Award

Last January the AIANEA put out a call for awards. Pat Pelky suggested putting Pat Leavenworth in for the award because of her work with WTCAC so Jerry submitted a nomination for an award of excellence for conservation and she was chosen.

13. FCPC Grant Support Letter

MOTION: Motion to provide a support letter to FCPC for their 2013 Tribal Climate Change and Adaptation Grant Program Application. Motion by Menominee, seconded by Red Cliff. All ayes, zero opposed, FCPC abstains, motion carried.

14. USFS Collaboration

FCPC is working on collaboration with USFS. They are zeroed in on all forests in Forest County. They are attempting to bring together teams to work together. The coordination effort is being pushed by the counties. Under this the counties would take back management of National Forest Lands. A resolution was presented at GLITC this last week and they tabled it. County and State trying to take back the federal lands. There is a new collaboration starting in Forest County and trying to pull in multiple partners.

15. 2014 Interns

We do not have a lot of position descriptions right now. Last year each intern cost us about $7500 a piece. Forest Service has identified 7 potential positions. They are looking into paying for some of these. We may be able to get the match requirement waived. Sherrie Zenk-Reed has a potential position with Menominee. NRCS asked if we would recommend any of our students for the pathways positions. Jerry recommended 2 of our students, Charles Thannum and Lexi Freeman. They met with the Director of the APHIS Research Center in Colorado. He was surprised to hear that WTCAC has an internship program. He thinks that APHIS has money that they may be able to pay us to host some of their interns. There are 2 potential positions with APHIS (one with VS and one with WS). We have a $35K grant from USFS and we need to ask for a match waiver.

MOTION: Motion to approve sending a waiver request to the USFS for the internship funds. Motion by Lac du Flambeau, seconded by Menominee. All ayes, zero opposed, motion carried.

He talked to Shelly Allness and their program isn't going to work for us. They determined that WTCAC isn't an eligible entity.

We need to work with our liaisons if they are interested in hosting NRCS interns.

16. Tribal EQIP Applications

MOTION: Motion to use the same ranking tool as last year. Motion by FCPC, seconded by LCO. All ayes, zero opposed, motion carried.

They are still working on the cookbook, there are errors in it. Liaisons no longer have to get Greg Rebman's approval for Forest Trails and Landings and Access Roads, it is being left up to each office. Everybody look at the practices we want to be using and get it to Chris Borden ASAP. Look at the narrative.

Has there been an agreement signed between BIA and NRCS to accept each other's plans? Not that anyone is aware of.

17. Aquaponics

Information was passed out on Nelson and Pade (attached). Nelson and Pade would development aquaponics project plans for $4600. Looking at have them provide one plan for a Tribe and fund it through the AmeriCorps grant. Jerry is going to try to put together a tour with Nelson and Pade on December 18.

18. NRCS Job Approval

Keith had a technical supervisor assigned and they just went through his approvals as an NRCS employee. Keith thinks it is a done deal and he will be getting it next week. He has to attend some of their technical training to maintain this status.

19. Procurement Procedures

***Need to get comments to Jerry on this. Oneida cannot provide money to WTCAC as a cushion.

20. GLRI Budgets

They are going to need to get going on next year's GLRI budgets. They also will need to get going on next GLRI application.

21. Aquaculture Subcommittee

Tony and Chris have been talking a couple times a week. NRCS is working on the issue, waiting to find out what will be needed for supporting documentation. Chris will be discussing with Pat Murphy tomorrow. They are trying to get past the resource concern issue so they can start working on the technical engineering aspects of it.

22. Executive Session

MOTION: Motion to enter into Executive Session. Motion by Menominee, seconded by LCO. All ayes, zero opposed, motion carried.

MOTION: Motion to leave Executive Session. Motion by Mole Lake, seconded by Menominee. All ayes, zero opposed, motion carried.

MOTION: Motion to approve Randy's limited term employment contract. Motion by Lac du Flambeau, seconded by Menominee. All ayes, zero opposed, motion carried.

MOTION: Motion to accept Jerry's resignation due to retirement effective no later than June 1, 2014. Motion by Menominee, seconded by Mole Lake. All ayes, zero opposed, motion carried.

Nate, Brett and Tina will be the transition team and look into options. Chad is looking into Indirect Costs for a non-profit organization.

23. Farm Bill

We need to look into commenting on Farm Bill. Pat will work on a draft for us. Tina will talk to Jim Thannum about commenting.

24. Next Meeting

The next meeting was scheduled for January 7 at St. Croix however the location was changed to Menominee. On the afternoon of the 6th there will be WI Tribal Caucus, Forestry Subcommittee, and Transition Team meetings.

MOTION: Motion to adjourn. Motion by FCPC, seconded by Mole Lake. All ayes, zero opposed, motion carried. Meeting adjourned at 4:08 pm.

EMAIL MINUTES 12/26/2013

MOTION: Motion to approve a 4 month Limited Term Employment Contract for a Grant Writer/Manager to handle the current grants workload. Motion by St. Croix, seconded by FCPC. Seven ayes (St. Croix, FCPC, Red Cliff, Mole Lake, Stockbridge, LCO, and Lac du Flambeau), zero opposed, motion carried.

ATTACHMENTS

USDA United States Department of Agriculture | Farm and Foreign Agricultural Services | Farm Service Agency | Columbia County FSA Office
2912 Red Fox Run
Portage, WI 53901
Phone: 608-742-5361
Fax: 608-742-0194

Farm Service Agency (FSA) REPORT TO WTCAC – November 20, 2013

By Susan Hunter, FSA Tribal Liaison, (608) 742-5361 ext 104, susan.hunter@wi.usda.gov
Website: www.fsa.usda.gov/wi

One USDA Session with Tribes – Follow up by FSA – I am working to compile information presented by the tribes and each agency at the session and provide that document to everyone who attended and the two tribes that did not have representatives present. FSA are also doing some follow up work for issues that came up at the session. The FSA state director, Brad Pfaff and the local Farm Loan employee from Ashland were scheduled to meet with Red Cliff tribal members on Tuesday, November 19th. FSA will be participating in the Food Sovereignty Summit hosted by the Oneida Nation on April 14-17 at the Radisson in Green Bay. We are also looking for other opportunities to work with tribes with possible farm start up workshops, farm loans and other USDA programs.

2013 Farm Bill – still waiting ☺

COC Election/Advisors – Elections will be taking place this year in January for portions of each county holding an election. While it is too late to run for a regular position on the County Committee(COC) right now, at any time tribal members can send in a written request to their local FSA office to serve as a paid, non-voting Minority Advisor to the County Committee. They meet approximately 4 times a year at the office and possibly a few conference calls.

FSA Farm Loan Funding & November Interest Rates:

- 1 year annual and 7-year operating & MICROLOANS – 2.125 %
- 40 year ownership loans – 4.25%
- Emergency loans – ~~3.135%~~ 2.125

Microloans – Funds are available for Microloans which can be up to $35,000 to start or continue an agricultural related business. Contact the local FSA office for details.

Wisconsin Farm to School – Attached is a copy of the November 5, 2013 "Wisconsin Farm to School" newsletter which has a picture (on pg. 3) of a fall pumpkin field trip to the Mino Bimaadiziiwin Farm taken by the Ashland/Bayfield Farm to School Program.

The link to the Wisconsin Farm to School at the WI Department of Agriculture (DATCP) site is listed below where can find information on the program and copies of newsletters issued. (The November 19th issue is out now)
http://datcp.wi.gov/Business/Buy_Local_Buy_Wisconsin/Farm_to_School_Program/index.aspx

You can sign up to receive their newsletters by clicking on "Manage Preferences" link at the end of the newsletter under SUBSCRIBER SERVICES or you can type in the following link:
https://public.govdelivery.com/accounts/WIDATCP/subscriber/new?preferences=true

sign up link for receiving newsletter:
https://public.govdelivery.com/accounts/WIDATCP/subscriber/new?preferences=true

Wisconsin Farm to School

http://datcp.wi.gov/Business/Buy_Local_Buy_Wisconsin/Farm_to_School_Program/index.aspx

Department of Agriculture, Trade and Consumer Protection

Tuesday | November 5, 2013

In today's Wisconsin Farm to School newsletter, you will find:

Farm to School Feature Stories

Columbia County

Shelbi Jentz, Nutrition Educator and Forager for Columbia County Farm to School, wrote in to let us know about the fantastic events that took place in the county for National Farm to School Month. Among the highlights were making hydroponic parsley planters at Wyocena Municipal Days, Tomato Harvest of the Month events in several schools at the Portage Public Library, and serving local sweet potatoes, green beans, tomatoes, and apples in the Wisconsin Dells School District. Farm to school events will continue past October with a 5-week after-school cooking class in November at St. Mary's School. Nice work, Columbia County!

Winnebago County

End of September through October has been an exciting time for farm to school in Winnebago County, reports Sabina Bastias, Farm to School AmeriCorps Service Member in the county. To begin with, they have been able to promote the program through a public access television show, a local radio station interview, and youth magazine articles. Among the many events they have held, one was a Local Tomato Tasting at Webster Stanley Middle School in Oshkosh School District. Check out the YouTube video about it here: http://youtu.be/aTGvB8O9kek.

Next, they hosted a Fall Fair at Maplewood Middle School in Menasha School District. They partnered with the Chartwells food service team and Apple Blossom Lane Orchard from Black Creek, WI. They brought in corn stalks, hay bales, large paper leaves to decorate the walls, and tons of squash & gourds for the cafeteria. Farmer Todd and his family talked about the different apple varieties and helped pass out samples and stickers. At the Fall Fair they had a savory and a sweet section. For the sweet selection, they had four different varieties of apple slices (Empire, Cortland, Honey Gold, and Macintosh) along with an apple salad that consisted of diced apples and celery in a honey yogurt dressing. For the savory selection, they "deconstructed" three-bean-salsa, by sampling four different platters of onion, beans, tomato, and bell pepper. We let the students try each ingredient

Lastly, on Food Day (October 24th), they hosted a chef demo for the 6th grade class at Carl Traeger Middle School in Oshkosh School District. This event allowed AmeriCorps to reach out to community supporters from the Culinary Arts Program at Fox Valley Technical College. There were approximately 200 youth and staff in attendance. Chef Jason Sargeant came in to teach the students how to make butternut squash soup and gave an informational lesson on different varieties of squash that are available.

Apple Salad from Maplewood Fall Fair

Source: Winnebago County

General Updates

Farm to School Census Results Are In – Make sure that you are counted!
Census results can be accessed online, at www.fns.usda.gov/farmtoschool/census/. If you do not see your school district or your information is incorrect, you can submit information regarding farm to school practices through November 30, 2013.

Garden Curriculum Meets Science Standards – Renee Heinrich's Blog
Renee Heinrich, a science teacher at Thomas Jefferson Elementary School in Wausau, has developed garden-based curriculum that meets the science standards. You can check out her blog here:
http://scienceschoolyard.blogspot.com/search/label/farm%20to%20school

Nice to Tweet You! - @USDANutrition Farm to School Twitter Chat
Last week, @USDANutrition held its first ever farm to school Twitter chat. They heard from farm **to school programs and practitioners across the country and learned how folks are bringing the farm to school.**

@GeorgiaOrganics wins for most creative tweet for sharing an animated GIF of what makes farm to school work in Habersham County, GA. Check it out here: http://ow.ly/q6Ouu.

@USDANutrition is still hungry for more, so please keep sharing your photos, your menus,

A fall pumpkin field trip! *Source: Ashland/Bayfield Farm to School Program*

Webinars, Conferences and Events

LunchBites Webinar: Farm to Food Bank to School: An Emerging Model in Communities Across the Country (Register Here)
Tue, Nov 12th, 2013 at 1pm EST
Join us for the November LunchBites webinar to learn about how food banks are emerging as community food hubs, connecting local farms to other markets, including schools.

Farm to School + Extension Webinar Series Update
On November 19 at 1:00 p.m. ET, Julia Govis from University of Illinois Extension and Morgan Taggart from Ohio State University Extension will discuss the many ways they are supporting farm to school through the development of educational resources and curriculum. No registration required. To access the webinar, both an Internet connection and telephone line are required. To view the webinar via LiveMeeting, click here. To hear the webinar, dial 1-800-988-0278 and use the passcode 4670194#. For questions, please contact Matt Benson at matthew.benson@fns.usda.gov or 202-720-6740.

Farm to School Media Mentions

Harvest time: Farmers join to provide locally grown food to area ...
Green Bay Press Gazette

Local schools lead statewide Farm to School movement
Wisconsin Rapids Tribune

Support Farm to School programs: column
Wausau Daily Herald

Farm to School Program Growing Here
Beloit Daily News

Farm to School programs can combat obesity
The Cap Times

Farm to School Funding Opportunities

Let's Move Salad Bars to MIDWEST Schools Campaign
Over the last 3 years, salad bars have been donated to over 400 Midwest schools, benefitting more than 150,000 students. It's easy for your school to apply! For information, contact Andrew Marshall, (202)-303-3407, amarshall@unitedfresh.org

Applications Invited for Terri Lynne Lokoff/Children's Tylenol National Child Care Teacher Awards

Unsung Heroes Program Invites K-12 Educators to Apply for 2014 Class Project Awards

FOR MORE INFORMATION, contact DATCP's Sarah Elliott at 608-224-5046 or sarah.elliott@wisconsin.gov.

STAY CONNECTED:

A special campaign led by the United Fresh Foundation is seeking to increase children's fruit and vegetable consumption by donating salad bars specifically to schools in the Midwest states, including Wisconsin!

Applications Invited for Terri Lynne Lokoff/Children's Tylenol National Child Care Teacher Awards Deadline: December 6, 2013

Unsung Heroes Program Invites K-12 Educators to Apply for 2014 Class Project Awards

Each year, one hundred educators who are using new teaching methods and techniques to improve learning are selected to receive awards of $2,000 each to help fund a class project. Deadline: April 30, 2014

FOR MORE INFORMATION, contact DATCP's Sarah Elliott at 608-224-5046 or sarah.elliott@wisconsin.gov.

Farm Bill Section 10201 Program
2014 National Program Guidelines
August 20, 2013

INTRODUCTION

The purpose of these guidelines is to provide direction for the Plant Pest and Disease Management and Disaster Prevention Program, otherwise known as the Farm Bill (FB) Section 10201 Program (see 7 U.S.C. 7721). These guidelines are written for State Departments of Agriculture, Plant Protection and Quarantine (PPQ) personnel, Tribal governments, industry groups, universities, and other collaborators. These guidelines provide a general overview of the Section 10201 program implementation process. Specific details concerning annual program activities may be obtained from any of the FB Management Team (FBMT) members representing USDA APHIS PPQ's Core Functional Areas: Policy Management (PM), Field Operations (FO), or Science and Technology (S&T). (See Appendix A)

MISSION IMPORTANCE

APHIS-PPQ is charged with implementing 7 U.S.C. 7721 of the Plant Protection Act (amended by Section 10201 of the 2008 Farm Bill), to prevent the introduction or spread of plant pests and diseases that threaten U.S. agriculture and the environment. Under the FB, APHIS-PPQ provides funding to strengthen the nation's infrastructure for pest detection and surveillance, identification, and threat mitigation, while working to safeguard the nursery production system. Through the process used to submit and prioritize project suggestions, PPQ has funded more than 1,000 projects in 50 States and 2 U.S. territories since 2009. These projects have strengthened PPQ's ability to protect U.S. agriculture and natural resources from foreign plant pest threats in areas such as pest survey, identification, inspection, mitigation, risk analysis, and public education and outreach.

Projects are organized around six goal areas: enhancing plant pest/disease analysis and survey; targeting domestic inspection activities at vulnerable points in the safeguarding continuum; enhancing and strengthening pest identification and pest ID technology; safeguarding nursery production; enhancing mitigation capabilities; and conducting outreach and education about these issues. Details are available on APHIS' Farm Bill web site at: http://www.aphis.usda.gov/section10201

The original goals and strategies put forth by the FB Section 10201 Program, and documented in the Implementation Plan, were revised, and APHIS developed categories under each goal area to help stakeholders identify and develop suggestions that address a critical need or an unexplored opportunity in terms of strengthening prevention, detection, and/or mitigation

efforts. For FY14 these categories were updated to reflect the evolving needs of the FB Section 10201 Program and are outlined in this document. The current version of the Implementation Plan can be found at the following link- 2008 FB Implementation Plan for Section 10201 *Plant Pest and Disease Management and Disaster Prevention.*

ROLES AND RESPONSIBILITIES

The success of the FB Section 10201 Program is based on good communication and collaboration between APHIS and its cooperators, as well as clarity about the roles and responsibilities of all parties involved in identifying, prioritizing and implementing cooperative projects. This includes projects conducted by PPQ and state cooperators funded through other line items. While the focus of these guidelines is primarily directed to PPQ state offices and state cooperators, it also extends to other Federal agencies, Tribal governments, industry partners, universities, and other cooperating organizations.

At both the national and state-levels, an organized effort to engage stakeholders in open dialogue early in and throughout the planning process is critical to the success of the FB Section 10201 Program. APHIS believes the commodity/ecosystem approach will provide a more holistic framework for prevention, preparedness, response, and recovery from invasive pests of regulatory significance. APHIS realizes the value of engaging stakeholders throughout this continuum, especially when communicating about pest risks, jointly setting priorities, and leveraging resources across organizational boundaries. It is imperative that FB Section 10201 Program Managers communicate the goals and objectives of the Section 10201 Program, and cooperators clearly communicate the benefits of proposed projects.

The FBMT will provide the strategy for identifying projects of national priority in consultation with the National Plant Board, industry representatives and other concerned parties. The FBMT coordinates review and implementation of project proposals; sets and enforces policy regarding appropriate use of FB funding; annually reviews the policy, strategy, and performance of the FB program; and revises national program guidelines as needed and posts to public website. The roles and responsibilities of the PPQ Farm Bill Management Team (FBMT), Goal Area Team Leads, Goal Team members, PPQ Program Managers, State Plant Health Directors (SPHD), State Plant Regulatory Officials (SPRO), and other positions within the FB Section 10201 Program are detailed in Appendix B.

OVERARCHING CATEGORIES & SPECIFIC IMPLEMENTATION STRATEGIES

As mentioned in the introduction, APHIS has organized the implementation of the Farm Bill Section 10201 Program around 6 major goal areas. In order to provide better focus and direction, the Program developed Overarching Categories under each goal area to help stakeholders identify and develop suggestions that address a critical need or an unexplored opportunity in terms of strengthening prevention, detection, and/or mitigation efforts. Further,

Specific Implementation Strategies were developed to add clarity and direction to ensure suggestions are focused on key implementation activities that support the Overarching Categories within each major goal area.

The Specific Implementation Strategies will be reviewed each year to ensure current and emerging plant pest prevention, detection, and/or mitigation needs are met annually. This strategic approach will allow flexibility within these guidelines to emphasize current year strategies that more accurately reflect the intent of the goal area.

Goal 1: Enhance plant pest/disease analysis

Overarching Categories
Identify risk factors and high-risk pathways by analysis of available data.
Develop risk based models and decisions support tools to reduce the introduction and establishment of exotic species.

Specific Implementation Strategies	
Pathway Analysis/Data Synthesis	Compile, synthesize, or evaluate data to inform risk analysis, survey methodology, or pathway analysis. This includes new and innovative approaches in using data to inform the understanding of exotic plant pest analysis with a focus on the arrival or establishment of such a pest.
Modeling	Better define biotic and abiotic variables, detect patterns, and test hypotheses to improve predictive modeling and surveillance efforts for exotic species. This category includes initiatives that improve the understanding of where an exotic pest may be introduced or able to establish.
Decision Support	Improve decision support functions related to exotic species. This category includes initiatives that contribute to better decision making as related to exotic species and their impacts to plant health and vigor.

Goal 1 Enhance plant pest/disease survey

Overarching Categories
Target multiple, high priority pests for survey along national and local high-risk pathways.
Fund high priority nationally-directed pest surveys in support of specialty crops, trade, and regulatory activities.
Fund state-specific pest surveys in support of state pest risk and priorities.

Specific Implementation Strategies	
National Surveys	Surveys which are national in scope with broad participation by the states, and target multiple, high priority exotic pests, specialty crop commodities, and high risk pathways for entry of exotic pests into the United States. The supported National Surveys will be determined and communicated by the FB Survey Team in consultation with PPQ program managers and state cooperators.
State-Specific Surveys	Surveys which are more local or regional in scope, and target multiple, high priority pests, specialty crop commodities, and high risk pathways into a state or within a region. Proposed State-specific Surveys should be based on the priorities of a state or region, and be important for that state or region for biological, agricultural, environmental, and/or economic reasons, and have quarantine significance.
Program Directed Surveys	These surveys will be strategic, and aimed at filling gaps in our knowledge about the distribution of a pest, according to the objectives of the specific program. These surveys focus on specific states based upon pest biology, risk, pathways of dissemination, and objectives of the specific pest program.

Goal 2: Target domestic inspection activities at vulnerable points in the safeguarding continuum

Overarching Categories
Promote and expand inland inspections of containers and mail facilities, where possible.
Expand the use of canine teams for domestic inspection activities.
Promote increased levels of inspection for regulated articles for interstate movement.

Specific Implementation Strategies	
Destination Inspections	Follow-up inspections conducted by cooperating regulatory agencies in states receiving international and interstate regulated cargos that present a risk of moving plant pests. This also includes the development of inspection techniques.
Detector Dogs	Special emphasis on new capacities of agriculture detection dog teams, designing and delivering agriculture detection dog training, and developing and supporting agriculture detection dog programs in support of Destination Inspection for cooperators.

Goal 3: Enhance and strengthen pest identification and technology

Overarching Categories
Improve all aspects of early detection resources.
Enhance pest screening expertise and taxonomic capacity.
Increase the deployment of molecular diagnostic tools.

Specific Implementation Strategies	
Detection Technologies	Includes developing, testing, comparing and transferring plant pest detection technologies for program implementation; development of novel and improvement of existing survey tools such as traps and lures.
Diagnostic Capacity Building	Includes training, equipment, specimens, diagnostic tools and methods (morphological and molecular), certification, personnel, and enhancements to infrastructure that improve diagnostic capability/throughput (i.e. an increase in the number of taxa that a lab may identify as well as sheer volume of samples it may process of a given taxon).
Taxonomic Support	Includes internal and external resources brought to bear on the operational screening and identification of given plant pest taxa.

Goal 4: Safeguard nursery production

Overarching Categories
Develop science-based best management practices and risk mitigation practices to exclude, contain, and control regulated pests from the nursery production chain.
Develop and harmonize audit-based Nursery Certification Programs.

Specific Implementation Strategies	
Systems Approaches for Nursery Production	Initiatives that explore *Phytophthora ramorum* in nursery production systems as well as other pests.
Nursery Certification Programs	Initiatives that directly address and inform the process of nursery certification programs; studies on potential improvements on nursery certification programs.
Specialty Crop Pilot Studies	Initiatives supporting specialty crop pilot studies and harmonization.

Goal 5: Conduct outreach and education to increase understanding, acceptance, and support of plant pest and disease eradication and control efforts.

Overarching Categories
Prevent the introduction or spread of high-consequence pests into and around the United States, particularly in high-risk areas.
Develop people to strengthen the safeguarding system.
Increase the number of people actively looking for and reporting high-consequence pests at vulnerable points along high-risk pathways.

Specific Implementation Strategies	
Traveler Outreach	Initiatives designed to inform travelers about pests and diseases and the steps they can take to prevent their introduction or spread.
Consumer Outreach	Initiatives designed to inform consumers about pests and diseases and the steps they can take to prevent their introduction or spread.
Youth Outreach	Initiatives designed to inform youth about invasive pests and the steps we all can take to protect agriculture and natural resources.
Producer/First Detector Training	Workshops, seminars, or training programs for farmers, growers, researchers, field workers, and others who are in a position to detect, identify, and/or respond to pest threats (especially tribal, underserved, minority, and specialty crop producers).
University/College-Level Education	Efforts to develop expertise in areas of plant resource protection and regulatory science to meet future State, Tribal and Federal resource needs.
Distribution Center Employee Outreach	Efforts to encourage people who work in/around warehouse and storage facilities, nursery and garden centers, and other vulnerable points to look for and report signs of a pest or disease.

Goal 6: Enhance mitigation capabilities

Overarching Categories
Improve the mechanism to assess and decide an appropriate short term course of action to a new pest.
Utilize initial response protocols for the overarching goals of containment, control, or eradication at the onset of plant health emergencies.
Prepare the agency and collaborative programs in the use of the Incident Command System (ICS).
Provide technical assistance prior to, during, and immediately following the development of a plant health emergency through the development of New Pest Response Guidelines (Action Plans).

Specific Implementation Strategies	
Applied Mitigation	Efforts that develop or adapt new control technologies, tools, and treatments for use in plant health emergencies, e.g., quarantine treatments and biological control.
Preparation	Efforts that improve the knowledge base, response options and capabilities prior to the onset of a plant health emergency, e.g., development/training of rapid response teams, NPRG, etc.
Rapid Response	Efforts that use existing tools and initial response protocols for the overarching goals of containment, control, or eradication at the onset of plant health emergencies.

GUIDANCE BY GOAL AREA

Guidance for each Goal Area appears below. Suggestors should carefully consult this guidance before submitting a suggestion for Farm Bill funding. Suggestions will be reviewed and rated based on the specific goal area guidance. Suggestions that stray from or do not meet this guidance will not rate high, and have a lower probability of receiving funding.

Goal 1 Analysis Guidance

The primary purpose of Goal 1 Analysis is to enhance plant pest/disease analysis and surveillance. Ideally, projects will support and enhance efforts that identify risk factors and high-risk pathways by analysis of available data, and/or develop risk based models and decisions support tools to reduce the introduction and establishment of exotic species. This includes efforts that focus on compiling, synthesizing, and evaluating quantitative and qualitative data to inform risk analysis, survey methodology, predictive modeling, and

pathway analysis. Furthermore, the analysis should improve survey efforts for exotic species by better defining biotic and abiotic variables, detecting patterns, testing hypotheses, and validating results while highlighting useful information and supporting decision making.

Suggestions should be focused on the above categories and be directed to at least one of these three implementation strategies.

1. **Pathway Analysis/Data Synthesis:** Compile, synthesize, or evaluate data to inform risk analysis, survey methodology, or pathway analysis. This includes new and innovative approaches in using data to inform the understanding of exotic plant pest analysis, with a focus on the arrival or establishment of such a pest.

2. **Modeling:** Better define biotic and abiotic variables, detect patterns, and test hypotheses related to improved predictive modeling and surveillance efforts for exotic species. This category includes initiatives that improve the understanding of where an exotic pest may be introduced or able to establish.

3. **Decision Support:** Improve decision support functions related to exotic species. This category includes initiatives that contribute to better decision making as related to exotic species and their impacts to plant health and vigor.

Goal 1 Survey Guidance

Under the first major goal area, "Goal 1: Enhance plant pest/disease analysis and surveys," APHIS' survey strategies include: target high priority pests for survey along national and local high-risk pathways; fund high priority nationally-directed pest surveys in support of specialty crops, trade, and regulatory activities; and fund state-specific pest surveys in support of state pest risk and priorities. For FY14, surveys under Goal 1 will be divided into three specific implementation strategies; 1) National Surveys, 2) State-Specific Surveys, and 3) Program-Directed Surveys. This distinction will facilitate the review process and reporting.

1. **National Surveys:** National surveys are those surveys that are national in scope with broad participation by the states, and target high priority exotic pests, commodities, and high risk pathways for entry of exotic pests into the United States. The supported National Surveys may be determined and communicated by the Farm Bill Survey Team in consultation with PPQ program managers (see link provided at the end of this document) and state cooperators.

   As in FY13, several surveys are deemed to be of national importance because of pathway, risk, or trade considerations. Participation by multiple states in these surveys is desirable, and states are encouraged to consider these surveys when developing proposed work for FY14 funding. States will indicate their willingness to participate in these surveys via the FY14 suggestion process. The following have been designated as National Surveys:

- *Enhanced Port Environs*: Surveys focused on the pathway continuum from the immediate port environment and surrounding areas to inland high risk sites; Strategy 1.2
    - Asian defoliating moths
    - Exotic woodborers and bark beetles
    - Mollusks
    - Khapra Beetle
    - And other demonstrated high risk surveys along a particular pathway.

  The Enhanced Port Environs surveys are targeted pathway surveys to be conducted primarily along the pathway continuum from the immediate port environment and surrounding areas to inland locations. The focus should be on high risk areas, such as container yards, rail yards, and warehouses, and be based on known risk factors. Of particular importance are those yards receiving containers from high-risk countries or from areas that are currently under treatment in the U.S. The primary objective of this effort is to monitor high-risk seaports, mills, rail yards, and other hot zones for exotic wood boring insects, Asian defoliators, and other pests that may be introduced into the United States through commerce, particularly in and near port areas receiving cargo shipments from Asia and other inland locations with demonstrated risk factors.

  The emphasis is on multi-pest surveys and will follow the general survey guidelines for bundled surveys as specified in the Cooperative Agricultural Pest Survey (CAPS) 2014 National Survey Guidelines. The intent of the bundled survey is to give the States the flexibility to design their own surveys, within certain parameters. The survey must concentrate on multiple, high priority pests and efficiency of survey within the taxa listed. Asian defoliator surveys should concentrate on species of *Lymantria* and *Dendrolimus*, and follow the guidance given for the Asian Defoliator Pathway-based National Survey Reference. Exotic wood boring & bark beetle surveys should follow the guidelines and pest list in the revised Exotic Wood Borer/Bark Beetle National Survey Guidelines. For all surveys, the CAPS-Approved Methods will be the required survey methodology, if available.

- *Pathway Approach to Survey*: When planning surveys, the States are encouraged to use a pathway approach when deciding on pests and locations to survey. States should plan to survey where the risk is highest. This type of targeted detection survey or risk-based survey enhances the ability to identify and target high risk areas, zones, locations, and sites that have the highest potential for exotic pest introductions, and to successfully provide early detection of these pests. This concept can be combined with any survey using sound analytical tools, known risk sites, past history of pest detections in a State, and other avenues of information. It is understood that risk factors can be examined along a "risk continuum" beginning at offshore sites (points of origin) to points of potential establishment (commodity production areas, natural

lands), and numerous risk points in between (wholesale distribution centers, nurseries, intermodal sites, rail yards, etc.). The identification of risk points and development of targeted surveys will maintain the focus of the survey program on our top commodities at risk and the high priority pests.
Surveys for multiple, high priority pests along known pathways will be rated higher than single pest surveys or surveys where no high priority pests are targeted or no pathway approach is indicated. A blanket approach to survey is not recommended.

- *Commodity-Based Surveys*
  - **Grape** – commodity-based survey for multiple pests, and must include *Lobesia botrana* (European grapevine moth)
  - **Palm** – commodity-based survey for multiple pests
  - Solanaceous Crops - commodity-based (tomato and pepper) survey for multiple pests, and must include *Tuta absoluta* (Tomato leaf miner)
  - **Stone Fruit** – commodity-based survey for multiple pests, and must include Plum Pox Virus (PPV)
  - **Orchard** – commodity-based (Apple and Pear) survey for multiple pests
  - And other specialty crop commodity surveys appropriate for Farm Bill funding, such as Fruit Crops, Tree Fruits, Vegetable Crops, and Greenhouse Crops for example.

The Grape, Palm, Solanaceous Crops (tomato/pepper), Stone Fruit, and Orchard (apple/pear) surveys will follow the general survey guidelines for bundled surveys as specified in the Cooperative Agricultural Pest Survey (CAPS) 2014 National Survey Guidelines. The intent of the bundled survey is to give the States the flexibility to design their own surveys, within certain parameters. The survey must concentrate on multiple, high priority pests and efficiency of survey within the commodities listed. The survey must include pests from the CAPS Priority Pest List (Commodity Pests [Appendix G-1] and/or Pests of Economic and Environmental Importance [Appendix G-2]). Pests of importance to a State not on the Priority Pest List, but in common with the other pests, may be included in the bundled survey. **For Farm Bill-funded surveys, *Lobesia botrana, Tuta absoluta*, and Plum Pox Virus must be included in the Grape, Solanaceous, and Stone Fruit surveys, respectively**. Multiple-pest surveys will be rated higher than single-pest surveys. The CAPS Approved Methods will be the required survey methodology. The Pest Detection team will use the information from the Farm Bill bundled surveys to aid in the development of CAPS Commodity-based surveys with accompanying approved methods.

2. **State-Specific Surveys:** State-specific surveys are those surveys that are more local or regional in scope, and target high priority pests, commodities, and high risk pathways into a state or within a region. Proposed State-specific Surveys should be based on the priorities of a state or region, and be important for that state or region for biological,

agricultural, environmental, and/or economic reasons.

Surveys not listed above or are more specific to a particular state or region also will be considered for funding in FY14 if that survey falls under the general guidelines and language of the Farm Bill and the CAPS programs, and a strategy for Goal 1 (e.g., Strategy 1.4). Surveys that target 'emerging' pest threats or recently detected pests whose regulatory status has yet to be determined will be rated higher than pests that have been established for many years and/or pests that are not regulated. Justification for this type of survey must be clear. Surveys for multiple pests will be rated higher than single-pest surveys. Surveys for management of established pests or those that are not of national quarantine significance to APHIS will not be considered. States should submit suggestions for State-Specific surveys in addition to Nationally-Directed Surveys, but not both for the same suggestion. Regional surveys are encouraged. For example, nursery surveys that include *Phytophthora ramorum* or forest pest surveys that include walnut twig beetle may be considered. Contact your National or Field Operations Program Managers, or your State Plant Health Director for clarification if you have questions about these types of surveys. Recognize, however, that National surveys focused on core national priorities will rate higher than State-specific surveys.

Survey suggestions should be focused on the above strategies and be directed to either the National or State-Specific Survey category.

3. **Program-Directed Surveys:** Program-directed surveys are those surveys that may be funded through the Farm Bill, but will not be open for suggestions. These surveys will be strategic, and aimed at filling gaps in our knowledge about the distribution of a pest, according to the objectives of the specific program. These surveys focus on specific states based upon pest biology, risk, pathways of dissemination, and objectives of the specific pest program. Program managers will contact the states that are proposed to participate and they will explain the structure and requirements of the survey. States may decline, but will have an understanding of the potential impacts of doing so. The Program will submit one suggestion that will list the participating states and the budget for each state. These surveys support Strategy 1.2.

   For FY14, only the Honey Bee Program will conduct a Program-Directed Survey. Program managers who oversee this program will communicate the structure and requirements of the survey to the states that will be asked to participate based on the national strategic priorities of the Program.

Data Management

Data from all Farm Bill surveys under Goal 1 Survey must be entered into the National Agricultural Pest Information System (NAPIS) unless otherwise directed by specific program managers. Given the diversity of survey programs supported through the FB Section 10201

Program, the FBMT relies on the direction of the various programs' cross functional teams to provide the direction on what data management requirements exist for each program (see Appendix E). Surveys not covered by a specific pest program (e.g., Khapra Beetle) must enter data into NAPIS.

PPQ policy is to eventually transition all PPQ programs, including FB Section 10201, to the Integrated Plant Health Information System (IPHIS). However, IPHIS currently cannot support Farm Bill (and CAPS) surveys due to several factors. Until IPHIS can support Farm Bill (and CAPS) surveys, APHIS will continue to utilize the NAPIS database for reporting presence/absence data. The NAPIS database includes data validation rules ensuring PPQ approved survey methods are adhered to. Additional information on Approved Survey methods can be found on the CAPS Resource and Collaboration website. This data is also captured in the FB Goal 1 Survey Summary Form.

For 2014, all Goal 1 Survey projects must also complete a FB Survey Summary online on the CAPS Resource & Collaboration site (A CAPS R&C login will be required). The online Survey Summary Form must be completed when the work plans are submitted to the SPHD's office. No work plans will be reviewed or approved without a completed online Survey Summary Form. Once the state submits the completed information, the state PPQ office will be required to acknowledge review before it will be reviewed by the NOM. Do not submit an electronic copy of the Summary Form with the work plans. The State's data will be available to Field Operations online. States will not be able to access other state's information. States are strongly encouraged to list State contributions to the survey effort on the Survey Summary Form.

Negative Data

The documentation of negative data is extremely important and valuable. Negative data from national surveys targeting high priority pests support trade and exports, and benefit American agriculture. Identical to the CAPS program, FB Goal 1 surveys strive to insure that all negative data is valid, and results from active survey efforts. The FB Goal 1 Survey has adopted the guidelines the CAPS program developed to assist in data entry of valid negative data. The CAPS-Approved Survey Methods can be found here in Appendix M. This matrix enables one to determine the appropriate pests that can be considered negative for a survey effort based on the survey methodology, trap/lure combination, etc. Data entry will be checked and validated against the approved survey method for each pest on the Priority Pest List. **Data not conforming to the approved method will not be accepted into the database.**

Additional guidance for data entry is given in the CAPS National Survey Guidelines Appendix N for selected target pests (*Xyleborus* and *Xylotrechus*, Mollusks, Nematodes, and Phytoplasmas) at the genus and species level. Because of incomplete taxonomy,

diagnostic difficulty, lack of survey methodology, or other reasons, some target pests are listed only at the genus level. In certain instances only, it may be appropriate to enter negative data at the genus level. Appendix N provides this guidance. All positive records should be at the species level.

Survey Supplies

Survey supplies (traps, lures, and accessories) for National Surveys funded under the Farm Bill will be provided by PPQ through separate Farm Bill funding. The timeframe for ordering these supplies will be communicated at a later date. Survey supplies for State-specific Surveys may not be available. Questions should be directed towards the Survey Supply Procurement Program (SSPP) National Policy Manager.

Accomplishment Report

APHIS encourages cooperators to use the CAPS Survey Accomplishment Report Template when reporting survey accomplishments. This is a requirement for CAPS surveys; therefore, APHIS believes the template is familiar to many cooperators and will provide consistent reports nationwide. The Farm Bill version of the reporting template can be found on the FY14 Farm Bill page of the CAPS Resource & Collaboration website.

Goal 2 Guidance

Under the second major goal area, "Goal 2: Target domestic inspection activities at vulnerable points in the safeguarding continuum," APHIS' strategies include: Promote and expand inland inspections of containers and mail facilities; Expand the use of canine teams for domestic inspection activities; and Promote increased levels of inspection for regulated articles for interstate movement. As in previous years, for FY14, suggestions that will be considered under Goal 2 should fall within one of these overarching categories.

1. **Promote and expand inland inspections of containers and mail facilities:** The goal is to develop cooperative efforts with State agriculture regulatory agencies, promoting inspection activities of regulated articles in international commerce at point after they have been cleared at Ports of Entry. These may be independent activities or conducted in cooperation with PPQ programs, such as Smuggling Interdiction and Trade Support.

2. **Expand the use of canine teams for domestic inspection activities:** The goal is to promote the use of canine teams for inspection of international and interstate commerce by State agriculture regulatory agencies as well as offices within PPQ. Another activity is to promote the use of canine teams in the detection of particular pests on detection and pest management programs. These programs are supported by the PPQ National Detector Dog Training Center in Newnan, GA.

3. **Promote increased levels of inspection for regulated articles for interstate movement:** The goal is to develop cooperative efforts with State agriculture regulatory agencies, promoting inspection activities of regulated articles in interstate commerce to support both Federal and State regulations. These may be independent activities or conducted in cooperation with PPQ programs in the states.

Goal 3 Guidance

Under Goal 3, "Pest Identification and Technology Enhancement" Specific Implementation Strategies include Detection Technologies, Diagnostic Capacity Building, and Taxonomic Support. Suggestions will be considered when they address the following priority needs for PPQ. Examples of areas of emphasis are listed below each strategy.

1. **Detection Technologies:** Developing, testing, comparing and transferring plant pest detection technologies for program implementation; and developing novel and improving existing survey tools such as traps, lures, and field recognition aids. High priority pests for consideration include those found on the OPIS A list and/or the Cooperative Agriculture Pest Survey (CAPS) Priority Pest List. Examples include but are not limited to:

   - **Survey tool improvements:**
     - Screening and diagnostic-friendly traps and collection methods that facilitate handling and processing of survey samples, prevent specimen damage, and/or preserve condition of specimens;
     - Efficacy comparisons of new hot-melt sticky traps of various manufacturers against traditional sticky traps for various (CAPS) Priority Pests (found at http://caps.ceris.purdue.edu/pest_lists), i.e., trap design experiments which verify efficacy of diagnostic-friendly traps for CAPS targets in the pests' native range (e.g., *Helicoverpa armigera* and *Tuta absoluta*);
     - Research toward the development of automated traps that can record the time and date of capture, report captures remotely, and/or screening of captures to determine target species;
     - Traps that can effectively accommodate multiple lures for multiple CAPS target pests; and
     - The use of portable USB remote imaging technology for specimen screening from surveys.

   - **Develop / optimize attractants and traps for CAPS targets:** The following CAPS national survey targets (and potential targets) currently have only visual survey methods or existing available pheromones need refinement. The goal is to identify the most effective attractant or trap for each target species; therefore, efficacy trials in the target's native range are essential.
     - Research would include:
       - Developing potential attractants and traps and then

        - Testing the potential attractants and traps in the target pests' native range.
    - Targets are listed by family.
        - Buprestidae*: Agrilus biguttatus* and *Agrilus coxalis* or other potential *Agrilus* pest species
        - *Cerambycidae: Aeolesthes sarta, Anoplophora chinensis, Chlorophorus annularis, Chlorophorus strobilicola, Massicus raddei, Monochamus saltuarius, Monochamus sutor, Monochamus urussovi, Trichoferus campestris, Xylotrechus altaicus, Xylotrechus antilope, Xylotrechus arvicola, Xylotrechus namanganensis, Xylotrechus rusticus, and other cerambycids of quarantine importance*
        - Chrysomelidae: *Diabrotica speciosa*
        - Curculionidae: *Dendroctonus micans, Scolytus intricatus,* and *Tomicus minor*
        - Lasiocampidae : *Dendrolimus superans, D. sibericus, D. punctatus,* and *D. pini*
        - Scolytinae: *Euwallacia fornicatus*
        - Siricidae: *Tremex fuscicornis*

- **Detection assays:**
    - Affordable biochemical or molecular assays for detecting CAPS insect targets in trap samples comprised of numerous, similar but native pests (e.g., *Helicoverpa armigera* or *Autographa gamma* in pheromone trap samples) where large numbers of U.S. native non-target moths fill up traps, all of which must be dissected for morphological identification. Molecular tool must be valid for the target species against related species detectable from large composite samples and high through-put with demonstrated sensitivity and practical implementation for survey programs.
    - Refine pheromone specificity to eliminate or drastically reduce non-target moths.

- **Field-level diagnostic methods:** Field-level or intermediate screener diagnostic methods for CAPS national survey target pathogens at group or genus level (e.g., ELISA/immunostrip for phytoplasma or virus/viroid detection), and for *Rathayibacter* sp. to screen suspect galls from rye grass imports at ports of entry.

2. **Diagnostic Capacity Building:** Training, equipment, specimens, diagnostic tools and methods (morphological and molecular), certification, personnel, and enhancements to infrastructure that improve diagnostic capability and throughput. Examples include but are not limited to:

- **Recorded training sessions:** Thorough species level taxonomic training given by recognized experts is needed for taxonomists/identifiers for exotic pests to distinguish

from established and native species. Recorded webinars and/or video-taped training that can be posted and web-accessed is desired for including but not limited to pests in the following groups: Acarina, Coleoptera woodborer adults, Lepidoptera adults and larvae, and Thysanoptera. Nematodes and fungal pathogens of quarantine importance also are of interest.

- **Molecular tools development/validation for CAPS national survey target pests:** These could include, but are not limited to *Chalara fraxinea, Harpophora maydis, Monilia polystroma/Monilinia* spp., bacteria (*Pseudomonas/Xanthomonas*) at the pathovar level, phytoplasmas at species/strain level, viruses (specifically torradoviruses) at the genus and species level, viroids, and nematodes.

- **Molecular tools to support the exclusion of invasive species:** Develop molecular tools that are needed for invasive species such as tephritid fruit flies. This would include but is not limited to information that can help target and restrict pathways of introduction and characterize unresolved species complexes, in support of diagnostic needs for surveys and effective pest management/eradication strategies.

- **Sequencing data for insect targets:** Develop appropriate and quality sequencing data for insects (and closely related species) on CAPS target list or other federally actionable pests including samples from various known geographic localities for specimens that are expertly identified and confirmed. The taxa in question would be focused on a pest genus or family for a particular study.

- **Interactive taxonomic keys:** Develop interactive taxonomic keys, using well-illustrated morphological and/or molecular characters (if morphology is inadequate), that are capable of providing credible confirmations of suspect CAPS national survey targets, particularly plant pathogens and insect groups of quarantine importance which will provide tools useful to identifiers.

3. **Taxonomic Support:** Internal and external resources brought to bear on the operational screening and identification of given plant pest taxa. Examples include but are not limited to:

    - The development of screening aids for pest groups on the CAPS target lists. These should be image based documents that can be posted for screeners to distinguish target genera from similar native or widely distributed look-a-like species typically found in survey samples. These aids should include external morphological characteristics of the pest clearly depicted. See examples at http://caps.ceris.purdue.edu/screening_aids. Those insect screening aids most needed which will be given a high level of consideration are: for Lepidoptera adults (i.e., *Adoxophyes orana, Archips xylosteanus, Cameraria ohridella, Chilo suppresalis, Dendrolemus pini, D. punctatus, D. sibiricus,*

D. superans, Eudocima fullonia, Leucoptera malifoliella, Panolis flammea, Thaumetopoea processionnea), and Coleoptera woodborer adults (i.e., *Massicus raddei, Monochamus sutor, M. sutor*) and others on the CAPS target list not already covered.

- For plant pathogens this could include biochemical screening methods and confirmatory diagnostics for plant pathogenic nematodes including *Bursaphelenenchus cocophilus*, other pathogens from the CAPS national target list including *Chalara fraxinea, Harpophora maydis, Monilia polystroma/Monilinia* spp., *Peronosclerospora* spp., *Phytophthora* spp., *Pseudomonas syringae* pvs. *actinidiae* and *aesculi*, *Xanthomonas oryzae* pathovars, as well as phytoplasmas and viruses/viroids on the list.

- Laboratory diagnostic services for universal detection/screening of phytoplasmas to support CAPS surveys for plant pathogenic phytoplasmas.

Goal 4 Guidance

The fourth goal area, "Goal 4: Safeguard Nursery Production," is organized into two overarching categories that include: developing science-based best management practices and risk mitigation practices to exclude, contain, and control regulated pests from the nursery production chain; and developing and harmonizing audit-based Nursery Certification Programs. For FY14, suggestions under Goal 4 should fall into one of these three specific implementation strategies: 1) System Approaches for Nursery Production; 2) Specialty Crop Pilot Studies; and 3) Nursery Certification Programs.

1. **System Approaches for Nursery Production:** Those initiatives that specifically explore the role of certain pests within nursery production systems. The goal is to develop science-based best management practices (BMPs) and risk mitigation practices to exclude, contain, and control regulated plant pests from the nursery production system. Some of the FB suggestions funded in FY13 include:

    - National Ornamentals Research Site at Dominican University of California to develop *P. ramorum* management methods
    - Developing Pilots for Management of *Phytophthora ramorum* in Nursery Systems
    - Use of biocontrol, soil treatments, solarization to Remediate Phytophthora ramorum-Infested Soil

2. **Nursery Certification Programs:** Those initiatives that 'directly' address and 'inform' the process of inspecting, auditing and certifying the production of nursery stock. Enhanced harmonization and integration of nursery certification programs will enhance the cleanliness and health of domestically produced nursery stock, facilitate domestic and international movement of nursery stock, and safeguard the nursery industry from the introduction of exotic pests. Some of the FB suggestions funded in FY13 include;

- Systems Approach to Nursery Certification Programs
- Develop software tools for managing Nursery Certification Programs
- National Voluntary Nursery Audit-based Certification System
- Development of a Domestic Market Focused Nursery Certification Program
- Comparing the Efficacy of Various Schemes for Pest Risk Mitigation in Nursery Stock
- Initiating or Reinstating Select State Nursery Certification programs
- Training Auditors in Methods for Nursery Certification and Nurseries and Growers in the Importance and Value of Using Certified Nursery Stock

3. **Specialty Crop Pilot Studies:** Efforts directed towards the development and harmonization of certification programs for asexually propagated plant material. The certification programs provide high-quality asexually propagated plant materials free of targeted plant pathogens and pests that cause economic loss and ensure the global competitiveness of specialty crop producers. Some of the FB suggestions funded in FY13 include:
   - Harmonizing Model Regulatory Standards among Certain Specialty Crops
   - Development of Harmonized Standards for Fruit Trees, Berries, Grapes, Certification Programs
   - National Nursery Virus Certification Program Pilots for Fruit Trees and Grapes
   - Analyzing Nursery Source Material to Improve Virus Testing in Nursery Certification Programs
   - Safeguarding Specialty Crop Nurseries
   - Informing growers of the importance and economics of using plants derived from certified sources

Goal 5 Guidance

Goal area 5 is Outreach and Education. The primary goal of outreach and education activities is to increase understanding, acceptance, and support of plant pest and disease exclusion, eradication, and control efforts. Ideally, outreach and education projects would support and enhance efforts to prevent the introduction or spread of high-consequence pests into and around the United States, particularly in susceptible high-risk areas. They would increase the number of people actively looking for and reporting high-consequence pests at vulnerable points along high-risk pathways. In addition, these projects could help develop people to strengthen the safeguarding system by teaching them what they can do to help. To the extent that mobile apps are part of a suggestion, APHIS will consider how that suggestion aligns with its overall IT and outreach goals and strategies that support plant safeguarding operations.

To support these broad goals, suggestions should focus on these specific implementation strategies:

1. **Traveler Outreach**: Initiatives designed to inform travelers about pests and diseases and the steps they can take to prevent their introduction or spread.

2. **Consumer Outreach**: Initiatives designed to inform consumers about pests and diseases and the steps they can take to prevent their introduction or spread.

3. **Youth Outreach**: Initiatives designed to inform youth about invasive pests and the steps we can all take to protect agriculture and natural resources.

4. **Producer/First Detector Training**: Workshops, seminars, or training programs for farmers, growers, researchers, field workers, and others who are in a position to detect, identify, and/or respond to threats (especially tribal, underserved, minority, and specialty crops producers).

5. **University/College-Level Education**: Efforts to develop expertise in areas of plant resource protection and regulatory science to meet future State and Federal resource needs.

6. **Distribution Center Employee Outreach**: Efforts to encourage people who work in or around warehouse and storage facilities, nursery and garden centers, and other vulnerable points to look for and report signs of a pest or disease.

Goal 6 Guidance

The sixth goal area, "Goal 6: Enhance mitigation capabilities", is organized around the following overarching categories that include: Improving the mechanism to assess and decide an appropriate short term course of action to a new pest; utilizing initial response protocols for the overarching goals of containment, control, or eradication at the onset of plant health emergencies; preparing the agency and collaborative programs in the use of the Incident Command System (ICS); and providing technical assistance prior to, during, and immediately following the development of a plant health emergency through the development of New Pest Response Guidelines (Action Plans).

As in previous years, for FY14, suggestions to be considered under Goal 6 should also align with one of these three specific implementation strategies.

1. **Applied Mitigation:** Develop, promote, and implement applied mitigation research and mitigation capabilities. The goal is to develop, promote, and implement new control technologies, tools, and treatments for use in plant health emergencies and/or established pest programs. Examples for this Goal 6 strategy include quarantine treatments and biological control.

2. **Preparation:** Enhance preparation for a plant pest emergency. The goal is to improve the knowledge base, response options, and capabilities prior to the onset of a plant pest

emergency. Examples for this Goal 6 strategy include development and training of rapid response teams, development of New Pest Response Guidelines, and offshore approaches to developing management options for key invasive pests before they arrive.

3. **Rapid Response:** Enhance rapid response to plant pest emergencies. The goal is to provide initial or short-term funding to employ existing tools and initial response protocols for the overarching goals of containment, control, or eradication at the onset of plant pest emergencies.

SUGGESTIONS, FUNDING, & WORK PLANS

Overview

PPQ intends to allocate funds to cooperators in a fair and transparent manner. Funds to support the FB Section 10201 Program are generally provided to State Departments of Agriculture and other cooperators through cooperative agreements, which are administered through the offices in Policy Management, Science and Technology (CPHST), and Field Operations. The annual PPQ FB Section 10201 "line item" appropriation is the funding source for projects under the FB Section 10201 Program.

The FB Section 10201 Program's Spending Plan is determined by a comprehensive review of each suggestion submitted by each goal team. Suggestions are evaluated by the SPHD & SPRO within their states, NOMs, and the goal area review teams. The six goal areas have developed specific goals and strategies, outlined in this document, that are aligned with national priorities. Suggestions are reviewed based on this guidance.

Suggestion Process

Each year cooperators are requested to submit suggestions outlining projects to be considered for funding. USDA APHIS PPQ utilizes Metastorm, a business process web tool, to enable any user to submit a suggestion for consideration. Users can easily set up an account to receive Metastorm credentials that will allow them to access the system and submit a suggestion. eAuthentication users with a Level 2 Access account can access the system through eAuthentication (https://www.eauth.usda.gov/mainPages/index.aspx). Further guidance regarding the FY14 suggestion process will be forthcoming in webinars that will be announced via the PPQ Stakeholder Registry and other avenues. More detail regarding Metastorm can be found in Appendix C.

Each suggestion will be reviewed by the respective goal teams, including input from programs. The goal teams will submit a proposed spending plan to the FBMT and will be vetted through PPQ and USDA management for final approval. Upon approval the spending plan will be posted publicly, cooperators will be contacted and provided additional instructions on submitting detailed work and financial plans for cooperative agreements.

Administrative Requirements

All cooperative agreements are administered through PPQ's three (3) Core Functional Areas (CFAs) Policy Management, Science &Technology, and Field Operations, and are the means by which funds are provided to each cooperator. As stated above, cooperators will be contacted by APHIS personnel who will provide additional guidance and coordination on submitting detailed work and financial plans. The use of a standardized templates for both detailed work and financial plans and periodic accomplishment reports for FB funded projects is required for 2014 agreements and can be found posted on the Farm Bill page of the CAPS Resource and Collaboration site.

Note that a synopsis of all grants and agreements provided to a cooperator by the Federal government, including APHIS, are now posted on the Internet (www.USAspending.gov). This was a requirement of the Federal Funding Accountability and Transparency Act of 2006 (FFATA). Likewise, APHIS is required to report accomplishments via "performance measures" in FB. Cooperators will be provided guidance on the means to adhere to this level of transparency.

The overall annual process involved with implementation is lengthy. It includes publishing annual guidelines; a 4-6 week open period to receive suggestions; a robust review and evaluation process leading to an approved project list/spending plan, establishing cooperative agreements, conducting the proposed activities as outlined in the detailed work plans; analyzing the data collected; writing periodic/annual reports; and evaluating the accomplishments of program objectives.

APPENDICES

Appendix A: FB Section 10201 Program Cross Functional Team

Appendix B: Roles and Responsibilities

Appendix C: Metastorm

Appendix D: Data Management Guidance

Appendix A - FB Section 10201 Program Cross Functional Team

Cross Functional Working Group (FBMT)

APHIS CFA	Name	Phone	e-mail
Policy Management	Valerie DeFeo	301-851-2086	valerie.defeo@aphis.usda.gov
Science & Technology	Ken Bloem	919-855-7407	kenneth.bloem@aphis.usda.gov
Field Operations	Kristian Rondeau	970-494-7563	kristian.c.rondeau@aphis.usda.gov

Goal Area Team Leads

Goal Area	Team Lead	Phone	e-mail
Goal 1 Analysis	Lisa Kennaway	970-490-xxxx	Lisa.F.Kennaway@aphis.usda.gov
Goal 1 Survey	John Bowers	301-851-2087	John.Bowers@aphis.usda.gov
Goal 2 Domestic Inspection	Tim McNary	970-494-7570	Timothy.J.McNary@aphis.usda.gov
Goal 3 Pest ID	Joe Cavey	301-851-xxxx	Joseph.F.Cavey@aphis.usda.gov
Goal 4 Nursery	Erich Rudyj	301-851-xxxx	Erich.J.Rudyj@aphis.usda.gov
Goal 5 Outreach & Education	Lora Katz	301-851-xxxx	Lora.Katz@aphis.usda.gov
Goal 6 Mitigation	Andrea Simao	301-851-xxxx	Andrea.B.Simao@aphis.usda.gov

Appendix B – ROLES and RESPONSIBILITIES

FB-National Policy Manager (NPM) coordinates activities of the FBMT and provides overall direction for the FB Section 10201 Program.

- serves as the principal liaison with the PPQ Deputy Administrator's Office and associated resources management, budget analyst, and public outreach staff
- sets meeting agendas and times and coordinates communications among PPQ Field Operations and Science & Technology Managers and the FB Goal Area Team Leads
- participates in annual discussions of FB budget formulation
- ensures FB is included in the planning and implementation of PPQ national programs, including tracking the performance of the FB Section 10201 Program
- ensures National Policy Managers (NPMs) in other program areas review and comment on FB suggestions to ensure the highest priority suggestions are identified.

FB-National Operations Manager (NOM) is responsible for coordinating the review of State performance, and is accountable for the administration of the FB Section 10201 Program in PPQ Field Operations.

- communicates FB policy and issues to FO-AEDs, who supervise SPHDs
- communicates programmatic issues to the States through the SPHDs, who fiscally and programmatically are accountable for periodic and final accomplishment reports for FB FO projects in their respective states
- ensures NOMs in other program areas review and comment on FB suggestions to ensure the highest priority suggestions are identified

FB-Science and Technology Manager (STM) is responsible for ensuring the Agency's goals and objectives for the science and technology aspects of FB projects are fully integrated into the process and will coordinate the administration of the FB Section 10201 Program in PPQ CPHST.

- communicates FB policy and issues to S&T Management and project ADODRs
- coordinates S&T FB proposal submissions with S&T Management and project ADODRs to ensure work and financial plans are technically sound and address the needs of PPQ National Program and Operations Managers

Goal Area Team Leaders are responsible for coordinating annual reviews of FB project proposal submissions that address particular FB Goal Area needs.

- annually review and update the Specific Implementation Strategies to help ensure Goal Area project submissions address current and emerging plant pest prevention, detection, and/or mitigation needs
- coordinate the development of Decision Lens criteria used to rank FB project proposal submissions
- coordinate Goal Area Team reviews of FB project proposal submissions using established Decision Lens criteria and develop recommended Goal Area spending plans
- provide detailed feedback to suggestors when requested on the strengths and weaknesses of their proposal submissions
- build, review, and renew team membership as necessary to ensure for comprehensive inclusion of interested parties

Goal Area Team Members include PPQ Program Managers, PPQ State Plant Health Directors (SPHDs), State Plant Regulatory Officials (National Plant Board members), Specialty Crop Farm Bill Alliance (SCFBA) and other industry representatives, and representatives from other Federal agencies. Goal Area Team Members are responsible for reviewing and rating FB project proposal submissions in Decision Lens.

- provide input into the development of Decision Lens criteria used to rank FB Section 10201 project proposal submissions
- review FB project proposal submissions and rank them in Decision Lens using established Goal Area criteria

National Policy Managers (NPMs) and **National Operations Managers (NOMs)** in consultation with the FBMT are responsible for reviewing and evaluating FB Section 10201 project proposals related to their program areas to ensure funded projects are aligned with PPQ program needs.

- provide comments on FB Section 10201 proposal submissions related to their program areas during the Metastorm application process to help Goal Area Teams identify the highest priority projects and provide detailed feedback to suggestors on the strengths and weaknesses of their proposal submissions
- responsible for ensuring the detailed work and financial plans are technically sound and aligned with the intent and scope of the original suggestion

State Plant Health Directors (SPHDs) and **State Plant Regulatory Officials (SPROs)**, in consultation with the FBMT, are responsible for reviewing and evaluating FB Section 10201 project proposals important to and submitted from cooperators in their State(s).

- review evaluation criteria to ensure they are aligned with FB Section 10201 Program priorities and that there is consistency in the process
- provide comments on FB Section 10201 proposal submissions related to their states during the Metastorm application process to help Goal Area Teams identify the highest priority projects and provide detailed feedback to suggestors on the strengths and weaknesses of their proposal submissions

Appendix C- Metastorm

In order to submit a Farm Bill suggestion you must be able to access the Metastorm system. Access can be established directly through Metastorm or through linking existing eAuthentication Level 2 accounts to Metastorm.

Instructions for Creating a Metastorm Account

- A Metastorm user account can be created to access Metastorm. Users will be issued a Metastorm user name and password. Instructions to create a Metastorm account can be found here:

  https://bpm7.aphis.usda.gov/MetaStorm/eForm.aspx?Map=APHIS Proc Reg&Client=Externa

Instructions for creating a new eAuthentication Account

- Go to this ink and follow the instructions for creating a new account:

  https://www.eauth.usda.gov/MainPages/index.aspx

Instructions for Linking Metastorm to your eAuthentication Account

- The following instructions will guide you through linking your Metastorm user name and password to your eAuth user name and password.
  This is a one-time action that will enable an eAuth login to all Metastorm applications.

  1) Click and log in to BPM using your existing BPM user name/password
  2) The following screen will appear. Follow the on screen instructions.

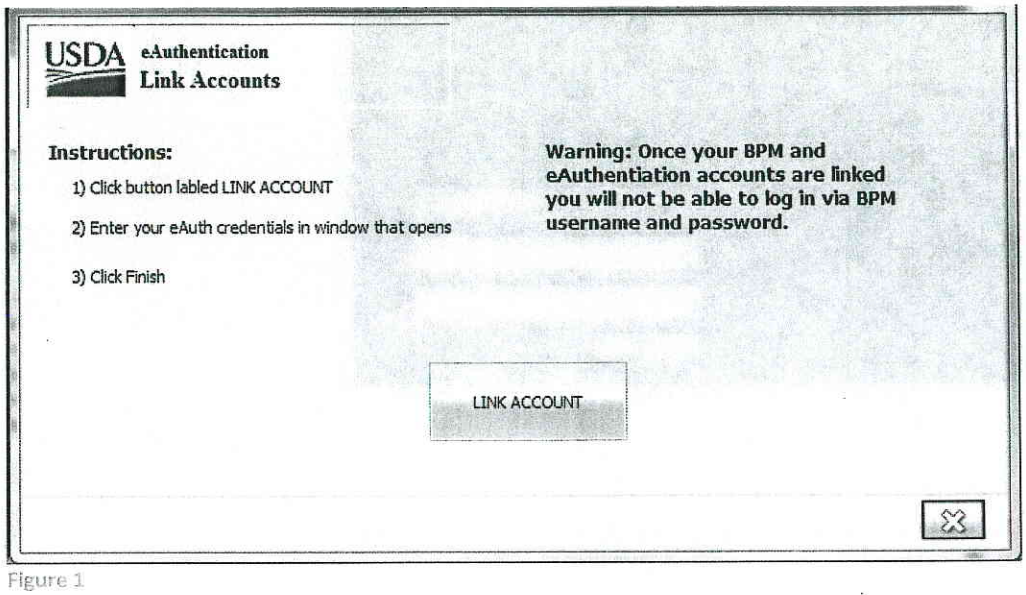


Figure 1

1) The following screen will appear.

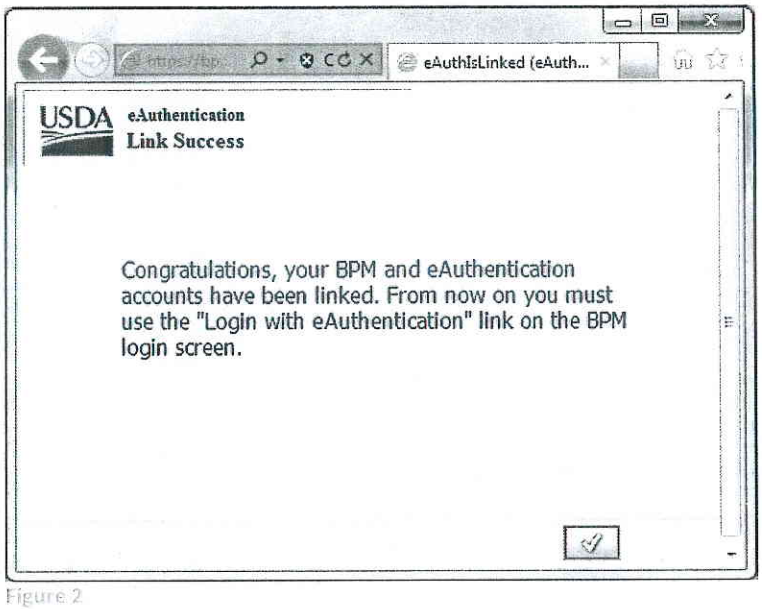


Figure 2

2) Read the on screen message and click the check box when finished.

3) To try out your new login method: close all browser windows (including these instructions), then visit https://bpm.aphis.usda.gov/Metastorm/ and click "Login using eAuthentication"

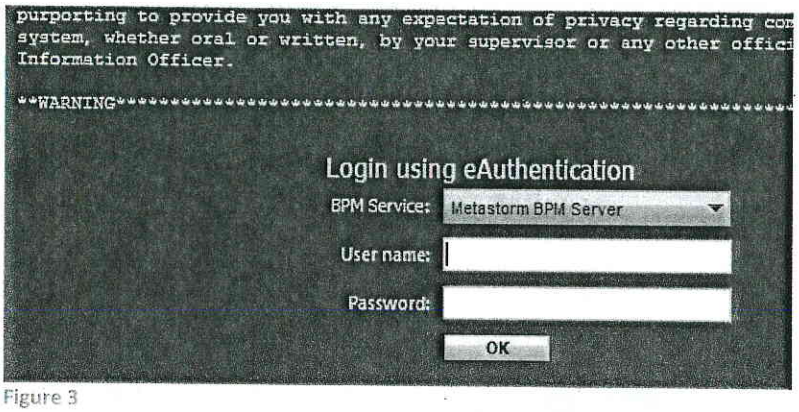


Figure 3

Questions should be directed to the APHIS Technical Assistance Center (ATAC)

Appendix D: Data Management Guidance

This appendix will be updated to reflect data management requirements for survey projects on the approved spending plan. Check back.

Farm Bill Section 10201 Program
2014 Frequently Asked Questions (FAQs)
November 12, 2013

Questions and Answers

The U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) is charged with implementing Section 10201 of the 2008 Farm Bill to prevent the introduction or spread of plant pests and diseases that threaten U.S. agriculture and the environment. Under the Farm Bill, APHIS provides funding to strengthen the nation's infrastructure for pest detection and surveillance, identification, and threat mitigation, while working to safeguard the nursery production system.

The following information addresses basic questions regarding the Section 10201 suggestion submission and evaluation process. For more information, visit APHIS' Farm Bill Section 10201 website at http://www.aphis.usda.gov/Section10201.

- **How much funding is available in fiscal year (FY) 2014?** We anticipate that approximately $50 million will be available in FY14.

- **What changes to the process have you made from previous years?** In order to provide better focus and direction, the Program developed Overarching Categories under each Goal Area to help stakeholders identify and develop suggestions that address a critical need or an unexplored opportunity in terms of strengthening prevention, detection, and/or mitigation efforts. Further, Specific Implementation Strategies were developed to add clarity and direction to ensure suggestions are focused on key implementation activities that support the Overarching Categories within each major Goal Area.

  Enhancements have also been added to the online submission process (Metastorm application). It is expected that these enhancements will help focus potential suggestions in areas of urgent priority, while providing a more efficient process for soliciting and evaluating suggestions. In addition, PPQ Program Managers, State Plant Health Directors and Regulatory Officials will have real-time access to suggestions to better ensure they address Section 10201 priorities.

- **How do I submit a suggestion?** Suggestions must be submitted electronically using the FY14 Farm Bill Suggestion System. Suggestions submitted through other means will not be accepted. Instructions for submitting suggestions will be made available on APHIS' Farm Bill Section 10201 website.

- **What should be included in a suggestion?** In addition to some basic information about the suggestion (such as suggestion title, budget estimate, and contact information of the individual submitting the suggestion), stakeholders should provide the following information when submitting a suggestion:

- How the suggestion aligns with Section 10201 goals, strategies, and categories as defined in the *FY14 Farm Bill Section 10201 Guidelines*, which is posted on the APHIS Farm Bill Website.
- The potential/expected impact of the suggestion.
- The proposed technical approach.
- The roles and responsibilities of any cooperators or institutions likely to participate in carrying out the suggestion. *Note:* Federal entities are also required to include the percentage of total budget that would be provided to each non-Federal cooperator or participating institution.
- Relevant prior experience and accomplishments to date for renewing projects previously funded through FB Section 10201.

When constructing a suggestion, stakeholders are strongly encouraged to consider the evaluation criteria (available on the APHIS Farm Bill Section 10201 website) that will be used during the evaluation process to make sure their suggestion addresses those factors as well. Stakeholders are also strongly encouraged to discuss proposals with appropriate PPQ Program Managers and all cooperators prior to submitting proposals.

☐ **Who is eligible to submit a suggestion?** Federal and State agencies, non-profit organizations, tribes, colleges and universities are all eligible to submit a suggestion.

☐ **May foreign entities submit a suggestion?** No, but they may work with a domestic entity who may submit a suggestion. The suggestion should describe why it may be necessary to accommodate situations where U.S. Federal or State collaborative interests might need to touch upon foreign collaborators as part of a more comprehensive packet to get work done. If the suggestion is recommended and subsequently approved for support, then the matter of the actual instrument of collaboration might be discussed.

☐ **Can stakeholders submit more than one suggestion?** There is no limit to the number of suggestions an individual or entity can submit.

☐ **What is the timeline for developing the FY14 Spending Plan?** Currently, the proposed timeline for developing the FY14 Spending Plan is:
- mid-November, 2013 Suggestion submittal period opens
- beginning January, 2014 Suggestion period closes
- mid-January, 2014 Evaluation process begins
- January, 2014 Draft Spending Plan developed
- February, 2014 (tentative) Spending Plan released

☐ **Once the final Spending Plan is developed, when will APHIS make funds available?** APHIS anticipates publishing the final FY14 Spending Plan in February 2014 or sooner, if possible. Funds will be made available to cooperators shortly thereafter. Every effort will be made to provide funds to cooperators as quickly as possible, especially in those cases where ongoing work might suffer as a result of a lapsed agreement.

- **How will the review process work and what criteria will be used to evaluate suggestions?** All suggestions are reviewed by Section 10201 Goal Teams. Teams include representatives from APHIS, the National Plant Board, USDA's Agricultural Research Service, USDA's National Institute of Food and Agriculture, USDA's Forest Service, tribal representatives, and the Specialty Crop Farm Bill Alliance.

  All Section 10201 Goal Teams will use the same parent criteria to evaluate the strategic alignment, impact, feasibility, and past performance/best practice/innovation of each suggestion. A detailed definition of each criterion is available on the APHIS Farm Bill Section 10201 website.

  After all Section 10201 Goal Teams have completed their evaluations, the Teams will meet to discuss preliminary funding priorities in an effort to identify synergies across goal areas. The Goal Teams will work to ensure that the final Spending Plan addresses critical needs and unexplored opportunities to strengthen prevention, detection, and/or mitigation efforts.

- **How will funding decisions be made?** The Section 10201 Goal Teams have developed criteria that will be used to evaluate new suggestions and to identify ongoing work that merits continued funding. Representatives from the National Plant Board, Specialty Crops Farm Bill Alliance, tribal organizations, and other USDA agencies participated in a process to determine the relative weight of each criterion through a structured process. The weighted criteria will then be used to rate every suggestion. The ratings will inform the creation of a list of suggestions to be considered for funding, but are not the only determinant.

  APHIS, National Plant Board, Specialty Crops Farm Bill Alliance, tribal organizations, and other USDA agency representatives will also consider the suggestion slate as a whole, contemplating and identifying potential synergies that might exist between suggestions that are similar in nature or that are submitted under different goals or categories. APHIS will work with cooperators in a manner that achieves the most impact by considering all suggestions collectively before finalizing funding decisions. The intent of seeking suggestions from stakeholders is to facilitate the development of a comprehensive plan to address early pest detection and rapid response that takes into consideration a diversity of expert opinions on the types of efforts and initiatives that are likely to accomplish the goals of Section 10201. Because this is not a grant program, APHIS has significant flexibility to create a spending plan that addresses the goals of Section 10201.

- **Do suggestions to continue funding ongoing work have preferred status?** Suggestions to continue funding ongoing work will be reviewed and evaluated using the same criteria that will be applied to new suggestions. The fact that a suggestion received funding in prior years does not guarantee renewed funding.

- **Will some States automatically be given more funding than others?** States that have frequent incursions of high consequence plant pests as a result of the number of international ports of entry in the State, the volume of international passenger and cargo entry into the State, the geographic location of the State, and a host range or climate that is conducive to pest establishment, are likely to receive higher levels of funding. That said, a State will not automatically be given a set amount of funding. All decisions regarding the distribution of

funding, including decisions about continued funding of ongoing work, will be made in a transparent manner using clearly communicated criteria.

- **Can States request funding for programs that are facing reduced funding or defunding at the Federal level?** The program is not intended to specifically address fiscal challenges. While a cooperator could request funding that meets a need generated by a reduction or loss in funding to a particular program, that suggestion must still meet the requirements for Section 10201 funding.

  The FY14 Spending Plan will be organized around six Section 10201 Goal Areas: enhancing plant pest/disease analysis and survey; targeting domestic inspection activities at vulnerable points in the safeguarding continuum; enhancing and strengthening pest identification and pest ID technology; safeguarding nursery production; enhancing mitigation capabilities; and conducting outreach and education about these issues.

  For specific information about the potential impact of reduced funding or defunding, contact the specific APHIS program manager.

- **What is the percent of allowable overhead that may be charged?** Universities and Non-profits are entitled to 10% of their negotiated indirect costs or their rate, whichever is less in cooperative agreements. Federal agencies are not held to the 10% rule; however, many agreements are close to this percentage. Rates are negotiated with State entities. These provisions apply to cooperative agreements and not grants. APHIS is not providing any funding under grants.

- **Are there any limitations to what Farm Bill funding can be used for?** To ensure its consistent and proper use per Congressional intent, Farm Bill Section 10201 funding should not be used to:
  - purchase vehicles,
  - build new structures,
  - pay the salaries* of permanent APHIS-PPQ staff, or
  - develop IT applications, systems, etc.* that have not been previously approved by APHIS-PPQ.

  * Requests for exceptions must be reviewed by the Farm Bill Management Team and approved by the PPQ Deputy Administrator. In addition, requests to use Farm Bill funding for IT projects must also be approved by the PPQ IT Governance Board.

- **Can States have overlapping agreements?** APHIS can sign overlapping agreements as has been done in the past. Note that the new agreement would be for work that is for the upcoming year (FY14), while the ongoing prior year's agreement finishes work that was funded in the prior year (FY13). In addition, cooperators must submit reports and requests for payment to APHIS separately for each agreement. An important point for overlapping cooperative agreements concerns the work for each. FY14 work cannot be the same work that is being performed for an unfinished FY13 agreement. This means that a cooperator cannot receive FY14 funding to finish FY13 work. FY14 work must be different.

- **Since the 10201 program began in 2009, what has been accomplished?** Since the program began in 2009, APHIS has funded more than 1,000 projects in 50 states and two territories. These projects have strengthened our ability to protect American agriculture and natural resources by allowing us to enhance plant pest/disease analysis and survey activities, target domestic inspection activities at vulnerable points in the safeguarding continuum, augment and strengthen pest identification and technology, safeguard nursery production, increase public awareness and understanding of pest threats through education and outreach, and expand mitigation capabilities.

  Notable accomplishments include:
  - The training of several canine teams for domestic survey detection activities in California. These teams have been deployed at strategic locations to enhance the State's efforts to mitigate pests that escape undetected through ports-of-entry such as at interstate borders and, in some situations, where deliberate introductions of illegal goods may have occurred.
  - The training and deployment of dog teams to monitor critical entry points or interdiction stations in Texas and Florida to detect snails. The snail dog teams are capable of detecting snails much faster than human teams alone and with greater accuracy, resulting not only in improved detection capabilities and increased efficiencies, but also cost savings.
  - The deployment of several small, quick, and effective mitigation efforts that reduce the impacts to growers, releasing them from quarantine more quickly and allowing them to get back into production. A few examples are gypsy moth control; mollusk mitigation; fruit fly mitigation in Florida and California; grasshopper mitigation; and plum pox virus eradication in New York State.
  - The distribution of effective surveillance tools to States in a timely manner to increase the likelihood of the early detection of exotic pests, including online resources for rapid identification of selected plant pests of regulatory concern; enhanced laboratory capacity and training of cooperators in high-risk States; strategic research on Caribbean pests that threaten the United States; and offshore initiatives to optimize early detection programs.
  - The commencement of several cooperative projects to analyze pathways through which specialty crops are vulnerable to exotic invasive pests and to develop risk- and economic-assessment tools to help determine survey and mitigation priorities.

Wisconsin Tribal Conservation Advisory Council (WTCAC) and US Forest Service
Rhinelander, WI (Chequamegon-Nicolet National Forest Supervisor's Office)
Meeting Notes – Monday, September 23, 2013
[Revised 11/18/2013]

Attending (see full listing and contact information and affiliation at end of this document):
WTCAC: Pat Pelky, Jerry Thompson, Katie Stariha, Jeremy Pyatskowit, Roman Ferdinand, Lacey Hill, Dan Brooks, Al Murray, Heather Stricker
USFS: Fred Clark, Larry Heady, Paul Strong, Deahn Donner-Wright, Josh Wilson, Matt St. Pierre, Barb Tormoehlen

Purpose/Objectives: Share information about Forest Service programs and resources, explore WTCAC interests, needs, and identify mutual opportunities to increase our working relationships and support.

Forest Service Programs (note Organizational slide at end of document):
National Office of Tribal Relations (F red Clark): Addressing obstacles in a systematic way. There are opportunities for technical advice and working together to our mutual advantage – appreciating perspective, and leading to a better way of doing business.

USDA national structure in support of Tribes and tribal relations
- Under Secretary, Natural Resource & Environment: Butch Blazer (Arthur.Blazer@osec.usda.gov)
- National Director, Office of Tribal Relations: Leslie Wheelock (Leslie.Wheelock@osec.usda.gov)

US Forest Service Tribal Relations resources:
- National Director, Office of Tribal Relations: **Fred Clark**
- Regional Tribal Specialists: Eastern Region – **Larry Heady** is the Regional Forester's (Kathleen Atkinson) special assistant for tribal relations.
- Zone Tribal Liaisons: Lake States – **Mary Rasmussen**
- Chequamegon-Nicolet NF Supervisor – **Paul Strong**
- Northeastern Area, State & Private Forestry Field Rep – **Barb Tormoehlen**
- Northern Research Station– **Deahn Donner-Wright,** Rhinelander Lab Project Lead; **Tom Schmidt,** Assistant Station Director.

Key Documents and Sources of Information:
- ***Sacred Sites Report***: http://www.fs.fed.us/spf/tribalrelations/documents/sacredsites/SacredSitesFinalReportDec2012.pdf was recently completed, now working on implementation.
- ***2008 Farm Bill (see text box):*** The Forest Service is in the process of integrating Tribal references of the 2008 Farm Bill into the agency directives that guide program implementation.
- ***Title 25 US Code*** – Cultural & Heritage Cooperation authority – http://www.law.cornell.edu/uscode/text/25/chapter-32A focused on enhancing living and lives of Tribal members. There have been improvements – ex. St. Croix Tribe working with the national forest to remove ~300 red pine from NFS lands without fee or bother.

- **Executive Order 13175— Consultation and Coordination With Indian Tribal Governments**
  11/06/2000: http://www.gpo.gov/fdsys/pkg/WCPD-2000-11-13/pdf/WCPD-2000-11-13-Pg2806-2.pdf

  By the authority vested in me as President by the Constitution and the laws of the United States of America, and in order to establish regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications, to strengthen the United States government-to-government relationships with Indian tribes, and to reduce the imposition of unfunded mandates upon Indian tribes…(c) When undertaking to formulate and implement policies that have tribal implications, agencies shall:
  (1) encourage Indian tribes to develop their own policies to achieve program objectives;
  (2) where possible, defer to Indian tribes to establish standards; and
  (3) in determining whether to establish Federal standards, consult with tribal officials as to the need for Federal standards and any alternatives that would limit the scope of Federal standards or otherwise preserve the prerogatives and authority of Indian tribes.
- IFMAT: The third Indian Forest Management Assessment gives us the perspective of three sets of observations over a 20 year period. Conducted by the Indian Forest Management Assessment Team for the Intertribal Timber Council, with support from USFS and BIA. Link: http://www.itcnet.org/issues_projects/issues_2/forest_management/assessment.html

Intents to Coordinate:

- **MOUs** – Fred encouraged Tribes and WTCAC to develop MOUs concerning program implementation, commitments to cooperate, etc., with the FS – thus standing the test of time and transition of people.
- **Tribal Forestry Advisory Council** interest in past – There is potential for using WTCAC and others as FS advisory committees – sounding boards and providing advice on consultation and much more coordination/collaboration.

NE and MW Forest Service Organizational Units (note slide at end of document)

National Agro-Forestry Center –

NRCS and USFS co-manage –http://nac.unl.edu/

Agroforestry is a natural fit for tribal cooperation and assistance; this is what Tribes have been doing all along! **Rich Straight** (ph: 402-437-5178x4024 / e-address: rstraight@fs.fed.us) , technology transfer specialist at the National Agroforestry Center in Nebraska, has worked on the WI hazelnut initiative and is an excellent source of information and opportunity considerations.

Chequamegon-Nicolet National Forest (P.Strong)

Increased availability of FS programs to Tribes either through the Tribal Forest Protection Act authorities or through other authorities such as the Wyden and Stevens Amendments, Stewardship Contracting or other National Forest System authorities.

2008 Farm Bill (PL 110-246) Title 8 - Subtitle B – Tribal-FS Cooperative Relations

Sec. 8101. Purpose - Itemizes each of the subsections in Subtitle B.
Sec. 8102 Definitions Provides definitions for 'adjacent site', 'cultural items', 'human remains', 'Indian', 'Indian Tribe', 'lineal descendant', 'National Forest System', 'reburial site', 'traditional and cultural purpose'.
Sec. 8103 Authorization for the Reburial of Human Remains and Cultural Items on National Forest System Lands Authorizes the Secretary to allow use of NFS land for reburial of human remains or cultural items in possession of an Indian tribe or lineal descendant that have been disinterred from NFS land or adjacent site.
Sec. 8104 Temporary Closure of National Forest System Land for Traditional and Cultural Purposes Authorizes the Secretary to allow, to the maximum extent practicable, for the shortest period and minimum area, access to National Forest System land by Indians and Indian tribes for traditional and cultural purposes
Sec. 8105 Forest Products for Traditional and Cultural Purposes Allows the Secretary to provide Indian Tribes forest products form NFS lands used for traditional and cultural purposes as long as those forest products are not used for commercial purposes.
Sec. 8106 Prohibition on Disclosure. Exempts the Secretary from FOIA disclosure of information relating to burial sites (including the quantity and identity of human remains and cultural items on the sites and location of the sites) and the confidentiality of certain information, including information that is culturally sensitive to Indian tribes provided in the context of forest and rangeland research activities.
Sec. 8107 Severability and Savings Provisions Preserves all existing tribal rights, all existing agreements among tribes and the Forest Service, existing trust responsibilities, and any other outstanding rights to use of NFS lands.

Northern Research Station (D.Donner-Wright) Reference powerpoint and handout - ***Five Science themes:*** Forest disturbance, Urban natural resource stewardship; sustaining forests, clean air and water; natural resource inventory, monitoring, and assessment – [of Oneida interest]

Northeastern Area, State and Private Forestry (B.Tormoehlen) Reference folder/handouts)

- ***Technical and financial assistance*** available for Forest Health Protection, Forest Stewardship, Urban and Community Forestry, Wood to Energy, and Community Forest Program depending on the land ownership, according to authorities (Cooperative Forestry Assistance Act as amended by the 2008 Farm Bill).
- Forest ***Health Protection financial assistance*** responsibilities to support needs on **Tribal trust lands** – through Bureau of Indian Affairs; technical assistance available directly to Tribes. Aerial pest detection surveys flown annually over Tribal lands in Wisconsin (2000 – 4000 ft above ground level). Data are available. *CONSIDER:* WTCAC-NA (FS) discussion of latest aerial survey results.

WTCAC Member Function, Resource Needs, and Tribal Interests

- WTCAC is more than a focus group – managers put projects on the ground – legislative role – technical staff; complexity developed – WTCAC members are full partners at the table, problem-solving and implementing activities together.
- Model of consensus building – Tribes provide the ranking for NRCS – each Tribe puts forth its best project. WTCAC prioritizes these projects, and comes forward with a ranked list. In the end it's about the individual Tribes gaining access to the USDA agency.
- Vision always inter-agency-interdepartmental - all natural resource/conservation agencies
- There is WTCAC interest in accessing funds directly from FS (rather than through BIA)
- Important to question (always) - is the Forest Service direction based on statutory requirements or policy? Good to challenge status quo and understanding as it exists today. Can stretch opportunities.
- Black Ash cultural concerns – research that is being done on black ash is of interest
- Switchgrass pellets – ash residue – need wood? Research need.

WTCAC Internship Program (J.Thompson/P.Pelky)

- **Growing our Own** – USDA employees. Eight students this past summer. Working with Lawrence Shorty and Wendy Caruso (sp?) – MOU (all but signed) for WTCAC to be recognized and serve as a third-party vendor for the 1994 Tribal Land Grant scholarship program. USDA – provider of students. This is the only program like this other than WINS, which serves the DC area. The key is to live and work where the support system and family connections are.
- **FS grant** – will provide funding for next year's program – matching funds from the FY 2013 NA WTCAC Intern Program grant are difficult (Look into Ex. Order 13175 for waiver potential). Looking for position descriptions and available positions for next summer NOW.
    - The *Eastern Region (NFS)* has requested five interns for FY2014 (1 engineering CNNF; 2 NGLVC CNNF; 2 Ottawa (VC and Rec)
    - The *Northern Research Station* (NRS) has requested two internship positions. The Northeastern Area (NA) will work with NRS on project training.

Opportunities/Needs

- National Agro-Forestry Center (NRCS and FS)
- The Forest Service national Tribal Relations program is BUILDING – 3 elements, treaties, trust responsibilities, partnerships – internal among FS and external partnerships with other agencies ; BASE – structural –improving communications: Forest Service Tribal Relations Link: http://www.fs.fed.us/spf/tribalrelations/
- New Planning Rule for NFS – Required to reach out to tribes
- Executive Order 13175
    - Potential waiver from full match requirements
    - Accountable process for tribal assistance – how consultation actually used
- Internships
- Combine authorities to address needs (ex. Tribal Forest Protection Act / Forest Health Protection)
- Share aerial detection survey demonstrations at WTCAC meeting in future [in Fall 2014, Menominee forest health specialist attended a meeting of NA, the Chequamegon-Nicolet NF, and WI-DNR to review results. Suggest hosting for WTCAC on annual basis.]
- Consider a GLRI – set-aside [requested by WTCAC]
- FS employee directly serving a Tribe – or Tribes through WTCAC?
- Fire Rx Burning – can NFS personnel help with tribal burns?
- FEPP -- excess property to Tribes?
- Provide online access to FAR and EVAS (Climate change)
- Technical advice – work together to our mutual advantage
- Sacred Sites reports – Native American values ARE American values
- RFPs – Offer to sit down with WTCAC members initially, identify authorities, identify opportunities to accomplish needs.

Obstacles

- Conflicting Authorities
- Work through other federal agencies
- Match is often difficult
- Community Forest Program – timing of request for proposals, and the need to be tract-specific are problematic.
- Should OTR be aligned directly under the Chief's office?

Moving forward

WTCAC Actions

- WTCAC will need to evaluate and prioritize opportunities
- Need to tap into forest-related resources that are currently untapped - can better utilize researchers and rangers in Rhinelander – and S&PF in St. Paul for technical assistance for the work that Tribes would like to accomplish in managing their forests.
- Tribes are heavily driven by funding opportunities. Need to consider reaching out for technical assistance.
- WTCAC can benefit from small quick successes.
- **Internship Opportunities:** Set something up for WTCAC for the **LONG-TERM** – AmeriCorps conference – planning grant for this year – establish an AmeriCorps project

through WTCAC; **STEM AmeriCorps**, which President Obama announced at the White House Science Fair in the 2013 spring, is multi-year initiative to place hundreds of AmeriCorps members in nonprofits across the country to mobilize STEM professionals to inspire young people to excel in science, technology, engineering, and math to build the pipeline for future STEM careers. This is a potential for WTCAC and ALL TRIBES throughout country – **Corporation for National Community Service** - Long term – base program, internship program, sustain WTCAC to continue to bring all USDA agencies in the long-term.

- Possibly in conjunction with AmeriCorps all of Indian Country is looking to see what can be done through WTCAC efforts – INCA, IAC, SWIA (?). ***leading to a Community of Tribes.*** Moving this model nationally. Stretch the limits of policies and rules. That's our challenge together. *[Fred Clark could assist with this.]*

Forest Service Actions

- Share presentations – ppt from today.
- Help WTCAC know what Forest Service programs could be available to assist Tribes, based on their unique needs, by Tribe.
- If there are specific projects or research opps, Tribes can often be a bit more flexible in testing. Can navigate a bit more, possibly, with Tribes – since they own and manage their lands; might be the group to break down barriers; make a case for authority changes if necessary;
- Consider transferring authority from state to Tribes
- Good to learn more – funding problems – building partnerships to help complete initiatives
- Tribal Forest Protection Act – many issues with TFPA and Steward Contracting – sunsetting w/2008 Farm Bill. Need long-term beyond 10 years. Sources to be identified beyond Steward Contracting.
- Consider policy changes –Consider more Tribal representatives on the Forest Resource Coordinating Committee, currently overstocked with state reps. Need to get more buy-in for S&PF funding for Tribes.
- Consider realignment of Tribal Relations in the Forest Service – reporting directly to the Chief, rather than the Deputy Chief of State & Private Forestry.
- Research: If we develop partnerships – there could be internal funding – station level or partner-level funding.
- Forest systems include wetlands – transition zones, forest mosaic – encompass water quality and habitats. Stream-bank – access roads, fish passages.
- Wyden Authority – spend federal funds off NFS lands/ close to National Forest System lands, such as adjacent Tribal lands.
- Consider innovative possibilities such as Aquaponics and hoop-houses – help address health-related issues / under the new special forest products policy there is opportunity to gather on National Forest System lands for personal used. Some natural communities may need to be restored – e.g. blueberry patches with prescribed fire – in partnership with the National Forest on National Forest System lands.

Communication

- As financial and technical opportunities arise, **communicate with and through WTCAC members**. WTCAC is perfect body – mid-level managers – open doors to the Tribal governments (often Chairs). Often it will be necessary to communicate directly with Tribal officials, but also copy WTCAC members so they can facilitate internal discussions. WTCAC can tackle policy issu ***Consultation letters end up with the folks around the table. Traditionally get too late. WTCAC can receive as WELL as Tribal Chair. FULL WTCAC list – QUICK SUCCESS – establish protocols with Tribal Chairs. WTCAC can get to the right people.*** While addressing nuts/bolts.
- Tribal Historic Preservation Officers (THPOs) also need to be made aware of projects that could potentially affect a Tribe (or more) as soon as possible – if cultural resources then go to THPO

.

Next Steps: Provide notes to WTCAC members. The full WTCAC board of directors will then determine what the logical next steps are for the Tribes of Wisconsin, and request additional information, meeting, and discussion with regional Forest Service organizational units (Eastern Region-NFS; Northern Research Station; Northeastern Area, State and Private Forestry) as appropriate. FS (Rasmussen, Strong, Tormoehlen, Heady, and staff) will continue to attend WTCAC meetings, providing updates and be poised to continue dialog with WTCAC board members as appropriate.

WTCAC – USFS Meeting Attendees (09/23/2013)

First Name	Last Name	Tribe/Organization	e-address
Dan	Brooks	Oneida Tribe - Forester	dbrooks@oneidanation.org
Fred	Clark	USFS Office of Tribal Relations - Director	fclark@fs.fed.us
Deahn	Donner	USFS Northern Research Station - Project Ldr	ddonnerwright@fs.fed.us
Roman	Ferdinand	Sokaogon Chippewa Community	roman.ferdinand@scc-nsn.gov
Larry	Heady	USFS Eastern Regional Tribal Specialist	lheady@fs.fed.us
Lacey	Hill	Bad River	wildlifegis@badriver-nsn.gov
Al	Murray	Forest County Potawatomi - Tribal Forester	al.murray@fcpotawatomi-nsn.gov
Pat	Pelky	WTCAC and Oneida Tribe	ppelky1@oneidanation.org
Jeremy	Pyatskowit	Menominee	jpyatskowit@mitw.org
Matt	St. Pierre	USFS Chequamegon-Nicolet NF - Nat Res Staff Ofcr	mstpierre@fs.fed.us
Katie	Stariha	St. Croix	katies@stcroixtribalcenter.com
Heather	Stricker	Forest County Potawatomi - Wildlife Res. Prog. Mgr	Heather.Stricker@fcpotawatomi-nsn.gov
Paul	Strong	USFS Chequamegon-Nicolet NF - Forest Supervisor	pstrong@fs.fed.us
Jerry	Thompson	WTCAC Program Mgr	WTCAC1@gmail.com
Barb	Tormoehlen	USFS Northeastern Area S&PF - Field Rep	btormoehlen@fs.fed.us
Josh	Wilson	USFS Chequamegon-Nicolet NF - Acting Dep. For Sup	joshuawilson@fs.fed.us

TRIBAL FORESTRY NEEDS IN WISCONSIN
(Resulting from WTCAC – One-USDA meeting 10/30/2013)

Ho-Chunk
- Forest Inventory (fee lands)
- Forest Management Plan (fee lands)
- Urban Wood Utilization (fell and dispose)
- Hazard tree management
- Urban forest management plan
- Pesticide coordination
- Tree and shrub species recommendations
  - Timber sale preparation and administration
  - Locate, cut, haul black ash

Forest County Potawatomi Community
- Trust Responsibilities – not common knowledge
- Forest Health across all lands (insects)
  - NFS concerns

Oneida Tribe of Wisconsin
- Bay – Fox River Basin (GLRI Area of Concern)
- Stream (bank) restoration
- Urban Forestry – walkable neighborhoods – wellness
- Materialize positive results – Tech Assistance is key

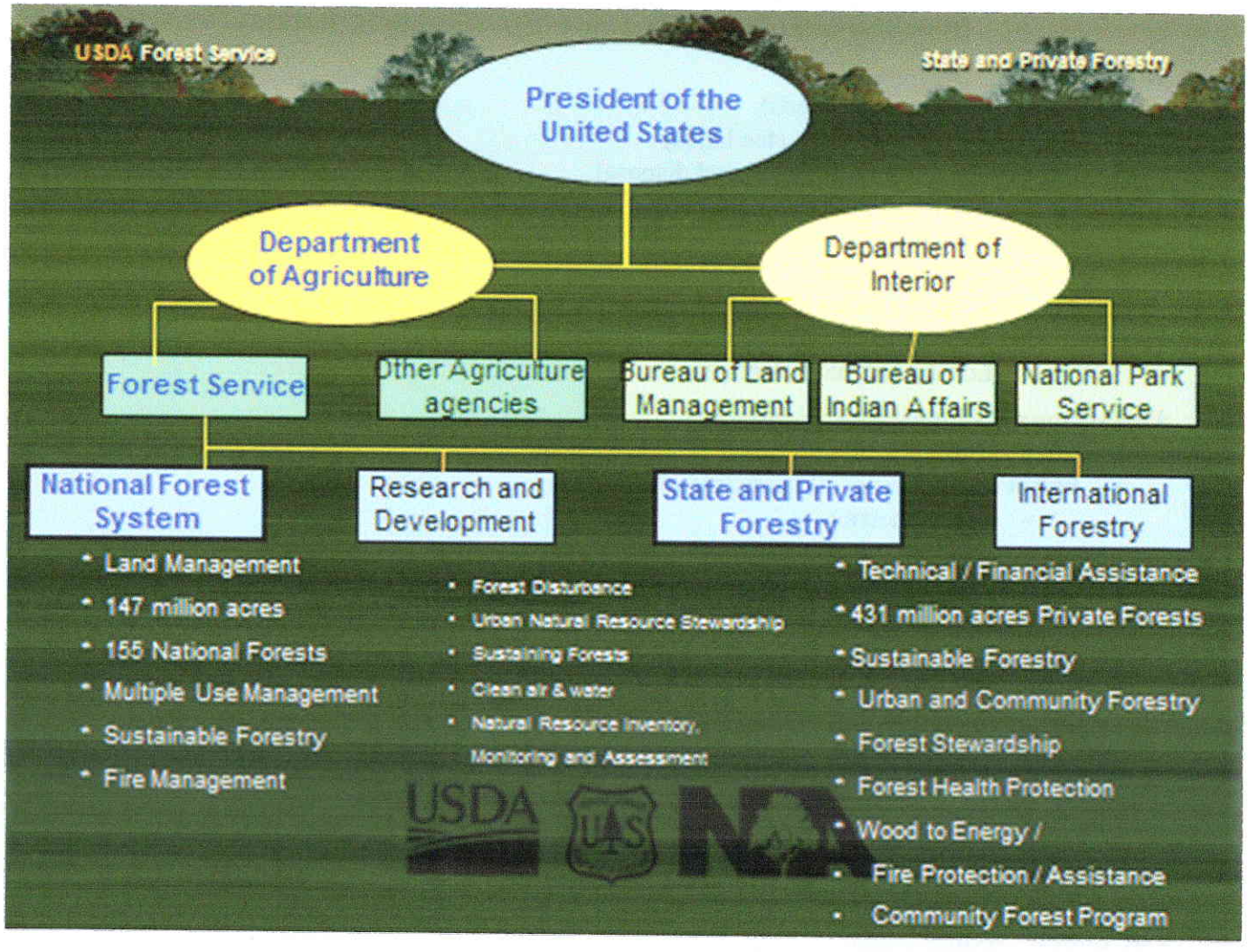
Sokaogon Mole Lake Band
- Trouble matching grants (E.O. 13175)

Bad River Band
- Integrated Resource Management Plan
- Community Lands purchase (Comm For Program)

Lac Courte Oreilles Band
- Land acquisition of forestland
- Biomass harvesting and firewood top availability

Menominee Indian Tribe of Wisconsin
- Trust responsibilities
- Firewood (NFS lands)
- Invasive species control (primarily EQIP)
- Forest health issues
- Urban forestry issues

St. Croix Chippewa Indians of Wisconsin
- Need technical expertise in addition to financial assistance
- Strong firewood reliance
- Invasive species management


USDA Forest Service
State and Private Forestry
President of the United States
Department of Agriculture
Department of Interior
Forest Service
Other Agriculture agencies
Bureau of Land Management
Bureau of Indian Affairs
National Park Service
National Forest System
Research and Development
State and Private Forestry
International Forestry
• Land Management
• 147 million acres
• 155 National Forests
• Multiple Use Management
• Sustainable Forestry
• Fire Management
• Forest Disturbance
• Urban Natural Resource Stewardship
• Sustaining Forests
• Clean air & water
• Natural Resource Inventory, Monitoring and Assessment
• Technical / Financial Assistance
• 431 million acres Private Forests
• Sustainable Forestry
• Urban and Community Forestry
• Forest Stewardship
• Forest Health Protection
• Wood to Energy /
• Fire Protection / Assistance
• Community Forest Program

Partnership Opportunities for:

Restoration / Afforestation
Biomass
Environmental Remediation

Forest Service, United States Department of Agriculture
Northern Research Station
Institute for Applied Ecosystem Studies
Rhinelander, WI

Iowa State University
Department of Natural Resource Ecology & Management
Ames, IA

Introductions

- **Ed Bauer**
  Research Scientist, Iowa State University (1 y)
  Individual Contractor (12 y)
  Technician Emeritus, Northern Research Station (33 y)
  Conifer breeding & genetics, short rotation woody crops, phytotechnologies
  Restoration / Afforestation
- **Adam Wiese**
  Forestry Technician, Northern Research Station (20 y)
  Silviculture, short rotation woody crops, phytotechnologies
  Biomass from Short Rotation Woody Crops
- **Bruce Birr**
  Laboratory Technician, Northern Research Station (40 y)
  Soils, analytical techniques, phytotechnologies
  Environmental Remediation

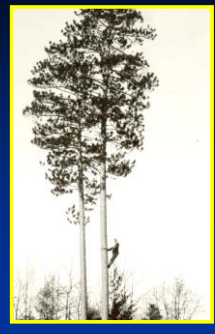
Forest Service Contacts

- **Dr. Deahn Donner** (Administrative)
  Project Leader
  Research Ecologist
  715-362-1146
  ddonnerwright@fs.fed.us
  Personal Research:
  http://www.nrs.fs.fed.us/people/Donner
- **Dr. Ron Zalesny** (Technical)
  Team Leader
  Research Plant Geneticist
  715-362-1132
  rzalesny@fs.fed.us
  Personal Research:
  http://www.nrs.fs.fed.us/people/Zalesny
  http://www.nrs.fs.fed.us/units/iaes/focus/energy_climate_genetics/

http://www.nrs.fs.fed.us/news/review/19

Background

- **Conifers**
  Conifer research began in 1957.
  Early work consisted of breeding & genetics of economically-important species.
  Forest management tools are still relevant, including long-term testing sites throughout the Lake States.
  Additional research included seeds, seedlings, & plantations, as well as physiology of wood formation & impacts of atomic radiation on forests.



Background

- **Short Rotation Woody Crops**
  Poplar research began in 1968.
  Early work consisted of feedstock production for energy & fiber (i.e., biomass), with an emphasis on silviculture.
  Priorities were genetics, physiology, & vegetation management.
  Environmental remediation research began in mid-1990's with the need to merge intensive forestry with waste management.

Restoration / Afforestation

- **Problem**
  There is a major need for restoration / afforestation methods in disturbed areas, such as along shorelines where flow obstructions from perched culverts have caused vegetation mortality.
- **Solutions**
  Establishment of willow & poplar riparian buffers contributes to decreased agricultural runoff & increased water & soil quality.
  Removal of obstructions & re-establishment with superior conifer selections can be used to restore wetlands & adjacent forest habitats.
- **Assets**
  Access to thousands of experimental varieties that outperform commercially-available willow & poplar
  Access to dozens of provenances within numerous conifer species appropriate for afforestation
  Existing partnerships in the conifer community

Restoration Example

- **Bear Creek Watershed, Central Iowa**

Significant nutrient loading to surface waters given intensive agriculture.

Riparian buffers effectively reduced surface pollutant movement to streams.

Short rotation woody crops are one of the most sustainable sources of biomass, provided we strategically place them in the landscape & use cultural practices that:
1) conserve soil & water,
2) recycle nutrients, &
3) maintain genetic diversity.


1990


1994


1996

Afforestation Example

- **Range-wide White Pine, Eastern U.S. & Canada**

Sample from long-term testing sites described above (see map).

Identify eastern white pine provenances with enhanced adaptation to climate change pressures & carbon sequestration potential.

Promote biologically & economically sustainable afforestation, reforestation, & gene conservation.

Develop seed transfer guidelines.

Biomass

- **Problem**

There is a major need for biomass feedstock sources for traditional forest products, as well as energy for combined heat & power (i.e., electricity) & biofuels.

- **Solution**

Short rotation woody crops are renewable feedstocks that can be grown to provide woody biomass & reduce our dependence on non-renewable sources of energy, while conserving soil & water, recycling nutrients, & sequestering carbon.

- **Assets**

Decades of expertise with genetics, physiology, & silviculture of short rotation woody crops

Access to thousands of experimental varieties that outperform commercially-available willow & poplar

Global leader in the short rotation crops community

Biofuels Example

- **Greenwood Resources & ZeaChem, Boardman, Oregon**

Greenwood Resources is the largest producer of industrial poplar feedstock in U.S.

ZeaChem, Inc. is the developer of a cellulose-based biorefinery platform capable of producing advanced fuels & intermediate chemicals

Establishment of 7,000 ac of intercropped hybrid poplar trees (GWR)

Feedstock will be converted into advanced biofuels & bio-based chemicals (ZC)

Increasing rural economic development

Bioenergy Example

- **Gustav Lüdemann GmbH, Northern Germany**

Forest nursery specializing in the production of woody species for afforestation, restoration, energy feedstocks, & landscaping

Began large-scale poplar production in 2006

First coppice harvest in 2009

Second coppice harvest in 2012

Contract with global company for production of 2-m poles for afforestation / restoration in eastern Europe

Very profitable

Biomass Feasibility Assessment
Sokaogon Chippewa Community

	Poplar Productivity (dt ac^{-1} y^{-1})	
County	Low	High
Forest	3.7	4.8
Langlade	3.8	5.0
Oneida	3.4	4.4
Oconto	3.8	4.9
Marinette	3.6	4.4
Florence	3.4	4.3
Vilas	3.5	4.5

Biomass Feasibility Assessment
Sokaogon Chippewa Community

County	Poplar Biomass (dt)
Administration	16
Elderly Complex	48
Casino	212
Commodities	5
Housing Garage	8
Abiinooji Daycare	6
Transportation Building	12
Housing Building	10

317

Biomass Feasibility Assessment
Sokaogon Chippewa Community

	Total Acres Needed	
County	Min	Max
Forest	66	86
Langlade	64	83
Oneida	72	92
Oconto	65	84
Marinette	71	88
Florence	73	92
Vilas	70	91
	65	**86**

Biomass Feasibility Assessment
Sokaogon Chippewa Community

	Total Acres Needed	
County	Min	Max
Administration	1	2
Elderly Complex	3	4
Casino	43	58
Commodities	1	1
Housing Garage	10	13
Abiinooji Daycare	2	3
Transportation Building	2	2
Housing Building	3	3

Environmental Remediation

- **Problem**
  There is a major need for tree-based systems used for environmental remediation, given that contaminants from residential & industrial waste streams have polluted water & soil much faster than traditional technologies can solve the problem.
- **Solution**
  Short rotation woody crops exhibit fast growth, elevated water usage, & extensive root systems, which allows them to be used effectively for environmental remediation & subsequent restoration.
- **Assets**
  Decades of expertise with genetics, physiology, & silviculture of short rotation woody crops
  Access to thousands of experimental varieties that outperform commercially-available willow & poplar
  Global leader in the environmental remediation community
  Utilization of phyto-recurrent selection, a method developed in Rhinelander to test & select varieties based on specific contaminants & site conditions

Leachate Fertigation

- **Oneida County Landfill, Rhinelander, WI**
  Emphasis on poplars & willows as biological filters atop or adjacent to closed landfills
  Recycle & reuse municipal solid waste (MSW) landfill leachate on-site to reduce economic & ecological costs associated with treating the waste waters
  Maintain regional environmental integrity of groundwater aquifers & nearby water bodies

Soil Improvement

- **Freshkills Landfill, Staten Island, NY**
  Over the next 30 years, the City of New York will convert 2,200 acres of former landfill to a useable public space
  Improve the usage classification of imported soils from "Restricted Residential" to a higher classification such as "Residential" or "Ecological"
  Enhance the physical, chemical, biological, & agronomic characteristics of imported soils
  Prevent the establishment of invasive plant species
  Encourage the establishment of native vegetation & invertebrates

http://www.nycgovparks.org/park-features/freshkills-park/

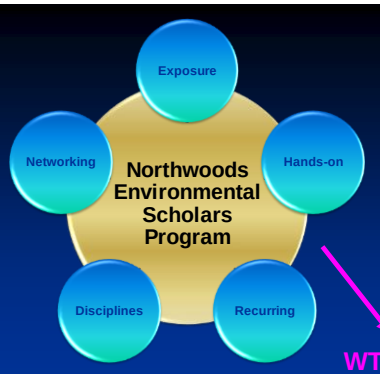
Site	System	Issue
Oneida County Landfill	Leachate Fertigation	Salts / Heavy Metals
Oneida County Landfill	Leachate Fertigation	Soil Fauna Diversity
Oneida County Landfill	Fiber Cake Effluent Fertigation	NPK plus OM for Compost
Rhinelander City Landfill	Fertigation / Hydraulic Barrier	Ammonia / Nitrates
Rhinelander City Landfill	Fertigation	Inorganics + Organics
Freshkills Landfill	Afforestation / Soil Improvement	Inorganics + Organics
ISU BioCentury Farm	Biochar for Propagation	Inorganics
POET Ethanol Plant	Fly Ash (Foliar Fertilizer)	Inorganics
Indiana Harbors Canal	Riparian Buffer	Petroleum Hydrocarbons
Lake States Waterways	Riparian Stabilization	Erosion
Midwest Ag Facility	Riparian Buffer / Overland Flow	Salts / Heavy Metals / Nitrates
Industrial Battery Facility	Soil Remediation	TCE, PCE
Urban Brownfields	Hydraulic Control / Overland Flow	Inorganics + Organics
Egyptian Tree Farms	Municipal Wastewater	Inorganics + Organics

Capacity for Collaboration

- Rich history of collaboration with tribes, industry, academia, private individuals, & government agencies at all levels (local, county, state, federal, international)
- Extensive technical expertise, including writing & administering proposals from US DOE, US EPA, USDA NRCS, USDA AFRI, & GLRI
- Cost-share potential
- State-of-the-art facilities & equipment for cutting-edge research & application

Facilities & Equipment

- **Controlled environment facilities**
  Greenhouses, growth chambers, controlled-environment room, shadehouses, large-capacity drying ovens, walk-in cooler, grinding stations
- **Analytical laboratories**
  N-C analyzer, AA spectrophotometer, HPLC, fiber analyzer, bench spectrophotometer, rapid flow analyzer, centrifuges, freeze drier
- **GIS laboratory & modeling capabilities**
  High-performance work stations, Trimble GPS units, large-format plotter
- **Hugo Sauer Nursery**
  125-acre site with numerous outbuildings, irrigated nursery beds, permanent fence (13-ac), farm equipment
- **Harshaw Research Farm**
  540-ac site with offices, implement shed, field laboratory, irrigation, permanent fence (80-ac), farm equipment



WTCAC
Native American
Student Internship Program

Ways We Have Engaged Students

- Presentations (schools)
- Presentations (USFS)
- Field tours
- Conferences
- Career days
- Job fairs
- Job shadowing

Five Factors for Engaging Students

- **Exposure**
  Can the students see what's going on?
- **Hands-on**
  Are the students performing the activity?
- **Recurring**
  Does interaction with the students occur on a recurring basis?
- **Disciplines**
  Are the students exposed to multiple disciplines?
- **Networking**
  Do the students have the opportunities to network with professionals?

Are Methods Effective?

Method	Exposure	Hands-on	Recurring	Disciplines	Networking
Presentations (schools)				Possible	
Presentations (USFS)	Possible			Possible	
Field tours	Yes			Possible	
Conferences				Yes	Yes
Career days	Yes			Possible	Yes
Job fairs				Yes	Yes
Job shadowing	Yes	Yes	Possible	Possible	Yes

Northwoods Environmental Scholars Program

Overarching Objectives

- Provide high school students with outdoor opportunities & experiences related to science & natural resources;
- Increase environmental awareness & excitement among local youth;
- Strengthen partnerships between the IAES & the greater Rhinelander community

University of Wisconsin – Extension
United States Geological Survey
Wisconsin Department of Natural Resources
School District of Rhinelander

0.5 credits

Northwoods Environmental Scholars Program

Three Stages of the Program

Small Scale Research Study

Office, Lab, & Field Investigations

Presentation of Project Results

Northwoods Environmental Scholars Program

APPENDIX A: 2010 Schedule

Date	Time	Lunch	Vehicle	Location(s)*	Activity	Leader(s)
May 20	1035-1055	No	No	RHS	Program orientation/overview, scientific method, logistics	RZ, AW
June 9	0800-1200	No	No	A, B	Institute orientation, project overview, open forum description	RZ, AW, EB
June 15	0800-1600	Yes	Yes	A, C	Rooting project (prepare), shoreline project (prepare)	AW, RZ
June 23	0800-1600	Yes	Yes	A, C, G	Rooting project (plant), shoreline project (establish burritos), phytotechnologies	RZ, AW, EB
June 29	0800-1600	Yes	Yes	A, B, C	Rooting project (observe), stool bed (plant), energy crops, shoreline project (establish cuttings)	RZ, AW
July 13	0800-1200	No	No	A	Entomology, wildlife biology, renewable energy, science	RZ, DD, JL
July 20	0745-1600	Yes	Yes	A, C, F	Rooting project (observe), shoreline project (survey, establish whips), climate change	AW, EB, MK
July 27	0800-1600	Yes	Yes	A, C	Rooting project (measure, harvest), shoreline project (survey)	AW, EB
August 3	0700-1500	Yes	Yes	D	Forest management – plants, soils, herpetofauna, arthropods	DD, AW, RZ
August 10	0800-1600	Yes	Yes	A, C	Shoreline project (final survey), rooting project (dry weights), discuss project presentation	AW, RZ, EB
August 17	1130-1500	Yes	No	A	Project presentation, statistics, wrap-up, program evaluation	RZ, AW, EB

* A=Institute for Applied Ecosystem Studies; B=Hugo Sauer Nursery; C=Willow Flowage Shoreline Stabilization Site; D=Chequamegon-Nicolet National Forest; E=Lake Tomahawk Long-Term Genetics Research Farm; F=Harshaw Forestry Research Farm (FACE Site); G=Oneida County Landfill; H=Closed Rhinelander Landfill

Open Forum Activities (to be chosen by scholars and presented as time permits)

Vehicle	Location(s)*	Activity	Leader(s)
No	A	Wildlife biology – Kirtland's warblers, turtles	DD
Yes	A, G, H	Phytotechnologies, environmental services, riparian buffers	RZ, JZ, EB, AW
No	A, B	Renewable energy, energy crop production	RZ, AW, EB
Yes	A, F	Climate change – mitigation, adaptation	MK, DB, AW
No	A	Remote sensing and GIS mapping, fire modeling	BM, BS, SL, TS
No	A, B	Silviculture, forestry techniques	AW, RZ
Yes	B, E	Plantation forestry, tree genetics	EB, RZ
No	A	Entomology	JL

Note: All dates, times, and activities are subject to change (v3)

Thank you!

Acknowledgements
We thank Roman Ferdinand for the invitation to speak today.

Nelson Pade

The most trusted name in aquaponics

Clear Flow Aquaponic Systems®

Maximize your production of fish and vegetables

Nelson and Pade, Inc.'s *Clear Flow Aquaponic Systems®* have been designed based on scientific research and 20+ years of development, refinement and operation. *Clear Flow Aquaponic Systems®* produce higher quality fish and vegetables with increased production over other systems. The water flowing through the system is nutrient-rich, but clear, providing biosecurity and food safety. The plant roots are bright white and clean and the fish are raised in fresh, clear water.

Complete Aquaponic System Packages

These complete system packages are available for all applications including commercial, home food production, education and research, social and mission. All systems come with technical support and very thorough assembly and operation manuals. Commercial systems also include a Standard Operating Procedures (SOP) manual, a Good Agriculture Practices (GAP) template and safe food handling guidelines.

Proven Designs

By purchasing one of Nelson and Pade, Inc.'s proven *Clear Flow Aquaponic Systems®*, you will avoid the high costs and problems associated with untested systems and home-built efforts. Each of the system components are sized and designed to provide maximum production, the best ratios, water flow, water quality and nutrient dynamics.

Increased Production

In a development that will bring aquaponics to a whole new level of food production, Nelson and Pade, Inc. has recently announced the ZDEP (Near Zero Discharge Extra Production) (patent pending) system, available with all commercial systems. Nelson and Pade, Inc.'s accelerated production combined with the ZDEP method of aquaponics has nearly 4-times the vegetable production over traditional raft aquaponic systems. Plus, nearly all water and waste from the system can be fully used, reducing or eliminating discharge.

Efficient, Sustainable, Dependable

Nelson and Pade, Inc.'s *Clear Flow Aquaponic Systems®* are the most productive, efficient, sustainable and dependable aquaponic systems for producing fresh fish and a variety of vegetables, all in one integrated system that requires a minimum of water, labor and energy.

Made in the USA

Our system packages are made of the highest quality components, food-grade tanks and liners, high efficiency water and air pumps, and include all plumbing and aeration components. They are 90% made in the USA.

Nelson and Pade, Inc., W3731 State Hwy 23, PO Box 761, Montello, WI 53949 info@aquaponics.com

608-297-8708 www.aquaponics.com

Nelson Pade

The most trusted name in aquaponics

Clear Flow Aquaponic Systems®

Home Food Production

Nelson and Pade, Inc.'s Home Food Production systems use the same science-based design, component ratios and water flow dynamics as our commercial systems. They are just smaller. Our Home Food Production systems are a great way to learn the concepts and daily operation of aquaponics. The individual filter tanks demonstrate all of the scientific principles of aquaponics, make operation easier and increase productivity. The 4 fish tank design allows you to sequentially stock fish of the same size in each tank, resulting in regular harvests of fish and continuous harvests of vegetables.

F5 (Fantastically Fun Fresh Food Factory)

The F-5 is a fantastic system for the beginner or anyone who wants to set up a small but highly productive aquaponic system. An F-5 can annually produce 110 lbs of fish and 900-1440 heads of lettuce, other leafy crops or a variety of vegetables such as tomatoes, beans, cucumbers and more. The F5 has a single 110-gallon fish tank to save on space and 2—3' x 5' plant grow beds. The F5 is a great system for a beginner and makes an ideal classroom aquaponic system.

The F5 = Fantastically Fun Fresh Food Factory

Home Garden

The Home Garden will seriously supplement your family's food supply, with over 200 lbs of fish and 1350—2160 heads of lettuce or lots of other fresh veggies every year. This is a great choice for a family who wants to get started in aquaponics. The Home Garden is a classic aquaponic raft system that has 2—110 gallon fish tanks and 3—4' x 6' plant beds. If you plan to graduate to commercial aquaponics, you can convert your Home Garden to a fish and plant nursery.

Family Plus

The Family Plus is great for home food production and big enough that you'll likely have extra to share with friends or family. Like the Home Garden, the Family Plus is a raft aquaponic system that has four fish tanks. But, it is twice as big as the Home Garden! It can annually produce 460 lbs. of fish and 2,700 - 4,860 heads of lettuce (or other vegetables). The Family Plus has 4—4-110 gallon fish tanks and 6—4' x 6' plant grow beds.

Family Farm Market

The Family Farm Market is the largest of the Home Food Production Systems, capable of annually producing 860 lbs. of fish and 6,900—11,500 heads of lettuce (or other vegetables), enough to provide fresh fish and vegetables to a family, with extra to sell at a farm stand or local farm market. The Family Farm Market system is a great way for a family to begin their aquaponics venture. The Family Farm Market has 4—200 gallon fish tanks and 12—4' x 6' plant grow beds.

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608-297-8708 www.aquaponics.com

Nelson Pade

The most trusted name in aquaponics

Clear Flow Aquaponic Systems®

Home Food Production

System Description

Home Food Production systems include:

- Complete Clear Flow Aquaponic System – proven, science-based design includes four fish tanks (F5 has one fish tank) and all filter tanks, tank drains, the raft tanks and rafts (cut and drilled), hand-crafted cedar tank stands for all fish, filter and raft tanks (assembly required), water pump and plumbing, gate valves and true union ball valves, air blower, aeration system and air diffusers, fish net, starter supply of grow cubes.

- Documentation and technical support:

    - Aquaponic Food Production (RL Nelson) and Aquaponics Q and A books (J Rakocy)
    - Assembly Manual and Operation Manual including SOP's (Standard Operating Procedures)
    - Assembly and Grower Tech support (4 hours via email). Additional tech support available

System Specification Matrix

	F5	Home Garden	Family Plus	Family Farm Market
Lettuce Production Heads/year	900-1,140	1,350-2,160	2,700-4,860	6,900—11,500
Fish Production	110 lbs./year	215 lbs./year	460 lbs./year	860 lbs./year
Foot Print	12' x 20' = 240 sq. ft.	21' x 24' = 504 sq. ft.	24' x 36' = 864 sq. ft.	24' x 60' = 1,440 sq. ft.
Estimated Labor/day	1/2—1 hour/day	1-2 hours/day	2-3 hours/day	4-6 hours/day
Electrical Requirements 24 hrs/day, 7days/week	2.4 amps @ 120v	2.4 amps @ 120V	2.8 amps @120V	6.7 amps @ 120V
Base Price	$2,995	$6,895	$12,995	$19,995
Palleting Charge	$225	$325	$425	$525

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Commercial

Complete Packages - Proven Designs

If you are planning a commercial aquaponics venture, *Clear Flow Aquaponic Systems®* are the only fully-developed, complete system packages available for large scale production. They include the equipment, manuals, documentation and tech support you need to get into and be successful in the aquaponics business.

Maximize Production

Nelson and Pade, Inc.'s commercial line of *Clear Flow Aquaponic Systems®* include our ZDEP (patent pending) filtration system, which reduces waste and increases nutrient availability for additional plant growth. All of our commercial systems use the accelerated nursery for faster production and increased income.

Expandability

Commercial systems come in modules that can be duplicated for expansion, allowing a grower to easily increase size as the business grows.

Commercial 500 Clear Flow Aquaponic System

Continuous Harvests

The vegetable crops from these systems can be harvested daily to meet market demand. Our systems are designed for **continuous vegetable production**, 365/days/year. Each commercial system uses either 4 or 6 fish tanks for staggered harvesting. With tilapia that means you will harvest a tank full of fish every 4 or 6 weeks. If you use two modules, you will harvest a tank full of fish every 2 or 3 weeks. With 3 modules, it is every 1-2 weeks, and so on.

Customer comments:

Jeff Dean, Tennessee: "*Thank you so much for those kind words. Knowing that working with you and Rebecca is much more than just a business deal gives comfort. It helps so much to have the trust in you and Rebecca to help us to avoid as many mistakes as possible. I can only thank you and we both feel fortunate that we have you both for guidance.*"

David Hamlin, Florida, "With Nelson & Pade, you get excellent access to leaders of the industry, timely comprehensive answers to your questions, a superb staff and a system without equal. If you want to get involved with aquaponics, contacting Nelson and Pade should be at the very top of your list."

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System Description

Commercial systems include: Complete Clear Flow Aquaponic System – proven, science-based design includes four or six fish tanks, tank drains and fish tank stands, all filter tanks, including the ZDEP, tank drains and filter tank stands, the raft tank frame, custom-fit food-grade raft tank liner, plant rafts, water pump(s) and plumbing, gate valves and true union ball valves, air blower, aeration system and air diffusers, automated plant propagation and accelerated plant nursery system, fish net, starter supply of grow cubes, Aquaponic Food Production (RL Nelson) and Aquaponics Q and A books (J Rakocy), Operation Manual, SOP (Standard Operating Procedures), GAP (Good Agriculture Practices) template, Assembly and Grower Tech support (4 hours via email)

System Specification Matrix

Note: Data and pricing subject to change. Call or email with questions.

	Greens	Combo
Commercial-300	**4-300-Greens**	**4-300-Combo**
Annual Lettuce Production	27,000 - 38,000 heads	20,000 - 28,000 heads
Annual fruiting crops	0	2,700 - 3,700 lbs
Annual Fish Production	1,200 lb	1,200 lb
Footprint	2 Bays, 30 x 72 (4,320 sq. ft.)	2 Bays, 30 x 72 (4,320 sq. ft.)
Estimated Labor/day	5 hours	5-7 hours
Base price	$36,495	$41,895
Palleting Charge	$650	$650
Commercial-500	**4-500-Greens**	**4-500-Combo**
Annual Lettuce Production	42,000- 62,000 heads	31,000-45,000
Annual fruiting crops	0	4,000-5,200 lbs.
Annual Fish Production	2000 lbs	2000 lbs
Footprint	2 Bays, 30' x 96' (5,760 sq ft.)	2 Bays, 30' x 96' (5,760 sq ft.)
Estimated Labor/day	8-10 hours/day	8-12 hours/day
Base price	$54,995	$64,395
Palleting Charge	$850	$850

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Commercial

System Specification Matrix (continued, C-800 and C-1200)

Note: Data and pricing subject to change. Call or email with questions.

Commercial-800	6-800-Greens	
Annual Lettuce Production	64,500 - 92,000 heads /year	
Annual fruiting crops	0	Note: Media beds can be added in an additional greenhouse bay
Annual Fish Production	7,600 lbs.	
Footprint	3-30' x 96' bays, 8,640 sq. ft.	
Estimated Labor/day	14-16 hours/day	
Electrical requirements	call	
Base price	$75,495 + Project planning fee	
Palleting Charge	$950	
Commercial-1200	**6-1200-Greens**	
Annual Lettuce Production	96,000 - 140,000 heads/year	
Annual fruiting crops	0	Note: Media beds can be added in an additional greenhouse bay
Annual Fish Production	11,750 lbs	
Footprint	3 Bays, 30' x 156' (14,040 sq. ft.)	
Estimated Labor/day	24 hours/day (i.e. 3 workers, 8 hr/day)	
Electrical requirements	call	
Base price	$98.495 + Project planning fee	
Palleting Charge	$1,150	

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Notes

Explanation of System Matrix

- **Lettuce Production:** The low end of the range is for a system set up under natural, seasonal light and with minimal efforts. The high end of the range is for a system setup under optimum light levels and proper environmental conditions. Results may vary.
- **Fish Production:** based on raising Nile tilapia, stocked at 50 gram fish and harvested at 1.5 lbs. Results may vary. Displayed in pounds of whole fish. Fillets are about 1/3 of this.
- **Footprint:** This is the space the standard system configuration fits within, with room for optional equipment, packing and to walk and work around it. This will be the size of the greenhouse or building that you put the system in. If you have special space requirements, we can design the system to fit, but a custom design fee will apply.
- **Estimated labor/day:** This is the number of hours we estimate that it will take to maintain the system, feed the fish and seed, transplant and harvest the crops. The range reflects the range of lettuce production.
- **Electrical requirements:** This is for the aquaponic system itself. It does not include electrical requirements for a greenhouse, water heaters, fans, cooling or other equipment that might be used.
- **Base price:** The base price of our systems includes everything in the description above. It does not include sales tax, shipping or optional equipment.
- **Pelleting charge:** The charge applies to all systems that we palletize, package and prepare for freight shipment. If you choose to pickup and load your own system, we will wave this fee.

What else do you need?

Our system plumbing ends at the drains of the filter tanks. You'll need to connect the system drains to your drain. We don't supply this because we don't know how you will route the plumbing to your drains. You will need a source of potable fresh water (without chlorine and without contact with any copper pipe), electricity, a place to put the system (greenhouse-best choice, building-2nd best choice, outdoors-least favorite choice).

Optional Equipment

Clear Flow Aquaponic systems® are complete system packages and include all of the components in the aquaponic system loop: all tanks, filter tanks, tank stands, grow beds, plumbing, pumps, valves and the aeration system. There are additional items that some people need and others do not, depending on their climate, crop choices, infrastructure, etc. Examples include a fish nursery, fish purge system, test kits, monitoring systems, extra growing supplies, water heaters, etc. Refer to the system order form for prices and details.

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Greenhouses

NP300

Nelson and Pade, Inc. has collaborated with PolyTex, Inc., a well-respected greenhouse manufacture to develop the NP300 greenhouse. The NP300 is manufactured by Poly-Tex, Inc. and is specifically designed to house Nelson and Pade Inc.'s Clear Flow Aquaponic Systems® to provide the environmental conditions as well as the bio-security features required for optimum performance, energy efficiency and food safety.

The NP300 Controlled Environment greenhouse will increase production in any climate. The NP300 is available for cold, mild and tropical climates. The basic structure is standard for each of these climates. The roof and wall covering, heating and cooling options vary, depending on the climate. Pricing for the NP300 is estimated until the final greenhouse engineering for your location and building requirements are completed.

All NP300 greenhouses are engineered and include location-specific, engineer-stamped prints, natural ventilation and bio-secure entryways. The NP300 has a standard width of 30' and can be built in various lengths, as single bays or gutter -connected bays.

Features of the NP300 include:

- Location-specific engineer-stamped prints, Assembly instruction manual
- Complete greenhouse frame and hardware package
- Covering: 8mm twin wall polycarbonate glazing on end walls and side walls, polycarbonate drip edge and 2-layer inflated poly ethylene on the roof (rigid polycarbonate roof is offered as an option). Note: Tropical greenhouses have screening on all walls.
- Automated roof peak vent (optional)
- Automated poly-vent side windows, Insect screening and screen frame kit on side windows, Bio-security package
- Manual hand-crank shade system over the crop area
- Permanent shade over all other areas, Vertical air flow fans, Door framing kits
- Heating package (optional), Cooling Package (optional), Heating package (optional)

Nelson and Pade, Inc. can provide experienced greenhouse builders to construct the NP300 greenhouse at your location. An experienced crew will get the greenhouse built faster and better than an inexperienced group or even a general contractor that doesn't regularly build greenhouses. The sooner your greenhouse is built, the sooner you get into production.

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