NATIONAL INVASIVE SPECIES COUNCIL (NISC)

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INVASIVE SPECIES ADVISORY COMMITTEE (ISAC)

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MEETING

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TUESDAY,
MAY 5, 2009

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SUMMARY

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The Committee convened at 8:00 a.m. at the Radisson Suites, 6555 East Speedway Boulevard, Tucson, Arizona, Ken Zimmerman, Chair, presiding.

COMMITTEE MEMBERS PRESENT:

KEN ZIMMERMAN (Chair)	Lone Tree Cattle Company
JOHN PETER THOMPSON (Vice Chair)	The Behnke Nurseries Company
AMY E. FRANKMANN (Secretary)	Michigan Nursery and Landscape Association
PETER ALPERT	University of Massachusetts
NANCY BALCOM	Connecticut Sea Grant
LESLIE CAHILL	American Seed Trade Association
TIMOTHY J. CARLSON	Tamarisk Coalition
EARL W. CHILTON, II	Texas Parks and Wildlife Department
JANET CLARK	Montana State University
JOSEPH M. DiTOMASO	University of California, Davis
OTTO C. DOERING, III	Purdue University
SUSAN ELLIS	California Department of Fish and Game
CHRISTOPHER J. FISHER	Colville Confederated Tribes
E. ANN GIBBS	Maine Department of Agriculture
ROBERT F. McMAHON	University of Texas at Arlington
EDWARD L. MILLS	Cornell University
JAMIE K. REASER	Pet Industry Joint Advisory Council
THOMAS REMINGTON	Colorado Department of Natural Resources
STEVEN JAY SANFORD	New York Department of Environmental Conservation
JEFFREY D. SCHARDT	Florida Environmental Conservation Commission

CELIA SMITH	University of Hawaii
DAVID E. STARLING	Aqueterinary Services, P.C.
NATHAN STONE	University of Arkansas at Pine Bluff
DOUGLAS W. TALLAMY	University of Delaware
JENNIFER L. VOLLMER	CPS Timberland
DAMON WAITT	University of Texas at Austin
ROBERT H. WILTSHIRE	Center for Aquatic Nuisance Species

COMMITTEE MEMBERS ABSENT:

MILES FALCK	Great Lakes Indian Fish and Wildlife Commission
CATHERINE HAZLEWOOD	The Nature Conservancy
LISA KA'AIHUE	Prince William Sound Regional Citizens' Advisory Council
KATHY J. METCALF	Chamber of Shipping of America

NISC STAFF PRESENT:

DELPHA ARNOLD	Office Manager
KELSEY BRANTLEY	Program Analyst and ISAC Coordinator
KERRY BRITTON	Detailee from U.S. Forest Service
CHRISTOPHER (CHRIS) DIONIGI	Assistant Director, Domestic
MELINDA (MINDY) WILKINSON	Detailee from Hawaii Department of Agriculture
LORI WILLIAMS	Executive Director

NISC POLICY LIAISONS PRESENT:

MARGARET (PEG) BRADY,	U.S. Department of Commerce (NOAA)
GORDON BROWN,	U.S. Department of Interior
PETER EGAN,	U.S. Department of Defense
BRUCE LEWKE,	U.S. Department of Homeland Security
ROBERT NOWIERSKI , *(stand-in for H. Diaz-Soltero)*	U.S. Department of Agriculture (CSREES)

GUESTS/MEMBERS OF THE PUBLIC PRESENT:

BETHANY BRADLEY, Woodrow Wilson School of Public and International Affairs, Princeton University
SCOTT HENDRICK, National Conference of State Legislatures
CRAIG MARTIN, U.S. Fish and Wildlife Service
LARRY RILEY, Arizona Department of Game and Fish

WELCOME/MEMBER INTRODUCTIONS

Chair Ken Zimmerman called the Advisory Committee to order and asked for introductions.

APPROVAL OF MINUTES FROM NOVEMBER 2008 MEETING

Chair Zimmerman called for the approval of minutes from the November 2008 meeting. Otto Doering moved approval. David Starling seconded. The minutes were approved unanimously.

NISC STAFF REPORT

NISC Executive Director Lori Williams reported that most of the political appointee positions have not yet been filled. Briefing materials on NISC have been sent to the Obama Administration. Ms. Williams has briefed the new Deputy Assistant Secretary for Interior.

Ms. Williams believes that the Recovery Act provides a great opportunity for a number of invasive species projects. NISC has also been granted additional funding through a new appropriations bill. It had been operating under a continuing resolution for some time.

NISC has been working with the State Department, U.S. Forest Service and various international partners to put together an information desk and panel discussion at the Convention on Sustainable Development, which was held on May 4. A similar panel discussion will be held at the United Nations on May 11. Melinda Wilkinson, a detailee to NISC, has played a major role in setting this up. Since the retirement of Richard Orr, Ms. Wilkinson has been working extensively in international affairs. She is also the temporary chair of the Prevention Committee.

Also on detail to NISC is Ann Garrett from the National Oceanic and Atmospheric Administration (NOAA). Ms. Garrett has organized a NISC working group to craft guidance for dealing with invasive species under the National Environmental Policy Act (NEPA). Hopefully, there will be a significant redraft in place by the next NISC meeting. Kerry Britton is on detail from the U.S. Forest Service. Ms. Britton is working to set up the Sentinel Plant Network. Victor Serveiss, an Environmental Specialist with the U.S. Environmental Protection Agency, will be detailed to both NISC and the Aquatic Nuisance Species Task Force (ANSTF) to work on risk assessment and prevention issues.

Another major project has been implementation of the National Invasive Species Management Plan. Ms. Garrett and Chris Dionigi are completing tracking templates and reporting documents.

Delpha Arnold, NISC's office manager, has been taking care of the NISC reports. She and Kelsey Brantley will format and edit the reports for the NISC website.

The Commission on Economic Cooperation (CEC) has recently issued a publication, Tri-National Risk Assessment Guidelines for Aquatic Alien Invasive Species. The report contains two test cases. The member countries (the United States, Canada and Mexico) have all signed off on the document.

ANSTF is working on its Joint Prevention Committee, especially regarding its Screening and Risk Assessment Task Teams. Both task teams have new leaders and are working on Management Plan tasks and objectives.

Phil Andreozzi is on detail in Guam setting up the Pacific Regional Invasive Species Council. Mr. Andreozzi is working with various Federal agencies to craft a biosecurity plan. The plan will address invasive species issues arising from a planned military buildup on Guam. It has received tentative approval.

Ms. Wilkinson has begun a series of regional conference calls with state invasive species councils and other coordinating bodies. The calls have covered mapping, outreach and grant opportunities.

NISC MEMBER DEPARTMENT REPORTS

Gordon Brown, U.S. Department of the Interior (DOI)
Mr. Brown opined that the most interesting political appointment in his department is the Science Advisor in the Office of the Deputy Secretary. The new Science Advisor, Kit Batten, is supportive of NISC's mission, particularly with respect to mitigating climate change and restoring native species. Another notable appointee is Will Shafroth as Deputy Assistant Secretary for Fish, Wildlife and Parks. Jane Lyder, a civil servant in that office, has a good working relationship with many in NISC. Chris Salotti, the new legislative council, is also very familiar with NISC issues. Mr. Brown has been e-mailing ISAC members with updates from the D.C. environmental press. The Recovery Act has provided funding for the Fish and Wildlife Service (FWS) through the refuge system and habitat restoration programs. The Bureau of Reclamation has received $2.5 million for invasive species work, most of which will focus on quagga mussels. Mr. Brown introduced Craig Martin, the new FWS Branch Chief for Aquatic Invasive Species. He also mentioned meeting David Thomassen, a senior scientist at the Department of Energy. Implementation of the Global Invasive Species Information Network (GISIN) recommendation to make more user-friendly web access to shared data continues despite budget constraints.

Margaret M. Brady, Department of Commerce (DOC)
About a month and a half ago, Jane Lubchenco was sworn in as Administrator of NOAA. Dr. Lubchenco, a marine ecologist, has a strong background in invasive species, serving on the Pew and Joint Oceans Commissions. Lionfish have invaded coastal waters in the Southeastern U.S. NOAA has been active in early detection, rapid response (EDRR) efforts in the Florida Keys. It also recently co-sponsored the International Conference on Aquatic Invasives in Montreal. Ms. Brady hopes that there will be greater U.S. student population at the next meeting, to be held in San Diego in May 2010. NOAA's National Marine Sanctuaries website includes condition reports. Item 11 of each condition report examines status and trends of non-indigenous species. A group of scientists from the Northwest Fisheries Science Center issued a paper on the impact of non-indigenous species on endangered salmon. NOAA received $160 million from the Recovery Act for a grant program. The selection process for that program is ongoing. NOAA's aquatic invasive species program has been largely devoted to earmarks, but those earmarks are disappearing. The program operates on a budget of less than $1 million. Ms. Brady wants to expand NOAA's research capability as well as its ability to support state plans. Currently the Aquatic Nuisance Species Task Force (ANSTF) has 29 state and two interstate plans approved, and five plans under review. Susan Mangin, formerly with the Fish and Wildlife Service, will serve as the new ANSTF Executive Secretary. The next meeting will be held May 19.

Robert Nowierski, U.S. Department of Agriculture (USDA)
The Cooperative State Research, Education and Extension Service (CSREES) is in the process of becoming the National Institute of Food and Agriculture. The exact configuration and structure of the new agency is still to be determined. The USDA Do No Harm report for 2008 has been released. USDA's Hilda Diaz-Soltero has met with various Department agencies, charging them with aligning their strategic plans, visions, missions, goals and objectives with the National Invasive Species Management Plan. A microbial biological control symposium is slated for 2010. It will deal with microbial control of arthropods, invasive plants and plant pathogens. The Office of Science and Technology Policy's Subcommittee on Environment and Natural Resources has a Working Group on Invasive Species. The Working Group is putting together a workshop on developing models for predicting invasiveness, which will probably be held in 2010. Mr. Nowierski is spearheading a symposium on reduced-risk pesticides, as well as maintaining ecosystem goods and services.

Peter Egan, U.S. Department of Defense (DoD)
DoD relies extensively on partner agencies at the state and Federal level, as well as non-governmental organizations (NGOs). One DoD initiative is the Western Regional Partnership, encompassing California, Arizona, New Mexico, Utah and Nevada. The Legacy Program is funding a course on invasive species. The Center for Invasive Plant Management will put on a course near the end of October in Phoenix. The aim is to help natural resource managers at DoD installations form partnerships in an effort to create cooperative invasive species management areas. Another training course will be held in Chapel Hill, North Carolina covering invasive species in the Southeast. The DoD, through the Armed Forces Pest Management Board, has produced the third in a series of instructional DVDs. This installment is called The Interactive Program for Teaching Adult Mosquito Morphology.

Bruce Lewke, U.S. Department of Homeland Security (DHS)
The Bureau of Customs and Border Protection (CBP) is responsible for inspecting all cargo entering the U.S. Since October 1, inspectors at ports of entry have discovered pests six times that do not have a specimen in the National Collection. On 12 occasions, ports of entry have intercepted species not previously found at a particular port. There have been 36 instances where a pest was intercepted for the first time in the U.S. Three times a pest was intercepted for the first time from a particular country of origin. Twice a pest was intercepted for the first time on a particular commodity. A shipment of reed fencing from China was found to be infested with a disease. One particular shipment from this company had 26 different species of insect, 19 of which were deemed to be of quarantine action. A national alert was issued. The importer has stopped buying from this particular company.

NISC RESPONSE TO ISAC RECOMMENDATIONS

Ms. Williams reported NISC's response to ISAC's recommendations from the November 2008 meeting.

The **first recommendation** called for the implementation of the 2008-2012 National Invasive Species Management Plan by the new administration without delay. First, NISC will ensure that this recommendation is in its briefing materials for the transition. Second, the recommendation will be included in written communications with NISC members.

The **second recommendation** encouraged enhanced capacity for invasive species management and aid to

national economic recovery, ISAC recommends that NISC member agencies initiate and expand programs that provide jobs based on preventing and controlling invasive species. NISC has been trying to communicate through its policy liaisons that there are opportunities to provide jobs in that context.

The **third recommendation** stressed the importance of ensuring the strength of the Fish and Wildlife Service (FWS) Branch of Invasive Species. Ms. Williams invited Craig Martin, the new Chief of this Branch, to address this issue at the close of her report. Mr. Martin has been instrumental in fostering increased cooperation between ANSTF and NISC. NISC has also been working closely with Gary Fraser, the Assistant Director for Fisheries at FWS.

In the **fourth recommendation**, ISAC stated that the White House and NISC should urge non-member departments or agencies not to fund, plant or encourage planting or cultivating invasive species as biofuels. Ms. Williams said an extensive discussion was planned for this meeting. NISC is working to find contacts within the Department of Energy (DOE). It has also been working closely with its policy liaisons.

The **fifth recommendation** dealt with the Global Invasive Species Information Network (GISIN). A draft protocol has been developed. NISC feels it is vitally important that GISIN move forward. Miles Falck is working with the United States Geological Survey (USGS) and other agencies to advance the project. He will report back to the Organization and Collaboration Subcommittee if any action is needed.

ISAC's **sixth recommendation** was for NISC staff to communicate with all executive branch departments and Federal agencies to emphasize the agency responsibilities under Section 2 of the Executive Order. Section 2 calls on Federal agencies not to take any action that would likely cause the introduction or spread of an invasive species without a specific written statement showing how the benefits of such an action outweigh the risks. Ms. Williams proposes a specific letter to DOE inviting it to join NISC; a letter to all non-chair current NISC members; and not to contact agencies that do not have programs dealing with invasive species. Besides DOE, Ms. Williams feels it is important that NISC contact the Departments of Housing and Urban Development (HUD) and Education.

NOTE: Regarding the third recommendation, Craig Martin commented that in addition to appointing a new Executive Secretary at ANSTF, the position dealing with injurious wildlife has been filled. He feels his branch is on its feet, and is in the process of determining priorities.

MEMBERS FORUM

Earl Chilton, II – Texas Dept. of Parks and Wildlife: The State of Texas is working to make it legal to buy water spinach. The state is also changing from a prohibited list to an accepted list for aquatic plants. Problems the state faces include the spread of giant salvinia on Caddo Lake. During a recent bass tournament, the number of boats infested with salvinia highlighted the need for states to regulate the transport of exotic species on boats.

Bob McMahon – University of Texas at Arlington: Working with his colleagues at the University of Texas at Arlington have been examining the evolution of thermal tolerance in zebra mussels. They have recently been found in warmer bodies of water, such as Lake Texoma on the Texas-Oklahoma border. The discovery of quagga mussels in Lake Mead and zebra mussels elsewhere in the Southwest has kept Dr. McMahon quite

busy.

Ed Mills – Cornell University: There is an increasing prevalence of quagga mussels in inland lakes in the Northeast and Great Lakes regions. In the deepwater of the Great Lakes, the native invertebrate population is declining, adversely affecting the food chain there.

Jeff Schardt – Florida Environmental Conservation Commission: The Florida Center of Aquatic and Invasive Plants will hold its fifth annual science teachers workshop from June 12 through 16. Facing budget constraints, Florida understands the need to work cooperatively with other Federal, state and local governments and to research more cost-effective control strategies. Florida officials will meet with members from EPA to discuss the ramifications of invasive species management.

Bob Wiltshire – Center for Aquatic Nuisance Species: The mission of the Center for Aquatic Nuisance Species is to reduce the human-caused spread of aquatic invasive species by promoting voluntary programs. One such program is the Clean Angling Pledge, whereby anglers promise to inspect, clean and dry equipment to the best of their ability after every on-water use. Another is the Anglers Against Weeds program, organizing anglers to do riparian and shoreline GPS noxious weed mapping. Lastly, the Center is conducting an inventory of every carwash in Montana and Wyoming as part of a pilot program to ensure that boats are cleaned properly.

Nancy Balcom – Connecticut Sea Grant: The Long Island Sound Interstate Plan has received comments from ANSTF, which will be addressed in a working group. Like other states, Connecticut is facing budget cutbacks, threatening many programs including the Invasive Plant Council. A number of Sea Grant programs have launched a website called Nab the Aquatic Invader for school-aged children. Connecticut is also working with one of its vocational aquaculture schools, reviewing its practice of raising and selling aquatic species over the Internet to hobbyists.

Joe DiTomaso – University of California, Davis: California has just approved its own state invasive species council. The Invasive Plant Science and Management Journal has entered its second year of publication. He has also expanded his research on biofuels to cover Miscanthus as well as Arundo.

Jamie K. Reaser – Pet Industry Joint Advisory Council (PIJAC)*:* PIJAC is working on HR 669, the Non-Native Wildlife Invasion Prevention Act. On March 12 and 13, PIJAC held a meeting with stakeholders on this bill. PIJAC is also working with the Global Invasive Species Program to produce a toolkit of regulatory and non-regulatory measures that would help minimize the risk of biological invasion via the pet trade pathway.

Ann Gibbs – Maine Department of Agriculture: A major concern in her state is the spread of the Asian longhorn beetle. Despite budget constraints, a coalition of state agencies in the Northeast has been formed to address this problem. USDA's Animal and Plant Health Inspection Service (APHIS) has given the coalition a grant of $1 million to do a survey and outreach project. An effort is underway to declare Asian Longhorn Beetle Month in August.

Susan Ellis – California Dept. of Fish and Game: The newly created California ISAC contains six members of the Governor's cabinet and is co-chaired by the Secretary of Food and Agriculture and the Secretary of Resources. At the meeting, it adopted a charter and a nominating process for the advisory committee. The California Product Invasive Species Team will be a subcommittee to the Council. Zebra

and quagga mussels continue to be a problem in the state. In a two-week period there were three interceptions of coqui frogs from Hawaii.

Chris Fisher – Colville Confederated Tribes: The stocking of lakes within wilderness areas continues. Potentially, the practice could adversely affect the ecology. To combat the problem, the state of Washington is considering the use of sterile fish known as triploids.

Amy Frankmann – Michigan Nursery and Landscape Association: Budget cuts have effectively brought all invasive species work in Michigan to a halt. The nursery and landscape industry has agreed to raise fees again, but it will likely be insufficient.

Ken Zimmerman – Lone Tree Cattle Company (ISAC Chair): The Los Angeles Department of Water and Power set up checkpoints to inspect the 5,000-7,000 boats that participated in the recent Eastern Sierra Trout Open. Despite the budget crunch, the state of California is doing everything it can on invasive species.

John Peter Thompson (ISAC Vice-Chair): Wavy leaf basket grass has spread from Maryland to Virginia. There is an effort to get the problem under control. The National Agricultural Research Center is starting a program on urban insect research. A third-party certification concept paper is being drafted in collaboration with the American Nursery and Landscape Association. The next step will hopefully be convening a national conference on certification. He has also been working with the Continental Forest Dialogue on developing an outreach educational program for the industry.

Tom Remington – Colorado Department of Natural Resources: The AFWA Invasive Species Committee hosted an invasive species adaptive management workshop. It also came out in favor of HR 669, though it does express some reservations on the specifics. While the ingress of invasive species may fall under the purview of the Federal Government, managing the impact is largely the states' responsibility. Additional resources are necessary. A blue ribbon panel has provided several recommendations on how to improve monitoring and sampling protocols. An electronic tagging system of boats is under consideration.

PRESENTATION: BIOFUELS AND INVASIVE SPECIES WHITE PAPER

Joe DiTomaso, Ph.D., University of California, Davis

At the November 2008 meeting, Dr. DiTomaso had presented a summary of a paper on biofuels and invasive species issued by the Council of Agricultural Sciences and Technology (CAST). A task team was formed to develop a White Paper. Dr. DiTomaso gave ISAC an update on the team's progress.

The eight-page paper is divided into five sections: evaluating the potential risk of invasiveness; determining susceptible regions and habitats; evaluating the impact on desirable vegetation and habitats; conducting environmental tolerance and propagation studies; and establishing early detection, rapid response (EDRR) protocols.

The first recommendation is to reduce escape risks. This will be achieved by conducting risk assessment models. It also means using species that are neither invasive nor have the potential to become invasive in a particular target region.

The second recommendation is to determine the most appropriate areas for cultivation. This can be done through a number of strategies, including climate matching.

Thirdly, the paper recommends identifying plant traits that contribute to or avoid invasiveness. The idea is to work with breeders to incorporate desirable traits in potential biofuels to minimize the risk of invasiveness without compromising quality.

The paper's fourth recommendation calls for the prevention of dispersal. This is something that deals with the growers, transporters and storage facilities. It will involve developing mitigating practices that minimize propagule movement.

Finally, the task team recommends developing an EDRR plan. Such a plan should cover multiple years and will resemble an evacuation program.

As co-chair of the task team, Jamie Reaser added that she would like to see the paper trimmed to three to five pages to make it more digestible to the target audience. She would also like to include the CAST and U.S. Invasives and Biofuels documents as appendices for those wanting more detail. Arranging the paper in a bullet and box format would make it easier to understand. She also suggested tying the recommendations to the Management Plan.

PRESENTATION: IMPACT OF CLIMATE CHANGE ON INVASIVE PLANTS IN THE WESTERN U.S.: OPPORTUNITIES FOR RESTORATION?

Bethany Bradley, Ph.D., Princeton University

Dr. Bethany Bradley opened her presentation by showing a slide from the Millennium Ecosystem Assessment. The goal of the assessment was to define the major components of global change and how they might affect different ecosystems. It found the major components to be habitat change, climate change, invasive species, overexploitation of resources and nitrogen and phosphorus pollution. Many of these factors are expected to have more of an impact over the next century. Important questions include where and to what extent the impact will be, and how these factors will influence each other.

The rising level of carbon dioxide is one area of concern. Some, but not all, studies have shown that this trend may favor invasive species. It is likely that invasive species will become larger and harder to kill. Disturbance corridors, such as roads and power lines have also been conducive to invasive species.

Changes in precipitation and temperature are likely to affect the viability of individual plant species. With changing climates, species may or may not be able to survive in their current locations.

There are a number of ecological forecasting methods, including modeling approaches, experimental approaches, theory and observational networks. The goal of each approach is to figure out where invasive species are going. Experiments are highly detailed, but have a limited inference area and are extremely expensive and time-consuming. Observational networks are also very detailed, provide a high confidence level and can be very extensive, but are extremely dependent on nature and are difficult to obtain.
Bioclimatic envelope modeling provides regional projections of shifts in species distribution. It is spatially explicit, but does not account for biotic or abiotic interaction, and the level of confidence is often unknown.

The goals of this approach are to project where a species can no longer persist, and to examine habitat expansion and contraction. It hasn't been used much for invasive species, largely because the data on their distribution and abundance isn't very good.

The question one asks with envelope modeling is how climate affects the distribution of a given species. Dr. Bradley and her colleagues create what is called a climate envelope, taking the distribution of a climate variable and overlaying it with the distribution of a species.

Dr. Bradley used cheatgrass as an example to illustrate the methodology of envelope modeling. Cheatgrass is a threat to native species in the Intermountain West. Its presence also increases the frequency of fires. Research indicates that the best predictor for cheatgrass distribution is June precipitation. As precipitation that month increases, native plants are better able to fend off the challenge from cheatgrass.

With the projected climate changes, some places, such as southwestern Wyoming or places along the Montana-Idaho border, will be more susceptible to cheatgrass. Others, such as southern Nevada and southern Utah, will be less so.

Other examples Dr. Bradley cited were yellow starthistle, knapweed, tamarisk and leafy spurge. As with cheatgrass, the risk of knapweed is likely to increase in some areas and decrease in others. Nearly all climate change models agree that the risk of yellow starthistle and tamarisk will increase. The risk of leafy spurge is projected to decrease.

Many questions remain. Will native species be able to rebound? If not, what can fill the void? Once a species is established, are the same climate conditions conducive to its persistence as well as its establishment? How do we respond to opportunities presented by decreased risks for invasive species? What are ideal qualities for restoration candidates?

Risks from not acting include losing additional habitat, extinctions, further invasion by non-natives and further changes to ecosystem processes. Risks from acting include choosing the wrong target species, accidentally introducing a new invasive species and increased disturbance to an ecosystem. It is necessary to identify better ways of determining where the greatest risk lies. Dr. Bradley recommends working groups that can review and integrate existing data sets.

MEMBERS FORUM (CONTINUED)

Tim Carlson – Tamarisk Coalition: The Tamarisk Coalition held a research conference in Reno in February. The Coalition is finalizing a report on the impact of tamarisk on the Colorado River watershed. It also issued a peer panel report on the evapotranspiration issue. It is working with a number of partners to implement a recurring restoration effort in western Colorado and eastern Utah. It is also working with NRCS Plant Material Centers in Colorado and New Mexico to establish ecotype-specific native plant nurseries. The Coalition is in its third year of Bugs, Botany and Birds, a bio-control monitoring on the upper Colorado River system to identify the ecosystem response to the tamarisk leaf beetle.

Jennifer Vollmer – CPS Timberland: One reason why invasive species didn't get more stimulus money is the lack of a General Services Administration (GSA) code for invasive species control. Wyoming is updating its state wildlife plan, which will include a section on invasive species management.

Otto Doering – Purdue University: Working extensively with second generation biofuels industry representatives and researchers. He is also involved with several advisory committees. USDA is interested in revitalizing the Resource Conservation Act.

Janet Clark – Center for Invasive Plant Management: The National Network of Invasive Plant Centers received a small grant last fall and met in January in Indianapolis. There is concern that The Nature Conservancy has cut its entire invasive species staff. It is important that NISC acknowledge the support of other NGOs concerned with endangered species.

Nathan Stone – University of Arkansas at Pine Bluff: The State of Arkansas has a draft aquatic nuisance species plan. It has not yet been submitted because of ANSTF's financial situation, and because the snakehead eradication effort has been a priority. The University of Arkansas at Pine Bluff is working on an educational effort with aquaculture producers.

The Committee recessed at 2:02 p.m. to give subcommittees a chance to meet.

DAY 1 ACTION ITEMS

Jamie Reaser presented ISAC with an action item inviting Kit Batten, Science Advisor to the Deputy Secretary of the Interior, to give a presentation at the next ISAC meeting focused on 1)the interface between climate change and invasive species as it relates to the DOI climate change plan and 2)topics on which she would particularly welcome advice from ISAC. As this was an action item and not a recommendation, ISAC did not need to vote on it.

Peter Alpert and Jeff Schardt suggested an action item in relation to the National Cotton Council Decision issued on January 7, 2009 by the U.S. Sixth Circuit Court of Appeals vacating an EPA rule. This decision will likely affect the management of invasive species in the U.S. The action item is as follows: ISAC urges NISC to follow this issue closely and to provide input as appropriate to the member agencies involved.

PUBLIC COMMENT

Scott Hendrick of the National Conference of State Legislatures introduced himself and his organization. It has become increasingly involved with invasive species.

Larry Riley of Arizona Game and Fish welcomed ISAC members. He stressed the importance of invasive species in the state. He also acknowledged the work of Melinda Wilkinson in developing a network among the state organizations.

END OF DAY 1

The Committee recessed for the day at 4:01 p.m.

NATIONAL INVASIVE SPECIES COUNCIL (NISC)

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INVASIVE SPECIES ADVISORY COMMITTEE (ISAC)

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MEETING

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THURSDAY,
MAY 7, 2009

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SUMMARY

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KEN ZIMMERMAN (Chair)	Lone Tree Cattle Company
JOHN PETER THOMPSON (Vice Chair)	The Behnke Nurseries Company
AMY E. FRANKMANN (Secretary)	Michigan Nursery and Landscape Association
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STEVEN JAY SANFORD	New York Department of Environmental Conservation
JEFFREY D. SCHARDT	Florida Environmental Conservation Commission

CELIA SMITH	University of Hawaii
DAVID E. STARLING	Aqueterinary Services, P.C.
NATHAN STONE	University of Arkansas at Pine Bluff
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DAMON WAITT	University of Texas at Austin
ROBERT H. WILTSHIRE	Center for Aquatic Nuisance Species

COMMITTEE MEMBERS ABSENT:

MILES FALCK	Great Lakes Indian Fish and Wildlife Commission
CATHERINE HAZLEWOOD	The Nature Conservancy
LISA KA'AIHUE	Prince William Sound Regional Citizens' Advisory Council
KATHY J. METCALF	Chamber of Shipping of America

NISC STAFF PRESENT:

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KELSEY BRANTLEY	Program Analyst and ISAC Coordinator
KERRY BRITTON	Detailee from U.S. Forest Service
CHRISTOPHER (CHRIS) DIONIGI	Assistant Director, Domestic
MELINDA (MINDY) WILKINSON	Detailee from Hawaii Department of Agriculture
LORI WILLIAMS	Executive Director

NISC POLICY LIAISONS PRESENT:

MARGARET (PEG) BRADY,	U.S. Department of Commerce (NOAA)
GORDON BROWN,	U.S. Department of Interior
PETER EGAN,	U.S. Department of Defense
BRUCE LEWKE,	U.S. Department of Homeland Security
ROBERT NOWIERSKI , *(stand-in for H. Diaz-Soltero)*	U.S. Department of Agriculture (CSREES)

GUESTS/MEMBERS OF THE PUBLIC PRESENT:

BETHANY BRADLEY, Woodrow Wilson School of Public and International Affairs, Princeton University
SCOTT HENDRICK, National Conference of State Legislatures
TOM McMAHON, Arizona Department of Game and Fish
CRAIG MARTIN, U.S. Fish and Wildlife Service
LARRY RILEY, Arizona Department of Game and Fish

REVIEW OF DAY 1

Amy Frankmann gave a recap of the action items for Day 1:
1. Invite Kit Batten, the Science Advisor to the Deputy Secretary of the Department of the Interior (DOI), to give a presentation at the next ISAC meeting focused on: 1) the interface between climate change and invasive species as it relates to the DOI climate change plan, and 2) topics on which she would particularly welcome advice from ISAC.
2. On January 7, 2009, the U.S. Sixth Circuit Court of Appeals vacated an Environmental Protection Agency (EPA) rule in an action referred to as the National Cotton Council Decision. This is of great importance to the management of invasive species. This decision is likely to strongly affect ability to control their spread in the U.S. ISAC urges NISC to follow this issue closely and to provide input as appropriate to the member agencies involved.

PRESENTATION: A SENTINEL PLANT NETWORK

Kerry Britton, Ph.D., U.S. Forest Service

Dr. Britton is collaborating in a study of forest pests at the National Center for Environmental Analysis and Synthesis, when and how they arrived. The study found that 63 percent are believed to have arrived on nursery stock, compared to 22 percent on wood packing material. The Forest Service has taken action on wood packing material, but has not yet been able to do anything about nursery stock.

In 2002, the Animal and Plant Health Inspection Service (APHIS) commissioned the National Research Council to produce a document on how to better predict invasions of plants and plant pests. One of the document's recommendations was to monitor U.S. plants planted abroad. Similar practices have been employed by agricultural agencies in New Zealand, Switzerland and France.

At a recent Forest Fire Security Conference in New Zealand, researchers there advised the USFS that the most important thing is sharing information. To that end, Dr. Britton promised at the very least to post on the Sentinel Plant Network website a list of places where the relevant information is available. Ideally, she would like to synthesize the information.

APHIS is currently at work on the revision of Quarantine 37 (Q-37). One component of the quarantine is a clean stock production system, which takes example pests in an effort to determine what forms of mitigation would be useful. This system is not very well developed yet. The other aspect involves a new category of nursery stock, plants not authorized for import pending pest risk analysis (NAPPRA).

One problem with the current system is it assumes we know what the pests are, when that is not always the case. Dr. Britton believes that a network is necessary to collect the data. If a non-native pest is discovered, it is important to contact the pest's country of origin to see if there are any ways of dealing with it. If a non-native pest is new, it would initiate early detection, rapid response (EDRR).

To deal with a forest pest, various APHIS activities might be triggered: a New Pest Advisory Group, an Offshore Pest Information System, assessment of the import threat, a listing in NAPPRA and/or a pest risk assessment.

Dr. Britton has talked with representatives of the country's largest gardens, who have generally been very receptive to the idea of a Sentinel Plant Network. Such a network would open up domestic and international opportunities.

PRESENTATION: FEDERAL FUNDING FOR RESEARCH ON INVASIVE SPECIES

Peter Alpert, Ph.D., University of Massachusetts

To introduce the question of research on invasive species, Dr. Alpert cited sugar and snakes as examples. One might conclude that sugar might reverse invasion of grasslands by non-native species because they can lower soil fertility, and a basic research project showed that rising soil nutrient levels was the single largest cause promoting invasion. Preliminary results from a recent study have been successful. The Burmese python was imported deliberately from Asia, and has now established itself in the Florida Everglades. The potential for this species to spread varies with different climate change models.

The Research Subcommittee wrestled with the question, how can Federal agencies best direct funding for research on invasive species towards the things that society would like to know about them? Dr. Holly Menninger of the New York Invasive Species Research Institute at Cornell is surveying recent and current Federal funding for invasive species research. In April, she completed the first component, funding from the National Science Foundation (NSF) and the United States Department of Agriculture's (USDA) National Research Initiative (NRI).

From 2004 through 2008, the NSF funded approximately 35 grants concerning invasive species each year. The total annual amount for these grants is around $6.5 million. Funding levels have been declining, partly due to the novelty of invasive species documentation wearing off. During the same period, USDA has awarded about half as many grants, but they tend to be larger in size, totaling approximately $5 million per year. Funding has remained relatively constant. Plants have received the bulk of the funding, particularly at USDA. Invertebrates like quagga mussels have garnered the second largest share.

Based on current funding levels, the Research Subcommittee's fifth recommendation is that there be more funding for competitive research. NSF and USDA estimate they can only fund one third of the grants that deserve funding, suggesting that the funding level should be tripled.

Dr. Menninger plans to analyze at least four other agencies: the Department of Defense (DoD), EPA, the National Aeronautics and Space Administration (NASA) and the National Oceanic and Atmospheric Administration (NOAA). She also might look at the Department of Energy (DOE) and the National Institutes of Health (NIH). Research Subcommittee Recommendation 2 encourages Federal agencies to fund research on the invasive potential of biofuel plants.

The Research Subcommittee's first recommendation calls for greater interagency coordination on invasive species, given the multitude of programs in Federal agencies. This is also recommended in the NISC Management Plan.

The most uncertain area of invasive species research is restoration. Therefore, Recommendation 3 calls for greater support from Federal agencies on restoration research efforts.

Research to guide rapid response to new invasion is another area of concern. This is often a difficult task because it needs to be implemented quickly. In Recommendation 4, the Subcommittee recommends that research and implementation agencies partner in advance so they have a plan in place.

In addition to the recommendations from Dr. Menninger's findings, there are two stemming from the expertise of individual Subcommittee members. Recommendation 6 calls for research on biological control using microbes. Recommendation 7 advocates research on the economics of invasive species management.

Based on comments by Jamie Reaser, Otto Doering and others that the recommendations were too general in scope, Vice Chair John Peter Thompson moved to send them back to the Research Subcommittee, for more specific direction and guidance. Ann Gibbs seconded the motion.

Many ISAC members, including Ms. Gibbs, Bob McMahon and Celia Smith, felt it would be useful to have Dr. Menninger's report available. Dr. Alpert said there was no timetable, as Dr. Menninger has many things on her plate at the moment.

Lori Williams cited examples of research on the economics of invasive species management, such as USDA's PREISM program, as well as examples of interagency coordination. She suggested that the recommendations need not be an all-or-nothing proposition. Dr. Alpert proposed amending Vice Chair Thompson's motion to exclude Recommendations 1, 6 and 7. The Vice Chair duly amended his motion. Ms. Gibbs seconded the amendment. The motion carried unanimously. Recommendations 2, 3, 4 and 5 were returned to the Research Subcommittee.

Dr. Alpert moved approval of Recommendations 1, 6 and 7. Each recommendation would be considered individually. David Starling seconded the motion. Recommendation 1 was approved unanimously.

Dr. Reaser expressed reservations about the first sentence of Recommendation 6, "Funding should be targeted to research on biological control using microbes." She believed it might be interpreted as targeting away from other types of biological control. Doug Tallamy suggested changing "targeted to" to "increased for." Earl Chilton thought the language should be changed to "including microbes." Robert Wiltshire questioned the need to reference funding. ***Vice Chair Thompson moved to table the motion until after lunch. Dr. Alpert seconded. The motion to table passed unanimously.***

Chair Zimmerman called for a vote on Recommendation 7, which had been moved and seconded. The motion passed unanimously.

PRESENTATION: CURRENT ECONOMIC RESEARCH ON INVASIVE SPECIES ISSUES

Otto Doering, Ph. D., Purdue University

Dr. Doering talked about the limits of economics, highlighting certain components of the PREISM program. He circulated a PREISM booklet listing various projects and the individuals involved.

Dr. Doering reviewed the traditional economics efficiency diagram. In reality, invasive species and other

questions do not follow such a neat, linear mode. Nevertheless, economists find the model useful because it establishes a point where one receives the most benefit for the least cost.

An example Dr. Doering cited was an animal identification project in Colorado. There is a chip that can record where an animal comes from, where it goes, when it gets sick, etc. Such technology is useful if there is a contamination. The quicker one is able to determine the source of an outbreak, the less the cost to society. Economists in situations like this need to consider vaccination strategies, epidemiological models and markets.

Dr. Doering also discussed the behavior of importers at the border. Preventing invasive species, in essence, is a public good. People often view dealing with a disease after it comes as an appropriate public response, but usually don't see the need to address it before. Importers may try to avoid ports with large inspection staffs. They may also mask a bad reputation by changing their name. There are several responses to these tactics, such as monitoring intended and unintended importer responses, agent-based models and econometric data.

There are some things a cost-benefit analysis does not do. It may not reflect the amount society wants to spend on something. It also does not really account for how long something will take. The best an economist can do is try to give alternative approaches and talk about cost-effectiveness.

There is an ongoing study on the economics of buffelgrass control in Arizona. Its purpose is to determine how one deals with jurisdictional fragmentation and the weakest link public good problem.

Dr. Doering recently talked with the program directors of PREISM. PREISM issued grants in 2008, some of which will last up to four years. It will not issue grants this year because of budget constraints. It will, however, continue to hold its annual conference.

PRESENTATION: THE ARIZONA INVASIVE SPECIES ADVISORY COUNCIL

Tom McMahon, Arizona Department of Game and Fish

Tom McMahon of the Arizona Department of Game and Fish briefed ISAC on the Arizona State Invasive Species Management Plan, the Arizona Invasive Species Advisory Council (AISAC) and his department.

AISAC was established in 2005 with Executive Order 2005-09. On June 30, 2006, it issued a report, Arizona Invasive Species: Unwanted Plants and Animals. The report presented seven recommendations: adopt an invasive species definition; establish AISAC as a permanent body; establish an Arizona Center for Invasive Species; provide for outreach and education; establish an invasive species database and mapping system; strengthen invasive species early detection, rapid response (EDRR); and develop statewide a comprehensive invasive species management plan.

An executive order was issued in 2007 adopting a consensus definition, establishing AISAC as a permanent body and recommending the development of a comprehensive statewide invasive species management plan. AISAC's executive committee consists of two co-leads: the Director of the Department of Agriculture and the Director of the Department of Game and Fish. Other state agencies and universities are involved, as well as the Native American community, agricultural interests, the ranching industry, landscapers, the pet

industry, conservationists and others in the private sector. Federal agencies such as USFS and the Bureau of Land Management (BLM) also have a role.

The Arizona State Invasive Species Management Plan was primarily developed in a work group. The work group was broken down into several teams: leadership and coordination, research and information management, anticipation and outreach, control and management, and work group coordination. The last team is composed of the leaders of the first four.

The Arizona Game and Fish Department has Aquatic Invasive Species (AIS) Interdiction Legislation before the state legislature. The bill seems to have support, but it does not seem to have any funding.

The Arizona Center for Invasive Species exists on a website. AISAC is working with a database known as iMapInvasives.

AISAC tries to meet four times a year in various parts of the state. The most recent meeting has been postponed, as many members are in Phoenix trying to convince the state legislature not to cut funding. With the current budget situation, it is important to focus on attainable goals.

Arizona Game and Fish is participating in the Don't Move a Mussel campaign. This summer, it wants to hire interns to work at Lakes Powell and Mead as part of the project.

Mr. McMahon is working on an Arizona Aquatic Nuisance Species (ANS) Plan. He is hoping to get funding for the project.

AISAC has issued, with funding from Arizona Game and Fish, a list of the state's 10 most unwanted invasive species. The list includes the quagga mussel, northern crayfish, buffelgrass, yellow starthistle, New Zealand mudsnail, red bromegrass, red imported fire ants, silver carp, Asian tiger mosquito and giant salvinia. The goal of this project is to educate the public on invasive species.

NOMINATING COMMITTEE REPORT

Chair Zimmerman asked the Nominating Committee to present its report on the slate of candidates for ISAC offices. Jamie Reaser said there were two nominees for Chair: Ann Gibbs and Peter Alpert. Dr. Reaser was the default nominee for Vice Chair and Amy Frankmann was the default nominee for Secretary. There were three open slots for the Steering Committee. The standing members were Janet Clark, Celia Smith, Miles Falck and the two nominees for Chair. The winner of the Chair election would vacate his or her seat. The nominees for the open seats were Bob McMahon, Leslie Cahill, Kathy Metcalf and Otto Doering.

DISCUSSION: RECOMMENDATIONS OF THE BIOFUELS WHITE PAPER

The White Paper contained seven recommendations. Dr. DiTomaso counseled ISAC members to vote on the intent of the recommendations rather than their exact wording. The task team will issue two reports, a short one it hopes to have available by June, and a longer one it plans to have by the next ISAC meeting.

Recommendation 1: *review existing authorities, identify Federal authorities relevant to biofuels, determine their likely influence on biofuel invasiveness, i.e. prevention or facilitation, identify gaps and inconsistencies in authority within and among Federal departments.*

Lori Williams asked who would be performing this review. Otto Doering suggested that each agency could review its own situation. Dr. DiTomaso said the recommendation could be reworded to reflect that.

Dr. DiTomaso asked if he should call the vote. Chair Zimmerman said he didn't think a vote was necessary because ISAC was only working on the intent of the recommendations.

Recommendation 2: *use/promote species, including unique genotypes, that are not currently invasive and are unlikely to become invasive in the target region; choose plants with a low potential for escape, establishment and negative impact; where appropriate, implement mitigation strategies; minimize escape and other risks.*

Peter Alpert asked if it would be clearer just to say, "promote genotypes." Dr. DiTomaso said he had to keep species in there because of Arundo. Chris Dionigi asked what specifically was meant by "use/promote." Dr. DiTomaso answered that it primarily referred to commercial use, not research. Gordon Brown urged Dr. DiTomaso to think about how he would address this recommendation to agency heads.

Recommendation 3: *determine the most appropriate areas for cultivation, use research findings to identify the most appropriate sites for cultivation of biofuel crops within landscapes; support for biofuel research and demonstration projects should be linked to appropriate site selection.*

There were no comments on this recommendation.

Recommendation 4: *identify plant traits that contribute to or avoid invasiveness; incorporate desirable traits into biofuel varieties to minimize their potential for invasiveness; use information from plant research, agronomic models and risk analyses to guide breeding, genetic engineering and variety selection programs.*

There were no comments on this recommendation.

Recommendation 5: *prevent dispersal, develop dispersal mitigation protocols prior to cultivation of biofuel plants in each region of consideration.*

Dr. Dionigi felt this recommendation should specify whether it was aimed at Federal agencies or commercial interests and that much was contingent on whether the authority rested with Federal or state and local agencies. Dr. DiTomaso said that all recommendations would address the role of the Federal Government.

Recommendation 6: *develop early detection, rapid response plans and rapid response funds; in order to eliminate abandoned or unwanted populations of biofuel crops or to prevent the establishment and spread of escaped, invasive populations, implement EDRR plans that cover multiple years; a flexible fund source should be established to support EDRR efforts.*

Chair Zimmerman was unclear on whether invasive populations referred to invasive species populations. Dr. DiTomaso assured him that it did. Dr. Starling felt the recommendation should identify the fund source to be established. Mr. Brown said the phrase "to eliminate abandoned or unwanted populations" was a little odd

for a rapid response program. Susan Ellis added that something like "advance mitigation planning" was more appropriate than EDRR. Bob McMahon thought a separate recommendation could be necessary. Dr. DiTomaso responded that he and Dr. Reaser would work on such a recommendation.

Recommendation 7: *to establish effective cooperation and communication among stakeholders; identify and employ networks and communication forums through which the Federal agencies can work with state agencies, tribes, the private sector and other stakeholders to reduce the risk of biological invasion via biofuel pathways.*

Bob Wiltshire felt "encourage" would be more appropriate than "establish" because "effective cooperation" is partly contingent on those with which ISAC wants to cooperate. Drs. DiTomaso and Reaser argued that "encourage" was not strong enough language. Bob McMahon proposed eliminating the word "effective." Dr. Starling suggested adding "consultation." Chair Zimmerman reminded the Committee that this discussion was really meant to focus on intent, not exact wording.

Dr. Chilton observed that the purpose of the recommendation was not to enforce cooperation, but merely to ensure that an avenue for cooperation was in place. To that end, Dr. Doering suggested wording the recommendation "to establish effective cooperation and communication forums."

PRESENTATION: DECISIONS, DECISIONS: GRASS INVASIONS AND ALTERED WILDFIRE REGIMES IN AMERICAN DESERTS

Julio Betancourt, U.S. Geological Survey

Julio Betancourt of the United States Geological Survey believes that grass invasion is the most important thing happening in America's deserts, and it is happening fast. It is not just about managing invasive species themselves, but also managing altered wildfire regimes.

The most problematic species in American deserts include cheatgrass, red bromegrass and buffelgrass. Winter precipitation does not vary as much in the Great Basin as it does further south. Consequently, cheatgrass there tends to return rather quickly after wildfires, and is present almost every year. Further south, deserts can go several years without a wet winter, so winter annuals can fuel a fire and not return for some time.

Red bromegrass is spreading quickly. It is sensitive to winter precipitation levels, and is especially prevalent when winter precipitation comes early. Large quantities of it fuel relatively large wildfires.

Mr. Betancourt has found that decadal to multi-decadal variability in precipitation is actually modulating the progress of grass invasions. This presents an opportunity to anticipate wildfires and to better manage the spread of invasive species.

Buffelgrass is a perennial from Africa and southern Asia. Individuals can live for 20 years or more. It adapts well because it can store carbohydrates and survive grazing, drought and fire, and does not need fertilization to reproduce. Seeds are viable for up to four years. The species escapes readily. It burns at a temperature ranging from 1,400 to 1,800 degrees Fahrenheit, double the temperatures at which native species burn.

Recent warming trends are a cause for concern. Wildfires are expected to occur with greater frequency. Invasive grass species are expected to recover more quickly than the native populations. Barren, unoccupied ground in these deserts makes them vulnerable to the spread of invasive grasses. As fireproof desert converts to flammable grassland, the grass-fire cycle spirals with increasing rapidity. The challenge is to keep the cycle from spinning out of control.

Desert fires are changing fire climatology. Usually, El Nino brings relatively wet winters where relatively little burns. La Nina brings relatively dry winters where greater areas burn. Now, however, larger fires are occurring under El Nino as well.

These changes present a series of questions. Do we try to save the deserts or resign ourselves to the spread of combustible grasses? Which species do we control and what deserts do we save? Who makes this decision and with what consensus of authority? How do we overcome political obstacles and garner political will? How much will this cost and what are we willing to pay? How much will it cost if we do nothing? Who bears the cost and responsibility? What framework will we use to organize a response? How do we know if we're failing or succeeding? How long is our commitment? If we fail or do nothing, how do we adapt?

Mr. Betancourt prescribes the following steps: overcome the political obstacles. Have someone make the necessary decisions. Pick the right people to make the decisions. Engage the business community. Integrate across local, state and national jurisdictions. Set priorities. Have a plan. Have a framework. Have the right tools to make informed decisions. Have the right science right away. Be able to do multiple things at the same time. Have the necessary funds available. Buy as much time as possible.

ELECTION RESULTS

Election results were as follows:

OFFICERS	***STEERING COMMITTEE***
Ann Gibbs – Chair	Bob McMahon
Jamie Reaser – Vice Chair	Kathy Metcalf
Amy Frankmann – Secretary	Otto Doering

SUBCOMMITTEE REPORTS

Organizational Collaboration Subcommittee, Janet Clark Reporting

The Subcommittee has had two conference calls since the last ISAC meeting and has worked on some action items. It also has two recommendations: 1) ISAC recommends that NISC and CEQ revise and draft NEPA guidance and have it out for public comment by October 1, 2009; and 2) ISAC recommends that NISC member agencies annually provide in writing at the fall ISAC meeting their invasive species budgets for the preceding fiscal year in actual dollars and the budget for the current fiscal year, what was requested as well as enacted. The budgets will be divided into seven categories. ***Dr. Doering moved approval of***

Recommendation 2. Dave Starling seconded the motion. The motion passed unanimously. Ms. Clark moved approval of Recommendation 1. Bob Wiltshire seconded the motion. The motion passed unanimously. Ms. Clark reminded ISAC member that the Subcommittee will have another conference call this summer. Vice Chair Thompson pointed out that a recommendation from a standing subcommittee automatically carries a motion and a second.

Education and Outreach Subcommittee, Damon Waitt Reporting
The Subcommittee met by teleconference on April 16 and briefly in person on May 6. It did not have any recommendations to put forward but would be sure to have some at the next ISAC meeting. Dr. Waitt had a recommendation not arising from the Subcommittee, and presented it with the Chair's approval.

The recommendation: ISAC supports using botanic gardens and arboreta both domestic and abroad to establish a Sentinel Plant Network to facilitate early detection reporting and prevention of pests and pathogens. Dr. Waitt moved approval, and Bob McMahon seconded. Jeff Schardt asked if this was a recommendation or just a statement of support.

With Dr. Waitt's approval, Ms. Williams read the new recommendation: ISAC recommends that NISC support and facilitate the establishment of the Sentinel Plant Network to facilitate the early detection reporting and prevention of pests and pathogens. ***Bob McMahon asked if ISAC could recommend NISC fund the project. Ms. Williams thought that was already implied in the existing recommendation. The motion was approved unanimously with the aforementioned amendment (added as Recommendation #8).***

Prevention Subcommittee, Jamie Reaser Reporting
The Subcommittee has determined its mission to be: 1) information and networking amongst members; 2) opportunistically reviewing reports and documents and other materials relating to prevention issues; 3) responding to requests for input, specifically from NISC member agencies, within the context of prevention; and, 4) looking for proactive opportunities to create task teams that are product-oriented on issues that it feels are important to a large set of the Committee. A Joint Prevention Committee will be formed involving ISAC, NISC and ANSTF.

Research Subcommittee, Peter Alpert Reporting
The Subcommittee held a conference call in April. It has added two new members, Bob Nowierski from USDA and Mike Slimak from EPA. The Subcommittee is working on a series of recommendations. It has reworded its Recommendation 6 as follows: more research is needed on biological control using microbes. Microbial control is potentially a very powerful technique for the management of invasive species, including plants and insects, but has been little used, partly because of concerns over a possible rapid evolution of the control agents, and because of lack of quarantined facilities for research. Among other things, funding could help evaluate this risk and provide these facilities. Steven Jay Sanford seconded the motion. Nathan Stone and Dave Starling abstained. All other ISAC members voted in favor of the motion.

Control and Management Subcommittee, Jennifer Vollmer Reporting
This report included the Restoration Subcommittee. The Subcommittees reviewed items from the past ISAC meeting, including integrated pest management, a possible White Paper on restoration issues relating to climate change and the need for more aquatic biocontrols. It was determined that there was not enough information to issue a White Paper. Dr. Vollmer said she would go over the Subcommittee's recommendation to ISAC during her presentation later on.

OTHER RECOMMENDATIONS

Ann Gibbs presented ISAC with a recommendation recognizing the importance of the newly developed state liaison NISC staff position, and encouraging NISC to maintain this position through a full-time equivalent (FTE) detail or state exchange. Ms. Gibbs moved approval, and Bob McMahon seconded. The motion passed unanimously.

Jennifer Vollmer made the following recommendation: create a North American industrial classification code and a standard industrial classification code for invasive species management in non-landscape, non-agricultural areas to include aquatic, wild land, range land for control of invasive weeds, arthropods, etc. Additionally, add invasive species management to the GSA service. Lori Williams pointed out that GSA is not a member of NISC, and questioned how ISAC could make the recommendation work. ***Dr. Vollmer proposed making the recommendation through agencies like the DoD, USFS or the BLM. Chair Zimmerman called the vote. The motion passed unanimously.***

MEMBERS FORUM CONTINUED

Peter Alpert – University of Massachusetts: There is a recent trend in scientific journals of predicting invasiveness on the basis of species traits. This method is more successful now than before because of access to large data sets. Dr. Alpert thinks this will be useful for the management of invasive species.

Doug Tallamy – University of Delaware: On sabbatical from the University of Delaware for the past six months. He has been speaking on the importance of plants, stressing that not all plants are the same, and that they create the base of our food chain. Major restoration efforts are underway around the country.

Steve Sanford – New York State Dept. of Environmental Conservation: Involved with the creation of a fairly comprehensive invasive species management system in New York State. The process has slowed down due to budget concerns, but it is ongoing. The New York Department of Environmental Conservation has had to deal with a number of invasive species since the last ISAC meeting. Mr. Sanford views them as teaching tools to help test the new system.

Leslie Cahill – American Seed Trade Association (ASTA): ASTA has signed a memorandum of understanding with the USDA's NRCS. It recently held its seventh workshop at USDA, where about 25 seed companies attended. ASTA has been working on a position paper on biofuels and energy. It is also updating a paper it did about five years ago on local ecotypes and native seeds. ASTA's Invasive Species Committee has been quite active, and has an upcoming meeting in Scottsdale, Arizona.

Celia Smith – University of Hawaii: The Hawaii Division of Aquatic Resources has moved to adopt measures that would close fishing in an area of persistent algal blooms in an effort to passively increase the number of native herbivores. At the same time, Dr. Smith is involved with a project, funded by NOAA, identifying the source of nutrients that drive these blooms. The Division of Aquatic Resources has hired crews to run the supersucker, a sort of underwater vacuum cleaner.

Damon Waitt, University of Texas at Austin: Recently appointed as Chair of the National Association of

Exotic Pest Plant Councils (NAEPPC). The group is a coalition of 23 state organizations. It plans to do more advocacy on a national level. The Texas Invasive Pest and Plant Council (TIPPC) has applied for 501(c) status. It is planning a statewide invasive species conference in San Antonio in November. TIPPC and the Lady Bird Johnson Wildflower Center sponsor the Invaders of Texas program, which trains people to detect and report invasive species. There is a bill before the Texas Legislature which would require all nurseries with a storefront to post, in a conspicuous space, a notice on the dangers of invasive species.

PRESENTATION: QUAGGA/ZEBRA MUSSEL ACTION PLAN (QZAP)

Bob McMahon, Ph.D., University of Texas at Arlington
Susan Ellis, California Department of Fish and Game

Dr. McMahon and Ms. Ellis presented on an action item dealing with the Quagga/Zebra Mussel Action Plan (QZAP). Both mussels, especially the quagga mussel, have made significant inroads into the western U.S. Senator Dianne Feinstein recently wrote to DOI requesting an action plan responding to the problem. The request was received by ANSTF, which referred it to the Western Regional Panel on Aquatic Nuisance Species (WRP). The Panel's Executive Committee agreed to develop a plan, and formed a Steering Committee to guide the process. Funding for the plan was provided by the U.S. Fish and Wildlife Service (FWS).

The Steering Committee held a one-day meeting to discuss the plan. The meeting was open to all WRP members. The Committee worked hard to come up with perspectives and priorities. The plan is in draft form, and is under review. It will be presented to ANSTF on May 19, and will include high priority actions needed for prevention of new infestations; containment of existing ones; detection and monitoring; rapid response; control; outreach; and research.

PRESENTATION: THE IMPACT OF FINE FUEL INVASIVE GRASS: HOW IS THE PROBLEM BEING ADDRESSED?

Jennifer Vollmer, Ph.D., CPS Timberland

Dr. Vollmer began by saying that Matt Brooks of USGS has divided the process of grass invasion into phases: 1) plant species is not yet present in the region of interest, but propagules are poised to invade; 2) the invasive species is present but not causing significant ecological effects; 3) the invasive species has significant ecological effects other than affecting the fire regime; and, 4) the fire regime is altered, and an invasive plant-fire regime cycle is established.

Invasive plant-fire regime cycles can have adverse economic effects as well as ecological. Seven hundred thousand acres of Nevada's Hunting Area 6 burned between 1996 and 2001, reducing the Area's mule deer population from 35,000 to 9,000, devastating the hunting industry there.

It is necessary for landowners to work together to combat the problem. To educate these people, Dr. Vollmer and her colleagues have created a chart depicting the rate of fire spread. With over 85 percent cheatgrass cover, one would need to run a six-minute mile to escape a wildfire in 12 mph winds. However, if cheatgrass cover is less than 10 percent, with the same wind speed, one could run a 40-minute mile.

In recent years, fires are fewer in number but larger in size. From 1960 to 1999, there was only one year where fires consumed over seven million acres. In that year, it took 164,000 fires to consume that acreage. From 2000 to 2007, there were five years where fires consumed such an area. During those years, only 80,000 fires burned on average. Only nine percent of these fires are caused by timbers; 24 percent are mixed timber; non-timbers account for the remaining 67 percent. The BLM and the USFS are the agencies most involved in combating these fires.

Invasive grasses such as cheatgrass have increasingly been found at higher elevations. It was once believed they could not grow above 5,000 feet but they have been observed in Yellowstone National Park at around 7,000 feet. They have also been spotted in places with colder climates.

A number of fire control strategies are in place. Mowing grasses, grazing, aerial applications, chemical control methods, and fuel breaks, as well as fungus species like the black finger of death have been useful in controlling the spread of wildfires.

Recently, the governors of Idaho, Nevada, Utah and Wyoming have declared war on cheatgrass. They have developed common strategies for rehabilitating millions of acres. Utah has funding for habitat biologists focused on cheatgrass. Nevada has begun fire information and prevention programs. Idaho has emergency wildfire reporting and state research. The Federal Government has launched the Healthy Lands Initiative (formerly Healthy Forests) and the Great Basin Restoration Initiative. The BLM has updated its environmental impact statement (EIS). Fire departments have revised their prescribed burn bans.

Some issues remain. Many areas have been unable to secure funds necessary to perform aerial applications on cheatgrass. Some fire managers have been unwilling to include herbicides in fuel treatment. Far less is being spent on fire prevention activities than on fire suppression.

The goal going forward is to create a greater sense of urgency. Questions include: are the current activities effective? Is enough being done? What proactive measures are being taken? Who is participating?

SCHEDULING OF FALL 2009 AND SPRING 2010 MEETINGS

Lori Williams proposed four possible weeks for the Fall 2009 meeting, the first, second and third weeks of November and the first week of December. Peg Brady reminded ISAC that ANSTF is also looking at the first week of November, which coincides with Election Day. Veterans Day falls the week after. Otto Doering, Janet Clark, Jeff DiTomaso and Jamie Reaser were unavailable the first week of November. Damon Waitt couldn't make the second week of November. Bob McMahon liked the third week of November. Nobody seemed to have a problem with this week, so it was tentatively adopted with the first week of December as a fall-back. Four ISAC members were absent, so the date would not be decided until later.

Kelsey Brantley proposed discussing date and location for the Spring 2010 meeting. John Peter Thompson suggested the Midwest or New England. Tim Carlson proposed San Diego. Bruce Lewke reminded the Committee that Portland, Oregon has offered to host them many times. Peter Alpert suggested the San Francisco Bay Area. Chair Zimmerman called for a show of hands. The consensus seemed to settle on San Francisco. The date would be determined at a later time.

REVIEW OF DAY 2

Secretary Amy Frankmann gave a recap of the recommendations approved on Day 2. ISAC decided to move forward on Recommendations 1, 6 and 7 from the Research Subcommittee; two recommendations from the Organizational Collaboration Subcommittee; one from the Control and Management Subcommittee; one from Damon Waitt; and one from Ann Gibbs.

PUBLIC COMMENT

No one from the public offered to make a comment. Kelsey Brantley, the ISAC coordinator, said she has enjoyed working with everyone, and will miss those who are leaving, including Chair Zimmerman, Vice Chair Thompson, Jeff Schardt, Chris Fisher and Tim Carlson.

ADJOURNMENT

The meeting adjourned at 4:48 p.m.