

NATIONAL INVASIVE SPECIES COUNCIL

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INVASIVE SPECIES ADVISORY COMMITTEE

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MEETING

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THURSDAY
APRIL 27, 2006

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SUMMARY

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The Committee met in the Washington Ballroom at the Radisson Old Town Alexandria Hotel, 901 N. Fairfax Street, Alexandria, VA, at 8:00 a.m., Ron Lukens, Chair, presiding.

PRESENT:

SHIPPEN BRIGHT	Maine Lakes Conservancy Institute
K. GEORGE BECK	Colorado State University
GARY M. BEIL	Minnesota Crop Improvement Association
DAVID BRUNNER	National Fish and Wildlife Foundation
ALLEGRA A. CANGELOSI	Northeast Midwest Institute
TIMOTHY J. CARLSON	Tamarisk Coalition
DIANE COOPER	Taylor Shellfish Farms
JOSEPH CORN	University of Georgia
LUCIUS G. ELDREDGE	Pacific Science Association
JEROME A. JACKSON	Florida Gulf Coast University
NELROY E. JACKSON	Monsanto Company
MARILYN B. LELAND	Prince William Sound Regional Citizens' Advisory Council
RONALD LUKENS	Gulf States Marine Fisheries Commission
KATHY J. METCALF	Chamber of Shipping of America
N. MARSHALL MEYERS	Pet Industry Joint Advisory Council
JOHN RANDALL	The Nature Conservancy
SARAH REICHARD	Center for Urban Horticulture
JEFFREY D. SCHARDT	Florida Department of Environmental Protection
JEFFREY STONE	Oregon State University

JOHN PETER THOMPSON
KEN ZIMMERMAN

The Behnke Nurseries Company
Lone Tree Cattle Company

STAFF PRESENT:

PHIL ANDREOZZI
KELSEY BRANTLEY
GORDON BROWN
HILDA DIAZ-SOLTERO
CHRISTOPHER DIONIGI
RICHARD ORR
DEAN WILKINSON
LORI WILLIAMS

Program Assistant
Program Analyst
DOI Policy Liaison
USDA Policy Liaison
Assistant Director, (Domestic Secretary)
Assistant Director, (International)
DOC Policy Liaison
Executive Director

SPEAKERS:

MIKE SLIMAK, U.S. Environmental Protection Agency
BRUCE LEWKE, U.S. Department of Homeland Security
HEATHER ST. PIERRE, U.S. Coast Guard
PENNY KREISCH, U.S. Department of Agriculture
ANNIE SIMPSON, U.S. Geological Survey
JIM TATE, U.S. Department of the Interior
MELISSA PEARSON, U.S. Department of Commerce

WELCOME/MEMBER INTRODUCTIONS, OVERVIEW OF MEETING AGENDA: RON LUKENS, ISAC CHAIR

Chair Lukens called the meeting to order at 8:10. The Committee and staff members introduced themselves. There were no comments on the agenda.

FIVE-YEAR REVIEW OF EXECUTIVE ORDER 13112: CHRIS DIONIGI

Chris Dionigi explained that the five-year review of the Executive Order outlines each of its major aspects. It also provides details on the working of the Council, and includes a compilation of the essential references that everyone cites on invasive species. The five-year review of the Executive Order was put together with input from all of the Council members.

NISC STAFF REPORT: LORI WILLIAMS, NISC EXECUTIVE DIRECTOR

Ms. Williams began by thanking Ron Lukens, George Beck, and John Peter Thompson for serving as ISAC's new officers. She reported that they continue to face very tight budgets in Washington. This is of great concern to the departments, and means they are looking for opportunities to coordinate and leverage their activities more than ever. Many of the departments are also very involved in hurricane clean up activities, which is taking up a significant amount of time, energy, and resources on the part of the agencies. Coordination efforts on Avian Influenza have occurred at the highest levels. Member departments are also spending significant time and resources in this area. There has been a lot of activity on Capitol Hill, particularly on the aquatic side of invasive species. However, they have been very preoccupied with other issues, such as immigration. Despite these distractions, they continue to move forward.

Secretary Norton announced her resignation several months ago, and President Bush has nominated Governor Kempthorne to replace her. This is significant to ISAC because Governor Kempthorne was one ISAC's original members, as well as a former Senator and former Governor of Idaho, a state which is very active in terms of invasive species issues. Claudia McMurray was recently sworn in as Assistant Secretary of State for Oceans, Environment and Science, which is a critical position for the Council. Ms. Williams has been working with Ms. McMurray and Richard Orr with regard to the SPP (Security and Prosperity Partnership). Although she has a lot on her plate, Ms. McMurray is very supportive of the Council and its efforts. There have been many changes. However, as the Council becomes more established, new people coming in are more likely to be familiar with the Council.

With regard to Five Year Executive Order Review, Ms. Williams recommended that this document be shared with anyone who is curious about or interested in the Council. Ms. Williams said that there was no separate agenda item on the cross-cut budget, since there have not been major changes to the cross-cut. However, it has been renamed the Invasive Species Interagency Performance Budget. There are no significant new initiatives for fiscal year 2007. This year, they will be getting the figures earlier, which will allow them to get the summary done earlier. They have begun the fiscal year '08 performance budget process and are looking to conduct their first geographical or regional initiative. The Department of the Interior first took an interest in this

and is looking to focus on high value ecosystems in areas which also have high threats from invasive species. As a part of this initiative, the Council will be taking on South Florida, a primary part of which is the Everglades. As they do this, they will be working very closely with the state through the existing South Florida Everglades Task Force. This project will help them to look at some of the gaps in dealing with problematic invasive species.

Ms. Williams commended Chris Dionigi and Tim Carlson on the significant progress that has been made on the economic analysis of tamarisk and tamarisk control options. They hope to have the full report on this by the next ISAC meeting, if not before then. Other agencies have ongoing efforts in this area, including economic analysis of invasive species impacts. They are also analyzing their options and hope to show Congress that the money put into invasive species efforts is well spent. They have also been trying to improve responses to large invasive reptiles in Florida, including the monitor lizard, and the Burmese python. They also hope to establish terrestrial vertebrate rapid response teams on either an interagency basis, or within the Department of the Interior.

With regard to the revision of the management plan, Ms. Williams said that it was difficult to get input from all levels of their 13 departments, but that this process was moving forward. The steering committee has met three times and has received input from a number of subcommittees, which have completed their first round of recommendations. These recommendations have been incorporated into a rough draft outline, and they are hoping to revise into a new draft within the next two weeks. The subcommittees that have not yet turned in recommendations will do so soon. If they continue to proceed at this pace, they will be on track to get a draft out by the end of the summer. It will be helpful to provide an outline of the plan structure and the strategic goals to the committees, particularly the supporting role committees, since there will be 4-5 major strategic goals. It will also be helpful to the supporting committees to have a skeletal version of the plan.

Ms. Williams then highlighted some of the challenges to making progress on the revision. They will be including performance elements in the revision, which is a challenge considering that they do not know the exact resources that may be devoted to these elements in future fiscal years. Knowing how much detail to include is also a challenge; they want to include enough detail to be clear on what they want to accomplish; but not so much detail that they are not providing the flexibility needed to move forward. These are some of the issues on which they will focus and seek input. It is their goal to have a working outline within the next two weeks, an initial draft in early June/July to share internally, and a draft on which to receive public input by the next ISAC meeting in September.

Ms. Williams said that significant progress continues to be made by the states not only in establishing state councils and other coordinating mechanisms, but also in engaging in activities, even with limited resources. With regard to this, NISC tries to provide informal technical assistance to the state councils. However, they would like to continue to find better ways to support these efforts on the part of the states, perhaps by including some of these elements in the management plan. NISC also continues its efforts to engage some of the non co-chair member departments, such as the DHS and the EPA. Ms. Williams concluded by encouraging the Committee members to provide input to NISC on how they can do their work better.

Richard Orr gave a report on advances with regard to international issues. First of all, at the Convention of Biological Diversity, which took place in Brazil from March 20th through the 31st, the United States supported approval of the “gaps paper”, which attempts to identify the gaps and inconsistencies in international coverage on invasive species. The document is still in draft form. However, the CBD is making good progress on getting this paper approved. There was also good cooperation on the Conventions paper on the part of the CBD with the IPPC, the OIE, and the IMO, in making sure that there was no redundancy of actions. Overall, the CBD meeting was a success, even though they are still grappling with procedures issues which will not be taken care of until the next Convention of the Parties.

The North American Plant Protection Organization (NAPPO) formed an invasive species council about a year ago. The Council met in February in Canada, and will meet again in Colorado during August 2006. They have received approval to move towards a regional standard for North America on the screening of plant introductions for invasiveness. The White Paper for this is currently being put together; and the draft is due at the end of the month. NAPPO is also writing a paper on pathway analysis which will strive for a more North American approach, rather than just a United States approach. Finally, a white paper is being put together on the scope of coverage of invasive species under the International Plant Protection Convention. The things that are taking place under NAPPO and the CEC are being melded into the Security and Prosperity Partnership for North America.

Under the CEC, which is the environmental arm of NAFTA, NISC has received 800,000 dollars to begin evaluating the risk assessment process that was agreed upon and put together by the three countries; and to test two types of fish – the armored catfish and the snakehead – on a tri-country basis. They will also evaluate the pathway of fresh water fish in the aquarium trade. This is going very well, and the drafts for the snakeheads and the armored catfish are coming together. They hope to have a solid draft ready by the end of June, which is when the next big meeting of the CEC will take place in Washington, D.C. Discussion of invasive species will be a primary component of this meeting. Kathy Metcalf said that the IMO has been moving forward on a number of guidelines for the Ballast Water Treaty, most of which have already been completed. They hope that the treaty will enter into effect some time in the next century.

Marshall Meyers asked Ms. Williams if the draft of the Revised Management Plan would be submitted to ISAC to receive their advice as an advisory committee. Ms. Williams replied that the draft would have to clear OMB before it could be submitted for public comment. However, they will be able to share some of the elements of the plan to the subcommittees that report through ISAC, which will allow people to opportunity to provide useful comments on the draft. Mr. Meyers said that it would be helpful for ISAC to be given the opportunity to play a more significant role in advising on the next revision. Ms. Diaz-Soltero reminded ISAC that they have been an integral part of this process, since, in February of last year, they held small group meetings of the subcommittees in which they discussed the status of each of the action items in the management plan. They then went through a process by which they gathered ISAC’s input on which of these action items should be included in the three year revision. Thus, ISAC has been given a great deal of opportunity for input. Mr. Orr reminded Mr. Meyers that the basis for the Management Plan was the product of the Prevention and the International Subcommittees. Mr. Meyers replied that ISAC as a whole had not had an opportunity to put in a collective set of recommendations, and suggested that they be given this opportunity in the future. Ms. Williams added that, in sharing the strategic goals, she had been seeking this sort of collective input on the

overall structure of the goals. In the future, she will make this point clearer. Also, many changes were made to the last Management Plan during the public comment process, part of which took place at an ISAC meeting. Mr. Meyers clarified that his suggestion was that a more formal structure for receiving input from ISAC be put in place in the future. Mr. Nelroy Jackson supported Mr. Meyers' comment by saying that the long-term members of ISAC feel that they have less input in the revision process than they did in writing the original management plan. Thus, in making the next revision, he suggested that fuller use be made of the resources of ISAC. **Mr. Thompson noted that Mr. Meyers and Mr. Nelroy Jackson had made a recommendation that ISAC be more fully involved in the next revision of the management plan.**

APPROVAL OF MINUTES FROM OCTOBER 2005 MEETING

No recommendations were made for revisions or corrections to the minutes. Mr. Zimmerman said that he found the structure of the minutes useful. Mr. Lukens concurred. **Mr. Beil moved to approve the minutes, Mr. Eldredge seconded, and the minutes were adopted without objection.**

NISC MEMBER DEPARTMENT REPORTS: NISC MEMBER AGENCY REPS

EPA: MIKE SLIMAK

Mr. Slimak began by introducing Anthony Moore, with EPA's Office of Water, which is the office within EPA that is most active in the area of invasive species. EPA is a pollution control and abatement agency, with 20,000 employees and a budget of seven and a half billion dollars. The EPA has ten regional offices across the country; and is organized by major program offices. In terms of invasive species, the EPA takes pride in what it has accomplished with the few resources it has. They have formed an interagency working group called NISWG, or the Non-Indigenous Species Working Group. This group meets at least once a month to discuss invasive species across the entire agency. Their main purpose is to share information and provide technical assistance. The group has been heavily involved in the review of the Bureau of Reclamation's Red River Valley water needs, as well as in free trade agreement issues. They have reviewed many documents that have been prepared by the Convention on Biological Diversity.

At the Office of Research and Development, a monitoring scheme has been developed for invasives which is a component of a research program called E-MAP. In particular, they are looking at soft bottom benthic communities and west coast estuaries as indicators of invasion through the use of probabilistic sampling techniques. They are also engaged in a four year study in the Great Lakes, particularly in those embayments and harbors most at risk for invasion by aquatic species through ballast water. They are into their third year on this project and hope to soon have results to share with the Committee. They are also working on models that predict invasibility, such as GARP, or the General Algorithm for Rule Set Prediction, and are trying to better understand propagule pressure as a driver for invasion. They are also employing new genomic techniques – particularly rapid assessment – using DNA to identify invading species. They have a large program on climate change and invasive species; and will soon be issuing requests for proposals for research in this area. They used to have a technology verification program for ballast water treatment systems whereby a vendor could come to EPA and obtain

verification that their treatment claims are real. Unfortunately, this is no longer funded. In conjunction with other offices within the EPA, The Office of Water has just participated in a workshop on the economic impacts of aquatic invasive species. They are also considering doing a similar economic study on the effects of the green crab on the west coast of the United States.

The ballast water lawsuit in the northern district of California addresses whether or not the decision that was made 20 years ago to not require a discharge permit for ballast water discharges was the right decision. Briefs were filed on both sides, and the hearing was held last November. As of the March 27th, the court had not issued a final order of judgement. Once a final order is issued, the EPA will have 60 days to appeal, if the judgement is in favor of the plaintiff. EPA considers this matter to be a serious issue. A decision to regulate ballast water by requiring vessels to obtain discharge permits would require a great deal of work on their part. The Office of Water has been working very closely with the Coast Guard to develop discharge standards. Many of the European countries do not want biocides to be discharged. Under the Clean Water Act, the Agency sets effluent guidelines for primary pollutants. In aquaculture, however, there is the potential for the release of non-native propagules. The Agency is trying to work this issue into an effluent guideline. This is an open process.

In terms of pesticide programs, EPA is back in court. The Talent Decision deals with whether or not someone who uses a pesticide which ends up in water is required to have a discharge permit under the Clean Water Act. The EPA believes that, as long as one is following the instructions on the label of the pesticide, one should not be required to have a discharge permit. The Talent Decision said otherwise. Mr. Slimak is not aware of any action taking place on the Hill to amend the Clean Water Act to deal with these issues. Ms. Metcalf said that a similar kind of text might be used for the ballast water permitting program. She said she thought she saw some text, perhaps introduced by Senator Inhofe (R-OK), which removed this issue from the Clean Water Act. Mr. Slimak replied that he was not aware of this, but would try to get an update on it.

EPA's Chicago Regional Office has been heavily involved in what is known as the electrical barrier to control the movement of fish, particularly Asian Carp, through the Chicago Sanitary and Shipping Canal. This is a demonstration project. The permanent barrier will have two components: one upstream and one downstream. The plan is to have the demonstration completely operational in May. It will then take several years to build the permanent barrier.

In summary, Mr. Slimak said that the EPA does not so much control invasive species as help others control invasive species. Thus, EPA does more for invasive species than is reported in their budget submission, since it is difficult to capture everything that they do to help other organizations with invasive species.

Mr. Orr applauded EPA for taking the federal lead on risk analysis. Chris Dionigi asked about the status of the STAR program. Mr. Slimak replied that EPA had issued 6 million dollars in research grants, all of which are now completed. Mr. Slimak is now trying to convince the grants program to issue another RFP for invasive species. Mr. Schardt asked if language about not using invasive species for restoration projects had been put into a policy statement. Mr. Slimak replied that, when a responsible party decides to clean up, a record is made of this decision, which in some cases states, in a somewhat binding way, that the responsible party is not to use non-native species for restoration. However, he did not have a complete answer to the question.

CUSTOMS AND BORDER PROTECTION: BRUCE LEWKE

Bruce Lewke reported that in March of 2003, all inspection functions at and between the U.S. ports of entry were merged into one agency, the U.S. Customs and Border Protection under the Department of Homeland Security. The two (2) main agencies that became CBP were the U.S. Immigration Service, and the U.S. Custom Service. The CBP has also taken on the inspection functions under the Department of Agriculture. Former Agriculture inspectors have retained their inspection, enforcement, and regulatory functions. In terms of invasive species, the activities of these inspectors date back to 1912.

The CBP's mission is to steadfastly enforce the laws of the United States while fostering the nation's economic security through lawful international trade and travel, which involves the inspection of passengers, their means of conveyance, and the cargo brought in by these means of conveyance, all of which are possible pathways for invasive species. For example, packaging materials are an invasive species pathway, since they are frequently made of low value wood. These inspections are made at air ports of entry, sea ports of entry, and land border ports of entry.

The CBP is now engaged in a new activity for preventing the introduction of invasive species through the establishment of Pest Risk Committees at all ports of entry. These committees are comprised of CBP management, including CBP agriculture specialists, botanists, entomologists and pathologists from USDA, representatives of Veterinary Services, USDA state plant health directors, and representatives of the Food Safety Inspection Service, among others. The purpose of these committees is to discuss pathways; and evaluate cargo to determine which companies or types of cargo need to be targeted. This information is then distributed to other ports so that they can conduct the same screening processes, which prevents port shopping. The committees have been in place for about a year and have run many special operations targeting certain commodities.

In conclusion, Mr. Lewke said that, although CBP's primary mission is to prevent the introduction of drugs and weapons of mass destruction, the traditional role of agriculture specialists remains the same. In fact, the regular, front line CBP officers are also being cross-trained to know what to look for in terms of agricultural issues. Ms. Metcalf commented on CBP's involvement in the Asian gypsy moth problem. Mr. Lewke replied that CBP maintains a registry of ships that have come from ports where Asian gypsy moths are a problem.

Ms. Reichard asked about the report done for USDA in the late 90s called *Safeguarding America's Plant Resources*. She said that ISAC hadn't received any reports on the implementation of this in several years, and asked if the report was still valid, and if they were still following through on the recommendations. Mr. Lewke said that he would ask the executive director of his staff about this matter and get back to her. Ms. Diaz-Soltero replied that the report had been adopted, and that APHIS is moving ahead in implementing it. She also said that she would try to get copies of the implementation reports. Ms. Reichard asked Ms. Diaz-Soltero to also check to see if any functions were transferred to DHS, and if so, if they are also following through on these functions.

Mr. Stone asked Mr. Lewke how broadly he interprets his mandate to protect other types of natural resources besides agricultural ones, such as forest trees. Mr. Lewke replied that the wood packing material rules are geared towards this issue, since the pests that come in on the materials are forest pests. Mr. Jerry Jackson added that certain invasive species upset ecosystem processes in the United States that have nothing to do with agricultural or forest products, such as spiny tailed iguanas. Mr. Lewke replied that not very many things like this are encountered during the normal course of inspection. However, if an inspector does not know what something is, he is instructed to hold it.

Mr. Orr said that the current progress on each action item in the Safeguarding report is posted on their website. A progress report on this is also due out in the summer. NAPPO is working on a White Paper to determine the extent to which APHIS and DHS can deal with invasive species issues. Mr. Lewke said that the roles of USDA and CBP in dealing with invasive species are very closely intertwined. Essentially, USDA sets the policy then coordinates with CBP to see how to implement this policy on an operational basis. The Memorandum of Understanding is currently undergoing review to clarify the delineation of responsibilities between the two agencies.

COAST GUARD: HEATHER ST. PIERRE

Lieutenant Heather St. Pierre, from the Environmental Standards Division of the U.S. Coast Guard, reported that one of their division's responsibilities is to manage the Coast Guard's ballast water management program, which is part of their aquatic nuisance species program.

On the international front, the IMO's Marine Environment Protection Committee has continued its development and review of The Ballast Water Management Convention of 2004; and has developed 14 sets of guidelines, six of which have already been approved. The Coast Guard also participated in the IMO's Subcommittee on Bulk Liquids and Gases, which discussed a number of additional ballast water guidelines at its 10th Session, including ballast water sampling, risk assessment under regulation A-4, ballast water exchange design, sediment control on ships, and designation of areas for ballast water exchange. They also discussed the text on port state control procedures forwarded to the 14th session of the Subcommittee on Flag State Implementation. It is expected that three more guidelines will be approved at the next session of the Marine Environment Protection Committee, which will be held in October. In order for the Ballast Water Management Convention to be entered into force, 30 states must be signatory to it, and 35 percent of the world's shipping tonnage must be represented by it. This will take a while.

Domestically, vessels declaring no ballast on board are a major issue in the Great Lakes. This is an issue because these vessels may still carry residual sediments and waters from their previous ports of call. These residual sediments can then mix with the new ballast water that they take on, which can then be discharged into the Great Lakes. Best management practices on this matter will therefore be published in August of 2005. In general, they encourage vessels entering the Great Lakes to conduct a mid-ocean exchange. If this is not possible, they should conduct a salt water flushing. The reason this is a policy rather than a regulation is because 99.5 percent of ballast water coming into the Great Lakes is already controlled through ballast water exchange. Also, they are not yet sure if this is the best way to manage these vessels. Thus, they are in the process of monitoring the effects of this policy. In January, they published the environmental assessment of the policy, which was a finding of no significant impact.

For their mandatory reporting program, the Coast Guard established the National Ballast Information Clearinghouse, which requires all commercial vessels to report their ballast operations, including vessels declaring no ballast on board. This allows the Coast Guard to monitor compliance. Another part of their regulatory program will give vessels coming into the United States a third option for ballast water treatment besides retaining ballast on board or conducting a mid-ocean exchange. The third option will be to enter one of their experimental programs, which will help them to develop a ballast water discharge standard. In terms of developing this standard, the Coast Guard is already doing environmental and regulatory analyses, as well as working on a draft programmatic environmental impact statement. This is now up for interagency review; and should be published within the next six months, at which point a meeting will be held for public comment on the document.

In terms of discharge standards, they are looking to cross the zone of multiple agencies. Under NANPCA, the Coast Guard regulates the number of discharged organisms, as well as hazardous material stored on ships. The EPA, however, regulates FIFRA. Therefore, the Coast Guard is working with the EPA on their approval process as well. In terms of compliance, the overall rate of compliance with the mandatory policy was 97 percent in 2005. The majority of deficiencies were the result of people not having a ballast water management plan on board, or not keeping records of their ballast water.

In terms of technical developments, the Coast Guard is still working on its Ballast Exchange Assurance Meter, which tests to see who has done a full ballast water exchange. The Ballast Water Technology Facility is operational. Candidate ballast water treatment technology has been selected to validate the EPA's environmental technology verification protocols. This should be up and running by the summer. Through the Shipboard Technology Evaluation Program, it is possible to receive Coast Guard approval for alternatives to ballast water exchange. The purpose of the program is to encourage the development and use of ballast water treatment technologies. The STEP documents have recently been revised, and are available on the Coast Guard's website. A public meeting was held in March to assist technology developers in this application process. Two applications have been received so far.

In the future, the Coast Guard will continue to coordinate with other stakeholders to develop and implement ANS prevention and control strategies. They will also continue their research collaboration with the Research and Development Center and international partners. They will continue to monitor ANS legislation, and will begin to address issues of surface fouling.

Mr. Eldredge said that he is glad they are looking at fouling, since 80 percent of the marine invertebrates that have arrived in Hawaii have come in on fouling. Ms. Cangelosi asked how long it would take to evaluate the NOBOB policy, and if there will be an action to make this national in scope. Ms. St. Pierre replied that she did not have an answer to either question. Ms. Cangelosi said that she had heard feedback that the information requirements for the STEP program are onerous; and asked if any effort was being made to render these requirements less burdensome. Ms. St. Pierre replied that the requirements are stringent because they don't want to temporarily approve technologies that are not fit to be part of the Ballast Water Standards.

In terms of legislation, Ms. Metcalf said that the movement of the Comprehensive Bill and the stand alone Ballast Water Bill is being held up by several Senators who want to use the Ballast Water bill as a bargaining tool for rewriting the Endangered Species Act.

USDA: HILDA DIAZ-SOLTERO

Ms. Diaz-Soltero reported on the progress that USDA is making on ISAC's recommendations. In terms of public awareness, USDA feels that the funding of a quarter of a million dollars that they gave the NISC Director of Public Affairs was well spent. Ms. Diaz-Soltero then presented the Committee with the FY '05 Agricultural Research Service's "Do No Harm Report". This report outlines the progress that USDA has made on invasive species issues, as well as on other environmental issues that do not have anything to do with invasive species. Ms. Diaz-Soltero also presented the Committee with a report on all of the 2006 USDA grants. This document contains the legislative mandate, the names of contact people, an explanation of the program, and a list of deadlines.

Ms. Diaz-Soltero next reported that the issue concerning the importation of organisms, including biological control agents, for research, evaluation, and possible release has been completely resolved. An enclosed letter dated February 9th details the actions taken by APHIS, which resolved the issue by undergoing an internal management review of the program. In response to the ISAC recommendation that appropriate resources be provided to the two websites, USDA has allocated \$169,000 to the National Agricultural Library's (NAL) website. They have also put an additional half a million dollars into this website, and have received a quarter of a million dollars of additional support from other agencies. The website is a high priority for NAL. However, they have suffered significant staff reductions, and their continued level of support of this effort will depend on future budgets. USDA's proposal for a 2006 budget increase of \$800,000 for the NAL website was not accepted.

In October of 2004 and 2005, ISAC submitted framework funding for early detection/rapid response of new invasive species to all of the departments, along with a follow up memorandum on its last meeting. Regarding this issue, USDA responds that APHIS has received an increasing level of appropriations for early detection activities over the last four years. However, the Secretary has authority to fund emergency operations for the arrest and eradication of species using resources from any Department of Agriculture agency. This is both a blessing and a curse, since, although this resolves emergency situations, the agencies resent having resources taken away from them. Thus, USDA has the CCC fund set aside specifically for handling emergency EDRR situations, which minimizes the amount of resources taken out of other accounts. Other NISC departments might wish to consider having similar options available for the funding of EDRR efforts. Ms. Diaz-Soltero concluded by saying that USDA will participate actively in the NISC three-year plan revision.

Mr. Meyers commented that a new, computerized permit process will be used for interstate movement in the pet industry. Mr. Thompson asked, with regard to Item 15, if USDA is concentrating on its systematics programs, and if this means that there will be either flat budgeting or budget increases. Ms. Diaz-Soltero replied that Item 15 is a recommendation from ISAC to try to get priority research from three federal committees. As a courtesy, Ms. Diaz-Soltero shared this with ITAP, the committee with which she works most closely. USDA is engaged in a multi-step process to try to increase the capacity in systematics in all of the federal government. There is a crisis in ARS for the FY '07, and this is not just in systematics. In response to this, the Systematics Committee has been working for a year on finalizing the input from some members; and will put out a paper laying out the crisis in systematics in the Federal

Government. The Committee will also send out a survey to all Federal agencies assessing what they have, and what they need in terms of systematics. This will be a ten year program to increase their capabilities in taxonomies, collections, and preparedness for emergencies. Using the information from this survey, they will prepare a program for the enhancement of all the federal agency's systematics programs. This will then be given to the different agencies to assist them in building their capabilities. Next, they will begin working with universities that provide training for systematists to enhance opportunities in the federal government, as well as the capabilities of the universities. Finally, they will assess the systematics capabilities of other countries; and determine how they can form a global network in which what is happening in the federal government can better leverage what is happening internationally.

Mr. Beck asked if the National Research Initiative program had grown relative to the amount of money allocated, or if there was a plan to enlarge this program in the future. Ms. Diaz-Soltero replied that the program will receive a \$130 million increase for FY '07.

DEPARTMENT OF INTERIOR: GORDON BROWN

Mr. Brown began by saying that he would like to establish a schedule for reporting to ISAC in the fall, since the DOI would like to make its data calls to its bureaus at this time of the year. He then said that the Committee members had been provided with copies of the Section 2 reports under the Executive Order 13112, which is an abbreviated listing of each of the bureau's activities relating to invasive species. In creating this document, they used the layout of the original management plan to make sure that all of the thematic areas would receive some coverage. If anyone would like additional information, they should e-mail him at A_Gordon_Brown@ios.doi.gov.

Mr. Brown concluded by saying that they hope that the Section 2 reports will help them to give expression to the oversight policy, and that he did not see any action recommendations from last fall's meeting that directly pertained to the Department of Interior.

Mr. Zimmerman asked if there was still a plan in place to establish a National Center for Invasive Species Management. Mr. Lukens replied that the issue had been tabled indefinitely at the last meeting. However, a group of scientists have put together a white paper which strongly recommends the development of such a center.

Mr. Dickerson thanked the committee for giving him the opportunity to work with them, since he believes that ISAC can make the world a better place. He is now working for PPQ, and hopes to make a difference through this organization, as well.

PRESENTATION/DISCUSSION: PATHWAYS SUBCOMMITTEE REPORT: PENNY KREISCH, USDA/APHIS, AND RICHARD ORR, NISC

Mr. Orr began by directing the Committee's attention to two informational documents included under Tab 3 of the meeting binder: the current Prevention Committee membership lists, and the new APHIS white paper for addressing the risks on the importation of plants.

Mr. Orr then said that the Pathways Ranking Guide must be approved by both ISAC and the ANSTF before the Pathways Working Group can move forward to refining the pathway process. He then said that, although the first page of the document refers to the National Invasive Species Council's Pathways Working Team, this will be changed to include ANSTF, since ANSTF provided 50 percent of the input. Mr. Orr then turned the floor over to Ms. Kreisch to present the Pathways Ranking Guide. Ms. Kreisch said that work on the pathway guide had begun several years ago, and that the process is constantly evolving. The underlying challenge of the project is to blend solid science with social policy decision making.

In Phase One of the project, they posted an initial report which was approved by ISAC. Then there was a conference held in June for the purpose of receiving additional input on this report. Many comments were received; and it was discovered that the document needed a significant amount of restructuring. With regard to the assessment process, it was recommended that a tool be completed by experts on an individual basis, and then refined through focus group procedures. With regard to the assessment tool, it was recommended that numerous changes be made to the tool to ensure credibility, validity and reliability. It was also suggested that amendments be made to the diagrams, that the pathways be stratified, and that a scale of severity be created. In addition, they must also account for uncertainty. It is a challenge to give the appropriate weight to both qualitative expertise and quantitative analysis. In terms of quantitative analysis, there are a number of databases available, but not one which is agreed upon for these assessments. At this stage, the pathways analysis must rely more on qualitative expertise. They will look for more quantitative support in the next phase. There is also scientific and situational uncertainty. Therefore, when they are trying to define and prioritize these pathways, they must address the uncertainty issues to give a better framework for decision makers allocating resources. The guide breaks up pathway analysis into four stages: (1) pathway triage, (2) pathway scope, characteristics and risk analysis, (3) invasiveness scale, and (4) situational modifiers.

In terms of Stage One, disaster preparedness and EDRR concepts were used in developing the initial triage. The purpose of the triage process is to determine the threat level of a given pathway. A pathway of Threat Level "A" currently transmits an invasive species that poses a direct threat to human health. A pathway of Threat Level "B" currently transmits an invasive species that poses a direct threat to economic systems. A pathway of Threat Level "C" currently transmits an invasive species that poses a direct threat to ecological climates.

Stage Two deals with analyzing individual pathways based on their priority as defined by the agency. There are four steps to Stage Two: (1) pathway definition, (2) pathway scope, (3) pathway risk level, and (4) pathway risk score. These steps are to be completed independently by experts from individual agencies. The results of evaluations conducted by different agencies can then be compared. In terms of pathway scope, there are six levels: single event, interstate, regional, multiregional, national, and international. The risk analysis step will blend expert opinions, experience and knowledge with quantitative data. A set of 16 questions will be used to develop a consensus score.

In Stage Three, pathways can be stratified using a scale from 1 to 75. Finally, Stage Four offers one last opportunity to ensure that assessment incorporates issues such as human infrastructures, biologic/primary productivity/living industries, and political/public sensitivities. Ms. Kreisch added that, in Section Four of the book, the role of science in developing public policy is discussed. Some suggestions for future decision makers are also included in this section.

Ms. Kreisch concluded by saying that she believes changes still need to be made to the guide. If it is approved, she would like to see the team incorporate more quantitative analysis into the process. Ultimately, they would like to create an overarching framework by which they can determine what data elements they need from the databases of the individual agencies in order to reach joint decisions. Besides enhancing quantitative analysis, they also hope to develop predictive evaluative statistics, models, techniques and matrixed databases, as well as promote interagency collaboration and action planning methods, balance expertise and knowledge, and further evolve the guide into training curriculum. Finally, she said that they welcomed any input that the Committee had to offer.

Before opening the floor for discussion, Mr. Lukens clarified that since the guide is not a final product, it is ISAC's task is to consider whether or not the project is ready to move forward. He also pointed out that, although approval by NISC is pending, the tools included in the guide are already being used by other organizations.

Ms. Cooper asked for clarification on what ISAC is being asked to approve with regard to this project. Ms. Kreisch replied that they are looking for approval from ISAC to move the project out of the test stage, and into the stage of real world application. This will allow them to receive feedback from multiple agencies that are actually using the product. In response to Ms. Cooper's question of whether there is any outline for the process of moving forward, Mr. Orr replied that this process will involve a number of discrete steps which will build on one another.

Mr. Randall asked to what extent the assignment of threat levels to pathways carries over from the triage process to the final assessment. He also asked how they would handle pathways that are threats in more than one respect. Ms. Kreisch replied that the assignment of threat levels does carry over into the risk assessment phase. Also, if a pathway poses more than one type of threat, it will be prioritized according to the most significant threat.

Ms. Diaz-Soltero read aloud the content of an award that USDA presented to Ms. Kreisch in recognition of her work as chairman of the Joint NISC/ANSTF Pathways Working Group. She was also presented with a \$2000 special award.

Mr. Lukens suggested that the Working Group develop a strategy for implementing the product once it has been completed. Ms. Kreisch replied that, although she believes that they must create an implementation plan, they must, in doing so, be careful not to give the other agencies the impression that USDA is trying to take over. Ms. Williams commented that, if ISAC approves the guide for moving forward, this will allow NISC to recommend it to other agencies for consideration and utilization. These agencies can then provide input back to NISC.

Nelroy Jackson requested that the Subcommittee develop a Power Point presentation of four or five slides highlighting and simplifying the pathways. Ms. Kreisch said that they would do this. Ms. Cooper supported Ms. Williams' suggestion that, if they approve the guide, they make it very clear, in writing, how it is to be implemented by the federal agencies. Mr. Lukens suggested that they use the regional panels for testing the guide.

Chair Lukens called for a motion to approve the Pathways Ranking Guide for moving forward. Ms. Reichard made the motion, and Mr. Beck seconded. Chair Lukens clarified that this motion is subject to the comments that Ms. Williams made on how it will be communicated to the Council. Ms. Diaz-Soltero added that a request had also been made for a specific implementation strategy. **The motion to approve the Pathways Ranking Guide for moving forward passed without objection.**

PRESENTATION: UPDATE ON EDRR NEEDS ASSESSMENT: ANNIE SIMPSON, USGS

Annie Simpson, the National Biological Information Infrastructure Invasive Species Information Manager, said that she is working with a team of scientists on a collaborative project to create a national framework for invasive species early detection, rapid assessment, and rapid response (EDRR). The goal of this working group is to identify and coherently portray existing EDRR efforts and gaps in coverage, and prioritize them for future cross-agency funding. This national coordination is necessary to avoid duplication of effort, and to justify the creation of an invasive species emergency response fund at a national level. The working group members have determined that the EDRR national framework project should have four steps: (1) the development of a “needs assessment questionnaire”, (2) the formation of focus groups, (3) the staging of a workshop/virtual conference to prioritize gaps in coverage, and (4) implementation. The working group is about to enter Stage Two of this process, and requests the assistance of ISAC, on an individual basis, to reach out into the broader community for focus group discussions. They have been offered assistance from the Department of Commerce and the Armed Forces Pest Board with Step Three. Step Four can only be implemented based on the findings of the workshop.

The Working Group has received responses to the needs assessment questionnaire from five departments, and is still accepting replies. Prior to the administration of the questionnaire, the Global Invasive Species Information Network (GISIN) conducted an internet search for invasive species information systems. GISIN found 250 systems, 95 of which deal with the United States. From this information, the Hines Center and the National Institute of Invasive Species Science created a more in-depth database. Ultimately, all of these data will be included in the national framework process. There was a 31 percent response rate to the questionnaire. Of those who responded, 86 percent said that they would be interested in participating in the next steps of the process. The questionnaire asked who is working in EDRR, and what elements of EDRR already exist within the department. In response to these questions, 30 experts were nominated, and 62 EDRR elements were described. USDA-ARS and CSREES nominated the greatest number of experts. Most of the products were described as being either databases or programs.

The departments were also asked to classify the EDRR elements they proposed based on the six component types of the national framework: user ID and validation, reporting, expert verification, occurrence databases, rapid assessment, and rapid response. The least represented category was rapid response, while the most represented category was reporting. The departments were also asked to describe the scope of their EDRR products. Most products were described as dealing with a specific type of organism or habitat. Many were also described as being constrained geographically, while about half emphasized expertise.

The analysis and presentation of the results of this needs assessment are ongoing. Once again, Ms. Simpson said that the Working Group is eager to have ISAC’s participation in its next step,

which will be the formation of focus groups. Step Three, the staging of a workshop to discuss and prioritize gaps in the EDRR, will be funded by the Department of Commerce, and sponsored by the Department of Defense's Armed Forces Pest Board. The workshop is tentatively scheduled for August.

In conclusion, Ms. Simpson said that the "needs assessment questionnaire" showed a wide range of current EDRR efforts. Rapid Response is the least represented element in the EDRR model. However, much more work needs to be done to identify and classify existing EDRR efforts from around the country. The Working Group is seeking ISAC's input on how to achieve broad buy-in on this effort to quantify and classify invasive species' early detection, rapid assessment, and rapid response efforts to make them accessible to everyone in the near future.

David Brunner asked Ms. Kreisch when they would be able to give an estimate on their funding needs, and said that having a framework for their needs would facilitate an effective program. Ms. Simpson replied that they do not yet have enough funding to create the framework. However, they intend to reach this point within a year and a half. Mr. Brunner then asked how much interim funding they would require. Ms. Kreisch replied that they have no funding for this project, and that no one is working on it full time.

Ms. Williams said that they must first have a very clear idea of where they are now – which is a precursor to knowing the gaps and the funding needs – before they can create a national framework. This will be difficult because so much is going on with EDRR at the national level.

Ms. Diaz-Soltero said that there are three different "layers" to be considered in determining what to do in terms of EDRR: the federal government, the states, and other non-governmental entities. The next step is to understand each of these layers individually, as well as the connections between them. Only then can the gaps in the system be identified and prioritized. Mr. Wilkinson commented that what happens at a state level is very important, since it is at this level that many of the initial sitings and control efforts take place.

Dr. Dionigi pointed out that, as federal employees, they are limited in their ability to survey non-federal people. Thus, the Working Group could use some help from the non-federal representatives in ISAC in getting this information. Dr. Corn replied that his group had sent out a survey to all of the state fish and wildlife agencies asking what their needs are, and that this information would be available to the Working Group when they have finished tabulating the data. Mr. Lukens suggested to Dr. Dionigi that there are ways to get the information he needs without going through a federal process. Ms. Cooper commented that many of the state efforts are conducted by groups that have federal participants, and that this might be another way to access the information.

PRESENTATION: DISTRICT CONCEPTS TO ERADICATE/CONTROL INVASIVE SPECIES (IGUANA REMOVAL PROJECT): JERRY JACKSON, ISAC

Dr. Jerry Jackson gave a presentation on the black spiny tailed iguana removal project on Gasparilla Island. The iguanas are doing a great deal of damage on the island. Mr. Jackson and his wife have been working on this problem for the past several years. The iguanas were first introduced to Gasparilla Island in the late 1970s, when a resident of the island captured several lizards in Mexico and brought them back as pets.

The iguanas escaped from a pool in his backyard. Over the years the iguana population grew, and became a tourist attraction. About six years ago, Lee County Animal Services decided to do something about the iguanas, since they had begun to receive complaints about them. However, they eventually backed off because the residents did not want the animals to be harmed. Now, the iguana population has grown so large that they are causing a number of problems on the island, and the residents now want them removed. This is an example of how long the period of time can be between the introduction of a species, and when they actually become a problem. The iguana situation is also an example of how varied can be the difficulties that an invasive species causes.

The iguanas can live up to twelve years, and can grow up to four feet long. They are native to Mexico and Central America. They are good climbers, swimmers, and runners. They are very prolific; each female can lay 50-80 eggs per season. They begin breeding at two years of age, and can continue breeding until they die. They are also far more aggressive than green iguanas, and are not closely related to them.

One of the problems with the iguanas is that they feed opportunistically, taking a variety of plants and animals, including ornamental plants and threatened species. They also dig large burrows, which are very destructive because they go into the dunes that protect the island from storm surges. The iguanas also destroy the vegetation on the dunes, which exposes them to wind erosion. They also disperse seeds of exotic invasive plants, invade homes and vehicles, and deposit salmonella everywhere. They may be a reservoir for West Nile Virus. Humans are also exacerbating the problem by feeding the iguanas, which makes them larger, and in turn causes them to lay more eggs. The iguanas are also being captured and dispersed in other areas. For this reason, they are afraid that the iguanas may become invasive on the mainland, as well. If they became invasive in South Florida, they could be a serious agricultural threat. Several years ago, Dr. and Mrs. Jackson were given a contract by Lee County Animal Services to try to assess the problem. They determined that iguanas are, in fact, a problem, and one that is growing rapidly.

Bal Chatri traps are now being placed in front of burrows to capture the iguanas. Afterwards, the iguanas are being euthanized by Lee County Animal Services. Although this is expensive, treating the animals humanely is necessary to gaining public support, which is in turn necessary to successfully conducting the eradication. For this reason, they talk to people as they capture the iguanas, attempting to educate the public about invasive species. Education and demonstration of humane treatment are integral parts of an eradication program, and can help to mobilize the public in favor of invasive species control. After the iguanas are euthanized, they are taken back to the laboratory where they are searched for parasites, and are studied. Thus, they are learning as much as they can from the dead iguanas.

The iguanas are weakest during mid-winter, since food is scarce. Thus, this is the best time to strike them. It is also important that the animals be caught before June, when the females begin laying eggs. They are also working on destroying the iguanas' burrows. However, these burrows must first be checked for gopher tortoises, a threatened species which uses the same burrows as the iguanas. Dr. Jackson concluded by saying that the problem is complex, and must be addressed from all perspectives.

Mr. Fisher asked Dr. Jackson how influential he had been on the portion of the population that had been moving the iguanas as a source of food. Dr. Jackson replied that they are conducting education programs both on and off the island, but do not know how effective these have been so far.

Mr. Marshall Meyers began a discussion on the humane treatment of invasive species as it relates to public opinion. Education is crucial, particularly in terms of letting people know that it is not a good idea to take wild animals as pets, only to release them in a new location. Dr. Dionigi said that it might be helpful to work with the AZA on this issue.

Ms. Cooper asked if anyone had been bitten by an iguana on Gasparilla, since this could have quickly changed public sentiment. Dr. Jackson replied that, in New Mexico, a child's finger had been bitten off by an iguana. Mr. Meyers commented that it may not be entirely accurate to simply say that wild animals should not be taken as pets, since certain animals make bad pets whether they are wild or not. Dr. Jackson replied that the key is for pet owners to not release their pets into the wild. Mr. Marshall commented that spiny tailed iguanas are being sold over the internet, and that this is a problem that needs to be addressed.

Ms. Cangelosi asked if the relationship between the iguanas and Brazilian pepper is coincidental, or if they co-evolved somewhere in central or South America. Dr. Jackson replied that the relationship between the two species is probably less a matter of co-evolution than a matter of opportunism.

DISCUSSION/VOTE: ACCEPT/REJECT DEFINITIONS WHITE PAPER: GEORGE BECK, ISAC AND DEFINITIONS TASK TEAM

Jim Tate began by saying that the issue of the definition of invasive species is complicated and troublesome, and told several anecdotes to illustrate this. He also said that it is important to clarify this definition, since it can then be used to educate people.

George Beck said that the Committee has the option of either moving forward with the White Paper so that it can be used for educational purposes or tabling it. He then encouraged the Committee members to only make comments on the substance of the paper, and not engage in any further wordsmithing.

Mr. Stone suggested that "organism" be substituted for "fungus" in the sentence that begins "The fungus that is associated with sudden oak death . . ." since *phytothora ramorum* is not technically a fungus. He also recommended that "causes" be substituted for "is associated with" in this sentence. He also listed four names that had been cited in the text, but had not been listed as references at the end of the document. It was agreed that these changes should be made.

Ms. Reichard suggested that the word "any" be struck from the second sentence in the second paragraph on page 3, where it says that ". . . the organism causes or is likely to cause are deemed to outweigh any beneficial effects." She also suggested that "any" be struck from the other sentences in this paragraph, as well, since it makes them unnecessarily specific. Ms. Cangelosi argued that "any" should be left in these sentences, since it is possible that an organism may have no beneficial effects. Ms. Reichard suggested that substituting the word "possible" for "any" might address Ms. Cangelosi's concerns.

Mr. Meyers suggested that the word “domesticated” be removed from the sentence “Escaped or feral populations of domesticated plants and animals will be considered invasives,” on page four, since it is not necessary. It was not agreed that this change should be made.

Ms. Cooper commented that, in order to be invasive, a species must not only spread, but also cause harm; and suggested that more attention be drawn to the issue of harm in the paragraph being discussed. In particular, she recommended that the words “and not cause harm” be added to the end of the sentence which reads, “However, the essential test is that populations of these species must be under control.”

Mr. Schardt said that it seems important to leave the word “domesticated” in the sentence commented on by Mr. Meyers, since it makes the point that a domesticated species can be invasive. Mr. Beck said that the sentence is redundant the way it is written, since escaped or feral implies that a species was once domesticated. Mr. Meyers argued that a feral animal has not necessarily been domesticated. Mr. Meyers also said that the sentence being discussed is at odds with a previous sentence, which says, “It is essential to recognize invasive species are not those under human control or domestication.” Mr. Lukens argued that these two sentences do not contradict each other, since being escaped and/or feral is different from being currently under domestication. Mr. Beck suggested that this could be resolved by saying “escaped or feral populations of *once* domesticated plants and animals.” Dr. Nelroy Jackson recommended that they use the word “formerly,” instead. This recommendation was adopted.

Dr. Nelroy Jackson suggested that the phrase “and provide pollination services,” be inserted in the sentence which begins, “For example, European honey bees are cultured to produce honey, and even though they form wild populations in many parts of the country...” This recommendation was adopted.

Dr. Corn suggested that the sentence that reads “West Nile is caused by a non-native virus which is commonly carried by invasive mosquitos,” is incorrect since it is also carried by native mosquitos. Thus, he suggested that the word “invasive” be removed from this sentence. This recommendation was adopted.

Mr. Lukens said that, in the last sentence under dispersal in the sidebar on Page 2, which reads “However, this movement or spread alone does not necessarily make this invasive plant an invasive weed or an invasive species...” “non-native plant” should be substituted for “invasive plant.” Mr. Beck said that he would make this correction. Mr. Lukens also made the correction that Australian spotted jellyfish were introduced into the Gulf of Mexico, not the Caribbean. This correction was made to the document.

Tim Carlson suggested that, under the sidebar example on page 2, the sentence that reads, “Finally, to be considered an invasive weed or invasive species, the plant must cause negative environmental effects,” be changed to read “. . . must cause negative environmental, economic, or human health effects.” The Committee members discussed in what order these three effects should be listed, and whether or not the order in which they are listed implies a prioritization. It was decided that the order should be left as it is.

Dr. Corn said that, in the last paragraph of Page 3, the sentence which reads, “Additionally, Canada Geese make a significant financial contribution to many local economies,” be changed to read, “Additionally, Canada Geese are of significant financial value to many local economies.” This suggestion was adopted.

Ms. Cangelosi commented on the perception to cause harm section on pages 2 and 3. In particular, she said that a point had been made that the perception to cause harm is a societal judgement call, rather than the result of a definitive cost-benefit risk assessment analysis. However, in the harm and impact examples, they contradict this by saying, “. . . the plant must cause negative environmental effects,” and, “. . . the overall negative effects caused by the plant must outweigh any beneficial effects,” as though they must definitively determine what the negative effects are before a species can be considered invasive. Ms. Cangelosi proposed that the word “must” be replaced in these sentences by “is deemed to,” in order to be consistent with what was said before. Ms. Cooper supported this second recommendation. Mr. Schardt commented that, if they are going to replace these two instances of “must” then they should also replace every other instance of “must” in the paper. Mr. Gordon commented that, while the earlier instances of “must” appeared in sections of the paper which dealt with biology, the instances of “must” now being questioned appear in a policy section of the paper. Thus, it may be helpful to replace “must” in this section, but not in the others. Mr. Thompson clarified that they are only looking to replace “must” in the first two sentences of the harm and impact clause. These sentences will now read, “Finally, to be considered an invasive weed or invasive species, the plant is deemed to cause negative environmental, economic, or human health effects,” and “Just as importantly, however, the overall negative effects caused by an invasive plant are deemed to outweigh any beneficial effects.”

Continuing the discussion on “is deemed,” Mr. Thompson suggested that it might be helpful to indicate that *society* deems a species to have negative effects. Mr. Lukens said that he would be more comfortable leaving the sentence in the passive voice, since it is unclear what is meant by “society deems.” Mr. Gordon suggested that the first of the two sentences under consideration be changed to read, “Finally, a plant is deemed invasive if it causes negative environmental, economic, or human health effects.” This sentence was adopted by the Committee.

Mr. Nelroy Jackson suggested that the beginning of the sentence be amended to read “Finally, a plant (or other species) is deemed...”, and that “is deemed invasive” be changed to “is deemed *to be* invasive.” The second suggestion was adopted. Mr. Beck called for a vote on the first suggestion. The Committee voted, and decided to not include the parenthetical phrase “or other species” in this sentence.

It was recommended that the second sentence, which reads, “Just as importantly, however, the overall negative effects caused by an invasive plant are deemed to outweigh any beneficial effects,” be eliminated. Instead, it was suggested that the phrase, “which outweigh any beneficial effects” be added to the end of the first sentence. This sentence will now read, “Finally, a plant is deemed to be invasive if it causes negative environmental, economic or human health effects which outweigh any beneficial effects.”

Mr. Zimmerman moved to accept the Definitions White Paper as amended, and send it on to NISC. The motion passed unanimously.

Tim Carlson asked what status the document has now. Ms. Williams requested that the staff be given permission to edit the document for grammatical errors, and change the formatting. In response to Mr. Carlson's question, she said that the White Paper is now a public document. Specifically, it is an ISAC-approved public document recommended to NISC. However, it is not yet a NISC-adopted document.

Mr. Beck asked if the environmental harm section should be put into a sidebar. It was decided that it should be left as is.

NISC RESPONSE TO ISAC RECOMMENDATIONS: LORI WILLIAMS

At the October meeting, ISAC made nine recommendations to NISC. The first was that officers be appointed. Second, ISAC requested that EPA and DHS each make presentations at the next meeting. Both of these recommendations have been fulfilled. Third, ISAC recommended that the terms of ISAC Class 2 be extended to allow them to serve their full six year term as stated in the charter.

In response to this recommendation, NISC approved considering this request. Now, as NISC begins to consider the new applications coming in, they need to reach a decision on whether or not they will extend the terms of ISAC Class 2. These discussions are ongoing. A decision should be made within the next six weeks, at which point ISAC will be informed of the result.

With regard to this matter, Mr. Carlson asked if Class 3's terms are still good for another year. Ms. Williams said that she would clarify this, and get back to him. Mr. Lukens remarked that, if the ISAC 2 members' terms are extended through June of 2008, then they will have a gap in membership at an October meeting. Ms. Williams corrected him, saying that they will not have a gap in membership, since they will go back to staggered terms. Thus, not everyone's terms will expire at the same time. Dr. Nelroy Jackson expressed his confusion on this matter, saying that it seems that the number of seats have been reduced, and asked what this means for people who have applied. Ms. Williams replied that, given the current uncertainty regarding the number of slots available, she will let everyone know what is going on as soon as possible.

Ms. Williams also clarified that everyone still needs to put in applications, and that the new deadline is May 17, 2006. As a further point of clarification, Ms. Diaz-Soltero said that federal employees cannot recommend people for membership to ISAC. Dr. Nelroy Jackson asked how they can check to see that NISC has received certain applications. Ms. Williams said that they should email the Council. Dr. Nelroy Jackson asked Ms. Williams if they should be trying to get applications from people in any additional areas. Ms. Williams said that she would talk to people at the reception, and get back to him. **Mr. Meyers asked if it would help for ISAC to develop a statement saying that its important that Class 2 not be discriminated against, and be given the opportunity to serve their full terms. Mr. Thompson recorded this as a request for action.**

Fourth, ISAC recommended that Bill Dickerson work with USDA, DHS and others to resolve issues concerning the importation of organisms for research. This recommendation has been acted on, although other procedural steps may still need to take place. Jim Tate thanked Bill Dickerson

for his service, and presented him with a certificate of appreciation.

Fifth, ISAC recommended that CSREES Cooperative Extension create a National Extension Service Educational Program on invasive species, which was reported on by Ms. Diaz-Soltero. Rob Hedberg of CSREES also invited Ms. Williams and Mr. Dionigi, along with several other speakers, to address a special session on invasive species at their Public Issues Leadership Development Program for extension agents. Ms. Williams encouraged everyone to work with this group.

Sixth, ISAC recommended that NISC policy liaisons provide guidance to the ISAC Leadership and Coordination Subcommittee regarding issues the Subcommittee should address. In the revision of the management plan, NISC is having very extensive discussions with their policy liaisons on what they want to do in terms of leadership and coordination. They hope to conclude these discussions, and have a draft of the revision of the management plan before they determine what their new charge should be to the Leadership and Coordination Subcommittee. After this point, they hope to have a joint meeting of the ISAC Leadership and Coordination Subcommittee and the policy liaisons.

Seventh, ISAC recommended that NISC include a section on funding and resources in the revised management plan which identifies potential sources of revenue. This is still under consideration, since the plan has not yet been completed. However, a great deal of emphasis has been placed on performance measures and goals, and they will continue to look at this issue.

Eighth, ISAC recommended that the invasive species coordinating committees (ITAP, FCMNEW and ANSTF) provide ISAC with a list of research needs. Ms. Williams said that she had not been clear on the intent of this recommendation. To this point, Mr. Lukens said that the majority of the regional panels that are operating committees under the taskforce are working on or already have lists of research priorities. He said that this could be a very useful resource to the agencies, and could result in getting certain types of research done.

Finally, ISAC recommended that appropriate resources be provided for the development and maintenance of two major federal invasive species websites: invasivespeciesinfo.gov, and invasivespecies.gov. The former of these sites continues as a major federal information portal and source of invasive species information, and has been redesigned, reformatted, and improved. The latter website is currently under construction. NISC staff has been working with a USDA designer to design the site, focusing on NISC, its members, programs and activities. The mock site will be reviewed by the NISC policy liaisons at the end of May. Once it is approved, the site will be launched in the early summer. The mock site will also be available for review by ISAC's Communications and Outreach Committee for feedback. NISC will develop specific criteria and guidelines for posting items on the site. Ms. Williams also reported that NISC will be submitting the paper work to request that the position of NISC outreach director be filled as soon as possible. Until this time, Ms. Brantley will be the NISC staff technical lead on the website.

The last item dealt with the response to framework and funding for EDRR. They do not yet have a rapid response fund. However, this is an issue that is at the top of the radar screens, and the agencies are interested in working on it.

PRESENTATION/DISCUSSION: NATIONAL INVASIVE AQUATIC SPECIES DATABASE WORKING GROUP: MELISSA PEARSON, NOAA

Mr. Wilkinson introduced the Committee to Melissa Pearson, a contract employee with OAR. Ms. Pearson began her presentation by saying that the mission of the Non-Aquatic Species Database Working Group is to coordinate cross-agency efforts relating to federally-sponsored aquatic non-indigenous species databases to promote greater efficacy in communication of aquatic non-indigenous species related data, and greater efficacy of database management. She also gave the address of the working group's metapage. This mission statement came out of the AIS Database Summit, which was held September 12-14 at the Stone Laboratory on Gibraltar Island. The summit was funded by NOAA and the Ohio Sea Grant. Participating agencies were NOAA, USGS, SERC, Sea Grant, and the International Joint Commission. The goals of the summit were to: (1) familiarize participants with the variety of database projects/programs while delineating the mission of each, as well as the type of information available through each system; (2) identify both gaps and overlaps among the various databases, systems and audiences; (3) explore the potential for database consolidation via distributed database systems, including outlining technical and political obstacles to integration; and (4) establish or modify interagency agreements among the three agencies covering AIS database coordination, sharing and management.

The ten major databases fell into four categories: species/life history databases, bibliographic databases, projects databases, and vector databases. Under the species/life history databases are NEMESIS, which focuses on marine species, NAS, which focuses on freshwater species, GLANSIS, which focuses on Great Lakes species, and EDAIS, which focuses on marine species. SGNIS and ANS Clearinghouse are reference databases. SGNIS is for electronic publications, while ANS Clearinghouse is a card catalog for a hard copy lending library. The project's databases are AIRD, Sea Grant Projects, the St. Lawrence Research Inventory, and the Great Lakes directory of research projects. Finally, NBIC is a vector database for ballast/shipping traffic data.

One conclusion of the summit was that there is no significant overlap among the databases when mission and scope are taken together. Also, there is little to no overlap even when current plans for expansion are taken into consideration. However, some overlap and potential for overlap does exist in the data and data collection processes.

The recommendations that came out of the summit are that NIASDWG members commit to maintaining the distinctions of their mission/scope, that the distinctions between NIASDWG member databases be better and more formally articulated and communicated, and that NIASDWG members commit to coordination aimed at reducing duplication of effort in populating databases. Also, it was recommended that a 'common face' be developed for distribution of federal AIS data on 3 levels: (1) integration of the working group; (2) development of a metapage; and (3) use of a common search portal (NISbase). NIASDWG also recommends coordinated development of deliverables based on merged databases.

Steps have already been taken towards fulfilling these recommendations. NIASDWG partners made a commitment to continuing communications and furthering efforts to work

cooperatively to increase the efficiency and efficacy of their efforts. For example, they added RSS, a news feed, to the SGNIS website. NISbase has sponsored a communications forum. The NAISDWG metapage has been developed, and NISbase has been expanded.

NISbase simultaneously searches multiple marine and freshwater NIS databases from around the world for species summaries, bibliographies, and research project inventories. The reference section of NISbase has been initiated, and its framework has been built. It currently searches NEMESIS and NAS references. Sea Grant databases, such as SGNIS and ANS Clearinghouse, will also be searchable through this interface. Other reference sharing is also taking place. NOAA, NCCOS, and CCMA are looking to build a contact list of marine taxonomic experts to facilitate the use of experts in invasive species work. This cadre of taxonomic experts is also being developed in collaboration with USGS' ANSTF Taxonomic Experts Database. This database was requested by the ANS panels and funded by ANSTF.

Ms. Cooper asked if there had been discussion at the working group summit on standards for the quality of the data going into the databases. Ms. Pearson said that this had not been a major issue for discussion, but is probably an issue that will be looked into later on. Mr. Lukens said that NISbase must run quality control procedures for any database that is proposing to be a partner. Thus, there are some checks in place for quality control, although these may not be standardized. Mr. Andreozzi said that each agency has its own data quality standards, but that there had been no discussion at the summit of standardized quality control measures across agencies. Mr. Lukens added that they must, however, meet the Data Quality Act provisions.

Mr. Lukens expressed his hope that this project maintain a very high level of importance in the new draft of the national management plan, since it is very important to maintaining a cohesive and coordinated program. Mr. Wilkinson suggested that NAISDWG make an effort to obtain and incorporate information from the EPA.

Mr. Brown asked Amber Pairis if aquatic databases are connected at the state level. Ms. Pairis, science and research liaison with the Association of Fish and Wildlife Agencies, replied that the states are all grappling with this issue. Mr. Wilkinson said that Pam Fuller is already actively establishing relationships with each of the states on the aquatic side. Ms. Pearson said that the Committee should contact Rochelle Sturtevant with any questions that she, herself, had been unable to answer.

Mr. Eldredge said that the Hawaii Biological Survey now has over 27,000 species, including insects and plants, of which 20.1 percent are non-indigenous.

MEMBERS FORUM: ISAC MEMBERS

Ms. Cangelosi passed out some documents to the Committee members in preparation for the next day's presentation on the Do No Harm policy. Ms. Williams commented that, if ISAC wants a specific response back from the Corps of Engineers on these issues, this will have to take place at another time, since the Corps will not be joining them at the next day's meeting.

Dr. Randall said that, next week, a first workshop will be held on determining priorities for invasive species of high impact on biodiversity in Mexico City. This workshop has been organized by two of the Mexican federal agencies and three non-profit groups. It is also representative of a building of momentum in Mexico to address the issue of invasives.

Dr. Nelroy Jackson reported that National Invasive Weed Awareness Week has grown from about 30 people seven years ago, to 175 this year. They had very good briefings with the DOI, USDA, the Army Corps of Engineers, and NISC, and are already making a greater impact in Congress.

Ms. Leland reported that, with the help of Fish and Wildlife funding, they will now be able to take the green crab monitoring program throughout South Central Alaska, and possibly beyond this area. Also, Alaska has just started its invasive species council. Ms. Leland reported that the next day will be her last day working for RCAC. Starting Monday, she will be the executive director of the Alaska Power Association. However, she will remain on ISAC until the end of her term.

Mr. Eldredge reported that in January, three members of his organization spent three weeks conducting workshops on awareness of marine introduced species in Micronesia. These were very successful. The Hawaii Invasive Species Council has awarded \$700,000 in grants for invasive species this year and is funding an aquatic invasive species rapid response team on both Oahu and the Big Island. They are also working to establish a Pacific island aquatic nuisance species regional panel, which would be equivalent to other existing regional panels. Next July, the Pacific Science Association will be holding a Pacific Science Congress in Okinawa, one of the themes of which will be invasive species. They are looking for some organizations to support and participate in this event.

Mr. Beck reported that, in Colorado, USDA/NRCS? provided approximately \$1 million in grants to various entities around the state. He then thanked Ms. Diaz-Soltero and for her role in making this happen.

Mr. Lukens reiterated a desire on the part of the states that a rapid response fund be made available to them. This desire exists in spite of the Department of Agriculture's indication that they do not need any new authority. Ms. Diaz-Soltero said that, during the five meetings before this letter from the USDA was finalized, she argued that the proposal should be for a fund that would be available to any federal agency that needed assistance as well as to the states. Mr. Lukens commented that, at the last meeting, they had combined the information management and education outreach working groups, since a large portion of work being done by the latter group had to do with website development, management and maintenance. Thus, it seemed logical to combine the two groups. However, there is a great deal more involved in information management than just website management. With regard to this, Ms. Williams commented that, although ISAC felt the need to consolidate its committees, the committees have not been consolidated at the federal level.

Ms. Cooper mentioned to need to track action items during the course of a meeting, follow-up on them, and review them at a later point. Ms. Williams said that, as she was going through the

recommendations from the last meeting, she realized that they had committed to doing this. The new minutes format should make it easier to track the action items, particularly since the Committee is now making it more clear what are action items, and what are recommendations. Beginning with the last meeting, they will track back as much as possible. Ms. Williams then said that ISAC would have to let her know how often old action items should be reviewed. Ms. Cooper said that she had gone back and tracked action items, and highlighted the ones for which there had been no follow-up. She said that she would distribute this information to ISAC.

Ms. Cooper then asked if it would be appropriate to attach the *Definitions White Paper* to the revised *Management Plan* as an appendix, in order to clarify what the *Management Plan* defines as invasive species. Ms. Williams said that this would be one way to address the White Paper in the revision of the Management Plan, and that NISC would consider doing this.

Mr. Brown suggested that it would be helpful, in tracking the action items, to begin regularly emailing NISC's responses to ISAC's recommendations to the Committee members, since hard copies are so overwhelming. Eventually, they might even post this information as a historical record on the website. He also supported Ms. Cooper's suggestion that the *Definitions White Paper* be included as an appendix to the Management Plan.

Ms. Diaz-Soltero said that she had tracked every ISAC recommendation that has been made since October, 2003 that is applicable to USDA, and that has not yet been addressed. She said that she would continue to do this, and suggested that ISAC determine a date for how far back they will attempt to track old action items.

Mr. Lukens suggested that ISAC give some general direction to the staff in terms of their desire for a historical perspective in the tracking of recommendations. The staff can then determine more specifically how to make this work. Dr. Nelroy Jackson said that it would be helpful if the Committee members could be appraised of how action items have been addressed sooner than the next meeting. Ms. Williams said that this information is distributed to all of ISAC, on a regular basis, through the NISC newsletter.

Ms. Cooper said that she believes it is important to track all action items, both those that have not yet been addressed, and those that have. Ms. Williams said that she would be happy to report all action items, but would propose that only the formal recommendations be tracked. Mr. Brown said that it would still be helpful to be able to check off regular action items, so that they know that they have been taken care of. Ms. Cooper said that she was doing this already.

Ms. Williams said that she would do what she thought was reasonable in terms of tracking action items and recommendations over the next few months. After a few months, the Committee can decide whether this is adequate or not.

Ms. Diaz-Soltero asked if she should go over all her reports, and create one document from 2003 to the present date covering each recommendation made by ISAC to USDA, as well as everything that has been done to address these recommendations. Ms. Cooper said that she already has her own comprehensive list of action items, and that she only intended to suggest that this list be sent out to the staff.

Mr. Meyers reported that at a consumer pet show last weekend in California, 22,000 *Habitattitude* flyers had been distributed. One of their members, who does advertising inserts for a newspaper, has included the *Habitattitude* logo and message in every monthly issue since August of last year, and intends to continue doing this indefinitely. This adds up to 30-35 million inserts per month. Also, all of their starter kits for new aquarium owners now include information on *Habitattitude* and how to be a responsible aquarist. *Habitattitude* has also developed animal care guidelines for pet stores, and a booklet for employees. These will go out to approximately 10,000 pet stores. They are also in the process of working with the Fish and Wildlife Service at NOAA to redo the *Habitattitude* webpage to target the message to people who are considering releasing pets into the wild.

Ms. Reichard reported that the Washington Invasive Species Coalition has taken on three projects, two of which have been successful. Washington now has an Invasive Species Council. The Coalition is also working with the Washington State Nursery and Landscape Association to try to get invasive species out of the nurseries and the horticulture stream. By means of a pilot project conducted last year, the Coalition encouraged nurseries to promote alternatives to invasive species, and found that it was financially profitable for them to do so. They have also published a booklet which lists alternatives to invasive garden species. They printed out 26,000 copies in February, distributed almost all of them and are now going into a second printing.

REVIEW OF DAY 1 ACTION ITEMS: JOHN PETER THOMPSON, ISAC

Mr. Meyers and Dr. Nelroy Jackson made a recommendation for consideration to formally involve ISAC in future NISC management plan reviews. Ms. Metcalf requested an update from staff on the effects of the Talent decision. Ms. Reichard requested a USDA Safeguard update and/or report, as well as follow-up on parts of the plan now under the Department of Homeland Security. Mr. Beck requested information on increased funding for the biology of invasive weeds program. Ms. Diaz-Soltero volunteered to take on this task. Ms. Cooper requested a program report on the implementation and utilization of the pathway risk assessment report. Ms. Diaz-Soltero clarified that they are requesting the development of an implementation plan. Mr. Nelroy Jackson requested that a Power Point presentation of four to five slides be developed on pathways for the purposes of education and outreach. Mr. Marshall requested that a resolution of support be made by ISAC Classes 1 and 3 to allow Class 2 to fulfill its full six year term. Ms. Cooper requested that a historical record be made of the action items. This will be referred to the subcommittee.

Ms. Diaz-Soltero passed out a document to the Committee members outlining the NISC Invasive Species Management Plan revision process and explained it to them.

The meeting was recessed for the day at 4:36 pm.

NATIONAL INVASIVE SPECIES COUNCIL

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INVASIVE SPECIES ADVISORY COMMITTEE

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MEETING

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FRIDAY
APRIL 28, 2006

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SUMMARY

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The Committee met in the Washington Ballroom at the Radisson Old Town Alexandria Hotel, 901 N. Fairfax Street, Alexandria, VA, at 8:00 a.m., Ron Lukens, Chair, presiding.

PRESENT:

SHIPPEN BRIGHT	Maine Lakes Conservancy Institute
K. GEORGE BECK	Colorado State University
GARY M. BEIL	Minnesota Crop Improvement Association
DAVID BRUNNER	National Fish and Wildlife Foundation
ALLEGRA A. CANGELOSI	Northeast Midwest Institute
TIMOTHY J. CARLSON	Tamarisk Coalition
DIANE COOPER	Taylor Shellfish Farms
JOSEPH CORN	University of Georgia
LUCIUS G. ELDREDGE	Pacific Science Association
JEROME A. JACKSON	Florida Gulf Coast University
NELROY E. JACKSON	Monsanto Company
MARILYN B. LELAND	Prince William Sound Regional Citizens' Advisory Council
RONALD LUKENS	Gulf States Marine Fisheries Commission
KATHY J. METCALF	Chamber of Shipping of America
N. MARSHALL MEYERS	Pet Industry Joint Advisory Council
JOHN RANDALL	The Nature Conservancy
CRAIG REGELBRUGGE	American Nursery and Landscape Association
SARAH REICHARD	Center for Urban Horticulture
JEFFREY D. SCHARDT	Florida Department of Environmental Protection

JEFFREY STONE
JOHN PETER THOMPSON
KEN ZIMMERMAN

Oregon State University
The Behnke Nurseries Company
Lone Tree Cattle Company

STAFF PRESENT:

PHIL ANDREOZZI
KELSEY BRANTLEY
GORDON BROWN
HILDA DIAZ-SOLTERO
CHRISTOPHER DIONIGI
MARY JOSIAH
RICHARD ORR
DEAN WILKINSON
LORI WILLIAMS

Program Specialist
Program Analyst
DOI Policy Liaison
USDA Policy Liaison
Assistant Director, (Domestic)
Secretary
Assistant Director, (International)
DOC Policy Liaison
Executive Director

SPEAKERS:

JASON FRIEHAGE, Office of Management and Budget
ARNIE KONHEIM, U.S. Department of Transportation
JEAN TATE, U.S. Department of Transportation
PETER EGAN, U.S. Department of Defense

PRESENTATION: PRESIDENT'S BUDGET RELATIVE TO INVASIVE SPECIES AND THE CROSSCUT BUDGET: JASON FRIEHAGE, OMB

Mr. Friehage began his presentation by giving a quick overview of OMB. OMB is a small office within the executive office of the president, with a staff of 400 to 500 people. Their primary role is to prepare the annual budget, and carry out legislative clearance. They also get involved with regulatory reviews through their office of information regulatory affairs, and oversee implementation of the president's management agenda. Organizationally, OMB has support-wide offices, statutory offices, and resource management offices. Mr. Friehage works in the Interior branch in the natural resource programs.

Agencies submit their budgets to OMB in the beginning of September, after which OMB goes through a mark-up process at the branch level up through their deputy associate directors. After they get the budgets in September, OMB has about three weeks before they have to make recommendations to their next level of management. After this, the budget does not change very much. Thus, receiving information in a timely manner is crucial, since they have only three weeks to synthesize and simplify this information for the benefit of the next level of management.

For the people who work in the resource management offices, budget formulation is a year round process. They do legislative clearance, respond to financial reports and crises, go on field trips to try to understand issues on the ground, and also conduct regulatory review. The cross-cut can be helpful for them as an informative tool when they know the array of programs, have a picture of what agencies are doing, and use the cross-cut as an informal measure of the capabilities of organizations. It also gives them a context for how much money is already being spent on an outbreak and what the priorities are. The cross-cut budget also helps them with budget and performance integration in the President's Management Agenda. Information from the cross-cut helps them to justify programs in a tight resource environment. One of the most important parts of budget and performance integration is collaboration, and the creation of a common starting point for entering into negotiations.

Mr. Friehage expressed his hope that cross-cut submissions will continue to be made to OMB in an increasingly timely manner. He also hopes that they can improve collaboration of the crosscut. Similarly, he would like for the cross-cut to be more integrated into actual agency budget submissions.

Ms. Cangelosi said that ISAC has worked with NISC agencies over the years to put together this cross-cut budget, and that it has been a difficult process, involving the integration of different agency cultures. She said that the product of this work does not reflect the amount of effort that was put into it. Thus, she asked what it would take to elevate this issue in the level of priorities. Mr. Friehage replied that, in terms of priorities, a lot of the budget process still rises up from the bottom.

Mr. Thompson asked, once they present the budgets, how many changes are made to them by Congress. Mr. Friehage replied that 95 percent of a budget remains unchanged by Congress. Thus, most changes that are made to the budgets are made at the department level. Mr. Thompson then asked how they go about getting the wide base of support that is necessary to making changes to the budget, when decisions must be made across departments. Mr. Friehage replied that some decisions are made bottom-up, while others are made top-down, particularly in a resource constrained environment, where reallocating anything is very difficult. Mr. Friehage said that using the cross-cut is important to helping people understand what the impacts are, and what they are getting.

Ms. Cangelosi asked what the general disposition of OMB is towards an effort to establish new revenue sources that are closely linked to this problem, such as a permit fee that may be associated with pre-screening that happens down the line, or a harbor maintenance trust fund that is associated with supporting port base activities. Mr. Friehage replied that, historically, OMB's role of allocating costs in the right places has been consistent with the policies they have supported. Ms. Cangelosi then asked if there are budgetary barriers at OMB's end to the incorporation of the activities involved in alleviating this problem into the everyday activities of the agencies. Mr. Friehage replied that sometimes earmarks are broadly stripped out. However, they are always trying to keep the big picture in mind.

Mr. Bright asked if avoided costs were a legitimate measure of performance in this budget. Mr. Friehage replied that cost avoidance is always a challenge in the prevention world, and that OMB is just now getting to the stage where they have a better idea of what they can do with what amount of money. Mr. Wilkinson said that they want to have a major reduction in risk of introductions in ballast water, and that they would like to do this by the end of 2008. In order to do this, they realized that they would have to sponsor some technology development. There also needs to be testing at full scale. They are currently meeting their goals in terms of sponsoring technologies and have reported this to OMB.

Mr. Thompson asked if in the cross-cut budget, the departments determine what they are going to send to OMB, or if OMB sends guidelines to them on what to submit. Mr. Friehage replied that the Council has worked to develop the definitions, and provides basic guidelines to the agencies on what to submit. Mr. Thompson then asked Ms. Diaz-Soltero if the research in systematics is reported in the Invasive Species Cross-Cut Budget. Ms. Diaz-Soltero replied that it is not. The cross-cut budget has two parts. The first part asks the agency how much money it is spending on invasive species, and how this money is divided between prevention, early detection, rapid response, control and management. Money is then allocated according to the answers given to these questions. The second part consists of ten initiatives which have been stable over the last three years, since OMB likes to track progress. The ten initiative titles are selected by NISC, and sent back to the agencies. The agencies then decide whether they would like to request money for these initiatives, and if so, include this in the cross-cut. These initiatives are not priorities, but are examples of collaborative projects. Thus, it is impossible to understand any invasive species program in any agency simply by looking at the initiatives in the cross-cut budget. Mr. Thompson remarked that interagency collaborations do not show up in the cross-cut budget. Ms. Diaz-Soltero said that these will, however, show up in general categories.

Mr. Bright said that budget is policy, and expressed his concern, as they go forward with performance-based budgeting, that NISC have the flexibility to justify its budget requests based on the fact that prevention is a national priority. However, the only way to measure this is in avoided costs. This must be accepted. If it is not, NISC will be penalized, because someone else will put down metrics that have nothing to do with prevention.

PRESENTATION/DISCUSSION: AGENCIES CAUSING NO HARM: ALLEGRA CANGELOSI, ISAC

Ms. Cangelosi began by saying that her presentation is directly related to implementation of Executive Order 13112 (EO) and is fundamental to delivering the mission which ISAC has been charged with carrying forth. It has to do with the incorporation of prevention of invasive species introduction and spread into everyday activities. In the same way that the private sector should be guided by regulation to incorporate the costs of prevention into its routine business, agencies have been charged to do likewise under the EO. However, there are barriers to process, budget and concept that must be overcome before this charge can be fulfilled. ISAC can play a major role in overcoming these barriers.

As an illustration of what the advent of the EO means to ISAC, Ms. Cangelosi told the story of a sanitary canal that was built in Chicago at the turn of the century, primarily because they were not using sewage treatment, and therefore began shipping the sewage downstream. Over time, the Corps of Engineers was petitioned to make this canal navigational and did so. Thus, the Corps is now authorized, through the Water Resources Development Act, to operate the canal as a navigational channel. Twenty million dollars is allotted to them to undertake routine operations and maintenance of the Illinois waterway, including this canal. This funding is supported by the Inland Waterways Trust Fund, which is an analog to the Harbor Maintenance Trust Fund. This example is significant to ISAC because it raises the question of whether invasive species prevention is considered part of routine operations and maintenance. It currently is not.

In 1996, the National Invasive Species Act directed the Corps to investigate and construct an electric barrier in the sanitary canal, because it was already notorious for allowing organisms to pass from the Great Lakes to the Mississippi basin which used to be separated by a land mass. Now, this barrier has become the main line of defense against the spread of Asian Carp. However, responsibility for continued funding for the operation and maintenance of this barrier is being deflected by the Corps of Engineers for a variety of reasons. One of these reasons is the Anti-Deficiency Act, by which Congress prohibits the Corps from using funds beyond what they have specifically allocated. Thus, they have been passing the hat to the affected states for help in supporting this project. However, the EO says that the Corps is responsible for handling this problem. Thus, Ms. Cangelosi posed the question of whether it is possible to incorporate items regarding the prevention of the introduction of invasive species as everyday spending items in agencies' operating budgets.

Mr. Thompson commented that there is a lack of coordination between local and state agencies in dealing with invasive species, and that this may be symptomatic of a larger problem. Mr. Lukens observed that the money needed to maintain the barrier has been appropriated by Congress, but is not included in the President's budget. Thus, if the Corps wanted to incorporate

maintenance of the electric barrier in the canal, they would have to either convince OMB to add this money to their budget, or take it from another area. Ms. Cangelosi replied that the Illinois Waterway has a project allocation of over 20 million dollars which could easily absorb this cost. And if the Corps regards the barrier as a maintenance and operations responsibility, then they will have to spend money on it.

Dr. Dionigi asked if, now that the Corps wants a permanent barrier, this will change its budget characterization. Ms. Cangelosi replied that the Corps is fully prepared to receive Congressional direction to make the barrier part of O&M. However, they do not feel empowered to do this on their own. Ms. Cangelosi said that the problem of implementing the EO is not limited to the issue of the Asian Carp barrier.

With regard to the topic under discussion, Ms. Diaz-Soltero said that USDA is allowing agencies to self-evaluate whether they have a conflict with the requirement to include prevention of invasive species introduction as part of their everyday activities. Thus, she does not understand why, if the Corps of Engineers has the authority to make the decision to include the barrier in O&M, they are not doing this. Mr. Lukens said that, before ISAC could forward a recommendation to the Corps that they include the barrier in O&M, they must reach a consensus, as a Committee, on what they think of the barrier.

Ms. Williams said that this is a complicated issue, and suggested that ISAC consider the Asian Carp barrier not only as an isolated case, but as something that could potentially set a precedent for other agencies, as well.

Mr. Zimmerman suggested that ISAC write a letter to NISC asking whether the EO implies or directs that certain actions related to invasive species be taken by the Army Corps of Engineers or other agencies in the cost of doing business.

Ms. Cangelosi replied to Mr. Lukens' comment by saying that the Asian Carp barrier is in both ISAC's Cross-Cut Budget proposal and the *National Management Plan*, and that if anyone feels that the barrier is not a good idea, they should go back and review the *National Management Plan*. Mr. Lukens said that just because the barrier is included in the *National Management Plan* doesn't mean that ISAC can't change its mind and recommend to NISC that it be taken out.

Mr. Randall seconded Mr. Zimmerman's recommendation.

With regard to violation of Do No Harm, Mr. Orr gave the example of when he ran a plant inspection station in Houston, Texas. In this situation, he did not have the resources to check all the pathways. He does not, however, believe that this means that he was in violation of Do No Harm. Ms. Cangelosi said that this was a different situation than the one involving the Corps of Engineers. While Mr. Orr was not a port operator, the Corps has been charged to maintain the navigational channel. Ms. Williams said that the EO calls for the prevention of invasive species introduction "subject to the availability of appropriations," and, "within administration budgetary limits." Ms. Cangelosi added that the executive order does ask agencies to do something about invasive species, even if they are not able to do everything that ought to be done. They should also explain to the public why they are not able to do more. Ms. Cangelosi then suggested that ISAC ask for a better system through which agencies can begin to make informed decisions

about what they should do. Mr. Beck asked if perhaps they should make a recommendation that is more specific to the case being discussed.

Mr. Brown said that the spirit of the EO was to encourage voluntary coordinated activities among the agencies, and that they should not lose sight of this. They should also keep in mind that its main purpose is to encourage the agencies to conduct cost/benefit analyses of the actions they are taking that might cause harm from an invasive species perspective. It is not the intent of the EO that everyone should do everything.

Ms. Cangelosi said that it had not been her intention to put the federal agency representatives on the defensive. Instead, she hopes that ISAC can help the federal agencies do their jobs better. If the agencies feel that they are interfering too much, then ISAC can back off. Mr. Orr replied that the commitment has already been made on the part of the agencies to maintain, operate, and test the electric barrier, since it is included in the cross-cut budget. To his view, Ms. Cangelosi needs to talk to agency heads if she is going to accomplish her goals, since ISAC is not likely to come to a consensus that more money should be dedicated to this process. Ms. Cangelosi said that she had obviously not made herself clear.

Ms. Metcalf said that the real question is whether ISAC is willing to be a motivator and assistant to the key people in the departments of the U.S. Government to help make things happen that are not necessarily in agreement with the administration. Ms. Cangelosi agreed that this was the question she was posing.

Mr. Thompson read the recommendation on the table: “Does Executive Order 13112 imply or direct agencies to take specific actions related to or for invasive species in their regular cost of operations?” Ms. Williams suggested that this be made a formal recommendation and that they charge the Council with attempting to get a response from all 13 members.

Ms. Cangelosi said that she would be more comfortable if the question were worded in such a way that it does not call for a yes or no answer. Mr. Randall said that he hoped Ms. Metcalf’s formulation that ISAC is acting as a motivator could be incorporated into the writing of the question. Mr. Lukens suggested that several people work on rewording the question.

PRESENTATION: IS AND TRANSPORTATION ROUTE MODELS: D. JEAN TATE, DOT

Arnold Konheim introduced Jean Tate, and said that her presentation would address the question of whether it is possible to quantify the extent to which transportation systems spread invasive species.

Ms. Tate began by saying that, although no absolute answers have come out of the project that she headed, it does examine the question of whether this particular type of protocol and methodology can be used to integrate transportation, and possibly some other kinds of parameters, as well, into enabling more proactive management of invasive species.

In the project, they were looking to identify areas that were accessible to invasive species via transportation, forecast dispersion, identify some key facilitating features, and see if these

transportation parameters could be used in the modeling effort. They used three sample species: Zebra Mussels, Yellow Star Thistle, and Brown Treesnake.

One of the models that they used is called GARP (genetic algorithm for rule set production). Being a probabilistic model, GARP requires a bit of a paradigm shift. When parameters are entered into GARP, it produces answers that show levels of association between these parameters, but without showing what this association means. Through extrapolation, this produces predictive data. Another model that they used is called the “WhyWhere” Model. This model shows which of the parameters put into the model are most predictive of an association.

They went through a series of criteria in selecting the three sample species, since they wanted to find species that had enough history, hadn’t expanded fully in the United States, were likely to use transportation corridors, and on which they had sufficient data of adequate quality. They looked for data on species occurrence, environmental data on the areas within which they occurred, and transportation data on ground, air and water transport mechanisms. The transportation parameters were put into the GARP model as one of the collective parameters that were evaluated. They also ran some of the environmental and transportation parameters separately in GARP, and then combined them mathematically before illustrating them in GIS. As a result, they came up with probability maps showing the probability that a species will become established if it is introduced, and incorporated transportation variables. This is the kind of output that “WhyWhere” gives, since “WhyWhere” shows which of the parameters were most important in showing association.

During the course of this project, they could not always find enough data. Sometimes the data was not sufficient, and sometimes they had too much of it. In terms of species data, specific occurrence data points were more useful to them than coarse, aggregated data. If they had common parameters for good quality data that could be readily dispersed, this could make databases more useful for this kind of modeling in the future. With transportation data, they found that there was a lot of it, but that it wasn’t always in a format they could use.

For Yellow Star Thistle, they did a number of different GIS plots. The first was the ecological niche model. The second used only the parameters that were most predictive. A third figure added in temperature, as well. After this, they added in transportation data. The first case was an overlay of two different data layers within GIS. In the second case, they added road and water parameters to data for climate.

One of the data sets used for the first the first plot was coarse. However, the plot does show areas that are predicted to have high habitat suitability, and high likelihood of Yellow Star Thistle presence. When they used only several of the most predictive factors, this map became somewhat more refined. When they added temperature data, they saw, as one would expect, much more stratification from north to south. In general, the maps show which areas should be prioritized for proactive measures against yellow star thistle invasion. Similarly, adding in road parameters shows which roadways should be focused on in taking proactive measures against Yellow Star Thistle. Thus, they are exploring different approaches to incorporating transportation data into a typical ecological niche model.

The Brown Treesnake poses a different kind of threat. They are transported primarily on ships and airplanes. Thus, they are trying to get data on ports, shipping containers, the volume of cargo being moved through airports, etc. What they ended up using to integrate the transportation data was airport location and freight weight, because they felt that the weight of freight moved at a given airport was a good indication of the opportunity for tree snakes to be transported. Habitats exist across the world which could potentially be invaded by brown tree snakes. Thus, the most attention should be given to the airports which receive the greatest amount of freight.

For Zebra Mussels, they did something similar to what they did for yellow star thistle. Again, they ended up with some coarse resolution data where they had primarily precipitation factors being the most predictive of association. They also had some fine resolution data, in which temperature was found to be most predictive. Finally, they looked separately at waterways, hydrology, roads and climate. The coarse resolution data gives a sense of where the zebra mussels are likely to go. The finer resolution data gives a better picture, particularly since the temperature information gives better north/south stratification. In looking at waterways, they can focus more specifically on drainages. Looking at all of these data together, you can see that the northeastern and midwestern part of the country are the areas of greatest concern. Focusing on roadways and hydrology, without taking climate into account, the picture is somewhat different. The picture is more realistic when climate is taken into account.

The better the resolution of the data, the more accurate the results. In terms of transportation data, they needed a better way of getting access to these data and putting them into a usable form. There are also some issues with regard to the way that environmental and transportation data relate to the distribution of species. Environmental data reflect the full range of a species' habitat, and reach equilibrium. The transportation data, however, relates much differently, because species, in their natural environment, did not get there by transportation. In areas where they are invasive, however, it is often a key component of their movement. Thus, there are some statistical and logical issues that need to be explored further, such as whether or not a given species is in equilibrium with its invasion. In order to make sense of these pictures, you must have some background knowledge. Now that they have shown proof of concept by meaningfully integrating transportation data to show where invasion is most likely, the next step will be to look at the biology behind it to get a better sense of the reality of what they are depicting. The process gives them an impetus to get more representative occurrence data. With better data, Ms. Tate believes that they could come up with a protocol that could be applicable at the local level in helping state DOTs or other agencies to better manage species. They would also like to separate the occurrence data for a particular species, so that one could see how a prediction for this species changed as different data sets were used. This might then give one a better sense of how accurately the prediction is working. Ms. Tate gave several others examples of how the protocol might be applied.

Ms. Tate concluded by saying that one of the reasons for bringing this protocol before the Committee was to get people thinking about ways in which they might be able to test different data sets using this method, the models for which are available online. Some coordination on getting better data and developing a national model for invasive species could also be of benefit.

Ms. Tate also mentioned a website through which one can build a model online. Specific topics are already coded into the site. Also, if people are interested in other topics, these can set these up, as well.

Ms. Metcalf thanked the DOT for taking on this project, since most invasive species invade by transportation modes, and said that this information could be very useful in tracking global potential for invasions. She also said that her organization is having a hard time obtaining good shipping data. Ms. Tate replied that this information is difficult to obtain because of homeland security issues. Ms. Metcalf replied that shipping data is horrible. However, a system is coming online known as the automatic identification system, or AIS, which will make the collection of ship movement data in and out of the United States much easier. This data is not classified, because anyone can get an AIS receiver and have access this information.

Mr. Meyers asked to whom they should send comments on the paper, and commented that the presentation had really highlighted the weaknesses of the data sets that they have to deal with at this point. In particular, the use of the freight weight data is misleading. Ms. Tate said that these comments should be sent to both Mr. Konheim and herself. Mr. Meyers asked if they had looked at data for intermodal airfreight. Ms. Tate replied that they had not.

Ms. Reichard asked if, in looking at distribution data for the yellow star thistle, they had considered focusing on a single state, since this could have given them a finer scale estimate of how this method would work. Ms. Tate replied that they had considered this, but hadn't gotten around to it yet. Ms. Tate also pointed out that there is some bias in occurrence data based on transportation networks, since people tend to gather data only in areas that are accessible to them. Thus, not all these data are truly representative.

Ms. Cangelosi asked to what extent they had run into difficulties in gathering information because the nature of the cargo under question was considered proprietary information by the cargo handlers. Ms. Tate replied that they had experienced some difficulties in obtaining information because no one was willing to authorize the release of it.

Mr. Thompson was called on to review the language that was put together to address the Mr. Zimmerman's recommendation regarding the Asian Carp barrier. The language was as follows "ISAC encourages the Department of Defense to incorporate the funding of the Asian Carp barrier in the Chicago Sanitary and Ship Canal into the routine Army Corps of Engineers Operation and Maintenance of this waterway, in keeping with the spirit of Executive Order 13112. The motion to forward this wording to the National Invasive Species Council was passed without objection.

NISC MEMBER DEPARTMENT REPORTS

DOD: PETER EGAN

Mr. Egan reported that DOD is trying to implement the directions made in the Executive Order as to what they should be doing as a part of their daily operations. The Defense Transportation Regulation 4500.9R Part 5, has been rewritten a number of times. They continue to polish it to

make sure that any military cargo that comes back from overseas is properly cleaned and screened with the assistance of the U.S. Department of Agriculture APHIS pre-clearance program. With all the deployments over and back, they have cleaned about a quarter of a million vehicles. DOD also put out the “Under Siege” publication with Heidi Hirsch of the U.S. Marine Corps and the National Wildlife Federation. This is available online. Recently, the Marine Corps sent a letter out to all of its bases, giving them a list of plant species that are banned from Marine Corps bases. The Marine Corps also has a new automated system for cleaning large vehicles. Finally, a couple of Mr. Egan’s colleagues have created an interactive program for teaching tick morphology. They are also doing another one on how to identify the fourth instar larvae of mosquitos. This technology can be applied to any taxon.

Dr. Nelroy Jackson congratulated the DOD on the progress that they have made in controlling invasive species. Mr. Thompson commended the Department of Defense as well.

LEGISLATIVE UPDATE: ISAC MEMBERS

Mr. Lukens opened the discussion by saying that several of the bills listed on the handout stood out to him: H.R. 1591, H.R. 1592, H.R. 1593, H.R. 3049, S. 363, S. 507, S. 770, all of which have broad relevance. Mr. Nelroy Jackson asked which of these bills are really moving forward. Ms. Williams replied that the status of each bill is listed on the handout.

Ms. Metcalf summarized that there are two kinds of aquatic bills currently on the Hill. First, there is the S. 770 type, which has companions in the House. These are comprehensive bills. They also have S. 363, which is a ballast water only bill. This bill has made the most movement forward, because it has been reported out of Committee, and put on the Senate calendar. It was hotlined last month to see if there will be opposition to it. To hotline a bill is to group it with non-contentious bills, which are passed by consensus. A hold was put on the bill by Senator Allen (R-VA). She concluded by saying that, although the shipping industry is supportive of the comprehensive bill, they would also like to see the ballast water bill run parallel to it, in case the comprehensive bill gets hung up because of the fiscal implications.

Ms. Cangelosi said that it is worth noting that the ballast water provisions in the various bills that are on the Hill are substantially different from each other. She also thinks that there are several holds on 363 either currently in place or pending because of some overarching issues—such as whether or not the Clean Water Act and the states should be preempted. There is also an ongoing discussion of what the ballast program ought to look like as they move forward to the next authorization period. Considering that there are several holds on 363, as well, it may not be the case that the comprehensiveness of 770 is holding it up. Once again, it is more likely that it is being held up by Clean Water Act preemption, state preemption, and near term implementation of treatment. However, Ms. Cangelosi still holds out hope that these issues can be overcome.

REPORTS FROM ISAC SUBCOMMITTEES: ISAC SUBCOMMITTEE CHAIRS

COMMUNICATIONS, EDUCATION AND OUTREACH: MARILYN LELAND

Ms. Leland reported that the Subcommittee had been working on some recommendations for the National Management Plan by email, and had come up with a number of specific ideas. They will continue to review their comments by email. The subcommittee also discussed the update to the website.

RESEARCH AND INFORMATION MANAGEMENT: GEORGE BECK

Mr. Beck reported that the Subcommittee had discussed the need for better information on how to control and manage invasive species, particularly in the aquatic environment. They also discussed the possibility of linking to an energy issue. For example, this might be possible through the use of switch graphs. The Subcommittee had a lot of ideas, which ranged from suggestions that they be very specific in what they request and recommend, to suggestions that they be very broad. They also discussed the need for better guidance to be given from NISC itself to the federal agencies. Mr. Andreozzi said that there is a need for more outreach with regard to the applicability of invasive species outreach.

CONTROL AND MANAGEMENT: NELROY JACKSON AND CHRIS DIONIGI

Dr. Nelroy Jackson reported that the Subcommittee had discussed why they had been charged to discuss control and management, rather than eradication. They decided that eradication is only applicable at the EDRR stage, while control and management applies to infestations that have gotten out of hand. Thus, they request that a statement be made somewhere in the revision that clarifies when eradication is and is not possible. They also considered options to the use of the term IPM, or integrated plant management, since one agency does not like this term. However, because this term is already included in the control and management guidelines, they do not recommend that it be eliminated. In general, there was some reluctance on the part of the Subcommittee to revisit terminology. In terms of funding, the Subcommittee reiterated its recommendation that the need for funding be addressed somewhere in the revision, because they cannot do anything without funds. One suggestion for addressing this was to get some of the money that comes out of mining and drilling operations redirected towards the management of invasive species. Although money spent on control and management of invasive species offers far less return than money spent on EDRR or prevention, it might help to show that, for every dollar spent on control and management, there is a return in the form of money saved in trying to preserve threatened and endangered species.

Dr. Dionigi added that they had talked in general about a need for support for planning, particularly at the state levels, and how this could be fulfilled. They also discussed the special needs of tribes and how funding and other resources limit their ability to fulfill these needs. They also talked about the availability of tools for conducting control and management operations, and it was generally felt that they are in fairly good shape with regard to plants. In dealing with animals and aquatics, however, their control tools are limited. Thus, they discussed how they

might emphasize the need for the maintenance and enhancement of these tools.

Mr. Beck asked if it would be of value to link control and management to prevention; in the sense that managing one outbreak could prevent another. Mr. Nelroy Jackson agreed that effective control and management can prevent further spread of an invasive species.

PREVENTION: RICHARD ORR

Mr. Orr said that the Prevention Subcommittee meeting had consisted mainly of house keeping on bringing the Committee up to speed on action taking place within specific working groups. They also had a lengthy discussion on how they are going to go about moving forward on developing a screening for terrestrial animals. They had been unsuccessful in putting together a working group on this previously because they had been unable to find a federal agency to move forward on it. However, they now want to take up the matter again, and will possibly use ISAC to help them move forward on it.

MEMBERS FORUM: ISAC MEMBERS

Mr. Regelbrugge reported that the American Nursery and Landscape Association has been working on dealing with *phytophthora ramorum* (the pathogen which is the cause of sudden oak death). They still do not know much about the pest potential of this pathogen. However, they are currently working under an expensive and burdensome set of emergency regulations. These regulations are considered by the industry to be necessary in order to create the framework in which they can do intensive monitoring and control, and also maintain the ability to engage in commerce. This regulatory framework, however, expires at the end of 2007. Thus, a major effort is underway to develop recommended industry best management practices which would help to preclude the introduction and spread of pathogens within nurseries. They are trying to maintain a national perspective on this problem, and understand that what they are doing will ultimately yield benefits nationwide. How this effort will translate into regulation remains to be seen. However, they believe that at least some of the practices they identify will need to be incorporated into the regulatory framework. The American Nursery and Landscape Association hopes that, by the Plant Board meeting this summer, they will have a draft approach ready to be vetted. The Association is also trying to get funding for programs on emerald ash bore and other forest threats.

Mr. Wilkinson asked if work is being done in the nursery industry in terms of treatment and prevention of *P. Ramorum*. Mr. Regelbrugge replied that there is work being done in treatment, particularly in terms of how to go about cleaning up a nursery in which such a pathogen as *P. Ramorum* has been found. They are also working on water management in terms of what sorts of treatments should be applied to re-circulated irrigation water to eliminate the pathogen in the system. It would also be helpful to be able to rapidly and accurately detect the pathogen in international shipments of material.

Ms. Williams said that it is difficult to know how to address the topic of best management practices in the management plan, because they are voluntary and sponsored by industry on the one hand, but are a very important prevention tool on the other. Mr. Regelbrugge agreed, and

said that, with *P. Ramorum*, they are looking not only at the voluntary side, but also at the third party administered quality control programs. Mr. Regelbrugge also commented that the nursery industry's success in dealing with these threats will be enhanced if they recognize that they cannot do all of their work from Washington, and that it will be very important for them to have their regional and state organizations very actively involved.

Dr. Beil gave an update on Asian soybean rust. It was quickly identified in several areas in the south. The soybean farmers, extension agents, and USDA put together a very good program of sentinel plots, which were spread across the entire soybean growing region for the 2000 growing season. The soybean rust did not spread north, in part due to prevention through spraying. The infestation did not result in extensive damage. Sentinel plots will be planted again this year, and they will see if soybean rust develops as a serious threat to agriculture.

REVIEW OF DAY 2 ITEMS: JOHN PETER THOMPSON

Chair Lukens requested ongoing guidance for the subcommittees from NISC. The action item regarding the Asian Carp barrier was also approved.

REVIEW OF DAY 1 ACTION ITEMS: JOHN PETER THOMPSON

Mr. Randall suggested alternate language for action item VI. He recommended that it read: "Has the CSREES-NRI funding for invasive species research increased as the coverage of that program has increased from just invasive plants to invasive species of all types?"

With regard to action item XIV, Ms. Cooper said that she had not intended for it to be "tabled indefinitely." Mr. Beck supported action item, and it was accepted as a recommendation. Ms. Cooper moved that the recommendation regarding the Asian Carp barrier be added to this list.

Ms. Williams said that they need to clarify which of these items are formal recommendations, and which are action items. She then offered her interpretation that items I, IV, XIII and XIV are recommendations, while items II, III, V, VI and XV are action items. The Pathways White Paper was added to the list of recommendations. Mr. Randall said that they should also add as a recommendation that ISAC has recommended to NISC that it approve the definition clarification.

Mr. Beck requested that, if the Committee members have recommendations for agenda items for the next meeting, they fill out the agenda template and email it back to him.

Ms. Brantley reported that the next ISAC meeting will be held September 11-13 at the Hotel Washington.

Chair Lukens called for a motion to adjourn the meeting. The motion was made and seconded.